March 2017 | Draft Supplemental Environmental Impact Report
State Clearinghouse No. 1994071005

TUSTIN LEGACY SPECIFIC PLAN AMENDMENT

City of Tustin

APPENDICES

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PLACEWORKS

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Appendices

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NOTICE OF PREPARATION AND SCOPING MEETING

DATE: March 26, 2015

TO: Agencies, Organizations and Interested Parties

SUBJECT: Notice of Preparation of a Draft Supplemental Environmental Impact Report in Compliance with Title 14, Section 15082(a) of the California Code of Regulations

The City of Tustin is preparing an amendment to the Tustin Legacy Specific Plan (formerly called the MCAS Tustin Specific Plan). As part of that process, the City intends to prepare a supplemental environmental impact report (SEIR), pursuant to the requirements of the California Environmental Quality Act (CEQA) for the proposed Specific Plan Amendment, described below. We request your views and comments as to the scope and content of the proposed environmental impact report, as summarized in the Initial Study, available on the City's website at http://www.tustinlegacy.com/, or available at City offices, 300 Centennial Way, Tustin, California, 92780.

AGENCIES: The City requests your agency's views on the scope and content of the environmental information relevant to your agency's statutory responsibilities in connection with the proposed project, in accordance with California Code of Regulations, Title 14, Section 15082(b). Your agency will need to use the EIR prepared by the City when considering any permits that your agency must issue, or other approval for the project.

ORGANIZATIONS AND INTERESTED PARTIES: The City requests your comments and concerns regarding the environmental issues associated with implementation of the proposed project.

PROJECT TITLE: Tustin Legacy Specific Plan Amendment 2015-001

PROJECT LOCATION: As shown in Figure 1, *Vicinity Map*, the project area for the Tustin Legacy Specific Plan (former MCAS Tustin), is in an urbanized area in the southern portion of the City of Tustin and the northwest portion of the City of Irvine in Orange County, California. The 1,606-acre project area includes 1,511 acres in Tustin and approximately 95 acres in Irvine. The major roadways that border the site are Red Hill Avenue on the west, Edinger Avenue on the north, Harvard Avenue on the east, and Barranca Parkway on the south. Regional access to the project area is also provided by Jamboree Road/State Route 261 (SR-261) and State Route 55 (SR-55).

DESCRIPTION: The MCAS Tustin Specific Plan was adopted by ordinance on February 3, 2003, and established the zoning for the 1,606-acre project area. It also established the necessary plans, development standards, regulations, infrastructure requirements, design guidelines, and implementation programs on which subsequent, project-related development is founded. It is intended that local public works projects, design review plans, detailed site plans, grading and building permits, or any other action requiring ministerial or discretionary approval applicable to the project area be consistent with the Specific Plan. The Specific Plan was amended six times between 2010 and 2014 in response to changing market conditions. In 2011, the City developed a Disposition Strategy as a recommended framework for future development in the project area.

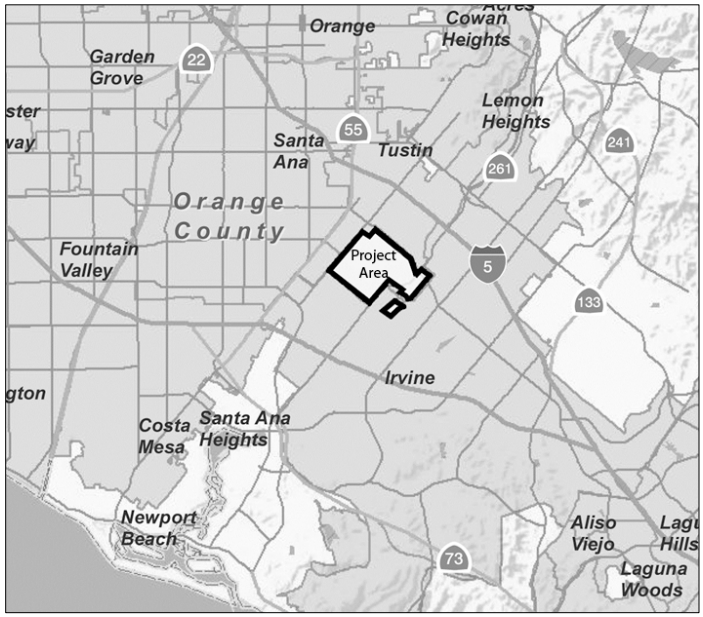
The Tustin Legacy Specific Plan Amendment will guide development of the remaining undeveloped area in the City of Tustin. These remaining parcels would be sold, leased, or developed by the City of Tustin. Eventually these parcels would be developed by a number of landowners within the framework established by the Specific Plan. The Specific Plan Amendment calls for a range of residential product types and education, commercial, commercial/business, entertainment/recreation, and park land uses.

NOTICE OF PREPARATION AND SCOPING MEETING

The proposed Specific Plan Amendment would change the mix and layout of land uses to be constructed in the project area. Land uses for 9 of the 22 planning areas in the project area would not be changed by the proposed project. Land uses in Planning Areas 1–7 and 20–22 would remain the same. As described in the Initial Study, the mix and layout of land uses Planning Areas 8–19 would change under the proposed project. Compared to the Adopted Specific Plan, the Specific Plan Amendment would allow 2,212 additional homes and 1,755,306 fewer square feet of nonresidential building space.

POTENTIAL ENVIRONMENTAL EFFECTS: A Program Supplemental EIR will be prepared to evaluate the project's potential environmental impacts compared to those analyzed in the previously adopted EIR (as amended). As determined by the Initial Study, the topic areas to be discussed in the SEIR are Air Quality, Greenhouse Gas Emissions, Water Supply, Land Use and Planning, Noise, Population and Housing, Public Services, Transportation/Traffic, and Utilities and Service Systems impacts.

Figure 1 - Vicinity Map



PUBLIC REVIEW PERIOD: The City has determined to make this Notice of Preparation (NOP) and Initial Study available for public review and comment pursuant to California Code of Regulations, Title 14, Section 15082(b). Please provide any comments by **May 4, 2015 at 5:00 p.m.** to the contact person listed below. The comment period for the NOP begins April 2, 2015 and ends on May 4, 2015.

RESPONSES AND COMMENTS: Please indicate a contact person for your agency or organization and send your responses and comments to: Justina Willkom, Assistant Director of Planning; Phone: (714) 573-3115; E-mail: JWillkom@tustinca.org; Mailing Address: City of Tustin, Community Development Department, 300 Centennial Way, Tustin, CA 92780; Website: http://www.tustinca.org.

NOTICE OF PREPARATION AND SCOPING MEETING

SCOPING MEETING: One scoping meeting will be held to receive comments on the proposed scope and content of the Tustin Legacy Specific Plan Amendment Draft Supplemental Environmental Impact Report (DSEIR). You are invited to attend and present environmental information that you believe should be addressed in the DSEIR. The meeting is scheduled for:

Date:	Tuesday, April 14th, 2015
Time:	4:00 p.m.
Place:	Tustin Community Center 300 Centennial Way Tustin, CA 92780

DOCUMENT AVAILABILITY: The Initial Study is available for public review during regular business hours at the City of Tustin Community Development Department listed above and the Tustin Library, 345 E. Main Street, Tustin. The Initial Study can be viewed on the City of Tustin website at the following address (URL): http://www.tustinca.org..

March 2015 | Initial Study

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Abbreviations and Acronyms

AAQS	ambient air quality standards
AB	Assembly Bill
ADT	average daily traffic
AELUP	airport environs land use plan
ALUC	airport land use commission
AQMP	air quality management plan
BMP	best management practices
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CMP	Congestion Management Program
CO	carbon monoxide
Corps	US Army Corps of Engineers
CUPA	Certified Unified Program Agency
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EIS	environmental impact statement
EPA	US Environmental Protection Agency
FAA	Federal Aviation Administration
FEIR	final environmental impact report
FEIS	final environmental impact statement
FEMA	Federal Emergency Management Agency
GHG	greenhouse gases
gpd	gallons per day
ICU	intersection capacity utilization
IPCC	Intergovernmental Panel on Climate Change
IRWD	Irvine Ranch Water District
ITAM	Irvine Transportation Analysis Model
IUSD	Irvine Unified School District
LID	low-impact development
LOS	level of service
MCAS	Marine Corps Air Station

Abbreviations and Acronyms

mgd	million gallons per day
MPO	metropolitan planning organization
NCCP/HCP	natural community conservation plan/habitat conservation plan
NO_X	nitrogen oxides
O_3	ozone
OCFA	Orange County Fire Authority
Pb	lead
PM	particulate matter
RTP/SCS	regional transportation plan/sustainable communities strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEIR	supplemental environmental impact report
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TUSD	Tustin Unified School District
VMT	vehicle miles traveled
VOC	volatile organic compound

1. Introduction

1.1 PURPOSE AND SCOPE

The City of Tustin is circulating for public review and comment this Notice of Preparation (NOP) of a Supplemental Environmental Impact Report (SEIR) and Initial Study for the Tustin Legacy Specific Plan Amendment (described throughout as "Amended Specific Plan," "Specific Plan Amendment," "proposed project," or "modified project"). This Initial Study has been prepared in accordance with the California Environmental Quality Act ([CEQA], Public Resources Code §§ 21000 et seq.) and the State CEQA Guidelines (14 Cal. Code of Regulations §§ 15000–15387).

Pursuant to the provisions of CEQA and the State CEQA Guidelines, the City is the lead agency charged with deciding whether or not to approve the Tustin Legacy Specific Plan Amendment. This Initial Study was prepared pursuant to CEQA Guidelines Sections 15063, 15162, and 15163 and addresses potential impacts associated with the proposed project.

1.2 ENVIRONMENTAL PROCEDURES

This Initial Study focuses on the potential environmental impacts associated with the proposed project that might cause a change in the conclusions of the previously certified environmental documentation (see Section 1.3), including changes in circumstances and new information of substantial importance.

Pursuant to Section 21166 of CEQA and Section 15162 of the State CEQA Guidelines, when an environmental impact report (EIR) has been certified or a negative declaration adopted for a project, no subsequent or supplemental EIR or negative declaration shall be prepared for the project unless the lead agency determines that one or more of the following conditions are met:

- Substantial project changes are proposed that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- Substantial changes would occur with respect to the circumstances under which the project is undertaken that require major revisions to the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

- New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified or the negative declaration was adopted shows any of the following:

A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration.

B. Significant effects previously examined will be substantially more severe than identified in the previous EIR.

C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives.

D. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

If any of the conditions specified in Section 15162 are present but only minor additions or changes are necessary to make the previous EIR adequate for the proposed project, then a supplemental EIR may be prepared. Pursuant to CEQA Guidelines Section 15163, the supplemental EIR need only contain the information necessary to make the previous EIR adequate for the revised project. Based on the analysis provided in Section 5 of this Initial Study, the City has determined that a supplemental EIR is the appropriate form of environmental review for the proposed project, since some changes or additions to the previously prepared EIR are necessary, but only minor changes to the environmental analysis are required to make it adequate for the modified project.

This Initial Study analyzes the changes proposed by the Tustin Legacy Specific Plan Amendment and any changes to the existing conditions that have occurred since the certification of the previous environmental documentation (see Section 1.3). It also reviews new information of substantial importance related to environmental impacts, mitigation measures, and/or alternatives that was not known and could not have been known with exercise of reasonable diligence at the time that the previous environmental documentation was certified. It further examines whether, as a result of any changes or any new information, a subsequent or supplemental EIR may be required. This examination includes an analysis of the provisions of Section 21166 of CEQA and Section 15162 of the State CEQA Guidelines and their applicability to the proposed project.

The Environmental Checklist Form in Appendix G of the CEQA Guidelines has been completed by the City and included in Section 5 of this Initial Study. The checklist presents findings of the environmental effects of the proposed project compared with the findings of the previous environmental documentation described in Section 1.3, below.

1.3 PREVIOUS ENVIRONMENTAL DOCUMENTATION

This Initial Study relies on the previous certified environmental analysis, adopted findings, and statement of overriding considerations prepared for the disposal and reuse of the Marine Corps Air Station Tustin ("MCAS Tustin"). A summary of the previous environmental documentation and how it relates to the Tustin Legacy Specific Plan Amendment is provided below.

1.3.1 Final Environmental Impact Statement/Final Environmental Impact Report for the Disposal and Reuse of MCAS Tustin

The Final Environmental Impact Statement/Final Environmental Impact Report ("2001 FEIS/EIR," SCH# 94071005) prepared for the disposal and reuse of the MCAS Tustin was certified by the Tustin City Council on January 16, 2001 (Resolution 00-90). The Tustin City Council adopted General Plan Amendment 00-001, which incorporated the Reuse Plan land use designations into the General Plan for that portion of MCAS in the City of Tustin. On March 2, 2001, a Record of Decision was issued by the US Navy approving the FEIS/EIR and the Specific Plan. The FEIS/EIR analyzed the consequences of the Navy disposal and local community reuse of the MCAS Tustin site per the Reuse Plan and the MCAS Tustin Specific Plan/Reuse Plan in accordance with CEQA and the National Environmental Policy Act (NEPA). The analysis covered the entire 1,606 acres of the project area: 1,511 acres in the City of Tustin and 95 acres in the City of Irvine. The project included "Implementation Actions" that the cities were required to implement on the MCAS Tustin Specific Plan/Reuse Plan, including the adoption of the MCAS Tustin Specific Plan/Reuse Plan and MCAS Tustin Redevelopment Plan by the City of Tustin. The preferred reuse plan analyzed in the FEIS/EIR allowed up to 11.4 million square feet of nonresidential land uses and 4,601 residential units within the City of Tustin and City of Irvine's jurisdiction. Pursuant to the implementation actions, the Tustin City Council adopted the MCAS Tustin Specific Plan/Reuse Plan on February 3, 2003 (Ordinance No. 1257).

The 2001 FEIS/EIR was a Program EIR that was intended to be used as the CEQA compliance for future development consistent with the MCAS Tustin Specific Plan. The 2001 FEIS/EIR analyzed a multiyear development period for the planned urban reuse project (now called "Tustin Legacy"). As individual development projects are proposed within the Specific Plan area, the City (lead agency) determines whether the environmental impacts of individual activities were fully analyzed in the FEIS/EIR. The City may approve projects that are within the scope of the project as analyzed by the FEIS/EIR. The City would then determine the appropriate level of CEQA review, discussed above under Section 1.2.

Since certification of the FEIS/EIR, there have been one supplement and two addenda to the 2001 FEIS/EIR, and the City has certified or adopted multiple CEQA documents for amendments to the MCAS Tustin Specific Plan and development projects in the Tustin Legacy area. A summary of the purpose and application of the supplement and addendum pertaining to the MCAS Tustin Specific Plan are described below. The original FEIS/EIR document, the supplement, and addendum are collectively referred to herein as the "FEIS/EIR."

1.3.1.1 2004 SUPPLEMENTAL EIR

The "Supplemental EIR to the Final EIS/EIR for the Disposal and Reuse of Marine Corps Air Station, Tustin, California: Extension of Tustin Ranch Road between Walnut Avenue and the Future Alignment of Valencia North Loop Road" ("2004 SEIR," SCH# 1994071005) was certified on December 6, 2004. It analyzed the impacts of a one-mile extension of Tustin Ranch Road from Walnut Avenue on the north to the future alignment of Valencia North Loop Road on the south. The segment included an overpass over the Orange County Flood Control District right-of-way, the Orange County Transportation Authority / Southern California Regional Rail Authority railroad right-of-way, and Edinger Avenue.

1. Introduction

The 2004 SEIR determined that there were no substantial changes in the existing conditions or new significant environmental impacts associated with aesthetics, agricultural resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services/utilities, and recreation. The 2004 SEIR focused on three environmental topics: transportation/traffic, air quality, and noise. Mitigation measures were adopted for all three topic areas. Significant unavoidable adverse impacts were found to remain with respect to air quality (construction-related and long-term emissions) and traffic (intersections of Tustin Ranch Road/Walnut Avenue and Jamboree Road/Barranca Parkway), and the 2004 SEIR relied on the statement of overriding considerations adopted with certification of the 2001 FEIS/EIR.

1.3.1.2 2006 ADDENDUM

On April 3, 2006, the City certified the "MCAS Tustin Zone Change (Specific Plan Amendment) 05-002, Master Developer Disposition and Development Agreement, and Development Plan Addendum to the Final Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of the MCAS Tustin" ("2006 Addendum"). The Specific Plan Amendment reduced permitted nonresidential development in the project area by about one million square feet to approximately 10.4 million square feet, while retaining the same number of residential units at 4,601. The zone change adjusted the planning area boundaries and redistributed or eliminated planned land uses, but did not increase the overall development potential or residential capacity allowed under the Specific Plan. The Disposition and Development agreement was made to facilitate the sale, leasing, and development of Tustin Legacy.

1.3.1.3 2013 ADDENDUM

An addendum to the FEIS/EIR was prepared to process a General Plan Amendment 2013-001, Specific Plan Amendment 2013-001, Development Agreement 2013-002, and Agreement for Exchange of Real Property between the City and South Orange County Community College District (SOCCCD) on 22 acres. The land transfer was located in the western part of the Specific Plan area near the intersection of Red Hill Avenue and Valencia Avenue. The project added a new local street, Bell Avenue, to service adjacent uses, added an allowable land use (private for-profit non-educational uses), and increased allowable building square footages within the education village (Neighborhood A).

2. Environmental Setting

2.1 PROJECT LOCATION

The proposed project, the Tustin Legacy Specific Plan (former MCAS Tustin), is in an urbanized area in the southern portion of the City of Tustin and the northwest portion of the City of Irvine in Orange County, California. The 1,606-acre project area includes 1,511 acres in Tustin and approximately 95 acres in Irvine. The major roadways that border the site are Red Hill Avenue on the west, Edinger Avenue on the north, Harvard Avenue on the east, and Barranca Parkway on the south. Jamboree Road transects the site and provides access to the State Route 261 (SR-261) which is a Toll Road. Regional access to the project area is also provided by State Route 55 (SR-55) via Edinger Avenue/Newport Avenue and Barranca Parkway/Dyer Road to the northwest, and by Interstate 5 (I-5) via Red Hill Avenue, Tustin Ranch Road and Jamboree Road to the northeast. Figure 1, *Regional Location*, and Figure 2, *Local Vicinity*, show the location of the project area within the regional and local contexts of the County of Orange and the cities of Tustin and Irvine, respectively.

2.2 EXISTING CONDITIONS

2.2.1 Existing Land Use

The Tustin Legacy Specific Plan area contains existing residential, commercial, and institutional development and vacant land. Existing residential development consists of four neighborhoods—Tustin Field, Columbus Square, Columbus Grove Tustin, and Columbus Grove Irvine. These neighborhoods were built during the last decade and total 2,507 units (402 units in Irvine and 2,105 in Tustin). Each of the neighborhoods has a range of housing types, including traditional single-family homes, row townhomes, triplexes, and multifamily housing in courtyard and stacked-flat configurations. The neighborhoods also have recreation facilities and parkland. In Tustin, existing commercial development consists of a large regional shopping center (approximately 1,016,000 square feet) called The District, which has over 75 businesses, including specialty and big box retail, restaurants, entertainment, and a variety of services. Existing institutional uses include Heritage School, which is operated by Tustin Unified School District and is currently used as a continuation school. The school itself has not yet opened. Other institutional uses include a regional law enforcement training facility in partnership with Rancho Santiago Community College District, an Army Reserve Center, the Village of Hope transitional housing/emergency shelter operated by the OC Rescue Mission, and a children and family care shelter operated in a partnership between the County of Orange Social Services Agency and Orangewood. In addition to these uses, the South Orange County Community College District (SOCCCD) has a small campus with approximately 14,680 square feet of housing that is the first phase of a larger mixed-use educational campus referred to as the Advanced Technology & Education Park (ATEP). These existing institutional uses total approximately 450,825 square feet. Three residential projects are under

construction—a 225-unit affordable housing community, a 533-unit apartment complex with 496 market rate units and 37 moderate income units, and a 375-unit single-family neighborhood.

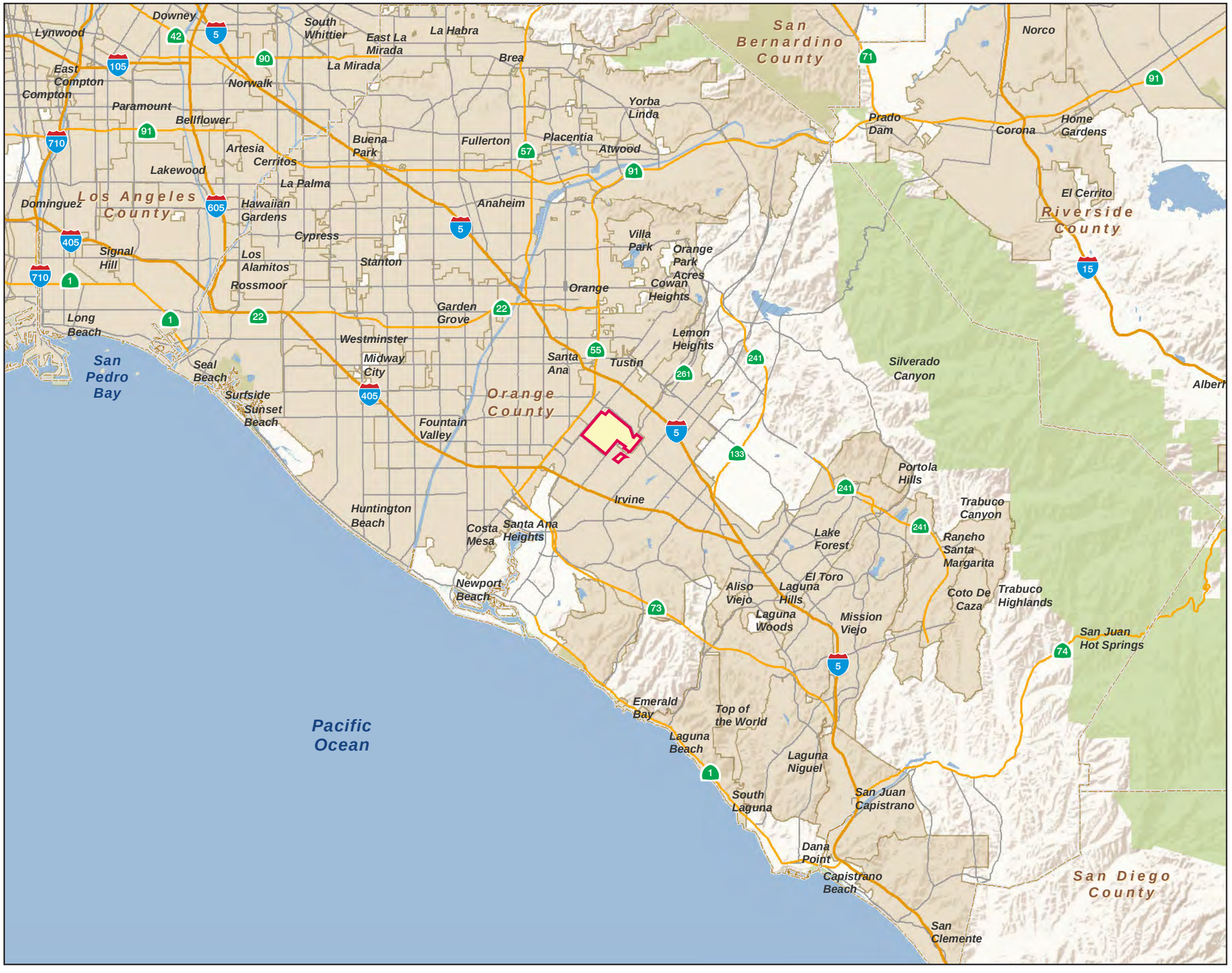
In the City of Irvine, the Irvine Unified School District has a small campus called the Creekside Education Center on approximately 20 acres. Approximately 8 acres have been developed on the site with administration facilities, Creekside High School, and Irvine Adult School. These uses comprise 35,400 square feet of building space. A 15,000-square-foot central kitchen and 4,000-square-foot culinary arts institute were recently approved on a 4-acre portion of the site. Approximately 867 acres of the project area are vacant or contain unoccupied buildings from the former Marine Corps Air Station (MCAS). The project area currently has 12 acres of public and private neighborhood parks in residential neighborhoods between both cities.

2.2.2 Surrounding Land Uses

The project area is surrounded to the west by commercial and industrial uses; to the north by single-family residential, industrial, and commercial uses; to the east by single-family residential and multifamily residential uses; and to the south by commercial and industrial uses.

Figure 1

Regional Location



MCAS Boundary

California Counties

CITY OF TUSTIN

TUSTIN LEGACY SPECIFIC PLAN

INITIAL STUDY

TUS.11-1
9/8/2014

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Scale (Miles)

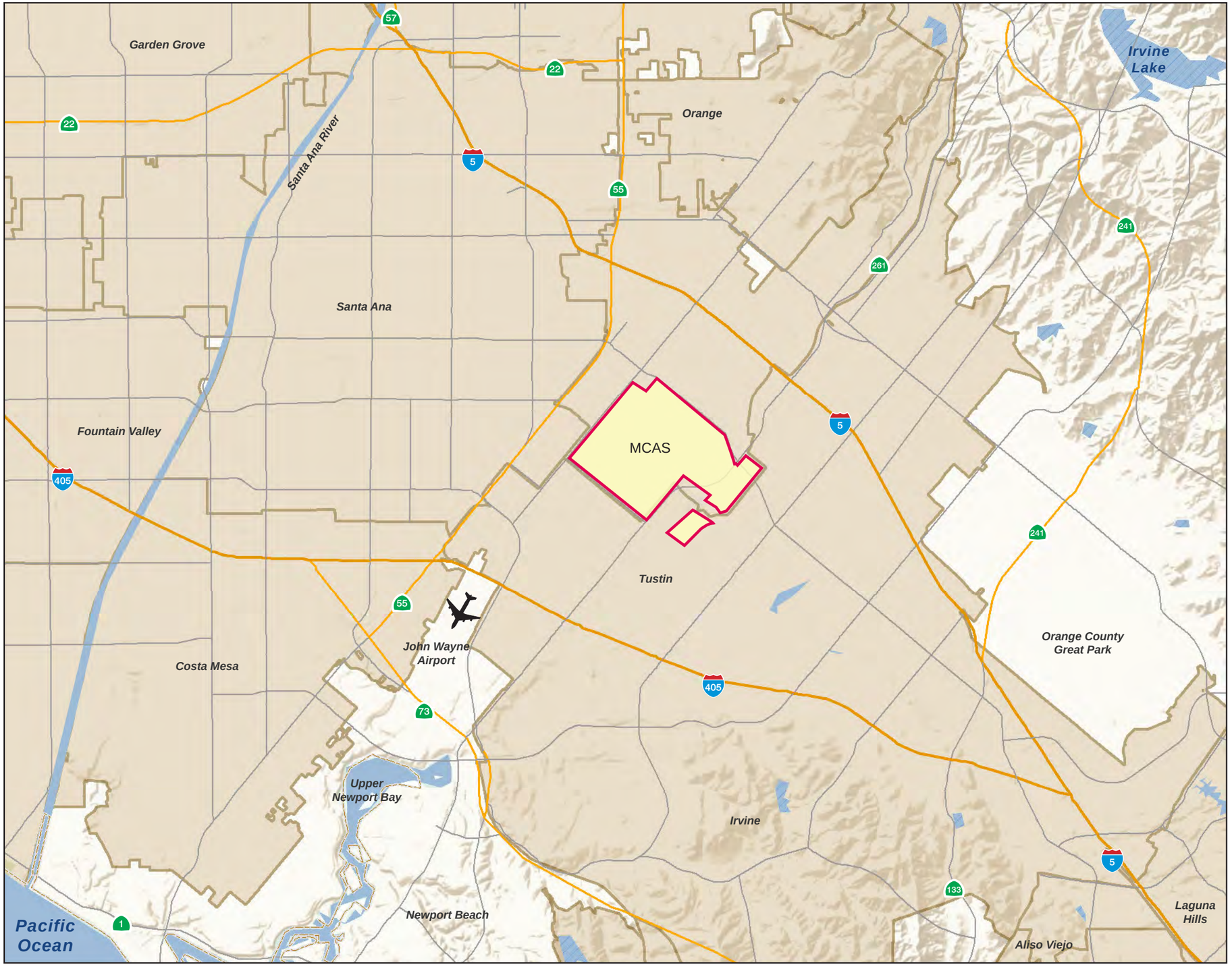
PLACEWORKS

2. Environmental Setting

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Figure 2

Local Vicinity



MCAS Boundary

CITY OF TUSTIN

TUSTIN LEGACY SPECIFIC PLAN

INITIAL STUDY

TUS.11-1
9/8/2014

0 1
Scale (Miles)

PLACEWORKS

2. Environmental Setting

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3. Project Description

3.1 PROJECT BACKGROUND

3.1.1 Adopted MCAS Tustin Specific Plan

Specific Plans act as a bridge between the General Plan and individual development proposals. Jurisdictions may adopt Specific Plans by resolution or ordinance. The MCAS Tustin Specific Plan (described throughout as "Adopted Specific Plan") was adopted by ordinance on February 3, 2003, and established the zoning for the 1,606-acre project area. It also established the necessary plans, development standards, regulations, infrastructure requirements, design guidelines, and implementation programs on which subsequent, project-related development is founded. It is intended that local public works projects, design review plans, detailed site plans, grading and building permits, or any other action requiring ministerial or discretionary approval applicable to the project area be consistent with the Specific Plan. The Specific Plan was amended six times between 2010 and 2014 in response to changing market conditions. In 2011, the City developed a Disposition Strategy as a recommended framework for future development in the project area. Most recently, the City used the Strategy to facilitate three projects in the area with The Irvine Company, Saint Anton, and Standard Pacific resulting in the development of market rate and affordable apartments. The purpose of this Specific Plan Amendment is to focus on the remaining, undeveloped lands owned by the City of Tustin.

3.2 PROJECT CHARACTERISTICS

"Project," as defined by the California Environmental Quality Act (CEQA) Guidelines Section 15378(a), means "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following: (1)…enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100–65700." The CEQA Guidelines further explain that a project refers to the activity that is being approved and that may be subject to several discretionary approvals by governmental agencies (Section 15378[c]).

3.2.1 Statement of Objectives

The overall purpose of amending the Tustin Legacy Specific Plan (proposed project, formerly known as MCAS Tustin Specific Plan) is to provide comprehensive direction—in terms of revisions to development regulations, design guidance, and implementation of open space, circulation, and other infrastructure—for the remaining project area owned by the City of Tustin, while implementing the goals and policies of the City of Tustin General Plan. The overarching goal of this Specific Plan Amendment is to reposition the City's remaining undeveloped lands in light of current and future market conditions in residential, office, and commercial development; changing demographics and consumer preferences in the Orange County market;

and new opportunities to attract uses and create places that will benefit the greater Tustin community. The proposed project is guided by the following objectives:

1. Implement a revised land use and urban design plan for the community that weaves the existing development into an updated comprehensive vision for achieving a better balance of residential, commercial, and employment uses, well connected by a variety of transportation modes, parks, and open space.

2. Reposition the remaining undeveloped lands in Planning Area 15 to be transit oriented in terms of site design, mixing and increased intensity of land uses, walkability, location and design of public spaces, and direct pedestrian access to the adjacent Tustin Transit Station.

3. Reposition the remaining undeveloped land in Planning Area 13-14 to become a new mixed-use urban center designed around a "ramblas" (or walking street) that connects to the adjacent Linear Park and regional shopping center.

4. Establish new zoning designations for mixed-use development that provides flexibility for both horizontal and vertical mixed-use projects in Neighborhoods D and G through Mixed-Use Urban and Mixed-Use TOD land use designations.

5. Preserve the Linear Park concept from the Adopted Specific Plan, and provide additional design direction related to trails, recreation activities, integration with adjacent development, and park design features.

6. Reposition Planning Area 8 as an entertainment and sports district that would include a range of commercial recreation, cultural, and entertainment uses within and adjacent to the Linear Park.

7. Implement an updated Mobility Plan for Tustin Legacy that ensures a well-connected system of roadways, pedestrian paths, bicycle routes, and bus and shuttle routes that provide safe and convenient access to uses within Tustin Legacy, the adjacent Metrolink Station, and other offsite destinations.

8. Maintain the existing nonresidential land use/trip budget total for Tustin Legacy, while allowing for the reallocation of trips between certain Neighborhoods, based on the revised mix of land uses for the remaining lands owned by the City of Tustin

3.2.2 Tustin Legacy Specific Plan Amendment (Modified Project)

The Tustin Legacy Specific Plan Amendment will guide development of the remaining undeveloped area in the City of Tustin. These remaining parcels would be sold, leased, or developed by the City of Tustin. Eventually these parcels would be developed by a number of landowners within the framework established by the Tustin Legacy Specific Plan. The Specific Plan Amendment calls for a range of residential product types and education, commercial, commercial/business, entertainment/recreation, and park land uses. Table 1, *Land Use Categories*, provides a description of the different land use categories in the Tustin Legacy Specific Plan. This Initial Study and forthcoming SEIR analyze the maximum development potential allowed by the Tustin Legacy Specific Plan Amendment. Changes to the land use plan are shown in Figures 3 and 4, *Existing*

Land Use Plan and *Proposed Land Use Plan*. Proposed neighborhoods are shown in Figure 5, *Proposed Neighborhood Plan.*

Table 1 Land Use Categories

Designation	Description
Mixed-Use Transit	Provides for transit-oriented, mixed-use developments with commercial retail and/or office on the ground floor and either residential units or office on upper floors. Allows for stand-alone residential uses as well, including senior housing.
Mixed-Use Urban	Provides for mixed-use developments with commercial retail and/or office on the ground floor and either residential units or offices on upper floors. Allows for stand-alone commercial and residential uses as well.
Commercial	Provides for development of a variety of retail and service commercial uses with the intent of supporting and complementing uses in the plan area and surrounding development.
Commercial/Business	Provides for the development of a variety of uses, including research and development, professional and creative office, retail, senior care facilities, and specialized employment and merchandizing uses.
Residential	Provides for a range of residential development and housing types, including single-family detached and attached and multifamily homes. This designation also requires the inclusion of park, open space, and trails.
Park	Provides for passive community park uses, community-level sports, and active recreation uses, including internal paseos and trails. It also provides for establishment of a major urban recreation amenity for community and countywide use.
Linear Park Overlay	Provides for the creation of a continuous linear park that runs in a diagonal direction across the project area and will include a variety of recreation, visitor-serving, and community-serving activities as well as a trail system and dual purpose park/detention area. The boundaries of the Linear Park Overlay, shown on Figure 4, are intended to be conceptual, pending final design.
Transitional/Emergency Housing	Provides for transitional housing and the adaptive use of existing military dormitory type structures for emergency housing, single occupancy housing, or congregate care uses. Also allows for supporting services, including food service.
Recreation/ Entertainment Core	Provides for a mix of commercial and hospitality uses, including hotel, commercial retail, entertainment, and commercial sports facilities. This designation also requires the inclusion of a major segment of the Linear Park.
Education Village	Provides for a mix of public-serving, office, institutional, and/or government uses. Supporting office, research and development, and commercial uses are permitted to complement educational uses.
Street Right-of-Way (ROW)	Accommodates local roads within the project. Does not include private drives or alleys.

3. Project Description

3.2.2.1 LAND USE PLAN

The Land Use Plan for the Tustin Legacy Specific Plan area has been divided into 14 segments, as described below. Segments of the site consist of either individual Planning Areas or combined Planning Areas (e.g., Planning Areas 4 and 5 are combined). Table 2, *Land Use Plan Statistical Summary*, provides the statistical summary for the Adopted Specific Plan and compares it to the land use plan for the Amended Specific Plan.

Figure 4, *Proposed Land Use Plan*, shows the proposed land uses by Planning Area. Land uses for 9 of the 22 planning areas in the Tustin Legacy Specific Plan will not be changed by the Specific Plan Amendment. Specifically, land uses in Planning Areas 1, 2, 3, 4-5, 6, 7, 20, 21, and 22 will remain the same. The proposed changes for the remaining planning areas are described below.

- **Planning Area 8.** This Planning Area would comprise 190 acres of the project area. The land use designation Recreation/Entertainment Core would apply to this area, providing flexibility for a range of uses, including hotel, commercial retail, commercial entertainment, public recreation, and a high school. Mixed-use development configurations would be permitted for commercial retail, service commercial, and/or office uses. A maximum of 1,547,690 square feet would be developed in Planning Area 8. This area would also contain a connecting portion of the Linear Park. Tustin Unified School District requires a 40-acre portion of this Planning Area for a high school.
- **Planning Area 9–12.** Planning Area 9–12 would comprise 117 acres of the project area. Ninety-four acres of the site would be designated as Commercial/Business use with a maximum of 1,588,198 of developable building square footage. An entrance to the Linear Park from Barranca Parkway would be provided in this Planning Area.
- **Planning Area 13–14.** This Planning Area would comprise 124 acres of the project area. A land use designation of Mixed-Use Urban allows for a variety of residential and commercial/business uses on 117 acres. A maximum of 1,672 dwelling units and 606,000 square feet would be developed in Planning Area 13–14. This area includes a 533-unit multifamily residential project currently under construction that is nearing completion. The Linear Park in this Planning Area would connect adjacent sections of the Linear Park in Planning Areas 8 and 9–12.
- **Planning Area 15.** Planning Area 15 would comprise 271 acres of the project area. This Planning Area would consist of 184 acres of Mixed-Use Transit-oriented development and 86 acres of residential use. A maximum of 2,814 dwelling units and 1,095,200 square feet would be developed in Planning Area 15. The Mixed-Use Transit designation provides flexibility for residential, office, commercial retail, and commercial service uses in a vertical or horizontal configuration. This Planning Area would also contain a portion of the Linear Park. This area includes a senior community, a 375-unit single-family residential project that is nearly completed and a 225-unit affordable housing community currently under construction.
- **Planning Area 16–19.** This Planning Area currently comprises 103 acres of the project area, including 85 acres of commercial retail and 14 acres of military/government use. The Planning Area currently allows for a maximum of 1,486,553 square feet of development. Existing development accounts for 1,016,000 square feet of regional commercial retail and entertainment uses as well as 40,846 square feet of military/government use. The current military operations would be relocated

to a parcel in Planning Area 1, and the site would be designated for commercial use, allowing for an expansion of the adjacent commercial retail development.

Table 2 Land Use Plan Statistical Summary

PA	Land Use	Specific Plan Acres	Adopted Specific Plan		Proposed Amended Specific Plan		Difference (Proposed – Current)
			Max Residential Units	Max Non-residential Sq. Ft.	Max Residential Units	Non-residential Sq. Ft.	
1	Education Village	120	-	2,279,050	-	2,254,200	(24,850) Sq Ft
2	Community Park	29	-	40,531[1]	-	1,000	(39,531) Sq Ft
3	Transitional/ Emergency Housing	5		133,294	-	133,294	No Change Sq Ft
4–5	Residential	106	925	-	895[2]	-	(30) DU
6	County Regional Park	85	-	574,992	-	574,992	No Change
7	Commercial	21	-	248,292	-	248,292	No Change
8[3]	Recreation/ Entertainment Core	190	-	1,976,692	-	1,547,690	(429,002) Sq Ft
9–12	Commercial/ Business	117	-	1,267,324	-	1,588,198	320,874 Sq Ft
13-14	Mixed-Use Urban	124	891	2,780,587	1,672[4]	606,000	781 DU
							(2,174,587) Sq Ft
15	Mixed-Use Transit	271	1,214	503,410	2,814[5]	1,095,200[6]	1,600 DU
							591,790 Sq Ft
16–19	Commercial	103	-	1,483,553	-	1,483,553	No Change
20	Residential	29	376	-	376	-	No Change
21	Residential	127	793	-	654	-	(139) DU
22	Residential	73	402	-	402	-	No Change
	ROW	206	-	-	-	-	-
	TOTAL	1,606	4,601	11,287,725	6,813[7]	9,532,419	2,212 DU
							(1,755,306) Sq Ft

Notes:
1 Existing Buildings.
2 Does not include 180 density bonus units.
3 PA 8 and PA 13-14 were combined in the Adopted Specific Plan they are broken out in the Amended Specific Plan.
4 Does not include 157 density bonus units.
5 Does not include 33 density bonus units.
6 Includes Senior Community as a commercial use.
7 Total does not include 370 density bonus units.

3. Project Description

3.2.2.2 NONRESIDENTIAL LAND USE/TRIP BUDGET

The nonresidential land use/trip budget tracking system was developed as a mechanism for managing the forecast vehicular trips generated by the nonresidential land use mix in the Adopted Specific Plan. In order to manage the availability of roadway capacity for the remaining, undeveloped land, the trip budget tracking system will continue to be monitored with this Specific Plan Amendment. Although all land uses are accounted for in the total average daily trips (ADT) associated with potential development for the Specific Plan, the trip budget applies only to nonresidential uses. The tracking system establishes a maximum limit on the ADT generated from nonresidential uses in each neighborhood within the Specific Plan area and designates them for each neighborhood. That limit is identified in the trip budget, which summarizes the square footage of nonresidential uses in each neighborhood by Planning Area and the corresponding ADT.

The Specific Plan Amendment would not impact the overall trip budget; however, it would require reallocation of trips between Planning Areas and a conversion between nonresidential and residential uses. The City's Community Development Department and Public Works Department are required to maintain the tracking system in order to update the current ADT status as it is impacted by each development project, ensuring that sufficient roadway capacity remains to accommodate later projects. The Planning Area Trip Budget shows the reallocation of trips by Planning Area as proposed in the Specific Plan Amendment.

3.2.2.3 PARKS, OPEN SPACE, AND TRAILS

Parks and open space are provided throughout the project area in the form of regional, linear, community, and neighborhood parks. Within the City of Tustin, the proposed project includes a requirement from the City's General Plan for public open space of approximately 170 acres. In the Amended Specific Plan, this public open space would span parts of Planning Areas 2, 4-5, 8, 9–12, 13–14, and 15, as well as Planning Areas 20 and 21. In the remaining Planning Areas in the Specific Plan Amendment contributions to this park requirement and creation of the Linear Park are guided by a park overlay. The purpose is to allow flexibility in the ultimate design configuration of the park and its integration with surrounding uses. The Specific Plan Amendment would establish a minimum width requirement for the Linear Park through each Planning Area. Planning Area 6 provides an 85-acre regional park (not included in the 170-acre public open space requirement noted above). Additional neighborhood parks, school campus open space, or office park open space/green rooms are encouraged in the plan and would be developed as a network of dispersed parks and gathering areas within the design of individual projects. These areas would be connected by pedestrian and bicycle trails in accordance with requirements specified for each Planning Area. Planning Area 22 provides a total of 9.5 acres of park space in the City of Irvine.

Table 3 Amended Specific Plan Park Plan

Jurisdiction	Neighborhood	Planning Area	Minimum Acres	Notes
City of Tustin				
Counts toward City of Tustin requirement for 170 acres of public open space	A	2	29	Community Park
	B	4-5	4	Neighborhood Parks
	D	8	68	Legacy Park
	E	9-12	28	Legacy Park
	D	13-14	16	Legacy Park and Ramblas
	G	15	25	Legacy Park
Subtotal			170	
Does not count toward City of Tustin requirement for 170 acres of public open space	C	6	85	Regional Park
Subtotal			255	
City of Irvine				
	H	22	9.5	
Total			264.5	

3.2.2.4 TRANSIT ACCESSIBILITY

The proposed project accommodates current and future bus service to the area as planned by the Orange County Transportation Authority. A Metrolink transit plaza is located across from the project area on the corner of Edinger Avenue and Jamboree Road. The proposed Specific Plan Amendment requires Planning Area 15, across from the transit station, to be transit oriented in terms of scale, form, design, and mix of uses. A pedestrian bridge across Edinger Avenue would be the primary pedestrian and bicycle connection between the project area and the transit station. Vehicular access would be provided by additional street access along Edinger Avenue.

3.2.2.5 VEHICULAR ACCESS AND CIRCULATION

As part of the development plan for the Tustin Legacy Specific Plan, proposed infrastructure would include a pedestrian and vehicular circulation system, including roadways, landscaping, parks, street lighting, sidewalks, and pedestrian paths. The access and circulation plan is intended to efficiently integrate the proposed project into the City's transportation network. As shown in Figure 4 the proposed system of vehicular streets would provide convenient, efficient, and safe access to uses within the project boundaries as well as to offsite destinations.

Access into the project area is provided via entries along Barranca Parkway, Edinger Avenue, Jamboree Road, Red Hill Avenue, Armstrong Avenue, Tustin Ranch Road, Valencia Avenue, Warner Avenue, Bell Avenue, Harvard Avenue, and Moffett Drive. The circulation plan would connect Moffett Drive to Tustin Ranch

Road. Access points proposed along the perimeter public streets would be coordinated with access to adjacent land uses. Internal circulation within each Planning Area would consist of smaller access roads or private streets serving development.

3.2.2.6 PARKING

The Tustin Legacy Specific Plan provides minimum parking requirements to serve the land uses within the project area. The Specific Plan Amendment would establish new standards for Planning Areas with mixed-use development and allow for the establishment of future parking districts. Parking requirements vary by land use type.

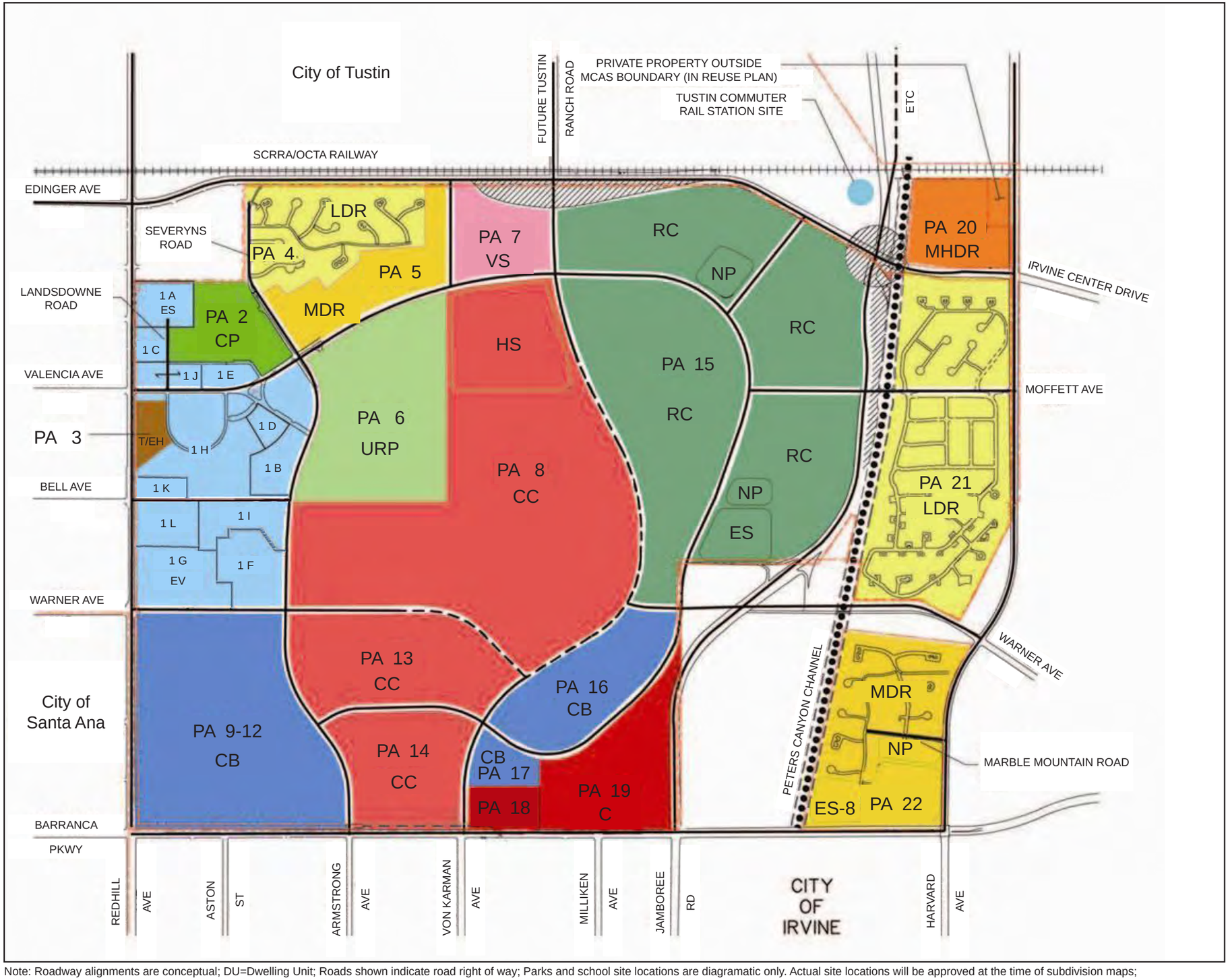
3.2.2.7 INFRASTRUCTURE

In addition to the proposed development, roadways and utilities will be required to support the proposed project. Proposed onsite infrastructure improvements include storm drains, wastewater, water (potable and reclaimed), and dry utilities that would connect to existing facilities adjacent to the project area.

3.2.2.8 PHASING

The proposed project is expected to be developed in phases triggered by implementation requirements. Similar to the Adopted Specific Plan, the Amended Specific Plan would use triggering mechanisms for phasing, including thresholds for circulation, bikeways/trails, water, sewer, storm drains, other utilities, and parks. Market demand and the timing of environmental cleanup efforts may also factor into the phasing plan.

Figure 3



Note: Roadway alignments are conceptual; DU=Dwelling Unit; Roads shown indicate road right of way; Parks and school site locations are diagramatic only. Actual site locations will be approved at the time of subdivision maps; Within the City of Irvine, the density within the Medium Density Residential designation will not exceed 12.5 dwelling units per acre.

Existing Land Use Plan

- LDR — Low Density Residential (1-7 DU/Acre)
- MDR — Medium Density Residential (8-15 DU/Acre)
- MHDR — Medium High Density Residential (16-25 DU/Acre)
- T/EH — Transitional/Emergency Housing
- RC — Residential Core (1-7 DU/Acre, 8-15 DU/ Acre and 16-25 DU/Acre)
- CB — Commercial Business
- C — Commercial
- VS — Village Services
- CC — Community Core
- EV — Education Village
- CP — Community Park
- URP — Urban Regional Park
- NP — Neighborhood Park
- Regional Riding and Hiking Trail
- ES-8 — Elementary School (K-6)
- ES-8 — Elementary School (K-8)
- HS — High School
- MCAS Tustin Boundary
- Irvine/Tustin/Santa Ana Boundary
- Specific Plan Boundary
- Military (Federal Property)
- Additional Road Right-of-Way

CITY OF TUSTIN

TUSTIN LEGACY SPECIFIC PLAN

INITIAL STUDY

TUS.11-1
9/8/2014

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Scale (Feet)

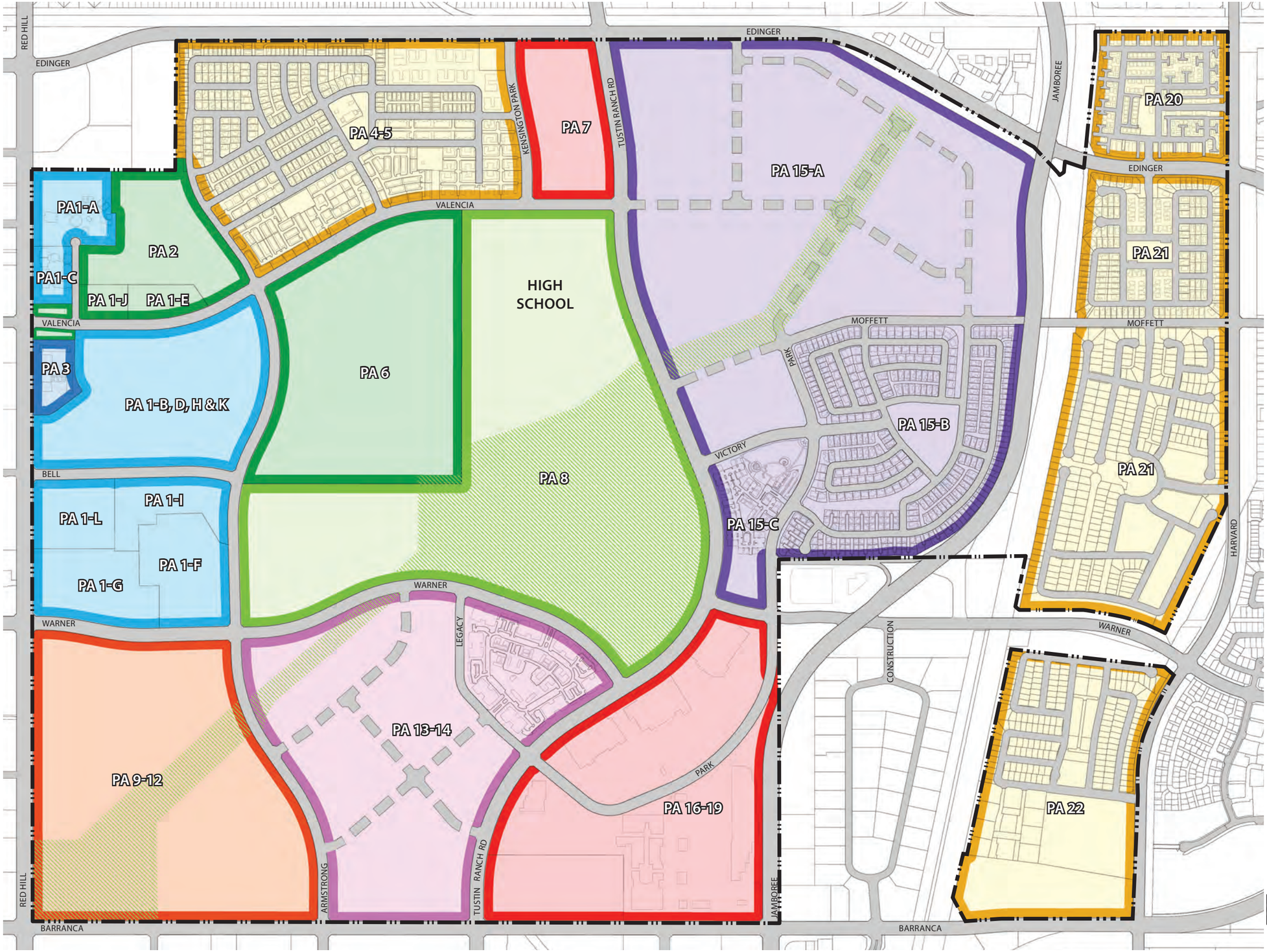
PLACEWORKS

3. Project Description

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Figure 4

Proposed Land Use Plan



- Project Boundary
- Education Village
- Transitional / Emergency Housing
- Commercial / Business
- Commercial
- Residential
- Park
- Recreation / Entertainment Core
- Mixed-Use Transit
- Mixed-Use Urban
- Right-of-Way
- Linear Park Overlay

CITY OF TUSTIN

TUSTIN LEGACY SPECIFIC PLAN

INITIAL STUDY

TUS.11-1
2/20/2015

0 1,000
Scale (Feet)

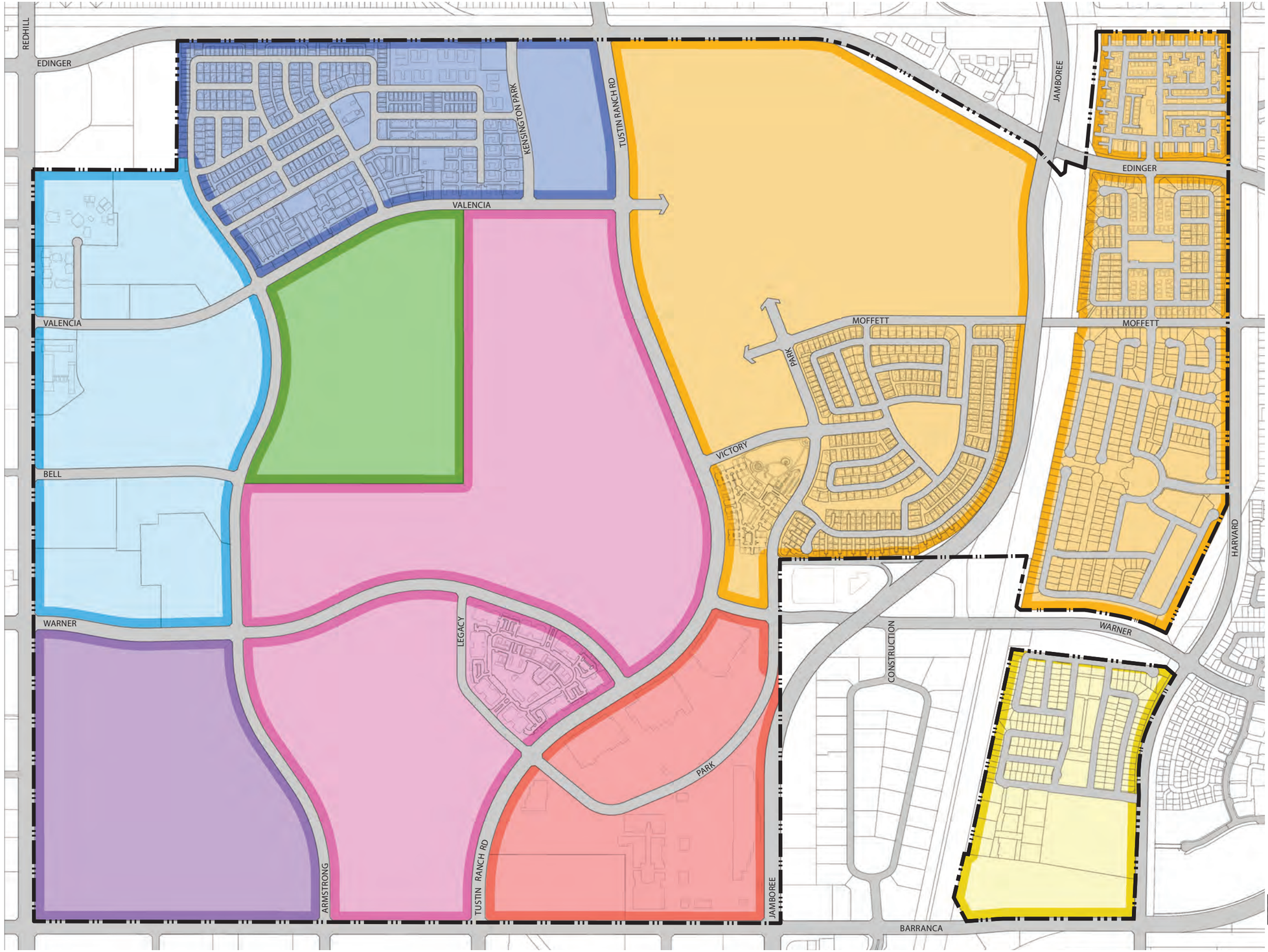
PLACEWORKS

3. Project Description

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Figure 5

Proposed Neighborhood Plan



- Project Boundary
- Neighborhood A
- Neighborhood B
- Neighborhood C
- Neighborhood D
- Neighborhood E
- Neighborhood F
- Neighborhood G
- Neighborhood H

CITY OF TUSTIN

TUSTIN LEGACY SPECIFIC PLAN

INITIAL STUDY

TUS.11-1
3/4/2015

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Scale (Feet)

PLACEWORKS

3. Project Description

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4. Environmental Checklist

4.1 BACKGROUND

1. **Project Title:** Tustin Legacy Specific Plan Amendment (MCAS Tustin Specific Plan Amendment)

2. **Lead Agency Name and Address:**
   City of Tustin
   300 Centennial Way
   Tustin, CA 92780

3. **Contact Person and Phone Number:**
   Justina Willkom, Assistant Director - Planning
   714.573.3115

4. **Project Location:**
   The approximately 1,606-acre project area in central Orange County includes 1,511 acres in the City of Tustin and approximately 95 acres in in the City of Irvine; and is bounded by Red Hill Avenue on the west, Edinger Avenue on the north, Harvard Avenue on the east, and Barranca Parkway on the south.

5. **Project Sponsor's Name and Address:**
   City of Tustin
   300 Centennial Way
   Tustin, CA 92780

6. **General Plan Designation:** MCAS Tustin Specific Plan

7. **Zoning:** MCAS Tustin Specific Plan

8. **Description of Project**
   The Tustin Legacy Specific Plan Amendment would revise permitted land uses in 5 of the 14 segments (or 22 Planning Areas) comprising the project area, and would permit development of 2,212 additional housing units, and 1,755,306 fewer square feet of nonresidential land uses than the Adopted Specific Plan. The project is described in more detail in Section 3.2, *Project Characteristics*.

9. **Surrounding Land Uses and Setting:**
   The project area is surrounded to the west by commercial and industrial uses; to the north by single-family residential uses and industrial and commercial uses; to the east by single-family residential and multifamily residential uses; and to the south by commercial and industrial uses.

4. Environmental Checklist

10. Other Public Agencies Whose Approval Is Required:

- Santa Ana Regional Water Quality Control Board (approve water quality management plans for projects developed pursuant to the Specific Plan Amendment)
- Orange County Fire Authority (Plan check for building plan review and emergency access)

4.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist and analysis provided in Section 5.

☐ Aesthetics	☐ Agricultural and Forest Resources	☒ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☒ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☒ Hydrology / Water Quality
☒ Land Use / Planning	☐ Mineral Resources	☒ Noise
☒ Population / Housing	☒ Public Services	☐ Recreation
☒ Transportation / Traffic	☒ Utilities / Service Systems	☒ Mandatory Findings of Significance

4.3 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☒ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Elizabeth A Binsack
Signature

3/31/15
Date

Elizabeth A. Binsack
Printed Name

City of Tustin
For

4.4 EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) **Earlier Analyses Used.** Identify and state where they are available for review.

   b) **Impacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significant.

The environmental checklist and evaluation of potential impacts are provided in Section 5.

4. Environmental Checklist

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5. Environmental Analysis

This section provides a checklist and evaluation of environmental impacts of the proposed project. Mitigation measures that were previously adopted pursuant to the FEIS/EIR and are applicable to the project are identified.

5.1 AESTHETICS

5.1.1 Prior Environmental Findings

The FEIS/EIR identified aesthetic impacts of implementation of the Specific Plan land use changes. Visual impacts were considered significant if sensitive viewers (foreground residential viewers along Edinger Avenue and Harvard Avenue) would experience strong contrast or if there would be strong contrast to areas of high scenic quality. Contrast was measured by comparing the project features with the major features in the existing landscape. A strong contrast is identified where the contrast element: 1) demands attention, 2) is not overlooked, and 3) is dominant in the landscape.

The FEIS/EIR evaluated views of the Specific Plan area from the surrounding viewshed and determined that development would alter the appearance of the area to varying degrees. Specific Plan development would alter the appearance of the project area as seen from the surrounding viewshed, and views from within the site. Development would create visual contrast between new development and existing scattered buildings, hardscape, and vacant land in various portions of the project area over the approximately 20-year development duration. However, the FEIS/EIR determined that the only significant visual impact identified in the FEIS/EIR was the potential loss of both blimp hangars, which would change existing foreground, middle-ground, and background views.

Hangars 28 and 29 are listed on the National Register of Historic Places (NRHP); the two hangars and some appurtenant structures have been determined eligible for listing as a National Historic District. Since the two hangars are each 178 feet high and 1,088 feet long, they are visible from several miles away. Specific Plan development could demolish both hangars and the other appurtenant structures and improvements that are elements contributing to eligibility for National Historic District listing. The loss of both hangars was identified as a significant and unavoidable visual impact. Measures intended to mitigate the loss of the hangers as iconic features were identified in the Memorandum of Agreement associated with the Specific Plan, including requirements for a written history, documentary video, and exhibit. As discussed under Subsection 5.5.1, *Cultural Resources*, of this Initial Study, all mitigation measures identified in Stipulation III of the agreement have been satisfied.

Despite the presence of substantial vacant area in the Specific Plan area, it is in a heavily urbanized context. Surrounding land uses, including residential, commercial, and other uses, are visible from all areas of the

project. The San Gabriel Mountains to the north and Santa Ana Mountains to the east are visible from many vacant areas onsite as well as from some surrounding land.

Impacts to the visual character of the site from within the site were identified as potentially significant as the land transitioned to create more sensitive viewers. Mitigation Measure Vis-1 requires an urban design plan to provide for distinct and cohesive architectural and landscape design as well as harmony with adjacent landscaping.

The FEIS/EIR found that the MCAS Specific Plan would increase the number and intensity of light sources onsite—such as through addition of street lights, parking lot lights, and exterior building lights. However, it concluded that impacts would not be significant, since lights would only be visible from close range due to the site's flat topography and surrounding structures. Glare would be minimized through design controls as part of the design review and approval processes of the two cities.

The 2004 Supplemental EIR determined that if one hangar were retained, impacts to aesthetic resources would be less than significant; and impacts would remain significant and unavoidable if both hangars were demolished.

The 2006 Addendum updated the FEIS/EIR to reflect new sensitive views due to new residential development within the MCAS Specific Plan west of Harvard Avenue. The 2006 Addendum concluded that although views from previously identified sensitive viewers were altered with the new development, the development was implemented in compliance with the MCAS Specific Plan development standards and design guidelines. The new development was visually consistent with existing residential development.

The 2013 Addendum found that there would be no new impacts related to aesthetics. It determined that although there would be an increase in floor area ratio (FAR), the land uses would be the same as previously analyzed and would not change building height restrictions, setbacks, signage, and other development standards. It found that there were no new or substantial difference aesthetic impacts that would result from development of the project and the overall intensity and general character of the project site would not be substantially altered.

5.1.2 Current Conditions

Based on the County of Orange Master Plan of Scenic Highways, there are no designated scenic roadways or scenic vistas in the project vicinity. The sensitive viewers identified in the FEIS/EIR are still present; however, new residential uses have been developed onsite as described in Section 2.2.1, *Existing Land Use*. These developments have been implemented in accordance with the development regulations and design standards outlined in the Specific Plan, and no new impacts to sensitive viewers onsite have occurred. The new residential development is visually consistent with the surrounding residential uses.

5.1.3 Impacts Associated with the Modified Project

Would the modified project:

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Have a substantial adverse effect on a scenic vista?				X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X	

Comments:

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. As indicated above, there are no designated scenic highways or vistas in the project area. The project area offers distant views of the Santa Ana Mountains to the east and the San Gabriel Mountains to the north. The Specific Plan Amendment would introduce new land uses in some areas, including transit-oriented and mixed uses, resulting in an increase of 2,212 residential units and a decrease of 1.7 million square feet of nonresidential land uses. The change in land use mix and associated building types would alter the visual appearance of the project site but would not result in a change in effect on a scenic vista. No new significant impacts would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The project area is not within the vicinity of a designated state scenic highway. The nearest designated state scenic highway to the site is State Route 91 (SR-91), about 8.5 miles to the north (Caltrans 2011). Implementation of the Specific Plan Amendment would not impact scenic resources in a state scenic highway.

The FEIS/EIR concluded that demolition of both historic hangars would be a significant visual impact, while the loss of only one hangar would be less than significant. As discussed above in Subsection 5.1.1, all mitigation measures identified in Stipulation III of the agreement related to loss of the hangers have been

satisfied. The proposed changes in land use would not result in changes to the analysis and conclusions from the FEIS/EIR with respect to the hangars. No new significant impacts would occur.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Specific Plan Amendment would result in changes to the mix of land uses allowed in 5 of the 14 site segments. However, the Specific Plan Amendment would include development standards and development standards and design guidelines, including building height requirements, setbacks, and signage that represent the change in land uses while maintaining or enhancing the character of the Specific Plan area. The Specific Plan Amendment would not significantly alter allowable heights in the project area such that it would degrade the quality or character of the site. For example, the Adopted Specific Plan allows heights of up to 150 feet in Planning Areas 8 and 13-14 with some exceptions allowing up to 180 feet; the Specific Plan Amendment would not increase allowable building heights beyond these limits. Further, the Specific Plan Amendment would be required to comply with Mitigation Measure Vis-1 from the FEIS/EIR requiring an urban design plan to provide for distinct and cohesive architectural and landscape design as well as harmony with adjacent landscaping. The urban design plan required under Mitigation Measure Vis-1 would require updating in response to modifications to the land use plan proposed in the Specific Plan Amendment. No new significant impacts would occur.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. No new substantial impacts related to lighting would occur. The Specific Plan Amendment would convert some of the entitled nonresidential uses to residential. Consistent with the conclusions in the FEIS/EIR, residential lighting would be similar to light sources associated with the existing commercial, industrial, and residential uses adjacent to the project area. Additionally, lighting added onsite by implementation of the Specific Plan Amendment would only be visible from close range due to the flat topography of the site and structures on and surrounding the site. No new significant lighting impacts would occur.

5.2 AGRICULTURE AND FORESTRY RESOURCES

5.2.1 Prior Environmental Findings

The FEIS/EIR identified 702 acres of Important Farmland onsite: 682 acres of Prime Farmland and 20 acres of Farmland of Statewide Importance. In 1999, 530 acres were leased for cultivation with row crops and citrus. Conversion of farmland to nonagricultural uses was identified as a significant and unavoidable impact in the FEIS/EIR. No substantial change to the previous analysis was identified in the 2004 Supplemental EIR, 2006 Addendum, or 2013 Addendum.

5.2.2 Current Conditions

Since certification of the FEIS/EIR, all agricultural activities have ceased. The current California Department of Conservation's Farmland Mapping and Monitoring (FMMP), published August 2011, has been updated to reflect the absence of agricultural activities. The Specific Plan area is mapped as "Urban and Built-Up Land" and "Other Land."

5.2.3 Impacts Associated with the Modified Project

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Modified Project:

		Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Environmental Issues	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?					X
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?					X
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?					X
d)	Result in the loss of forest land or conversion of forest land to non-forest use?					X
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?					X

5. Environmental Analysis

Comments:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. Although the prior environmental findings identified farmland within the Specific Plan area, there are currently no farmland or agricultural activities in the project area. No prime farmland, farmland of statewide importance, or unique farmland is mapped within the project area on the California Important Farmland Finder maintained by the Division of Land Resource Protection (DLRP 2014). The project would not convert mapped important farmland to nonagricultural uses, and no impact would occur. Additionally, no change from the previous analysis is required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. There is no zoning for agricultural uses onsite. The site is zoned MCAS Tustin Specific Plan. Land use designations allowed under this zoning include designations for residential, commercial, recreational, and institutional uses. Williamson Act contracts restrict the use of privately owned land to agriculture and compatible open-space uses under contract with local governments; in exchange, the land is taxed based on actual use rather than potential market value. There are no Williamson Act contracts in effect on the proposed project area. No impact would occur. Additionally, no change from the previous analysis is required.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. Land onsite is zoned MCAS Tustin Specific Plan. Land use designations allowed under this zoning include designations for residential, commercial, recreational, and institutional uses. No land is designated for forest land, timberland, or timberland production on the project area. No impact would occur and no change from the previous analysis is required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. There is no forest land onsite. Vegetation types identified in the FEIS/EIR were agricultural crops and nonnative grasslands, not forest land. Much of the site has been subsequently developed with urban uses (see Chapter 2, *Environmental Setting*). No impact would occur and no change from the previous analysis is required.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The project area is surrounded by built-out urban uses in Irvine, Santa Ana, and Tustin. There is no mapped important farmland near the site, and implementation of the Specific Plan Amendment would not indirectly cause conversion of mapped important farmland to nonagricultural uses or the conversion of forest land to nonforest use. No impact would occur and no change from the previous analysis is required.

5.3 AIR QUALITY

5.3.1 Prior Environmental Findings

The FEIS/EIR addressed consistency of the MCAS Specific Plan with the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plans (AQMPs), construction-related emissions, operational emissions, localized carbon monoxide (CO) "hotspots," and air toxics. The FEIS/EIR concluded that the MCAS Tustin Specific Plan would not be consistent with the 1994 and 1997 AQMPs because these plans did not consider the planned intensity assumed by the Specific Plan. This impact was significant and unavoidable, and a statement of overriding considerations was adopted.

The FEIS/EIR concluded that there were significant and unavoidable construction-related (short-term) emissions that exceeded the SCAQMD thresholds. Even with incorporation of mitigation measures, impacts were determined to remain significant and a statement of overriding considerations was adopted.

Operational emissions were also considered significant and unavoidable even with implementation of the City's Traffic Reduction/Traffic Demand Management program (Ordinance No. 1062, approved in 1991), which has policies to reduce long-term emissions. A statement of overriding considerations was adopted for this impact. However, the FEIS/EIR concluded that operational emissions from businesses would comply with SCAQMD's regulations for operation and would be less than significant.

The FEIS/EIR concluded that no sensitive receptors would be exposed to CO hotspots. The analysis included intersections with the highest traffic volumes and LOS during years 2005 and 2020.

The 2006 Addendum updated the air quality analysis due to changes in the regulatory environment and project. The 2006 Addendum determined that there was no substantial change and a reduced impact due to the reduction of nonresidential square footage and redistribution of residential uses. The project incorporated all applicable mitigation measures and revised MM AQ-1 to reflect amendments to Rules 402 and 403. No new impacts were identified.

The 2013 Addendum analyzed a specific project and updated the air quality analysis to identify construction and operational related impacts resulting from the construction of up to 816,929 square feet of academic office space and the extension of Bell Avenue. Based on this analysis it was determined that SCAQMD thresholds would not be exceeded and no new significant impacts would occur.

5.3.2 Current Conditions

The Specific Plan area continues to be within the South Coast Air Basin (SoCAB) under the jurisdiction of the SCAQMD and California Air Resources Board (CARB). Since certification of the FEIS/EIR and subsequent analyses, there have been several changes to the regulatory environment. A new 2012 AQMP was adopted and a newer version (version 2013.2.2) of the California Emissions Estimator Model (CalEEMod) was released that has updated emissions factors. The emissions calculated for the Adopted Specific Plan were calculated using an outdated version of the model.

The existing conditions in the project area have changed since the FEIS/EIR. Based on the analysis provided in Section 5.3.3, an air quality analysis will be prepared for the SEIR. This analysis will update the environmental conditions based on the most current five years of air quality data in the SoCAB from a monitoring station operated by SCAQMD.

5.3.3 Impacts Associated with the Modified Project

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the modified project:

	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
Environmental Issues	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?		X			
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X				
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	X				
d) Expose sensitive receptors to substantial pollutant concentrations?		X			
e) Create objectionable odors affecting a substantial number of people?				X	

Comments:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Change in Circumstances Requiring EIR Revisions. The SoCAB is designated nonattainment for ozone and fine particulate matter ($PM_{2.5}$) under the California and National ambient air quality standards (AAQS). As stated above, several updates to the AQMP have occurred since the FEIS/EIR. Although the overall intensity of development in the Specific Plan area would remain the same, the Specific Plan Amendment would increase residential units, which may cause population to exceed current growth projections for the area. This increase in population and the consistency of the project's regional emissions with the current 2012 AQMP would need to be evaluated in the SEIR.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Change in Project Requiring EIR Revisions. The Specific Plan Amendment would increase residential uses and decrease nonresidential uses. There would be changes in air quality emissions based on the new mix of land uses and on the new and updated air quality model with updated emissions factors. As part of the SEIR, an air quality technical analysis will be prepared to determine the change in short-term and long-term criteria air pollutant emissions from the project. CalEEMod will be used to model criteria air pollutant emissions from the approved MCAS Specific Plan and the proposed Specific Plan Amendment at buildout. The criteria air pollutant emissions analysis will be based on the average daily trip generation and/or vehicle miles traveled (VMT) for the approved project and the Specific Plan Amendment. The SEIR will compare the net increase in emissions at buildout to SCAQMD's regional significance thresholds and determine if there are any new significant impacts or mitigation measures required.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Change in Project Requiring EIR Revisions. The Specific Plan Amendment would increase residential uses and decrease nonresidential uses. There would be changes in air quality emissions based on the new mix of land uses and based on the updated air quality model with updated emissions factors. As part of the SEIR, an air quality technical analysis will be prepared to determine the change in short-term and long-term criteria air pollutant emissions from the project. CalEEMod will be used to model criteria air pollutant emissions from the approved MCAS Specific Plan and the proposed Specific Plan Amendment at buildout. The criteria air pollutant emissions analysis will be based on the average daily trip generation and/or VMT for the approved project and the Specific Plan Amendment. The SEIR will compare the net increase in emissions at buildout to SCAQMD's regional significance thresholds to determine whether there are any new significant impacts or mitigation measures required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Change in Circumstances Requiring EIR Revisions. In 2007, the SoCAB was designated attainment for CO under both the California and National AAQS. As identified in SCAQMD's 2003 AQMP and the 1992

Federal Attainment Plan for Carbon Monoxide, peak CO concentrations in the SoCAB were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2011). The proposed Specific Plan Amendment would not result in changes at any one intersection that would generate a CO hotspot. Consistent with the conclusions of the FEIS/EIR, CO hotspots are not an environmental impact of concern for the proposed project, and localized air quality impacts related to mobile-source emissions would be less than significant.

The Specific Plan Amendment would allow the same types of land uses that were analyzed in the FEIS/EIR. However, SCAQMD has given special attention to the siting of new sensitive receptors from exposure to elevated concentrations of toxic air contaminants (TACs). Further evaluation is required to identify types of land uses within 1,000 feet of the Tustin Legacy Specific Plan that are major sources of TACs, including offsite industrial land uses and Jamboree Road/State Route 261. If necessary, the SEIR will identify mitigation measures required for future projects within the Specific Plan to reduce potential impacts from exposure of sensitive receptors to substantial concentrations of TACs.

Detailed construction information would not be available at this program level of analysis. The SEIR will qualitatively analyze localized air pollution impacts from construction equipment exhaust and fugitive dust for their potential to elevate concentrations of air pollutants at the land uses surrounding the development sites. Mitigation measures to reduce potential impacts will be identified in the SEIR, as necessary.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Initial Study prepared for the FEIS/EIR concluded that the MCAS Specific Plan would not generate objectionable odor and did not require further analysis. The proposed change in land use mix from nonresidential to residential would not generate a substantial increase in odor generation. Residential uses may generate odors from backyard barbeque smoke, lawn mower exhaust, or application of exterior paints. The types and concentrations of odors generated would be typical of similar communities and the surrounding residential uses. The amount of nonresidential uses would be reduced, which would reduce odor generation from those uses. The project would be consistent with Section 3.11.7 of the MCAS Specific Plan, which requires uses that produce odors, toxic gases, or noxious matter detectable outside the property lines of the premises to be modified to prevent such emissions.

5.4 BIOLOGICAL RESOURCES

5.4.1 Prior Environmental Findings

Vegetation onsite was identified as cultivated fields and nonnative grassland in the FEIS/EIR. Only individual remnants of native plant species, but no intact native habitat, were identified. The FEIS/EIR determined that implementation of the Specific Plan would result in impacts to jurisdictional waters and wetlands and to

southwestern pond turtle. The FEIS/EIR did not find burrowing owls or suitable habitat for burrowing owl onsite. Mitigation measures were required in the FEIS/EIR and revised in the 2006 Addendum; the aforementioned impacts are less than significant after implementation of mitigation. Note that a capture and relocation plan was approved by California department of Fish and Wildlife (CDFW) for the southwestern pond turtle, and all turtles have been relocated.

The FEIS/EIR identified several potential jurisdictional waters onsite, including but not limited to ditches and drainages, the Santa Ana/Santa Fe Channel, the Barranca Channel, and Peters Canyon Channel. It identified impacts to 16.2 acres of jurisdictional waters, 2.4 acres of which were vegetated wetlands. The 2006 Addendum, which covered 1,511 acres of the project area in the City of Tustin, identified 0.68 acre of federally protected wetlands in that area. Mitigation measures for impacts to jurisdictional waters and wetlands were included in the FEIS/EIR and revised in the 2006 Addendum.

The 2006 Addendum also identified 0.8 acre of riparian area jurisdictional to CDFW onsite and concluded that development would result in a significant impact to that entire riparian area. Mitigation measures were identified in the FEIS/EIR that would reduce impacts to less than significant.

The FEIS/EIR determined that there would be no impacts to federally listed threatened or endangered plant or animal species. It found that there would be a direct impact to four loggerhead shrike, but that it would not have an overall adverse effect to the population in southern California.

The 2006 Addendum concluded that the Specific Plan area does not support wildlife movement.

5.4.2 Current Condition

As stated previously, many parts of the Specific Plan area are developed or currently under construction. Approximately 867 acres of the project area is vacant: either undeveloped or remnants of the former military operation, such as unoccupied buildings, asphalt-paved streets and parking lots, concrete sidewalks and pads, and landscaping/groundcover. Vacant land on site has largely been graded and contains no native vegetation. Additionally, the project area currently has 12 acres of public and private neighborhood parks in residential neighborhoods between both cities.

5.4.3 Impacts Associated with the Modified Project

Would the modified project:

5. Environmental Analysis

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?					X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?					X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?					X

Comments:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Specific Plan Amendment would revise proposed land uses in 5 of the 14 site segments of the project area but would not change the overall development footprint of the Specific Plan. Portions of the vacant land identified as nonnative grassland in the FEIS/EIR have subsequently been developed and the entire project area has been graded. Implementation of the Specific Plan Amendment would not cause impacts to biological resources that were not previously analyzed in the FEIS/EIR. As stated, CDFW approved a pond

turtle relocation and mitigation plan for the project, and all turtles have been relocated. Mitigation Measures Bio-2, Bio-3, and Bio-4 would also be applicable to the modified project. Implementation of the Specific Plan Amendment would not result in new impacts to any special status species or their habitats, and mitigation measures would reduce impacts to less than significant. No new significant impacts would occur.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Riparian habitats are those occurring along the banks of rivers and streams. Riparian habitats next to streams and lakes are jurisdictional to CDFW. The jurisdictional delineation conducted for the FEIS/EIR identified Waters of the US and wetlands protected under the federal Clean Water Act; but not Waters of the State or riparian habitats jurisdictional to CDFW. The 2006 Addendum identified 0.8 acres of riparian habitat. The development area for the Specific Plan Amendment would be the same as the project area analyzed in the FEIS/EIR. No new areas would be developed. According to the 2013 Annual Mitigation Monitoring report, the City has 401, 404, and 1602 permits that apply to the Specific Plan area. These permits and responsibilities would be assigned to subsequent developers as applications are submitted. With implementation of MM Bio-1, impacts to areas under the jurisdiction of CDFW and Waters of the US would be reduced to a less than significant impact. Future developers would be required to obtain permits from CDFW, the Regional Water Quality Control Board (RWQCB), and the US Army Corps of Engineers (Corps). This would not result in a significant change in impact conclusions of the FEIS/EIR. No new significant impact would occur.

No sensitive natural communities have been identified onsite in previous environmental documentation. Nonnative grassland and cultivated fields were identified onsite in the FEIS/EIR; neither of these land cover types are considered sensitive natural communities and vacant land on site has been graded. No new significant impact would occur, and this impact will not be analyzed in the SEIR.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The development area for the Specific Plan Amendment would be the same as the project area analyzed in the FEIS/EIR. No new areas would be developed. According to the 2013 Annual Mitigation Monitoring report, the City has 401, 404, and 1602 permits which apply to the Specific Plan area. These permits and responsibilities would be assigned to subsequent developers as applications are submitted. With implementation of MM Bio-1, impacts to areas under the jurisdiction of CDFW and Waters of the US would be reduced to a less than significant impact. Future developers would be required to obtain permits from CDFW, RWQCB, and the Corps. This would not result in a significant change in impact conclusions of the FEIS/EIR. No new significant impact would occur.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. Existing vegetation onsite currently consists of landscaping in developed areas, nonnative grassland, and previously graded areas on vacant land. The area does not support wildlife movement or a wildlife corridor. Implementation of the Specific Plan Amendment would not interfere substantially with wildlife movement, and no significant impact would occur. Buildout of the Specific Plan Amendment would not result in the removal of substantial amounts of trees or shrubs that could be used by nesting migratory birds protected under federal and state laws. No impact would occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. As determined by the FEIS/EIR, there are no local policies protecting biological resources impacted by implementation of the Specific Plan Amendment. No impact would occur.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project area is within the plan area of the Orange County Central-Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP); however, the site is not within a reserve established under the NCCP/HCP. The nearest such reserve is the Upper Newport Bay Nature Preserve and Ecological Reserve, about 3.1 miles to the southwest (NROC 2005). Project implementation would not conflict with the NCCP/HCP and no impact would occur.

5.5 CULTURAL RESOURCES

5.5.1 Prior Environmental Findings

Hangar 28 (northern hangar) and Hangar 29 (southern hangar) are both listed on the National Register of Historic Places. The two hangars, along with other resources onsite, were determined to be eligible for listing as a discontiguous National Historic District. Other resources include Buildings 28A and 29A, mooring mats 1 through 5, and the roads connecting these structures to Hangars 28 and 29. When previous environmental documents were prepared, it was unknown whether implementation of the Adopted Specific Plan would involve demolition of both, one, or neither of the hangars. It was determined that the loss of both hangars would be a significant and unavoidable impact. Mitigation measures were required for impacts to the two hangars and the above-described related historical resources. Impacts were identified as significant and unavoidable after implementation of mitigation.

In accordance with Section 106 of the National Historic Preservation Act, the City of Tustin, the State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation, the Department of the Navy, and the County of Orange executed a Memorandum of Agreement that identified measures to mitigate the impacts of the destruction of portions of the eligible historic district, including the removal of Hangar

28 and Hangar 29 (RBF 2008). Pursuant to the agreement, the County of Orange conducted a marketing study of Hangar 28 and the City of Tustin conducted a marketing study of Hangar 29. Both jurisdictions reached the conclusion that there is no economically viable use for the hangars, requiring implementation of mitigation measures from Stipulation III of the agreement. The required mitigation measures included a written history, documentary video, and exhibit. All mitigation measures identified in Stipulation III of the agreement have been satisfied.

One archaeological site was known to be located on the project area; this site was destroyed by construction of two tanks before 1971. The site was described as containing shells, and an arrowshaft straightener, mortar, and metate were reportedly discovered at the site. Impacts to archaeological resources were identified as less than significant after mitigation in the FEIS/EIR.

Soils underlying the site were identified as having moderate to high sensitivity for paleontological resources in the FEIS/EIR. Impacts to paleontological resources were identified as less than significant after mitigation in the FEIS/EIR.

5.5.2 Current Conditions

Other than new development that has occurred in the project area, no changes related to cultural resources have occurred since the FEIS/EIR and subsequent environmental review.

5.5.3 Impacts Associated with the Modified Project

Would the modified project:

	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
Environmental Issues	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?				X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?				X	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X	
d) Disturb any human remains, including those interred outside of formal cemeteries?				X	

5. Environmental Analysis

Comments:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally a resource is considered "historically significant" if it meets one of the following criteria:

i) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

ii) Is associated with the lives of persons important in our past;

iii) Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

iv) Has yielded, or may be likely to yield, information important in prehistory or history.

The changes to land uses in the Specific Plan Amendment would not result in any new impacts to historic resources. As stated above, mitigation measures required prior to demolition of the hangars have been implemented. The land use changes proposed would not result in new impacts or result in changes to the prior environmental findings. No new significant impact would occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Archaeological Resources are prehistoric or historic evidence of past human activities, including structural ruins and buried resources. As concluded in the FEIS/EIR, archaeological resources could be buried in site soils and could be damaged by ground-disturbing activities pursuant to the Specific Plan Amendment. Although the site has been graded, development may require grading to an increased depth. The development footprint for the Specific Plan Amendment is within the impact area evaluated in the FEIS/EIR. The project would be required to comply with FEIS/EIR mitigation measures to reduce impacts to less than significant (MM Arch-2). The proposed project would not result in a substantial change from the archaeological resources impacts identified in the FEIS/EIR.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Paleontological resources are fossils, which are the recognizable remains or evidence of past life on earth; including bones, shells, leaves, tracks, burrows, and impressions. The ground disturbance footprint of the Specific Plan Amendment would be the same as that analyzed in the FEIS/EIR. The project would be

required to comply with FEIS/EIR mitigation measures to reduce impacts to less than significant (MM Paleo-1 and Paleo-2). The proposed project would not result in a substantial change from paleontological resources impacts identified in the FEIS/EIR.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project area, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. The project would comply with existing law, and potential impacts to human remains would be less than significant. Furthermore, the development footprint is within the impact area evaluated in the FEIS/EIR and no new impacts would occur.

5.6 GEOLOGY AND SOILS

5.6.1 Prior Environmental Findings

Impacts related to collapsible soils, regional subsidence, expansive soils, slope instability, and erosion were identified in the FEIS/EIR as less than significant after compliance with state and local regulations and standards, and established engineering procedures and techniques. No impacts related to landslides or mudflows were identified.

No active faults were identified on or next to the site. The FEIS/EIR identified 10 active faults ranging from 10 miles to 48 miles from the project area, and estimated to be capable of generating earthquakes ranging from magnitude 6.5 to 7.8. Impacts related to surface rupture of a fault, strong ground shaking, ground failure including liquefaction, tsunamis and seiches, and flooding due to dam failure after an earthquake were all identified as less than significant.

Site soils were identified as highly to very highly expansive in the FEIS/EIR. Measures identified in the FEIS/EIR for reducing hazards from expansive soils include removal of clay-rich soils and replacement with a specified thickness of non-expansive granular soil beneath structures, concrete slabs, and footings; improving the expansive soil with presaturation of expansive materials; supplemental reinforcement of the building foundations and slabs; and installing post-construction drainage control to minimize the collection of water under or adjacent to structures. Impacts were identified as less than significant in the FEIS/EIR after compliance with state and local regulations.

5. Environmental Analysis

5.6.2 Current Conditions

Other than subsequent grading, remediation, and development activities, there are no changes to the geology and soils conditions onsite as evaluated in the FEIS/EIR.

5.6.3 Impacts Associated with the Modified Project

Would the modified project:

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.					X
ii) Strong seismic ground shaking?				X	
iii) Seismic-related ground failure, including liquefaction?				X	
iv) Landslides?					X
b) Result in substantial soil erosion or the loss of topsoil?				X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?					X

Comments:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. The Alquist-Priolo Earthquake Fault Zoning Act was passed to prevent construction of buildings used for human occupancy on the surface of active faults, in order to minimize the hazard of surface rupture of a fault to people and buildings. Before cities and counties can permit development within Alquist-Priolo Earthquake Fault Zones, geologic investigations are required to show that the sites are not threatened by surface rupture from future earthquakes. Active earthquake faults are faults where surface rupture has occurred within the last 11,000 years. The nearest active fault to the site is the Newport-Inglewood Fault 10 miles to the southwest (HNTB 2001; CGS 2013). Consistent with the findings of the FEIS/EIR, the site is not in an Alquist-Priolo Earthquake Fault Zone (CGS 2014). Buildout of the Specific Plan Amendment would not subject people or structures to hazards from surface rupture of a known earthquake fault, and no impact would occur.

ii. Strong seismic ground shaking?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. As identified in the FEIS/EIR, the project area is in a seismically active region, and strong ground shaking is likely to occur within the design lifetimes of structures that would be built pursuant to the Specific Plan Amendment. Structures for human occupancy must be designed to meet or exceed the most recent California Building Code (CBC) standards for earthquake resistance. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground motion with specified probability of occurring at the site. Requirements for geotechnical investigations are included in CBC Appendix J Section J104. Additional requirements for subdivisions requiring tentative and final maps and for other specified types of structures are in California Health and Safety Code Sections 17953 to 17955 and in Section 1802 of the 2013 CBC. Testing of samples from subsurface investigations is required, such as from borings or test pits. Studies must be done as needed to evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on load-bearing capacity, compressibility, liquefaction, differential settlement, and expansiveness. Future buildings and structures would meet the City of Tustin Building Code and CBC, and the project would not alter the conclusions of the FEIS/EIR related to seismic ground shaking. No new substantial impact would occur.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Liquefaction refers to loose, saturated sand or silt deposits that behave as a liquid

and lose their load-supporting capability when strongly shaken. Loose granular soils and silts that are saturated by relatively shallow groundwater are susceptible to liquefaction. A high potential for liquefaction onsite was identified in the FEIS/EIR due to the presence of shallow groundwater and loose soils. The entire project area is mapped as a Zone of Required Investigation for Liquefaction by the California Geological Survey (CGS 2001). The FEIS/EIR identified engineering techniques that would reduce hazards associated with liquefaction to less than significant, including: (1) excavation and removal or recompaction of potentially liquefiable soils; (2) in-site ground densification; (3) other types of ground improvement; (4) deep foundations that have been designed to accommodate liquefaction effects; (5) reinforced shallow foundations; and (6) design of the proposed structures or facilities to withstand predicted ground softening and/or predicted vertical and later ground displacements to an acceptable level of risk. In addition**,** geotechnical investigations for projects onsite are required to evaluate the potential for liquefaction on the affected project area and provide measures to minimize hazards arising from liquefaction. The project would not result in any substantial changes to the environmental impacts previously evaluated in the FEIS/EIR. Compliance with required geotechnical investigations and engineering techniques would result in less than significant impacts and no new substantial impact would occur.

iv. Landslides?

No Impact. The project area is relatively flat with a south slope of about 0.4 percent grade. Consistent with the findings of the FEIS/EIR, no impact would occur from landslides. Buildout of the Specific Plan Amendment would not create landslide hazards, and no new impact would occur.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The development footprint of the Specific Plan Amendment would be the same as that analyzed in the FEIS/EIR of the Adopted Specific Plan.

Construction

Erosion control measures are required for construction projects of one acre or more in areas under the Statewide General Construction Permit, Order No. 2012-0006-DWQ, issued by the State Water Resources Control Board (SWRCB) in 2012. Projects obtain coverage by developing and implementing a Stormwater Pollution Prevention Plan (SWPPP) estimating sediment risk from construction activities to receiving waters, and specifying best management practices (BMPs) that would be used by the project to minimize pollution of stormwater. Categories of BMPs used in SWPPPs are described below in Table 4, *Construction BMPs*.

Table 4 Construction BMPs

Category	Purpose	Examples
Erosion Controls and Wind Erosion Controls	Cover and/or bind soil surface, to prevent soil particles from being detached and transported by water or wind	Mulch, geotextiles, mats, hydroseeding, earth dikes, swales
Sediment Controls	Filter out soil particles that have been detached and transported in water.	Barriers such as straw bales, sandbags, fiber rolls, and gravel bag berms; desilting basin; cleaning measures such as street sweeping
Tracking Controls	Minimize the tracking of soil offsite by vehicles	Stabilized construction roadways and construction entrances/exits; entrance/outlet tire wash.
Non-stormwater Management Controls	Prohibit discharge of materials other than stormwater, such as discharges from the cleaning, maintenance, and fueling of vehicles and equipment. Conduct various construction operations, including paving, grinding, and concrete curing and finishing, in ways that minimize non-stormwater discharges and contamination of any such discharges.	BMPs specifying methods for: paving and grinding operations; cleaning, fueling, and maintenance of vehicles and equipment; concrete curing; concrete finishing.
Waste Management and Controls (i.e., good housekeeping practices)	Management of materials and wastes to avoid contamination of stormwater.	Spill prevention and control, stockpile management, and management of solid wastes and hazardous wastes.

Source: CASQA 2003.

Requirements for SWPPPs have increased since adoption of the Specific Plan—for instance, the requirement to estimate sediment risk to receiving waters. Implementation of erosion control and sediment control BMPs by projects developed pursuant to the Specific Plan Amendment would minimize erosion. No new significant impact would occur.

Operation

At buildout of the Specific Plan Amendment the entire site would be developed with residential, commercial, and institutional uses; roadways and other hardscape; parks; and landscaped areas. Projects developed pursuant to the Specific Plan Amendment would be required minimize runoff and include BMPs to reduce sediment during storm events. This would minimize erosion from the affected project area. No new substantial impacts would occur.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR.

5. Environmental Analysis

Liquefaction and Landslides

Liquefaction impacts associated with buildout of the Specific Plan Amendment would be less than significant, as substantiated above in Section 5.6.2.a.iii. No impacts would occur with respect to landslides (see Section 5.6.2.a.iv).

Lateral Spreading

Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. The site may be susceptible to lateral spreading due to the high potential for liquefaction onsite. Consistent with the findings of the FEIS/EIR, all grading operations and construction would be conducted in conformance with the City of Tustin Grading Manual and most recent version of the CBC. Further, geotechnical investigations for projects developed pursuant to the Specific Plan Amendment would be required to identify engineering controls to eliminate any potential for lateral spreading. No new significant impacts would occur.

Ground Subsidence

Ground subsidence is the lowering of the ground surface over a wide area, most often due to withdrawal of water or oil. Subsidence resulting from groundwater withdrawal has not been reported in the region (HNTB 2001). Groundwater levels in the Orange County Water District's service area, which includes the project area, are managed to avoid overdraft of the underlying groundwater basin (OCSD 2009). The Specific Plan Amendment would not change the conclusions of the FEIS/EIR, and no substantial new impact would occur.

Collapsible Soils

Compressible soils susceptible to some consolidation were identified in the FEIS/EIR as likely over the entire project area, especially east of Peters Canyon Channel. The Specific Plan Amendment would be required to be consistent with the most recent CBC and incorporate engineering techniques for removal of soils unsuitable for supporting proposed structures and replacement with engineered fill soils capable of supporting such structures. No new significant impact would occur.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The FEIS/EIR identified site soils as highly to very highly expansive and included engineering techniques to reduce hazards from expansive soils. Potential remedial measures may include: (1) removal of clay-rich soils and replacement with a specified thickness of nonexpansive granular soil beneath structures, concrete slabs, and footings; (2) improving expansive soil with presaturation of expansive materials and/or (3) supplemental reinforcement of building foundations and slabs; (4) installing post-construction drainage control to minimize the collection of water under or adjacent to structures. The FEIS/EIR concluded that impacts would be less than significant with incorporation of these techniques required by regulatory compliance. Future site-specific development is required to evaluate the expansion potential of onsite soils and implement

remedial measures in accordance with local requirements. The Specific Plan Amendment would not change the conclusions of the FEIS/EIR and no new substantial impacts would occur.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. Specific Plan Amendment buildout would include construction of sewer mains and sewer laterals. The Irvine Ranch Water District provides wastewater treatment for the project area. No impact would occur.

5.7 GREENHOUSE GAS EMISSIONS

5.7.1 Prior Environmental Findings

The FEIS/EIR did not evaluate greenhouse gas (GHG) emissions impacts because it was not included in the CEQA Guidelines Appendix G checklist and the City of Tustin did not have adopted thresholds at the time of preparation.

5.7.2 Current Conditions

Climate change is the variation of Earth's climate over time, whether due to natural variability or as a result of human activities. Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. The primary source of GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor, carbon (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).

5.7.2.1 REGULATORY SETTING

Regulation of GHG Emissions on a National Level

The United States Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements, but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (EPA 2009). The EPA's endangerment finding covers emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6 (the first three are applicable to the proposed project).

5. Environmental Analysis

Regulation of GHG Emissions on a State Level

Assembly Bill 32, the Global Warming Solutions Act (2006) (AB 32) was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions to 1990 levels by 2020. AB 32 directed the California Air Resources Board (CARB) to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. CARB adopted the Scoping Plan in 2008 and released an update to the plan in May 2014.

Regulation of GHG Emissions on a Regional Level

In 2008, Senate Bill 375 (SB 375) was adopted to achieve the GHG emissions reductions targets established in the Scoping Plan for the transportation sector as it relates to local land use decisions that affect travel behavior. Implementation is intended to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations with local land use planning to reduce vehicle miles traveled and vehicle trips. Specifically, SB 375 requires CARB to establish GHG emissions reduction targets for each of the 17 regions in California managed by a metropolitan planning organization (MPO). CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. The Southern California Association of Governments (SCAG) is the MPO for the southern California region, which includes the counties of Orange, Los Angeles, San Bernardino County, Riverside, Ventura, and Imperial. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035. SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted April 2012 (SCAG 2012).

5.7.3 Impacts Associated with the Modified Project

Would the modified project:

		Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Environmental Issues	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X				
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X	

Comments:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Change in Project Requiring EIR Revisions. Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact.

The Specific Plan Amendment would increase residential uses and decrease nonresidential uses. As a result, there would be changes in GHG emissions based on the new mix of land uses and based on the new air quality model (CalEEMod) that has been updated with new emission factors and is described above under Section 5.7.2, *Air Quality*. As part of the SEIR, an air quality technical analysis will be prepared to determine the change in GHG emissions from the modified project.

The CalEEMod will be used to model GHG emissions from the adopted MCAS Specific Plan and the proposed Specific Plan Amendment at buildout. The SEIR will compare the change in emissions at buildout to SCAQMD's regional significance thresholds and determine whether there are any new significant impacts or mitigation measures required. The SEIR will also address the effects of climate change within California and the City of Tustin and describe in further detail the history of California's GHG emissions regulations—including AB 32, the Global Warming Solutions Act (2006), and SB 375, The Sustainable Communities and Climate Protection Act (2008). The EIR will include a discussion the GHG reduction targets of AB 32 as identified in CARB's Scoping Plan and SCAG's regional per capita transportation targets for passenger vehicles under SB 375.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Applicable plans adopted for the purpose of reducing GHG emissions include the CARB Scoping Plan and the SCAG 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). A consistency analysis to these plans is presented below:

CARB Scoping Plan

CARB's 2008 Scoping Plan is California's GHG reduction strategy to achieve the state's GHG emissions reduction target established by AB 32, which is 1990 levels by year 2020. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, changes in the corporate average fuel economy standards, and other early action measures would ensure the state is on target to achieve the GHG emissions reduction goals of AB 32. The proposed Specific Plan amendment would not result in an increase in the total number of trips generated at buildout. In addition, new buildings constructed are required to comply with the most recent Building and Energy Efficiency Standards and California Green Building Code. The Specific Plan

Amendment's GHG emissions would be reduced from compliance with statewide measures that have been adopted since AB 32 was adopted.

SCAG 2012 RTP/SCS

In addition to AB 32, the California legislature passed SB 375 to connect regional transportation planning to land use decisions made at a local level. SB 375 requires the MPOs to prepare an SCS in their regional transportation plans to achieve the per capita GHG reduction targets. SCAG's 2012 RTP/SCS was adopted April 4, 2012, and incorporates strategies identified in the Orange County subregional SCS. The plan is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light duty trucks in the Southern California region. It identifies multimodal transportation investments, including bus rapid transit, light rail transit, heavy rail transit, commuter rail, high-speed rail, active transportation strategies (e.g., bikeways and sidewalks), transportation demand management strategies, transportation systems management, highway improvements (interchange improvements, high-occupancy vehicle lanes, high-occupancy toll lanes), arterial improvements, goods movement strategies, aviation and airport ground access improvements, and operations and maintenance to the existing multimodal transportation system. SCAG's RTP/SCS identifies that land use strategies that focus new housing and job growth in areas served by high quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network, which emphasizes system preservation, active transportation, and transportation demand management measures (SCAG 2012). SCAG's 2012 RTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers.

The Specific Plan Amendment would result in the redevelopment of the former MCAS Tustin site and provide and support mixed use development within the planning area. The planned commercial and retail development would serve the planned and existing residential land uses. Planning Area 15 would be designated Mixed-Use Transit, and its development would be required to utilize the Tustin Metrolink Station. The Specific Plan Amendment would not interfere with SCAG's ability to implement the regional strategies outlined in the 2012 RTP/SCS.

With regard to CEQA Section 21166 and CEQA Guidelines Section 15162(a), the changes proposed by the proposed project would not result in any new impacts or increase the severity of impacts with respect to conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and impacts would be less than significant.

5.8 HAZARDS AND HAZARDOUS MATERIALS

5.8.1 Prior Environmental Findings

5.8.1.1 HAZARDOUS MATERIALS

Multiple hazardous materials sites were identified in the FEIS/EIR. Contaminants include trichloroethylene, trichloropropane, jet fuel, petroleum hydrocarbons, volatile organic compounds, metals, and polynuclear aromatic hydrocarbons. Asbestos-containing materials were identified in 77 buildings onsite, and

nonresidential buildings built before 1980 were assumed to contain lead-based paint. Impacts were identified in the FEIS/EIR as less than significant after remediation of environmental contamination per existing agreements and regulatory compliance. Subsequent analysis provided in the 2006 and 2013 Addenda identified progress made by the ongoing cleanup activities.

Three hazardous materials sites within the project area where remediation was ongoing were identified in the 2006 Addendum.

- **Operating Unit 1A (OU 1A):** Trichloroethylene and trichloropropane were found in groundwater and soil. Site remediation—consisting of pumping and treating groundwater is ongoing.

- **Operating Unit 1B (OU 1B):** Paint Stripper Disposal Area and Drum Storage Area No. 2: Trichloroethylene was found in groundwater and soil. Site remediation—consisting of pumping and treating groundwater is ongoing.

- **Operating Unit 4B:** Consists of three subareas: Mingled Plumes Area, Drainage Area No. 1 Ditch 5A South, and Paint Locker and Drum Storage Area. Trichloroethylene and other chlorinated hydrocarbons were found in groundwater. Remedial action for groundwater contamination—consisting of in situ bioremediation and monitored natural attenuation—as well as monitoring are ongoing. (BonTerra 2006).

Other cases of hazardous materials identified in the FEIR/EIS have been closed; site closure includes a determination by a regulatory agency that no further remedial action is required. Multiple compliance programs are in place allowing ongoing cleanup of hazardous materials sites by the Navy after the property was transferred. The 1999 Federal Facilities Site Remediation Agreement provides for coordinated remediation via these compliance programs under the oversight of DTSC in coordination with the Santa Ana RWQCB. The Navy will remediate all hazardous materials sites overlain by proposed residential uses to residential standards pursuant to the compliance programs.

5.8.1.2 AIRPORT-RELATED HAZARDS

The FEIS/EIR acknowledged that development within the Specific Plan area would be subject to Federal Aviation Administration (FAA) height restrictions and reviewed by the Airport Land Use Commission (ALUC) for Orange County to ensure there is no interference with flight operations. The FEIS/EIR determined that compliance with these requirements would reduce impacts to less than significant.

In 2008, ALUC approved a comprehensive update of the airport Environs Land Use Plan (AELUP) for John Wayne Airport. The Specific Plan area remains within the Height Restriction Zone for the John Wayne Airport. Conditions applicable to the Specific Plan area have not changed.

5.8.2 Current Conditions

Responsibility for cleanup in the Specific Plan area remains unchanged. Soil and groundwater remediation has been ongoing since certification of the FEIS/EIR. Updates and analysis of this effort are provided in the analysis below.

5. Environmental Analysis

5.8.3 Impacts Associated with the Modified Project

Would the modified project:

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X	
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X	

Comments:

a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Hazards to the public or the environment arising from routine transport, use, or disposal of hazardous materials were identified as less than significant after regulatory compliance in the FEIS/EIR. Buildout of the Specific Plan Amendment would use similar types and amounts of hazardous materials as implementation of the Adopted Specific Plan. The use, transport, and disposal of hazardous materials would be required to comply with existing regulations of several agencies, including the Department of Toxic Substances Control (DTSC), the EPA, California Division of Occupational Safety and Health, Orange County Environmental Health, and the Orange County Fire Authority.[1] No new significant impact would occur.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Specific Plan Amendment permits the same types of land uses as did the Adopted Specific Plan, although with increased residential units and decreased nonresidential building area. Construction and operation of projects developed pursuant to the Specific Plan Amendment would use similar types and amounts of hazardous materials as would projects permitted by the Adopted Specific Plan. Additionally, the Specific Plan Amendment consists of the same development area analyzed in the FEIS/EIR. Compliance with regulatory requirements would reduce hazards to the public and the environment from accidental release of hazardous materials. The on-going clean-up and remediation of hazardous materials contamination within the Specific Plan area would not result in a significant hazard to the public. Remediation is required to implement several measures to ensure safe standards and manage or isolate potentially hazardous substances. This activity occurs under the oversight of DTSC in coordination with the Regional Water Quality Control Board. No new substantial impact would occur.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Heritage Elementary School, at 15400 Lansdowne Road, is near the western site boundary and is not currently operating as an elementary school. The facility is used by some Tustin Unified School District (TUSD) administrative functions and temporarily houses two TUSD high school programs—Hillview Continuation High School and Sycamore High School, an independent study program—during modernization work at the two campuses housing those programs. TUSD also requires 40 acres of Planning Area 8 for a future high school site. The Adopted Specific Plan identified three school sites. TUSD and Irvine

[1] Orange County Environmental Health is the Certified Unified Program Agency (CUPA) for most of Orange County including the cities of Tustin and Irvine; the Certified Unified Program coordinates and makes consistent enforcement of several state and federal regulations governing hazardous materials. The Orange County Fire Authority provides fire protection for both Tustin and Irvine.

Unified School District would be the agencies responsible for the development of schools within the Specific Plan area. The school districts are required to comply with CEQA Guidelines Section 15168 addressing potential health impacts resulting from exposures to hazardous materials, wastes, and substances on school facilities. They must also comply with additional site testing required by the State Education Code.

The Specific Plan Amendment would not permit development of industrial land uses that would emit hazardous emissions or use substantial amounts of hazardous materials. The Specific Plan Amendment would permit development of residential, commercial, institutional, and open space land uses. Hazards from hazardous materials used in such land uses to students at the proposed high school and at Heritage Elementary School would be less than significant after compliance with regulations, as described above in Sections 5.8.2.a and 5.8.2.b. No new substantial impact would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. A site management plan was updated for the hazardous materials sites with ongoing remediation. (BRAC 2010). According to this report, significant progress has been made in cleanup and monitoring of the sites, including:

- **OU 1A and OU 1B:** In accordance with the Final Operation and Maintenance Plan, biweekly, monthly, and quarterly inspections as well as effluent sampling is conducted. Groundwater monitoring is completed on a quarterly basis to ensure performance and optimization of the remedial systems. The Final Operating Properly and Successfully Report was issued in February of 2010 and demonstrates that remedial actions selected to address VOCs in ground water have bene implement in accordance with US EPA guidelines.

- **OU 3:** OU 3 is in the long term monitoring phase for groundwater, surface water monitoring. Site inspections ensure that institutional controls remain in place.

- **OU 4B:** The Final Record of Decision (ROD) was issued in January 2010 and finalized in April 2010. The ROD sites the final remedy for the groundwater and documents the no further action determination for soil at OU 4B. The final groundwater remedy was divided into two types depending on the level of concentration of pollutants. It requires In-Situ Bioremediation, Monitored Natural Attenuation, and Institutional Controls for moderate concentration sites and Institutional Controls for low concentration sites.

These sites continued to be monitored for compliance. The Navy will remediate all hazardous materials sites overlain by proposed residential uses to residential standards pursuant to the compliance programs. The proposed development area for the Specific Plan Amendment has not changed from the analysis in the FEIS/EIR. No new significant impact would occur.

Hazardous Materials Database Search Update

The GeoTracker database maintained by the SWRCB was searched for hazardous materials sites on and within certain distances of the project area that were first listed in 2013 or 2014 in order to identify sites that were not listed when the last addendum to the FEIS/EIR was approved in April 2013 (see Table 5). The distances from the site used were one mile for an EnviroStor cleanup site; 0.5 mile for a leaking underground storage tank site; and 0.25 mile for hazardous waste generators listed pursuant to the Resource Conservation and Recovery Act and registered underground storage tanks.

Table 5 Hazardous Materials Sites in Specific Plan Area SWRCB

Site Name Address Distance from Project area	Reason for Listing and Regulatory Status	Databases Listed
Tustin Legacy Park, Neighborhood D Barranca Avenue and Tustin Ranch Road Onsite	Potential contaminants of concern benzene, diesel, ethylbenzene, gasoline; potential media affected soil. Site assessment December 2013; case open	GeoTracker Cleanup Program
EQR – Millikan Avenue LLC 16931 Millikan Ave., Irvine 2,520 feet southwest	Site assessment December 2013; case open.	GeoTracker Cleanup Program

Source: GeoTracker 2014

A workplan for removal of total petroleum hydrocarbons in soils was completed in November 2013 for Tustin Legacy Park Neighborhood D. Two contaminated areas were identified, both within Planning Area 13-14. Area 1 is about 60 feet by 75 feet by 3 feet deep under 8 feet of overlying soil; Area 2 is about 75 feet by 75 feet by 6 feet deep; soils formerly overlying the second area have been removed (Pacific States 2013). Approximately 11,600 square feet of additional contaminated soil were discovered next to Area 1 during grading operations (Pacific States 2014). Neither of the hazardous materials sites listed above in Table 6 is considered an environmental concern for the proposed project, since both sites are known to regulatory agencies and site assessments have been conducted at both sites. No new significant impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles or a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The FEIS/EIR determined that there were no significant airport safety hazards resulting from termination of operations at the MCAS Tustin. The Specific Plan area is within the AELUP for John Wayne Airport, subjecting portions of the site to height restrictions. The ALUC for Orange County reviews projects with buildings of a certain height (110 to 200 feet depending on location in the Specific Plan area) to reduce interference with flight operations. The proposed project would not increase the allowable building heights within these ranges. Any structures in the Specific Plan that exceed the height restrictions in the AELUP would also be subject to an obstruction evaluation by the FAA and ALUC to determine whether safety hazards would result. Consistency with these regulations would ensure airport-related safety hazards are less than significant. No new significant impact would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The FEIS/EIR determined that there were no significant airport safety hazards resulting from termination of operations at the MCAS Tustin. The Specific Plan area is within the AELUP for John Wayne Airport, subjecting portions of the site to height restrictions. The ALUC for Orange County reviews projects with buildings of a certain height (110 to 200 feet depending on location in the Specific Plan area) to reduce interference with flight operations. The proposed project would not increase the allowable building heights within these ranges. Any structures in the Specific Plan that exceed the height restrictions in the AELUP would be subject to an obstruction evaluation by the FAA and ALUC to determine whether safety hazards would result. Consistency with these regulations would ensure airport-related safety hazards are less than significant. No new significant impact would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Tustin Police Department oversees emergency management for the City. The City's Emergency Plan was approved in 2011. The Specific Plan Amendment would change the mix of land uses but is not expected to substantially alter or interfere with the implementation of the City's Emergency Plan. Construction of projects pursuant to the Specific Plan Amendment would not block public roadways and would not interfere with emergency access to the project area or surrounding communities. No new substantial impact would occur.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. No fire hazard severity zones are mapped onsite by the California Department of Forestry and Fire Prevention (CAL FIRE 2011). Development within the Specific Plan area is required to comply with Orange County Fire Authority regulations. Buildout of the Specific Plan Amendment would not expose people or structures to substantial hazards from wildland fires, and no substantial new impact would occur.

5.9 HYDROLOGY AND WATER QUALITY

5.9.1 Prior Environmental Findings

5.9.1.1 WATER QUALITY

Groundwater under the site ranges from brackish to saline; shallow groundwater onsite is contaminated with hazardous materials in several places. Water quality impacts were identified in the FEIS/EIR as less than

significant after regulatory compliance. No substantial change was identified in subsequent environmental reviews.

5.9.1.2 HYDROLOGY

Planning Area 20 was designated as a 100-year flood zone by the Federal Emergency Management Agency (FEMA). Peters Canyon Channel was also identified as a 100-year flood zone. The balance of the project area was outside of 100-year flood zones. Specific Plan development would require storm drainage improvements to reduce flood hazards in Planning Area 20. Impacts were identified as less than significant in the FEIS/EIR.

Implementation measures included in the 2004 Supplemental EIR required drainage studies and that projects make fair-share contributions to the Orange County Flood Control District for construction of flood control facilities required by the affected projects. No substantial change from previous analysis was identified in the 2006 Addendum.

5.9.2 Current Conditions

In 2004, a Master Runoff Management Plan for Tustin Legacy (RBF Consulting) was approved by the City of Tustin. The Master Plan covered the ultimate buildout of the Tustin Legacy property, including all 22 Planning Areas and their ultimate land uses—e.g., residential, mixed use, commercial, and park space. A master backbone storm drain system was designed and sized to accommodate the ultimate buildout peak flow for each Planning Area and land use. The design of the master storm drain system also includes significant detention systems to control and manage downstream peak flows. Since the approval of the Master Plan, much of the backbone storm drain infrastructure and detention systems have been constructed.

5.9.3 Impacts Associated with the Modified Project

Would the modified project:

	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
Issues	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Violate any water quality standards or waste discharge requirements?				X	

5. Environmental Analysis

Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	X				
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site				X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				X	
f) Otherwise substantially degrade water quality?				X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X	
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X	
j) Inundation by seiche, tsunami, or mudflow?					X

Comments:

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR.

Construction

Requirements for waste discharge from construction sites into stormwater were expanded in 2009 and 2012 when the State Water Resources Control Board issued a new Statewide Construction General Permit (Order 2009-0009-DWQ, 2009) and an amendment to the 2009 Permit (Order 2012-0006-DWQ, 2012). Since 2009, SWPPPs must estimate sediment risk to receiving waters in addition to BMPs that must be implemented by a construction project. Additional BMPs are required as sediment risk to receiving waters increases.

All construction operations of one acre or more would be required to prepare and implement SWPPPs. No new substantial water quality impact would result from construction pursuant to the Specific Plan Amendment.

Operation

Requirements for waste discharge from developed land uses into stormwater were expanded in 2009 through the municipal stormwater permit (MS4 Permit, Order No. R8-2009-0030) issued by the Santa Ana RWQCB. The new permit is expected to be adopted in Spring 2015. The MS4 Permit requires low-impact development (LID) measures intended to preserve a site's predevelopment hydrology by minimizing the loss of natural hydrologic processes such as evapotranspiration, and runoff detention. LID measures introduce structural and nonstructural design components that restore these water quality functions into the project's land plan. The design and operations phases of projects developed pursuant to the Specific Plan Amendment would comply with requirements in the MS4 Permit and would comply with additional requirements in the drainage area management plan issued by OC Public Works in 2003. A water quality management plan will be prepared pursuant to the MS4 Permit and subsequent projects will be required to comply with existing regulatory permitting processes. Therefore, no new significant impact would occur.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Change in Project Requiring EIR Revisions.

Groundwater Recharge

The Specific Plan Amendment project area is the same as for the Adopted Specific Plan. The Specific Plan Amendment permits development of 2,212 additional residential units and about 1.7 million fewer square feet of nonresidential land uses than the Adopted Specific Plan. The net increase in residential units will increase the net acreage of residential development, and the net acreage of commercial development will decrease. Commercial development is modeled at 90 percent impervious cover, and residential development is modeled at 80 percent (assuming high density) in accordance with OC Hydrology Manual parameters. Due to the conversion of commercial development to residential development, there will be a net overall decrease in impervious conditions in the Planning Areas subject to land use changes. The net decrease in impervious surfaces would reduce impacts to groundwater recharge. Projects developed pursuant to the Specific Plan Amendment would be required to implement LID measures (described above in Section 5.9.2.a), thus

reducing impacts to groundwater recharge. Specific Plan Amendment buildout would not result in a substantial new impact on groundwater recharge. This topic will not be analyzed in the SEIR.

Groundwater Supplies

The Irvine Ranch Water District (IRWD) supplies water to the Specific Plan Amendment site. The project area overlies the Irvine Subbasin of the Orange County Groundwater Basin. Approximately 48 percent of IRWD's water supplies are groundwater from the Orange County Groundwater Basin. Specific Plan Amendment buildout may increase water demands onsite (see Section 5.17.3b). Further evaluation in the SEIR is required to determine whether there would be new significant impacts to groundwater supplies.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Major storm drainage channels and storm drains in and surrounding the site include Peters Canyon Channel extending through the eastern part of the project area; Barranca Channel along the southern site boundary; the Santa Ana-Santa Fe Channel just north of the north site boundary; and the Barranca Storm Drain in Red Hill Avenue along the west site boundary. Storm drains in the part of the project area east of Peters Canyon Channel drain to Peters Canyon Channel. The main storm drain systems onsite are in the western part of the site and drain to the Barranca Channel.

Buildout of the Specific Plan Amendment would include development of a new drainage system for the site and would require improvements to Peters Canyon Channel, Barranca Channel along the south site boundary, and to the Santa Ana-Santa Fe Channel along the north site boundary.

Projects developed pursuant to the Specific Plan Amendment would comply with requirements of the municipal stormwater permit (MS4 Permit, Order No. R8-2009-0030) issued by the Santa Ana RWQCB, and the drainage area management plan issued by OC Public Works. Compliance with requirements of the aforementioned permit and plan, including LID requirements described above in Section 5.9.2.b, would limit rates and volumes of runoff from the site.

Construction projects pursuant to the Specific Plan Amendment would prepare and implement SWPPPs specifying BMPs to be used in those projects, including erosion control and sediment control BMPs. Implementation of erosion control and sediment control BMPs would reduce erosion impacts from construction. No new significant impact would occur.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Specific Plan Amendment implementation would involve construction of a network of new storm drains and would require improvements to three existing drainage channels. New LID requirements for infiltration,

evapotranspiration, and/or runoff detention have been introduced since certification of the FEIS/EIR. Thus, runoff rates and/or volumes from the site after buildout of the Specific Plan Amendment are expected to be less than would have resulted from buildout of the Adopted Specific Plan. No new significant impact would occur.

As part of the 2004 Master Runoff Management Plan for Tustin Legacy, described above, peak flow discharges and storm drain sizes were determined for each Planning Area based on their full buildout condition (commercial, residential, etc.). Prior to approval of individual projects within Tustin Legacy, the project must demonstrate that the proposed project peak flows are equal to or less than the ultimate condition peak flows in the master plan. For projects that will only occupy a portion of a Planning Area, the runoff management plan includes subareas with detailed hydrology calculations and peak flow limits to ensure the full buildout of the Planning Area will remain within the total allowable discharge. This analysis is reviewed and approved by the City of Tustin.

As part of the Tustin Legacy Specific Plan, several of the Planning Areas are subject to land use changes. These changes include an overall increase in 2,212 residential units and an overall decrease in 1,755,306 square feet of commercial spread out over approximately 8 of the Planning Areas. The remaining Planning Areas will remain unchanged. The net increase in residential units will increase the net acreage of residential development, and the net acreage of commercial development will decrease. Commercial development is modeled at 90 percent impervious cover, and residential development is modeled at 80 percent (assuming high density) in accordance with OC Hydrology Manual parameters. Due to the conversion of commercial development to residential development, there will be a net overall decrease in impervious conditions in the Planning Areas subject to land use changes. The net decrease in impervious surfaces will result in a net decrease in peak flow runoff conditions. In addition, all projects built within Tustin Legacy will still be required to demonstrate that the project peak flow runoff is equal to or less than the assumed peak flow conditions associated with the 2004 Runoff Management Plan for Tustin Legacy. Therefore, there are no anticipated impacts related to hydrology based on the decrease in impervious conditions, the decrease in peak flows, and the requirement to confirm all project flows are within the established peak flow rates for the ultimate development condition.

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Buildout of the Specific Plan Amendment would reduce impacts to storm drainage capacity compared to implementation of the Adopted Specific Plan, as substantiated above in Section 5.9.2.c. The Specific Plan Amendment would not provide new sources of polluted runoff from what was previously considered in the FEIS/EIR. No new substantial impact would occur.

f) Otherwise substantially degrade water quality?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Because regulatory requirements for water quality protection have been strengthened since adoption of the Adopted Specific Plan in 2003, water quality impacts of buildout of the Specific Plan Amendment would be

less than impacts of the Adopted Specific Plan. However, additional measures may be required resulting from the Amended Specific Plan. Because a water quality management plan will be prepared and subsequent projects would be required to following existing regulatory processes, no new significant impact would occur.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Peters Canyon Channel is mapped as a 100-year flood zone (Zone A) by FEMA. Much of the eastern half of the portion of the site in the City of Tustin is mapped as a 500-year flood zone (Shaded Zone X) by FEMA (FEMA 2009). Specific Plan Amendment buildout would not place housing or structures in a 100-year flood zone, and no new substantial impact would occur.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Specific Plan Amendment buildout would not place housing or structures in a 100-year flood zone, and no new substantial impact would occur.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The FEIS/EIR identified Peters Canyon and Rattlesnake dams as being located several miles upstream from the project area. The FEIS/EIR determined that failure of Peters Canyon and/or Rattlesnake dams could pose flood hazards to the project area, but would not result in the risk of loss, injury, or death, since the reservoirs have been designed and constructed pursuant to applicable earthquake standards and the City has implemented an emergency response plan in case of an earthquake. The site is not shown in dam inundation areas for either of those dams on maps from the California Emergency Management Agency dated 2007 (Cal/EMA 2007a; Cal/EMA 2007b). New information shows that flood hazards from dam inundation would be a reduced impact compared to that identified in the previous analysis in the FEIS/EIR. No new substantial impact would occur.

j) Inundation by seiche, tsunami, or mudflow?

No Impact. A seiche is a surface wave created when an inland water body is shaken, usually by an earthquake. There are no inland water bodies onsite or near enough to the project area to pose a substantial flood hazard onsite due to a seiche.

A tsunami is a sea wave caused by a sudden displacement of the ocean floor, most often due to earthquakes. The project area is approximately 7.6 miles inland from the Pacific Ocean, and elevations onsite range from about 51 feet at the southwest corner of the site to 80 feet at the northwest corner. Therefore, buildout of the Specific Plan Amendment would not place people or structures at risk of flooding due to tsunami.

A mudflow is a landslide composed of saturated rock debris and soil with a consistency of wet cement. There is no risk of mudflow onsite due to the nearly flat topography of the site. No new substantial impact would occur.

5.10 LAND USE AND PLANNING

5.10.1 Prior Environmental Findings

The FEIS/EIR determined that the project required amendments to the General Plan and Zoning Ordinance to provide consistency with the general plan and zoning designations in the cities of Tustin and Irvine. It found that the intensification and change of land uses pursuant to the MCAS Tustin Specific Plan could create land use incompatibilities with surrounding land uses and internal incompatibilities within the project area. Implementing Actions were incorporated to mitigate this impact by addressing compatibility through processing of land use plans and amendments consistent with the applicable general plans and zoning ordinances.

In 2001, the City of Tustin adopted a General Plan land use designation "MCAS Tustin Specific Plan," and the MCAS Tustin Specific Plan was adopted on February 3, 2003 (Ordinance 1257). As described previously, the MCAS Tustin Specific Plan established the zoning designations, development standards, and entitlement framework for future development in the Specific Plan area.

5.10.2 Current Conditions

Refer to Section 2.2.1, Existing Land Use above for a description of existing development.

5.10.3 Impacts Associated with the Modified Project

Would the modified project:

		Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Environmental Issues	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a)	Physically divide an established community?					X
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	X				
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?					X

Comments:

a) Physically divide an established community?

No Impact. The Specific Plan Amendment would not divide an established community. The Specific Plan Amendment would change the mix of land uses in the proposed land use plan but would not substantial alter the land uses proposed for development or the location with result to communities within the Specific Plan area. Further, it would not alter the development impact area or overall development intensity. The Specific Plan Amendment would be designed so as not to divide established neighborhoods within the project area. The Specific Plan area is surrounded by existing development and would not physically divide an established community. No new impact would occur.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Change in Project Requiring EIR Revisions. The current land use plan governing the project area is the MCAS Tustin Specific Plan as most recently amended by the City of Tustin in 2013. The Specific Plan Amendment would amend the Adopted Specific Plan, as described in Section 3.2, *Project Characteristics*, to change the mix of land uses and internal circulation. An SEIR is being prepared that will analyze whether the Tustin Legacy Specific Plan Amendment is consistent with the City's General Plan and zoning ordinance or result in any new environmental impacts related that would conflict with City policies or regulations. Further evaluation will be provided in the SEIR.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The project area is within the plan area of the Orange County Central-Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP); however, the site is not within a reserve established under the NCCP/HCP. Project implementation would not conflict with the NCCP/HCP, and no new impact would occur.

5.11 MINERAL RESOURCES

5.11.1 Prior Environmental Findings

No mineral resources valuable to the region or the state, or identified in the general plans of the cities of Tustin or Irvine, were identified in the FEIS/EIR. No impacts to mineral resources are identified in previous environmental documents.

5.11.2 Current Conditions

There are no changes to current conditions with respect to mineral resources onsite since it was evaluated in the FEIS/EIR.

5.11.3 Impacts Associated with the Modified Project

Would the modified project:

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?					X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?					X

Comments:

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. The project area is mapped Mineral Resource Zone 1 (MRZ-1) on the Mineral Land Classification of Orange County, California, indicating that no significant mineral resources are known to be present or there is little likelihood they may be present (CGS 1994). As determined in the FEIS/EIR, no new impact would occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. No mining sites in the City of Tustin are identified in the City's General Plan (Tustin 2008). As determined in the FEIS/EIR, no impact would occur.

5.12 NOISE

5.12.1 Prior Environmental Findings

The FEIS/EIR determined that noise impacts would be significant if noise levels for sensitive receptors exceeded noise criteria established in the noise elements of the general plans for the cities of Tustin, Irvine, and Santa Ana. Sensitive receptors are residences, schools, libraries, hospitals, and recreational areas. The FEIS/EIR identified that an increase of 3 dB over existing noise levels experienced by a sensitive receptor would be a significant impact.

5. Environmental Analysis

The FEIS/EIR determined that the increase in traffic levels would not result in a significant impact to roadways surrounding the Specific Plan area. However, significant noise impacts were found for residents near the extension of Tustin Ranch Road to Von Karman Avenue and to residential and park uses adjacent to Warner Avenue between Harvard and Culver Drive.

The FEIS/EIR found that future sensitive receptors developed in accordance with the Specific Plan would incorporate applicable regulations and impacts would be less than significant.

The FEIS/EIR determined that there would be a significant impact to existing onsite housing planned for reuse. Mitigation measures were incorporated to reduce noise levels below 65 dB to less than significant levels.

The 2004 Supplemental EIR analyzed the extension of Tustin Ranch Road between Walnut Avenue and the Future Alignment of the Valencia North Loop. It determined that short-term construction noise impacts would be less than significant. It identified a significant impact to sensitive receptors along Tustin Ranch Road. Mitigation Measure MM N-1, requiring installation of a sound wall, reduced this impact to less than significant. This soundwall has been constructed.

The 2006 Addendum recognized that minor internal changes to the roadway network would change noise levels for land uses near the roadways. However, it found that there were no new significant short-term construction-related or long-term traffic noise impacts and that mitigation measures from the FEIS/EIR would apply.

5.12.2 Current Conditions

The noise environment described in the FEIS/EIR has not changed. Major noise sources on or near the Specific Plan area include vehicular traffic along surrounding major roadways, the railroad along Edinger Avenue, and aircraft noise from John Wayne Airport located two miles to the southwest. The Specific Plan area is not within a 60 dB CNEL noise contour from John Wayne Airport.

A noise study will be prepared for the project and baseline noise levels will be updated in the SEIR.

5.12.3 Impacts Associated with the Modified Project

Would the modified project:

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	X				
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	X				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	X				
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	X				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?					X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?					X

Comments:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Change in Project Requiring EIR Revisions. Implementation of the Specific Plan Amendment would result in an increase in residential units and a decrease in nonresidential square footage within the Specific Plan area. Although the overall trip generation would be the same, the project would result in a change in the distribution of traffic, affecting roadway noise in and surrounding the Specific Plan area. In addition, the proposed land use plan includes new roadways throughout the specific plan area. Increases in noise levels may result in new significant impacts on adjacent residential or other sensitive uses. Mitigation measures such as architectural upgrades or sound walls may be required. A noise study will be prepared and this issue will be further evaluated in the SEIR.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Change in Project Requiring EIR Revisions. The proposed project has the same development impact area that was analyzed in the FEIS/EIR, and therefore railroad and construction-related vibration would generally be the same. However, implementation of the Specific Plan Amendment would introduce additional residents, which may expose sensitive receptors to increased exposure to groundborne noise or vibration. A noise study will be prepared and this issue will be further evaluated in the SEIR.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Change in Project Requiring EIR Revisions. Implementation of the Specific Plan Amendment would result in an increase in residential units and a decrease in nonresidential square footage within the Specific Plan area. Although the overall trip generation would be the same, the project would result in a change in the distribution of traffic, affecting roadway noise in and surrounding the Specific Plan area. Increases in noise levels may result in new significant impacts on adjacent residential or other sensitive uses. Mitigation measures such as architectural upgrades or sound walls may be required. A noise study will be prepared and this issue will be further evaluated in the SEIR.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Change in Project Requiring EIR Revisions. The proposed project has the same development impact area that was analyzed in the FEIS/EIR, and therefore construction noise resulting from development and redevelopment in accordance with the Specific Plan Amendment would generally be the same. However, implementation of the Specific Plan Amendment would introduce additional residents, which may increase exposure of sensitive receptors to construction noise. A noise study will be prepared and this issue will be further evaluated in the SEIR.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no aircraft operations at the former MCAS Tustin, and the Specific Plan area is not within the 60 CNEL noise contour for airport operations at John Wayne Airport. (Mestre Greve 2013) Therefore, the project would not expose people residing or working in the project area to excessive noise levels from airport operations.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no aircraft operations at the former MCAS Tustin, and the Specific Plan area is not within the 60 CNEL noise contour for airport operations at John Wayne Airport. (Mestre Greve 2013)

Therefore, the project would not expose people residing or working in the project area to excessive noise levels from airport operations.

5.13 POPULATION AND HOUSING

5.13.1 Prior Environmental Findings

The FEIS/EIR found that development of the Adopted Specific Plan would have resulted in a total population of 12,514, (10,900 in Tustin), resulting in a net population increase of approximately 9,350 persons. The FEIS/EIR analyzed the demolition of the barracks units and conversion to civilian use. Buildout of the Adopted Specific Plan allowed 4,601 residential units, including the 1,537 converted or replaced units. In addition, the FEIS/EIR found that buildout would have resulted in about 24,500 net new jobs, or a net increase of approximately 24,500 jobs. In addition, the project was expected to generate 15,081 indirect jobs. The FEIS/EIR concluded that the increase in population, housing, and employment due to the implementation of the Adopted Specific Plan was a beneficial impact because it would fulfill an identified shortfall in housing and meet the goals of the project to generate jobs.

The FEIS/EIR determined that there would be no adverse impact related to the jobs/housing balance. It was determined that the majority of new jobs would be filled by existing residents within Orange County and it would provide enough new housing for employees residing outside of the County. No significant impact was identified.

The 2006 Addendum updated the demographic data and growth projections for the City of Tustin and County of Orange using the Orange County Projections 2004 (OCP 2004). OCP 2004 includes buildout projections assumed for the Adopted Specific Plan. The changes in projections showed an increase in population and employment in Tustin with a slightly lower housing stock, indicating a larger household size.

The 2006 Addendum determined that there would be a reduction of 879 employees and an increase of 21 residential units and 24 residents. The 2006 Addendum determined that these small changes in employment, housing, and population would not result in any new significant impacts. Further, the project would have a similar impact on the jobs/housing balance countywide.

5.13.2 Current Conditions

Orange County growth projections have been updated since the FEIS/EIR and will be updated in the forthcoming SEIR.

5.13.3 Impacts Associated with the Modified Project

Would the modified project:

5. Environmental Analysis

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	X				
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?					X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?					X

Comments:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Change in Project Requiring EIR Revisions.

Population Growth

The Specific Plan Amendment would permit development of a net increase of 2,212 residential units compared to the Adopted Specific Plan. The average household size in the City of Tustin in 2014 was estimated at 3.03 persons. The vacancy rate in the City of Tustin in 2014 was estimated at 4.8 percent (CDF 2014). Thus, the average number of persons per housing unit in the City of Tustin in 2014 is estimated as the average household size (3.03 persons) times the occupancy rate (95.2 percent), or 2.88 persons. Therefore, buildout of the Specific Plan Amendment would increase population onsite by an estimated 6,370 persons. The population of the City of Tustin is forecast to increase from 81,300 in 2020 to 82,900 in 2035, a net increase of 1,600 persons (SCAG 2012). The Citywide growth projection is well below the proposed growth assumed for buildout of the Specific Plan Amendment. Further evaluation in the SEIR is required to determine whether this increase in housing and population would induce growth and change the conclusions of the FEIS/EIR.

Employment Impact

The Specific Plan Amendment would result in a reduction in nonresidential development of 1,755,306 square feet to offset the increase in residential units. Low-rise office uses are estimated to generate one employee per 507 square feet, and retail and service uses are estimated to generate one employee per 617 square feet

(Natelson 2001). Using 507 square feet per employee for a conservative estimate, the Specific Plan Amendment is estimated to result in a net reduction of about 3,462 employees. Further evaluation in the SEIR is required to determine the impacts related to reduction in employment, which was determined to be a beneficial impact in the FEIS/EIR.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. Family housing units formerly on the site have been redeveloped with new residential uses; the barracks formerly onsite have been removed. Implementation of the Specific Plan Amendment would not displace existing housing. To the contrary, the Specific Plan Amendment would permit development of 2,212 more residential units than those permitted under the Adopted Specific Plan. No impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. Specific Plan Amendment buildout would not displace residents. No impact would occur.

5.14 PUBLIC SERVICES

5.14.1 Prior Environmental Findings

5.14.1.1 FIRE PROTECTION

The FEIS/EIR determined that implementation of the Specific Plan would require additional firefighting personnel and equipment at existing fire stations. However, it found that buildout would not require new or expanded fire stations. All development projects would be required to meet Orange County Fire Authority (OCFA) regulations, and impacts were determined to be less than significant.

Subsequent to the certification of the FEIS/EIR, in May 2003, the Navy Disposal Plan transferred to the City of Tustin a 1.25-acre site at Edinger Avenue and the West Connector for construction of the new fire station. The fire station would be funded through development in Tustin Legacy and in the City of Irvine within the former MCAS Tustin.

Subsequently, OCFA reevaluated its need for fire protection facilities with respect to response times and determined it needed to move Station No. 37 to a new location in the Specific Plan area. In March 2005, the City entered into a Memorandum of Understanding with OCFA for a new fire station at Tustin Legacy.

The 2006 Addendum found that the project would place a similar demand for fire protection services as the original project and that the fire station proposed in the Specific Plan area would meet the needs of the project. As determined by the FEIS/EIR, future projects would be required to comply with all OCFA regulations.

5. Environmental Analysis

5.14.1.2 POLICE PROTECTION

The FEIS/EIR determined that implementation of the Specific Plan would increase the demand for police services in the cities of Tustin and Irvine. The FEIS/EIR identified the need for two additional patrol units and three additional investigative units in the Tustin Police Department, and two additional sworn officers in the Irvine Police Department. However, it found that buildout would not require new or expanded police facilities and impacts would be less than significant. The 2006 Addendum found similar impacts with respect to police services and no new impacts were identified.

5.14.1.3 SCHOOLS

As shown in Figure 6, the project site is within the service areas of the Tustin Unified School District (TUSD), Irvine Unified School District (IUSD), and Santa Ana Unified School District (SAUSD). TUSD serves the majority of the Specific Plan area, including Planning Areas 1, 2, 4-5, 6, 7, 8, 15, 16-19, and a portion of 13-14. IUSD serves a portion of Planning Area 15 and development east of Jamboree Road (Planning Areas 20, 21, and 22). SAUSD serves Planning Area 9-12 and a portion of Planning Area 13-14.

Tustin Unified School District

The FEIS/EIR determined that the project would generate 2,432 students: 1,473 within the Tustin Unified School District (TUSD), an increase of 1,143 students.

The Specific Plan provided for two elementary schools and one high school onsite. TUSD determined that those schools would be adequate to house students generated by the project. TUSD would collect school facilities impact fees pursuant to Senate Bill 50 (SB 50).

TUSD entered into a School Facilities Funding and Mitigation Agreement with Moffett Meadows Partners, LLC; William Lyon Homes, Inc.; Ora Astoria, LLC; and MW Housing Partners III, L.P. (Lennar Mitigation Agreement) for their development in the Specific Plan area within the boundaries of the TUSD. The agreement identified modified TUSD student generation rates and procedures to finance school facilities. The new student generation rates and are shown in Table 6, and TUSD confirmed that these rates would also apply to the balance of the Specific Plan area.

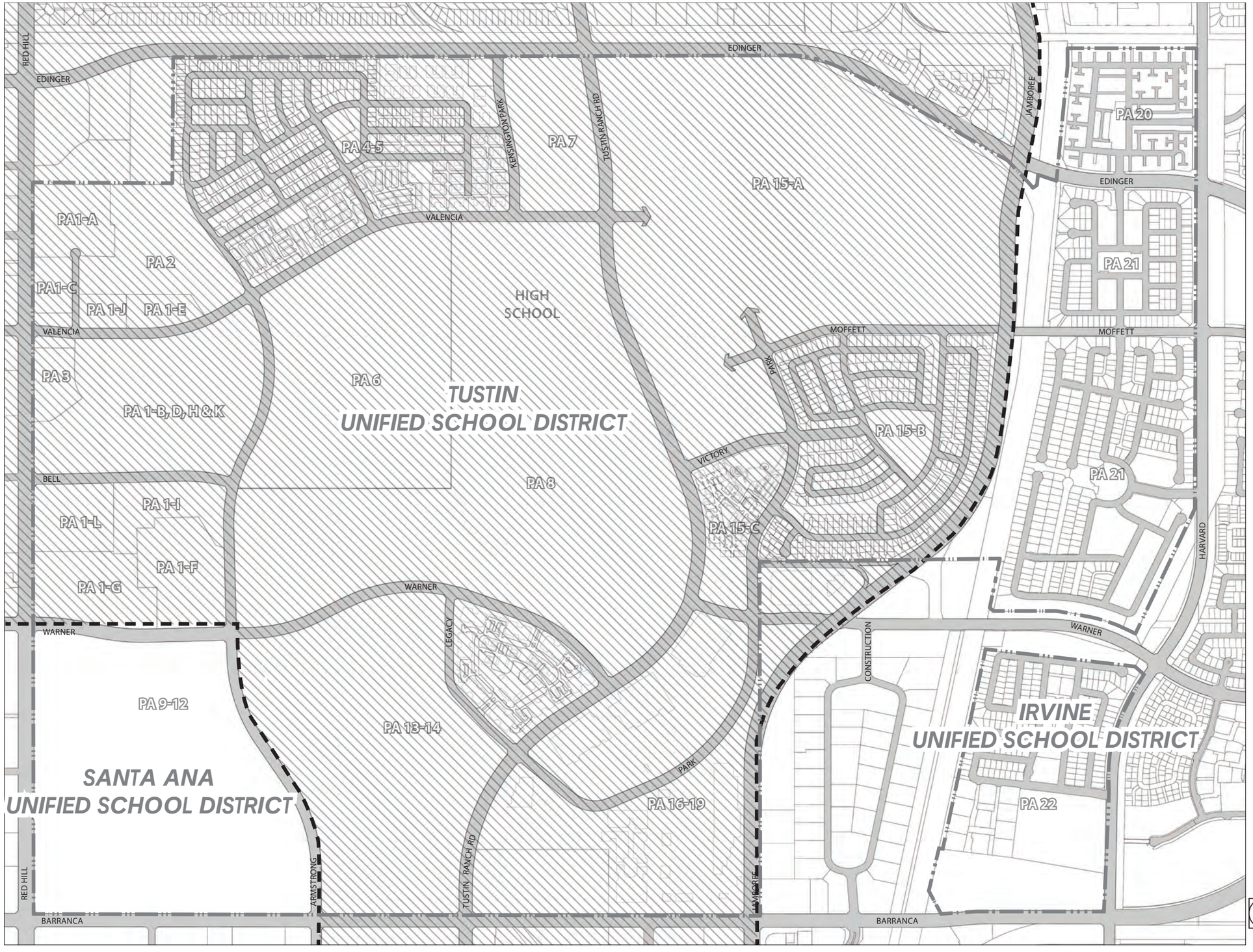
Table 6 TUSD Student Generation Rates

	K–8 Grade	9–12 Grade
Single-Family Detached	0.465	0.135
Single-Family Attached	0.219	0.077
Apartments	0.350	0.113

Source: Tustin 2006.

Figure 6

School District Service Areas



LEGEND

- Project Boundary
- Unified School District Boundary
- Tustin Unified School District

CITY OF TUSTIN

TUSTIN LEGACY SPECIFIC PLAN

INITIAL STUDY

TUS.11-1
9/8/2014

0 1,000
Scale (Feet)

PLACEWORKS

Source: Tustin Unified School District

5. Environmental Analysis

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The 2006 Addendum used the generation rates provided in Table 6 and determined that the project would result in a reduction of 497 students within TUSD. No new impacts were identified. The 2006 Addendum also recognized the future development of three school sites in TUSD identified in the FEIS/EIR and analyzed the impact of expanding the Heritage school by 5-acres to accommodate a combination elementary/middle school.

Irvine Unified School District

The FEIS/EIR determined that the project would generate 2,432 students: 959 within the Irvine Unified School District (IUSD), a net increase of 302 students. It provided for a 20-acre school site within the IUSD boundaries to accommodate the increased student population. The Specific Plan also included a site for a K–8 school in the IUSD; project-generated students in grades 9–12 would attend existing and planned IUSD high schools. The 2006 Addendum determined that the project would result in a reduction of 107 students within IUSD. No new significant impacts were identified.

Santa Ana Unified School District

The FEIS/EIR determined that no new students would be generated directly to the SAUSD resulting from housing development. However, commercial development would indirectly generate new students if new employees were to seek housing nearby within the SAUSD boundaries. These impacts were addressed with a settlement agreement between the City of Tustin and SAUSD.

The 2006 Addendum recognized a reduction of approximately 0.7 million square feet of nonresidential uses, reducing the potential for indirect student generation. It found that impacts would be reduced compared to the original project.

5.14.1.4 LIBRARIES

The FEIS/EIR identified three public libraries within three miles of the Specific Plan area. It found that implementation of the Specific Plan would not require construction of a new library facility, and impacts were less than significant. Subsequently, Orange County Public Library (OCPL) entered into an agreement with the City of Tustin to expand the Tustin Branch Library in the Tustin Civic Center. The project was approved in September 2005 and evaluated in a mitigated negative declaration (SCH 2002041001) adopted May 2002. In 2009, the new 32,000-square-foot library opened, replacing the 15,000-square-foot facility built in 1974. The new library has a book capacity of 209,000 volumes.

5.14.2 Current Conditions

There are no changes to current conditions with respect to public services since the previous environmental findings with the exception that OCFA Fire Station #37 at Edinger Avenue and Kensington Park Drive has been completed. Public service providers to the Specific Plan area include:

- Fire protection: Orange County Fire Authority
- Police protection: Tustin Police Department and Irvine Valley College Police Department for South Orange County Community College District property

- Schools: Tustin Unified School District
- Library services: Orange County Public Library

5.14.3 Impacts Associated with the Modified Project

Would the modified project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
Environmental Issues	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Fire protection?				X	
b) Police protection?				X	
c) Schools?	X				
d) Parks?				X	
e) Other public facilities?				X	

Comments:

a) Fire protection?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The two nearest fire stations to the site are OCFA Station 6 at 3180 Barranca Parkway in Irvine and Station 37 at 15001 Kensington Park Drive in Tustin; both stations were in operation at the time of the FEIS/EIR and provide adequate service to the project area. The Specific Plan Amendment would result in an increase of 2,212 residential units and a decrease of approximately 1.7 million square feet of nonresidential uses. Although the project would result in an increase in demand for fire protection due to the resulting increase of 6,371 residents, there would be a decrease of 1.7 million square feet of nonresidential uses offsetting the increase in demand. Based on the Memorandum of Understanding between the City of Tustin and OCFA, a new fire station (Station 37) was constructed within the Specific Plan area to meet the demand of the proposed and surrounding land uses. No other new or expanded off-site fire protection facilities would be required. The Specific Plan Amendment would be required to meet OCFA regulations and standard conditions. No new significant impacts are anticipated.

b) Police protection?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The need for police protection services is assessed on the basis of resident population estimates and the square footage of nonresidential uses. As stated previously, the Specific Plan Amendment would result in an increase of 2,212 residential units and a decrease of approximately 1.7 million square feet of nonresidential uses. Although the increase of 6,371 residents would result in an increase in demand for police protection, this would be offset by the reduction in approximately 1.7 million square feet of nonresidential uses. Service level impacts are anticipated to be similar to that analyzed in the FEIS/EIR. No new policies facilities would be needed and no significant physical impacts would result. Additionally, developers are required to coordinate with the Tustin Police Department prior to project approval to ensure adequate security precautions and design features are in place. No new significant impacts are anticipated.

c) Schools?

Change in Project Requiring EIR Revisions.

Student Generation

Implementation of the Specific Plan Amendment would increase residential development onsite by 2,212 units compared to buildout of the Adopted Specific Plan. These units would be within the TUSD boundaries (see Figure 6).

The exact breakdown of residential units by type is unknown at this time. To provide a conservative estimate, TUSD student generation rates (Table 6) for single-family detached homes were used to determine the approximate student generation of the project: 0.465 student per unit in grades K–8 and 0.135 student per unit in grades 9–12. Buildout of the Specific Plan Amendment would result in a maximum of 1,328 additional students, 1,029 in grades K–8 and 299 in grades 9–12.

The portion of the project area within the TUSD is currently served by three schools in the City of Tustin (outside of the project area): Veeh Elementary School at 1701 San Juan Street, about 1.3 miles northeast of the site; Currie Middle School at 1402 Sycamore Avenue; and Tustin High School at 1171 El Camino Real. The existing capacities and enrollments of the three existing schools are shown in Table 7 below. The capacities shown are total capacities, including permanent and relocatable classrooms. Table 7 also shows the potential capacity of schools proposed on the project site.

Table 7 Capacities and Enrollments, TUSD Schools Serving the Project Area

	Capacity	Enrollment	Remaining Capacity
Veeh Elementary School	602	433	169
Currie Middle School	889	765	124
Tustin High School	2583	2305	278
Total	4,074	3,503	571
Future Schools			
Heritage K-5 School	600	-	600
6-12 Legacy Academy	1,200–1,400	-	1,200–1,400
Total	2,000	-	2,000

Source: Miranda 2014.

The net increase in student generation due to Specific Plan Amendment would exceed the remaining capacity of 571 seats at the three existing TUSD schools. However, additional students could be accommodated by the conversion of the existing Heritage K-5 School (accommodating 600 students) and 40 acre high school (accommodating 1200-1400 students) that is identified on the adopted Specific Plan on Planning Area 8. As stated above, both of these school sites were identified and evaluated in the FEIS/EIR. Construction and operation of these sites would undergo separate CEQA review with TUSD as the lead agency. Further evaluation in the SEIR is required to determine the available capacity at buildout.

d) Parks?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Refer to Section 5.14, *Recreation*.

e) Other public facilities?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The two nearest Orange County Public Library (OCPL) facilities to the project area are the Tustin Library at 345 East Main Street in Tustin about 1.6 miles north of the site, and the Heritage Park Library at 14361 Yale Avenue in Irvine about 1.3 miles to the east.

Demands for library service are generated by the population in a library's service area. The Specific Plan Amendment would add 4,609 residents (2,212 dwelling units) to the site compared to the Adopted Specific Plan, resulting in a total of 17,859 residents. The FEIS/EIR estimated that the Adopted Specific Plan would generate a demand for approximately 2,500 square feet of library space, or 0.2 square foot per person. The Specific Plan Amendment would generate demand for a net increase of 922 square feet of library space, or 3,572 square feet total at buildout. The Tustin Library increased its facilities by 14,000 square feet in 2009. The additional demand of 922 square feet can be accommodated by the existing library facilities and would not require the construction of a new or expanded facility. No new significant impact would occur.

5.15 RECREATION

5.15.1 Prior Environmental Findings

The FEIS/EIR evaluated recreational impacts of the Specific Plan that included 126 acres of public parkland, including 118 acres in the City of Tustin (84.5-acre regional park, 24.1-acre community park, and two 5-acre neighborhood parks) and an 8-acre neighborhood park in the City of Irvine. The FEIS/EIR found that the 118 acres of public parkland in Tustin was well over the requirement established by the City's municipal code (three acres of park per 1,000 residents). It determined that the provision of approximately 126 acres of parkland would result in a beneficial impact related to the provision of parks. Construction and operation of the proposed parks were also evaluated throughout the FEIS/EIR and mitigation measures were identified.

The FEIS/EIR analyzed proposed Class I and II bikeways, riding and hiking trails proposed in the Adopted Specific Plan. Physical impacts of trail construction were identified throughout the FEIS/EIR along with the development areas. These recreational facilities were determined to be a beneficial impact to the project.

The 2006 Addendum identified an increase in parkland to 202 acres of public parks, an increase of 76 acres of public parkland compared to the original Specific Plan evaluated in the FEIS/EIR. The 2006 Addendum evaluated the elimination of a 159-acre private golf course that was originally proposed and determined that it would not have been completely accessible to the general public and may have resulted in increased environmental impacts. The Specific Plan would result in a beneficial impact related to recreation with a new community park and linear park system providing a focal point for the community. The 2006 Addendum identified a number of individual development projects that have been approved and provided additional private recreation facilities not originally envisioned in the Specific Plan.

The 2006 Addendum determined that the Specific Plan would exceed the parkland dedication requirement and would not generate an increase in the use of existing recreational facilities. Additionally, it determined that the changes proposed in the bikeway and trail system would be a beneficial impact.

5.15.2 Current Conditions

As identified in Section 2.2.1, a number of individual development projects have been approved, and additional private recreation facilities not originally envisioned in the Specific Plan have also been developed as part of those projects. The 24.1-acre community park identified in the FEIS/EIR is now 33 acres.

5.15.3 Impacts Associated with the Modified Project

Would the modified project:

5. Environmental Analysis

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X	

Comments:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. As summarized on Table 4, the project contains 170 acres of parks in addition to an 85 acre regional park. The proposed increase in residents would not result in the substantial physical deterioration of existing facilities. The City municipal code requires the dedication of 3 acres of parkland per 1,000 residents. The Specific Plan Amendment would add approximately 6,371 residents, requiring an additional 19.1 acres of parkland within the Specific Plan area at buildout. The 2006 Addendum determined that the project would result in 12,524 residents, which would require 37.6 acres of parkland. Therefore, the City municipal code would require approximately 56.7 acres of parkland at buildout. Implementation of the Specific Plan Amendment includes approximately 255 acres of public parks (including the 84.5-acre regional park in Planning Area 6). This exceeds the amount of parkland required by the municipal code and considered in the FEIS/EIR. Since the Specific Plan Amendment would provide ample parkland, buildout would not increase the use of existing parks or cause the physical deterioration of existing recreational facilities. No new substantial impact would occur.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Specific Plan Amendment would increase the demand on park facilities due to the increase in 2,212 residential units and approximately 6,371 residents. The City of Tustin General Plan requires 170 acres of public open space to be designated within the Tustin Legacy Specific Plan area. Additionally, Tustin Municipal Code Section 9331(d) requires that subdividers of residential developments dedicate land to the City for park

development, make payments in lieu of land dedication, or some combination thereof. As stated, the municipal code requires dedication of 3 acres per 1,000 residents; the amount of land to be dedicated per residential unit ranges from 0.0067 acre to 0.0102 acre depending on the type and density of the units.

The net increase of 6,371 residents would generate a requirement for 19.1 acres of parkland and 56.7 acres of parkland at buildout. As shown previously in Table 3, the Specific Plan Amendment proposes a total of 170 acres of parks in addition to the approximate 85 acre regional park. The Amended Park Plan provides a linear park that extends through the site from the west corner to the transit station to the east, which creates connectivity for the community and proposed school locations. Future residential development would also construct private parks with each community. Although there would be an increase in population, resulting in an increased demand on park facilities, there are ample parks proposed in the Specific Plan Amendment.

Construction and operation of the proposed parks and recreation facilities would occur within the development footprint analyzed in the FEIS/EIR. Park construction and its environmental effects were analyzed throughout the FEIS/EIR and mitigation measures were incorporated. Physical impacts of park facilities have been addressed in the FEIS/EIR and the Amended Park Plan would not result in a new substantial impact.

5.16 TRANSPORTATION/TRAFFIC

5.16.1 Prior Environmental Findings

The FEIS/EIR determined that Adopted Specific Plan buildout was estimated to generate 216,445 average daily vehicle trips (ADT), over 97 percent of which would originate in the portion of the site in the City of Tustin. The Adopted Specific Plan buildout was forecast to result in potentially significant impacts to 7 arterial intersections in the interim condition and 18 in the Year 2020 (see Table 8). Mitigation measures were identified for all significant impacts. Proponents of development projects in the area would be required to make fair-share contributions to the cities of Tustin and Irvine and the cities would be responsible for ensuring that the improvements were constructed. The City of Tustin would pass through fees from fair-share funding for impacted intersections in the City of Santa Ana and impacted intersections under the jurisdiction of Caltrans to the appropriate jurisdictions and would coordinate with those jurisdictions regarding completion of those improvements. Even with incorporation of mitigation measures, impacts were determined to be significant and unavoidable in 2020 With Project conditions for the intersections of Tustin Ranch Road at Walnut Avenue and Jamboree Road at Barranca Parkway. Impacts to all other intersections in the 2020 With Project conditions and all intersections in 2005 With Project conditions were less than significant after mitigation. Additional mitigation measures required phased completion of roadway improvements onsite based on cumulative project-generated ADT.

5. Environmental Analysis

Table 8 Significant Impacts to Intersection Operation, MCAS Tustin Specific Plan (FEIS/EIR)

Scenario	City	Intersection
2005 With Project	Tustin/Irvine	Von Karman/Barranca
		Jamboree/Barranca
	Santa Ana	Main/Warner
		Main/Dyer
		Grand/Edinger
		Ritchey/Edinger
		SR-55 SB Ramps/Edinger
2020 With Project	Tustin	Newport/Edinger
		Red Hill/Edinger
		Tustin Ranch/Walnut
	Tustin/Santa Ana	Red Hill/Warner
	Tustin/Irvine	Jamboree/Barranca
	Santa Ana	Hutton Center/MacArthur
		Grand/Edinger
		Grand/Warner
		Grand/Dyer
		Lyon/Edinger
		Standard/Edinger
	Irvine	Red Hill/Main
		Von Karman/Michelson
		Jamboree/Alton
		Harvard/Alton
		Culver/Warner

Source: FEIS/EIR 2001.

The FEIS/EIR determined that the increase in development would create additional demand for transit service. However, the buildout would improve the circulation system which would improve service for bus routing. No significant impacts were identified on the rail system. No significant pedestrian or bicycle impacts were identified in the FEIS/EIR; however the planned bicycle trails would provide a benefit to the pedestrian and bicycle facilities.

The 2004 Supplemental EIR identified a potentially significant additional impact at the intersection of Red Hill Avenue at Warner Avenue in the cities of Tustin and Santa Ana. Mitigation was required and implemented, and the impact was determined to be less than significant after mitigation.

The 2006 Addendum did not identify any new significant traffic impacts, and implementation of the Specific Plan analyzed in the 2006 Addendum would avoid the significant and unavoidable impact at the intersection of Tustin Ranch Road and Walnut Avenue in 2020 With Project conditions. The addendum determined that the total number of trips generated by the project had not changed and did not exceed the trip caps established by and agreed upon between the cities of Tustin, Santa Ana, and Irvine.

5.16.2 Current Conditions

The City of Tustin conducted traffic counts in the Tustin Legacy Specific Plan study area to provide an update of conditions for 2014. The existing circulation system includes the completion of the Tustin Ranch Road connection between Walnut Avenue and Warner Avenue, which provides additional north–south capacity in the area, thereby alleviating traffic conditions along Red Hill Avenue and Jamboree Road. The ADT volumes on the arterial roadway system in the study area are illustrated in Figure 7, *Existing ADT*. The peak hour intersection capacity utilization (ICU) results for the intersections in the study area illustrated in Figure 8, *Existing Intersection Location Map*, and summarized in Table 9. Detailed calculation worksheets are provided in Appendix A. Table 9 shows that all intersections currently operate at acceptable levels of service, with a level of service (LOS) "E" or better (ICU is 1.00 or less) for locations in the Irvine Business Complex and LOS "D" or better (ICU is .90 or less) for the remaining intersections in the study area.

Table 9 Tustin Legacy: Existing LOS Summary

	AM Peak		PM Peak	
Intersection Location (N/S Road at E/W Road)	ICU	LOS	ICU	LOS
1. Tustin Ranch Rd at Walnut	0.52	A	0.71	C
2. Jamboree SB at Walnut	0.43	A	0.45	A
3. Jamboree NB at Walnut	0.34	A	0.52	A
4. Harvard at Walnut	0.31	A	0.38	A
5. Culver at Walnut	0.64	B	0.73	C
6. Newport at SR-55 NB Ramps	0.47	A	0.62	B
7. Auto Mall Dr/SR-55 SB Ramps at Edinger	0.53	A	0.55	A
8. Newport at Edinger	0.63	B	0.42	A
9. Del Amo at Edinger	0.31	A	0.35	A
10. Red Hill at Edinger	0.55	A	0.74	C
11. Kensington Park Dr at Edinger	0.28	A	0.33	A
12. Jamboree at Edinger	0.51	A	0.57	A
13. Harvard at Edinger/ICD	0.30	A	0.51	A
14. Culver at Irvine Center Dr	0.57	A	0.65	B
15. Harvard at Moffett/Paseo Westpark	0.19	A	0.33	A
16. Red Hill at Valencia	0.47	A	0.61	B
17. Armstrong at Valencia	0.26	A	0.22	A
18. Kensington Park Dr at Valencia	0.27	A	0.33	A
19. Tustin Ranch Rd at Valencia	0.31	A	0.42	A
20. Red Hill at Warner	0.55	A	0.59	A
21. Tustin Ranch Rd at Warner	0.35	A	0.53	A
22. Park at Warner	0.35	A	0.51	A
23. Jamboree NB at Warner	0.24	A	0.54	A
24. Harvard at Warner	0.37	A	0.49	A
25. Culver at Warner	0.56	A	0.62	B
26. Red Hill at Carnegie	0.39	A	0.60	A
27. Tustin Ranch Rd at Park	0.39	A	0.52	A
28. The District at Park	0.15	A	0.32	A

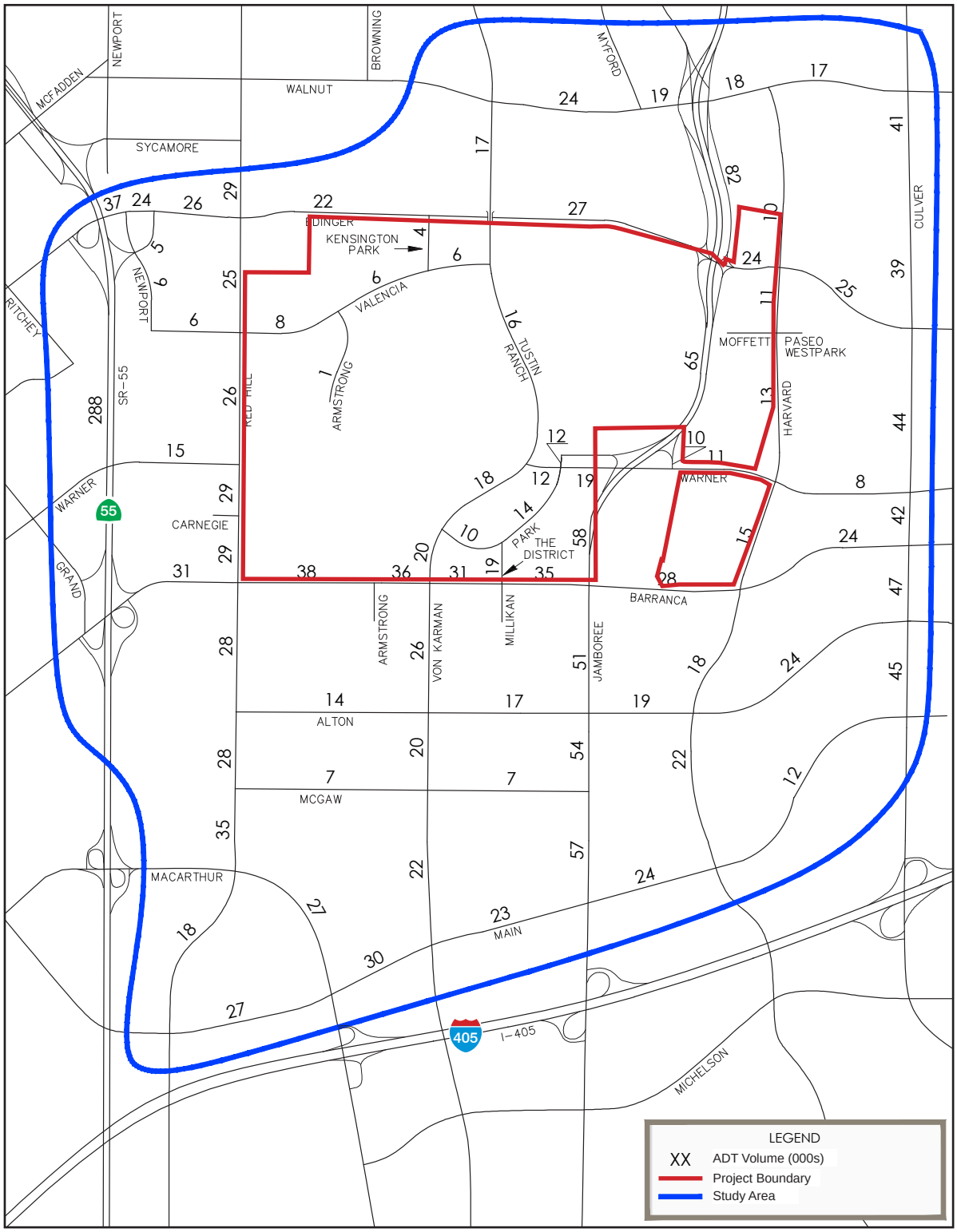
5. Environmental Analysis

Table 9 Tustin Legacy: Existing LOS Summary

Intersection Location (N/S Road at E/W Road)	AM Peak		PM Peak	
	ICU	LOS	ICU	LOS
29. Hotel Terrace/SR-55 SB Ramps at Dyer	0.52	A	0.69	B
30. Grand at Dyer	0.55	A	0.63	B
31. SR-55 NB Ramps at Dyer	0.58	A	0.39	A
32. Red Hill at Dyer/Barranca*	0.51	A	0.68	B
33. Aston at Barranca*	0.39	A	0.42	A
34. Armstrong at Barranca*	0.35	A	0.53	A
35. Tustin Ranch Rd/Von Karman at Barranca*	0.67	B	0.78	C
36. The District/Millikan at Barranca*	0.36	A	0.55	A
37. Jamboree at Barranca*	0.75	C	0.92	E
38. Harvard at Barranca	0.44	A	0.56	A
39. Culver at Barranca	0.62	B	0.75	C
40. Red Hill at Alton*	0.46	A	0.78	C
41. Von Karman at Alton*	0.80	C	0.86	D
42. Jamboree at Alton*	0.62	B	0.78	C
43. Harvard at Alton	0.58	A	0.67	B
44. Culver at Alton	0.65	B	0.72	C
45. Red Hill at McGaw*	0.43	A	0.59	A
46. Von Karman at McGaw*	0.60	A	0.65	B
47. Jamboree at McGaw*	0.48	A	0.69	B
48. Red Hill at MacArthur*	0.61	B	0.75	C
49. Red Hill at Main*	0.52	A	0.68	B
50. MacArthur at Main*	0.63	B	0.71	C
51. Von Karman at Main*	0.53	A	0.57	A
52. Jamboree at Main*	0.67	B	0.85	D
53. Harvard at Main	0.53	A	0.69	B
54. Culver at Main	0.66	B	0.66	B

Notes: LOS Ranges:
A .00–.60
B .61–.70
C .71–.80
D .81–.90
E .91–1.00
F > 1.00
* LOS E is acceptable at this intersection in the Irvine Business Complex.

Existing ADT



CITY OF TUSTIN
TUSTIN LEGACY SPECIFIC PLAN
INITIAL STUDY

NOT TO SCALE

TUS.11-1
1/5/2014

Source: Stantec

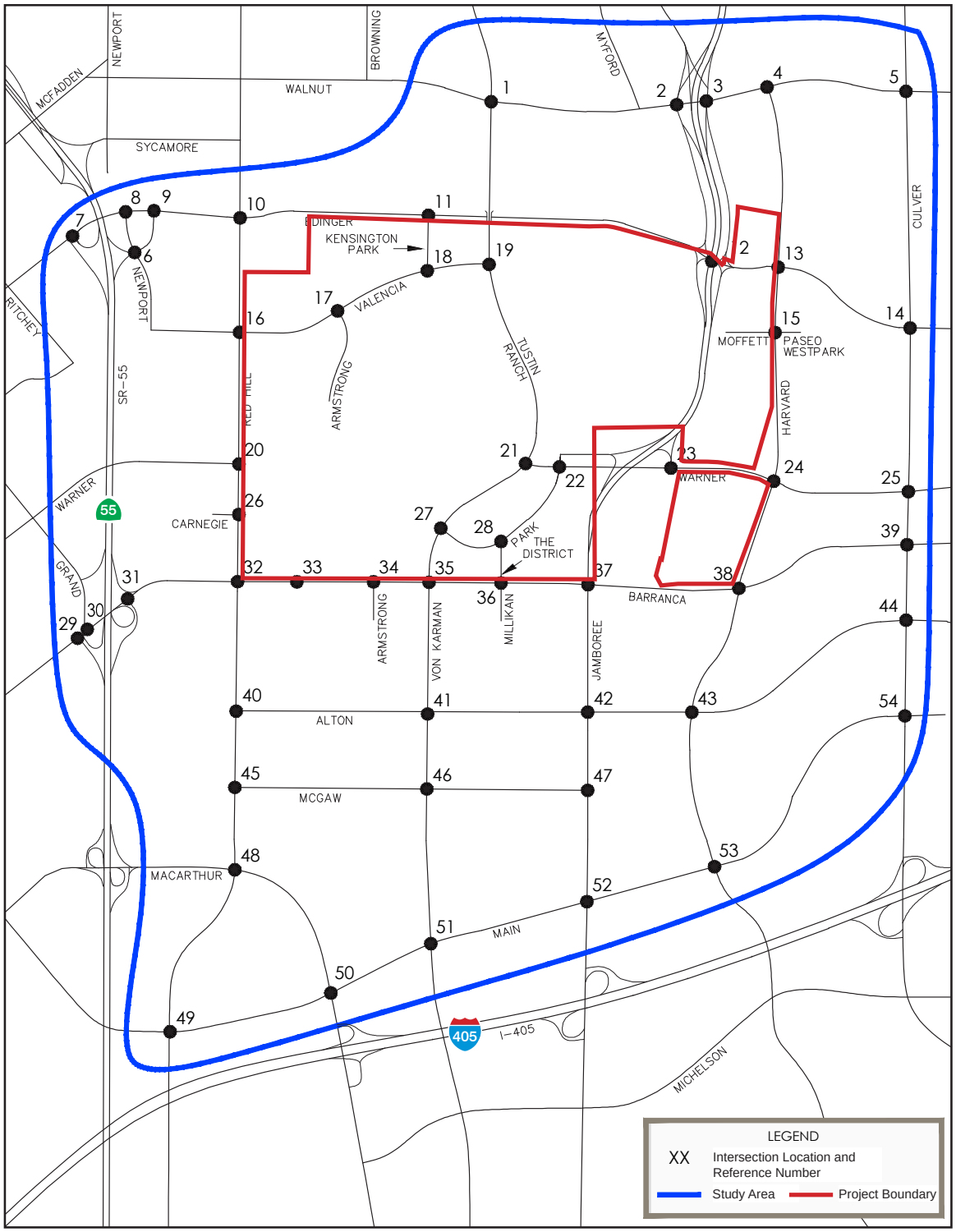
PLACEWORKS

5. Environmental Analysis

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Figure 8

Existing Intersection Location Map



CITY OF TUSTIN

TUSTIN LEGACY SPECIFIC PLAN

INITIAL STUDY

NOT TO SCALE

TUS.11-1
1/5/2015

Source: Stantec

PLACEWORKS

5. Environmental Analysis

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5.16.3 Impacts Associated with the Modified Project

Would the modified project:

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		X			
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	X				
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X	
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X	
e) Result in inadequate emergency access?				X	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X	

Comments:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Change in Circumstances Requiring EIR Revisions. The Specific Plan Amendment would not change the total trip generation, since the increase in residential units is offset by a decrease in nonresidential uses.

5. Environmental Analysis

However, the project would change the land use mix, resulting in a change in AM and PM peak hour trips. Also, the internal circulation plan would be revised in Planning Area 15 to extend Moffett Drive to Tustin Ranch Road and Carnegie Avenue in Planning Areas 13-14 and 9-12, is discontinuous but connects neighborhoods from Legacy Road to Barranca Parkway to Red Hill Avenue. If future traffic demand requires an additional connection, Moffett Drive may be extended through Planning Area 8 to Bell Avenue. Additionally, the City's traffic model has been updated since the impact determinations were made in the FEIS/EIR. Therefore, impacts on the performance of the circulation system may result in a change in traffic impacts.

A traffic impact analysis for the Specific Plan Amendment will address these issues in the SEIR. In order to account for changes in the circulation system and updated traffic data, the traffic analysis will model buildout of both the Adopted Specific Plan and the proposed Specific Plan Amendment. The traffic model forecasts will use the Irvine Transportation Analysis Model (ITAM) developed by the City of Irvine, which incorporates the Tustin Legacy Specific Plan area. ADT and peak hour analyses will be used to verify if the proposed land use and internal circulation changes (i.e., the modified project, referred to in the traffic study as "with-project") affect the offsite roadway system when compared to the Adopted Specific Plan. The methodology proposed is to evaluate long-range peak hour capacity utilization at major offsite intersections near the Specific Plan area.

The internal circulation will also be evaluated. Long-range (buildout) traffic forecasts will be prepared for the internal circulation system using ITAM. The information will include ADT volumes on roadway segments and peak hour turn movement volumes at key intersections. The forecasts will be based on the latest proposed land use data for the project area as well as on roadway sizing, intersection capacity needs, intersection controls, and intersection configurations. This analysis will be provided in the SEIR.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Change in Project Requiring EIR Revisions. The congestion management program (CMP) in effect in Orange County was issued by the Orange County Transportation Authority in November 2013. All freeways, tollways, select arterial roadways and interchange ramp intersections in Orange County are elements of the CMP Highway System—including several roadways and ramp intersections in the traffic study area, such as Jamboree Road, Edinger Avenue, Irvine Center Drive, and State Route 55 (SR-55) Northbound Ramps at Edinger Avenue/Newport Avenue and Jamboree Road Northbound and Southbound Ramps at Edinger Avenue. The CMP requires transportation impact analyses of impacts to CMP roadways for all development projects adjacent to a CMP roadway that would generate 2,400 or more daily trips and for all development projects providing direct access to a CMP roadway that would generate 1,600 or more daily trips. Although the project would not exceed the trip budget analyzed in the FEIS/EIR, a comparison will be made to the previous findings to determine whether there are any new significant impacts. EIR revisions are required due to both changes in existing conditions and changes in the project since certification of the FEIS/EIR.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Specific Plan Amendment would not cause a substantial increase in air traffic levels or change in traffic levels or location, since the project would stay within the trip cap for the site. It would permit 2,212 additional housing units and eliminate about 1.7 million nonresidential square feet compared to the Adopted Specific Plan. The Airport Land Use Commission for Orange County has a review policy for buildings of a certain height (110 to 200 feet within the Specific Plan area) to reduce interference with flight operations. Any structures within the Specific Plan that exceed the height thresholds would be subject to review by the FAA and the Airport Land Use Commission. Consistent with the findings of the FEIS/EIR, impacts are less than significant. Height restrictions over the project area have not changed since certification of the FEIS/EIR. No new significant impact would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Implementation of the Specific Plan Amendment would not add incompatible uses to area roadways and would not create a hazardous design feature. Minor revisions to the internal circulation system would not result in a design feature that would increase hazards. The design of the circulation system would conform to City of Tustin standards and guidelines to ensure the safety of residents and pedestrians and at school locations. Consistent with the findings of the 2006 Addendum, school access would be designed according to City guidelines to create low volumes along the local roadways fronting the elementary and high schools. No new significant impact would occur.

e) Result in inadequate emergency access?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. Implementation of the Specific Plan Amendment would not impede emergency access to surrounding communities and would not result in inadequate emergency access to existing or proposed developments onsite. The proposed circulation plan would provide adequate emergency access to proposed developments onsite. Projects developed pursuant to the Specific Plan Amendment would provide fire access roads conforming with requirements of California Fire Code (California Code of Regulations Title 24 Part 9) Section 503. Such projects would submit site plans and building plans to the OCFA during the plan check process to ensure they meet OCFA regulations regarding emergency access, including turning radii for firefighting vehicles and emergency exit routes from buildings. No new significant impact would occur.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Specific Plan Amendment includes a pedestrian and vehicular circulation system, including roadways, landscaping, parks, street lighting, sidewalks, and pedestrian paths. In addition, proposed parks onsite would

be connected by pedestrian and bicycle trails. Legacy Park, a linear park that traverses the Specific Plan area, connects the west corner of the site to the Tustin Metrolink Station at the intersection of Edinger Avenue and Jamboree Road, next to the eastern project area boundary. Two Metrolink commuter rail routes serve the Tustin station: the Orange County Line operates between Oceanside in San Diego County and Los Angeles, and the Inland Empire-Orange County Line operates between San Bernardino and Oceanside. A total of 45 trains per day stop at the station (29 Orange County Line and 16 Inland Empire-Orange County Line) (Metrolink 2014). A pedestrian bridge across Edinger Avenue would be the primary pedestrian and bicycle connection between the project area and the transit station. The Specific Plan Amendment would not decrease the safety or performance of pedestrian, bicycle, or transit facilities. The project is consistent with the conclusion of the FEIS/EIR, and no new significant impact would occur.

5.17 UTILITIES AND SERVICE SYSTEMS

5.17.1 Prior Environmental Findings

The FEIS/EIR determined that impacts to potable water supply and distribution, reclaimed water supply and distribution, wastewater conveyance and treatment, storm drainage, electricity supply and distribution, natural gas supply and distribution, and solid waste disposal were less than significant with no mitigation required. Utilities would be replaced and sized to accommodate the proposed land uses.

The FEIS/EIR determined that at buildout the Specific Plan would demand 2.8 million gallons per day (mgd) of water and 1.8 mgd of reclaimed water. It would generate 2.5 mgd of wastewater, with a peak flow of 7.7 gallons per day (gpd). All utility infrastructure, including the storm drain system would be designed to adequately accommodate development. Drainage is discussed in Section 5.9, *Hydrology and Water Quality*.

5.17.2 Current Conditions

There are no changes to the utility providers servicing the Tustin Legacy Specific Plan area. Water and wastewater services are provided by Irvine Ranch Water District (IRWD). Wastewater from the project area is treated at IRWD's Michelson Water Recycling Plant, which has capacity of 28 mgd and average wastewater flows of 18 mgd, and thus has residual capacity of about 10 mgd. A forecast Phase III expansion of the Michelson plant is planned to increase capacity to 33 mgd by 2025 (IRWD 2014).

The storm drain system has been improved as discussed in Section 5.9, *Hydrology and Water Quality*. The storm drain plan includes five major drainage areas with main line facilities and improvements to the OCFCD Barranca Channel. The backbone system follows the alignments of the major arterial roadways. The use of retention basins was also considered.

Solid waste services are provided by the Orange County Waste and Recycling and CR&R Waste Services. Electricity is provided by Southern California Edison, and natural gas is provided by Southern California Gas Company. Telephone and cable are provided by AT&T, Cox Cable, and Time Warner.

5.17.3 Impacts Associated with the Modified Project

Would the modified project:

Environmental Issues	Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?				X	
b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	X				
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	X				
e) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X	

Comments:

a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR.

Construction and operation of projects developed pursuant to the Specific Plan Amendment would not exceed treatment requirements for wastewater set by the Santa Ana RWQCB. The Specific Plan Amendment may result in an increase in wastewater generation; however increases would not be substantial and would not result in a change in the wastewater infrastructure such that it would result in an exceedance of wastewater

treatment requirements of the RWQCB. As stated, wastewater from the project area is treated at IRWD's Michelson Water Recycling Plant, which has capacity of 28 mgd and residual capacity of about 10 mgd. A forecast Phase III expansion of the Michelson plant is planned to increase capacity to 33 mgd by 2025 (IRWD 2014). Any increases in wastewater generation from the project area would be well within the residual capacity planned for treatment at the Michelson plant. No new significant impact would occur.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Change in Project Requiring EIR Revisions. Water and wastewater treatment facilities and construction of upgrades were analyzed in the FEIS/EIR. As stated, IRWD provides water and wastewater services to the project area. The Specific Plan Amendment would result in an increase of 2,212 residential units and decrease of 1,755,306 nonresidential square feet. Although the overall intensity of development is about the same due to the offset from decreasing nonresidential square feet, water demand at the site has the potential to increase. The specific types of residential uses and exact mix of nonresidential square footage is unknown at this time. IRWD's water demand rates are based on the density of residential uses and types of nonresidential use. It is anticipated that the Specific Plan Amendment would increase commercial uses with a higher water demand rate (0.22 gpd per square foot of community commercial use) and decrease industrial and office uses with a lower water demand rate (0.06 gpd per square foot of office or industrial use). Therefore, depending upon the mix of land uses the Specific Plan Amendment has the potential to result in an increase of water demand. Wastewater generation is calculated as 100 percent of indoor water demands or approximately 70 percent. Therefore, the Specific Plan Amendment could also result in an increase in wastewater generation. Further evaluation in the SEIR is required to determine the water demand and wastewater generation and its potential effect on the proposed backbone infrastructure and whether there is a new significant impact.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The Specific Plan Amendment includes plans for a network of storm drains connecting to existing drainage facilities along the project perimeter. As described in Section 5.9.3.d, the Specific Plan Amendment would be consistent with the 2004 Master Runoff Management Plan for Tustin Legacy. Runoff rates and volumes from the site after buildout of the Specific Plan Amendment are expected to be reduced compared to buildout of the Adopted Specific Plan due to the conversion of nonresidential uses with greater impervious surface to residential uses with less impervious surface. Additionally, the MS4 Permit establishes increased requirements for detaining, infiltrating, evaporating, or transpiring stormwater onsite. Thus, Specific Plan Amendment buildout would not require construction of additional or expanded storm drainage facilities compared to implementation of the Adopted Specific Plan. Therefore, no substantial changes to the FEIS/EIR would be required. No new significant impact would occur.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Change in Project Requiring EIR Revisions. As stated above the project may result in an increase in water demand. Since the previous environmental analysis was prepared, California has experienced drought conditions limiting water supply. Further evaluation in the SEIR is required to determine the water demand expected at buildout in comparison to the FEIS/EIR and whether there are any new impact related to available water supply. Water conservation measures will also be identified and analyzed. Correspondence with the water service provider will be conducted to assess water availability. This issue will be addressed in the SEIR.

e) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. There is adequate wastewater treatment capacity in the region for project-generated wastewater, as substantiated above in Section 5.17.2.a. No new significant impact would occur.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR.

Landfill Capacity

In 2013 about 96 percent of the solid waste landfilled from the City of Tustin was disposed of at two facilities, the Frank Bowerman Sanitary Landfill in the City of Irvine and the Olinda Alpha Sanitary Landfill in the City of Brea (CalRecycle 2014a). In 2013 the two landfills had a combined maximum permitted tonnage of 19,500 tons per day and residual capacity of nearly 8,700 tons per day, as shown in Table 10.

Table 10 Landfill Capacities

Landfill	Location	Remaining Capacity as of 6/30/13 (cubic yards)	Estimated Closure Date	Maximum Daily Permitted Tonnage (tons per day)	Average Daily Disposal, 2013 (tons)	Residual Capacity, Tons per Day
Frank R. Bowerman	11002 Bee Canyon Access Road Irvine, CA 92602	192,300,000	2053	11,500	5,357	6,143
Olinda Alpha	1942 North Valencia Avenue Brea, CA 92823	43,900,000	2021	8,000	5,447	2,553
Total		236,200,000		19,500	10,804	8,696

Sources: Arnau 2013; CalRecycle 2014b; CalRecycle 2014c; CalRecycle 2014d.

5. Environmental Analysis

Implementation of the Specific Plan Amendment is estimated to increase solid waste generation by about 1,214 pounds per day (0.6 tons per day) compared to the Adopted Specific Plan, as shown in Table 11. This slight increase in solid waste is well within the residual capacity of the Frank R. Bowerman and Olinda Alpha landfills. No adverse impact would occur.

Table 11 Net Change in Solid Waste Generation Due to Specific Plan Amendment Buildout

Land Use	Net Change	Solid Waste Generation, Pounds per Day	
		Per Unit[1]	Total
Residential	2,212 Units	5.31	11,746
Nonresidential	–1,755,306 square feet	0.006	–10,532
		Total	–1,002

[1] Source: CalRecycle 2009

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR.

State Regulations

Assembly Bill 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq.) established an integrated waste-management system that focused on source reduction, recycling, composting, and land disposal of waste. AB 939 required every California city and county to divert 50 percent of its waste from landfills by the year 2000. Compliance with AB 939 is measured in part by comparing solid waste disposal rates for a jurisdiction with target disposal rates; actual rates at or below target rates are consistent with AB 939. AB 939 also requires California counties to show 15 years of disposal capacity for all jurisdictions in the county or show a plan to transform or divert its waste.

Assembly Bill 341 (Chapter 476, Statutes of 2011) increased the statewide solid waste diversion goal to 75 percent by 2020. The law also mandates recycling for commercial and multifamily residential land uses as well as schools and school districts.

Section 5.408 of the 2013 California Green Building Standards Code (Title 24, California Code of Regulations, Part 11) requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

In 2013 the target disposal rates for the City of Tustin were 6.1 pounds per day (ppd) per resident and 10.1 ppd per employee; actual disposal rates were 2.8 ppd per resident and 5.6 ppd per employee, consistent with AB 939 (CalRecycle 2014e).

City of Tustin Municipal Code

City of Tustin Municipal Code Sections 4351 et seq. require diversion of construction and demolition debris in conformance with California Green Building Standards Code Section 5.408.

Impacts

Projects developed pursuant to the Specific Plan Amendment would include storage areas for recyclable materials as well as solid waste. CR&R Waste & Recycling Services, which collects solid waste from the City of Tustin, provides residential customers with a black bin for solid waste and a blue bin for recyclable materials. Commercial and multifamily residential land uses and schools would segregate recyclable materials in compliance with AB 341. Specific Plan Amendment buildout would not conflict with regulations governing solid waste diversion, and no new significant impact would occur.

5.18 MANDATORY FINDINGS OF SIGNIFICANCE

Would the modified project:

		Additional Environmental Analysis Required			No Additional Environmental Analysis Required	
	Environmental Issues	Change in Project Requiring EIR Revisions	Change in Circumstances Requiring EIR Revisions	New Information Showing Potentially New or Increased Significant Effects	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X	
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)		X			
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X				

5. Environmental Analysis

Comments:

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The FEIS/EIR previously considered all environmental impacts associated with the implementation of the Specific Plan as well as mandatory findings of significance. The Specific Plan Amendment would not expand the area of development and would not impact any natural habitats or other areas inhabited by sensitive species. The proposed project would comply with mitigation measures to reduce impacts related to riparian, wetland, and other sensitive species to less than significant. Vacant land on site has been graded. As identified in the FEIS/EIR, the project may affect archeological and paleontological resources. Mitigation measures would reduce impacts to less than significant. No new significant impacts would occur.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Change in Circumstances Requiring EIR Revisions. The Specific Plan Amendment would maintain the same development area that was analyzed in the FEIS/EIR and would not increase the overall development intensity in the project area. The proposed project would stay within the existing trip budget for the Specific Plan area. Although there would be increased environmental impacts associated with the increase in 2,212 residential units, there would be a corresponding reduction in impacts resulting from the elimination of approximately 1.7 million nonresidential square feet. However, due to the change in land use distribution onsite and the changes in current conditions and circumstances since the prior environmental review, cumulative impacts related to air quality, GHG emissions, noise, and traffic will be evaluated in the SEIR.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Change in Project Requiring EIR Revisions. The Specific Plan Amendment would change the land use distribution in the project area and result in an increase in residential uses and population. Based on the analysis provided in this initial study, the following environmental impacts will be addressed in the SEIR: air quality, GHG emissions, water quality, land use, noise, population/housing, schools, traffic, and water supply availability and infrastructure.

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Appendix A
Tustin Legacy Specific Plan Amendment: Existing Traffic Conditions Memo

Appendix

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Inter-Com

DATE: OCTOBER 16, 2014

TO: JUSTINA WILLKOM, ASSISTANT DIRECTOR – PLANNING

FROM: KRYS SALDIVAR, PUBLIC WORKS MANAGER

SUBJECT: TUSTIN LEGACY SPA – EXISTING TRAFFIC CONDITIONS

The purpose of this memo is to describe the existing traffic conditions for the proposed Tustin Legacy Specific Plan Amendment project traffic analysis study area. It is an update to the previous existing data presented with the memo dated August 29, 2014. Since that time, three intersections and three roadway segments have been counted and the data are incorporated here.

Existing traffic conditions in the study area were identified based on observed traffic counts carried out in 2014. The existing circulation system includes the completion of the Tustin Ranch Road connection between Walnut Avenue and Warner Avenue which provides additional north/south capacity in the area thereby alleviating traffic conditions along Red Hill Avenue and Jamboree Road.

The average daily traffic (ADT) volumes on the arterial roadway system in the study area are illustrated in Figure 1. The peak hour intersection capacity utilization (ICU) results for the intersections within the study area illustrated in Figure 2 are summarized in Table 1 followed by detailed ICU calculation worksheets. This table shows that all intersections currently operate at acceptable levels of service with a level of service (LOS) “E” or better (ICU is 1.00 or below) for locations in the Irvine Business Complex and LOS “D” or better (ICU is .90 or below) for the remaining intersections in the study area.

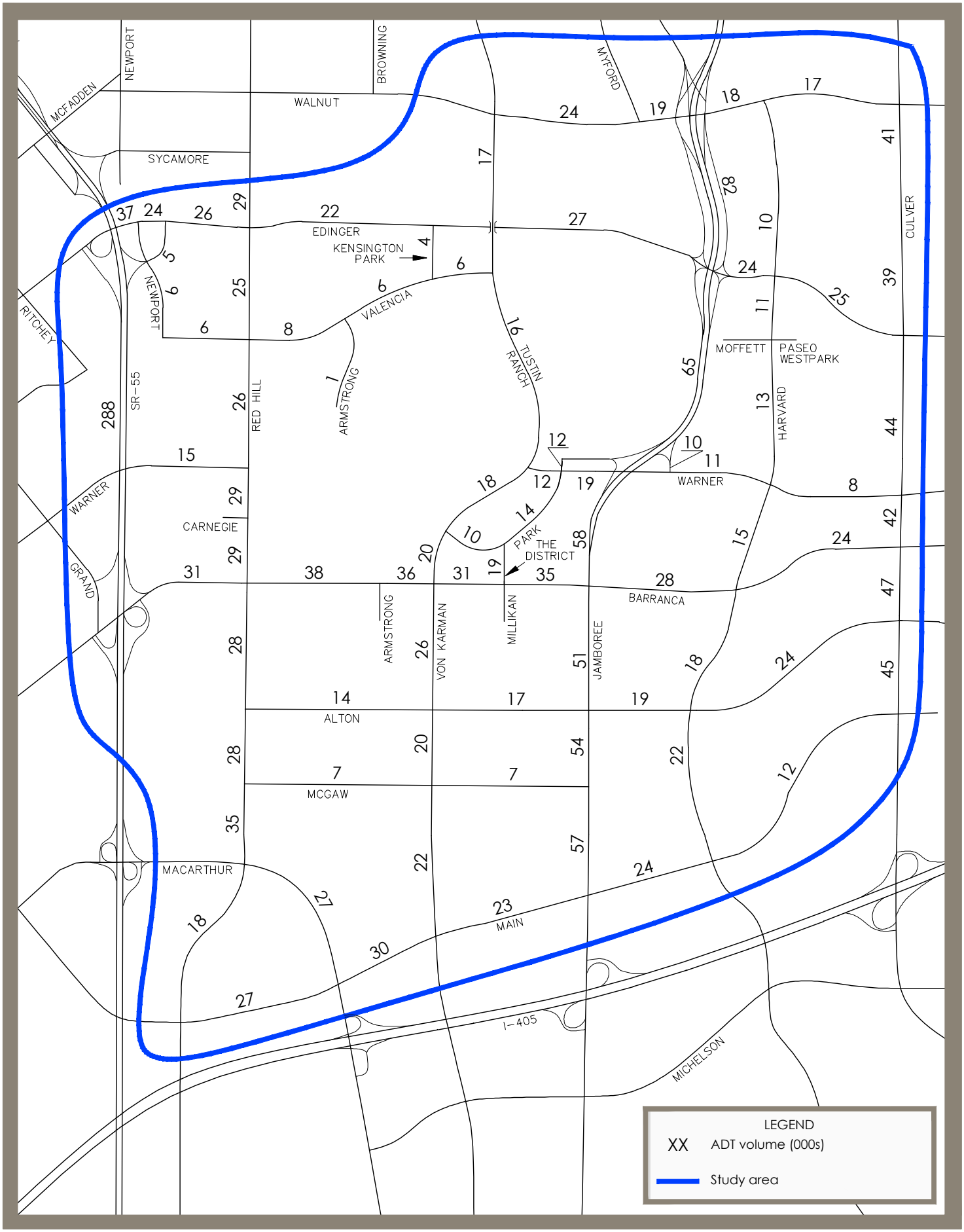
EXISTING (2014)

TRAFFIC CONDITIONS



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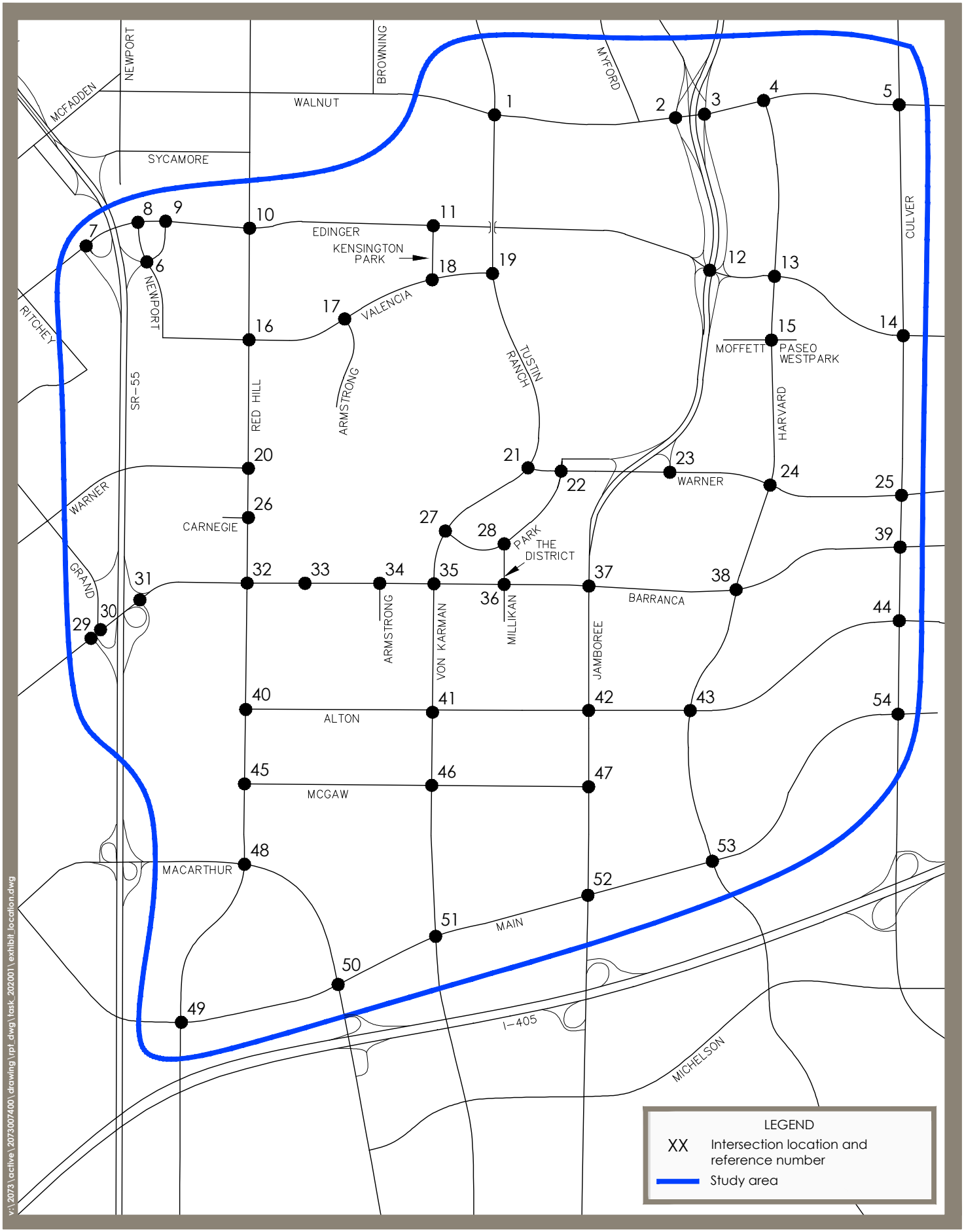
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Stantec

Figure 1

ADT Counts



Stantec

Figure 2

Existing Intersection Location Reference Map

Table 1
EXISTING LOS SUMMARY

Intersection Location (N/S Road at E/W Road)	AM Peak		PM Peak		Date
	ICU	LOS	ICU	LOS	
1. Tustin Ranch Rd at Walnut	.52	A	.71	C	6/10/2014
2. Jamboree SB at Walnut	.43	A	.45	A	6/10/2014
3. Jamboree NB at Walnut	.34	A	.52	A	6/10/2014
4. Harvard at Walnut	.31	A	.38	A	6/12/2014
5. Culver at Walnut	.64	B	.73	C	6/12/2014
6. Newport at SR-55 NB Ramps	.47	A	.62	B	6/11/2014
7. Auto Mall Dr/SR-55 SB Ramps at Edinger	.53	A	.55	A	6/12/2014
8. Newport at Edinger	.63	B	.42	A	6/12/2014
9. Del Amo at Edinger	.31	A	.35	A	6/12/2014
10. Red Hill at Edinger	.55	A	.74	C	6/10/2014
11. Kensington Park Dr at Edinger	.28	A	.33	A	6/5/2014
12. Jamboree at Edinger	.51	A	.57	A	5/14/2014
13. Harvard at Edinger/ICD	.30	A	.51	A	6/12/2014
14. Culver at Irvine Center Dr	.57	A	.65	B	6/3/2014
15. Harvard at Moffett/Paseo Westpark	.19	A	.33	A	6/12/2014
16. Red Hill at Valencia	.47	A	.61	B	6/10/2014
17. Armstrong at Valencia	.26	A	.22	A	6/10/2014
18. Kensington Park Dr at Valencia	.27	A	.33	A	6/10/2014
19. Tustin Ranch Rd at Valencia	.31	A	.42	A	6/12/2014
20. Red Hill at Warner	.55	A	.59	A	6/10/2014
21. Tustin Ranch Rd at Warner	.35	A	.53	A	6/10/2014
22. Park at Warner	.35	A	.51	A	6/3/2014
23. Jamboree NB at Warner	.24	A	.54	A	5/20/2014
24. Harvard at Warner	.37	A	.49	A	6/11/2014
25. Culver at Warner	.56	A	.62	B	5/22/2014
26. Red Hill at Carnegie	.39	A	.60	A	6/10/2014
27. Tustin Ranch Rd at Park	.39	A	.52	A	6/12/2014
28. The District at Park	.15	A	.32	A	6/10/2014
29. Hotel Terrace/SR-55 SB Ramps at Dyer	.52	A	.69	B	9/23/2014
30. Grand at Dyer	.55	A	.63	B	9/23/2014
31. SR-55 NB Ramps at Dyer	.58	A	.39	A	9/23/2014
32. Red Hill at Dyer/Barranca*	.51	A	.68	B	6/10/2014
33. Aston at Barranca*	.39	A	.42	A	6/11/2014
34. Armstrong at Barranca*	.35	A	.53	A	6/3/2014
35. Tustin Ranch Rd/Von Karman at Barranca*	.67	B	.78	C	6/12/2014
36. The District/Millikan at Barranca*	.36	A	.55	A	6/12/2014
37. Jamboree at Barranca*	.75	C	.92	E	5/21/2014
38. Harvard at Barranca	.44	A	.56	A	6/11/2014
39. Culver at Barranca	.62	B	.75	C	5/20/2014
40. Red Hill at Alton*	.46	A	.78	C	6/10/2014
41. Von Karman at Alton*	.80	C	.86	D	6/12/2014
42. Jamboree at Alton*	.62	B	.78	C	6/10/2014
43. Harvard at Alton	.58	A	.67	B	6/12/2014
44. Culver at Alton	.65	B	.72	C	5/28/2014
45. Red Hill at McGaw*	.43	A	.59	A	6/10/2014
46. Von Karman at McGaw*	.60	A	.65	B	6/10/2014
47. Jamboree at McGaw*	.48	A	.69	B	6/10/2014
48. Red Hill at MacArthur*	.61	B	.75	C	6/10/2014
49. Red Hill at Main*	.52	A	.68	B	6/10/2014
50. MacArthur at Main*	.63	B	.71	C	6/10/2014

Table 1
EXISTING LOS SUMMARY

Intersection Location (N/S Road at E/W Road)	AM Peak		PM Peak		Date
	ICU	LOS	ICU	LOS	
51. Von Karman at Main*	.53	A	.57	A	6/12/2014
52. Jamboree at Main*	.67	B	.85	D	6/10/2014
53. Harvard at Main	.53	A	.69	B	6/10/2014
54. Culver at Main	.66	B	.66	B	6/10/2014

Abbreviations:
ICU Intersection Capacity Utilization
LOS Level of Service
N/S, E/W North/South, East/West

LOS Ranges:
A .00 - .60
B .61 - .70
C .71 - .80
D .81 - .90
E .91 - 1.00
F > 1.00

* LOS E is acceptable at this intersection in the Irvine Business Complex.

1. Tustin Ranch Rd at Walnut

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	25	.01*	261	.08
NBT	3	5100	169	.03	1215	.24*
NBR	1	1700	82	.05	141	.08
SBL	2	3400	506	.15	294	.09*
SBT	3	5100	987	.23*	436	.13
SBR	0	0	184		360	.21
EBL	2	3400	294	.09	305	.09*
EBT	2	3400	486	.18*	288	.10
EBR	0	0	139		47	
WBL	2	3400	179	.05*	110	.03
WBT	2	3400	142	.04	764	.22*
WBR	1	1700	91	.05	529	.31
Right Turn Adjustment					WBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.71**

2. Jamboree SB at Walnut

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	185	.05	243	.07
SBT	2	3400	519	.15*	385	.11*
SBR	1	1700	335	.20	143	.08
EBL	0	0	0		0	
EBT	3	5100	279	.05*	705	.14*
EBR	1	1700	181	.11	379	.22
WBL	2	3400	339	.10*	249	.07*
WBT	3	5100	542	.11	882	.17
WBR	0	0	0		0	
Right Turn Adjustment			Multi	.08*	EBR	.08*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.43**		**.45**

3. Jamboree NB at Walnut

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	249	.07	308	.09
NBT	2	3400	307	.09*	546	.16*
NBR	d	1700	113	.07	377	.22
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3400	76	.02*	304	.09*
EBT	3	5100	384	.08	633	.12
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	622	.12*	831	.16*
WBR	1	1700	304	.18	379	.22
Right Turn Adjustment			WBR	.06*	WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.34**		**.52**

4. Harvard at Walnut

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	144	.04*	188	.06*
NBT	1	1700	47	.03	48	.03
NBR	d	1700	36	.02	141	.08
SBL	1	1700	47	.03	87	.05
SBT	1	1700	52	.03*	56	.03*
SBR	1	1700	137	.08	36	.02
EBL	1	1700	27	.02*	104	.06
EBT	2	3400	167	.05	565	.17*
EBR	1	1700	73	.04	212	.12
WBL	1	1700	49	.03	118	.07*
WBT	2	3400	460	.14*	501	.15
WBR	d	1700	74	.04	29	.02
Right Turn Adjustment			SBR	.03*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.31**		**.38**

5. Culver at Walnut

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	109	.03*	195	.06
NBT	3	5100	795	.16	1614	.32*
NBR	1	1700	240	.14	386	.23
SBL	2	3400	140	.04	268	.08*
SBT	3	5100	1728	.34*	1254	.25
SBR	1	1700	413	.24	270	.16
EBL	2	3400	264	.08*	427	.13*
EBT	2	3400	275	.08	431	.13
EBR	1	1700	168	.10	133	.08
WBL	2	3400	423	.12	364	.11
WBT	2	3400	474	.14*	511	.15*
WBR	1	1700	217	.13	183	.11
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.64** **.73**

6. Newport at SR-55 NB Ramps

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	90	.03*	671	.20*
NBT	3	5100	50	.01	225	.04
NBR	d	1700	3	.00	40	.02
SBL	1	1700	19	.01	10	.01
SBT	3	5100	345	.07*	77	.02*
SBR	1	1700	574	.34	386	.23
EBL	2	3400	303	.09*	76	.02*
EBT	2	3400	169	.08	23	.01
EBR	0	0	113		6	
WBL	1	1700	6	.00	3	.00
WBT	2	3400	93	.03*	487	.14*
WBR	d	1700	1	.00	13	.01
Right Turn Adjustment			SBR	.20*	SBR	.19*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.47** **.62**

7. Auto Mall Dr/SR-55 SB Ramps at Edinger

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		426		325	
NBT	0.5	3400	67	.15*	33	.11*
NBR	2	3400	543	.16	256	.08
SBL	1	1700	60	.04*	105	.06*
SBT	1	1700	31	.02	62	.04
SBR	1	1700	9	.01	36	.02
EBL	1	1700	21	.01	33	.02
EBT	3	5100	1032	.20*	1150	.23*
EBR	f		288		305	
WBL	2	3400	297	.09*	353	.10*
WBT	3	5100	848	.19	1044	.22
WBR	0	0	116		93	
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION **.53** **.55**

8. Newport at Edinger

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	333	.10*	304	.09*
NBT	0	0	0		0	
NBR	1	1700	83	.05	57	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	759	.15*	1108	.22*
EBR	1	1700	814	.48	406	.24
WBL	1	1700	135	.08*	100	.06*
WBT	3	5100	946	.19	1189	.23
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.25*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.63** **.42**

9. Del Amo at Edinger

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		3		46	
NBT	0.5	3400	1	.00*	0	.01*
NBR	1	1700	162	.10	93	.05
SBL	0	0	4		2	
SBT	1	1700	2	.00*	1	.00*
SBR	0	0	2		2	
EBL	1	1700	1	.00	0	.00
EBT	3	5100	742	.15	1030	.20*
EBR	d	1700	57	.03	163	.10
WBL	2	3400	128	.04	294	.09*
WBT	3	5100	1058	.21*	1236	.24
WBR	0	0	2		0	
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.31** **.35**

10. Red Hill at Edinger

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	72	.02*	204	.06
NBT	3	5100	330	.06	1752	.34*
NBR	1	1700	55	.03	178	.10
SBL	2	3400	187	.06	133	.04*
SBT	3	5100	1208	.24*	415	.08
SBR	1	1700	352	.21	247	.15
EBL	2	3400	239	.07*	361	.11*
EBT	3	5100	457	.09	775	.15
EBR	1	1700	136	.08	90	.05
WBL	2	3400	331	.10	115	.03
WBT	3	5100	886	.17*	984	.19*
WBR	1	1700	111	.07	386	.23
Right Turn Adjustment					WBR	.01*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.55** **.74**

11. Kensington Park Dr at Edinger

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	53	.02*	41	.01*
NBT	0	0	0		0	
NBR	1	1700	91	.05	144	.08
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	707	.14	929	.18
EBR	1	1700	32	.02	86	.05
WBL	2	3400	89	.03	143	.04
WBT	3	5100	1089	.21*	1374	.27*
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.28** **.33**

12. Jamboree at Edinger

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	65	.02	227	.07
NBT	0	0	0		0	
NBR	1	1700	32	.02	229	.13
SBL	2	3400	144	.04*	259	.08*
SBT	0	0	0		0	
SBR	1	1700	507	.30	355	.21
EBL	2	3400	194	.06*	436	.13*
EBT	3	5100	521	.12	824	.18
EBR	0	0	85		105	
WBL	2	3400	198	.06	136	.04
WBT	3	5100	686	.13*	963	.19*
WBR	1	1700	202	.12	253	.15
Right Turn Adjustment			SBR	.23*	Multi	.12*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.51** **.57**

13. Harvard at Edinger/ICD

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	131	.04*	181	.05
NBT	2	3400	81	.02	454	.13*
NBR	1	1700	66	.04	217	.13
SBL	1	1700	65	.04	80	.05*
SBT	2	3400	223	.07*	176	.05
SBR	d	1700	114	.07	66	.04
EBL	2	3400	35	.01*	105	.03*
EBT	3	5100	559	.11	863	.17
EBR	1	1700	99	.06	160	.09
WBL	2	3400	72	.02	115	.03
WBT	3	5100	665	.13*	1285	.25*
WBR	d	1700	39	.02	82	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.30**		**.51**

14. Culver at Irvine Center Dr

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	166	.05*	346	.10
NBT	4	6800	847	.12	1841	.27*
NBR	f		206		346	
SBL	2	3400	181	.05	261	.08*
SBT	4	6800	1823	.27*	1191	.18
SBR	1	1700	124	.07	128	.08
EBL	2	3400	71	.02	162	.05*
EBT	3	5100	546	.11*	648	.13
EBR	f		156		178	
WBL	2	3400	318	.09*	285	.08
WBT	3	5100	549	.11	1011	.20*
WBR	f		92		163	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.65**

15. Harvard at Moffett/Paseo Westpark

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	2	.00	22	.01
NBT	2	3400	197	.06	799	.24*
NBR	d	1700	27	.02	65	.04
SBL	1	1700	24	.01	35	.02*
SBT	2	3400	351	.10*	363	.11
SBR	1	1700	10	.01	38	.02
EBL	1	1700	11	.01	18	.01*
EBT	1	1700	7	.00*	6	.00
EBR	d	1700	23	.01	16	.01
WBL	1	1700	48	.03*	22	.01
WBT	1	1700	2	.00	9	.01*
WBR	d	1700	70	.04	58	.03
Right Turn Adjustment			EBR	.01*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.19**		**.33**

16. Red Hill at Valencia

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	58	.03*	206	.12
NBT	3	5100	357	.07	1961	.38*
NBR	d	1700	82	.05	365	.21
SBL	1	1700	115	.07	82	.05*
SBT	3	5100	1152	.25*	455	.10
SBR	0	0	103		43	
EBL	1	1700	12	.01*	52	.03
EBT	1	1700	53	.03	155	.09*
EBR	1	1700	44	.03	55	.03
WBL	2	3400	277	.08	120	.04*
WBT	1	1700	213	.13*	73	.04
WBR	1	1700	93	.05	48	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.47**		**.61**

17. Armstrong at Valencia

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		4		2	
NBT	0.5	3400	0	.00*	1	.00*
NBR	1	1700	6	.00	0	.00
SBL	1	1700	25	.01	12	.01
SBT	1	1700	0	.06*	2	.01*
SBR	0	0	101		22	
EBL	1	1700	14	.01*	70	.04
EBT	2	3400	97	.03	547	.16*
EBR	1	1700	3	.00	40	.02
WBL	2	3400	5	.00	7	.00
WBT	2	3400	458	.14*	179	.06
WBR	0	0	11		29	
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.26** **.22**

18. Kensington Park Dr at Valencia

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1700	58	.03*	90	.05*
SBT	0	0	0		0	
SBR	1	1700	61	.04	78	.05
EBL	2	3400	21	.01*	141	.04
EBT	1	1700	136	.08	396	.23*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1700	311	.18*	175	.10
WBR	1	1700	28	.02	96	.06
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.27** **.33**

19. Tustin Ranch Rd at Valencia

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	44	.01*	136	.04
NBT	3	5100	175	.03	1324	.26*
NBR	0	0	0		0	
SBL	1	1700	0	.00	0	.00
SBT	3	5100	1024	.20*	437	.09
SBR	1	1700	265	.16	124	.07
EBL	2	3400	98	.03*	373	.11*
EBT	0	0	0		0	
EBR	1	1700	105	.06	97	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.02*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.31** **.42**

20. Red Hill at Warner

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	199	.06*	521	.15
NBT	3	5100	373	.07	2030	.40*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1145	.29*	525	.15
SBR	0	0	339		318	.19
EBL	2	3400	256	.08*	473	.14*
EBT	0	0	1		0	
EBR	1	1700	333	.20	260	.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.55** **.59**

21. Tustin Ranch Rd at Warner

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	112	.02	1190	.23*
NBR	1	1700	58	.03	474	.28
SBL	2	3400	210	.06	207	.06*
SBT	3	5100	963	.19*	317	.06
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	553	.11*	176	.03*
WBT	0	0	0		0	
WBR	1	1700	111	.07	349	.21
Right Turn Adjustment					Multi	.16*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.35** **.53**

22. Park at Warner

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	29	.02	90	.05
NBT	1	1700	25	.01*	43	.03*
NBR	1	1700	88	.05	312	.18
SBL	1	1700	160	.09*	183	.11*
SBT	2	3400	167	.05	249	.07
SBR	1	1700	345	.20	43	.03
EBL	1	1700	7	.00	16	.01
EBT	2	3400	192	.06*	528	.16*
EBR	1	1700	53	.03	76	.04
WBL	2	3400	62	.02*	185	.05*
WBT	2	3400	194	.06	294	.09
WBR	1	1700	24	.01	14	.01
Right Turn Adjustment			Multi	.12*	NBR	.11*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.35** **.51**

23. Jamboree NB at Warner

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1700	0	.00	0	.00
NBR	0	0	1		4	
SBL	0	0	4		2	
SBT	1	1700	0	.00*	2	.00*
SBR	1	1700	24	.01	70	.04
EBL	1	1700	158	.09*	607	.36*
EBT	2	3400	199	.06	574	.17
EBR	d	1700	1	.00	1	.00
WBL	1	1700	3	.00	5	.00
WBT	2	3400	281	.08*	426	.13*
WBR	d	1700	169	.10	171	.10
Right Turn Adjustment			WBR	.02*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.24** **.54**

24. Harvard at Warner

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	68	.04*	329	.19*
NBT	2	3400	183	.05	746	.22
NBR	d	1700	21	.01	93	.05
SBL	1	1700	95	.06	62	.04
SBT	2	3400	552	.16*	280	.08*
SBR	d	1700	95	.06	54	.03
EBL	1	1700	62	.04*	150	.09*
EBT	2	3400	126	.04	352	.10
EBR	d	1700	101	.06	85	.05
WBL	1	1700	69	.04	40	.02
WBT	2	3400	278	.08*	275	.08*
WBR	d	1700	74	.04	44	.03
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.37** **.49**

25. Culver at Warner

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	29	.02*	76	.04
NBT	3	5100	887	.17	2078	.41*
NBR	1	1700	42	.02	132	.08
SBL	1	1700	52	.03	82	.05*
SBT	3	5100	1954	.38*	1398	.27
SBR	d	1700	67	.04	141	.08
EBL	1	1700	120	.07*	129	.08*
EBT	2	3400	36	.01	136	.04
EBR	d	1700	90	.05	83	.05
WBL	1	1700	136	.08	81	.05
WBT	2	3400	133	.04*	95	.03*
WBR	d	1700	138	.08	116	.07
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.56**		**.62**

26. Red Hill at Carnegie

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	79	.05*	37	.02
NBT	3	5100	556	.11	2468	.48*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1403	.29*	745	.15
SBR	0	0	98		15	
EBL	1	1700	1	.00	114	.07*
EBT	1	1700	0	.00	0	.05
EBR	0	0	4		77	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.39**		**.60**

27. Tustin Ranch Rd at Park

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	5	.00	0	.00
NBT	3	5100	159	.03	1491	.29*
NBR	1	1700	54	.03	341	.20
SBL	2	3400	61	.02	130	.04*
SBT	3	5100	1403	.28*	350	.07
SBR	1	1700	26	.02	2	.00
EBL	0	0	4		5	
EBT	1	1700	0	.01*	0	.01*
EBR	0	0	8		17	
WBL	1	1700	89	.05*	229	.13*
WBT	0	0	0		0	
WBR	1	1700	10	.01	152	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.39**		**.52**

28. The District at Park

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	23	.01*	107	.06
NBT	2	3400	45	.02	171	.09*
NBR	0	0	38		150	
SBL	1	1700	8	.00	32	.02*
SBT	1	1700	34	.02*	86	.05
SBR	1	1700	5	.00	21	.01
EBL	1	1700	6	.00	26	.02
EBT	1	1700	29	.02*	124	.07*
EBR	1	1700	28	.02	96	.06
WBL	1	1700	87	.05*	154	.09*
WBT	1	1700	61	.04	121	.07
WBR	1	1700	16	.01	37	.02
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.15**		**.32**

29. Hotel Terrace/SR-55 SB Ramps at Dyer

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		231		256	
NBT	0.5	3400	16	.07*	4	.08*
NBR	2	3400	468	.14	211	.06
SBL	0.5		58		103	
SBT	1.5	3400	153	.06*	225	.10*
SBR	1	1700	83	.05	115	.07
EBL	1	1700	28	.02	86	.05
EBT	3	5100	1220	.24*	1510	.30*
EBR	1	1700	284	.17	236	.14
WBL	2	3400	339	.10*	536	.16*
WBT	3	5100	807	.16	1072	.21
WBR	1	1700	93	.05	57	.03
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION **.52** **.69**

30. Grand at Dyer

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	587	.17*	328	.10*
SBT	0	0	0		0	
SBR	1	1700	404	.24	413	.24
EBL	2	3400	185	.05	337	.10*
EBT	3	5100	1564	.31*	1418	.28
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	829	.24	1194	.32*
WBR	0	0	531	.31	429	
Right Turn Adjustment			SBR	.02*	SBR	.06*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.55** **.63**

31. SR-55 NB Ramps at Dyer

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		692	{.22}*	181	.05*
NBT	0	5100	0	.22	0	
NBR	1.5		448		81	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1560	.31*	1136	.22
EBR	f		578		641	
WBL	0	0	0		0	
WBT	3	5100	683	.13	1463	.29*
WBR	f		278		1001	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.58** **.39**

32. Red Hill at Dyer/Barranca

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	112	.03*	358	.11
NBT	4	6800	311	.05	1829	.27*
NBR	d	1700	91	.05	363	.21
SBL	2	3400	351	.10	337	.10*
SBT	4	6800	954	.14*	454	.07
SBR	d	1700	162	.10	123	.07
EBL	2	3400	102	.03	215	.06*
EBT	4	6800	787	.15*	867	.14
EBR	0	0	218		88	
WBL	2	3400	468	.14*	135	.04
WBT	3	5100	477	.09	868	.17*
WBR	1	1700	192	.11	472	.28
Right Turn Adjustment					WBR	.03*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.51** **.68**

33. Aston at Barranca

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	13	.01*	49	.03*
NBT	0	0	0		0	
NBR	1	1700	18	.01	114	.07
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1172	.23*	1507	.30*
EBR	1	1700	140	.08	56	.03
WBL	1	1700	175	.10*	14	.01*
WBT	3	5100	1147	.22	1585	.31
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.03*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.39** **.42**

34. Armstrong at Barranca

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	60	.02*	423	.12*
NBT	0	0	0		0	
NBR	1	1700	12	.01	260	.15
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	967	.19*	1615	.32*
EBR	d	1700	140	.08	47	.03
WBL	1	1700	146	.09*	64	.04*
WBT	3	5100	1319	.26	1245	.24
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.35** **.53**

35. Tustin Ranch Rd/Von Karman at Barranca

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	78	.02*	274	.08
NBT	2	3400	76	.02	1125	.33*
NBR	d	1700	53	.03	377	.22
SBL	2	3400	70	.02	62	.02*
SBT	2	3400	1040	.31*	273	.08
SBR	2	3400	317	.09	283	.08
EBL	1	1700	126	.07	390	.23*
EBT	3	5100	624	.12*	1480	.29
EBR	d	1700	237	.14	105	.06
WBL	2	3400	591	.17*	216	.06
WBT	3	5100	941	.18	761	.15*
WBR	1	1700	26	.02	174	.10
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.67** **.78**

36. The District/Millikan at Barranca

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	46	.03*	150	.09
NBT	2	3400	14	.00	127	.04*
NBR	d	1700	33	.02	146	.09
SBL	2	3400	87	.03	353	.10*
SBT	0.5	3400	83	.05*	44	{.03}
SBR	1.5		100	{.04}	186	
EBL	2	3400	53	.02*	217	.06
EBT	3	5100	555	.11	1582	.31*
EBR	d	1700	150	.09	100	.06
WBL	1	1700	74	.04	30	.02*
WBT	4	6800	1428	.21*	784	.12
WBR	1	1700	130	.08	371	.22
Right Turn Adjustment					NBR	.03*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.36** **.55**

37. Jamboree at Barranca

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	117	.03*	397	.12
NBT	4	6800	681	.10	2776	.41*
NBR	f		107		94	
SBL	2	3400	481	.14	306	.09*
SBT	4	6800	3272	.48*	1221	.18
SBR	f		1254		232	
EBL	2.5		180	.05	1140	
EBT	2.5	8500	442	.09*	801	.23*
EBR	1	1700	118	.07	232	.14
WBL	2	3400	229	.07	132	.04
WBT	3	5100	489	.10*	694	.14*
WBR	f		151		334	
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION **.75** **.92**

38. Harvard at Barranca

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	138	.08*	215	.13
NBT	2	3400	199	.06	830	.24*
NBR	1	1700	54	.03	165	.10
SBL	1	1700	144	.08	106	.06*
SBT	2	3400	591	.17*	300	.09
SBR	1	1700	180	.11	47	.03
EBL	2	3400	30	.01*	156	.05*
EBT	3	5100	403	.08	853	.17
EBR	1	1700	160	.09	200	.12
WBL	2	3400	183	.05	88	.03
WBT	3	5100	680	.13*	797	.16*
WBR	d	1700	57	.03	126	.07
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.44** **.56**

39. Culver at Barranca

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	76	.02*	146	.04
NBT	3	5100	728	.14	1546	.30*
NBR	1	1700	290	.17	324	.19
SBL	2	3400	375	.11	248	.07*
SBT	3	5100	1673	.33*	1076	.21
SBR	f		132		108	
EBL	2	3400	115	.03	348	.10
EBT	2	3400	466	.14*	837	.25*
EBR	1	1700	204	.12	195	.11
WBL	2	3400	284	.08*	268	.08*
WBT	2	3400	499	.15	685	.20
WBR	d	1700	124	.07	324	.19
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.62** **.75**

40. Red Hill at Alton

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	115	.07*	43	.03
NBT	3	5100	528	.10	1971	.39*
NBR	d	1700	326	.19	239	.14
SBL	1	1700	271	.16	158	.09*
SBT	3	5100	1147	.22*	661	.13
SBR	d	1700	122	.07	6	.00
EBL	1	1700	7	.00	78	.05
EBT	2	3400	40	.01	254	.07*
EBR	1	1700	20	.01	132	.08
WBL	2	3400	278	.08	482	.14*
WBT	1	1700	197	.12*	116	.07
WBR	1	1700	145	.09	461	.27
Right Turn Adjustment					WBR	.04*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.46** **.78**

41. Von Karman at Alton

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	46	.03*	84	.05
NBT	2	3400	262	.08	1253	.37*
NBR	d	1700	61	.04	294	.17
SBL	1	1700	63	.04	169	.10*
SBT	2	3400	1576	.46*	454	.13
SBR	d	1700	156	.09	193	.11
EBL	1	1700	48	.03*	185	.11
EBT	2	3400	224	.07	966	.28*
EBR	d	1700	59	.03	68	.04
WBL	1	1700	226	.13	99	.06*
WBT	2	3400	765	.23*	614	.18
WBR	d	1700	121	.07	99	.06
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.80**		**.86**

42. Jamboree at Alton

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	206	.06*	219	.06
NBT	4	6800	803	.12	2920	.43*
NBR	1	1700	135	.08	219	.13
SBL	2	3400	173	.05	180	.05*
SBT	4	6800	2276	.33*	1485	.22
SBR	d	1700	244	.14	166	.10
EBL	2	3400	51	.02*	456	.13
EBT	3	5100	176	.03	898	.18*
EBR	d	1700	68	.04	235	.14
WBL	2	3400	178	.05	239	.07*
WBT	3	5100	819	.16*	511	.10
WBR	d	1700	115	.07	264	.16
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.62**		**.78**

43. Harvard at Alton

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	190	.11*	153	.09
NBT	2	3400	351	.10	1242	.37*
NBR	d	1700	69	.04	213	.13
SBL	1	1700	23	.01	68	.04*
SBT	2	3400	887	.26*	563	.17
SBR	1	1700	168	.10	35	.02
EBL	2	3400	51	.02*	192	.06
EBT	3	5100	170	.03	857	.17*
EBR	1	1700	143	.08	359	.21
WBL	2	3400	198	.06	124	.04*
WBT	3	5100	739	.14*	549	.11
WBR	d	1700	27	.02	47	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.58**		**.67**

44. Culver at Alton

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	122	.04*	201	.06
NBT	3	5100	851	.17	1468	.29*
NBR	1	1700	226	.13	350	.21
SBL	2	3400	143	.04	246	.07*
SBT	3	5100	1782	.35*	1010	.20
SBR	f		262		279	
EBL	2	3400	106	.03*	322	.09
EBT	2	3400	293	.09	815	.24*
EBR	1	1700	131	.08	237	.14
WBL	2	3400	255	.08	221	.07*
WBT	2	3400	610	.18*	646	.19
WBR	1	1700	149	.09	246	.14
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.72**

45. Red Hill at McGaw

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	258	.08*	38	.01
NBT	3	5100	923	.18	1973	.39*
NBR	1	1700	323	.19	482	.28
SBL	2	3400	114	.03	35	.01*
SBT	3	5100	1250	.25*	1168	.23
SBR	d	1700	93	.05	13	.01
EBL	1	1700	13	.01	62	.04
EBT	2	3400	35	.01*	103	.03*
EBR	d	1700	35	.02	257	.15
WBL	2	3400	124	.04*	379	.11*
WBT	2	3400	75	.03	104	.06
WBR	0	0	34		174	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.43**		**.59**

46. Von Karman at McGaw

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	30	.02*	75	.04
NBT	2	3400	337	.10	1356	.40*
NBR	d	1700	33	.02	221	.13
SBL	1	1700	42	.02	48	.03*
SBT	2	3400	1613	.47*	565	.17
SBR	d	1700	74	.04	28	.02
EBL	1	1700	14	.01*	149	.09
EBT	2	3400	82	.04	454	.15*
EBR	0	0	40		52	
WBL	1	1700	40	.02	29	.02*
WBT	2	3400	152	.05*	128	.06
WBR	0	0	15		76	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.60**		**.65**

47. Jamboree at McGaw

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	128	.04*	94	.03
NBT	4	6800	1204	.18	3095	.46*
NBR	d	1700	36	.02	25	.01
SBL	2	3400	14	.00	11	.00
SBT	4	6800	2485	.37*	1647	.24
SBR	d	1700	116	.07	52	.03
EBL	1	1700	14	.01*	295	.17*
EBT	2	3400	25	.01	249	.07
EBR	d	1700	49	.03	179	.11
WBL	1	1700	23	.01	45	.03
WBT	2	3400	26	.01*	30	.01*
WBR	0	0	12		19	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.69**

48. Red Hill at MacArthur

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	88	.03	172	.05
NBT	3	5100	559	.11*	1060	.21*
NBR	d	1700	12	.01	28	.02
SBL	2	3400	295	.09*	314	.09*
SBT	3	5100	682	.13	798	.16
SBR	f		381		941	
EBL	2	3400	1005	.30*	774	.23*
EBT	3	5100	903	.18	571	.11
EBR	d	1700	129	.08	107	.06
WBL	1	1700	50	.03	67	.04
WBT	3	5100	307	.06*	862	.17*
WBR	f		495		861	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.61**		**.75**

49. Red Hill at Main

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	110	.03	268	.08*
NBT	2	3400	519	.15*	829	.24
NBR	1	1700	378	.22	280	.16
SBL	2	3400	75	.02*	71	.02
SBT	2	3400	395	.12	664	.20*
SBR	d	1700	123	.07	253	.15
EBL	2	3400	137	.04	178	.05*
EBT	3	5100	1097	.22*	757	.15
EBR	d	1700	205	.12	151	.09
WBL	2	3400	163	.05*	328	.10
WBT	3	5100	358	.07	1536	.30*
WBR	d	1700	75	.04	95	.06
Right Turn Adjustment			NBR	.03*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.52** **.68**

50. MacArthur at Main

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	717	.21*	603	.18
NBT	4	6800	897	.13	1404	.21*
NBR	f		1475		435	
SBL	2	3400	494	.15	289	.09*
SBT	4	6800	577	.08*	764	.11
SBR	1	1700	80	.05	52	.03
EBL	1	1700	56	.03	44	.03
EBT	3	5100	1044	.20*	979	.19*
EBR	1	1700	496	.29	560	.33
WBL	2	3400	318	.09*	569	.17*
WBT	3	5100	710	.14	748	.15
WBR	f		117		392	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.63** **.71**

51. Von Karman at Main

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	101	.03*	319	.09
NBT	2	3400	250	.07	828	.24*
NBR	1	1700	92	.05	339	.20
SBL	1	1700	132	.08	136	.08*
SBT	2	3400	896	.26*	393	.12
SBR	1	1700	201	.12	108	.06
EBL	2	3400	108	.03	306	.09
EBT	3	5100	514	.10*	831	.16*
EBR	f		424		135	
WBL	2	3400	290	.09*	126	.04*
WBT	3	5100	594	.12	510	.10
WBR	d	1700	89	.05	82	.05
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.53** **.57**

52. Jamboree at Main

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	392	.12*	301	.09
NBT	4	6800	1192	.18	2399	.35*
NBR	f		472		643	
SBL	2	3400	315	.09	210	.06*
SBT	4	6800	1984	.29*	1564	.23
SBR	1	1700	285	.17	200	.12
EBL	2	3400	95	.03	552	.16
EBT	3	5100	298	.06*	1212	.24*
EBR	f		210		686	
WBL	2	3400	525	.15*	517	.15*
WBT	3	5100	679	.13	417	.08
WBR	f		131		274	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.67** **.85**

53. Harvard at Main

Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	116	.03*	90	.03
NBT	2	3400	261	.08	1198	.35*
NBR	1	1700	89	.05	245	.14
SBL	2	3400	35	.01	26	.01*
SBT	2	3400	1037	.31*	568	.17
SBR	1	1700	377	.22	124	.07
EBL	2	3400	101	.03	527	.16
EBT	3	5100	192	.04*	1262	.25*
EBR	d	1700	79	.05	204	.12
WBL	2	3400	329	.10*	102	.03*
WBT	3	5100	555	.11	174	.03
WBR	d	1700	17	.01	15	.01
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.53**		**.69**

54. Culver at Main

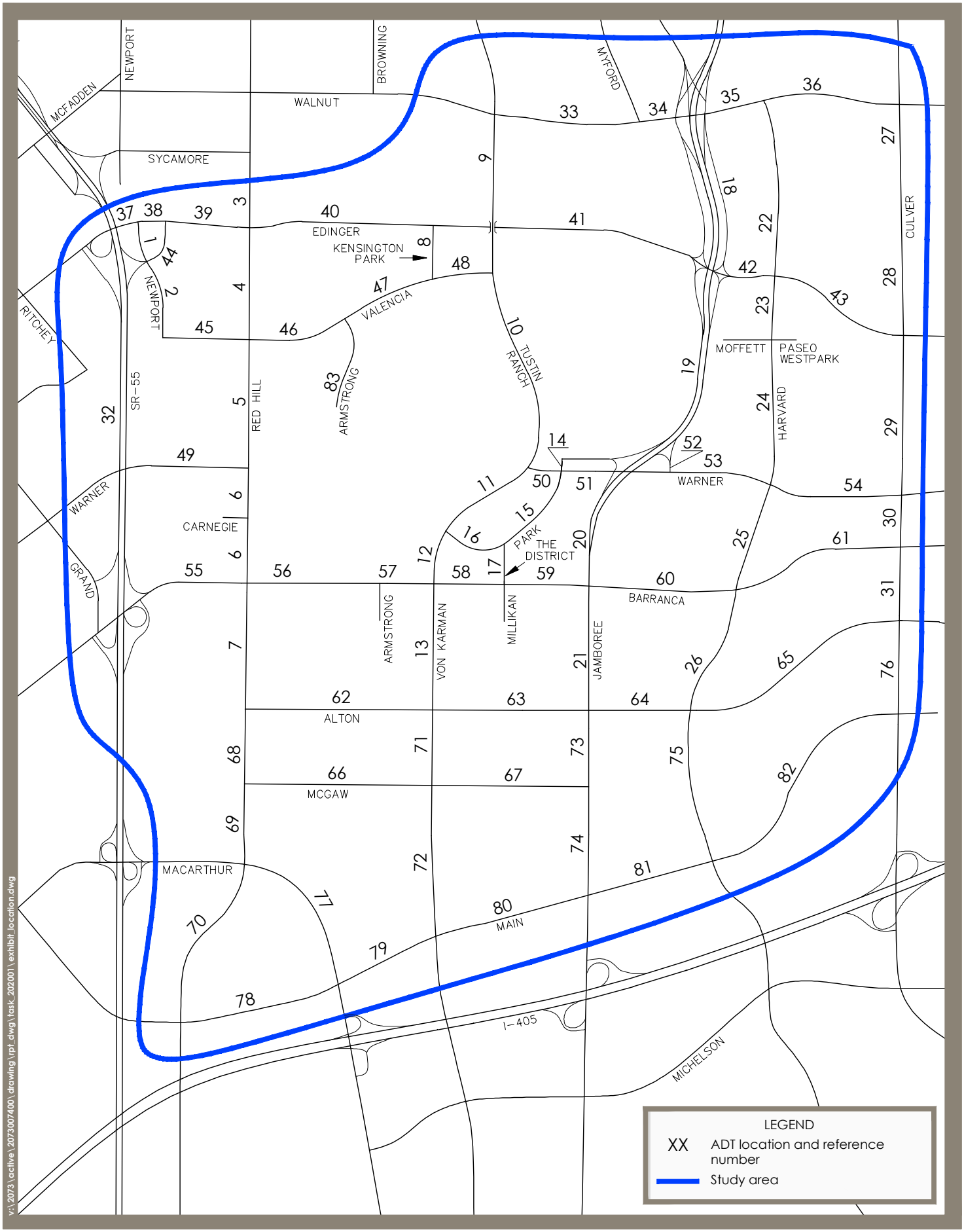
Existing 2014 Counts

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	85	.03*	150	.04
NBT	3	5100	1088	.21	1916	.38*
NBR	1	1700	158	.09	378	.22
SBL	2	3400	82	.02	143	.04*
SBT	3	5100	1992	.39*	1154	.23
SBR	f		372		124	
EBL	2	3400	105	.03	475	.14
EBT	2	3400	130	.04*	462	.14*
EBR	f		167		288	
WBL	2	3400	523	.15*	186	.05*
WBT	2	3400	304	.09	62	.02
WBR	1	1700	104	.06	69	.04
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.66**

APPENDIX

The Appendix contains the sheets for the ADT (24-hour) machine counts and the intersection peak hour counts. The ADT count sheets start on page A-4 for the roadway segments illustrated in Figure A-1, and the peak hour counts start on page A-131 for the intersections presented in Figure A-2. All sheets have been compiled according to link or intersection number which is shown in the upper right. Sources for the counts are City of Irvine, Caltrans and counts ordered by City of Tustin for the Specific Plan Amendment traffic analysis.

ROADWAY SEGMENT
AVERAGE DAILY TRAFFIC (ADT)
COUNTS



Stantec

Figure A-1

Existing Arterial Roadway Location Reference Map

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : NEWPORT AVENUE — Site: TUSTIN

Segment : EDINGER AVE TO SR-55 SB RAMPS — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	8	47	116	444	27	93	194	870	35	140	310	1,314	
12:15	8		119		22		238		30		357		
12:30	26		96		24		212		50		308		
12:45	5		113		20		226		25		339		
01:00	5	25	93	367	15	53	228	904	20	78	321	1,271	
01:15	7		100		10		228		17		328		
01:30	6		98		18		238		24		336		
01:45	7		76		10		210		17		286		
02:00	9	21	85	334	12	48	243	919	21	69	328	1,253	
02:15	3		82		8		212		11		294		
02:30	4		106		14		216		18		322		
02:45	5		61		14		248		19		309		
03:00	53	225	58	323	20	94	214	796	73	319	272	1,119	
03:15	128		55		14		222		142		277		
03:30	26		123		26		192		52		315		
03:45	18		87		34		168		52		255		
04:00	9	34	92	316	28	190	171	599	37	224	263	915	
04:15	4		68		35		130		39		198		
04:30	5		90		63		130		68		220		
04:45	16		66		64		168		80		234		
05:00	13	117	110	310	82	648	144	527	95	765	254	837	
05:15	18		72		138		108		156		180		
05:30	29		68		195		128		224		196		
05:45	57		60		233		147		290		207		
06:00	37	264	54	215	136	824	158	600	173	1,088	212	815	
06:15	44		55		176		138		220		193		
06:30	65		54		225		176		290		230		
06:45	118		52		287		128		405		180		
07:00	82	366	52	189	218	1,129	144	546	300	1,495	196	735	
07:15	105		43		324		134		429		177		
07:30	92		52		297		132		389		184		
07:45	87		42		290		136		377		178		
08:00	92	354	40	139	260	958	137	464	352	1,312	177	603	
08:15	72		38		258		124		330		162		
08:30	96		30		228		102		324		132		
08:45	94		31		212		101		306		132		
09:00	86	358	26	104	222	857	101	345	308	1,215	127	449	
09:15	102		23		226		96		328		119		
09:30	98		24		218		75		316		99		
09:45	72		31		191		73		263		104		
10:00	92	378	28	95	180	713	80	221	272	1,091	108	316	
10:15	88		26		183		52		271		78		
10:30	92		20		196		52		288		72		
10:45	106		21		154		37		260		58		
11:00	110	425	8	52	194	753	28	103	304	1,178	36	155	
11:15	108		22		174		23		282		45		
11:30	105		15		204		28		309		43		
11:45	102		7		181		24		283		31		
Totals	2,614		2,888		6,360		6,894		8,974		9,782		
Split%	29.1		29.5		70.9		70.5						
Day Totals		5,502				13,254				18,756			
Day Splits		29.3				70.7							
Peak Hour	10:45		12:00		07:15		12:45		07:15		12:15		
Volume	429		444		1,171		920		1,547		1,325		
Factor	0.98		0.93		0.90		0.97		0.90		0.93		

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : NEWPORT AVENUE | Site: TUSTIN

Segment : SR-55 SB RAMPS TO VALENCIA AVE | Date: 05/29/14

Client : CITY OF TUSTIN | Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	3	93	70	262	3	7	58	249	6	100	128	511
12:15	11		70		2		66		13		136	
12:30	77		64		2		63		79		127	
12:45	2		58		0		62		2		120	
01:00	5	20	54	249	3	5	50	191	8	25	104	440
01:15	2		56		0		60		2		116	
01:30	10		69		0		41		10		110	
01:45	3		70		2		40		5		110	
02:00	1	7	98	476	0	6	42	138	1	13	140	614
02:15	2		76		1		36		3		112	
02:30	1		198		3		34		4		232	
02:45	3		104		2		26		5		130	
03:00	4	12	98	714	4	22	32	206	8	34	130	920
03:15	3		123		6		42		9		165	
03:30	2		324		2		76		4		400	
03:45	3		169		10		56		13		225	
04:00	8	13	207	826	7	48	28	93	15	61	235	919
04:15	3		199		6		18		9		217	
04:30	1		238		7		22		8		260	
04:45	1		182		28		25		29		207	
05:00	6	50	266	874	14	350	24	105	20	400	290	979
05:15	9		216		62		31		71		247	
05:30	17		218		122		24		139		242	
05:45	18		174		152		26		170		200	
06:00	19	115	182	564	59	385	23	64	78	500	205	628
06:15	18		190		68		16		86		206	
06:30	39		130		92		14		131		144	
06:45	39		62		166		11		205		73	
07:00	30	148	76	216	108	498	18	55	138	646	94	271
07:15	42		56		128		7		170		63	
07:30	40		58		128		12		168		70	
07:45	36		26		134		18		170		44	
08:00	53	242	22	89	121	433	11	51	174	675	33	140
08:15	50		20		118		14		168		34	
08:30	51		23		110		12		161		35	
08:45	88		24		84		14		172		38	
09:00	54	200	20	75	80	227	18	54	134	427	38	129
09:15	37		21		57		15		94		36	
09:30	68		18		40		10		108		28	
09:45	41		16		50		11		91		27	
10:00	51	173	20	47	40	142	7	26	91	315	27	73
10:15	30		10		34		8		64		18	
10:30	42		11		34		8		76		19	
10:45	50		6		34		3		84		9	
11:00	78	336	8	23	50	192	3	19	128	528	11	42
11:15	67		6		30		5		97		11	
11:30	103		4		63		3		166		7	
11:45	88		5		49		8		137		13	
Totals	1,409		4,415		2,315		1,251		3,724		5,666	
Split%	37.8		77.9		62.2		22.1					
Day Totals		5,824				3,566				9,390		
Day Splits		62.0				38.0						
Peak Hour	11:00		04:30		06:45		12:00		07:15		03:30	
Volume	336		902		530		249		682		1,077	
Factor	0.82		0.85		0.80		0.94		0.98		0.67	

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : REDHILL AVENUE
Segment : N/O EDINGER AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	25	62	234	803	12	47	189	857	37	109	423	1,660	
12:15	12		194		13		216		25		410		
12:30	17		187		12		226		29		413		
12:45	8		188		10		226		18		414		
01:00	15	30	212	824	8	34	190	790	23	64	402	1,614	
01:15	4		177		10		185		14		362		
01:30	6		217		10		202		16		419		
01:45	5		218		6		213		11		431		
02:00	8	28	214	1,071	6	20	200	822	14	48	414	1,893	
02:15	8		266		4		207		12		473		
02:30	7		288		4		200		11		488		
02:45	5		303		6		215		11		518		
03:00	29	99	288	1,412	3	46	196	727	32	145	484	2,139	
03:15	31		345		4		192		35		537		
03:30	18		396		12		182		30		578		
03:45	21		383		27		157		48		540		
04:00	18	55	474	1,976	24	144	180	739	42	199	654	2,715	
04:15	3		464		24		164		27		628		
04:30	19		536		32		200		51		736		
04:45	15		502		64		195		79		697		
05:00	13	108	512	2,214	34	394	169	683	47	502	681	2,897	
05:15	31		630		64		178		95		808		
05:30	26		564		124		170		150		734		
05:45	38		508		172		166		210		674		
06:00	42	281	501	1,708	134	870	176	682	176	1,151	677	2,390	
06:15	73		498		168		182		241		680		
06:30	80		385		232		156		312		541		
06:45	86		324		336		168		422		492		
07:00	113	589	249	774	290	1,586	154	559	403	2,175	403	1,333	
07:15	146		203		378		163		524		366		
07:30	161		164		404		128		565		292		
07:45	169		158		514		114		683		272		
08:00	152	491	115	445	386	1,542	82	337	538	2,033	197	782	
08:15	109		120		458		83		567		203		
08:30	122		107		364		90		486		197		
08:45	108		103		334		82		442		185		
09:00	112	479	68	322	310	988	63	238	422	1,467	131	560	
09:15	125		98		256		58		381		156		
09:30	102		86		206		69		308		155		
09:45	140		70		216		48		356		118		
10:00	118	484	66	215	188	701	45	153	306	1,185	111	368	
10:15	108		59		164		46		272		105		
10:30	120		55		184		34		304		89		
10:45	138		35		165		28		303		63		
11:00	141	650	56	154	167	663	32	84	308	1,313	88	238	
11:15	145		36		157		16		302		52		
11:30	189		31		139		20		328		51		
11:45	175		31		200		16		375		47		
Totals	3,356		11,918		7,035		6,671		10,391		18,589		
Split%	32.3		64.1		67.7		35.9						
Day Totals		15,274				13,706				28,980			
Day Splits		52.7				47.3							
Peak Hour	11:00		05:00		07:30		12:15		07:30		04:30		
Volume	650		2,214		1,762		858		2,353		2,922		
Factor	0.86		0.88		0.86		0.95		0.86		0.90		

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : REDHILL AVENUE — Site: TUSTIN

Segment : S/O EDINGER AVENUE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	22	64	232	798	8	34	168	806	30	98	400	1,604	
12:15	14		200		8		202		22		402		
12:30	18		176		10		212		28		388		
12:45	10		190		8		224		18		414		
01:00	8	21	210	788	8	25	182	746	16	46	392	1,534	
01:15	3		176		7		159		10		335		
01:30	6		188		6		197		12		385		
01:45	4		214		4		208		8		422		
02:00	8	24	204	1,046	5	19	186	698	13	43	390	1,744	
02:15	8		232		4		183		12		415		
02:30	5		280		2		159		7		439		
02:45	3		330		8		170		11		500		
03:00	7	38	294	1,412	2	41	184	639	9	79	478	2,051	
03:15	4		354		4		148		8		502		
03:30	16		384		5		166		21		550		
03:45	11		380		30		141		41		521		
04:00	10	41	394	1,649	22	141	134	586	32	182	528	2,235	
04:15	3		421		24		142		27		563		
04:30	14		414		35		164		49		578		
04:45	14		420		60		146		74		566		
05:00	12	79	424	1,801	38	405	140	574	50	484	564	2,375	
05:15	16		513		65		130		81		643		
05:30	24		440		134		152		158		592		
05:45	27		424		168		152		195		576		
06:00	44	221	436	1,513	110	714	124	483	154	935	560	1,996	
06:15	42		470		166		137		208		607		
06:30	76		351		162		112		238		463		
06:45	59		256		276		110		335		366		
07:00	65	385	210	645	240	1,442	98	356	305	1,827	308	1,001	
07:15	80		179		320		104		400		283		
07:30	114		144		376		78		490		222		
07:45	126		112		506		76		632		188		
08:00	114	369	83	382	372	1,495	60	235	486	1,864	143	617	
08:15	67		106		444		65		511		171		
08:30	94		100		348		56		442		156		
08:45	94		93		331		54		425		147		
09:00	98	413	70	265	284	920	44	167	382	1,333	114	432	
09:15	100		66		235		42		335		108		
09:30	94		68		201		46		295		114		
09:45	121		61		200		35		321		96		
10:00	93	419	52	164	160	626	33	107	253	1,045	85	271	
10:15	94		43		150		19		244		62		
10:30	106		44		150		30		256		74		
10:45	126		25		166		25		292		50		
11:00	126	618	50	127	134	582	18	56	260	1,200	68	183	
11:15	143		22		142		12		285		34		
11:30	187		29		139		17		326		46		
11:45	162		26		167		9		329		35		
Totals	2,692		10,590		6,444		5,453		9,136		16,043		
Split%	29.5		66.0		70.5		34.0						
Day Totals		13,282				11,897				25,179			
Day Splits		52.8				47.2							
Peak Hour	11:00		05:15		07:30		12:15		07:30		05:00		
Volume	618		1,813		1,698		820		2,119		2,375		
Factor	0.83		0.88		0.84		0.92		0.84		0.92		

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : REDHILL AVENUE — Site: TUSTIN

Segment : S/O VALENCIA AVENUE — Date: 05/29/14

Client : CITY OF TUSTIN — Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	24	59	223	767	8	38	176	772	32	97	399	1,539
12:15	12		202		7		188		19		390	
12:30	13		170		16		199		29		369	
12:45	10		172		7		209		17		381	
01:00	6	22	210	809	6	23	180	670	12	45	390	1,479
01:15	4		166		6		152		10		318	
01:30	7		190		6		186		13		376	
01:45	5		243		5		152		10		395	
02:00	8	25	208	1,113	5	19	173	651	13	44	381	1,764
02:15	8		244		5		154		13		398	
02:30	6		321		3		170		9		491	
02:45	3		340		6		154		9		494	
03:00	9	31	342	1,573	1	39	174	671	10	70	516	2,244
03:15	3		368		6		150		9		518	
03:30	9		419		4		203		13		622	
03:45	10		444		28		144		38		588	
04:00	6	37	423	1,855	21	137	148	656	27	174	571	2,511
04:15	3		472		22		164		25		636	
04:30	13		474		38		188		51		662	
04:45	15		486		56		156		71		642	
05:00	17	103	516	2,138	29	330	191	696	46	433	707	2,834
05:15	19		586		57		157		76		743	
05:30	29		518		102		188		131		706	
05:45	38		518		142		160		180		678	
06:00	48	284	518	1,739	93	645	140	537	141	929	658	2,276
06:15	64		550		139		171		203		721	
06:30	88		364		164		126		252		490	
06:45	84		307		249		100		333		407	
07:00	84	440	229	665	236	1,332	112	375	320	1,772	341	1,040
07:15	102		176		292		104		394		280	
07:30	120		146		322		78		442		224	
07:45	134		114		482		81		616		195	
08:00	138	460	86	362	386	1,467	52	225	524	1,927	138	587
08:15	103		106		402		66		505		172	
08:30	102		84		356		59		458		143	
08:45	117		86		323		48		440		134	
09:00	98	403	78	266	274	852	43	162	372	1,255	121	428
09:15	97		67		204		41		301		108	
09:30	96		65		196		41		292		106	
09:45	112		56		178		37		290		93	
10:00	86	399	55	162	162	610	36	101	248	1,009	91	263
10:15	101		45		154		17		255		62	
10:30	98		38		140		23		238		61	
10:45	114		24		154		25		268		49	
11:00	126	614	36	108	133	595	20	54	259	1,209	56	162
11:15	136		22		140		10		276		32	
11:30	181		30		164		14		345		44	
11:45	171		20		158		10		329		30	
Totals	2,877		11,557		6,087		5,570		8,964		17,127	
Split%	32.1		67.5		67.9		32.5					
Day Totals		14,434				11,657				26,091		
Day Splits		55.3				44.7						
Peak Hour	11:00		05:15		07:45		12:15		07:45		05:00	
Volume	614		2,140		1,626		776		2,103		2,834	
Factor	0.85		0.91		0.84		0.93		0.85		0.95	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : REDHILL AVENUE — Site: TUSTIN

Segment : N/O BARRANCA PARKWAY — Date: 05/29/14

Client : CITY OF TUSTIN — Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	18	45	243	887	10	39	240	922	28	84	483	1,809
12:15	8		199		10		208		18		407	
12:30	13		211		11		230		24		441	
12:45	6		234		8		244		14		478	
01:00	4	25	258	1,043	5	24	228	808	9	49	486	1,851
01:15	5		241		4		193		9		434	
01:30	9		268		10		199		19		467	
01:45	7		276		5		188		12		464	
02:00	21	40	272	1,356	3	24	172	712	24	64	444	2,068
02:15	6		295		5		169		11		464	
02:30	9		407		4		188		13		595	
02:45	4		382		12		183		16		565	
03:00	14	35	410	1,867	6	73	169	669	20	108	579	2,536
03:15	4		446		7		170		11		616	
03:30	9		485		14		178		23		663	
03:45	8		526		46		152		54		678	
04:00	8	36	466	2,094	27	206	174	759	35	242	640	2,853
04:15	4		575		37		177		41		752	
04:30	12		527		62		218		74		745	
04:45	12		526		80		190		92		716	
05:00	22	145	552	2,404	42	393	240	840	64	538	792	3,244
05:15	22		634		61		208		83		842	
05:30	50		626		128		214		178		840	
05:45	51		592		162		178		213		770	
06:00	72	282	608	1,866	108	674	169	585	180	956	777	2,451
06:15	46		558		152		178		198		736	
06:30	76		384		168		132		244		516	
06:45	88		316		246		106		334		422	
07:00	86	486	232	673	217	1,167	110	399	303	1,653	342	1,072
07:15	117		184		258		112		375		296	
07:30	118		151		273		92		391		243	
07:45	165		106		419		85		584		191	
08:00	152	545	93	368	334	1,252	68	266	486	1,797	161	634
08:15	134		108		338		68		472		176	
08:30	127		82		296		66		423		148	
08:45	132		85		284		64		416		149	
09:00	146	490	88	300	208	768	48	187	354	1,258	136	487
09:15	106		80		202		54		308		134	
09:30	120		72		178		48		298		120	
09:45	118		60		180		37		298		97	
10:00	116	472	82	214	152	632	31	105	268	1,104	113	319
10:15	106		49		176		17		282		66	
10:30	126		50		132		25		258		75	
10:45	124		33		172		32		296		65	
11:00	138	622	45	154	179	768	19	62	317	1,390	64	216
11:15	136		34		169		11		305		45	
11:30	178		44		228		19		406		63	
11:45	170		31		192		13		362		44	
Totals	3,223		13,226		6,020		6,314		9,243		19,540	
Split%	34.9		67.7		65.1		32.3					
Day Totals		16,449				12,334				28,783		
Day Splits		57.1				42.9						
Peak Hour	11:00		05:15		07:45		12:00		07:45		05:00	
Volume	622		2,460		1,387		922		1,965		3,244	
Factor	0.87		0.97		0.83		0.94		0.84		0.96	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Redhill Avenue
B/ Deere Avenue - Barranca Parkway / Dyer Road

File Name 272
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/16/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	236			2	214				
12:15	14	195			7	197				
12:30	20	303			9	175				
12:45	8	247	50	981	8	171	26	757	76	1738
1:00	13	292			7	144				
1:15	14	303			3	163				
1:30	7	489			8	171				
1:45	7	321	41	1405	9	154	27	632	68	2037
2:00	8	485			5	125				
2:15	7	363			13	134				
2:30	11	566			28	118				
2:45	10	415	36	1829	24	143	70	520	106	2349
3:00	8	576			39	147				
3:15	14	448			38	116				
3:30	18	617			90	131				
3:45	12	576	52	2217	93	147	260	541	312	2758
4:00	24	672			71	200				
4:15	20	532			80	156				
4:30	30	636			137	181				
4:45	46	629	120	2469	190	133	478	670	598	3139
5:00	99	643			135	116				
5:15	51	571			140	113				
5:30	62	433			158	112				
5:45	69	301	281	1948	250	113	683	454	964	2402
6:00	73	246			234	77				
6:15	100	163			273	74				
6:30	108	105			350	65				
6:45	139	202	420	716	392	66	1249	282	1669	998
7:00	137	102			323	56				
7:15	152	102			365	53				
7:30	140	82			317	51				
7:45	133	52	562	338	331	51	1336	211	1898	549
8:00	119	110			220	48				
8:15	101	71			199	27				
8:30	142	56			159	35				
8:45	120	51	482	288	168	30	746	140	1228	428
9:00	126	96			138	31				
9:15	103	48			126	32				
9:30	132	61			135	29				
9:45	119	30	480	235	108	17	507	109	987	344
10:00	162	37			127	16				
10:15	181	34			131	9				
10:30	233	51			169	8				
10:45	193	29	769	151	169	9	596	42	1365	193
11:00	239	28			185	13				
11:15	232	17			176	8				
11:30	219	24			194	5				
11:45	201	7	891	76	221	6	776	32	1667	108
Totals	4184	12653			6754	4390				
Combined Totals		16837				11144				
ADT										27981
AM Peak Hour	1030	AM			630	AM				
Volume	897				1430					
P.H.F.	0.938				0.912					
PM Peak Hour		430	PM			1200	PM			
Volume		2479				757				
P.H.F.		0.964				0.884				
Percentage	24.9%	75.1%			60.6%	39.4%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

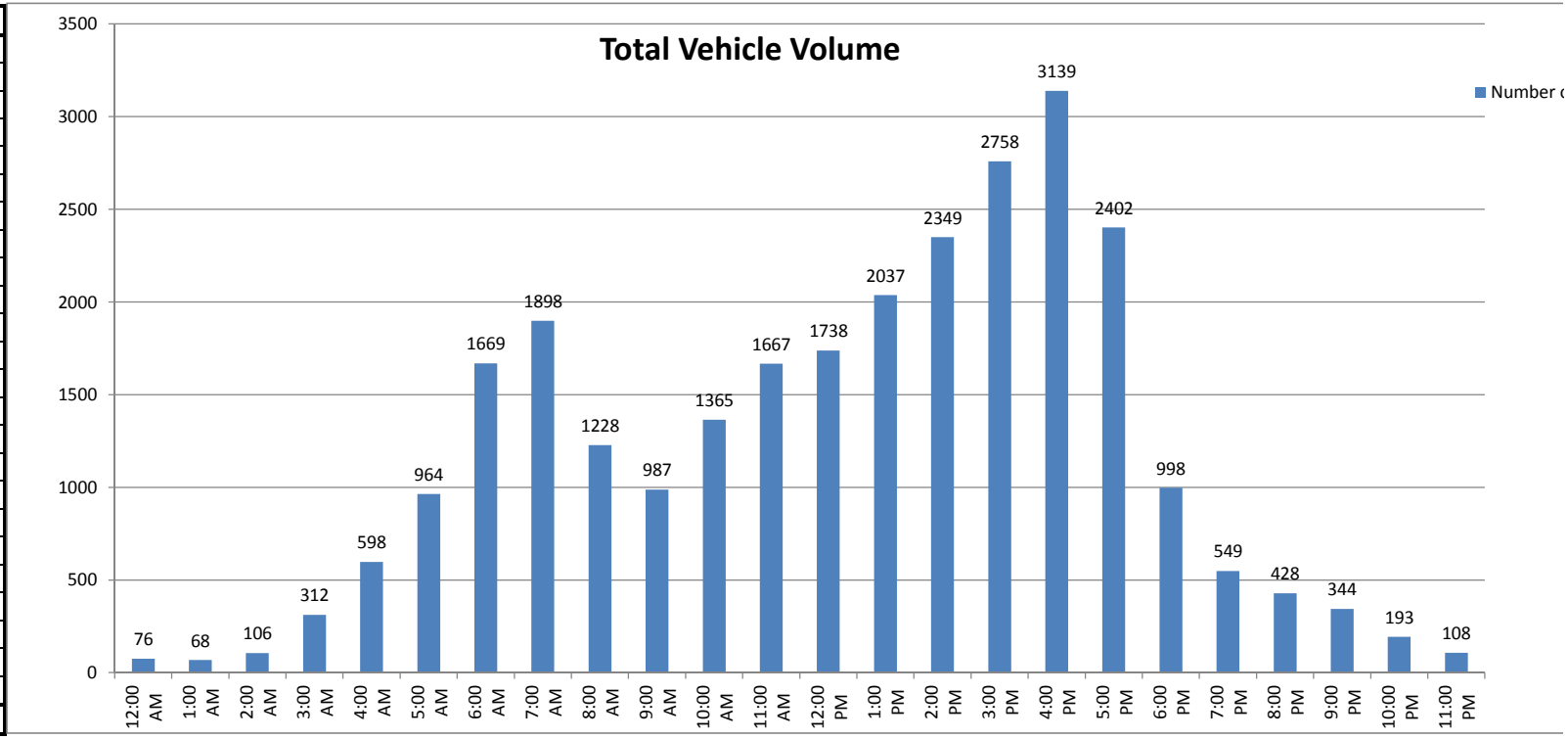
Redhill Avenue

B/ Deere Avenue - Barranca Parkway / Dyer Road

4/16/2014

Southbound

Start Time	4/16/2014
12:00 AM	76
1:00 AM	68
2:00 AM	106
3:00 AM	312
4:00 AM	598
5:00 AM	964
6:00 AM	1669
7:00 AM	1898
8:00 AM	1228
9:00 AM	987
10:00 AM	1365
11:00 AM	1667
12:00 PM	1738
1:00 PM	2037
2:00 PM	2349
3:00 PM	2758
4:00 PM	3139
5:00 PM	2402
6:00 PM	998
7:00 PM	549
8:00 PM	428
9:00 PM	344
10:00 PM	193
11:00 PM	108
Total	27981



Volumes represent the combined totals for both directions

Phone: 951-268-6268
counts@countsunlimited.com
Phone: 951-268-6268

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : KENSINGTON PARK DRIVE
Segment : S/O EDINGER AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14
Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	1	9	18	103	2	12	32	119	3	21	50	222
12:15	1		32		6		32		7		64	
12:30	1		21		2		33		3		54	
12:45	6		32		2		22		8		54	
01:00	0	1	28	109	4	6	26	108	4	7	54	217
01:15	1		23		1		30		2		53	
01:30	0		32		1		28		1		60	
01:45	0		26		0		24		0		50	
02:00	0	2	32	125	0	2	29	135	0	4	61	260
02:15	0		41		1		26		1		67	
02:30	1		24		0		37		1		61	
02:45	1		28		1		43		2		71	
03:00	0	4	39	144	1	7	38	169	1	11	77	313
03:15	2		39		1		46		3		85	
03:30	0		40		2		44		2		84	
03:45	2		26		3		41		5		67	
04:00	4	14	44	184	2	11	34	174	6	25	78	358
04:15	2		42		3		49		5		91	
04:30	3		43		2		50		5		93	
04:45	5		55		4		41		9		96	
05:00	3	25	60	220	1	22	82	282	4	47	142	502
05:15	5		56		4		64		9		120	
05:30	6		60		3		76		9		136	
05:45	11		44		14		60		25		104	
06:00	15	88	54	163	15	77	50	237	30	165	104	400
06:15	21		53		14		64		35		117	
06:30	34		37		22		58		56		95	
06:45	18		19		26		65		44		84	
07:00	31	177	23	81	23	119	42	160	54	296	65	241
07:15	52		24		32		38		84		62	
07:30	51		12		20		50		71		62	
07:45	43		22		44		30		87		52	
08:00	66	181	22	68	43	151	37	119	109	332	59	187
08:15	30		17		44		36		74		53	
08:30	35		12		29		26		64		38	
08:45	50		17		35		20		85		37	
09:00	38	109	17	52	27	90	23	88	65	199	40	140
09:15	23		15		19		26		42		41	
09:30	24		9		26		26		50		35	
09:45	24		11		18		13		42		24	
10:00	23	85	11	34	18	98	13	60	41	183	24	94
10:15	21		9		25		24		46		33	
10:30	15		8		30		12		45		20	
10:45	26		6		25		11		51		17	
11:00	26	109	5	13	20	112	8	30	46	221	13	43
11:15	22		0		22		2		44		2	
11:30	36		6		36		6		72		12	
11:45	25		2		34		14		59		16	
Totals	804		1,296		707		1,681		1,511		2,977	
Split%	53.2		43.5		46.8		56.5					
Day Totals		2,100				2,388				4,488		
Day Splits		46.8				53.2						
Peak Hour	07:15		04:45		07:45		05:00		07:15		05:00	
Volume	212		231		160		282		351		502	
Factor	0.80		0.96		0.91		0.86		0.81		0.88	

* Data File : D1405081

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : TUSTIN RANCH ROAD | Site: TUSTIN

Segment : 500' S/O WALNUT AVENUE | Date: 04/29/14

Client : CITY OF TUSTIN | Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	9	28	116	438	4	16	100	411	13	44	216	849
12:15	9		92		6		94		15		186	
12:30	4		112		3		116		7		228	
12:45	6		118		3		101		9		219	
01:00	3	8	119	484	2	5	120	406	5	13	239	890
01:15	1		111		0		98		1		209	
01:30	3		126		2		92		5		218	
01:45	1		128		1		96		2		224	
02:00	4	9	130	557	0	7	70	331	4	16	200	888
02:15	2		126		2		84		4		210	
02:30	1		163		0		83		1		246	
02:45	2		138		5		94		7		232	
03:00	1	2	163	697	0	18	104	422	1	20	267	1,119
03:15	1		150		3		98		4		248	
03:30	0		174		5		115		5		289	
03:45	0		210		10		105		10		315	
04:00	3	13	236	1,188	9	54	83	384	12	67	319	1,572
04:15	4		296		5		94		9		390	
04:30	1		293		10		112		11		405	
04:45	5		363		30		95		35		458	
05:00	6	34	438	1,710	22	190	108	484	28	224	546	2,194
05:15	9		453		34		120		43		573	
05:30	12		423		55		128		67		551	
05:45	7		396		79		128		86		524	
06:00	18	132	372	1,167	104	502	116	394	122	634	488	1,561
06:15	22		312		108		100		130		412	
06:30	32		250		116		100		148		350	
06:45	60		233		174		78		234		311	
07:00	42	247	158	495	154	1,055	74	268	196	1,302	232	763
07:15	60		122		222		82		282		204	
07:30	70		121		289		60		359		181	
07:45	75		94		390		52		465		146	
08:00	78	288	82	296	332	1,193	48	174	410	1,481	130	470
08:15	88		81		346		54		434		135	
08:30	60		80		296		42		356		122	
08:45	62		53		219		30		281		83	
09:00	60	220	74	218	200	609	39	130	260	829	113	348
09:15	50		42		138		32		188		74	
09:30	62		50		131		30		193		80	
09:45	48		52		140		29		188		81	
10:00	62	269	48	134	109	394	22	67	171	663	70	201
10:15	62		28		106		14		168		42	
10:30	61		34		80		15		141		49	
10:45	84		24		99		16		183		40	
11:00	65	343	34	96	90	351	15	43	155	694	49	139
11:15	80		25		82		13		162		38	
11:30	114		25		93		9		207		34	
11:45	84		12		86		6		170		18	
Totals	1,593		7,480		4,394		3,514		5,987		10,994	
Split%	26.6		68.0		73.4		32.0					
Day Totals		9,073				7,908				16,981		
Day Splits		53.4				46.6						
Peak Hour	10:45		05:00		07:45		05:15		07:30		05:00	
Volume	343		1,710		1,364		492		1,668		2,194	
Factor	0.75		0.94		0.87		0.96		0.90		0.96	

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location: : TUSTIN RANCH ROAD
Segment: : S/O VALENCIA AVENUE
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 04/29/14
Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	12	34	118	463	4	18	126	447	16	52	244	910
12:15	11		119		4		106		15		225	
12:30	5		102		6		122		11		224	
12:45	6		124		4		93		10		217	
01:00	3	16	124	498	1	7	109	401	4	23	233	899
01:15	7		102		2		99		9		201	
01:30	4		134		1		96		5		230	
01:45	2		138		3		97		5		235	
02:00	3	8	132	546	1	7	70	353	4	15	202	899
02:15	1		142		1		94		2		236	
02:30	2		128		2		97		4		225	
02:45	2		144		3		92		5		236	
03:00	1	7	128	665	0	20	100	394	1	27	228	1,059
03:15	1		171		3		108		4		279	
03:30	2		160		4		82		6		242	
03:45	3		206		13		104		16		310	
04:00	2	10	243	1,063	6	60	92	400	8	70	335	1,463
04:15	2		257		12		101		14		358	
04:30	2		264		8		101		10		365	
04:45	4		299		34		106		38		405	
05:00	2	16	339	1,503	28	201	98	430	30	217	437	1,933
05:15	4		385		38		114		42		499	
05:30	4		387		64		114		68		501	
05:45	6		392		71		104		77		496	
06:00	22	100	334	1,073	90	461	88	369	112	561	422	1,442
06:15	14		297		100		92		114		389	
06:30	24		258		142		92		166		350	
06:45	40		184		129		97		169		281	
07:00	42	173	162	520	172	977	89	289	214	1,150	251	809
07:15	38		126		236		74		274		200	
07:30	49		116		250		65		299		181	
07:45	44		116		319		61		363		177	
08:00	60	228	114	347	293	1,066	35	153	353	1,294	149	500
08:15	48		75		292		51		340		126	
08:30	72		92		251		40		323		132	
08:45	48		66		230		27		278		93	
09:00	60	244	71	232	174	553	36	115	234	797	107	347
09:15	70		67		128		35		198		102	
09:30	63		55		136		26		199		81	
09:45	51		39		115		18		166		57	
10:00	46	233	30	126	111	429	19	57	157	662	49	183
10:15	50		31		109		15		159		46	
10:30	73		38		114		17		187		55	
10:45	64		27		95		6		159		33	
11:00	68	309	32	82	106	421	7	29	174	730	39	111
11:15	88		21		96		8		184		29	
11:30	78		19		116		10		194		29	
11:45	75		10		103		4		178		14	
Totals	1,378		7,118		4,220		3,437		5,598		10,555	
Split%	24.6		67.4		75.4		32.6					
Day Totals		8,496				7,657				16,153		
Day Splits		52.6				47.4						
Peak Hour	11:00		05:00		07:45		12:00		07:45		05:00	
Volume	309		1,503		1,155		447		1,379		1,933	
Factor	0.88		0.96		0.91		0.89		0.95		0.96	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : TUSTIN RANCH ROAD — Site: TUSTIN

Segment : PARK AVE TO BARRANCA PKWY — Date: 04/29/14

Client : CITY OF TUSTIN — Day: Tuesday

Interval	SB				NB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	3	16	158	851	10	18	251	895	13	34	409	1,746
12:15	5		201		4		228		9		429	
12:30	6		242		2		226		8		468	
12:45	2		250		2		190		4		440	
01:00	5	8	262	933	1	4	198	699	6	12	460	1,632
01:15	1		245		1		180		2		425	
01:30	1		216		2		182		3		398	
01:45	1		210		0		139		1		349	
02:00	1	5	165	619	2	10	125	606	3	15	290	1,225
02:15	1		176		2		142		3		318	
02:30	2		124		4		176		6		300	
02:45	1		154		2		163		3		317	
03:00	0	9	158	571	1	7	161	735	1	16	319	1,306
03:15	4		102		0		195		4		297	
03:30	1		153		0		169		1		322	
03:45	4		158		6		210		10		368	
04:00	4	27	120	514	6	26	236	1,178	10	53	356	1,692
04:15	3		134		2		299		5		433	
04:30	6		132		6		313		12		445	
04:45	14		128		12		330		26		458	
05:00	17	126	118	544	4	40	414	1,571	21	166	532	2,115
05:15	30		118		4		386		34		504	
05:30	29		154		6		398		35		552	
05:45	50		154		26		373		76		527	
06:00	64	383	119	470	18	128	309	1,052	82	511	428	1,522
06:15	68		127		42		308		110		435	
06:30	95		112		32		243		127		355	
06:45	156		112		36		192		192		304	
07:00	171	1,150	116	439	19	134	174	529	190	1,284	290	968
07:15	250		108		34		150		284		258	
07:30	303		100		42		106		345		206	
07:45	426		115		39		99		465		214	
08:00	504	1,626	86	385	44	201	86	273	548	1,827	172	658
08:15	460		116		52		84		512		200	
08:30	372		93		55		53		427		146	
08:45	290		90		50		50		340		140	
09:00	229	679	68	210	48	245	53	147	277	924	121	357
09:15	148		50		66		45		214		95	
09:30	160		52		56		25		216		77	
09:45	142		40		75		24		217		64	
10:00	109	434	38	109	82	369	22	71	191	803	60	180
10:15	125		30		82		22		207		52	
10:30	96		26		103		15		199		41	
10:45	104		15		102		12		206		27	
11:00	112	525	17	62	149	734	9	56	261	1,259	26	118
11:15	116		16		170		12		286		28	
11:30	150		16		198		23		348		39	
11:45	147		13		217		12		364		25	
Totals	4,988		5,707		1,916		7,812		6,904		13,519	
Split%	72.2		42.2		27.8		57.8					
Day Totals		10,695				9,728				20,423		
Day Splits		52.4				47.6						
Peak Hour	07:45		12:30		11:00		05:00		07:45		05:00	
Volume	1,762		999		734		1,571		1,952		2,115	
Factor	0.87		0.95		0.85		0.95		0.89		0.96	

* Data File : D1405013

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Von Karman Avenue
B/ Alton Parkway - Barranca Parkway

File Name 312
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/6/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	13	217			10	169				
12:15	8	212			6	223				
12:30	13	237			4	267				
12:45	8	200	42	866	2	292	22	951	64	1817
1:00	15	216			4	255				
1:15	7	187			2	251				
1:30	8	198			7	252				
1:45	5	181	35	782	2	217	15	975	50	1757
2:00	8	201			3	164				
2:15	4	199			6	203				
2:30	7	297			4	198				
2:45	3	200	22	897	6	188	19	753	41	1650
3:00	5	256			3	159				
3:15	7	221			4	157				
3:30	8	330			13	167				
3:45	14	281	34	1088	21	160	41	643	75	1731
4:00	11	371			17	153				
4:15	13	360			18	157				
4:30	26	441			34	151				
4:45	44	422	94	1594	77	138	146	599	240	2193
5:00	27	475			47	135				
5:15	25	402			60	178				
5:30	43	418			96	142				
5:45	78	410	173	1705	166	129	369	584	542	2289
6:00	53	397			95	117				
6:15	61	333			108	94				
6:30	74	310			161	114				
6:45	92	261	280	1301	269	120	633	445	913	1746
7:00	114	214			280	117				
7:15	99	173			366	107				
7:30	112	132			472	72				
7:45	112	110	437	629	553	77	1671	373	2108	1002
8:00	104	86			535	60				
8:15	117	98			493	73				
8:30	116	83			447	52				
8:45	113	78	450	345	447	59	1922	244	2372	589
9:00	106	69			287	61				
9:15	89	54			244	53				
9:30	104	63			193	35				
9:45	106	75	405	261	201	39	925	188	1330	449
10:00	106	48			152	37				
10:15	113	42			127	34				
10:30	114	45			127	29				
10:45	110	24	443	159	108	21	514	121	957	280
11:00	190	36			142	24				
11:15	191	15			140	13				
11:30	225	28			155	21				
11:45	239	19	845	98	193	14	630	72	1475	170
Totals	3260	9725			6907	5948				
Combined Totals		12985				12855				
ADT										25840
AM Peak Hour	1100	AM			730	AM				
Volume	845				2053					
P.H.F.	0.884				0.928					
PM Peak Hour		430	PM			1230	PM			
Volume		1740				1065				
P.H.F.		0.916				0.912				
Percentage	25.1%	74.9%			53.7%	46.3%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

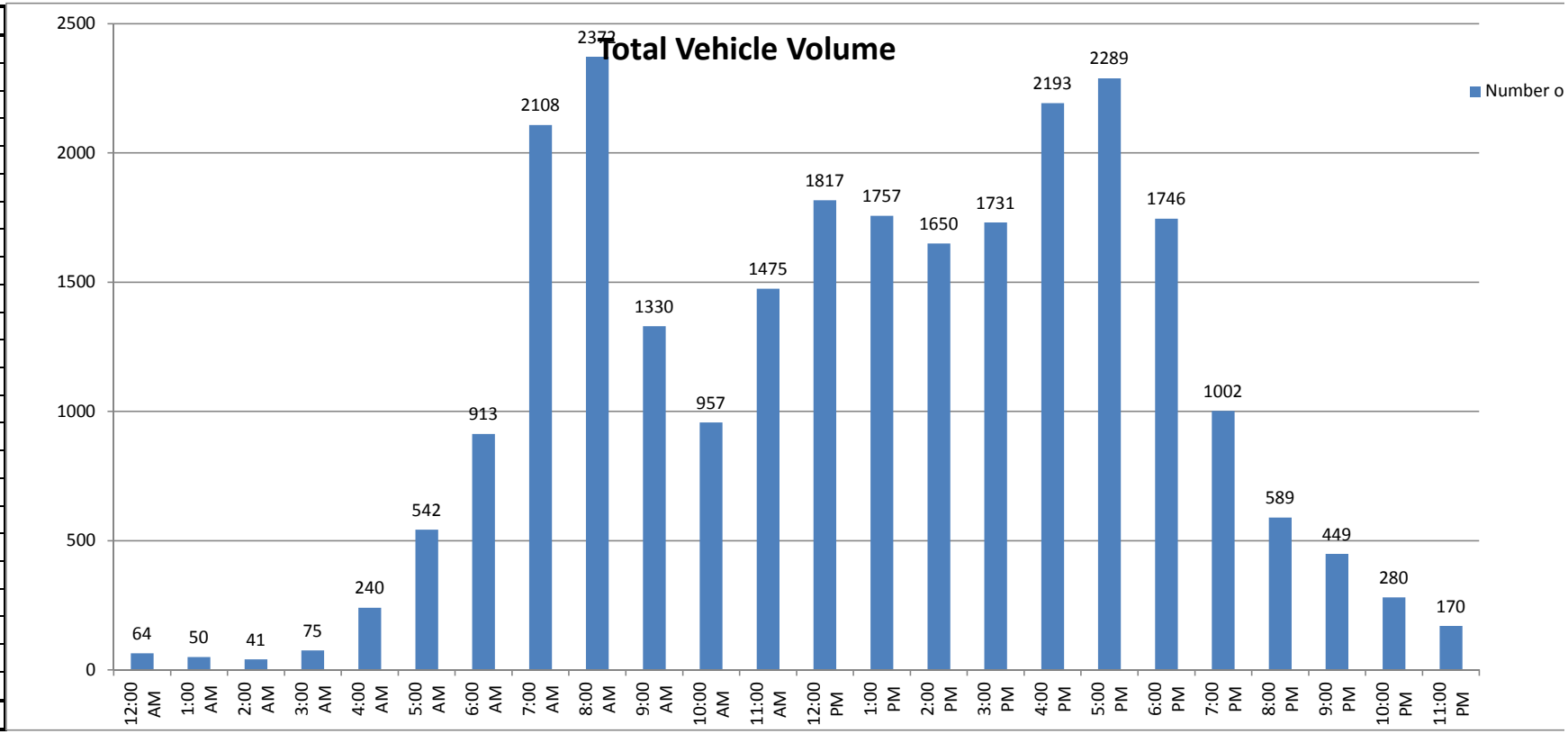
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Von Karman Avenue
B/ Alton Parkway - Barranca Parkway
3/6/2014

Southbound

Start Time	3/6/2014
12:00 AM	64
1:00 AM	50
2:00 AM	41
3:00 AM	75
4:00 AM	240
5:00 AM	542
6:00 AM	913
7:00 AM	2108
8:00 AM	2372
9:00 AM	1330
10:00 AM	957
11:00 AM	1475
12:00 PM	1817
1:00 PM	1757
2:00 PM	1650
3:00 PM	1731
4:00 PM	2193
5:00 PM	2289
6:00 PM	1746
7:00 PM	1002
8:00 PM	589
9:00 PM	449
10:00 PM	280
11:00 PM	170
Total	25840



Volumes represent the combined totals for both directions

Phone: 951-268-6268
counts@countsunlimited.com
Fax: 951-268-6267

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location: : PARK AVENUE
Segment: : N/O WARNER AVENUE
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 06/05/14
Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	3	4	32	107	10	36	176	658	13	40	208	765
12:15	0		28		14		158		14		186	
12:30	0		17		10		152		10		169	
12:45	1		30		2		172		3		202	
01:00	1	1	32	104	8	52	170	684	9	53	202	788
01:15	0		21		22		192		22		213	
01:30	0		30		14		176		14		206	
01:45	0		21		8		146		8		167	
02:00	0	0	22	90	8	45	156	656	8	45	178	746
02:15	0		27		12		152		12		179	
02:30	0		20		6		172		6		192	
02:45	0		21		19		176		19		197	
03:00	0	1	17	51	6	54	174	721	6	55	191	772
03:15	0		16		12		176		12		192	
03:30	1		10		14		180		15		190	
03:45	0		8		22		191		22		199	
04:00	1	1	19	66	27	154	145	670	28	155	164	736
04:15	0		23		31		172		31		195	
04:30	0		12		54		168		54		180	
04:45	0		12		42		185		42		197	
05:00	1	12	26	67	64	324	189	715	65	336	215	782
05:15	2		13		54		148		56		161	
05:30	5		14		98		204		103		218	
05:45	4		14		108		174		112		188	
06:00	13	66	12	57	99	417	152	581	112	483	164	638
06:15	19		20		112		159		131		179	
06:30	18		10		100		132		118		142	
06:45	16		15		106		138		122		153	
07:00	12	50	9	50	131	722	102	426	143	772	111	476
07:15	12		16		164		111		176		127	
07:30	12		12		176		98		188		110	
07:45	14		13		251		115		265		128	
08:00	12	49	12	53	246	899	98	333	258	948	110	386
08:15	10		11		244		92		254		103	
08:30	16		17		201		71		217		88	
08:45	11		13		208		72		219		85	
09:00	10	43	10	27	133	623	43	174	143	666	53	201
09:15	5		8		156		58		161		66	
09:30	16		7		158		44		174		51	
09:45	12		2		176		29		188		31	
10:00	14	77	3	7	150	674	40	115	164	751	43	122
10:15	25		1		170		27		195		28	
10:30	18		1		178		32		196		33	
10:45	20		2		176		16		196		18	
11:00	20	85	1	6	196	752	16	53	216	837	17	59
11:15	18		0		180		12		198		12	
11:30	21		3		182		14		203		17	
11:45	26		2		194		11		220		13	
Totals	389		685		4,752		5,786		5,141		6,471	
Split%	7.6		10.6		92.4		89.4					
Day Totals		1,074				10,538				11,612		
Day Splits		9.2				90.8						
Peak Hour	11:00		12:45		07:45		04:45		07:45		12:45	
Volume	85		113		942		726		994		823	
Factor	0.82		0.88		0.94		0.89		0.94		0.97	

* Data File : D1405086

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location: : PARK AVENUE
Segment: : S/O WARNER AVENUE
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 06/05/14
Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	6	35	148	588	2	11	173	632	8	46	321	1,220
12:15	12		140		7		166		19		306	
12:30	10		138		0		150		10		288	
12:45	7		162		2		143		9		305	
01:00	5	17	171	642	1	6	138	569	6	23	309	1,211
01:15	1		151		0		170		1		321	
01:30	7		170		4		127		11		297	
01:45	4		150		1		134		5		284	
02:00	0	0	166	600	0	9	109	488	0	9	275	1,088
02:15	0		144		0		128		0		272	
02:30	0		146		1		121		1		267	
02:45	0		144		8		130		8		274	
03:00	0	3	100	430	3	13	119	509	3	16	219	939
03:15	0		108		1		123		1		231	
03:30	2		104		0		121		2		225	
03:45	1		118		9		146		10		264	
04:00	2	14	120	495	5	63	125	489	7	77	245	984
04:15	0		134		12		113		12		247	
04:30	4		122		22		115		26		237	
04:45	8		119		24		136		32		255	
05:00	6	17	138	547	12	57	110	541	18	74	248	1,088
05:15	6		140		9		127		15		267	
05:30	1		133		6		162		7		295	
05:45	4		136		30		142		34		278	
06:00	23	113	163	581	32	180	136	517	55	293	299	1,098
06:15	26		140		48		137		74		277	
06:30	28		151		46		136		74		287	
06:45	36		127		54		108		90		235	
07:00	27	122	132	552	63	276	126	497	90	398	258	1,049
07:15	29		132		58		133		87		265	
07:30	28		132		74		119		102		251	
07:45	38		156		81		119		119		275	
08:00	52	198	129	541	102	352	102	316	154	550	231	857
08:15	64		144		90		90		154		234	
08:30	39		132		84		64		123		196	
08:45	43		136		76		60		119		196	
09:00	44	198	119	347	71	429	48	146	115	627	167	493
09:15	38		104		102		52		140		156	
09:30	53		79		102		30		155		109	
09:45	63		45		154		16		217		61	
10:00	71	309	46	160	146	561	18	43	217	870	64	203
10:15	82		27		134		8		216		35	
10:30	72		39		142		10		214		49	
10:45	84		48		139		7		223		55	
11:00	96	403	36	109	177	687	8	20	273	1,090	44	129
11:15	82		13		142		5		224		18	
11:30	90		46		196		2		286		48	
11:45	135		14		172		5		307		19	
Totals	1,429		5,592		2,644		4,767		4,073		10,359	
Split%	35.1		54.0		64.9		46.0					
Day Totals		7,021				7,411				14,432		
Day Splits		48.6				51.4						
Peak Hour	11:00		12:45		11:00		12:00		11:00		12:45	
Volume	403		654		687		632		1,090		1,232	
Factor	0.75		0.96		0.88		0.91		0.89		0.96	

* Data File : D1405085

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : PARK AVENUE — Site: TUSTIN

Segment : S/O TUSTIN RANCH ROAD — Date: 05/29/14

Client : CITY OF TUSTIN — Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	7	30	122	675	2	4	172	566	9	34	294	1,241
12:15	6		160		1		146		7		306	
12:30	4		166		0		137		4		303	
12:45	13		227		1		111		14		338	
01:00	1	10	190	681	1	3	112	418	2	13	302	1,099
01:15	1		182		2		120		3		302	
01:30	6		160		0		104		6		264	
01:45	2		149		0		82		2		231	
02:00	0	2	142	477	0	1	98	327	0	3	240	804
02:15	2		126		0		66		2		192	
02:30	0		104		0		85		0		189	
02:45	0		105		1		78		1		183	
03:00	2	3	90	341	1	19	99	313	3	22	189	654
03:15	1		84		2		81		3		165	
03:30	0		79		9		70		9		149	
03:45	0		88		7		63		7		151	
04:00	0	3	89	350	2	16	96	376	2	19	185	726
04:15	1		107		3		84		4		191	
04:30	1		84		2		83		3		167	
04:45	1		70		9		113		10		183	
05:00	0	7	80	365	0	16	106	450	0	23	186	815
05:15	0		90		4		110		4		200	
05:30	6		104		4		104		10		208	
05:45	1		91		8		130		9		221	
06:00	10	40	87	386	8	43	134	465	18	83	221	851
06:15	9		105		8		136		17		241	
06:30	4		97		12		107		16		204	
06:45	17		97		15		88		32		185	
07:00	10	65	98	453	10	68	75	278	20	133	173	731
07:15	16		124		13		66		29		190	
07:30	20		123		22		76		42		199	
07:45	19		108		23		61		42		169	
08:00	24	100	97	424	34	138	66	200	58	238	163	624
08:15	22		98		41		59		63		157	
08:30	30		124		26		36		56		160	
08:45	24		105		37		39		61		144	
09:00	25	155	73	266	43	202	25	71	68	357	98	337
09:15	35		87		45		21		80		108	
09:30	50		60		51		14		101		74	
09:45	45		46		63		11		108		57	
10:00	34	212	44	130	54	246	6	18	88	458	50	148
10:15	54		42		62		5		116		47	
10:30	56		33		54		3		110		36	
10:45	68		11		76		4		144		15	
11:00	50	349	21	101	100	564	2	12	150	913	23	113
11:15	83		22		126		2		209		24	
11:30	100		31		150		3		250		34	
11:45	116		27		188		5		304		32	
Totals	976		4,649		1,320		3,494		2,296		8,143	
Split%	42.5		57.1		57.5		42.9					
Day Totals		5,625				4,814				10,439		
Day Splits		53.9				46.1						
Peak Hour	11:00		12:30		11:00		12:00		11:00		12:15	
Volume	349		765		564		566		913		1,249	
Factor	0.75		0.84		0.75		0.82		0.75		0.92	

* Data File : D1405084

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : DISTRICT DRIVE — Site: TUSTIN

Segment : N/O BARRANCA PARKWAY — Date: 05/21/14

Client : CITY OF TUSTIN — Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	5	25	325	1,181	32	77	202	897	37	102	527	2,078
12:15	8		328		13		207		21		535	
12:30	9		257		20		244		29		501	
12:45	3		271		12		244		15		515	
01:00	2	9	246	911	5	22	232	889	7	31	478	1,800
01:15	2		260		3		228		5		488	
01:30	2		192		12		221		14		413	
01:45	3		213		2		208		5		421	
02:00	1	8	194	731	4	9	190	745	5	17	384	1,476
02:15	1		178		3		185		4		363	
02:30	5		186		0		200		5		386	
02:45	1		173		2		170		3		343	
03:00	3	7	162	716	4	6	185	656	7	13	347	1,372
03:15	1		166		0		154		1		320	
03:30	1		188		0		168		1		356	
03:45	2		200		2		149		4		349	
04:00	1	26	166	710	2	10	152	548	3	36	318	1,258
04:15	1		176		2		136		3		312	
04:30	5		172		3		136		8		308	
04:45	19		196		3		124		22		320	
05:00	6	53	190	816	2	17	146	571	8	70	336	1,387
05:15	10		202		4		151		14		353	
05:30	11		208		3		132		14		340	
05:45	26		216		8		142		34		358	
06:00	18	88	252	835	18	97	146	604	36	185	398	1,439
06:15	20		236		22		149		42		385	
06:30	18		179		30		162		48		341	
06:45	32		168		27		147		59		315	
07:00	39	162	194	700	44	209	168	627	83	371	362	1,327
07:15	32		190		59		151		91		341	
07:30	44		162		50		150		94		312	
07:45	47		154		56		158		103		312	
08:00	52	276	125	486	61	263	182	659	113	539	307	1,145
08:15	84		132		67		164		151		296	
08:30	70		122		77		162		147		284	
08:45	70		107		58		151		128		258	
09:00	72	404	86	266	68	276	161	465	140	680	247	731
09:15	96		70		78		132		174		202	
09:30	104		57		60		78		164		135	
09:45	132		53		70		94		202		147	
10:00	133	646	21	84	64	415	86	260	197	1,061	107	344
10:15	150		26		103		64		253		90	
10:30	174		21		94		50		268		71	
10:45	189		16		154		60		343		76	
11:00	198	977	16	52	138	633	57	139	336	1,610	73	191
11:15	215		14		172		28		387		42	
11:30	266		10		153		32		419		42	
11:45	298		12		170		22		468		34	
Totals	2,681		7,488		2,034		7,060		4,715		14,548	
Split%	56.9		51.5		43.1		48.5					
Day Totals		10,169				9,094				19,263		
Day Splits		52.8				47.2						
Peak Hour	11:00		12:00		11:00		12:30		11:00		12:00	
Volume	977		1,181		633		948		1,610		2,078	
Factor	0.82		0.90		0.92		0.97		0.86		0.97	

* Data File : D1405065

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location: : JAMBOREE ROAD
Segment: : EDINGER AVE TO WALNUT AVE
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 06/05/14
Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	62	231	448	1,808	44	151	454	1,779	106	382	902	3,587
12:15	60		424		43		442		103		866	
12:30	56		437		38		411		94		848	
12:45	53		499		26		472		79		971	
01:00	35	111	530	2,105	26	103	364	1,621	61	214	894	3,726
01:15	13		477		23		416		36		893	
01:30	27		522		36		450		63		972	
01:45	36		576		18		391		54		967	
02:00	16	75	539	2,404	14	73	427	1,657	30	148	966	4,061
02:15	26		588		20		386		46		974	
02:30	20		621		8		400		28		1,021	
02:45	13		656		31		444		44		1,100	
03:00	23	73	625	2,934	17	104	387	1,621	40	177	1,012	4,555
03:15	20		714		24		420		44		1,134	
03:30	16		751		23		376		39		1,127	
03:45	14		844		40		438		54		1,282	
04:00	18	118	888	3,783	47	327	380	1,629	65	445	1,268	5,412
04:15	22		946		54		392		76		1,338	
04:30	35		984		97		404		132		1,388	
04:45	43		965		129		453		172		1,418	
05:00	41	260	1,103	4,495	142	1,023	452	1,886	183	1,283	1,555	6,381
05:15	57		1,158		203		466		260		1,624	
05:30	84		1,150		300		466		384		1,616	
05:45	78		1,084		378		502		456		1,586	
06:00	124	730	1,158	3,892	376	2,044	424	1,646	500	2,774	1,582	5,538
06:15	148		1,128		426		454		574		1,582	
06:30	192		898		511		376		703		1,274	
06:45	266		708		731		392		997		1,100	
07:00	262	1,171	544	1,938	706	3,917	288	1,118	968	5,088	832	3,056
07:15	264		518		917		308		1,181		826	
07:30	288		462		1,088		260		1,376		722	
07:45	357		414		1,206		262		1,563		676	
08:00	350	1,454	416	1,537	1,142	4,463	254	928	1,492	5,917	670	2,465
08:15	398		388		1,190		246		1,588		634	
08:30	354		395		1,070		230		1,424		625	
08:45	352		338		1,061		198		1,413		536	
09:00	308	1,200	350	1,191	864	2,759	184	650	1,172	3,959	534	1,841
09:15	300		309		708		190		1,008		499	
09:30	274		296		629		152		903		448	
09:45	318		236		558		124		876		360	
10:00	286	1,287	238	798	486	1,893	141	451	772	3,180	379	1,249
10:15	342		213		489		132		831		345	
10:30	303		173		480		102		783		275	
10:45	356		174		438		76		794		250	
11:00	369	1,557	154	451	411	1,833	82	254	780	3,390	236	705
11:15	382		103		464		54		846		157	
11:30	386		104		492		68		878		172	
11:45	420		90		466		50		886		140	
Totals	8,267		27,336		18,690		15,240		26,957		42,576	
Split%	30.7		64.2		69.3		35.8					
Day Totals		35,603				33,930				69,533		
Day Splits		51.2				48.8						
Peak Hour	11:00		05:15		07:30		05:00		07:45		05:15	
Volume	1,557		4,550		4,626		1,886		6,067		6,408	
Factor	0.93		0.98		0.96		0.94		0.96		0.99	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : JAMBOREE FRONTAGE ROAD
Segment : EDINGER TO WALNUT
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14

Interval Day: Thursday

Begin	AM - NB		PM - NB	
12:00	11	27	64	314
12:15	7		106	
12:30	5		68	
12:45	4		76	
1:00	6	17	102	333
1:15	6		80	
1:30	3		72	
1:45	2		79	
2:00	3	7	72	357
2:15	2		109	
2:30	1		80	
2:45	1		96	
3:00	1	13	94	391
3:15	3		93	
3:30	8		100	
3:45	1		104	
4:00	5	31	132	534
4:15	6		140	
4:30	9		108	
4:45	11		154	
5:00	11	74	153	621
5:15	18		146	
5:30	20		182	
5:45	25		140	
6:00	34	224	150	558
6:15	46		170	
6:30	70		120	
6:45	74		118	
7:00	74	392	82	263
7:15	93		68	
7:30	126		59	
7:45	99		54	
8:00	134	441	62	227
8:15	90		53	
8:30	115		60	
8:45	102		52	
9:00	103	334	40	135
9:15	82		43	
9:30	80		25	
9:45	69		27	
10:00	64	277	29	96
10:15	62		32	
10:30	71		16	
10:45	80		19	
11:00	54	297	10	32
11:15	70		8	
11:30	83		7	
11:45	90		7	
Totals	2,134		3,861	
Peak Hour	7:15		5:30	
Volume	452		642	
Factor	0.84		0.88	
DayTotal	**5,995**			

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : JAMBOREE FRONTAGE ROAD
Segment : WALNUT TO EDINGER
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14

Interval Day: Thursday

Begin	AM - SB		PM - SB	
12:00	10	40	77	318
12:15	15		71	
12:30	5		86	
12:45	10		84	
1:00	3	12	90	285
1:15	5		65	
1:30	2		62	
1:45	2		68	
2:00	3	14	70	346
2:15	6		102	
2:30	5		78	
2:45	0		96	
3:00	1	7	133	505
3:15	0		126	
3:30	1		116	
3:45	5		130	
4:00	7	30	116	495
4:15	5		108	
4:30	10		134	
4:45	8		137	
5:00	6	111	159	573
5:15	32		140	
5:30	19		144	
5:45	54		130	
6:00	58	341	142	485
6:15	77		118	
6:30	100		131	
6:45	106		94	
7:00	138	728	124	369
7:15	152		88	
7:30	200		84	
7:45	238		73	
8:00	180	695	66	215
8:15	168		56	
8:30	175		49	
8:45	172		44	
9:00	126	397	58	191
9:15	97		57	
9:30	86		40	
9:45	88		36	
10:00	78	274	22	102
10:15	70		30	
10:30	64		26	
10:45	62		24	
11:00	65	265	23	82
11:15	68		21	
11:30	62		16	
11:45	70		22	
Totals	2,914		3,966	
Peak Hour	7:30		4:45	
Volume	786		580	
Factor	0.83		0.91	
DayTotal	**6,880**			

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location: : JAMBOREE ROAD
Segment: : WARNER AVE TO EDINGER AVE
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	56	209	460	1,886	17	76	492	1,983	73	285	952	3,869
12:15	60		484		16		497		76		981	
12:30	46		452		17		458		63		910	
12:45	47		490		26		536		73		1,026	
01:00	45	118	514	2,115	17	56	448	1,805	62	174	962	3,920
01:15	29		553		16		448		45		1,001	
01:30	22		532		13		447		35		979	
01:45	22		516		10		462		32		978	
02:00	14	76	534	2,322	18	61	426	1,211	32	137	960	3,533
02:15	31		564		10		354		41		918	
02:30	13		578		9		252		22		830	
02:45	18		646		24		179		42		825	
03:00	24	75	654	3,068	12	102	202	783	36	177	856	3,851
03:15	16		758		28		196		44		954	
03:30	12		731		26		205		38		936	
03:45	23		925		36		180		59		1,105	
04:00	16	99	910	3,905	18	224	274	971	34	323	1,184	4,876
04:15	15		963		33		271		48		1,234	
04:30	24		928		62		202		86		1,130	
04:45	44		1,104		111		224		155		1,328	
05:00	40	258	1,166	4,573	112	877	227	1,039	152	1,135	1,393	5,612
05:15	66		1,114		182		254		248		1,368	
05:30	52		1,134		251		276		303		1,410	
05:45	100		1,159		332		282		432		1,441	
06:00	132	806	1,064	3,778	361	1,921	282	890	493	2,727	1,346	4,668
06:15	176		1,117		408		256		584		1,373	
06:30	236		886		532		194		768		1,080	
06:45	262		711		620		158		882		869	
07:00	278	1,261	598	2,153	461	3,495	216	1,145	739	4,756	814	3,298
07:15	286		616		858		329		1,144		945	
07:30	325		497		1,038		318		1,363		815	
07:45	372		442		1,138		282		1,510		724	
08:00	318	1,398	415	1,416	1,212	4,561	221	794	1,530	5,959	636	2,210
08:15	378		332		1,176		196		1,554		528	
08:30	354		362		1,017		176		1,371		538	
08:45	348		307		1,156		201		1,504		508	
09:00	354	1,318	367	1,214	840	2,093	106	314	1,194	3,411	473	1,528
09:15	314		304		386		85		700		389	
09:30	310		284		451		62		761		346	
09:45	340		259		416		61		756		320	
10:00	358	1,381	210	719	521	2,048	58	237	879	3,429	268	956
10:15	315		221		506		64		821		285	
10:30	334		147		500		65		834		212	
10:45	374		141		521		50		895		191	
11:00	398	1,686	134	403	465	2,064	39	177	863	3,750	173	580
11:15	391		114		517		36		908		150	
11:30	396		89		511		46		907		135	
11:45	501		66		571		56		1,072		122	
Totals	8,685		27,552		17,578		11,349		26,263		38,901	
Split%	33.1		70.8		66.9		29.2					
Day Totals		36,237				28,927				65,164		
Day Splits		55.6				44.4						
Peak Hour	11:00		05:00		07:30		12:00		07:45		05:00	
Volume	1,686		4,573		4,564		1,983		5,965		5,612	
Factor	0.84		0.98		0.94		0.92		0.96		0.97	

Data File : D1405075

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : JAMBOREE ROAD
Segment : BARRANCA PKWY TO WARNER AVE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	52	179	394	1,432	32	94	361	1,468	84	273	755	2,900
12:15	48		330		22		365		70		695	
12:30	39		355		16		350		55		705	
12:45	40		353		24		392		64		745	
01:00	26	72	342	1,487	21	55	322	1,432	47	127	664	2,919
01:15	20		405		13		371		33		776	
01:30	15		358		13		387		28		745	
01:45	11		382		8		352		19		734	
02:00	21	59	388	1,818	18	37	348	1,356	39	96	736	3,174
02:15	12		443		4		314		16		757	
02:30	8		473		6		344		14		817	
02:45	18		514		9		350		27		864	
03:00	6	39	538	2,518	15	83	327	1,354	21	122	865	3,872
03:15	5		594		26		338		31		932	
03:30	10		665		14		334		24		999	
03:45	18		721		28		355		46		1,076	
04:00	8	69	788	3,370	22	236	370	1,443	30	305	1,158	4,813
04:15	13		792		40		366		53		1,158	
04:30	20		844		60		342		80		1,186	
04:45	28		946		114		365		142		1,311	
05:00	22	180	1,007	3,891	124	816	400	1,577	146	996	1,407	5,468
05:15	43		946		167		411		210		1,357	
05:30	36		951		227		386		263		1,337	
05:45	79		987		298		380		377		1,367	
06:00	91	529	975	3,120	316	1,917	380	1,488	407	2,446	1,355	4,608
06:15	136		893		388		392		524		1,285	
06:30	132		664		503		380		635		1,044	
06:45	170		588		710		336		880		924	
07:00	162	850	438	1,568	724	3,824	312	1,106	886	4,674	750	2,674
07:15	219		444		930		300		1,149		744	
07:30	212		348		1,060		268		1,272		616	
07:45	257		338		1,110		226		1,367		564	
08:00	245	1,007	317	1,054	1,066	4,138	189	777	1,311	5,145	506	1,831
08:15	248		216		1,028		196		1,276		412	
08:30	276		290		1,040		190		1,316		480	
08:45	238		231		1,004		202		1,242		433	
09:00	232	920	286	936	854	2,575	169	564	1,086	3,495	455	1,500
09:15	228		240		605		153		833		393	
09:30	224		216		616		122		840		338	
09:45	236		194		500		120		736		314	
10:00	234	988	185	550	433	1,615	114	392	667	2,603	299	942
10:15	234		143		386		130		620		273	
10:30	216		114		392		80		608		194	
10:45	304		108		404		68		708		176	
11:00	258	1,172	110	308	364	1,534	47	174	622	2,706	157	482
11:15	282		86		392		40		674		126	
11:30	290		64		384		46		674		110	
11:45	342		48		394		41		736		89	
Totals	6,064		22,052		16,924		13,131		22,988		35,183	
Split%	26.4		62.7		73.6		37.3					
Day Totals		28,116				30,055				58,171		
Day Splits		48.3				51.7						
Peak Hour	11:00		05:00		07:30		05:00		07:45		05:00	
Volume	1,172		3,891		4,264		1,577		5,270		5,468	
Factor	0.86		0.97		0.96		0.96		0.96		0.97	

* Data File : D1405074

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Jamboree Road
B/ Alton Parkway - Beckman Avenue

File Name 191
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/30/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	47	422			30	314				
12:15	46	418			35	367				
12:30	25	352			29	362				
12:45	40	375	158	1567	27	443	121	1486	279	3053
1:00	24	355			9	359				
1:15	16	424			9	358				
1:30	20	363			13	408				
1:45	17	368	77	1510	0	329	31	1454	108	2964
2:00	9	397			12	346				
2:15	21	443			10	316				
2:30	11	435			13	342				
2:45	15	481	56	1756	8	354	43	1358	99	3114
3:00	11	516			4	323				
3:15	10	547			16	304				
3:30	10	578			14	281				
3:45	15	617	46	2258	14	296	48	1204	94	3462
4:00	18	592			14	324				
4:15	18	715			24	296				
4:30	15	496			34	321				
4:45	33	669	84	2472	73	328	145	1269	229	3741
5:00	49	697			72	359				
5:15	43	737			96	395				
5:30	46	764			146	365				
5:45	83	764	221	2962	150	358	464	1477	685	4439
6:00	79	607			179	351				
6:15	133	716			245	355				
6:30	136	611			305	266				
6:45	145	528	493	2462	453	329	1182	1301	1675	3763
7:00	153	453			467	272				
7:15	153	395			557	268				
7:30	195	401			740	234				
7:45	225	308	726	1557	657	224	2421	998	3147	2555
8:00	218	286			786	210				
8:15	267	271			827	179				
8:30	247	246			751	163				
8:45	258	219	990	1022	786	196	3150	748	4140	1770
9:00	262	225			750	169				
9:15	225	218			619	185				
9:30	231	218			593	165				
9:45	238	192	956	853	561	123	2523	642	3479	1495
10:00	279	199			396	108				
10:15	244	114			374	100				
10:30	265	118			392	90				
10:45	256	101	1044	532	332	71	1494	369	2538	901
11:00	267	80			373	52				
11:15	320	55			341	60				
11:30	376	71			321	49				
11:45	346	43	1309	249	395	38	1430	199	2739	448
Totals	6160	19200			13052	12505				
Combined Totals		25360				25557				
ADT										50917
AM Peak Hour	1100	AM			800	AM				
Volume	1309				3150					
P.H.F.	0.870				0.952					
PM Peak Hour		500	PM			2445	PM			
Volume		2962				1568				
P.H.F.		0.969				0.885				
Percentage	24.3%	75.7%			51.1%	48.9%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

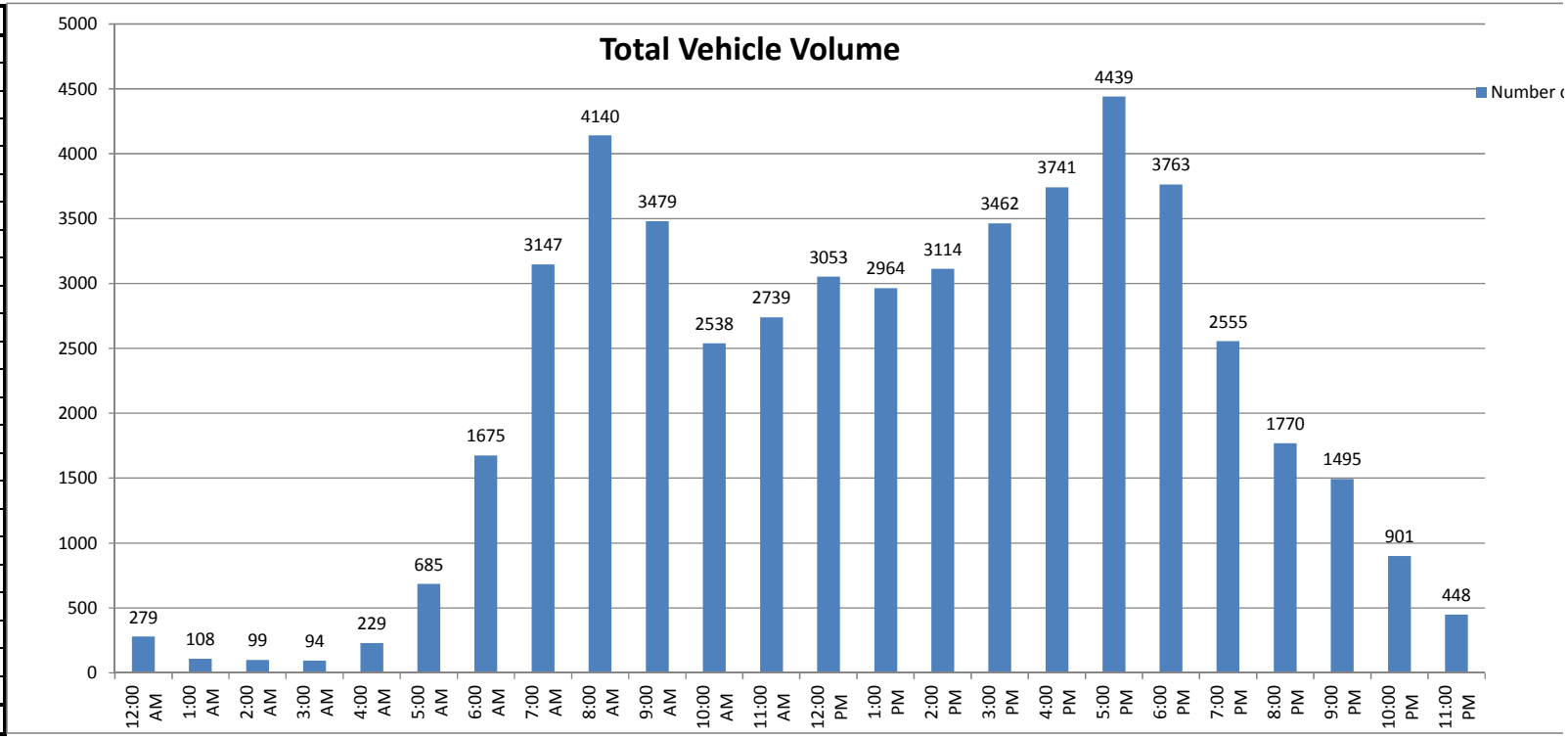
Jamboree Road

B/ Alton Parkway - Beckman Avenue

4/30/2014

Southbound

Start Time	4/30/2014
12:00 AM	279
1:00 AM	108
2:00 AM	99
3:00 AM	94
4:00 AM	229
5:00 AM	685
6:00 AM	1675
7:00 AM	3147
8:00 AM	4140
9:00 AM	3479
10:00 AM	2538
11:00 AM	2739
12:00 PM	3053
1:00 PM	2964
2:00 PM	3114
3:00 PM	3462
4:00 PM	3741
5:00 PM	4439
6:00 PM	3763
7:00 PM	2555
8:00 PM	1770
9:00 PM	1495
10:00 PM	901
11:00 PM	448
Total	50917



Volumes represent the combined totals for both directions

Phone: 951-268-6268
counts@countsunlimited.com
Phone: 951-268-6268

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : HARVARD AVENUE — Site: TUSTIN

Segment : N/O EDINGER AVE/ ICD — Date: 05/21/14

Client : CITY OF TUSTIN — Day: Wednesday

Interval	SB				NB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	3	9	63	228	10	22	70	262	13	31	133	490
12:15	3		57		2		52		5		109	
12:30	1		56		6		66		7		122	
12:45	2		52		4		74		6		126	
01:00	2	6	67	284	5	16	82	317	7	22	149	601
01:15	0		51		4		91		4		142	
01:30	2		96		3		76		5		172	
01:45	2		70		4		68		6		138	
02:00	1	4	74	352	3	7	64	253	4	11	138	605
02:15	2		89		2		70		4		159	
02:30	1		100		1		58		2		158	
02:45	0		89		1		61		1		150	
03:00	0	7	60	240	1	8	83	361	1	15	143	601
03:15	4		62		1		98		5		160	
03:30	0		64		6		80		6		144	
03:45	3		54		0		100		3		154	
04:00	1	12	62	267	0	5	108	446	1	17	170	713
04:15	0		68		1		118		1		186	
04:30	6		69		0		104		6		173	
04:45	5		68		4		116		9		184	
05:00	4	52	75	296	3	17	157	739	7	69	232	1,035
05:15	14		67		3		197		17		264	
05:30	18		76		5		191		23		267	
05:45	16		78		6		194		22		272	
06:00	23	147	100	305	10	58	178	548	33	205	278	853
06:15	26		68		5		154		31		222	
06:30	42		67		14		114		56		181	
06:45	56		70		29		102		85		172	
07:00	41	397	80	273	26	192	92	359	67	589	172	632
07:15	78		79		34		110		112		189	
07:30	122		55		48		86		170		141	
07:45	156		59		84		71		240		130	
08:00	163	495	40	200	58	237	56	303	221	732	96	503
08:15	122		56		68		88		190		144	
08:30	114		46		51		82		165		128	
08:45	96		58		60		77		156		135	
09:00	85	275	30	83	48	188	47	174	133	463	77	257
09:15	55		19		52		50		107		69	
09:30	67		16		47		49		114		65	
09:45	68		18		41		28		109		46	
10:00	48	225	25	65	42	175	38	133	90	400	63	198
10:15	54		23		55		44		109		67	
10:30	71		8		32		26		103		34	
10:45	52		9		46		25		98		34	
11:00	48	195	10	23	54	245	14	53	102	440	24	76
11:15	43		4		64		14		107		18	
11:30	56		5		68		12		124		17	
11:45	48		4		59		13		107		17	
Totals	1,824		2,616		1,170		3,948		2,994		6,564	
Split%	60.9		39.9		39.1		60.1					
Day Totals		4,440				5,118				9,558		
Day Splits		46.5				53.5						
Peak Hour	07:30		02:00		07:45		05:15		07:30		05:15	
Volume	563		352		261		760		821		1,081	
Factor	0.86		0.88		0.78		0.96		0.86		0.97	

* Data File : D1405073

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location: : HARVARD AVENUE | Site: TUSTIN

Segment: : PASEO WESTPARK TO EDINGER AVE | Date: 05/21/14

Client: : CITY OF TUSTIN | Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	9	17	77	325	3	17	76	310	12	34	153	635
12:15	3		78		6		78		9		156	
12:30	3		86		4		74		7		160	
12:45	2		84		4		82		6		166	
01:00	5	18	73	357	4	13	81	355	9	31	154	712
01:15	5		105		5		80		10		185	
01:30	6		93		2		96		8		189	
01:45	2		86		2		98		4		184	
02:00	3	9	76	338	5	9	78	316	8	18	154	654
02:15	1		106		2		96		3		202	
02:30	2		76		1		72		3		148	
02:45	3		80		1		70		4		150	
03:00	0	10	95	424	0	8	94	337	0	18	189	761
03:15	2		106		1		85		3		191	
03:30	6		102		1		84		7		186	
03:45	2		121		6		74		8		195	
04:00	2	15	124	555	0	5	78	333	2	20	202	888
04:15	3		132		2		78		5		210	
04:30	5		133		0		72		5		205	
04:45	5		166		3		105		8		271	
05:00	7	45	180	906	3	41	116	442	10	86	296	1,348
05:15	10		244		4		110		14		354	
05:30	12		244		13		108		25		352	
05:45	16		238		21		108		37		346	
06:00	16	102	210	680	20	117	137	411	36	219	347	1,091
06:15	22		194		17		100		39		294	
06:30	22		140		30		82		52		222	
06:45	42		136		50		92		92		228	
07:00	50	302	128	420	43	362	78	317	93	664	206	737
07:15	66		121		77		92		143		213	
07:30	78		95		98		74		176		169	
07:45	108		76		144		73		252		149	
08:00	110	371	56	264	168	515	53	227	278	886	109	491
08:15	86		61		132		72		218		133	
08:30	81		84		115		52		196		136	
08:45	94		63		100		50		194		113	
09:00	65	278	52	185	76	286	52	138	141	564	104	323
09:15	75		55		76		28		151		83	
09:30	70		52		74		28		144		80	
09:45	68		26		60		30		128		56	
10:00	52	218	35	117	64	233	26	88	116	451	61	205
10:15	54		35		48		24		102		59	
10:30	46		23		67		22		113		45	
10:45	66		24		54		16		120		40	
11:00	60	300	14	46	65	226	13	40	125	526	27	86
11:15	74		16		47		10		121		26	
11:30	88		6		50		9		138		15	
11:45	78		10		64		8		142		18	
Totals	1,685		4,617		1,832		3,314		3,517		7,931	
Split%	47.9		58.2		52.1		41.8					
Day Totals		6,302				5,146				11,448		
Day Splits		55.0				45.0						
Peak Hour	07:45		05:15		07:45		05:15		07:45		05:15	
Volume	385		936		559		463		944		1,399	
Factor	0.88		0.96		0.83		0.84		0.85		0.99	

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location: : HARVARD AVENUE
Segment: : N/O WARNER AVENUE
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	12	31	92	366	3	16	70	346	15	47	162	712
12:15	6		82		6		82		12		164	
12:30	11		96		4		68		15		164	
12:45	2		96		3		126		5		222	
01:00	9	27	82	407	2	4	95	414	11	31	177	821
01:15	4		128		1		102		5		230	
01:30	7		98		1		102		8		200	
01:45	7		99		0		115		7		214	
02:00	8	16	88	359	3	6	102	373	11	22	190	732
02:15	3		102		2		103		5		205	
02:30	2		76		1		76		3		152	
02:45	3		93		0		92		3		185	
03:00	0	12	104	494	0	6	99	356	0	18	203	850
03:15	3		140		1		105		4		245	
03:30	8		118		0		78		8		196	
03:45	1		132		5		74		6		206	
04:00	2	11	130	602	0	9	89	339	2	20	219	941
04:15	3		137		2		88		5		225	
04:30	2		162		2		66		4		228	
04:45	4		173		5		96		9		269	
05:00	4	37	221	1,039	4	68	112	436	8	105	333	1,475
05:15	8		269		13		112		21		381	
05:30	6		309		21		96		27		405	
05:45	19		240		30		116		49		356	
06:00	15	110	229	752	40	184	139	443	55	294	368	1,195
06:15	23		196		30		130		53		326	
06:30	26		170		50		82		76		252	
06:45	46		157		64		92		110		249	
07:00	36	216	146	628	76	574	74	272	112	790	220	900
07:15	44		160		104		76		148		236	
07:30	52		142		160		64		212		206	
07:45	84		180		234		58		318		238	
08:00	132	390	87	398	242	711	52	212	374	1,101	139	610
08:15	105		94		184		61		289		155	
08:30	75		124		141		47		216		171	
08:45	78		93		144		52		222		145	
09:00	69	271	94	315	119	388	48	128	188	659	142	443
09:15	79		94		101		30		180		124	
09:30	64		90		92		26		156		116	
09:45	59		37		76		24		135		61	
10:00	60	236	46	174	78	289	29	85	138	525	75	259
10:15	52		54		71		20		123		74	
10:30	48		32		74		21		122		53	
10:45	76		42		66		15		142		57	
11:00	58	328	30	75	80	273	15	39	138	601	45	114
11:15	80		20		62		8		142		28	
11:30	101		9		60		10		161		19	
11:45	89		16		71		6		160		22	
Totals	1,685		5,609		2,528		3,443		4,213		9,052	
Split%	40.0		62.0		60.0		38.0					
Day Totals		7,294				5,971				13,265		
Day Splits		55.0				45.0						
Peak Hour	07:45		05:15		07:30		05:30		07:45		05:15	
Volume	396		1,047		820		481		1,197		1,510	
Factor	0.75		0.85		0.85		0.87		0.80		0.93	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Harvard Avenue
B/ Barranca Parkway - Warner Avenue

File Name 131
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
2/19/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	108			3	72				
12:15	10	89			8	97				
12:30	9	92			8	107				
12:45	10	82	35	371	2	130	21	406	56	777
1:00	7	105			4	128				
1:15	7	138			3	122				
1:30	7	132			1	129				
1:45	5	108	26	483	1	119	9	498	35	981
2:00	3	91			2	119				
2:15	3	134			1	86				
2:30	6	95			1	104				
2:45	3	98	15	418	1	93	5	402	20	820
3:00	1	116			1	100				
3:15	4	157			0	104				
3:30	0	133			3	85				
3:45	4	150	9	556	4	93	8	382	17	938
4:00	2	184			2	95				
4:15	2	187			3	110				
4:30	3	244			6	89				
4:45	3	236	10	851	7	118	18	412	28	1263
5:00	3	272			12	119				
5:15	7	316			20	111				
5:30	6	326			19	136				
5:45	9	312	25	1226	26	109	77	475	102	1701
6:00	11	313			30	131				
6:15	14	255			34	125				
6:30	27	197			45	90				
6:45	37	147	89	912	62	85	171	431	260	1343
7:00	40	175			94	95				
7:15	50	152			123	88				
7:30	52	102			222	64				
7:45	76	88	218	517	247	79	686	326	904	843
8:00	89	95			247	55				
8:15	77	78			220	47				
8:30	59	76			201	55				
8:45	71	83	296	332	169	37	837	194	1133	526
9:00	66	81			154	45				
9:15	64	67			113	31				
9:30	56	80			124	30				
9:45	70	50	256	278	105	29	496	135	752	413
10:00	63	44			95	26				
10:15	71	44			75	31				
10:30	56	29			86	17				
10:45	69	26	259	143	74	13	330	87	589	230
11:00	81	15			69	10				
11:15	75	16			95	11				
11:30	83	17			103	6				
11:45	103	15	342	63	80	6	347	33	689	96
Totals	1580	6150			3005	3781				
Combined Totals		7730				6786				
ADT										14516
AM Peak Hour	1100	AM			730	AM				
Volume	342				936					
P.H.F.	0.830				0.947					
PM Peak Hour		515	PM			2445	PM			
Volume		1267				509				
P.H.F.		0.972				0.979				
Percentage	20.4%	79.6%			44.3%	55.7%				

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24 Hour Volume Plot

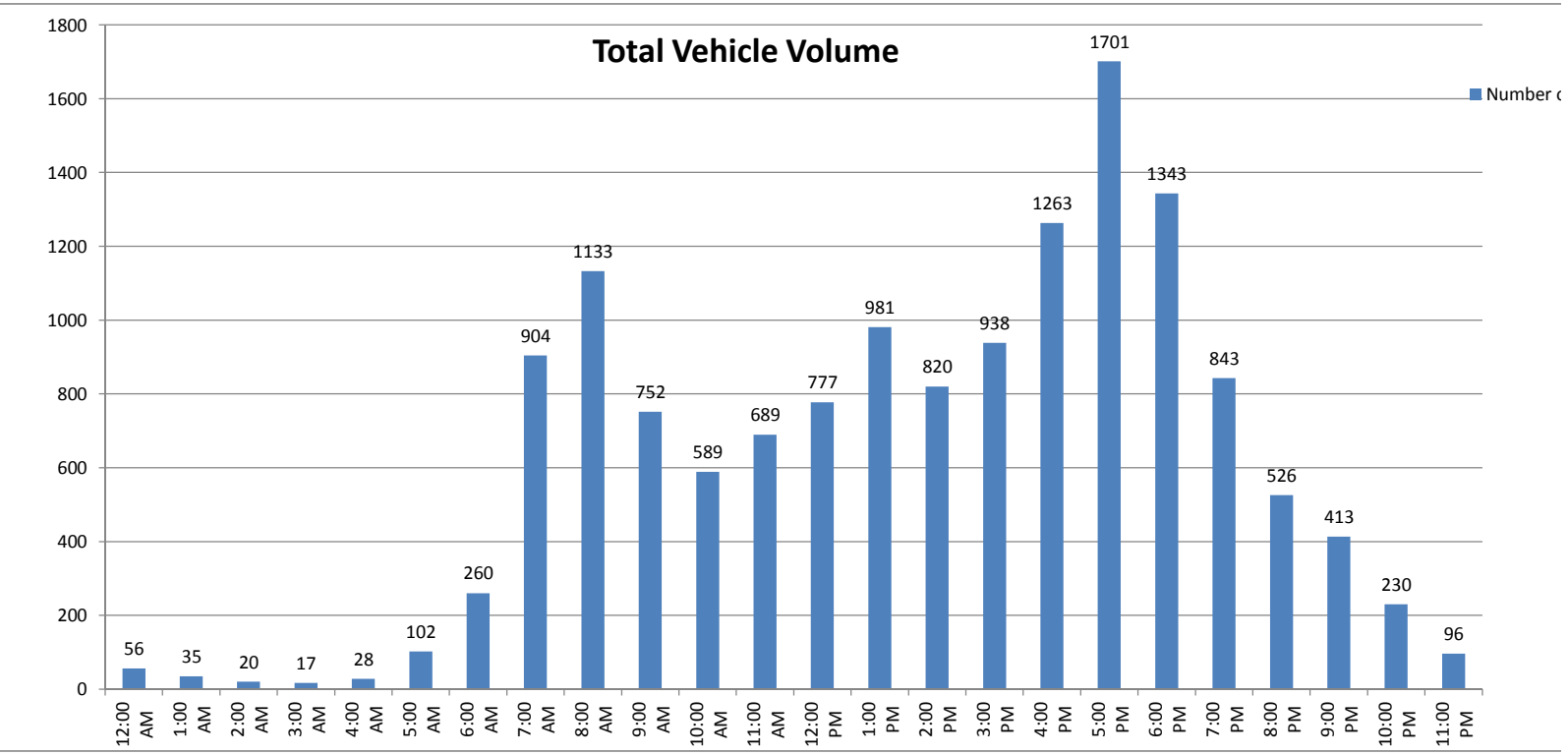
Harvard Avenue

B/ Barranca Parkway - Warner Avenue

2/19/2014

Southbound

Start Time	2/19/2014
12:00 AM	56
1:00 AM	35
2:00 AM	20
3:00 AM	17
4:00 AM	28
5:00 AM	102
6:00 AM	260
7:00 AM	904
8:00 AM	1133
9:00 AM	752
10:00 AM	589
11:00 AM	689
12:00 PM	777
1:00 PM	981
2:00 PM	820
3:00 PM	938
4:00 PM	1263
5:00 PM	1701
6:00 PM	1343
7:00 PM	843
8:00 PM	526
9:00 PM	413
10:00 PM	230
11:00 PM	96
Total	14516



Volumes represent the combined totals for both directions

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City of Irvine
Harvard Avenue
B/ San Juan - Barranca Parkway

File Name 130
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
2/20/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	11	153			5	144				
12:15	11	140			12	139				
12:30	10	111			9	147				
12:45	5	147	37	551	6	159	32	589	69	1140
1:00	6	127			6	160				
1:15	7	110			5	147				
1:30	3	114			6	126				
1:45	6	100	22	451	3	125	20	558	42	1009
2:00	4	129			4	131				
2:15	5	155			5	133				
2:30	4	137			2	122				
2:45	1	161	14	582	1	122	12	508	26	1090
3:00	6	150			4	110				
3:15	1	167			2	125				
3:30	3	162			4	119				
3:45	5	181	15	660	4	110	14	464	29	1124
4:00	4	230			3	128				
4:15	2	242			3	128				
4:30	0	213			4	129				
4:45	8	285	14	970	11	131	21	516	35	1486
5:00	5	301			10	143				
5:15	10	343			14	145				
5:30	10	405			25	167				
5:45	10	407	35	1456	25	166	74	621	109	2077
6:00	15	334			39	165				
6:15	27	280			58	149				
6:30	32	247			45	123				
6:45	59	206	133	1067	105	122	247	559	380	1626
7:00	67	178			85	115				
7:15	72	151			135	134				
7:30	74	121			230	107				
7:45	99	86	312	536	278	114	728	470	1040	1006
8:00	116	104			288	101				
8:15	121	127			249	89				
8:30	114	88			255	86				
8:45	125	64	476	383	215	79	1007	355	1483	738
9:00	66	91			189	83				
9:15	86	78			125	57				
9:30	80	69			120	52				
9:45	91	52	323	290	115	42	549	234	872	524
10:00	94	75			74	39				
10:15	83	55			104	37				
10:30	101	33			99	39				
10:45	100	26	378	189	78	24	355	139	733	328
11:00	96	32			72	32				
11:15	99	19			101	21				
11:30	130	26			102	12				
11:45	148	15	473	92	127	14	402	79	875	171
Totals	2232	7227			3461	5092				
Combined Totals		9459				8553				
ADT										18012
AM Peak Hour	800	AM			745	AM				
Volume	476				1070					
P.H.F.	0.952				0.929					
PM Peak Hour		515	PM			530	PM			
Volume		1489				647				
P.H.F.		0.915				0.969				
Percentage	23.6%	76.4%			40.5%	59.5%				

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Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

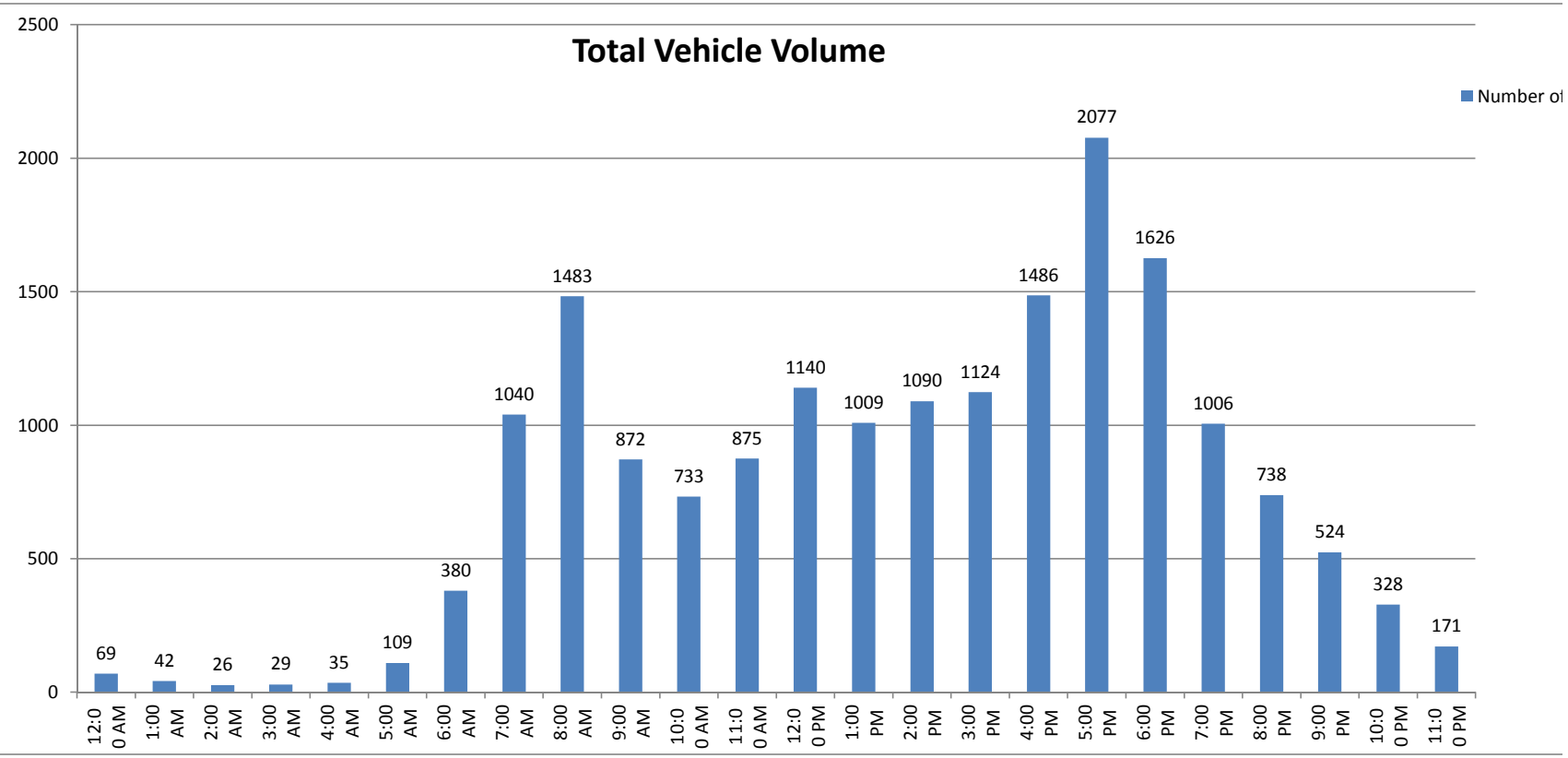
Harvard Avenue

B/ San Juan - Barranca Parkway

2/20/2014

Southbound

Start Time	2/20/2014
12:00 AM	69
1:00 AM	42
2:00 AM	26
3:00 AM	29
4:00 AM	35
5:00 AM	109
6:00 AM	380
7:00 AM	1040
8:00 AM	1483
9:00 AM	872
10:00 AM	733
11:00 AM	875
12:00 PM	1140
1:00 PM	1009
2:00 PM	1090
3:00 PM	1124
4:00 PM	1486
5:00 PM	2077
6:00 PM	1626
7:00 PM	1006
8:00 PM	738
9:00 PM	524
10:00 PM	328
11:00 PM	171
Total	18012



Volumes represent the combined totals for both directions

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City of Irvine
Culver Drive
B/ Deerfield Avenue - Walnut Avenue

File Name 103
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/12/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	50	296			35	297				
12:15	38	352			33	319				
12:30	29	293			25	325				
12:45	22	337	139	1278	18	303	111	1244	250	2522
1:00	25	353			16	292				
1:15	12	301			11	326				
1:30	11	344			17	314				
1:45	14	289	62	1287	12	349	56	1281	118	2568
2:00	5	336			14	302				
2:15	5	297			9	294				
2:30	5	316			6	286				
2:45	8	341	23	1290	7	334	36	1216	59	2506
3:00	12	336			7	305				
3:15	8	421			7	325				
3:30	6	401			8	342				
3:45	10	372	36	1530	11	309	33	1281	69	2811
4:00	5	398			16	309				
4:15	11	400			12	305				
4:30	11	431			18	315				
4:45	24	447	51	1676	30	338	76	1267	127	2943
5:00	17	447			35	351				
5:15	42	452			49	347				
5:30	33	527			60	379				
5:45	46	485	138	1911	74	389	218	1466	356	3377
6:00	72	525			64	358				
6:15	56	458			111	383				
6:30	106	412			134	353				
6:45	135	382	369	1777	213	339	522	1433	891	3210
7:00	144	429			226	303				
7:15	157	357			316	353				
7:30	250	331			452	279				
7:45	328	340	879	1457	533	254	1527	1189	2406	2646
8:00	238	286			530	234				
8:15	254	275			571	235				
8:30	241	257			499	223				
8:45	209	206	942	1024	492	194	2092	886	3034	1910
9:00	236	203			368	187				
9:15	258	246			365	175				
9:30	265	168			286	136				
9:45	208	181	967	798	293	125	1312	623	2279	1421
10:00	232	155			270	132				
10:15	215	136			287	107				
10:30	262	98			284	86				
10:45	207	77	916	466	310	81	1151	406	2067	872
11:00	240	78			258	62				
11:15	244	59			266	63				
11:30	316	58			351	39				
11:45	309	47	1109	242	288	43	1163	207	2272	449
Totals	5631	14736			8297	12499				
Combined Totals		20367				20796				
ADT										41163
AM Peak Hour	1100	AM			745	AM				
Volume	1109				2133					
P.H.F.	0.877				0.934					
PM Peak Hour		530	PM			530	PM			
Volume		1995				1509				
P.H.F.		0.946				0.970				
Percentage	27.6%	72.4%			39.9%	60.1%				

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24 Hour Volume Plot

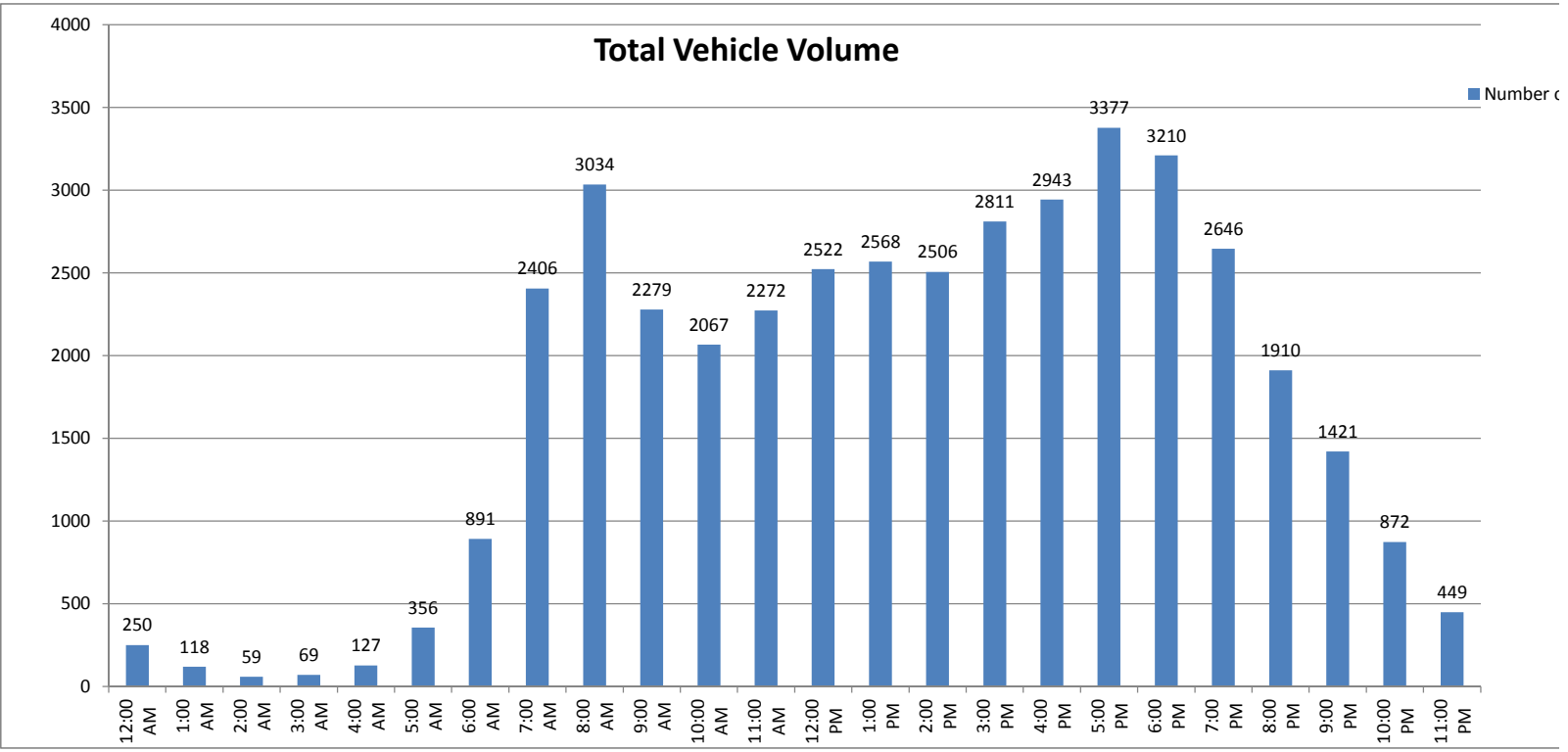
Culver Drive

B/ Deerfield Avenue - Walnut Avenue

3/12/2014

Southbound

Start Time	3/12/2014
12:00 AM	250
1:00 AM	118
2:00 AM	59
3:00 AM	69
4:00 AM	127
5:00 AM	356
6:00 AM	891
7:00 AM	2406
8:00 AM	3034
9:00 AM	2279
10:00 AM	2067
11:00 AM	2272
12:00 PM	2522
1:00 PM	2568
2:00 PM	2506
3:00 PM	2811
4:00 PM	2943
5:00 PM	3377
6:00 PM	3210
7:00 PM	2646
8:00 PM	1910
9:00 PM	1421
10:00 PM	872
11:00 PM	449
Total	41163



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Irvine Center Drive - Deerfield Avenue

File Name 102
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/13/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	35	261			45	311				
12:15	22	274			24	311				
12:30	24	302			26	277				
12:45	22	310	103	1147	17	340	112	1239	215	2386
1:00	18	257			15	291				
1:15	14	253			13	298				
1:30	13	261			12	254				
1:45	14	288	59	1059	9	301	49	1144	108	2203
2:00	5	273			12	282				
2:15	9	358			4	291				
2:30	8	307			11	364				
2:45	12	322	34	1260	8	317	35	1254	69	2514
3:00	4	321			5	318				
3:15	10	376			6	325				
3:30	16	346			7	335				
3:45	6	338	36	1381	10	322	28	1300	64	2681
4:00	7	349			7	258				
4:15	5	380			11	301				
4:30	8	426			16	318				
4:45	7	375	27	1530	24	322	58	1199	85	2729
5:00	14	467			33	348				
5:15	21	500			45	358				
5:30	24	516			44	355				
5:45	32	488	91	1971	69	366	191	1427	282	3398
6:00	44	499			78	370				
6:15	55	481			92	406				
6:30	76	454			147	347				
6:45	98	412	273	1846	194	321	511	1444	784	3290
7:00	142	342			247	309				
7:15	133	358			319	316				
7:30	169	322			456	306				
7:45	237	269	681	1291	548	256	1570	1187	2251	2478
8:00	216	246			518	234				
8:15	231	245			539	248				
8:30	170	258			534	231				
8:45	207	213	824	962	472	162	2063	875	2887	1837
9:00	211	189			389	234				
9:15	177	188			373	168				
9:30	185	199			328	143				
9:45	204	175	777	751	304	117	1394	662	2171	1413
10:00	178	148			265	133				
10:15	205	130			276	126				
10:30	182	84			267	90				
10:45	225	90	790	452	272	80	1080	429	1870	881
11:00	231	75			272	55				
11:15	264	56			241	57				
11:30	275	59			321	44				
11:45	277	56	1047	246	281	49	1115	205	2162	451
Totals	4742	13896			8206	12365				
Combined Totals		18638				20571				
ADT										39209
AM Peak Hour	1100	AM			745	AM				
Volume	1047				2139					
P.H.F.	0.945				0.976					
PM Peak Hour		515	PM			530	PM			
Volume		2003				1497				
P.H.F.		0.970				0.922				
Percentage	25.4%	74.6%			39.9%	60.1%				

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Counts Unlimited, Inc.
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24 Hour Volume Plot

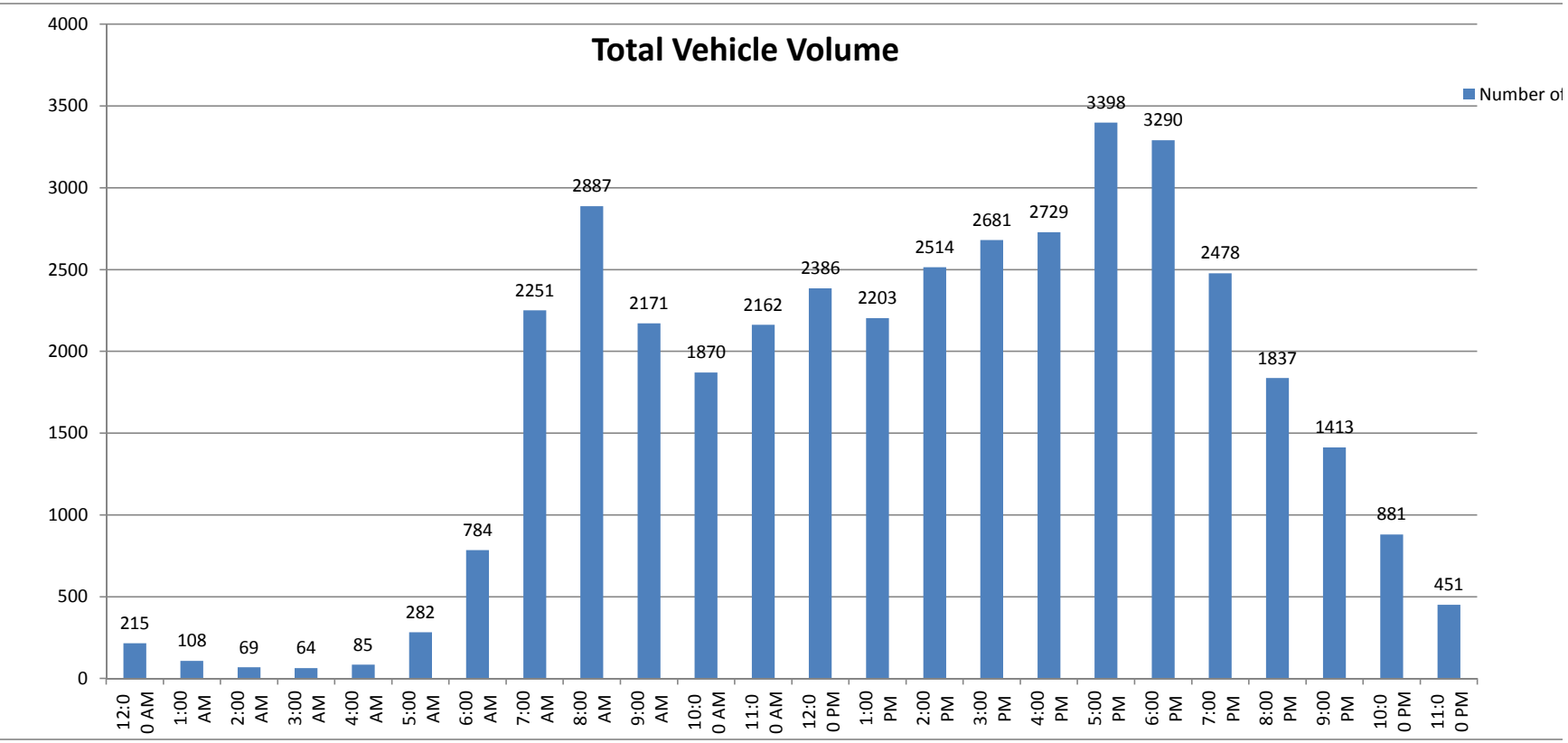
Culver Drive

B/ Irvine Center Drive - Deerfield Avenue

3/13/2014

Southbound

Start Time	3/13/2014
12:00 AM	215
1:00 AM	108
2:00 AM	69
3:00 AM	64
4:00 AM	85
5:00 AM	282
6:00 AM	784
7:00 AM	2251
8:00 AM	2887
9:00 AM	2171
10:00 AM	1870
11:00 AM	2162
12:00 PM	2386
1:00 PM	2203
2:00 PM	2514
3:00 PM	2681
4:00 PM	2729
5:00 PM	3398
6:00 PM	3290
7:00 PM	2478
8:00 PM	1837
9:00 PM	1413
10:00 PM	881
11:00 PM	451
Total	39209



Volumes represent the combined totals for both directions

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City of Irvine
Culver Drive
B/ Warner Avenue - Irvine Center Drive

File Name 101
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/12/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	43	322			21	293				
12:15	26	328			32	360				
12:30	29	321			24	323				
12:45	24	327	122	1298	23	390	100	1366	222	2664
1:00	19	370			18	361				
1:15	10	369			11	306				
1:30	18	330			13	300				
1:45	10	305	57	1374	9	331	51	1298	108	2672
2:00	13	295			16	349				
2:15	8	347			6	283				
2:30	8	313			5	308				
2:45	11	344	40	1299	5	353	32	1293	72	2592
3:00	11	366			7	317				
3:15	11	430			5	357				
3:30	8	414			13	334				
3:45	9	396	39	1606	10	329	35	1337	74	2943
4:00	6	424			10	307				
4:15	9	463			16	338				
4:30	9	478			20	320				
4:45	13	489	37	1854	28	351	74	1316	111	3170
5:00	19	565			39	326				
5:15	38	510			68	402				
5:30	38	564			58	412				
5:45	48	569	143	2208	86	376	251	1516	394	3724
6:00	53	561			74	402				
6:15	56	485			91	401				
6:30	84	449			165	371				
6:45	120	471	313	1966	239	355	569	1529	882	3495
7:00	133	463			256	290				
7:15	165	388			331	348				
7:30	247	360			477	298				
7:45	306	310	851	1521	597	266	1661	1202	2512	2723
8:00	274	300			568	264				
8:15	277	319			614	250				
8:30	251	249			540	251				
8:45	237	245	1039	1113	556	193	2278	958	3317	2071
9:00	264	223			434	214				
9:15	263	246			384	180				
9:30	245	170			348	160				
9:45	226	180	998	819	324	127	1490	681	2488	1500
10:00	205	173			310	135				
10:15	244	127			272	101				
10:30	219	103			327	70				
10:45	268	87	936	490	298	67	1207	373	2143	863
11:00	240	75			299	67				
11:15	249	56			298	51				
11:30	331	56			341	43				
11:45	329	58	1149	245	333	41	1271	202	2420	447
Totals	5724	15793			9019	13071				
Combined Totals		21517				22090				
ADT										43607
AM Peak Hour	1100	AM			745	AM				
Volume	1149				2319					
P.H.F.	0.868				0.944					
PM Peak Hour		500	PM			515	PM			
Volume		2208				1592				
P.H.F.		0.970				0.966				
Percentage	26.6%	73.4%			40.8%	59.2%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

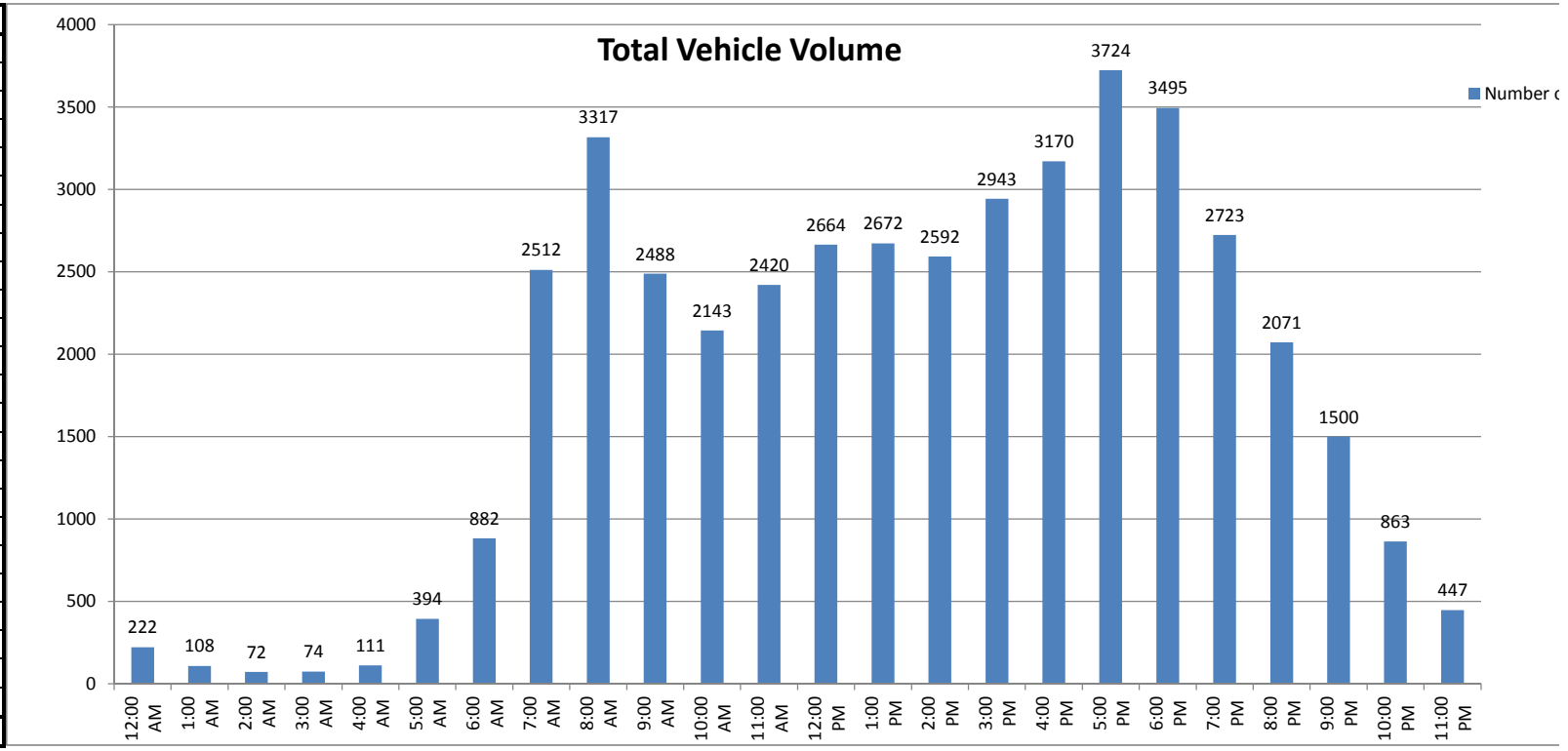
Culver Drive

B/ Warner Avenue - Irvine Center Drive

3/12/2014

Southbound

Start Time	3/12/2014
12:00 AM	222
1:00 AM	108
2:00 AM	72
3:00 AM	74
4:00 AM	111
5:00 AM	394
6:00 AM	882
7:00 AM	2512
8:00 AM	3317
9:00 AM	2488
10:00 AM	2143
11:00 AM	2420
12:00 PM	2664
1:00 PM	2672
2:00 PM	2592
3:00 PM	2943
4:00 PM	3170
5:00 PM	3724
6:00 PM	3495
7:00 PM	2723
8:00 PM	2071
9:00 PM	1500
10:00 PM	863
11:00 PM	447
Total	43607



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Barranca Parkway - Warner Avenue

File Name 100
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
6/4/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	72	320			36	305				
12:15	59	336			36	350				
12:30	32	275			19	309				
12:45	29	333	192	1264	27	369	118	1333	310	2597
1:00	15	308			31	331				
1:15	27	333			15	353				
1:30	26	313			13	263				
1:45	22	317	90	1271	19	333	78	1280	168	2551
2:00	9	354			19	389				
2:15	12	339			8	289				
2:30	14	320			10	331				
2:45	12	323	47	1336	6	308	43	1317	90	2653
3:00	4	388			6	283				
3:15	9	380			7	345				
3:30	7	396			7	285				
3:45	9	369	29	1533	9	314	29	1227	58	2760
4:00	7	392			10	311				
4:15	8	399			17	330				
4:30	6	430			12	324				
4:45	5	485	26	1706	36	329	75	1294	101	3000
5:00	9	526			30	287				
5:15	22	573			63	377				
5:30	21	609			86	362				
5:45	38	570	90	2278	98	356	277	1382	367	3660
6:00	48	567			97	334				
6:15	52	525			98	340				
6:30	54	551			154	356				
6:45	90	474	244	2117	219	341	568	1371	812	3488
7:00	141	362			292	298				
7:15	157	374			328	313				
7:30	151	360			450	257				
7:45	216	320	665	1416	590	246	1660	1114	2325	2530
8:00	245	292			573	241				
8:15	229	305			576	273				
8:30	195	216			583	239				
8:45	229	273	898	1086	584	188	2316	941	3214	2027
9:00	244	272			446	195				
9:15	234	214			373	183				
9:30	255	212			381	165				
9:45	250	166	983	864	365	129	1565	672	2548	1536
10:00	197	162			268	107				
10:15	230	155			247	111				
10:30	249	108			302	95				
10:45	222	100	898	525	294	77	1111	390	2009	915
11:00	292	102			295	64				
11:15	247	64			265	54				
11:30	256	60			303	40				
11:45	267	57	1062	283	302	40	1165	198	2227	481
Totals	5224	15679			9005	12519				
Combined Totals		20903				21524				
ADT										42427
AM Peak Hour	1100	AM			745	AM				
Volume	1062				2322					
P.H.F.	0.909				0.984					
PM Peak Hour		515	PM			515	PM			
Volume		2319				1429				
P.H.F.		0.952				0.948				
Percentage	25.0%	75.0%			41.8%	58.2%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

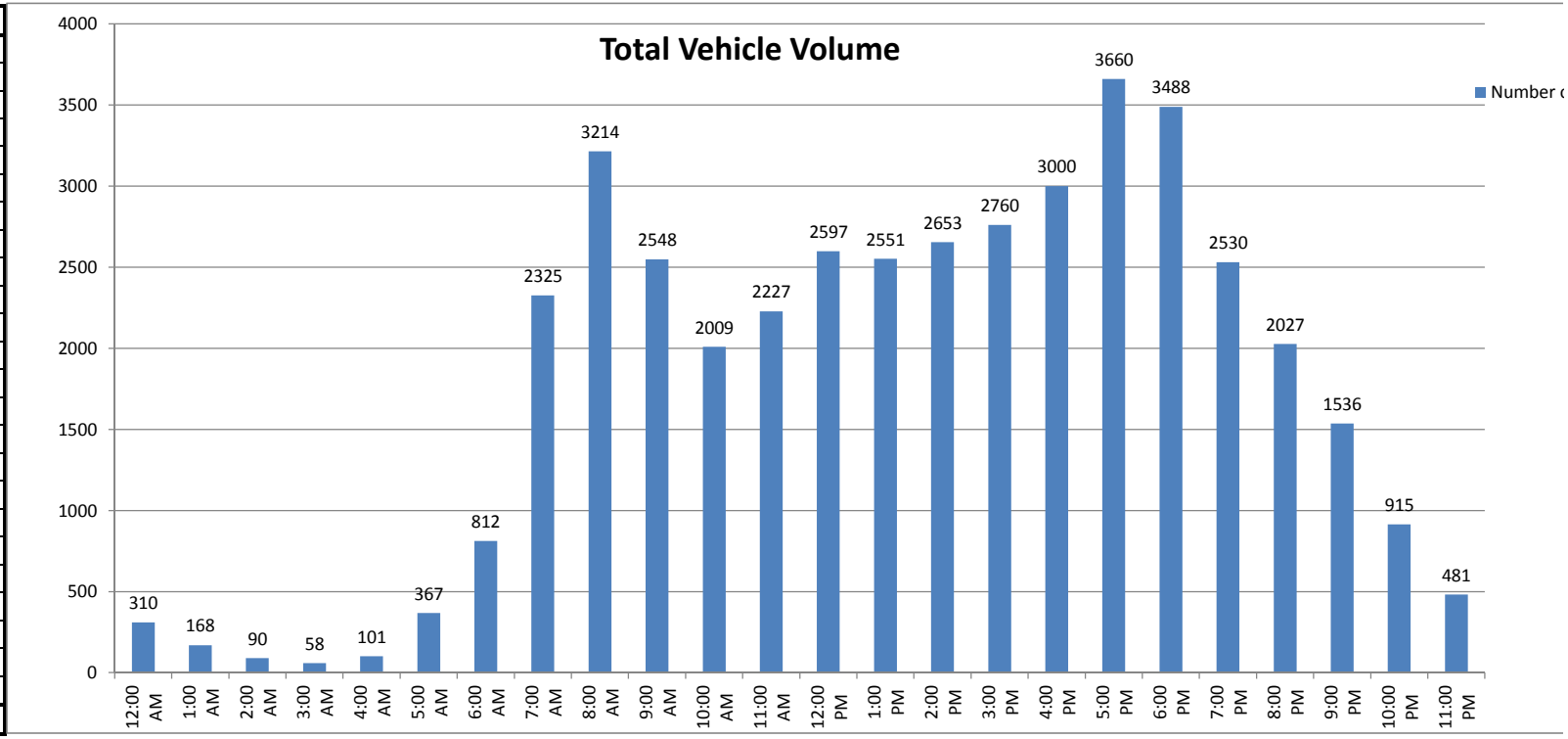
Culver Drive

B/ Barranca Parkway - Warner Avenue

6/4/2014

Southbound

Start Time	6/4/2014
12:00 AM	310
1:00 AM	168
2:00 AM	90
3:00 AM	58
4:00 AM	101
5:00 AM	367
6:00 AM	812
7:00 AM	2325
8:00 AM	3214
9:00 AM	2548
10:00 AM	2009
11:00 AM	2227
12:00 PM	2597
1:00 PM	2551
2:00 PM	2653
3:00 PM	2760
4:00 PM	3000
5:00 PM	3660
6:00 PM	3488
7:00 PM	2530
8:00 PM	2027
9:00 PM	1536
10:00 PM	915
11:00 PM	481
Total	42427



Volumes represent the combined totals for both directions

Phone: 951-268-6268
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Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Alton Parkway - Barranca Parkway

File Name 099
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/12/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	42	361			26	386				
12:15	28	367			33	378				
12:30	32	346			34	388				
12:45	21	378	123	1452	30	443	123	1595	246	3047
1:00	21	363			14	432				
1:15	10	350			12	375				
1:30	17	380			12	391				
1:45	10	331	58	1424	15	404	53	1602	111	3026
2:00	9	401			13	329				
2:15	11	370			5	346				
2:30	8	347			4	369				
2:45	6	424	34	1542	6	361	28	1405	62	2947
3:00	15	408			5	348				
3:15	10	461			5	311				
3:30	6	434			13	354				
3:45	9	464	40	1767	2	344	25	1357	65	3124
4:00	6	485			17	340				
4:15	9	488			12	374				
4:30	13	501			24	344				
4:45	27	559	55	2033	31	377	84	1435	139	3468
5:00	23	524			42	404				
5:15	39	580			61	416				
5:30	52	625			74	416				
5:45	46	546	160	2275	86	407	263	1643	423	3918
6:00	68	514			76	401				
6:15	58	488			126	398				
6:30	90	484			184	373				
6:45	124	509	340	1995	241	370	627	1542	967	3537
7:00	166	535			316	368				
7:15	195	404			379	351				
7:30	265	395			546	339				
7:45	305	299	931	1633	610	326	1851	1384	2782	3017
8:00	284	329			566	317				
8:15	342	323			562	299				
8:30	282	268			529	277				
8:45	311	212	1219	1132	511	259	2168	1152	3387	2284
9:00	307	292			394	283				
9:15	311	202			375	225				
9:30	268	200			367	186				
9:45	247	155	1133	849	331	174	1467	868	2600	1717
10:00	243	188			313	157				
10:15	261	127			325	137				
10:30	266	101			312	86				
10:45	256	77	1026	493	329	95	1279	475	2305	968
11:00	304	65			310	83				
11:15	268	63			315	52				
11:30	351	54			352	46				
11:45	362	37	1285	219	347	48	1324	229	2609	448
Totals	6404	16814			9292	14687				
Combined Totals		23218				23979				
ADT										47197
AM Peak Hour	1100	AM			730	AM				
Volume	1285				2284					
P.H.F.	0.887				0.936					
PM Peak Hour		445	PM			500	PM			
Volume		2288				1643				
P.H.F.		0.915				0.987				
Percentage	27.6%	72.4%			38.8%	61.2%				

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Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

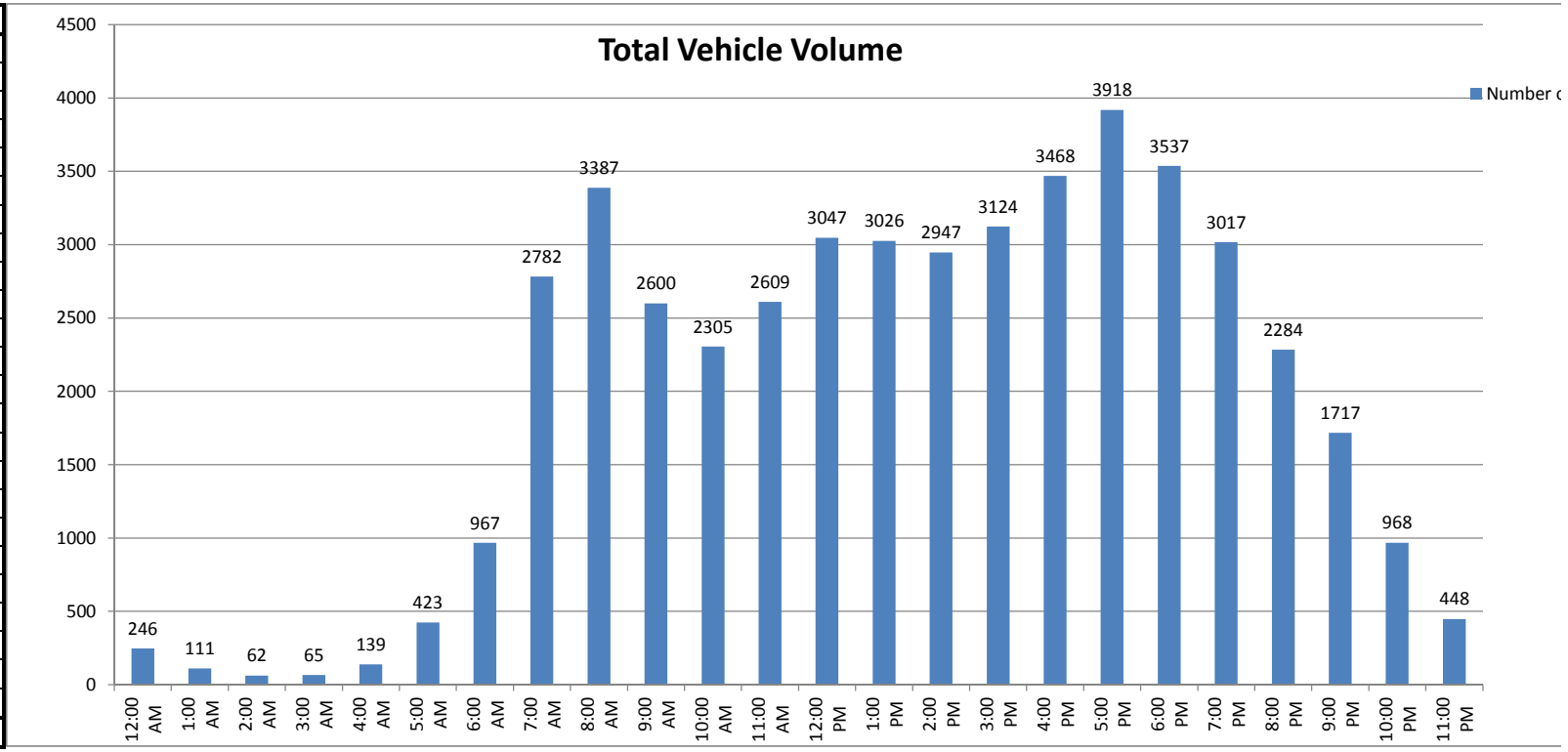
Culver Drive

B/ Alton Parkway - Barranca Parkway

3/12/2014

Southbound

Start Time	3/12/2014
12:00 AM	246
1:00 AM	111
2:00 AM	62
3:00 AM	65
4:00 AM	139
5:00 AM	423
6:00 AM	967
7:00 AM	2782
8:00 AM	3387
9:00 AM	2600
10:00 AM	2305
11:00 AM	2609
12:00 PM	3047
1:00 PM	3026
2:00 PM	2947
3:00 PM	3124
4:00 PM	3468
5:00 PM	3918
6:00 PM	3537
7:00 PM	3017
8:00 PM	2284
9:00 PM	1717
10:00 PM	968
11:00 PM	448
Total	47197



Volumes represent the combined totals for both directions

Traffic and Vehicle Data Systems Unit

2013 All Traffic Volumes on CSHS

Home

Dist	Rte	CO	Post Mile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	54	SD	T	13.71	CHASE AVENUE	2100	23100	22900	1950	22600	22500
11	54	SD	T	14.179	GROVE RD	1950	22600	22500	1950	22600	22500
11	54	SD	T	14.212	END ROUTE 54	1950	22600	22500			
12	55	ORA		0	TUSTIN, FINLEY AVENUE				3800	56000	48500
12	55	ORA		0.267	JCT. RTE. 1	3800	56000	48500	4350	64000	55500
12	55	ORA		1.513	COSTA MESA, EAST 17TH STREET	4450	64000	55500	7000	100000	87500
12	55	ORA		1.82	COSTA MESA, HARBOR BOULEVARD	7000	100000	87500	5700	82000	71500
12	55	ORA		2.021	COSTA MESA, 19TH STREET	5700	82000	71500	6400	100000	94500
12	55	ORA	R	2.772	COSTA MESA, VICTORIA/22ND STREETS	6600	104000	98500	10000	140000	134000
12	55	ORA	R	4.022	COSTA MESA, MESA DRIVE	10000	140000	134000	11800	158000	153400
12	55	ORA	R	5.99	JCT. RTE. 405, SAN DIEGO FREEWAY	11800	159000	154500	12300	166000	161200
12	55	ORA	R	6.99	SANTA ANA, MAC ARTHUR BOULEVARD	21500	289000	281000	21400	292000	281000
12	55	ORA	R	7.85	SANTA ANA, DYER ROAD	20700	282000	271500	21900	305000	287900
12	55	ORA	R	9.437	SANTA ANA, EDINGER AVENUE	21800	304000	287000	22400	319000	303000
12	55	ORA	R	9.96	TUSTIN, MC FADDEN STREET	22400	319000	303000	21200	302000	287000
12	55	ORA		10.45	TUSTIN, JCT. RTE. 5	19100	275000	260500	18800	254000	238500
12	55	ORA		10.979	SANTA ANA, FOURTH STREET	18800	254000	238500	20500	277000	259000
12	55	ORA		11.785	TUSTIN, SEVENTEENTH STREET	20500	277000	259000	19800	268000	250000
12	55	ORA		12.967	JCT. RTE. 22 WEST	19800	268000	250000	20800	281000	262500
12	55	ORA		13.7	CHAPMAN AVENUE	20800	281000	262500	18100	246000	230000
12	55	ORA		15.242	ORANGE, KATELLA AVENUE	18100	246000	230000	17100	228000	214000
12	55	ORA		16.981	ORANGE, LINCOLN AVENUE	17100	228000	214000	17200	230000	215100
12	55	ORA	R	17.876	JCT. RTE. 91	17200	230000	215100			
11	56	SD		0	JCT. RTE . 5				4450	58000	56000

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : WALNUT AVENUE
Segment : E/O TUSTIN RANCH ROAD
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14
Day: Thursday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	5	18	195	847	24	79	254	779	29	97	449	1,626
12:15	3		198		18		172		21		370	
12:30	8		210		17		182		25		392	
12:45	2		244		20		171		22		415	
01:00	4	15	216	762	28	57	188	725	32	72	404	1,487
01:15	5		210		14		190		19		400	
01:30	1		184		9		203		10		387	
01:45	5		152		6		144		11		296	
02:00	3	25	160	617	13	29	162	815	16	54	322	1,432
02:15	8		173		4		182		12		355	
02:30	6		130		7		282		13		412	
02:45	8		154		5		189		13		343	
03:00	7	68	152	574	7	17	306	1,101	14	85	458	1,675
03:15	3		174		2		223		5		397	
03:30	16		120		2		320		18		440	
03:45	42		128		6		252		48		380	
04:00	58	254	129	582	12	32	441	1,607	70	286	570	2,189
04:15	54		150		12		316		66		466	
04:30	39		146		7		440		46		586	
04:45	103		157		1		410		104		567	
05:00	64	450	178	696	18	90	418	1,586	82	540	596	2,282
05:15	92		182		18		401		110		583	
05:30	112		160		26		445		138		605	
05:45	182		176		28		322		210		498	
06:00	134	957	132	574	48	244	318	1,056	182	1,201	450	1,630
06:15	225		168		46		260		271		428	
06:30	289		144		78		246		367		390	
06:45	309		130		72		232		381		362	
07:00	290	1,278	110	370	78	440	204	630	368	1,718	314	1,000
07:15	294		110		96		161		390		271	
07:30	308		80		126		147		434		227	
07:45	386		70		140		118		526		188	
08:00	315	1,217	76	261	138	509	121	417	453	1,726	197	678
08:15	320		73		122		100		442		173	
08:30	286		56		130		102		416		158	
08:45	296		56		119		94		415		150	
09:00	218	781	56	165	105	417	91	274	323	1,198	147	439
09:15	202		45		97		69		299		114	
09:30	165		34		121		60		286		94	
09:45	196		30		94		54		290		84	
10:00	171	547	33	85	100	464	78	210	271	1,011	111	295
10:15	136		18		114		48		250		66	
10:30	112		24		118		52		230		76	
10:45	128		10		132		32		260		42	
11:00	122	594	15	51	182	756	35	95	304	1,350	50	146
11:15	170		16		162		26		332		42	
11:30	136		14		210		21		346		35	
11:45	166		6		202		13		368		19	
Totals	6,204		5,584		3,134		9,295		9,338		14,879	
Split%	66.4		37.5		33.6		62.5					
Day Totals		11,788				12,429				24,217		
Day Splits		48.7				51.3						
Peak Hour	07:30		12:30		11:00		04:45		07:30		04:45	
Volume	1,329		880		756		1,674		1,855		2,351	
Factor	0.86		0.90		0.90		0.94		0.88		0.97	

* Data File : D1405097

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Walnut Avenue
B/ Myford Road - Jamboree Road

File Name 313
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/19/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	183			6	148				
12:15	3	161			10	150				
12:30	10	155			6	156				
12:45	5	167	27	666	3	180	25	634	52	1300
1:00	1	170			4	186				
1:15	1	161			3	154				
1:30	2	158			1	154				
1:45	3	128	7	617	3	149	11	643	18	1260
2:00	5	122			3	138				
2:15	2	136			4	130				
2:30	4	139			2	133				
2:45	1	124	12	521	1	115	10	516	22	1037
3:00	3	163			3	175				
3:15	3	137			2	169				
3:30	0	186			3	161				
3:45	5	156	11	642	5	175	13	680	24	1322
4:00	2	232			6	181				
4:15	6	173			10	192				
4:30	5	254			9	209				
4:45	18	236	31	895	25	201	50	783	81	1678
5:00	12	375			20	214				
5:15	10	273			20	211				
5:30	18	272			40	245				
5:45	31	226	71	1146	58	246	138	916	209	2062
6:00	19	234			70	216				
6:15	34	186			94	242				
6:30	66	225			94	156				
6:45	56	136	175	781	131	141	389	755	564	1536
7:00	83	147			129	134				
7:15	72	145			149	119				
7:30	130	105			201	102				
7:45	124	124	409	521	212	108	691	463	1100	984
8:00	101	142			243	65				
8:15	117	74			227	70				
8:30	122	67			242	58				
8:45	149	59	489	342	202	57	914	250	1403	592
9:00	121	73			193	59				
9:15	115	50			150	49				
9:30	90	39			131	33				
9:45	100	29	426	191	119	32	593	173	1019	364
10:00	96	35			121	36				
10:15	100	26			110	23				
10:30	109	17			115	29				
10:45	98	24	403	102	117	16	463	104	866	206
11:00	124	20			112	21				
11:15	138	11			114	15				
11:30	153	7			101	12				
11:45	178	7	593	45	173	10	500	58	1093	103
Totals	2654	6469			3797	5975				
Combined Totals		9123				9772				
ADT										18895
AM Peak Hour	1100	AM			745	AM				
Volume	593				924					
P.H.F.	0.833				0.951					
PM Peak Hour		445	PM			530	PM			
Volume		1156				949				
P.H.F.		0.771				0.964				
Percentage	29.1%	70.9%			38.9%	61.1%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

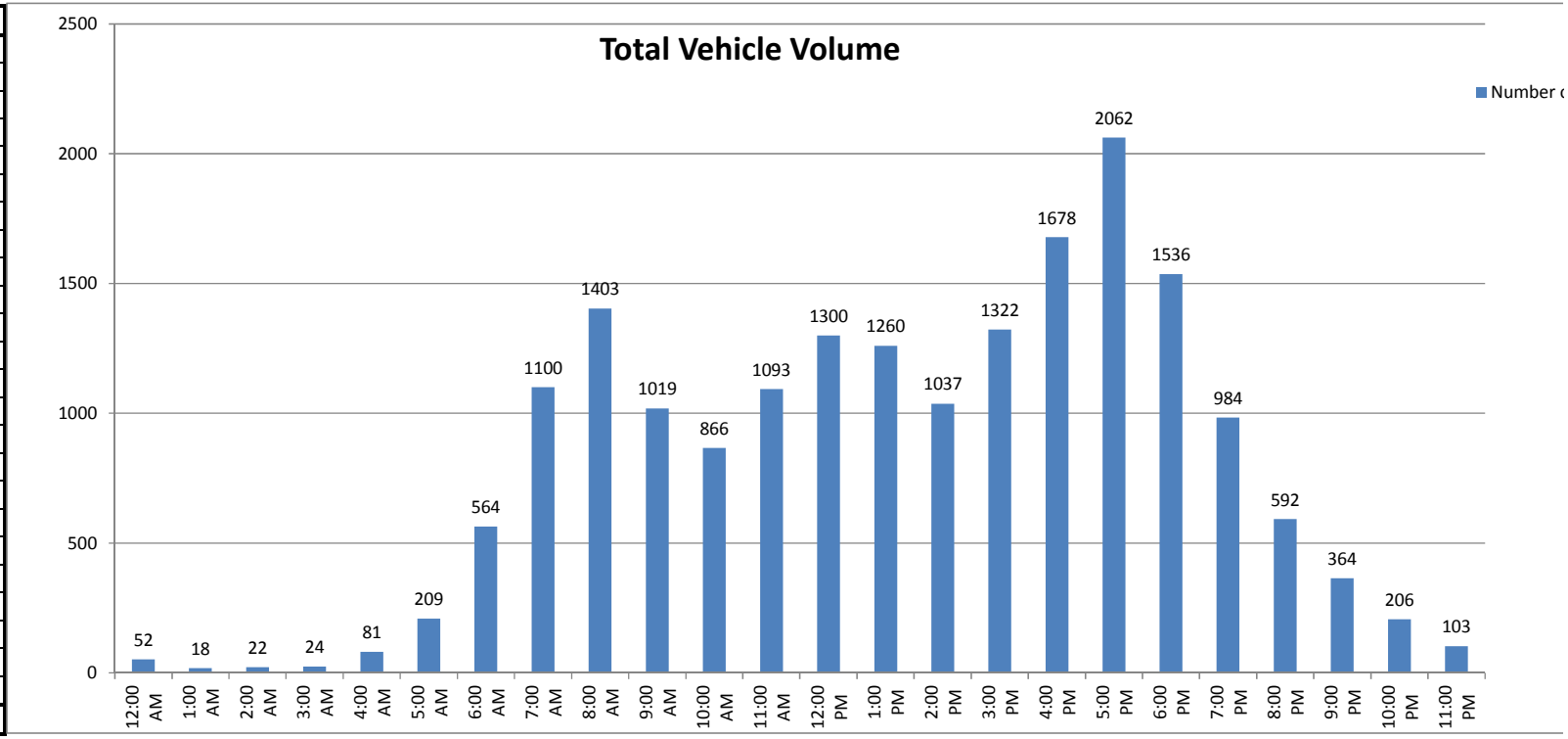
Walnut Avenue

B/ Myford Road - Jamboree Road

3/19/2014

Westbound

Start Time	3/19/2014
12:00 AM	52
1:00 AM	18
2:00 AM	22
3:00 AM	24
4:00 AM	81
5:00 AM	209
6:00 AM	564
7:00 AM	1100
8:00 AM	1403
9:00 AM	1019
10:00 AM	866
11:00 AM	1093
12:00 PM	1300
1:00 PM	1260
2:00 PM	1037
3:00 PM	1322
4:00 PM	1678
5:00 PM	2062
6:00 PM	1536
7:00 PM	984
8:00 PM	592
9:00 PM	364
10:00 PM	206
11:00 PM	103
Total	18895



Volumes represent the combined totals for both directions

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Walnut Avenue
B/ Jamboree Road - Harvard Avenue

File Name 314
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/20/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	20	168			8	106				
12:15	15	135			7	142				
12:30	14	133			4	160				
12:45	8	116	57	552	3	176	22	584	79	1136
1:00	8	138			3	139				
1:15	8	140			2	136				
1:30	8	125			5	131				
1:45	3	103	27	506	3	158	13	564	40	1070
2:00	10	102			4	139				
2:15	4	126			4	134				
2:30	0	123			4	113				
2:45	7	125	21	476	1	123	13	509	34	985
3:00	1	122			4	130				
3:15	0	163			2	166				
3:30	3	156			4	171				
3:45	3	162	7	603	9	170	19	637	26	1240
4:00	0	183			7	160				
4:15	3	195			7	196				
4:30	5	196			15	202				
4:45	12	200	20	774	16	196	45	754	65	1528
5:00	11	261			24	177				
5:15	14	272			36	233				
5:30	15	247			39	230				
5:45	15	246	55	1026	47	228	146	868	201	1894
6:00	14	212			62	200				
6:15	19	226			45	214				
6:30	51	236			96	181				
6:45	38	172	122	846	121	165	324	760	446	1606
7:00	50	161			109	145				
7:15	61	180			160	162				
7:30	74	167			219	150				
7:45	95	133	280	641	222	122	710	579	990	1220
8:00	85	140			267	100				
8:15	62	110			256	84				
8:30	79	123			270	91				
8:45	86	106	312	479	267	82	1060	357	1372	836
9:00	84	122			190	88				
9:15	70	88			150	59				
9:30	66	63			130	50				
9:45	87	78	307	351	140	35	610	232	917	583
10:00	76	59			121	81				
10:15	76	56			111	54				
10:30	83	41			108	37				
10:45	95	37	330	193	88	17	428	189	758	382
11:00	63	25			108	25				
11:15	104	18			105	22				
11:30	123	24			118	18				
11:45	123	25	413	92	121	18	452	83	865	175
Totals	1951	6539			3842	6116				
Combined Totals		8490				9958				
ADT										18448
AM Peak Hour	1100	AM			800	AM				
Volume	413				1060					
P.H.F.	0.839				0.981					
PM Peak Hour		500	PM			515	PM			
Volume		1026				891				
P.H.F.		0.943				0.956				
Percentage	23.0%	77.0%			38.6%	61.4%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

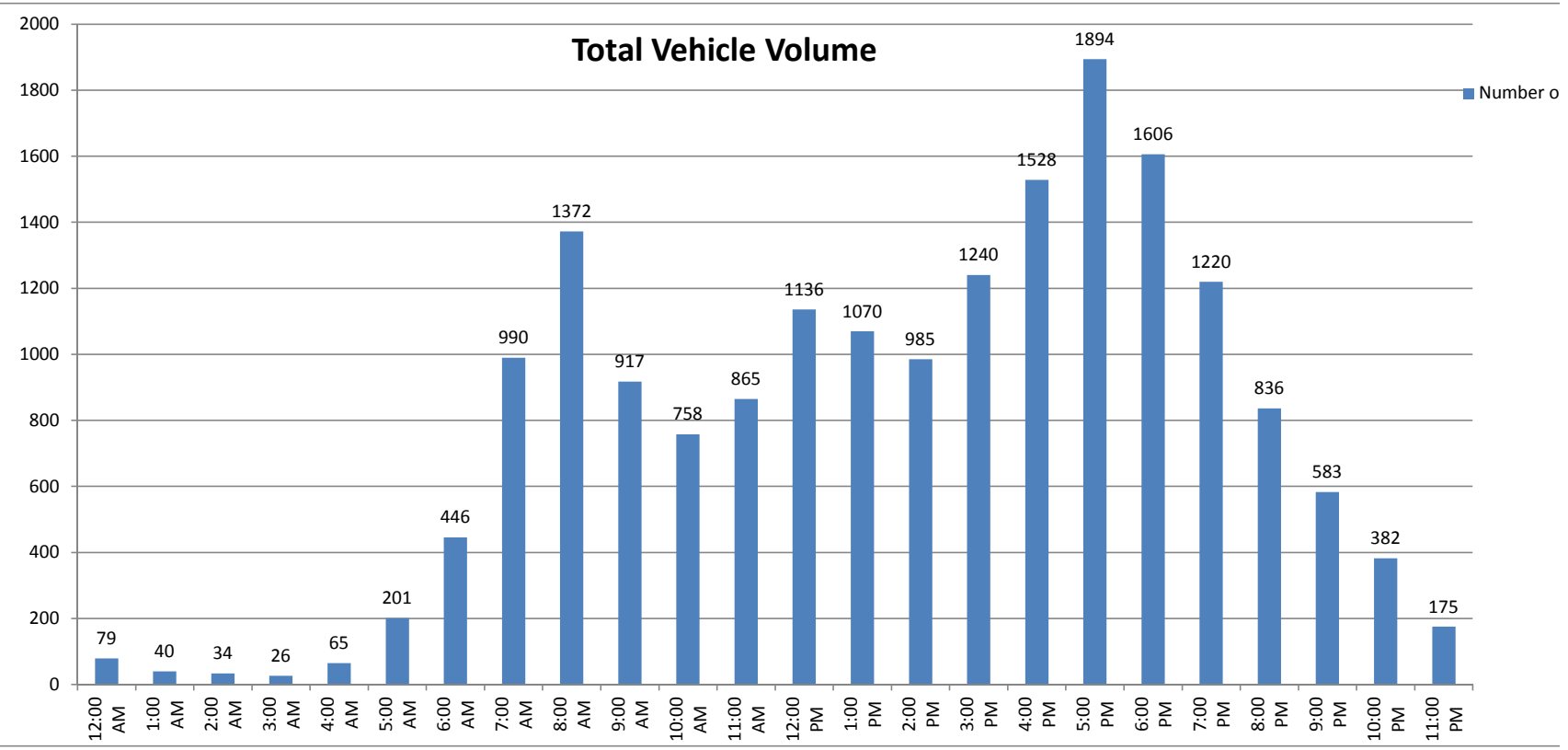
Walnut Avenue

B/ Jamboree Road - Harvard Avenue

3/20/2014

Westbound

Start Time	3/20/2014
12:00 AM	79
1:00 AM	40
2:00 AM	34
3:00 AM	26
4:00 AM	65
5:00 AM	201
6:00 AM	446
7:00 AM	990
8:00 AM	1372
9:00 AM	917
10:00 AM	758
11:00 AM	865
12:00 PM	1136
1:00 PM	1070
2:00 PM	985
3:00 PM	1240
4:00 PM	1528
5:00 PM	1894
6:00 PM	1606
7:00 PM	1220
8:00 PM	836
9:00 PM	583
10:00 PM	382
11:00 PM	175
Total	18448



Volumes represent the combined totals for both directions

Phone: 951-268-6268
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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Walnut Avenue
B/ Harvard Avenue - Culver Drive

File Name 315
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/20/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	11	169			10	106				
12:15	4	132			7	140				
12:30	7	126			1	157				
12:45	2	121	24	548	5	161	23	564	47	1112
1:00	5	136			5	141				
1:15	4	128			5	122				
1:30	4	118			10	132				
1:45	3	104	16	486	2	169	22	564	38	1050
2:00	4	118			5	132				
2:15	1	117			4	126				
2:30	1	123			3	127				
2:45	7	136	13	494	1	109	13	494	26	988
3:00	0	112			3	164				
3:15	1	151			1	154				
3:30	2	162			6	191				
3:45	3	141	6	566	6	186	16	695	22	1261
4:00	0	165			5	176				
4:15	3	164			3	186				
4:30	4	168			4	198				
4:45	8	182	15	679	7	201	19	761	34	1440
5:00	10	200			9	178				
5:15	13	236			13	270				
5:30	19	237			15	242				
5:45	18	228	60	901	22	214	59	904	119	1805
6:00	21	221			38	209				
6:15	23	238			32	203				
6:30	45	212			52	158				
6:45	57	160	146	831	79	146	201	716	347	1547
7:00	65	154			82	151				
7:15	68	160			121	166				
7:30	129	153			181	151				
7:45	158	101	420	568	204	93	588	561	1008	1129
8:00	111	108			255	98				
8:15	96	89			214	97				
8:30	84	93			218	110				
8:45	98	85	389	375	217	86	904	391	1293	766
9:00	95	106			176	82				
9:15	82	60			132	50				
9:30	63	45			104	51				
9:45	84	43	324	254	118	35	530	218	854	472
10:00	80	52			86	63				
10:15	78	43			91	39				
10:30	83	32			80	30				
10:45	96	20	337	147	80	17	337	149	674	296
11:00	83	17			91	28				
11:15	95	9			87	10				
11:30	143	16			114	17				
11:45	116	10	437	52	113	13	405	68	842	120
Totals	2187	5901			3117	6085				
Combined Totals		8088				9202				
ADT										17290
AM Peak Hour	730	AM			800	AM				
Volume	494				904					
P.H.F.	0.782				0.886					
PM Peak Hour		530	PM			515	PM			
Volume		924				935				
P.H.F.		0.971				0.866				
Percentage	27.0%	73.0%			33.9%	66.1%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

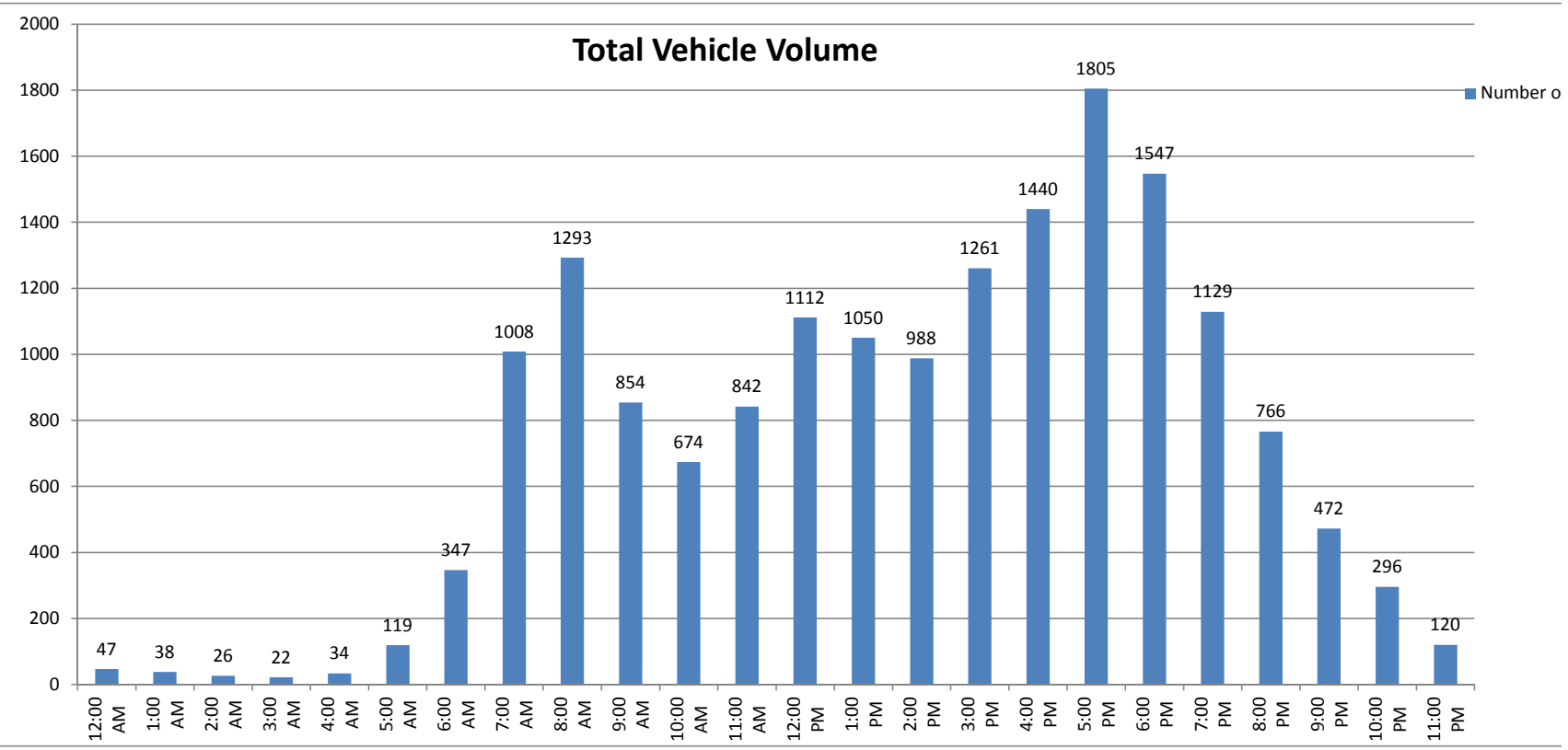
Walnut Avenue

B/ Harvard Avenue - Culver Drive

3/20/2014

Westbound

Start Time	3/20/2014
12:00 AM	47
1:00 AM	38
2:00 AM	26
3:00 AM	22
4:00 AM	34
5:00 AM	119
6:00 AM	347
7:00 AM	1008
8:00 AM	1293
9:00 AM	854
10:00 AM	674
11:00 AM	842
12:00 PM	1112
1:00 PM	1050
2:00 PM	988
3:00 PM	1261
4:00 PM	1440
5:00 PM	1805
6:00 PM	1547
7:00 PM	1129
8:00 PM	766
9:00 PM	472
10:00 PM	296
11:00 PM	120
Total	17290



Volumes represent the combined totals for both directions

Phone: 951-268-6268
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Transportation Studies, Inc.

2640 Walnut Avenue, Suite H

Tustin, CA. 92780

Location: : EDINGER AVENUE
Segment: : W/O NEWPORT AVENUE
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 09/30/14
Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	36	104	288	1,268	25	63	243	990	61	167	531	2,258
12:15	30		326		16		234		46		560	
12:30	17		320		14		253		31		573	
12:45	21		334		8		260		29		594	
01:00	24	64	302	1,214	5	56	275	973	29	120	577	2,187
01:15	11		306		15		232		26		538	
01:30	20		294		26		240		46		534	
01:45	9		312		10		226		19		538	
02:00	30	64	328	1.335	12	38	254	1.165	42	102	582	2.500
02:15	3		308		6		259		9		567	
02:30	12		384		10		331		22		715	
02:45	19		315		10		321		29		636	
03:00	12	91	351	1,390	15	47	309	1,267	27	138	660	2,657
03:15	14		324		4		292		18		616	
03:30	27		382		18		354		45		736	
03:45	38		333		10		312		48		645	
04:00	40	301	366	1,420	9	78	351	1,405	49	379	717	2,825
04:15	53		348		9		353		62		701	
04:30	102		372		22		350		124		722	
04:45	106		334		38		351		144		685	
05:00	132	1,010	418	1,657	32	262	368	1,447	164	1,272	786	3,104
05:15	210		437		52		374		262		811	
05:30	328		418		62		374		390		792	
05:45	340		384		116		331		456		715	
06:00	234	1,300	340	1,141	102	637	256	1,028	336	1,937	596	2,169
06:15	276		298		129		318		405		616	
06:30	396		264		146		268		542		532	
06:45	394		239		260		186		654		425	
07:00	366	1.599	208	805	245	1.274	155	547	611	2.873	363	1.352
07:15	414		215		298		132		712		347	
07:30	424		212		341		134		765		346	
07:45	395		170		390		126		785		296	
08:00	398	1,404	190	607	349	1,428	116	365	747	2,832	306	972
08:15	344		140		354		97		698		237	
08:30	332		142		384		82		716		224	
08:45	330		135		341		70		671		205	
09:00	290	1,087	106	431	278	1,020	64	277	568	2,107	170	708
09:15	267		105		280		84		547		189	
09:30	264		114		227		68		491		182	
09:45	266		106		235		61		501		167	
10:00	256	1,016	93	307	194	776	83	258	450	1,792	176	565
10:15	245		70		186		68		431		138	
10:30	268		90		202		57		470		147	
10:45	247		54		194		50		441		104	
11:00	284	1,247	46	169	206	866	47	129	490	2,113	93	298
11:15	318		44		200		36		518		80	
11:30	316		46		200		20		516		66	
11:45	329		33		260		26		589		59	
Totals	9.287		11.744		6.545		9.851		15.832		21.595	
Split%	58.7		54.4		41.3		45.6					
Day Totals		21,031				16,396				37,427		
Day Splits		56.2				43.8						
Peak Hour	07:15		05:00		07:45		04:45		07:15		05:00	
Volume	1.631		1.657		1.477		1.467		3.009		3.104	
Factor	0.96		0.95		0.95		0.98		0.96		0.96	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

Location : EDINGER AVENUE
Segment : NEWPORT AVE TO DEL AMO AVE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 10/07/14

Interval	EB				WB				Combined				Day: Tuesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	6	31	178	660	26	76	145	603	32	107	323	1,263	
12:15	10		150		20		142		30		292		
12:30	10		169		14		152		24		321		
12:45	5		163		16		164		21		327		
01:00	12	37	158	630	6	28	178	657	18	65	336	1,287	
01:15	9		159		9		162		18		321		
01:30	10		138		9		152		19		290		
01:45	6		175		4		165		10		340		
02:00	8	20	168	665	9	27	204	910	17	47	372	1,575	
02:15	2		144		6		210		8		354		
02:30	2		182		6		250		8		432		
02:45	8		171		6		246		14		417		
03:00	4	34	211	835	3	26	225	1,043	7	60	436	1,878	
03:15	4		170		6		282		10		452		
03:30	14		228		10		254		24		482		
03:45	12		226		7		282		19		508		
04:00	9	103	245	976	5	59	309	1,162	14	162	554	2,138	
04:15	16		246		7		263		23		509		
04:30	30		241		12		300		42		541		
04:45	48		244		35		290		83		534		
05:00	62	414	394	1,389	23	154	292	1,208	85	568	686	2,597	
05:15	94		346		26		342		120		688		
05:30	124		342		33		318		157		660		
05:45	134		307		72		256		206		563		
06:00	118	627	254	762	62	502	241	982	180	1,129	495	1,744	
06:15	149		219		116		282		265		501		
06:30	166		161		120		261		286		422		
06:45	194		128		204		198		398		326		
07:00	181	916	121	405	192	1,029	150	514	373	1,945	271	919	
07:15	244		99		230		160		474		259		
07:30	255		100		256		100		511		200		
07:45	236		85		351		104		587		189		
08:00	220	808	79	269	293	1,223	101	325	513	2,031	180	594	
08:15	207		74		312		78		519		152		
08:30	196		62		326		88		522		150		
08:45	185		54		292		58		477		112		
09:00	140	542	46	175	232	717	49	223	372	1,259	95	398	
09:15	134		41		179		70		313		111		
09:30	125		52		166		54		291		106		
09:45	143		36		140		50		283		86		
10:00	140	544	41	95	124	510	62	210	264	1,054	103	305	
10:15	118		25		137		56		255		81		
10:30	158		12		118		42		276		54		
10:45	128		17		131		50		259		67		
11:00	138	611	23	83	130	543	36	107	268	1,154	59	190	
11:15	132		22		137		27		269		49		
11:30	159		18		142		20		301		38		
11:45	182		20		134		24		316		44		
Totals	4.687		6.944		4.894		7.944		9.581		14.888		
Split%	48.9		46.6		51.1		53.4						
Day Totals		11,631				12,838				24,469			
Day Splits		47.5				52.5							
Peak Hour	07:15		05:00		07:45		04:45		07:45		05:00		
Volume	955		1.389		1.282		1.242		2.141		2.597		
Factor	0.94		0.88		0.91		0.91		0.91		0.94		

Data File : D1410031

Printed : 10/13/2014

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : EDINGER AVENUE
Segment : W/O REDHILL AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	10	42	168	652	22	63	180	759	32	105	348	1,411
12:15	8		160		18		198		26		358	
12:30	16		166		11		198		27		364	
12:45	8		158		12		183		20		341	
01:00	6	20	145	595	12	37	160	747	18	57	305	1,342
01:15	7		155		12		190		19		345	
01:30	3		141		8		177		11		318	
01:45	4		154		5		220		9		374	
02:00	3	22	148	635	10	28	212	957	13	50	360	1,592
02:15	10		158		7		208		17		366	
02:30	5		158		7		238		12		396	
02:45	4		171		4		299		8		470	
03:00	5	36	160	701	4	24	275	1,208	9	60	435	1,909
03:15	8		176		7		316		15		492	
03:30	13		182		5		311		18		493	
03:45	10		183		8		306		18		489	
04:00	12	114	213	949	10	56	363	1,356	22	170	576	2,305
04:15	27		230		12		336		39		566	
04:30	38		226		16		330		54		556	
04:45	37		280		18		327		55		607	
05:00	68	475	296	1,178	24	168	325	1,389	92	643	621	2,567
05:15	90		334		24		380		114		714	
05:30	165		296		62		388		227		684	
05:45	152		252		58		296		210		548	
06:00	106	612	206	677	82	531	374	1,226	188	1,143	580	1,903
06:15	138		198		123		342		261		540	
06:30	176		142		135		294		311		436	
06:45	192		131		191		216		383		347	
07:00	190	935	122	414	171	1,303	190	559	361	2,238	312	973
07:15	242		108		348		132		590		240	
07:30	241		101		360		140		601		241	
07:45	262		83		424		97		686		180	
08:00	228	884	90	340	335	1,244	102	362	563	2,128	192	702
08:15	230		92		331		96		561		188	
08:30	203		84		296		96		499		180	
08:45	223		74		282		68		505		142	
09:00	168	616	74	248	236	814	69	254	404	1,430	143	502
09:15	162		54		213		82		375		136	
09:30	138		64		186		53		324		117	
09:45	148		56		179		50		327		106	
10:00	122	529	53	146	148	536	62	210	270	1,065	115	356
10:15	141		39		125		65		266		104	
10:30	134		23		128		50		262		73	
10:45	132		31		135		33		267		64	
11:00	140	596	28	66	134	574	30	94	274	1,170	58	160
11:15	136		13		152		24		288		37	
11:30	142		16		142		24		284		40	
11:45	178		9		146		16		324		25	
Totals	4,881		6,601		5,378		9,121		10,259		15,722	
Split%	47.6		42.0		52.4		58.0					
Day Totals		11,482				14,499				25,981		
Day Splits		44.2				55.8						
Peak Hour	07:15		04:45		07:15		05:15		07:15		04:45	
Volume	973		1,206		1,467		1,438		2,440		2,626	
Factor	0.93		0.90		0.86		0.93		0.89		0.92	

* Data File : D1405066

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : REDHILL AVENUE
Segment : E/O REDHILL AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	9	36	124	494	21	55	130	591	30	91	254	1,085
12:15	7		134		14		163		21		297	
12:30	12		118		10		166		22		284	
12:45	8		118		10		132		18		250	
01:00	6	17	124	465	7	29	149	615	13	46	273	1,080
01:15	3		106		11		152		14		258	
01:30	5		111		6		136		11		247	
01:45	3		124		5		178		8		302	
02:00	3	20	134	501	8	25	156	706	11	45	290	1,207
02:15	8		119		7		152		15		271	
02:30	5		108		8		162		13		270	
02:45	4		140		2		236		6		376	
03:00	3	28	130	555	4	19	226	1,086	7	47	356	1,641
03:15	3		141		5		292		8		433	
03:30	15		150		3		288		18		438	
03:45	7		134		7		280		14		414	
04:00	7	78	196	825	6	40	320	1,321	13	118	516	2,146
04:15	19		194		10		366		29		560	
04:30	20		198		11		292		31		490	
04:45	32		237		13		343		45		580	
05:00	48	289	238	1,066	13	149	278	1,352	61	438	516	2,418
05:15	65		300		23		384		88		684	
05:30	94		268		51		350		145		618	
05:45	82		260		62		340		144		600	
06:00	66	431	186	656	74	480	326	1,172	140	911	512	1,828
06:15	94		202		118		340		212		542	
06:30	137		142		130		296		267		438	
06:45	134		126		158		210		292		336	
07:00	124	672	106	359	177	1,183	185	516	301	1,855	291	875
07:15	171		92		290		118		461		210	
07:30	172		95		338		118		510		213	
07:45	205		66		378		95		583		161	
08:00	174	732	70	289	344	1,220	83	263	518	1,952	153	552
08:15	186		76		359		57		545		133	
08:30	181		72		246		65		427		137	
08:45	191		71		271		58		462		129	
09:00	136	436	50	185	205	656	68	219	341	1,092	118	404
09:15	112		40		174		57		286		97	
09:30	94		48		154		52		248		100	
09:45	94		47		123		42		217		89	
10:00	84	386	50	134	102	441	54	178	186	827	104	312
10:15	94		34		110		50		204		84	
10:30	117		24		114		52		231		76	
10:45	91		26		115		22		206		48	
11:00	114	455	28	64	91	440	22	78	205	895	50	142
11:15	108		13		108		18		216		31	
11:30	100		11		124		20		224		31	
11:45	133		12		117		18		250		30	
Totals	3,580		5,593		4,737		8,097		8,317		13,690	
Split%	43.0		40.9		57.0		59.1					
Day Totals		9,173				12,834				22,007		
Day Splits		41.7				58.3						
Peak Hour	07:45		05:00		07:30		05:15		07:30		05:00	
Volume	746		1,066		1,419		1,400		2,156		2,418	
Factor	0.91		0.89		0.94		0.91		0.92		0.88	

* Data File : D1405067

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location: : EDINGER AVENUE
Segment: : W/O SB JAMBOREE RAMPS
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	8	43	179	661	19	59	142	606	27	102	321	1,267
12:15	9		160		16		168		25		328	
12:30	9		156		12		166		21		322	
12:45	17		166		12		130		29		296	
01:00	14	29	150	593	6	30	150	635	20	59	300	1,228
01:15	3		139		13		161		16		300	
01:30	5		150		7		148		12		298	
01:45	7		154		4		176		11		330	
02:00	5	22	138	643	9	26	152	719	14	48	290	1,362
02:15	8		172		5		145		13		317	
02:30	6		155		6		162		12		317	
02:45	3		178		6		260		9		438	
03:00	3	30	201	807	3	26	248	1,169	6	56	449	1,976
03:15	6		192		6		304		12		496	
03:30	14		216		3		299		17		515	
03:45	7		198		14		318		21		516	
04:00	8	86	237	1,175	13	49	366	1,499	21	135	603	2,674
04:15	22		280		8		422		30		702	
04:30	28		300		10		315		38		615	
04:45	28		358		18		396		46		754	
05:00	42	285	397	1,638	20	226	379	1,602	62	511	776	3,240
05:15	68		412		74		456		142		868	
05:30	99		439		40		387		139		826	
05:45	76		390		92		380		168		770	
06:00	94	566	288	1,028	108	600	370	1,307	202	1,166	658	2,335
06:15	94		266		130		390		224		656	
06:30	160		214		166		317		326		531	
06:45	218		260		196		230		414		490	
07:00	166	927	180	566	244	1,430	205	559	410	2,357	385	1,125
07:15	241		126		330		132		571		258	
07:30	242		151		400		118		642		269	
07:45	278		109		456		104		734		213	
08:00	258	957	98	402	399	1,354	91	320	657	2,311	189	722
08:15	228		122		368		72		596		194	
08:30	228		90		295		78		523		168	
08:45	243		92		292		79		535		171	
09:00	196	630	72	256	219	730	78	260	415	1,360	150	516
09:15	158		72		185		67		343		139	
09:30	132		65		172		67		304		132	
09:45	144		47		154		48		298		95	
10:00	112	466	76	215	122	477	58	181	234	943	134	396
10:15	114		57		129		52		243		109	
10:30	126		48		112		47		238		95	
10:45	114		34		114		24		228		58	
11:00	125	565	30	89	111	496	24	97	236	1,061	54	186
11:15	144		26		120		24		264		50	
11:30	136		17		139		23		275		40	
11:45	160		16		126		26		286		42	
Totals	4,606		8,073		5,503		8,954		10,109		17,027	
Split%	45.6		47.4		54.4		52.6					
Day Totals		12,679				14,457				27,136		
Day Splits		46.7				53.3						
Peak Hour	07:15		05:00		07:30		04:45		07:30		05:00	
Volume	1,019		1,638		1,623		1,618		2,629		3,240	
Factor	0.92		0.93		0.89		0.89		0.90		0.93	

Data File : D1405068

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : EDINGER AVENUE
Segment : E/O JAMBOREE NB RAMPS
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	11	54	148	568	18	56	126	564	29	110	274	1,132
12:15	16		146		14		156		30		302	
12:30	9		132		12		154		21		286	
12:45	18		142		12		128		30		270	
01:00	15	30	128	526	5	22	156	610	20	52	284	1,136
01:15	5		137		9		140		14		277	
01:30	4		128		5		144		9		272	
01:45	6		133		3		170		9		303	
02:00	12	32	118	476	6	24	183	745	18	56	301	1,221
02:15	7		104		5		160		12		264	
02:30	10		122		9		186		19		308	
02:45	3		132		4		216		7		348	
03:00	1	25	162	717	6	19	226	949	7	44	388	1,666
03:15	5		188		5		240		10		428	
03:30	9		180		3		225		12		405	
03:45	10		187		5		258		15		445	
04:00	4	56	185	920	14	62	266	1,272	18	118	451	2,192
04:15	14		220		8		410		22		630	
04:30	16		245		18		238		34		483	
04:45	22		270		22		358		44		628	
05:00	30	211	358	1,364	17	172	306	1,384	47	383	664	2,748
05:15	52		346		48		368		100		714	
05:30	73		326		42		324		115		650	
05:45	56		334		65		386		121		720	
06:00	52	358	296	1,017	68	462	328	1,221	120	820	624	2,238
06:15	60		265		122		390		182		655	
06:30	102		238		116		266		218		504	
06:45	144		218		156		237		300		455	
07:00	132	694	173	598	174	1,080	173	657	306	1,774	346	1,255
07:15	159		136		248		185		407		321	
07:30	197		151		306		147		503		298	
07:45	206		138		352		152		558		290	
08:00	189	733	109	463	348	1,170	114	416	537	1,903	223	879
08:15	184		135		313		101		497		236	
08:30	168		109		268		107		436		216	
08:45	192		110		241		94		433		204	
09:00	164	517	88	334	192	697	87	302	356	1,214	175	636
09:15	131		94		197		70		328		164	
09:30	112		82		162		88		274		170	
09:45	110		70		146		57		256		127	
10:00	87	379	84	258	102	466	55	201	189	845	139	459
10:15	96		72		118		68		214		140	
10:30	96		54		116		51		212		105	
10:45	100		48		130		27		230		75	
11:00	108	467	42	119	112	471	24	93	220	938	66	212
11:15	108		31		114		24		222		55	
11:30	122		23		132		24		254		47	
11:45	129		23		113		21		242		44	
Totals	3,556		7,360		4,701		8,414		8,257		15,774	
Split%	43.1		46.7		56.9		53.3					
Day Totals		10,916				13,115				24,031		
Day Splits		45.4				54.6						
Peak Hour	07:30		05:00		07:30		05:30		07:30		05:00	
Volume	776		1,364		1,319		1,428		2,095		2,748	
Factor	0.94		0.95		0.94		0.92		0.94		0.95	

Data File : D1405069

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Irvine Center Drive
B/ Harvard Avenue - Culver Drive

File Name 138
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/26/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	7	163			23	156				
12:15	10	173			11	168				
12:30	3	148			12	194				
12:45	8	159	28	643	3	202	49	720	77	1363
1:00	4	154			10	168				
1:15	4	155			6	167				
1:30	7	145			6	174				
1:45	4	140	19	594	5	168	27	677	46	1271
2:00	4	142			7	210				
2:15	6	146			5	162				
2:30	6	151			9	201				
2:45	6	187	22	626	5	235	26	808	48	1434
3:00	0	191			4	239				
3:15	4	206			2	269				
3:30	7	174			1	254				
3:45	5	200	16	771	4	255	11	1017	27	1788
4:00	7	222			11	304				
4:15	14	232			6	349				
4:30	27	258			10	330				
4:45	24	267	72	979	15	341	42	1324	114	2303
5:00	28	293			19	330				
5:15	63	393			46	406				
5:30	74	351			37	399				
5:45	74	367	239	1404	55	339	157	1474	396	2878
6:00	56	285			61	302				
6:15	67	286			79	373				
6:30	111	242			96	290				
6:45	149	262	383	1075	124	231	360	1196	743	2271
7:00	134	147			146	192				
7:15	157	157			206	183				
7:30	245	147			246	168				
7:45	248	114	784	565	358	106	956	649	1740	1214
8:00	246	109			338	106				
8:15	199	108			333	103				
8:30	217	107			290	127				
8:45	206	85	868	409	231	83	1192	419	2060	828
9:00	188	72			190	91				
9:15	148	79			190	93				
9:30	123	75			163	81				
9:45	108	53	567	279	127	74	670	339	1237	618
10:00	102	51			119	66				
10:15	119	35			108	56				
10:30	112	31			121	60				
10:45	112	24	445	141	129	29	477	211	922	352
11:00	116	25			119	26				
11:15	112	28			138	31				
11:30	147	22			156	25				
11:45	182	25	557	100	168	19	581	101	1138	201
Totals	4000	7586			4548	8935				
Combined Totals		11586				13483				
ADT										25069
AM Peak Hour	730	AM			745	AM				
Volume	938				1319					
P.H.F.	0.946				0.921					
PM Peak Hour		500	PM			445	PM			
Volume		1404				1476				
P.H.F.		0.893				0.909				
Percentage	34.5%	65.5%			33.7%	66.3%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

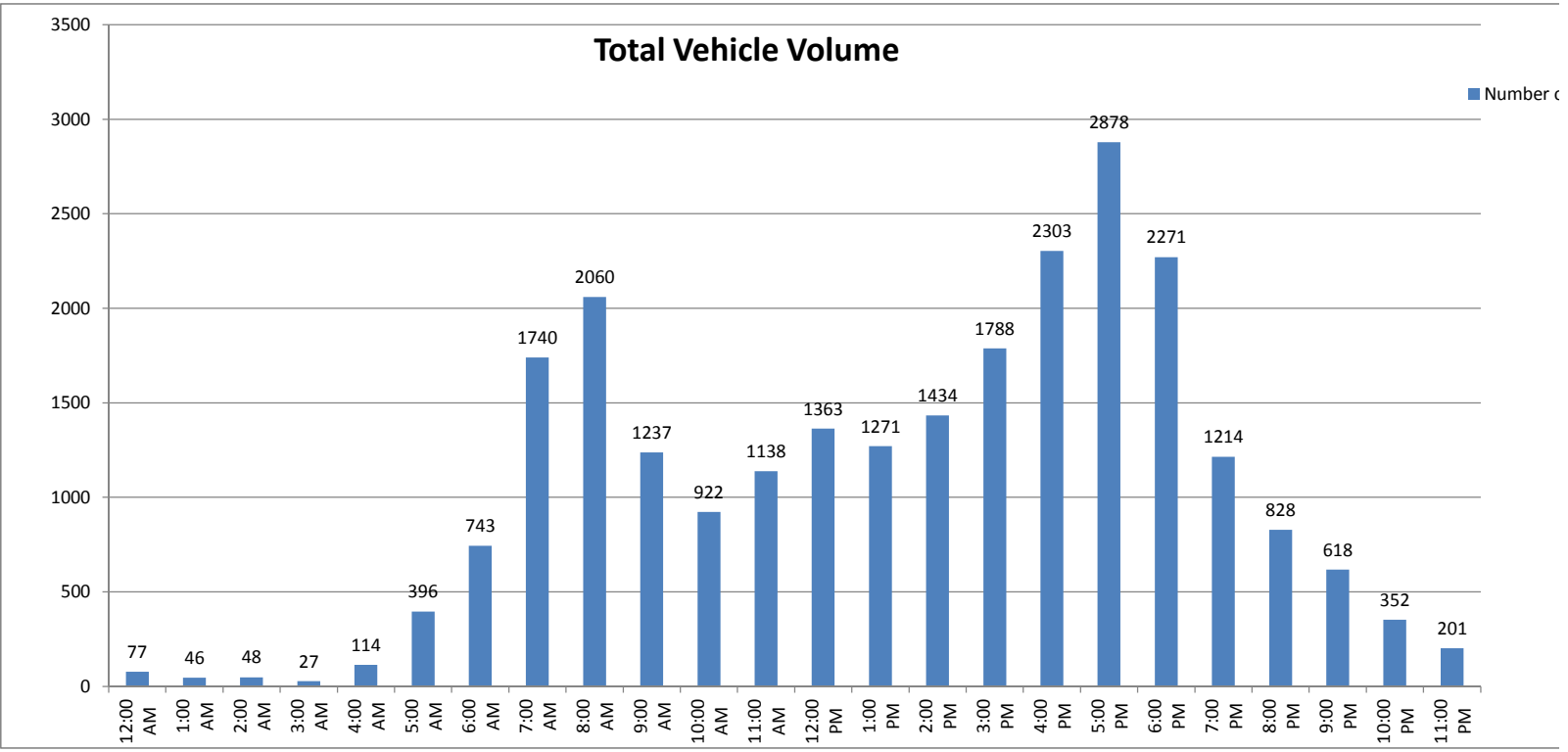
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Irvine Center Drive
B/ Harvard Avenue - Culver Drive
2/26/2014

Westbound

Start Time	2/26/2014
12:00 AM	77
1:00 AM	46
2:00 AM	48
3:00 AM	27
4:00 AM	114
5:00 AM	396
6:00 AM	743
7:00 AM	1740
8:00 AM	2060
9:00 AM	1237
10:00 AM	922
11:00 AM	1138
12:00 PM	1363
1:00 PM	1271
2:00 PM	1434
3:00 PM	1788
4:00 PM	2303
5:00 PM	2878
6:00 PM	2271
7:00 PM	1214
8:00 PM	828
9:00 PM	618
10:00 PM	352
11:00 PM	201
Total	25069



Volumes represent the combined totals for both directions

Phone: 951-268-6268
counts@countsunlimited.com
Phone: 951-268-6268

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : DEL AMO AVENUE
Segment : E/O NEWPORT AVE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	4	10	32	129	0	5	35	151	4	15	67	280
12:15	2		34		3		44		5		78	
12:30	2		28		0		36		2		64	
12:45	2		35		2		36		4		71	
01:00	1	2	39	117	0	1	32	153	1	3	71	270
01:15	0		30		0		32		0		62	
01:30	0		30		0		41		0		71	
01:45	1		18		1		48		2		66	
02:00	1	4	20	72	0	1	56	252	1	5	76	324
02:15	2		22		0		38		2		60	
02:30	1		16		1		86		2		102	
02:45	0		14		0		72		0		86	
03:00	2	4	11	80	0	1	70	399	2	5	81	479
03:15	1		18		1		70		2		88	
03:30	1		34		0		133		1		167	
03:45	0		17		0		126		0		143	
04:00	1	8	14	76	0	4	154	566	1	12	168	642
04:15	2		21		0		136		2		157	
04:30	3		21		4		146		7		167	
04:45	2		20		0		130		2		150	
05:00	4	41	21	94	1	12	148	546	5	53	169	640
05:15	9		24		3		138		12		162	
05:30	16		35		6		142		22		177	
05:45	12		14		2		118		14		132	
06:00	12	95	15	44	3	27	105	323	15	122	120	367
06:15	20		8		8		108		28		116	
06:30	21		12		4		68		25		80	
06:45	42		9		12		42		54		51	
07:00	40	164	24	79	17	122	64	152	57	286	88	231
07:15	39		18		28		41		67		59	
07:30	39		24		33		28		72		52	
07:45	46		13		44		19		90		32	
08:00	30	172	19	69	28	154	16	55	58	326	35	124
08:15	46		23		53		6		99		29	
08:30	48		13		43		15		91		28	
08:45	48		14		30		18		78		32	
09:00	27	121	14	51	24	71	12	42	51	192	26	93
09:15	28		12		13		13		41		25	
09:30	28		18		17		9		45		27	
09:45	38		7		17		8		55		15	
10:00	17	111	16	38	18	93	7	23	35	204	23	61
10:15	34		9		26		5		60		14	
10:30	32		6		25		7		57		13	
10:45	28		7		24		4		52		11	
11:00	24	106	4	14	32	130	2	4	56	236	6	18
11:15	30		1		41		1		71		2	
11:30	22		8		28		0		50		8	
11:45	30		1		29		1		59		2	
Totals	838		863		621		2,666		1,459		3,529	
Split%	57.4		24.5		42.6		75.5					
Day Totals		1,701				3,287				4,988		
Day Splits		34.1				65.9						
Peak Hour	08:00		12:15		07:45		04:00		07:45		04:45	
Volume	172		136		168		566		338		658	
Factor	0.90		0.87		0.79		0.92		0.85		0.93	

Data File : D1405070

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : VALENCIA AVENUE
Segment : W/O REDHILL AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14

Interval	WB				EB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	1	4	48	248	1	18	64	214	2	22	112	462	
12:15	1		60		2		54		3		114		
12:30	1		70		14		50		15		120		
12:45	1		70		1		46		2		116		
01:00	1	3	56	228	0	2	48	158	1	5	104	386	
01:15	1		52		0		44		1		96		
01:30	0		48		0		38		0		86		
01:45	1		72		2		28		3		100		
02:00	0	0	76	290	0	2	30	116	0	2	106	406	
02:15	0		56		0		23		0		79		
02:30	0		84		1		49		1		133		
02:45	0		74		1		14		1		88		
03:00	0	4	70	324	0	6	32	177	0	10	102	501	
03:15	0		73		4		32		4		105		
03:30	2		84		1		77		3		161		
03:45	2		97		1		36		3		133		
04:00	4	9	63	308	0	7	54	212	4	16	117	520	
04:15	1		105		1		44		2		149		
04:30	1		70		2		66		3		136		
04:45	3		70		4		48		7		118		
05:00	8	63	80	286	0	35	94	270	8	98	174	556	
05:15	12		71		2		68		14		139		
05:30	26		70		14		53		40		123		
05:45	17		65		19		55		36		120		
06:00	14	152	79	277	15	70	53	145	29	222	132	422	
06:15	29		106		15		40		44		146		
06:30	51		64		16		37		67		101		
06:45	58		28		24		15		82		43		
07:00	48	289	24	74	16	97	19	69	64	386	43	143	
07:15	74		17		17		15		91		32		
07:30	78		20		30		14		108		34		
07:45	89		13		34		21		123		34		
08:00	114	366	13	54	36	116	8	45	150	482	21	99	
08:15	100		9		16		13		116		22		
08:30	80		17		36		13		116		30		
08:45	72		15		28		11		100		26		
09:00	47	167	14	46	40	118	18	48	87	285	32	94	
09:15	32		9		25		12		57		21		
09:30	49		11		25		8		74		19		
09:45	39		12		28		10		67		22		
10:00	37	126	14	32	25	106	7	29	62	232	21	61	
10:15	29		6		24		7		53		13		
10:30	36		8		27		10		63		18		
10:45	24		4		30		5		54		9		
11:00	42	184	5	12	25	193	6	15	67	377	11	27	
11:15	34		6		36		3		70		9		
11:30	40		0		80		3		120		3		
11:45	68		1		52		3		120		4		
Totals	1,367		2,179		770		1,498		2,137		3,677		
Split%	64.0		59.3		36.0		40.7						
Day Totals		3,546				2,268				5,814			
Day Splits		61.0				39.0							
Peak Hour	07:45		03:30		11:00		04:30		07:45		04:15		
Volume	383		349		193		276		505		577		
Factor	0.84		0.83		0.60		0.73		0.84		0.83		

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : VALENCIA AVENUE
Segment : E/O REDHILL AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14
Day: Thursday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	1	7	56	230	1	6	58	243	2	13	114	473
12:15	1		61		2		51		3		112	
12:30	3		60		2		72		5		132	
12:45	2		53		1		62		3		115	
01:00	0	5	58	204	0	3	54	253	0	8	112	457
01:15	0		41		0		64		0		105	
01:30	2		52		0		67		2		119	
01:45	3		53		3		68		6		121	
02:00	1	3	70	239	1	1	118	317	2	4	188	556
02:15	0		61		0		60		0		121	
02:30	1		57		0		61		1		118	
02:45	1		51		0		78		1		129	
03:00	2	8	59	265	1	9	62	280	3	17	121	545
03:15	3		56		0		69		3		125	
03:30	1		78		6		68		7		146	
03:45	2		72		2		81		4		153	
04:00	0	7	84	429	6	14	60	304	6	21	144	733
04:15	1		92		1		102		2		194	
04:30	1		114		4		79		5		193	
04:45	5		139		3		63		8		202	
05:00	5	77	173	602	7	54	100	270	12	131	273	872
05:15	4		152		17		52		21		204	
05:30	28		132		12		67		40		199	
05:45	40		145		18		51		58		196	
06:00	25	149	132	412	22	181	44	216	47	330	176	628
06:15	33		111		29		106		62		217	
06:30	38		106		84		36		122		142	
06:45	53		63		46		30		99		93	
07:00	36	251	51	171	80	525	30	112	116	776	81	283
07:15	42		52		113		26		155		78	
07:30	74		35		138		36		212		71	
07:45	99		33		194		20		293		53	
08:00	60	194	20	101	180	558	18	116	240	752	38	217
08:15	51		27		128		35		179		62	
08:30	35		31		138		34		173		65	
08:45	48		23		112		29		160		52	
09:00	50	148	32	83	95	309	18	81	145	457	50	164
09:15	30		24		60		16		90		40	
09:30	32		12		72		15		104		27	
09:45	36		15		82		32		118		47	
10:00	31	138	11	49	58	210	20	49	89	348	31	98
10:15	32		15		48		10		80		25	
10:30	36		14		58		8		94		22	
10:45	39		9		46		11		85		20	
11:00	38	186	5	18	57	257	18	32	95	443	23	50
11:15	38		4		60		10		98		14	
11:30	57		7		70		1		127		8	
11:45	53		2		70		3		123		5	
Totals	1,173		2,803		2,127		2,273		3,300		5,076	
Split%	35.5		55.2		64.5		44.8					
Day Totals		3,976				4,400				8,376		
Day Splits		47.5				52.5						
Peak Hour	07:30		05:00		07:30		04:15		07:30		04:45	
Volume	284		602		640		344		924		878	
Factor	0.72		0.87		0.82		0.84		0.79		0.80	

* Data File : D1405092

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : VALENCIA AVENUE
Segment : W/O KENSINGTON PARK DRIVE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14
Day: Thursday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	1	6	50	160	2	5	34	179	3	11	84	339
12:15	0		36		1		46		1		82	
12:30	3		36		1		60		4		96	
12:45	2		38		1		39		3		77	
01:00	0	0	44	142	1	4	37	162	1	4	81	304
01:15	0		31		1		48		1		79	
01:30	0		39		1		40		1		79	
01:45	0		28		1		37		1		65	
02:00	0	2	38	145	0	1	32	147	0	3	70	292
02:15	1		41		0		34		1		75	
02:30	1		36		1		39		2		75	
02:45	0		30		0		42		0		72	
03:00	1	3	48	183	0	7	46	160	1	10	94	343
03:15	1		33		0		30		1		63	
03:30	0		55		2		31		2		86	
03:45	1		47		5		53		6		100	
04:00	1	8	65	366	1	4	32	185	2	12	97	551
04:15	0		78		1		46		1		124	
04:30	1		107		0		54		1		161	
04:45	6		116		2		53		8		169	
05:00	4	17	145	508	2	35	62	236	6	52	207	744
05:15	2		135		9		54		11		189	
05:30	5		119		7		70		12		189	
05:45	6		109		17		50		23		159	
06:00	10	92	110	318	13	97	34	163	23	189	144	481
06:15	15		105		17		53		32		158	
06:30	33		67		32		44		65		111	
06:45	34		36		35		32		69		68	
07:00	30	182	41	134	59	337	25	126	89	519	66	260
07:15	37		43		70		31		107		74	
07:30	45		32		76		46		121		78	
07:45	70		18		132		24		202		42	
08:00	52	143	19	63	116	373	28	89	168	516	47	152
08:15	37		15		96		19		133		34	
08:30	22		18		94		21		116		39	
08:45	32		11		67		21		99		32	
09:00	27	101	18	37	60	170	18	67	87	271	36	104
09:15	24		12		38		18		62		30	
09:30	20		3		37		16		57		19	
09:45	30		4		35		15		65		19	
10:00	26	91	5	17	34	117	8	30	60	208	13	47
10:15	18		5		26		9		44		14	
10:30	24		3		32		5		56		8	
10:45	23		4		25		8		48		12	
11:00	28	152	3	12	24	103	10	21	52	255	13	33
11:15	24		4		26		4		50		8	
11:30	59		4		31		3		90		7	
11:45	41		1		22		4		63		5	
Totals	797		2,085		1,253		1,565		2,050		3,650	
Split%	38.9		57.1		61.1		42.9					
Day Totals		2,882				2,818				5,700		
Day Splits		50.6				49.4						
Peak Hour	07:15		04:45		07:45		04:45		07:30		04:45	
Volume	204		515		438		239		624		754	
Factor	0.73		0.89		0.83		0.85		0.77		0.91	

Data File : D1405093

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : VALENCIA AVENUE
Segment : TRR TO KENSINGTON PARK DR
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 04/29/14
Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	0	1	42	170	4	7	36	170	4	8	78	340
12:15	1		48		2		46		3		94	
12:30	0		38		0		44		0		82	
12:45	0		42		1		44		1		86	
01:00	0	0	40	165	0	1	62	189	0	1	102	354
01:15	0		40		0		42		0		82	
01:30	0		36		0		46		0		82	
01:45	0		49		1		39		1		88	
02:00	1	2	45	188	0	1	34	144	1	3	79	332
02:15	0		50		1		34		1		84	
02:30	1		44		0		34		1		78	
02:45	0		49		0		42		0		91	
03:00	0	4	45	177	0	0	41	174	0	4	86	351
03:15	1		36		0		48		1		84	
03:30	2		59		0		44		2		103	
03:45	1		37		0		41		1		78	
04:00	0	7	66	294	1	4	34	153	1	11	100	447
04:15	1		66		0		41		1		107	
04:30	0		80		2		45		2		125	
04:45	6		82		1		33		7		115	
05:00	6	32	135	479	2	22	68	226	8	54	203	705
05:15	7		126		1		46		8		172	
05:30	12		108		7		59		19		167	
05:45	7		110		12		53		19		163	
06:00	22	109	96	301	14	88	51	219	36	197	147	520
06:15	21		80		12		69		33		149	
06:30	30		71		22		56		52		127	
06:45	36		54		40		43		76		97	
07:00	40	225	43	122	33	288	36	127	73	513	79	249
07:15	48		33		74		28		122		61	
07:30	60		28		80		39		140		67	
07:45	77		18		101		24		178		42	
08:00	50	169	17	72	82	332	32	96	132	501	49	168
08:15	46		12		97		18		143		30	
08:30	35		18		92		25		127		43	
08:45	38		25		61		21		99		46	
09:00	34	130	13	47	57	157	22	74	91	287	35	121
09:15	34		10		35		25		69		35	
09:30	37		15		32		19		69		34	
09:45	25		9		33		8		58		17	
10:00	22	102	9	18	28	85	14	36	50	187	23	54
10:15	30		2		14		9		44		11	
10:30	22		6		18		9		40		15	
10:45	28		1		25		4		53		5	
11:00	38	150	3	8	26	111	7	21	64	261	10	29
11:15	28		2		25		4		53		6	
11:30	51		1		32		6		83		7	
11:45	33		2		28		4		61		6	
Totals	931		2,041		1,096		1,629		2,027		3,670	
Split%	45.9		55.6		54.1		44.4					
Day Totals		2,972				2,725				5,697		
Day Splits		52.2				47.8						
Peak Hour	07:15		05:00		07:45		05:30		07:30		05:00	
Volume	235		479		372		232		593		705	
Factor	0.76		0.89		0.92		0.84		0.83		0.87	

Transportation Studies, Inc.

2640 Walnut Avenue, Suite H

Tustin, CA. 92780

Location: : WARNER AVENUE
Segment: : W/O REDHILL AVENUE
Client: : CITY OF TUSTIN

Site: SANTA ANA
Date: 09/23/14
Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	9	21	136	446	8	27	115	455	17	48	251	901
12:15	3		104		5		115		8		219	
12:30	5		102		10		109		15		211	
12:45	4		104		4		116		8		220	
01:00	6	14	114	425	2	11	110	450	8	25	224	875
01:15	2		87		2		102		4		189	
01:30	5		118		5		136		10		254	
01:45	1		106		2		102		3		208	
02:00	2	22	120	500	6	12	128	691	8	34	248	1.191
02:15	5		112		2		128		7		240	
02:30	8		150		2		249		10		399	
02:45	7		118		2		186		9		304	
03:00	4	49	115	448	3	11	148	686	7	60	263	1,134
03:15	2		101		0		164		2		265	
03:30	19		124		5		211		24		335	
03:45	24		108		3		163		27		271	
04:00	17	140	146	597	6	44	193	783	23	184	339	1.380
04:15	29		137		10		188		39		325	
04:30	36		160		10		208		46		368	
04:45	58		154		18		194		76		348	
05:00	29	361	216	714	10	90	202	810	39	451	418	1,524
05:15	58		166		12		230		70		396	
05:30	98		186		24		202		122		388	
05:45	176		146		44		176		220		322	
06:00	75	443	154	432	46	246	156	511	121	689	310	943
06:15	102		131		48		138		150		269	
06:30	112		70		60		139		172		209	
06:45	154		77		92		78		246		155	
07:00	106	561	72	232	98	478	72	188	204	1.039	144	420
07:15	132		58		128		39		260		97	
07:30	143		54		124		41		267		95	
07:45	180		48		128		36		308		84	
08:00	140	526	48	135	132	509	36	129	272	1.035	84	264
08:15	160		35		134		34		294		69	
08:30	126		20		115		27		241		47	
08:45	100		32		128		32		228		64	
09:00	77	266	28	98	99	359	36	124	176	625	64	222
09:15	62		32		91		28		153		60	
09:30	66		12		85		33		151		45	
09:45	61		26		84		27		145		53	
10:00	74	293	25	64	68	293	36	99	142	586	61	163
10:15	70		16		84		18		154		34	
10:30	67		11		73		25		140		36	
10:45	82		12		68		20		150		32	
11:00	102	414	12	35	59	259	20	58	161	673	32	93
11:15	102		8		62		16		164		24	
11:30	109		7		68		14		177		21	
11:45	101		8		70		8		171		16	
Totals	3.110		4.126		2.339		4.984		5.449		9.110	
Split%	57.1		45.3		42.9		54.7					
Day Totals		7.236				7.323				14.559		
Day Splits		49.7				50.3						
Peak Hour	07:30		04:45		07:30		04:30		07:30		04:45	
Volume	623		722		518		834		1.141		1.550	
Factor	0.87		0.84		0.97		0.91		0.93		0.93	

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : WARNER AVENUE
Segment : TUSTIN RANCH TO PARK AVE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14
Day: Thursday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	10	21	116	455	4	17	63	275	14	38	179	730
12:15	3		112		3		64		6		176	
12:30	6		94		6		76		12		170	
12:45	2		133		4		72		6		205	
01:00	2	17	126	463	2	6	89	319	4	23	215	782
01:15	2		124		0		86		2		210	
01:30	9		105		1		74		10		179	
01:45	4		108		3		70		7		178	
02:00	5	12	104	420	4	7	70	316	9	19	174	736
02:15	2		108		1		86		3		194	
02:30	2		97		1		70		3		167	
02:45	3		111		1		90		4		201	
03:00	4	15	124	476	1	4	78	315	5	19	202	791
03:15	1		128		1		76		2		204	
03:30	2		114		1		74		3		188	
03:45	8		110		1		87		9		197	
04:00	8	61	140	644	4	13	102	360	12	74	242	1,004
04:15	16		170		0		86		16		256	
04:30	14		157		6		74		20		231	
04:45	23		177		3		98		26		275	
05:00	18	151	210	768	6	39	116	472	24	190	326	1,240
05:15	26		208		12		138		38		346	
05:30	43		172		6		112		49		284	
05:45	64		178		15		106		79		284	
06:00	65	301	175	667	22	178	86	377	87	479	261	1,044
06:15	68		184		38		105		106		289	
06:30	72		159		50		112		122		271	
06:45	96		149		68		74		164		223	
07:00	37	227	124	431	79	507	57	211	116	734	181	642
07:15	36		126		119		46		155		172	
07:30	64		102		142		63		206		165	
07:45	90		79		167		45		257		124	
08:00	72	324	81	293	196	683	43	161	268	1,007	124	454
08:15	83		80		214		35		297		115	
08:30	77		74		150		41		227		115	
08:45	92		58		123		42		215		100	
09:00	48	227	55	157	80	264	30	99	128	491	85	256
09:15	52		36		64		32		116		68	
09:30	58		40		74		23		132		63	
09:45	69		26		46		14		115		40	
10:00	59	300	17	72	56	224	9	51	115	524	26	123
10:15	75		20		41		14		116		34	
10:30	90		27		55		17		145		44	
10:45	76		8		72		11		148		19	
11:00	84	407	12	42	50	212	7	33	134	619	19	75
11:15	88		9		52		13		140		22	
11:30	119		8		59		11		178		19	
11:45	116		13		51		2		167		15	
Totals	2,063		4,888		2,154		2,989		4,217		7,877	
Split%	48.9		62.1		51.1		37.9					
Day Totals		6,951				5,143				12,094		
Day Splits		57.5				42.5						
Peak Hour	11:00		05:00		07:45		05:00		07:45		05:00	
Volume	407		768		727		472		1,049		1,240	
Factor	0.86		0.91		0.85		0.86		0.88		0.90	

* Data File : D1405099

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : WARNER AVENUE
Segment : E/O PARK AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14

Interval	EB				WB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	47	125	232	939	8	20	82	341	55	145	314	1,280	
12:15	32		234		3		78		35		312		
12:30	26		207		6		78		32		285		
12:45	20		266		3		103		23		369		
01:00	20	68	258	1,035	1	4	81	344	21	72	339	1,379	
01:15	18		235		0		88		18		323		
01:30	20		282		1		93		21		375		
01:45	10		260		2		82		12		342		
02:00	18	52	241	955	4	9	86	342	22	61	327	1,297	
02:15	4		218		1		100		5		318		
02:30	10		260		1		79		11		339		
02:45	20		236		3		77		23		313		
03:00	11	46	250	955	2	3	95	346	13	49	345	1,301	
03:15	7		248		0		81		7		329		
03:30	12		242		1		74		13		316		
03:45	16		215		0		96		16		311		
04:00	14	125	232	1,022	2	14	99	397	16	139	331	1,419	
04:15	16		250		3		108		19		358		
04:30	40		266		6		82		46		348		
04:45	55		274		3		108		58		382		
05:00	54	356	332	1,158	6	38	122	512	60	394	454	1,670	
05:15	74		280		12		139		86		419		
05:30	104		270		5		123		109		393		
05:45	124		276		15		128		139		404		
06:00	116	441	304	1,153	16	121	88	410	132	562	392	1,563	
06:15	109		311		30		136		139		447		
06:30	98		266		27		110		125		376		
06:45	118		272		48		76		166		348		
07:00	73	419	241	859	49	247	75	287	122	666	316	1,146	
07:15	88		223		62		66		150		289		
07:30	101		198		66		82		167		280		
07:45	157		197		70		64		227		261		
08:00	166	653	192	770	78	314	70	200	244	967	262	970	
08:15	151		185		90		54		241		239		
08:30	162		195		74		37		236		232		
08:45	174		198		72		39		246		237		
09:00	122	506	174	491	52	224	30	95	174	730	204	586	
09:15	128		135		50		36		178		171		
09:30	120		114		64		11		184		125		
09:45	136		68		58		18		194		86		
10:00	123	648	76	221	74	306	7	34	197	954	83	255	
10:15	153		60		82		16		235		76		
10:30	193		54		64		7		257		61		
10:45	179		31		86		4		265		35		
11:00	184	828	38	140	86	347	6	23	270	1,175	44	163	
11:15	196		46		79		5		275		51		
11:30	214		32		104		8		318		40		
11:45	234		24		78		4		312		28		
Totals	4,267		9,698		1,647		3,331		5,914		13,029		
Split%	72.2		74.4		27.8		25.6						
Day Totals		13,965				4,978				18,943			
Day Splits		73.7				26.3							
Peak Hour	11:00		05:30		10:45		05:00		11:00		05:00		
Volume	828		1,161		355		512		1,175		1,670		
Factor	0.88		0.93		0.85		0.92		0.92		0.92		

* Data File : D1405100

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : WARNER AVENUE (NB) Site: TUSTIN
Segment : JAMBOREE ROAD Date: 05/29/14
Client : CITY OF TUSTIN

Interval	ON				OFF				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	16	79	130	614	4	8	18	70	20	87	148	684	
12:15	38		152		2		16		40		168		
12:30	17		154		1		12		18		166		
12:45	8		178		1		24		9		202		
01:00	15	82	162	606	0	0	18	57	15	82	180	663	
01:15	18		126		0		18		18		144		
01:30	37		148		0		14		37		162		
01:45	12		170		0		7		12		177		
02:00	12	36	159	630	0	1	10	47	12	37	169	677	
02:15	8		162		1		19		9		181		
02:30	6		148		0		8		6		156		
02:45	10		161		0		10		10		171		
03:00	12	39	140	615	0	0	17	51	12	39	157	666	
03:15	9		164		0		10		9		174		
03:30	12		172		0		10		12		182		
03:45	6		139		0		14		6		153		
04:00	14	69	176	741	0	8	24	65	14	77	200	806	
04:15	10		172		2		12		12		184		
04:30	11		206		4		12		15		218		
04:45	34		187		2		17		36		204		
05:00	28	111	212	784	1	7	16	64	29	118	228	848	
05:15	30		206		0		20		30		226		
05:30	28		180		4		14		32		194		
05:45	25		186		2		14		27		200		
06:00	64	378	186	732	6	15	16	60	70	393	202	792	
06:15	72		204		5		20		77		224		
06:30	108		187		1		16		109		203		
06:45	134		155		3		8		137		163		
07:00	118	413	192	562	2	12	14	52	120	425	206	614	
07:15	100		146		2		12		102		158		
07:30	105		113		4		14		109		127		
07:45	90		111		4		12		94		123		
08:00	106	469	106	436	6	26	12	28	112	495	118	464	
08:15	110		109		7		6		117		115		
08:30	145		115		10		2		155		117		
08:45	108		106		3		8		111		114		
09:00	111	426	124	333	12	24	5	17	123	450	129	350	
09:15	104		76		6		5		110		81		
09:30	102		87		2		3		104		90		
09:45	109		46		4		4		113		50		
10:00	118	484	50	147	3	36	1	5	121	520	51	152	
10:15	124		41		11		4		135		45		
10:30	116		38		6		0		122		38		
10:45	126		18		16		0		142		18		
11:00	114	523	22	110	18	72	0	4	132	595	22	114	
11:15	116		36		22		0		138		36		
11:30	138		31		16		2		154		33		
11:45	155		21		16		2		171		23		
Totals	3,109		6,310		209		520		3,318		6,830		
Split%	93.7		92.4		6.3		7.6						
Day Totals		9,419				729				10,148			
Day Splits		92.8				7.2							
Peak Hour	11:00		04:30		10:45		12:45		11:00		04:30		
Volume	523		811		72		74		595		876		
Factor	0.84		0.96		0.82		0.77		0.87		0.96		

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Warner Avenue
B/ Construction Circle North - Harvard Avenue

File Name 318
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/16/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	83			6	79				
12:15	5	112			2	73				
12:30	2	102			2	74				
12:45	4	104	20	401	2	83	12	309	32	710
1:00	1	120			3	77				
1:15	1	111			1	72				
1:30	4	116			5	92				
1:45	2	117	8	464	3	72	12	313	20	777
2:00	1	114			1	67				
2:15	1	95			1	62				
2:30	3	118			0	83				
2:45	0	99	5	426	1	84	3	296	8	722
3:00	0	107			0	84				
3:15	0	97			2	111				
3:30	1	86			1	95				
3:45	2	121	3	411	0	103	3	393	6	804
4:00	3	110			3	113				
4:15	0	106			1	112				
4:30	0	142			4	100				
4:45	4	124	7	482	10	134	18	459	25	941
5:00	1	116			10	116				
5:15	4	121			14	149				
5:30	2	103			13	120				
5:45	8	120	15	460	24	121	61	506	76	966
6:00	14	115			29	123				
6:15	19	122			32	128				
6:30	22	126			56	111				
6:45	35	114	90	477	58	86	175	448	265	925
7:00	39	119			61	95				
7:15	43	91			92	66				
7:30	72	92			94	70				
7:45	77	106	231	408	120	65	367	296	598	704
8:00	65	85			121	48				
8:15	65	91			132	42				
8:30	59	70			110	33				
8:45	69	55	258	301	107	20	470	143	728	444
9:00	66	53			91	31				
9:15	53	70			108	26				
9:30	55	42			87	20				
9:45	49	35	223	200	77	16	363	93	586	293
10:00	58	30			90	11				
10:15	65	25			87	14				
10:30	67	22			77	13				
10:45	77	15	267	92	85	12	339	50	606	142
11:00	70	17			68	7				
11:15	81	13			79	7				
11:30	80	14			81	3				
11:45	98	5	329	49	82	4	310	21	639	70
Totals	1456	4171			2133	3327				
Combined Totals		5627				5460				
ADT										11087
AM Peak Hour	1100	AM			745	AM				
Volume	329				483					
P.H.F.	0.839				0.915					
PM Peak Hour		430	PM			445	PM			
Volume		503				519				
P.H.F.		0.886				0.871				
Percentage	25.9%	74.1%			39.1%	60.9%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

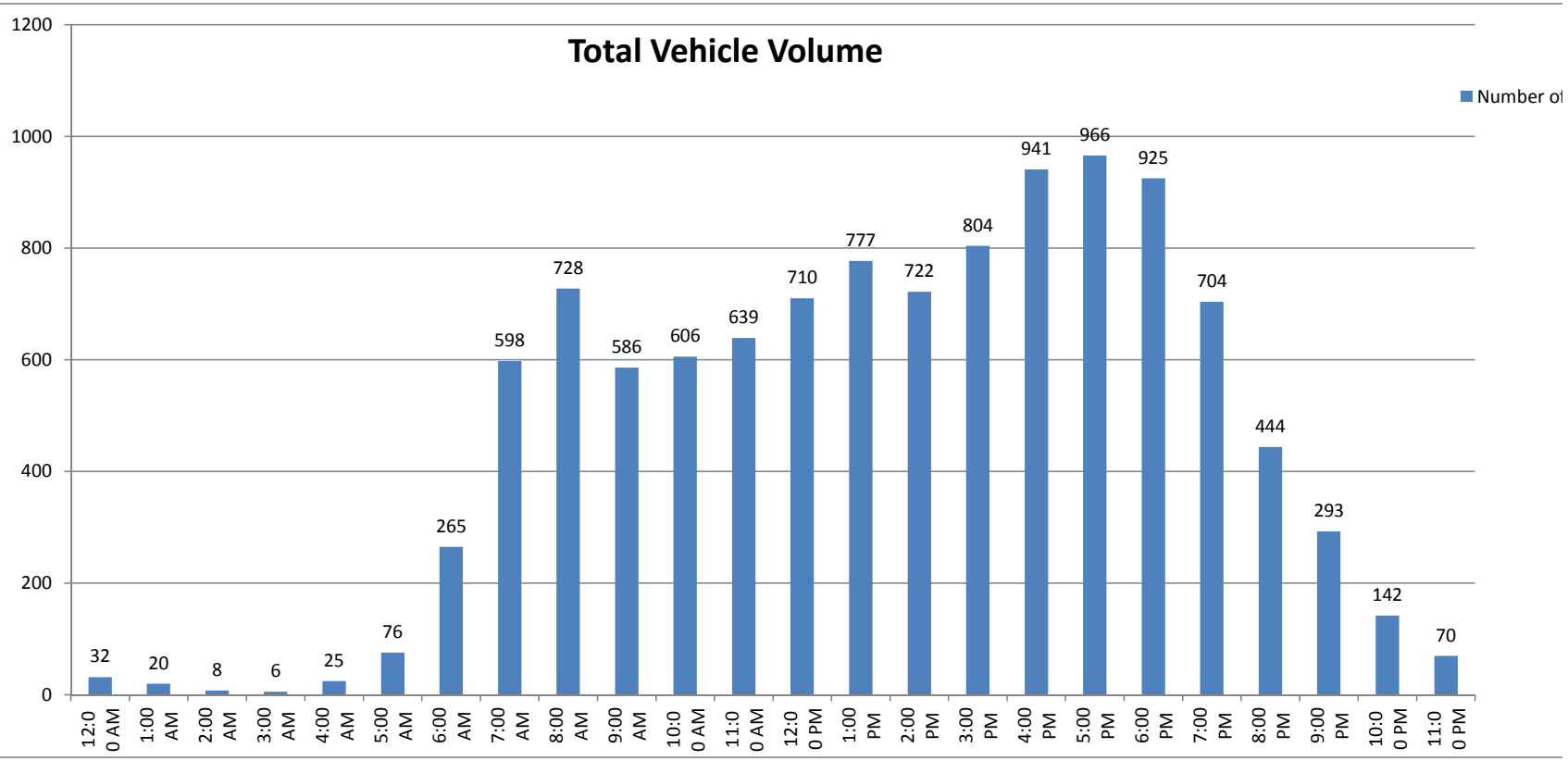
Warner Avenue

B/ Construction Circle North - Harvard Avenue

1/16/2014

Westbound

Start Time	1/16/2014
12:00 AM	32
1:00 AM	20
2:00 AM	8
3:00 AM	6
4:00 AM	25
5:00 AM	76
6:00 AM	265
7:00 AM	598
8:00 AM	728
9:00 AM	586
10:00 AM	606
11:00 AM	639
12:00 PM	710
1:00 PM	777
2:00 PM	722
3:00 PM	804
4:00 PM	941
5:00 PM	966
6:00 PM	925
7:00 PM	704
8:00 PM	444
9:00 PM	293
10:00 PM	142
11:00 PM	70
Total	11087



Volumes represent the combined totals for both directions

Phone: 951-268-6268
counts@countsunlimited.com
Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Warner Avenue
B/ Harvard Avenue - Paseo Westpark

File Name 319
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/15/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	5	49			2	53				
12:15	8	55			1	52				
12:30	2	69			1	51				
12:45	2	54	17	227	0	66	4	222	21	449
1:00	7	106			1	54				
1:15	2	88			2	79				
1:30	3	61			2	101				
1:45	3	62	15	317	0	68	5	302	20	619
2:00	0	75			0	49				
2:15	0	71			0	59				
2:30	0	69			1	53				
2:45	2	90	2	305	3	57	4	218	6	523
3:00	0	86			0	71				
3:15	0	95			1	98				
3:30	1	80			2	72				
3:45	1	89	2	350	2	63	5	304	7	654
4:00	2	60			4	60				
4:15	0	119			0	61				
4:30	2	85			2	62				
4:45	2	97	6	361	6	69	12	252	18	613
5:00	2	98			3	64				
5:15	0	113			5	81				
5:30	2	101			11	78				
5:45	3	133	7	445	15	89	34	312	41	757
6:00	5	106			14	78				
6:15	7	125			21	70				
6:30	11	109			33	66				
6:45	22	115	45	455	40	62	108	276	153	731
7:00	16	91			48	50				
7:15	27	71			56	54				
7:30	31	66			81	33				
7:45	96	71	170	299	113	34	298	171	468	470
8:00	52	62			144	35				
8:15	43	57			107	38				
8:30	27	63			76	29				
8:45	37	50	159	232	85	27	412	129	571	361
9:00	58	51			78	22				
9:15	50	38			80	15				
9:30	19	38			80	10				
9:45	25	23	152	150	67	9	305	56	457	206
10:00	38	31			59	10				
10:15	35	18			65	19				
10:30	42	24			52	9				
10:45	52	16	167	89	49	6	225	44	392	133
11:00	54	17			47	9				
11:15	66	5			55	5				
11:30	58	7			54	3				
11:45	53	11	231	40	64	2	220	19	451	59
Totals	973	3270			1632	2305				
Combined Totals		4243				3937				
ADT										8180
AM Peak Hour	1100	AM			730	AM				
Volume	231				445					
P.H.F.	0.875				0.773					
PM Peak Hour		545	PM			515	PM			
Volume		473				326				
P.H.F.		0.889				0.916				
Percentage	22.9%	77.1%			41.5%	58.5%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

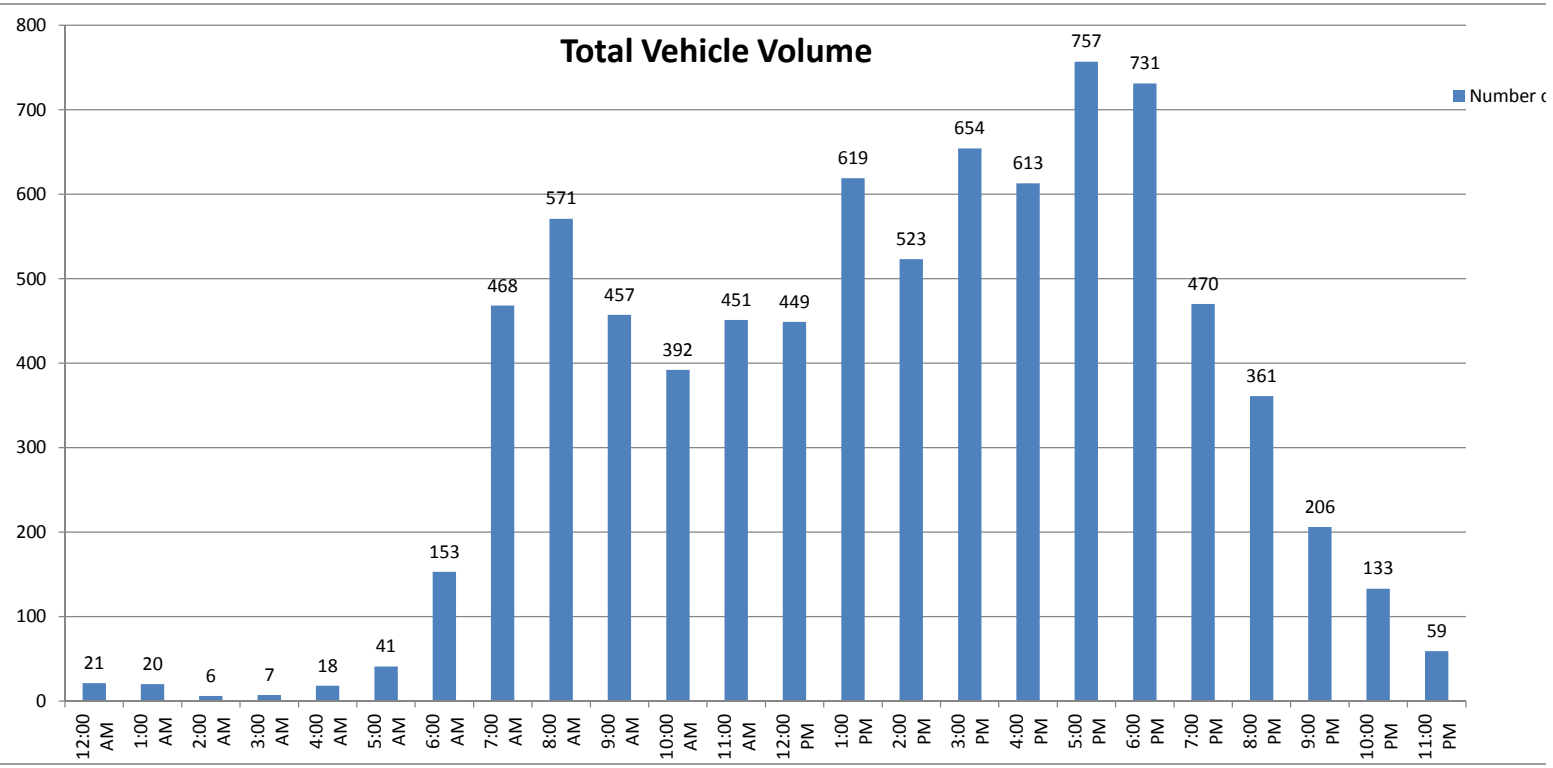
Warner Avenue

B/ Harvard Avenue - Paseo Westpark

1/15/2014

Westbound

Start Time	1/15/2014
12:00 AM	21
1:00 AM	20
2:00 AM	6
3:00 AM	7
4:00 AM	18
5:00 AM	41
6:00 AM	153
7:00 AM	468
8:00 AM	571
9:00 AM	457
10:00 AM	392
11:00 AM	451
12:00 PM	449
1:00 PM	619
2:00 PM	523
3:00 PM	654
4:00 PM	613
5:00 PM	757
6:00 PM	731
7:00 PM	470
8:00 PM	361
9:00 PM	206
10:00 PM	133
11:00 PM	59
Total	8180



Volumes represent the combined totals for both directions

Phone: 951-268-6268
counts@countsunlimited.com
Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Barranca Parkway
B/ Pullman Street - Redhill Avenue

File Name 050
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/23/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	14	249			52	218				
12:15	11	219			25	193				
12:30	11	209			59	247				
12:45	5	201	41	878	21	225	157	883	198	1761
1:00	10	212			20	270				
1:15	11	215			23	225				
1:30	14	217			54	253				
1:45	12	214	47	858	21	267	118	1015	165	1873
2:00	5	178			31	274				
2:15	14	194			21	309				
2:30	24	196			17	308				
2:45	29	201	72	769	19	356	88	1247	160	2016
3:00	8	189			27	291				
3:15	17	190			10	333				
3:30	32	187			12	348				
3:45	49	255	106	821	8	339	57	1311	163	2132
4:00	35	190			10	327				
4:15	48	213			11	367				
4:30	95	222			20	375				
4:45	187	275	365	900	27	374	68	1443	433	2343
5:00	147	292			25	380				
5:15	137	336			32	360				
5:30	208	265			32	296				
5:45	315	237	807	1130	49	308	138	1344	945	2474
6:00	189	238			93	326				
6:15	235	222			105	301				
6:30	233	185			88	319				
6:45	311	141	968	786	143	239	429	1185	1397	1971
7:00	266	149			159	247				
7:15	312	125			161	220				
7:30	322	105			173	184				
7:45	318	77	1218	456	235	190	728	841	1946	1297
8:00	305	98			248	173				
8:15	307	90			236	155				
8:30	276	58			233	152				
8:45	293	78	1181	324	194	135	911	615	2092	939
9:00	234	61			166	148				
9:15	237	56			156	122				
9:30	183	50			169	123				
9:45	240	47	894	214	165	127	656	520	1550	734
10:00	182	38			159	136				
10:15	182	47			162	109				
10:30	193	41			171	96				
10:45	226	42	783	168	179	84	671	425	1454	593
11:00	214	36			210	106				
11:15	188	32			195	83				
11:30	222	18			221	75				
11:45	239	11	863	97	220	50	846	314	1709	411
Totals	7345	7401			4867	11143				
Combined Totals		14746				16010				
ADT										30756
AM Peak Hour	715	AM			745	AM				
Volume	1257				952					
P.H.F.	0.976				0.960					
PM Peak Hour		445	PM			415	PM			
Volume		1168				1496				
P.H.F.		0.869				0.984				
Percentage	49.8%	50.2%			30.4%	69.6%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

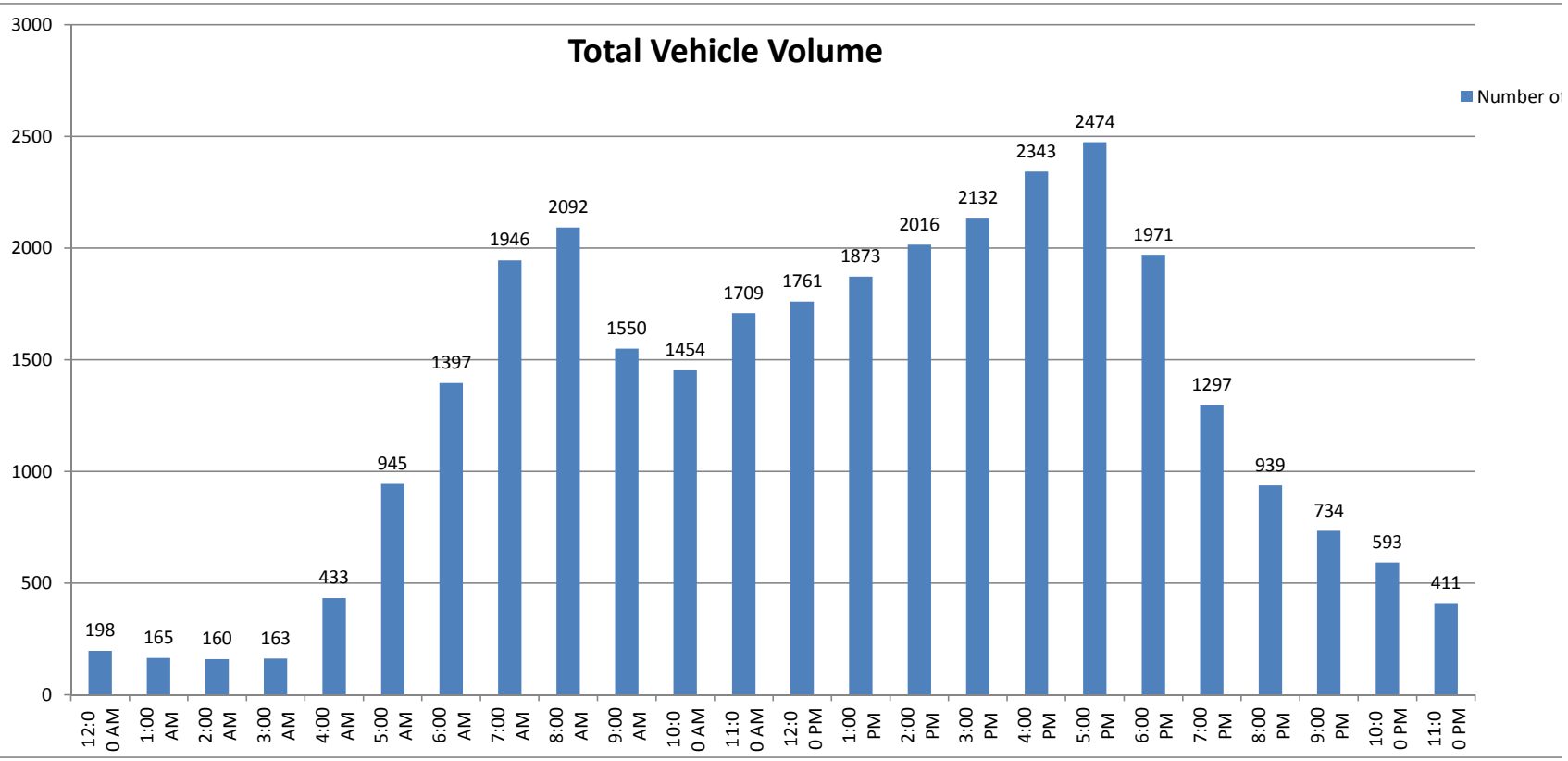
Barranca Parkway

B/ Pullman Street - Redhill Avenue

1/23/2014

Westbound

Start Time	1/23/2014
12:00 AM	198
1:00 AM	165
2:00 AM	160
3:00 AM	163
4:00 AM	433
5:00 AM	945
6:00 AM	1397
7:00 AM	1946
8:00 AM	2092
9:00 AM	1550
10:00 AM	1454
11:00 AM	1709
12:00 PM	1761
1:00 PM	1873
2:00 PM	2016
3:00 PM	2132
4:00 PM	2343
5:00 PM	2474
6:00 PM	1971
7:00 PM	1297
8:00 PM	939
9:00 PM	734
10:00 PM	593
11:00 PM	411
Total	30756



Volumes represent the combined totals for both directions

Phone: 951-268-6268
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Fax: 951-268-6267

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : BARRANCA PARKWAY
Segment : E/O REDHILL AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	16	50	411	1,464	45	132	278	1,239	61	182	689	2,703
12:15	12		346		29		316		41		662	
12:30	12		397		34		306		46		703	
12:45	10		310		24		339		34		649	
01:00	9	30	376	1,257	30	90	338	1,320	39	120	714	2,577
01:15	4		284		16		292		20		576	
01:30	8		314		26		351		34		665	
01:45	9		283		18		339		27		622	
02:00	6	59	304	1,171	22	76	290	1,257	28	135	594	2,428
02:15	4		279		11		273		15		552	
02:30	11		281		25		360		36		641	
02:45	38		307		18		334		56		641	
03:00	12	110	340	1,257	25	55	388	1,544	37	165	728	2,801
03:15	13		312		9		366		22		678	
03:30	32		290		5		412		37		702	
03:45	53		315		16		378		69		693	
04:00	33	312	308	1,415	7	53	398	1,535	40	365	706	2,950
04:15	44		332		8		374		52		706	
04:30	82		343		14		384		96		727	
04:45	153		432		24		379		177		811	
05:00	96	669	374	1,673	15	149	400	1,518	111	818	774	3,191
05:15	117		458		30		362		147		820	
05:30	194		417		29		402		223		819	
05:45	262		424		75		354		337		778	
06:00	194	1,029	394	1,296	86	443	336	1,295	280	1,472	730	2,591
06:15	251		352		92		357		343		709	
06:30	240		268		110		330		350		598	
06:45	344		282		155		272		499		554	
07:00	258	1,177	230	776	192	1,035	288	943	450	2,212	518	1,719
07:15	270		202		250		252		520		454	
07:30	309		196		236		216		545		412	
07:45	340		148		357		187		697		335	
08:00	328	1,324	130	457	332	1,255	213	723	660	2,579	343	1,180
08:15	348		124		312		179		660		303	
08:30	326		107		282		177		608		284	
08:45	322		96		329		154		651		250	
09:00	280	986	94	350	236	833	178	622	516	1,819	272	972
09:15	242		96		217		144		459		240	
09:30	228		80		196		168		424		248	
09:45	236		80		184		132		420		212	
10:00	260	945	53	198	182	728	124	450	442	1,673	177	648
10:15	229		60		163		136		392		196	
10:30	214		46		167		92		381		138	
10:45	242		39		216		98		458		137	
11:00	294	1,361	44	124	226	931	107	334	520	2,292	151	458
11:15	320		42		182		81		502		123	
11:30	376		16		258		80		634		96	
11:45	371		22		265		66		636		88	
Totals	8,052		11,438		5,780		12,780		13,832		24,218	
Split%	58.2		47.2		41.8		52.8					
Day Totals		19,490				18,560				38,050		
Day Splits		51.2				48.8						
Peak Hour	11:00		05:15		07:45		03:30		07:45		04:45	
Volume	1,361		1,693		1,283		1,562		2,625		3,224	
Factor	0.90		0.92		0.90		0.95		0.94		0.98	

Data File : D1405062

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Barranca Parkway
B/ Armstrong Avenue - Von Karman Avenue

File Name 052
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/23/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	21	341			47	215				
12:15	13	406			27	256				
12:30	15	331			34	294				
12:45	11	339	60	1417	22	352	130	1117	190	2534
1:00	13	306			9	340				
1:15	10	309			22	348				
1:30	8	267			16	302				
1:45	9	303	40	1185	18	295	65	1285	105	2470
2:00	5	266			22	294				
2:15	2	236			25	326				
2:30	9	240			9	279				
2:45	11	288	27	1030	13	366	69	1265	96	2295
3:00	5	261			10	266				
3:15	7	321			6	347				
3:30	10	277			8	315				
3:45	33	332	55	1191	4	387	28	1315	83	2506
4:00	32	311			8	307				
4:15	32	358			12	367				
4:30	29	350			14	329				
4:45	81	415	174	1434	18	352	52	1355	226	2789
5:00	109	419			26	321				
5:15	91	471			27	397				
5:30	96	455			42	313				
5:45	157	407	453	1752	66	293	161	1324	614	3076
6:00	191	389			82	317				
6:15	122	373			95	315				
6:30	176	355			103	297				
6:45	242	295	731	1412	147	293	427	1222	1158	2634
7:00	231	219			196	237				
7:15	259	192			244	259				
7:30	237	189			272	200				
7:45	305	135	1032	735	386	190	1098	886	2130	1621
8:00	289	149			411	174				
8:15	272	131			440	161				
8:30	250	101			410	143				
8:45	286	104	1097	485	398	143	1659	621	2756	1106
9:00	248	87			292	143				
9:15	232	88			273	135				
9:30	204	80			183	106				
9:45	204	74	888	329	249	133	997	517	1885	846
10:00	193	45			173	116				
10:15	208	62			167	119				
10:30	198	52			188	86				
10:45	202	52	801	211	188	96	716	417	1517	628
11:00	242	28			187	65				
11:15	268	43			209	76				
11:30	287	27			223	86				
11:45	405	16	1202	114	225	47	844	274	2046	388
Totals	6560	11295			6246	11598				
Combined Totals		17855				17844				
ADT										35699
AM Peak Hour	1100	AM			800	AM				
Volume	1202				1659					
P.H.F.	0.742				0.943					
PM Peak Hour		445	PM			430	PM			
Volume		1760				1399				
P.H.F.		0.934				0.881				
Percentage	36.7%	63.3%			35.0%	65.0%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

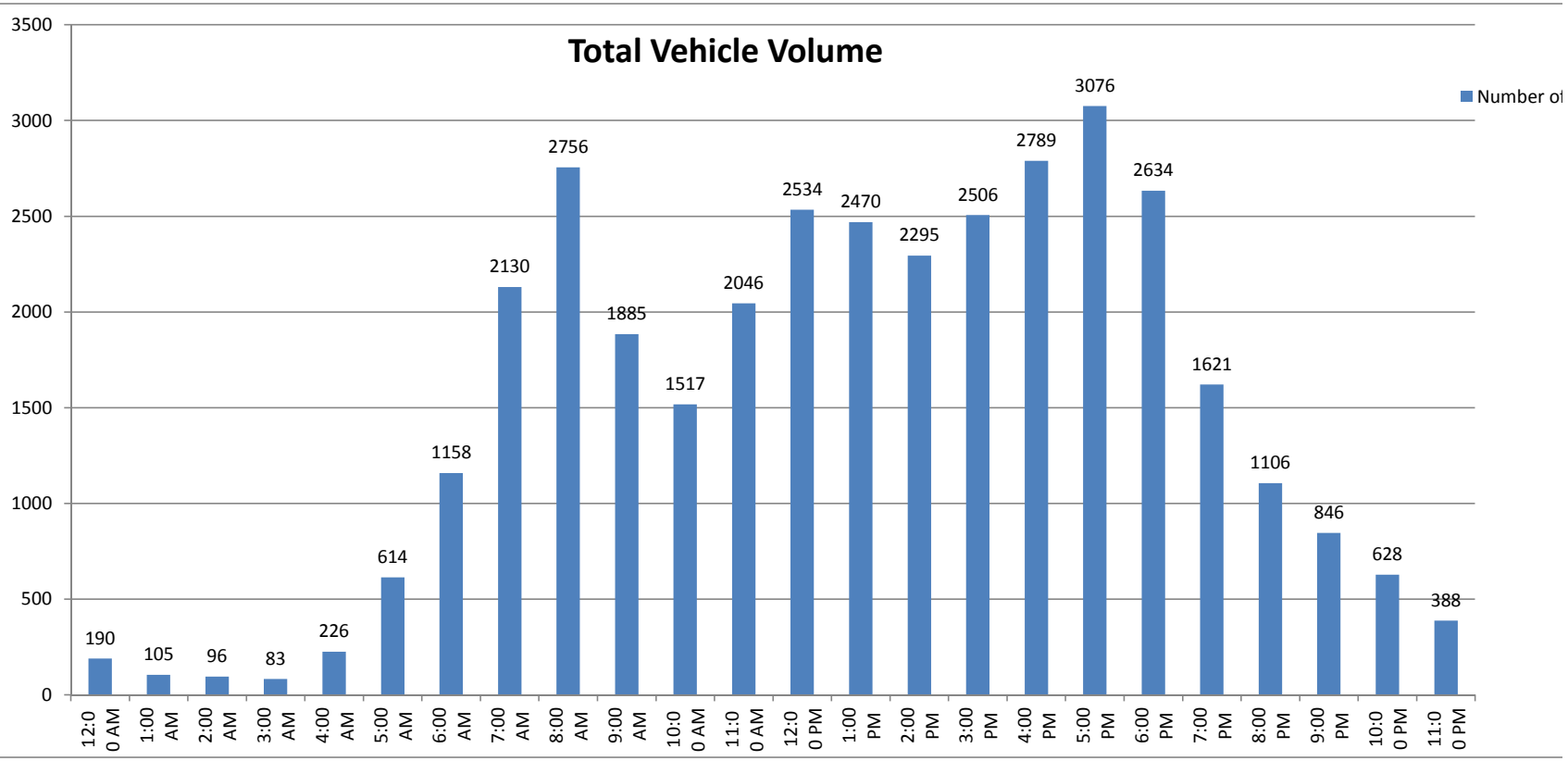
Barranca Parkway

B/ Armstrong Avenue - Von Karman Avenue

1/23/2014

Westbound

Start Time	1/23/2014
12:00 AM	190
1:00 AM	105
2:00 AM	96
3:00 AM	83
4:00 AM	226
5:00 AM	614
6:00 AM	1158
7:00 AM	2130
8:00 AM	2756
9:00 AM	1885
10:00 AM	1517
11:00 AM	2046
12:00 PM	2534
1:00 PM	2470
2:00 PM	2295
3:00 PM	2506
4:00 PM	2789
5:00 PM	3076
6:00 PM	2634
7:00 PM	1621
8:00 PM	1106
9:00 PM	846
10:00 PM	628
11:00 PM	388
Total	35699



Volumes represent the combined totals for both directions

Phone: 951-268-6268
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Fax: 951-268-6267

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : BARRANCA PARKWAY
Segment : TUSTIN RANCH TO DISTRICT DR
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	18	44	316	1,122	30	74	254	1,160	48	118	570	2,282
12:15	8		294		11		286		19		580	
12:30	9		286		19		310		28		596	
12:45	9		226		14		310		23		536	
01:00	10	26	276	917	16	62	302	1,158	26	88	578	2,075
01:15	7		227		14		317		21		544	
01:30	5		202		22		298		27		500	
01:45	4		212		10		241		14		453	
02:00	6	24	226	938	10	38	248	991	16	62	474	1,929
02:15	5		217		6		247		11		464	
02:30	7		215		18		256		25		471	
02:45	6		280		4		240		10		520	
03:00	7	55	248	1,053	13	36	282	1,110	20	91	530	2,163
03:15	7		246		6		286		13		532	
03:30	16		240		6		288		22		528	
03:45	25		319		11		254		36		573	
04:00	13	86	296	1,280	11	63	282	1,079	24	149	578	2,359
04:15	14		306		12		261		26		567	
04:30	15		326		10		264		25		590	
04:45	44		352		30		272		74		624	
05:00	36	268	420	1,706	26	216	326	1,167	62	484	746	2,873
05:15	48		472		37		264		85		736	
05:30	68		370		53		305		121		675	
05:45	116		444		100		272		216		716	
06:00	90	490	368	1,206	101	628	226	938	191	1,118	594	2,144
06:15	101		378		128		258		229		636	
06:30	128		256		149		246		277		502	
06:45	171		204		250		208		421		412	
07:00	151	647	192	698	274	1,430	248	735	425	2,077	440	1,433
07:15	138		200		338		167		476		367	
07:30	168		168		378		156		546		324	
07:45	190		138		440		164		630		302	
08:00	178	748	118	456	436	1,676	130	499	614	2,424	248	955
08:15	202		116		391		137		593		253	
08:30	204		123		428		122		632		245	
08:45	164		99		421		110		585		209	
09:00	157	561	94	308	307	1,046	117	416	464	1,607	211	724
09:15	128		84		298		108		426		192	
09:30	139		70		224		112		363		182	
09:45	137		60		217		79		354		139	
10:00	170	612	56	200	210	742	72	296	380	1,354	128	496
10:15	148		56		164		94		312		150	
10:30	154		50		164		66		318		116	
10:45	140		38		204		64		344		102	
11:00	220	1,025	55	150	210	850	70	212	430	1,875	125	362
11:15	221		36		195		51		416		87	
11:30	292		28		207		51		499		79	
11:45	292		31		238		40		530		71	
Totals	4,586		10,034		6,861		9,761		11,447		19,795	
Split%	40.1		50.7		59.9		49.3					
Day Totals		14,620				16,622				31,242		
Day Splits		46.8				53.2						
Peak Hour	11:00		05:00		07:45		12:30		07:45		05:00	
Volume	1,025		1,706		1,695		1,239		2,469		2,873	
Factor	0.88		0.90		0.96		0.98		0.98		0.96	

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : BARRANCA PARKWAY
Segment : DISTRICT DR TO JAMBOREE RD
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	38	88	304	1,126	22	63	321	1,333	60	151	625	2,459
12:15	16		262		11		344		27		606	
12:30	20		294		22		326		42		620	
12:45	14		266		8		342		22		608	
01:00	11	29	287	1,078	9	36	310	1,246	20	65	597	2,324
01:15	4		263		6		340		10		603	
01:30	12		271		15		296		27		567	
01:45	2		257		6		300		8		557	
02:00	8	23	256	1,112	5	21	262	1,084	13	44	518	2,196
02:15	6		264		6		266		12		530	
02:30	3		304		6		286		9		590	
02:45	6		288		4		270		10		558	
03:00	8	46	334	1,293	6	29	299	1,199	14	75	633	2,492
03:15	3		285		5		290		8		575	
03:30	12		344		8		308		20		652	
03:45	23		330		10		302		33		632	
04:00	6	63	382	1,571	9	77	306	1,173	15	140	688	2,744
04:15	16		378		12		286		28		664	
04:30	13		405		16		294		29		699	
04:45	28		406		40		287		68		693	
05:00	17	181	506	1,918	34	274	308	1,242	51	455	814	3,160
05:15	31		462		46		294		77		756	
05:30	53		474		74		312		127		786	
05:45	80		476		120		328		200		804	
06:00	78	371	436	1,437	111	655	355	1,238	189	1,026	791	2,675
06:15	84		420		130		307		214		727	
06:30	86		315		158		328		244		643	
06:45	123		266		256		248		379		514	
07:00	122	570	270	958	270	1,421	282	965	392	1,991	552	1,923
07:15	112		256		334		255		446		511	
07:30	170		228		397		230		567		458	
07:45	166		204		420		198		586		402	
08:00	173	666	214	772	453	1,722	170	627	626	2,388	384	1,399
08:15	144		204		413		180		557		384	
08:30	195		187		446		144		641		331	
08:45	154		167		410		133		564		300	
09:00	146	584	161	525	333	1,167	108	396	479	1,751	269	921
09:15	140		149		296		114		436		263	
09:30	136		103		258		95		394		198	
09:45	162		112		280		79		442		191	
10:00	150	704	110	318	248	992	60	232	398	1,696	170	550
10:15	188		81		234		70		422		151	
10:30	174		67		236		52		410		119	
10:45	192		60		274		50		466		110	
11:00	222	1,020	80	200	261	1,118	36	124	483	2,138	116	324
11:15	248		41		262		36		510		77	
11:30	272		39		287		22		559		61	
11:45	278		40		308		30		586		70	
Totals	4,345		12,308		7,575		10,859		11,920		23,167	
Split%	36.5		53.1		63.5		46.9					
Day Totals		16,653				18,434				35,087		
Day Splits		47.5				52.5						
Peak Hour	11:00		05:00		07:45		12:00		07:45		05:00	
Volume	1,020		1,918		1,732		1,333		2,410		3,160	
Factor	0.92		0.95		0.96		0.97		0.94		0.97	

* Data File : D1405064

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Barranca Parkway
B/ Jamboree Road - Construction Circle

File Name 054
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/23/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	19	264			15	260				
12:15	18	266			16	235				
12:30	14	233			14	257				
12:45	12	226	63	989	6	285	51	1037	114	2026
1:00	13	246			8	253				
1:15	7	247			7	261				
1:30	11	239			10	235				
1:45	10	247	41	979	5	240	30	989	71	1968
2:00	5	203			6	231				
2:15	12	201			2	235				
2:30	4	201			10	246				
2:45	7	220	28	825	8	248	26	960	54	1785
3:00	7	203			3	252				
3:15	3	229			6	245				
3:30	11	206			8	274				
3:45	12	230	33	868	8	260	25	1031	58	1899
4:00	10	200			8	262				
4:15	16	270			3	271				
4:30	29	250			11	257				
4:45	46	269	101	989	16	251	38	1041	139	2030
5:00	48	301			22	322				
5:15	61	294			21	316				
5:30	82	261			37	331				
5:45	111	275	302	1131	63	341	143	1310	445	2441
6:00	106	259			90	312				
6:15	137	250			106	280				
6:30	128	253			127	250				
6:45	157	193	528	955	159	214	482	1056	1010	2011
7:00	174	198			151	202				
7:15	172	185			211	174				
7:30	181	179			187	159				
7:45	200	111	727	673	250	154	799	689	1526	1362
8:00	210	139			219	140				
8:15	218	143			272	119				
8:30	256	133			241	85				
8:45	231	98	915	513	238	77	970	421	1885	934
9:00	203	91			188	112				
9:15	199	79			182	85				
9:30	171	85			183	84				
9:45	191	60	764	315	184	76	737	357	1501	672
10:00	135	59			171	69				
10:15	153	66			179	68				
10:30	178	66			209	57				
10:45	196	47	662	238	206	55	765	249	1427	487
11:00	199	40			164	51				
11:15	180	40			211	37				
11:30	211	25			233	35				
11:45	236	20	826	125	231	17	839	140	1665	265
Totals	4990	8600			4905	9280				
Combined Totals		13590				14185				
ADT										27775
AM Peak Hour	800	AM			745	AM				
Volume	915				982					
P.H.F.	0.894				0.903					
PM Peak Hour		500	PM			500	PM			
Volume		1131				1310				
P.H.F.		0.939				0.960				
Percentage	36.7%	63.3%			34.6%	65.4%				

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24 Hour Volume Plot

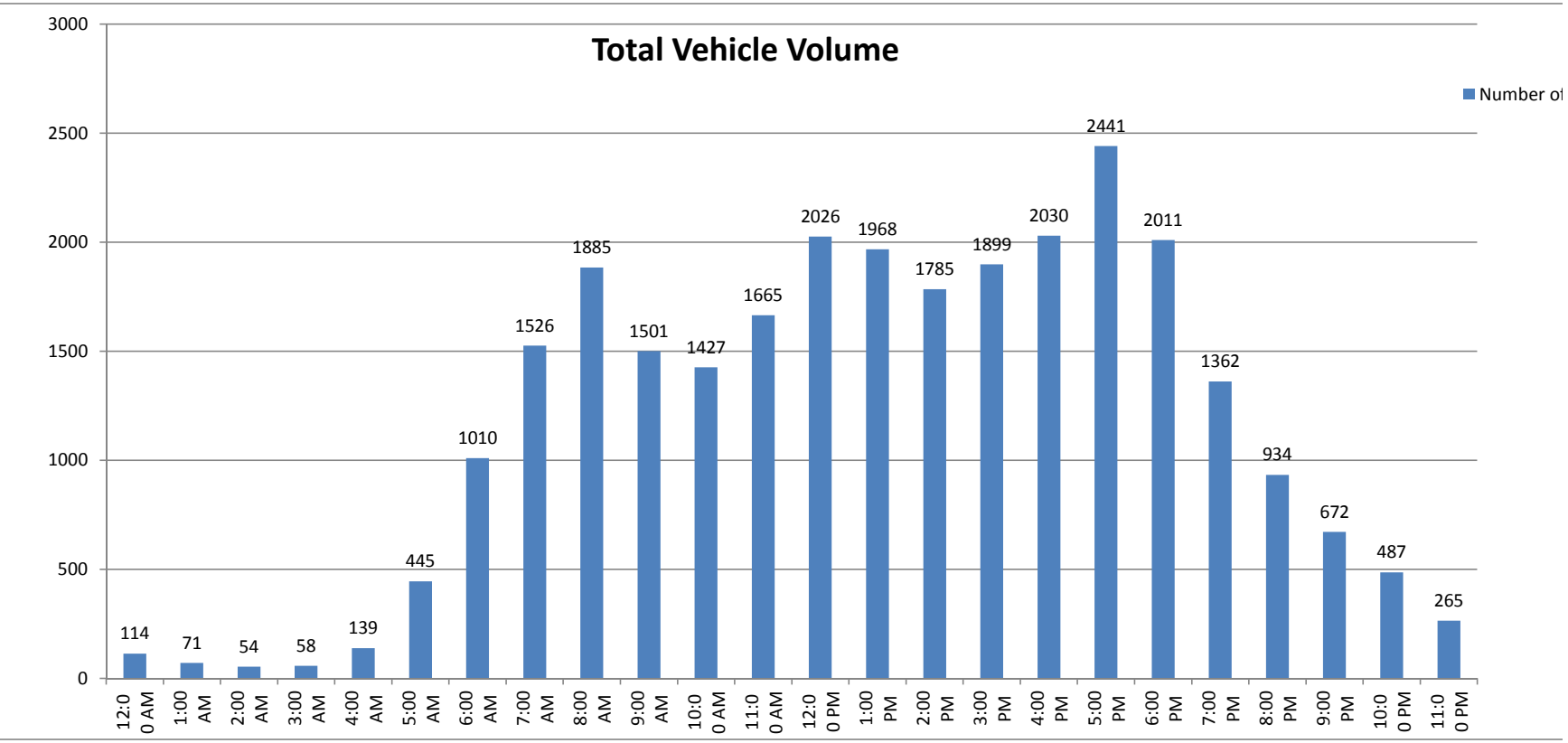
Barranca Parkway

B/ Jamboree Road - Construction Circle

1/23/2014

Westbound

Start Time	1/23/2014
12:00 AM	114
1:00 AM	71
2:00 AM	54
3:00 AM	58
4:00 AM	139
5:00 AM	445
6:00 AM	1010
7:00 AM	1526
8:00 AM	1885
9:00 AM	1501
10:00 AM	1427
11:00 AM	1665
12:00 PM	2026
1:00 PM	1968
2:00 PM	1785
3:00 PM	1899
4:00 PM	2030
5:00 PM	2441
6:00 PM	2011
7:00 PM	1362
8:00 PM	934
9:00 PM	672
10:00 PM	487
11:00 PM	265
Total	27775



Volumes represent the combined totals for both directions

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City of Irvine
Barranca Parkway
B/ Santa Rosa - Culver Drive

File Name 059
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/22/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	12	234			16	200				
12:15	11	198			8	223				
12:30	6	212			4	210				
12:45	8	217	37	861	9	208	37	841	74	1702
1:00	5	230			1	227				
1:15	4	231			5	187				
1:30	6	228			4	182				
1:45	4	219	19	908	5	194	15	790	34	1698
2:00	1	204			1	169				
2:15	2	208			2	212				
2:30	1	214			0	163				
2:45	1	231	5	857	3	195	6	739	11	1596
3:00	4	231			1	197				
3:15	4	220			2	222				
3:30	3	173			1	211				
3:45	3	222	14	846	6	180	10	810	24	1656
4:00	8	219			5	202				
4:15	5	225			1	211				
4:30	7	270			3	206				
4:45	14	253	34	967	7	229	16	848	50	1815
5:00	10	260			2	252				
5:15	23	314			11	257				
5:30	27	311			19	252				
5:45	42	315	102	1200	17	260	49	1021	151	2221
6:00	30	317			23	241				
6:15	38	261			20	244				
6:30	54	280			41	220				
6:45	98	256	220	1114	64	209	148	914	368	2028
7:00	104	185			73	185				
7:15	103	194			113	151				
7:30	253	188			177	137				
7:45	277	170	737	737	286	93	649	566	1386	1303
8:00	175	186			289	97				
8:15	214	136			241	98				
8:30	179	120			232	113				
8:45	198	105	766	547	212	96	974	404	1740	951
9:00	145	87			193	94				
9:15	151	97			146	97				
9:30	148	93			131	59				
9:45	159	57	603	334	177	68	647	318	1250	652
10:00	133	74			148	56				
10:15	152	43			141	41				
10:30	165	37			118	29				
10:45	153	36	603	190	155	22	562	148	1165	338
11:00	159	30			163	22				
11:15	169	16			158	23				
11:30	213	25			174	20				
11:45	214	14	755	85	186	14	681	79	1436	164
Totals	3895	8646			3794	7478				
Combined Totals		12541				11272				
ADT										23813
AM Peak Hour	730	AM			745	AM				
Volume	919				1048					
P.H.F.	0.829				0.907					
PM Peak Hour		515	PM			500	PM			
Volume		1257				1021				
P.H.F.		0.991				0.982				
Percentage	31.1%	68.9%			33.7%	66.3%				

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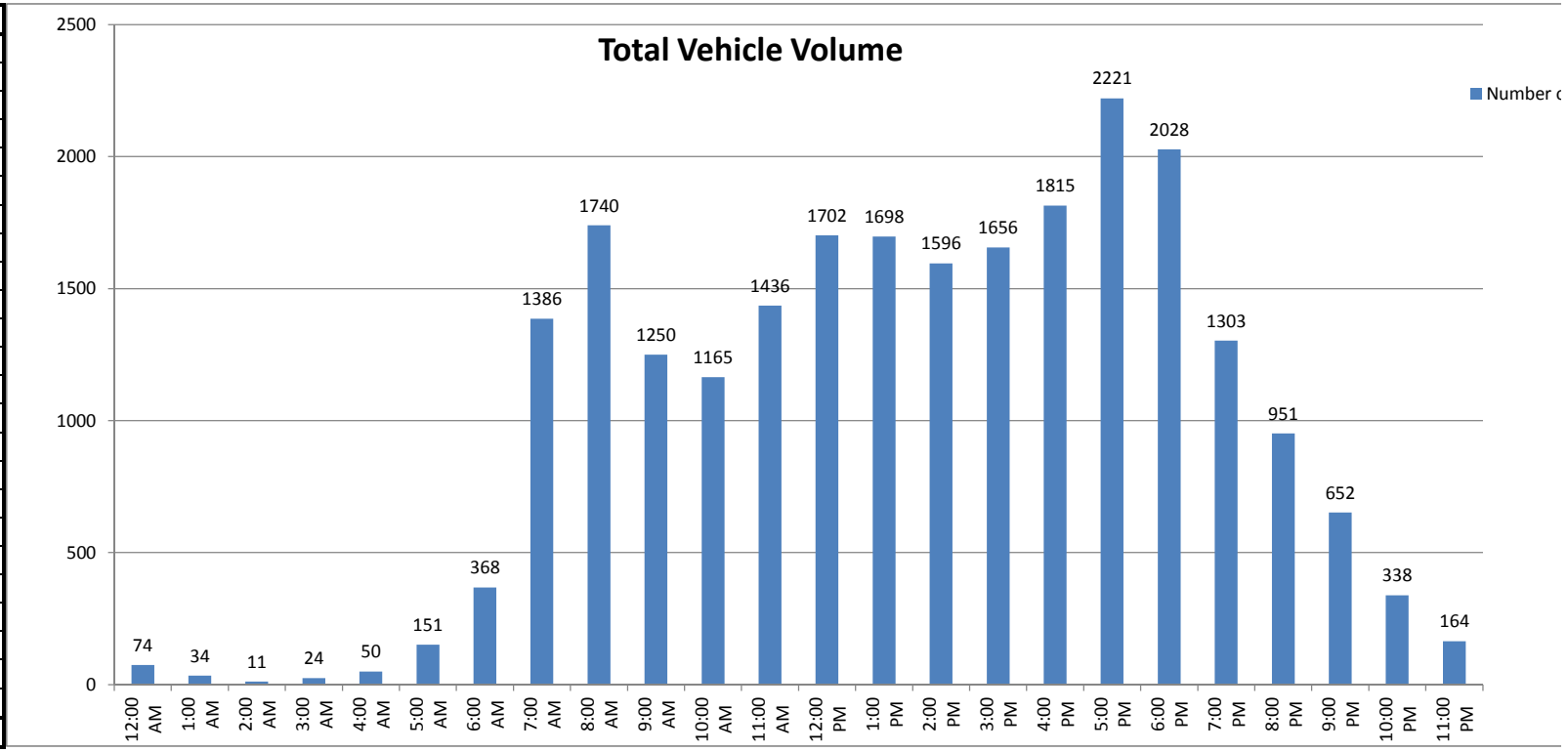
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PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Barranca Parkway
B/ Santa Rosa - Culver Drive
1/22/2014

Westbound

Start Time	1/22/2014
12:00 AM	74
1:00 AM	34
2:00 AM	11
3:00 AM	24
4:00 AM	50
5:00 AM	151
6:00 AM	368
7:00 AM	1386
8:00 AM	1740
9:00 AM	1250
10:00 AM	1165
11:00 AM	1436
12:00 PM	1702
1:00 PM	1698
2:00 PM	1596
3:00 PM	1656
4:00 PM	1815
5:00 PM	2221
6:00 PM	2028
7:00 PM	1303
8:00 PM	951
9:00 PM	652
10:00 PM	338
11:00 PM	164
Total	23813



Volumes represent the combined totals for both directions

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City of Irvine
Alton Parkway
B/ Redhill Avenue - Von Karman Avenue

File Name 002
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	122			13	145				
12:15	3	149			15	109				
12:30	3	111			6	155				
12:45	5	112	17	494	8	151	42	560	59	1054
1:00	2	106			2	163				
1:15	3	102			6	106				
1:30	4	93			10	140				
1:45	0	96	9	397	0	120	18	529	27	926
2:00	1	66			4	134				
2:15	3	83			2	97				
2:30	3	102			6	153				
2:45	1	89	8	340	2	142	14	526	22	866
3:00	1	102			7	140				
3:15	1	95			4	101				
3:30	6	113			12	159				
3:45	2	107	10	417	7	151	30	551	40	968
4:00	9	125			14	184				
4:15	16	122			6	164				
4:30	18	164			14	242				
4:45	32	170	75	581	15	219	49	809	124	1390
5:00	23	242			12	227				
5:15	21	218			11	213				
5:30	23	170			16	250				
5:45	61	163	128	793	26	192	65	882	193	1675
6:00	37	150			39	175				
6:15	37	131			34	155				
6:30	43	106			64	110				
6:45	69	97	186	484	58	110	195	550	381	1034
7:00	69	84			55	97				
7:15	77	64			84	65				
7:30	96	56			100	60				
7:45	129	37	371	241	174	45	413	267	784	508
8:00	121	34			161	49				
8:15	106	31			143	44				
8:30	99	29			177	22				
8:45	115	33	441	127	147	33	628	148	1069	275
9:00	80	33			136	29				
9:15	66	26			89	32				
9:30	56	16			90	25				
9:45	58	25	260	100	79	17	394	103	654	203
10:00	59	21			76	34				
10:15	55	17			69	13				
10:30	72	11			69	43				
10:45	53	10	239	59	67	27	281	117	520	176
11:00	88	13			79	24				
11:15	89	10			78	17				
11:30	146	8			87	3				
11:45	138	6	461	37	96	15	340	59	801	96
Totals	2205	4070			2469	5101				
Combined Totals		6275				7570				
ADT										13845
AM Peak Hour	1100	AM			745	AM				
Volume	461				655					
P.H.F.	0.789				0.925					
PM Peak Hour		445	PM			445	PM			
Volume		800				909				
P.H.F.		0.826				0.909				
Percentage	35.1%	64.9%			32.6%	67.4%				

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24 Hour Volume Plot

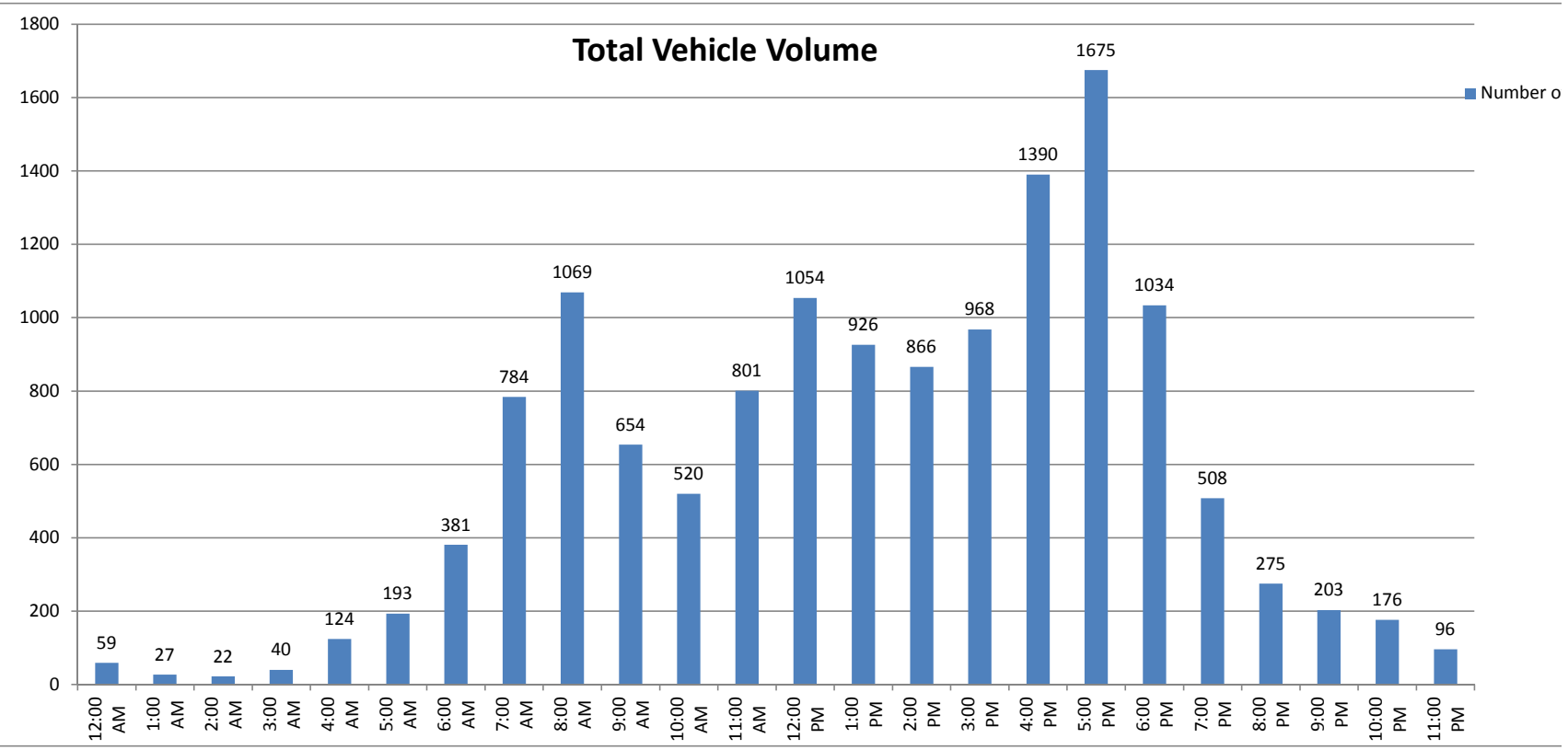
Alton Parkway

B/ Redhill Avenue - Von Karman Avenue

3/27/2014

Westbound

Start Time	3/27/2014
12:00 AM	59
1:00 AM	27
2:00 AM	22
3:00 AM	40
4:00 AM	124
5:00 AM	193
6:00 AM	381
7:00 AM	784
8:00 AM	1069
9:00 AM	654
10:00 AM	520
11:00 AM	801
12:00 PM	1054
1:00 PM	926
2:00 PM	866
3:00 PM	968
4:00 PM	1390
5:00 PM	1675
6:00 PM	1034
7:00 PM	508
8:00 PM	275
9:00 PM	203
10:00 PM	176
11:00 PM	96
Total	13845



Volumes represent the combined totals for both directions

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City of Irvine
Alton Parkway
B/ Von Karman Avenue - Jamboree Road

File Name 003
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	13	200			22	136				
12:15	3	195			7	141				
12:30	3	143			7	184				
12:45	5	132	24	670	10	212	46	673	70	1343
1:00	4	133			2	162				
1:15	1	130			8	150				
1:30	3	125			5	145				
1:45	1	126	9	514	3	155	18	612	27	1126
2:00	1	104			4	146				
2:15	4	105			1	132				
2:30	2	124			9	128				
2:45	3	107	10	440	3	148	17	554	27	994
3:00	4	125			5	108				
3:15	3	88			2	133				
3:30	4	133			9	130				
3:45	3	136	14	482	11	147	27	518	41	1000
4:00	11	194			12	189				
4:15	17	171			10	142				
4:30	13	213			24	204				
4:45	32	247	73	825	20	177	66	712	139	1537
5:00	24	334			17	175				
5:15	27	293			24	181				
5:30	31	304			35	195				
5:45	54	252	136	1183	58	146	134	697	270	1880
6:00	20	265			67	174				
6:15	35	222			38	119				
6:30	36	169			98	115				
6:45	45	136	136	792	99	90	302	498	438	1290
7:00	42	113			103	85				
7:15	56	108			152	68				
7:30	65	83			166	62				
7:45	81	66	244	370	297	50	718	265	962	635
8:00	69	66			251	49				
8:15	80	58			285	35				
8:30	77	59			201	42				
8:45	97	58	323	241	199	36	936	162	1259	403
9:00	58	65			173	32				
9:15	61	55			130	36				
9:30	61	25			100	38				
9:45	72	33	252	178	106	24	509	130	761	308
10:00	77	37			82	30				
10:15	75	37			113	26				
10:30	80	23			76	56				
10:45	82	16	314	113	96	34	367	146	681	259
11:00	104	19			87	24				
11:15	118	8			105	19				
11:30	167	10			137	8				
11:45	173	10	562	47	141	11	470	62	1032	109
Totals	2097	5855			3610	5029				
Combined Totals		7952				8639				
ADT										16591
AM Peak Hour	1100	AM			745	AM				
Volume	562				1034					
P.H.F.	0.812				0.870					
PM Peak Hour		500	PM			430	PM			
Volume		1183				737				
P.H.F.		0.885				0.903				
Percentage	26.4%	73.6%			41.8%	58.2%				

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24 Hour Volume Plot

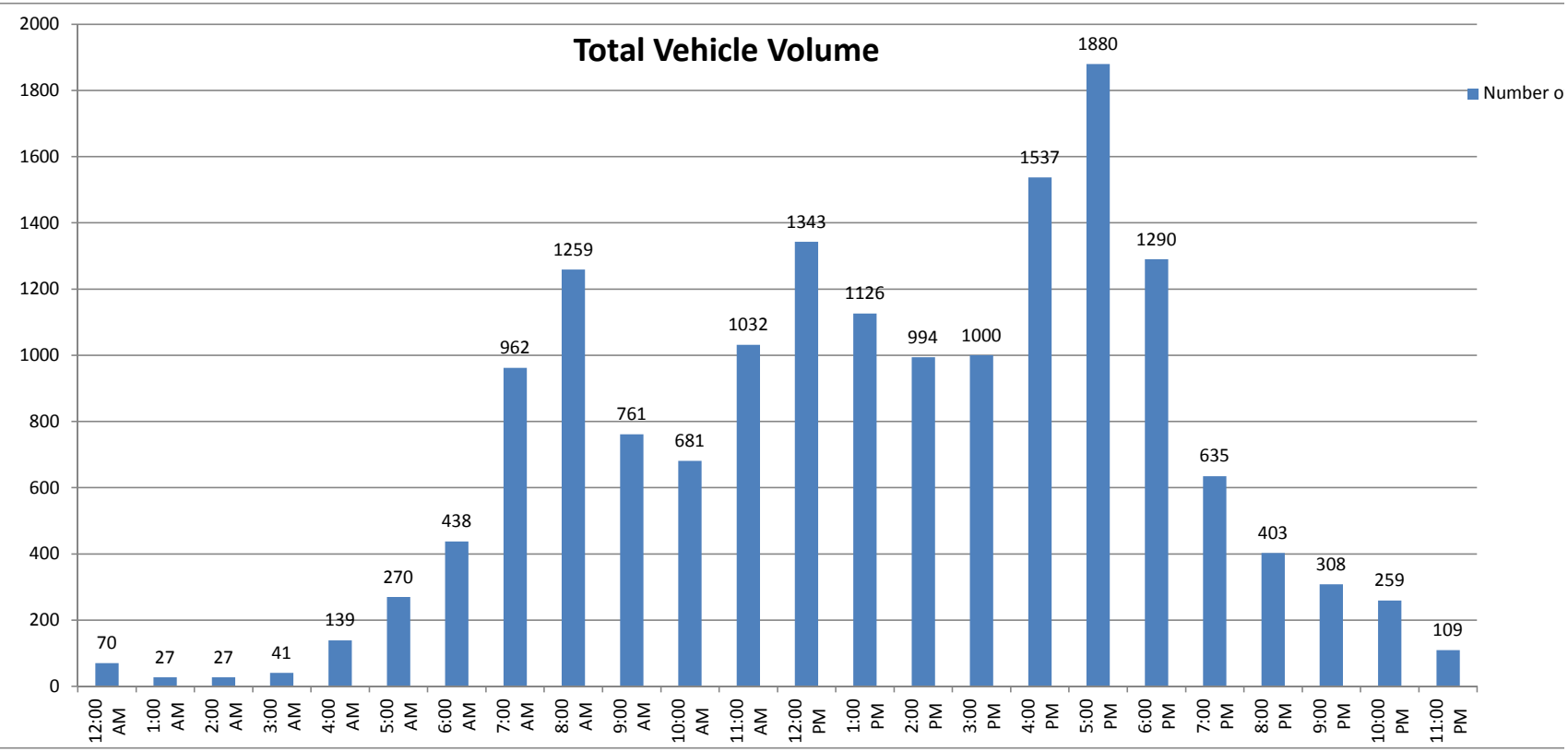
Alton Parkway

B/ Von Karman Avenue - Jamboree Road

3/27/2014

Westbound

Start Time	3/27/2014
12:00 AM	70
1:00 AM	27
2:00 AM	27
3:00 AM	41
4:00 AM	139
5:00 AM	270
6:00 AM	438
7:00 AM	962
8:00 AM	1259
9:00 AM	761
10:00 AM	681
11:00 AM	1032
12:00 PM	1343
1:00 PM	1126
2:00 PM	994
3:00 PM	1000
4:00 PM	1537
5:00 PM	1880
6:00 PM	1290
7:00 PM	635
8:00 PM	403
9:00 PM	308
10:00 PM	259
11:00 PM	109
Total	16591



Volumes represent the combined totals for both directions

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City of Irvine
Alton Parkway
B/ Jamboree Road - Murphy Avenue

File Name 004
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	21	187			17	152				
12:15	23	170			10	173				
12:30	15	156			11	178				
12:45	15	134	74	647	14	196	52	699	126	1346
1:00	12	140			10	180				
1:15	5	135			4	179				
1:30	4	136			8	163				
1:45	4	138	25	549	2	171	24	693	49	1242
2:00	4	149			4	155				
2:15	2	137			2	147				
2:30	4	128			3	144				
2:45	3	137	13	551	5	159	14	605	27	1156
3:00	4	148			0	139				
3:15	1	122			1	157				
3:30	3	146			2	153				
3:45	4	158	12	574	6	163	9	612	21	1186
4:00	5	182			7	225				
4:15	6	187			7	181				
4:30	13	203			10	226				
4:45	20	221	44	793	16	216	40	848	84	1641
5:00	15	288			9	240				
5:15	15	263			24	238				
5:30	10	240			22	248				
5:45	34	258	74	1049	42	235	97	961	171	2010
6:00	36	221			30	223				
6:15	40	212			36	186				
6:30	46	216			53	169				
6:45	61	174	183	823	65	159	184	737	367	1560
7:00	75	170			75	154				
7:15	78	152			114	144				
7:30	109	111			154	105				
7:45	136	99	398	532	229	129	572	532	970	1064
8:00	114	125			232	101				
8:15	120	104			252	74				
8:30	113	96			211	95				
8:45	126	95	473	420	174	72	869	342	1342	762
9:00	120	93			172	83				
9:15	81	80			139	91				
9:30	72	62			117	68				
9:45	78	59	351	294	112	52	540	294	891	588
10:00	103	81			100	63				
10:15	58	61			115	51				
10:30	70	51			94	30				
10:45	87	39	318	232	113	46	422	190	740	422
11:00	114	28			139	31				
11:15	104	30			130	18				
11:30	141	25			142	19				
11:45	120	31	479	114	152	21	563	89	1042	203
Totals	2444	6578			3386	6602				
Combined Totals		9022				9988				
ADT										19010
AM Peak Hour	745	AM			745	AM				
Volume	483				924					
P.H.F.	0.888				0.917					
PM Peak Hour		500	PM			500	PM			
Volume		1049				961				
P.H.F.		0.911				0.969				
Percentage	27.1%	72.9%			33.9%	66.1%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

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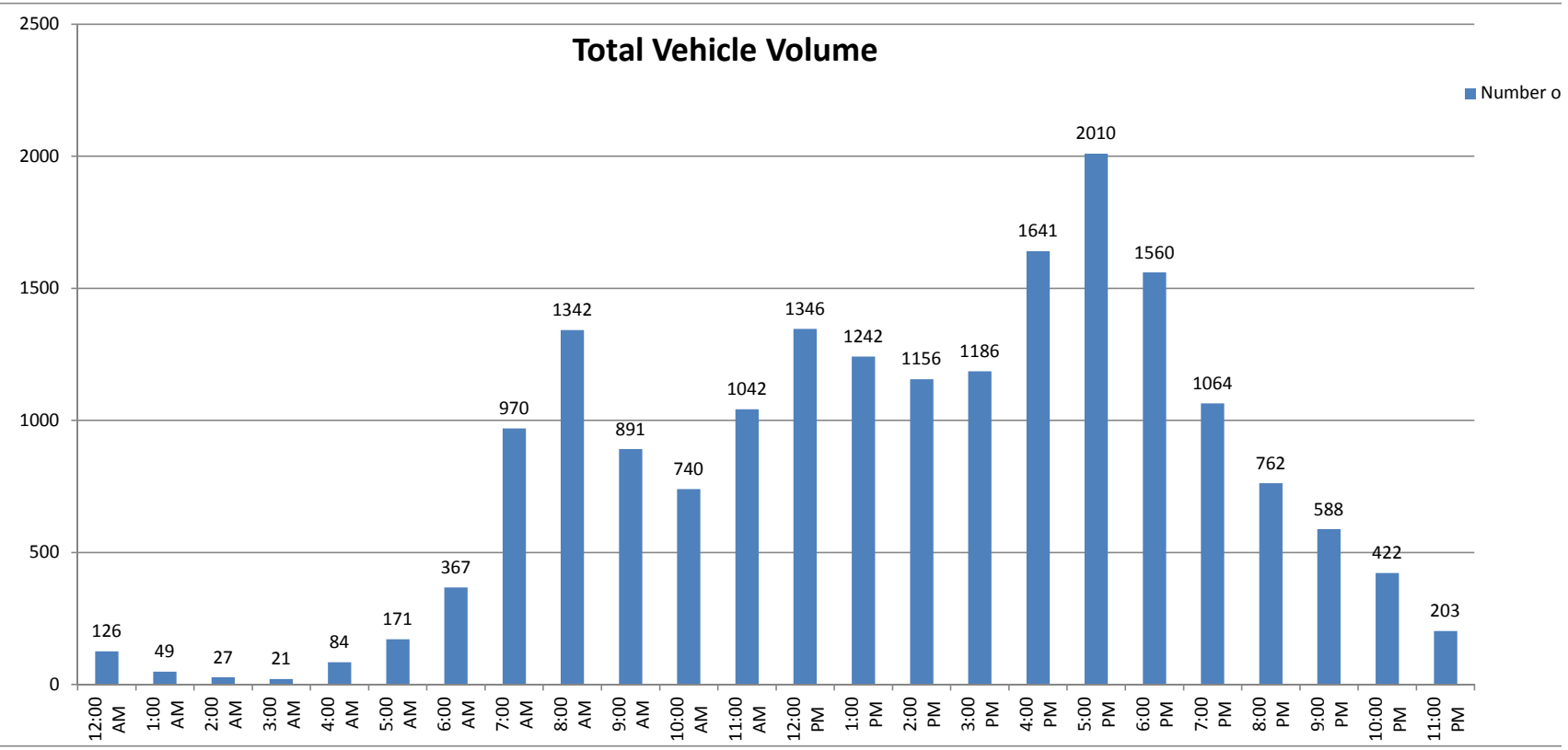
24 Hour Volume Plot

Alton Parkway
B/ Jamboree Road - Murphy Avenue

3/27/2014

Westbound

Start Time	3/27/2014
12:00 AM	126
1:00 AM	49
2:00 AM	27
3:00 AM	21
4:00 AM	84
5:00 AM	171
6:00 AM	367
7:00 AM	970
8:00 AM	1342
9:00 AM	891
10:00 AM	740
11:00 AM	1042
12:00 PM	1346
1:00 PM	1242
2:00 PM	1156
3:00 PM	1186
4:00 PM	1641
5:00 PM	2010
6:00 PM	1560
7:00 PM	1064
8:00 PM	762
9:00 PM	588
10:00 PM	422
11:00 PM	203
Total	19010



Volumes represent the combined totals for both directions

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City of Irvine
Alton Parkway
B/ San Marino - Culver Drive

File Name 008
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	16	189			13	222				
12:15	20	170			9	245				
12:30	12	177			8	255				
12:45	7	176	55	712	9	253	39	975	94	1687
1:00	12	179			6	206				
1:15	9	197			7	202				
1:30	5	185			7	229				
1:45	6	195	32	756	8	210	28	847	60	1603
2:00	4	204			5	228				
2:15	6	191			6	241				
2:30	2	210			2	190				
2:45	0	234	12	839	9	234	22	893	34	1732
3:00	7	241			3	214				
3:15	6	170			1	274				
3:30	4	213			2	257				
3:45	4	206	21	830	7	247	13	992	34	1822
4:00	4	239			10	241				
4:15	7	242			9	240				
4:30	9	213			8	247				
4:45	8	259	28	953	14	254	41	982	69	1935
5:00	13	301			21	266				
5:15	15	324			27	281				
5:30	12	331			26	300				
5:45	17	266	57	1222	40	288	114	1135	171	2357
6:00	25	305			43	282				
6:15	48	256			43	260				
6:30	47	261			64	218				
6:45	73	243	193	1065	96	245	246	1005	439	2070
7:00	79	216			124	185				
7:15	84	203			152	194				
7:30	160	179			173	156				
7:45	196	149	519	747	269	175	718	710	1237	1457
8:00	161	137			290	152				
8:15	150	136			274	128				
8:30	137	127			206	115				
8:45	142	98	590	498	205	102	975	497	1565	995
9:00	106	105			199	88				
9:15	115	118			173	80				
9:30	99	78			171	72				
9:45	108	82	428	383	141	75	684	315	1112	698
10:00	116	83			149	81				
10:15	103	71			176	60				
10:30	135	45			189	48				
10:45	143	33	497	232	169	40	683	229	1180	461
11:00	140	48			169	29				
11:15	122	34			139	22				
11:30	162	24			196	25				
11:45	147	18	571	124	230	24	734	100	1305	224
Totals	3003	8361			4297	8680				
Combined Totals		11364				12977				
ADT										24341
AM Peak Hour	730	AM			745	AM				
Volume	667				1039					
P.H.F.	0.851				0.896					
PM Peak Hour		515	PM			515	PM			
Volume		1226				1151				
P.H.F.		0.926				0.959				
Percentage	26.4%	73.6%			33.1%	66.9%				

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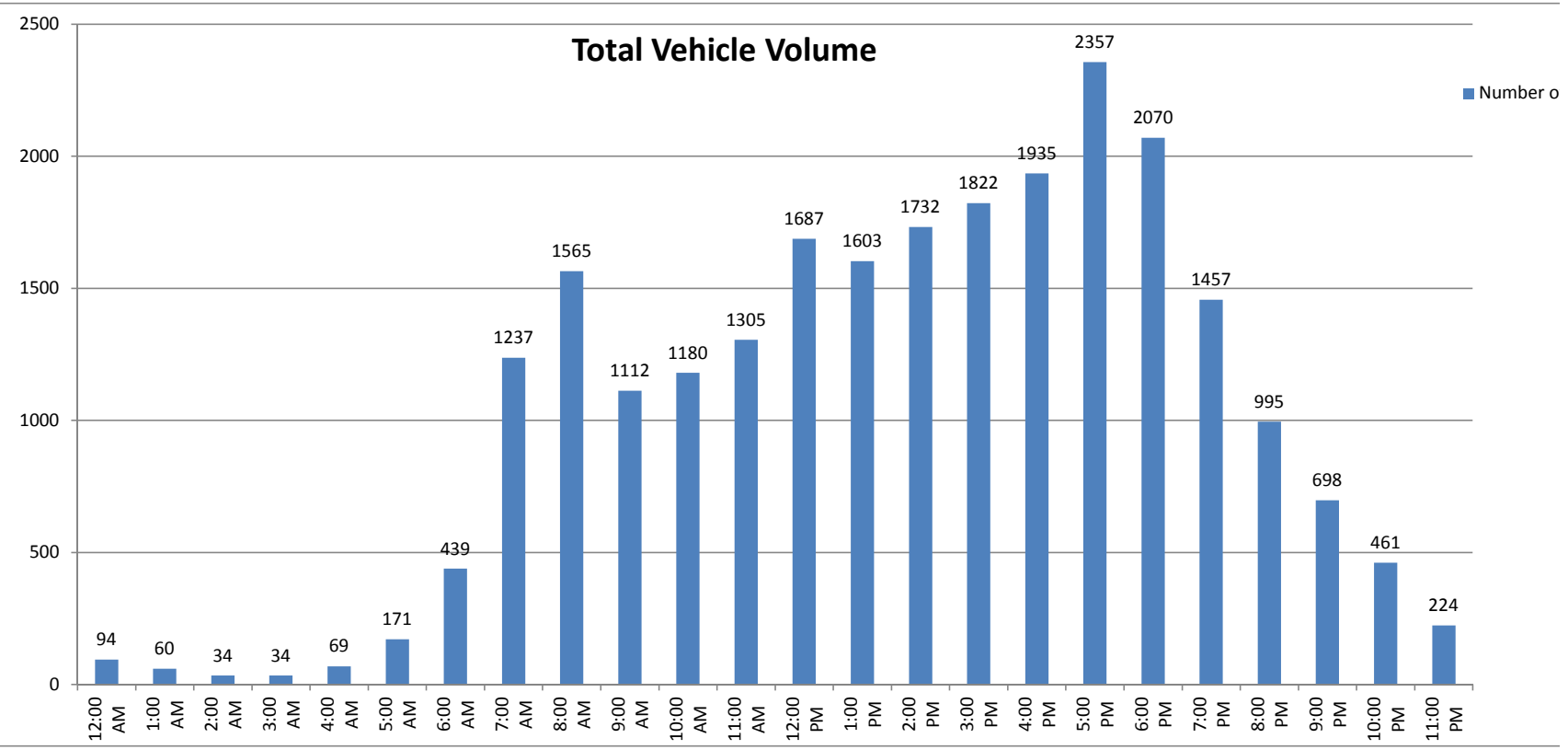
24 Hour Volume Plot

Alton Parkway
B/ San Marino - Culver Drive

3/27/2014

Westbound

Start Time	3/27/2014
12:00 AM	94
1:00 AM	60
2:00 AM	34
3:00 AM	34
4:00 AM	69
5:00 AM	171
6:00 AM	439
7:00 AM	1237
8:00 AM	1565
9:00 AM	1112
10:00 AM	1180
11:00 AM	1305
12:00 PM	1687
1:00 PM	1603
2:00 PM	1732
3:00 PM	1822
4:00 PM	1935
5:00 PM	2357
6:00 PM	2070
7:00 PM	1457
8:00 PM	995
9:00 PM	698
10:00 PM	461
11:00 PM	224
Total	24341



Volumes represent the combined totals for both directions

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City of Irvine
McGaw Aveneu
B/ Redhill Avenue - Von Karman Avenue

File Name 240
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/4/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	2	77			4	64				
12:15	3	93			2	61				
12:30	4	66			0	62				
12:45	0	68	9	304	1	80	7	267	16	571
1:00	4	83			0	84				
1:15	0	67			2	76				
1:30	1	41			3	71				
1:45	1	46	6	237	5	67	10	298	16	535
2:00	3	55			7	62				
2:15	2	54			7	73				
2:30	0	51			0	75				
2:45	2	60	7	220	2	50	16	260	23	480
3:00	4	53			1	44				
3:15	1	45			4	35				
3:30	8	84			1	65				
3:45	14	57	27	239	7	70	13	214	40	453
4:00	8	88			11	47				
4:15	19	90			5	40				
4:30	17	95			6	64				
4:45	28	100	72	373	10	49	32	200	104	573
5:00	11	152			6	53				
5:15	34	184			7	62				
5:30	15	154			20	63				
5:45	37	123	97	613	21	46	54	224	151	837
6:00	29	119			33	40				
6:15	11	89			38	36				
6:30	26	67			20	21				
6:45	43	49	109	324	32	24	123	121	232	445
7:00	28	29			55	31				
7:15	33	33			59	27				
7:30	41	26			54	28				
7:45	38	16	140	104	100	9	268	95	408	199
8:00	45	21			103	15				
8:15	34	14			91	10				
8:30	46	15			80	10				
8:45	41	24	166	74	88	6	362	41	528	115
9:00	43	13			82	5				
9:15	28	33			67	3				
9:30	30	15			49	7				
9:45	39	9	140	70	73	4	271	19	411	89
10:00	37	8			54	21				
10:15	32	6			44	9				
10:30	30	3			36	8				
10:45	34	4	133	21	33	5	167	43	300	64
11:00	38	4			30	2				
11:15	55	5			38	2				
11:30	76	2			51	4				
11:45	87	2	256	13	62	3	181	11	437	24
Totals	1162	2592			1504	1793				
Combined Totals		3754				3297				
ADT										7051
AM Peak Hour	1100	AM			745	AM				
Volume	256				374					
P.H.F.	0.736				0.908					
PM Peak Hour		500	PM			1245	PM			
Volume		613				311				
P.H.F.		0.833				0.926				
Percentage	31.0%	69.0%			45.6%	54.4%				

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24 Hour Volume Plot

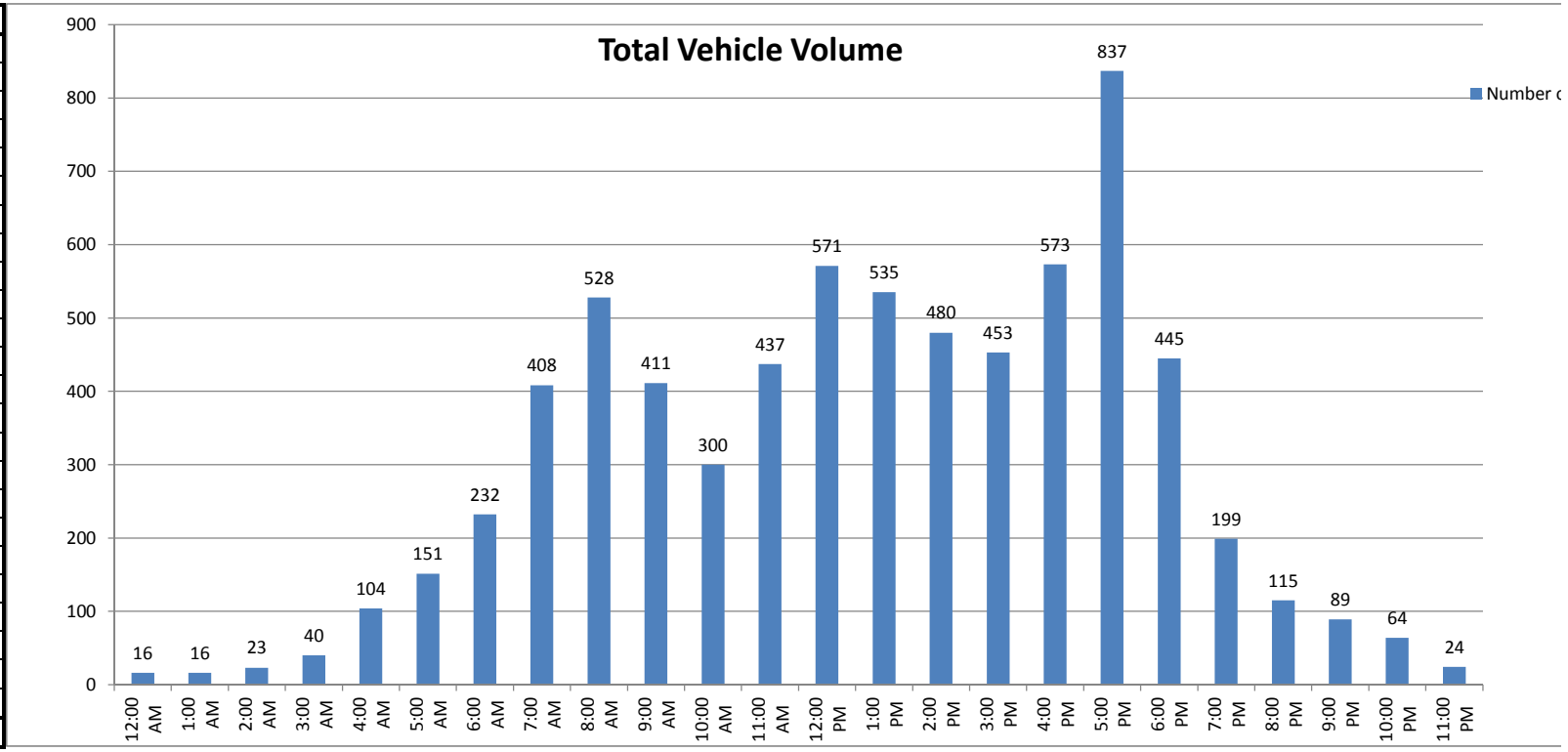
McGaw Aveneu

B/ Redhill Avenue - Von Karman Avenue

2/4/2014

Westbound

Start Time	2/4/2014
12:00 AM	16
1:00 AM	16
2:00 AM	23
3:00 AM	40
4:00 AM	104
5:00 AM	151
6:00 AM	232
7:00 AM	408
8:00 AM	528
9:00 AM	411
10:00 AM	300
11:00 AM	437
12:00 PM	571
1:00 PM	535
2:00 PM	480
3:00 PM	453
4:00 PM	573
5:00 PM	837
6:00 PM	445
7:00 PM	199
8:00 PM	115
9:00 PM	89
10:00 PM	64
11:00 PM	24
Total	7051



Volumes represent the combined totals for both directions

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City of Irvine
McGaw Aveneu
B/ Von Karman Avenue - Jamboree Road

File Name 241
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/5/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	1	63			2	50				
12:15	1	71			2	57				
12:30	1	46			3	70				
12:45	3	62	6	242	1	91	8	268	14	510
1:00	0	75			2	84				
1:15	0	65			4	62				
1:30	0	54			3	71				
1:45	3	54	3	248	1	47	10	264	13	512
2:00	1	48			9	78				
2:15	6	35			2	49				
2:30	5	57			3	87				
2:45	10	48	22	188	4	41	18	255	40	443
3:00	6	57			0	50				
3:15	3	40			2	46				
3:30	10	53			5	86				
3:45	22	68	41	218	4	41	11	223	52	441
4:00	16	80			9	58				
4:15	23	52			6	48				
4:30	19	103			10	70				
4:45	39	106	97	341	10	64	35	240	132	581
5:00	20	177			13	73				
5:15	42	194			10	50				
5:30	30	164			17	68				
5:45	56	135	148	670	29	37	69	228	217	898
6:00	19	97			47	41				
6:15	17	79			34	34				
6:30	26	77			18	20				
6:45	38	61	100	314	42	23	141	118	241	432
7:00	30	48			39	23				
7:15	39	34			47	32				
7:30	38	30			61	30				
7:45	57	26	164	138	116	13	263	98	427	236
8:00	40	12			84	17				
8:15	51	20			76	7				
8:30	33	19			77	18				
8:45	42	21	166	72	76	26	313	68	479	140
9:00	34	37			71	24				
9:15	34	37			52	18				
9:30	26	15			59	18				
9:45	35	11	129	100	34	9	216	69	345	169
10:00	25	21			34	30				
10:15	27	10			28	10				
10:30	23	5			32	12				
10:45	27	1	102	37	36	9	130	61	232	98
11:00	44	2			22	2				
11:15	59	3			41	5				
11:30	71	5			44	6				
11:45	75	4	249	14	46	2	153	15	402	29
Totals	1227	2582			1367	1907				
Combined Totals		3809				3274				
ADT										7083
AM Peak Hour	1100	AM			745	AM				
Volume	249				353					
P.H.F.	0.830				0.761					
PM Peak Hour		500	PM			1245	PM			
Volume		670				308				
P.H.F.		0.863				0.846				
Percentage	32.2%	67.8%			41.8%	58.2%				

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24 Hour Volume Plot

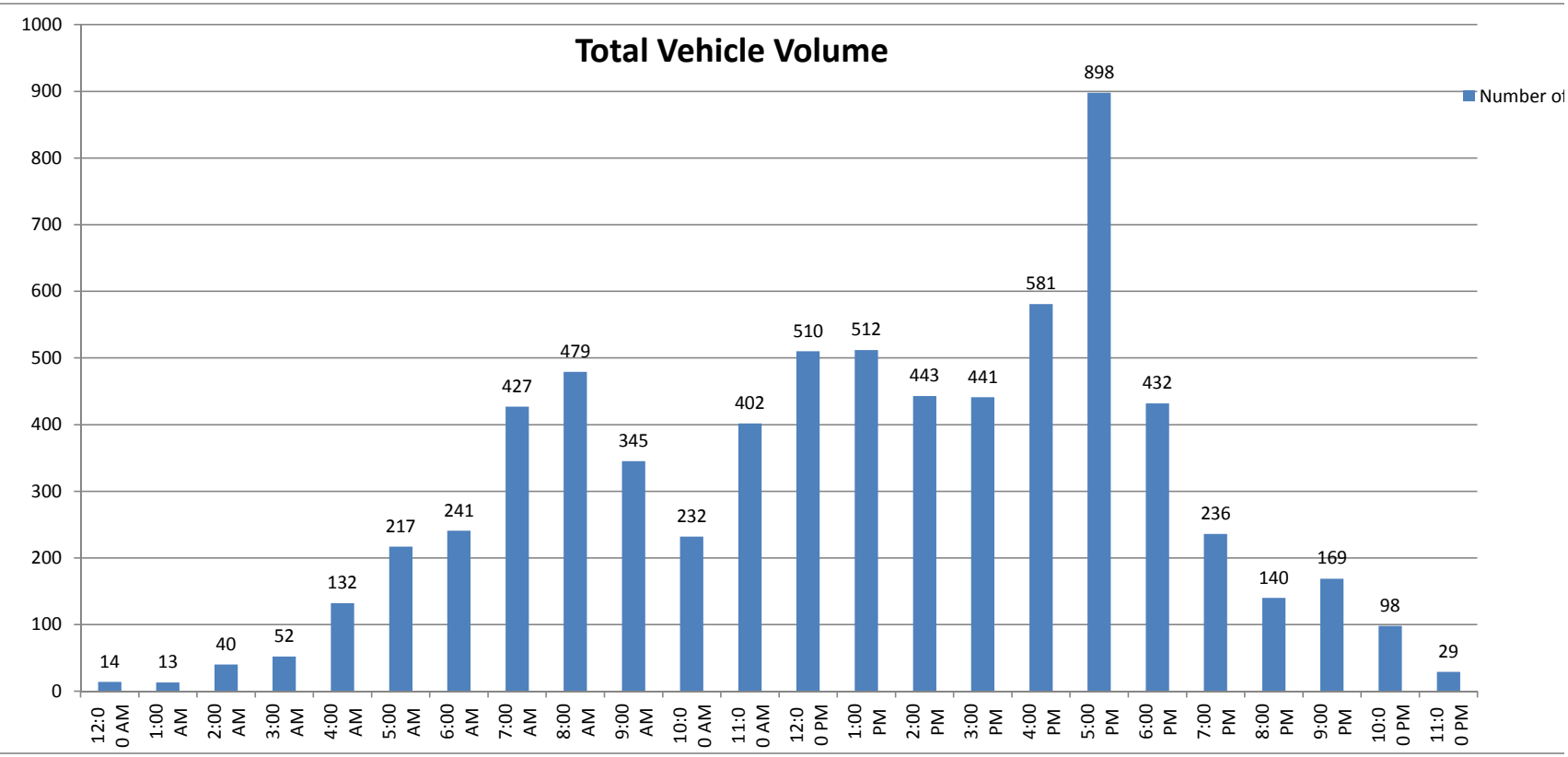
McGaw Aveneu

B/ Von Karman Avenue - Jamboree Road

2/5/2014

Westbound

Start Time	2/5/2014
12:00 AM	14
1:00 AM	13
2:00 AM	40
3:00 AM	52
4:00 AM	132
5:00 AM	217
6:00 AM	241
7:00 AM	427
8:00 AM	479
9:00 AM	345
10:00 AM	232
11:00 AM	402
12:00 PM	510
1:00 PM	512
2:00 PM	443
3:00 PM	441
4:00 PM	581
5:00 PM	898
6:00 PM	432
7:00 PM	236
8:00 PM	140
9:00 PM	169
10:00 PM	98
11:00 PM	29
Total	7083



Volumes represent the combined totals for both directions

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City of Irvine
Redhill Avenue
B/ McGaw Avenue - Alton Parkway

File Name 270
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/16/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	10	215			11	184				
12:15	7	235			5	227				
12:30	7	205			6	187				
12:45	7	193	31	848	8	233	30	831	61	1679
1:00	4	210			4	205				
1:15	4	201			10	192				
1:30	8	232			8	184				
1:45	4	239	20	882	7	176	29	757	49	1639
2:00	4	255			6	167				
2:15	5	292			3	253				
2:30	3	354			8	188				
2:45	3	299	15	1200	3	193	20	801	35	2001
3:00	5	363			7	183				
3:15	2	364			21	226				
3:30	5	410			16	200				
3:45	5	356	17	1493	11	254	55	863	72	2356
4:00	10	447			18	216				
4:15	26	428			37	282				
4:30	31	472			59	226				
4:45	47	501	114	1848	36	363	150	1087	264	2935
5:00	39	503			48	282				
5:15	25	492			58	249				
5:30	51	469			90	264				
5:45	76	537	191	2001	75	204	271	999	462	3000
6:00	73	551			95	168				
6:15	67	491			97	154				
6:30	97	403			168	156				
6:45	131	310	368	1755	170	117	530	595	898	2350
7:00	154	241			206	110				
7:15	137	147			243	106				
7:30	217	111			340	68				
7:45	223	163	731	662	250	81	1039	365	1770	1027
8:00	249	106			295	77				
8:15	211	85			300	63				
8:30	231	67			268	57				
8:45	207	56	898	314	200	61	1063	258	1961	572
9:00	175	84			178	52				
9:15	141	51			157	37				
9:30	128	47			156	45				
9:45	166	46	610	228	133	35	624	169	1234	397
10:00	134	61			101	34				
10:15	124	35			137	35				
10:30	115	36			110	27				
10:45	131	15	504	147	136	12	484	108	988	255
11:00	128	23			138	10				
11:15	162	17			174	18				
11:30	200	24			195	9				
11:45	194	18	684	82	197	15	704	52	1388	134
Totals	4183	11460			4999	6885				
Combined Totals		15643				11884				
ADT										27527
AM Peak Hour	745	AM			730	AM				
Volume	914				1185					
P.H.F.	0.918				0.871					
PM Peak Hour		515	PM			445	PM			
Volume		2049				1158				
P.H.F.		0.930				0.798				
Percentage	26.7%	73.3%			42.1%	57.9%				

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Corona, CA 92878

24 Hour Volume Plot

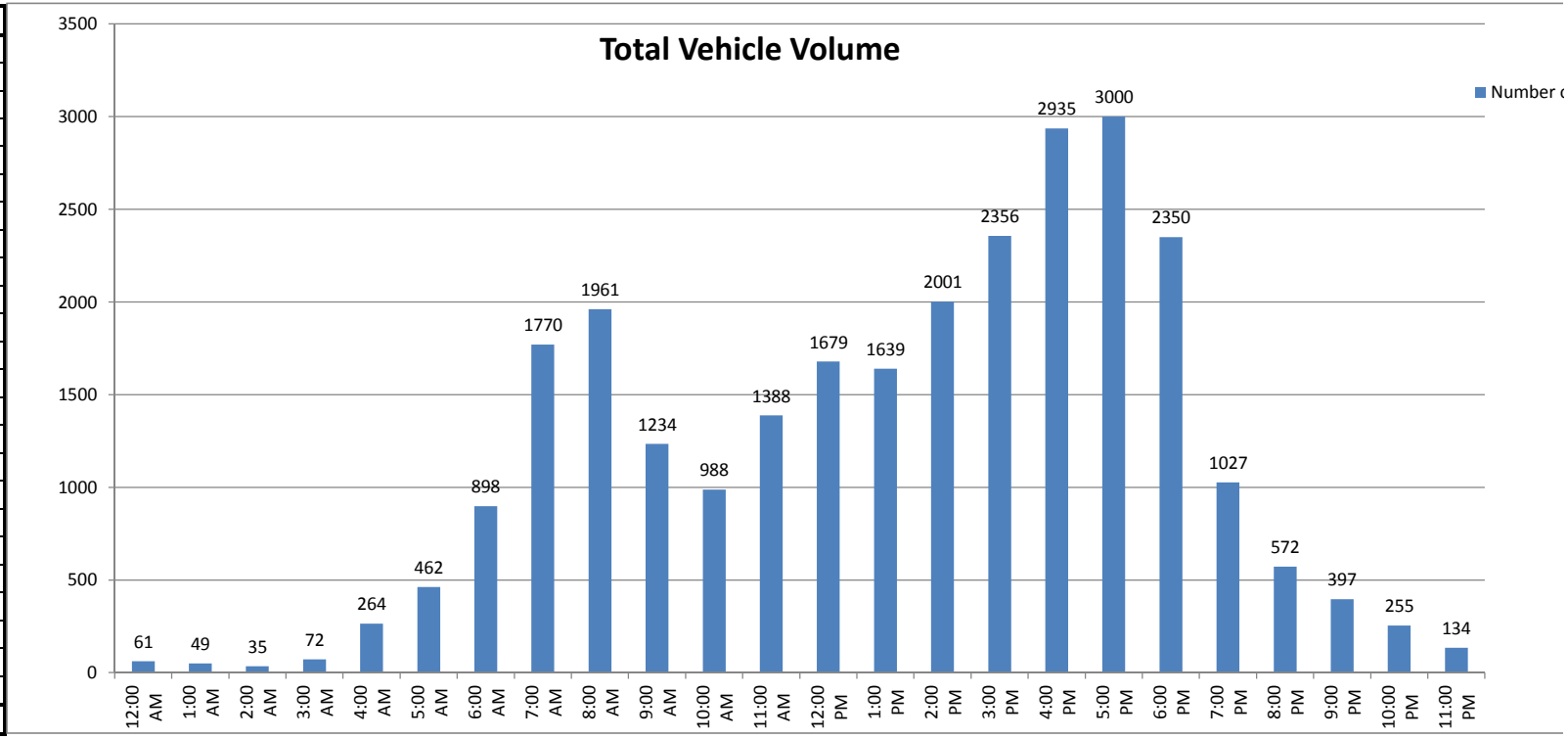
Redhill Avenue

B/ McGaw Avenue - Alton Parkway

4/16/2014

Southbound

Start Time	4/16/2014
12:00 AM	61
1:00 AM	49
2:00 AM	35
3:00 AM	72
4:00 AM	264
5:00 AM	462
6:00 AM	898
7:00 AM	1770
8:00 AM	1961
9:00 AM	1234
10:00 AM	988
11:00 AM	1388
12:00 PM	1679
1:00 PM	1639
2:00 PM	2001
3:00 PM	2356
4:00 PM	2935
5:00 PM	3000
6:00 PM	2350
7:00 PM	1027
8:00 PM	572
9:00 PM	397
10:00 PM	255
11:00 PM	134
Total	27527



Volumes represent the combined totals for both directions

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City of Irvine
Redhill Avenue
B/ MacArthur Boulevard - McGaw Avenue

File Name 269
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/16/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	245			26	254				
12:15	9	261			62	255				
12:30	7	253			43	252				
12:45	5	258	29	1017	42	251	173	1012	202	2029
1:00	7	280			18	286				
1:15	11	257			10	276				
1:30	19	248			14	295				
1:45	21	281	58	1066	7	283	49	1140	107	2206
2:00	20	320			4	292				
2:15	12	356			2	264				
2:30	15	396			7	433				
2:45	17	301	64	1373	10	308	23	1297	87	2670
3:00	18	361			8	316				
3:15	18	382			9	278				
3:30	29	424			26	417				
3:45	56	356	121	1523	10	330	53	1341	174	2864
4:00	85	487			21	427				
4:15	89	442			11	335				
4:30	106	509			28	426				
4:45	137	514	417	1952	30	389	90	1577	507	3529
5:00	61	548			51	499				
5:15	81	544			33	469				
5:30	96	533			38	348				
5:45	198	575	436	2200	82	366	204	1682	640	3882
6:00	138	596			91	299				
6:15	125	499			91	277				
6:30	153	438			119	232				
6:45	223	312	639	1845	139	191	440	999	1079	2844
7:00	258	259			169	158				
7:15	255	155			165	170				
7:30	306	103			246	143				
7:45	366	167	1185	684	329	105	909	576	2094	1260
8:00	365	131			298	102				
8:15	314	89			262	97				
8:30	324	74			309	87				
8:45	293	47	1296	341	252	86	1121	372	2417	713
9:00	239	69			226	112				
9:15	186	51			206	65				
9:30	192	46			162	55				
9:45	192	49	809	215	187	58	781	290	1590	505
10:00	184	54			154	90				
10:15	157	37			150	44				
10:30	144	34			166	63				
10:45	160	21	645	146	145	43	615	240	1260	386
11:00	164	22			191	50				
11:15	192	25			189	27				
11:30	220	22			208	38				
11:45	195	15	771	84	256	19	844	134	1615	218
Totals	6470	12446			5302	10660				
Combined Totals		18916				15962				
ADT										34878
AM Peak Hour	745	AM			745	AM				
Volume	1369				1198					
P.H.F.	0.935				0.910					
PM Peak Hour		515	PM			430	PM			
Volume		2248				1783				
P.H.F.		0.943				0.893				
Percentage	34.2%	65.8%			33.2%	66.8%				

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24 Hour Volume Plot

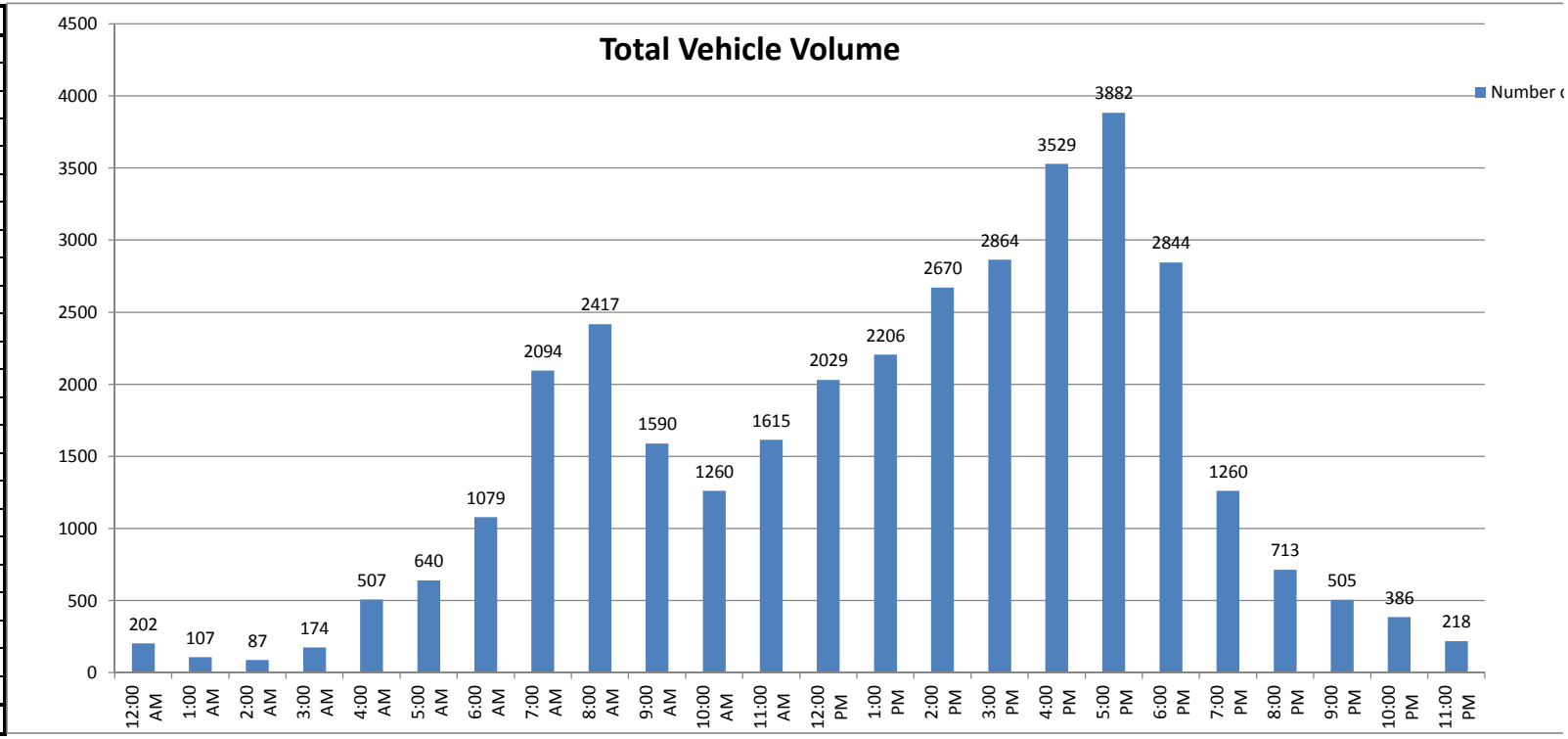
Redhill Avenue

B/ MacArthur Boulevard - McGaw Avenue

4/16/2014

Southbound

Start Time	4/16/2014
12:00 AM	202
1:00 AM	107
2:00 AM	87
3:00 AM	174
4:00 AM	507
5:00 AM	640
6:00 AM	1079
7:00 AM	2094
8:00 AM	2417
9:00 AM	1590
10:00 AM	1260
11:00 AM	1615
12:00 PM	2029
1:00 PM	2206
2:00 PM	2670
3:00 PM	2864
4:00 PM	3529
5:00 PM	3882
6:00 PM	2844
7:00 PM	1260
8:00 PM	713
9:00 PM	505
10:00 PM	386
11:00 PM	218
Total	34878



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Redhill Avenue
B/ Sky Park North - MacArthur Boulevard

File Name 268
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
6/11/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	19	155			6	139				
12:15	13	153			5	141				
12:30	6	162			2	154				
12:45	7	153	45	623	4	153	17	587	62	1210
1:00	3	174			3	146				
1:15	1	164			3	137				
1:30	2	177			2	125				
1:45	0	150	6	665	2	117	10	525	16	1190
2:00	1	138			2	114				
2:15	1	139			0	110				
2:30	2	173			3	145				
2:45	3	178	7	628	1	117	6	486	13	1114
3:00	1	213			5	104				
3:15	4	187			7	137				
3:30	4	225			8	126				
3:45	4	203	13	828	16	163	36	530	49	1358
4:00	3	263			23	148				
4:15	6	248			22	145				
4:30	7	271			35	160				
4:45	13	293	29	1075	23	193	103	646	132	1721
5:00	7	346			28	237				
5:15	14	336			39	216				
5:30	17	336			37	259				
5:45	28	313	66	1331	64	214	168	926	234	2257
6:00	35	326			59	167				
6:15	45	250			53	137				
6:30	44	192			67	119				
6:45	78	157	202	925	109	97	288	520	490	1445
7:00	75	125			93	62				
7:15	86	95			111	72				
7:30	109	77			150	60				
7:45	181	78	451	375	197	49	551	243	1002	618
8:00	170	57			215	37				
8:15	129	81			207	32				
8:30	146	43			204	43				
8:45	106	51	551	232	196	36	822	148	1373	380
9:00	107	49			180	35				
9:15	93	53			124	30				
9:30	82	47			125	26				
9:45	80	38	362	187	109	25	538	116	900	303
10:00	109	38			108	19				
10:15	97	23			110	18				
10:30	92	20			96	10				
10:45	92	16	390	97	91	13	405	60	795	157
11:00	112	20			108	9				
11:15	103	19			100	9				
11:30	128	23			132	6				
11:45	107	30	450	92	148	2	488	26	938	118
Totals	2572	7058			3432	4813				
Combined Totals		9630				8245				
ADT										17875
AM Peak Hour	745	AM			745	AM				
Volume	626				823					
P.H.F.	0.865				0.957					
PM Peak Hour		500	PM			500	PM			
Volume		1331				926				
P.H.F.		0.962				0.894				
Percentage	26.7%	73.3%			41.6%	58.4%				

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24 Hour Volume Plot

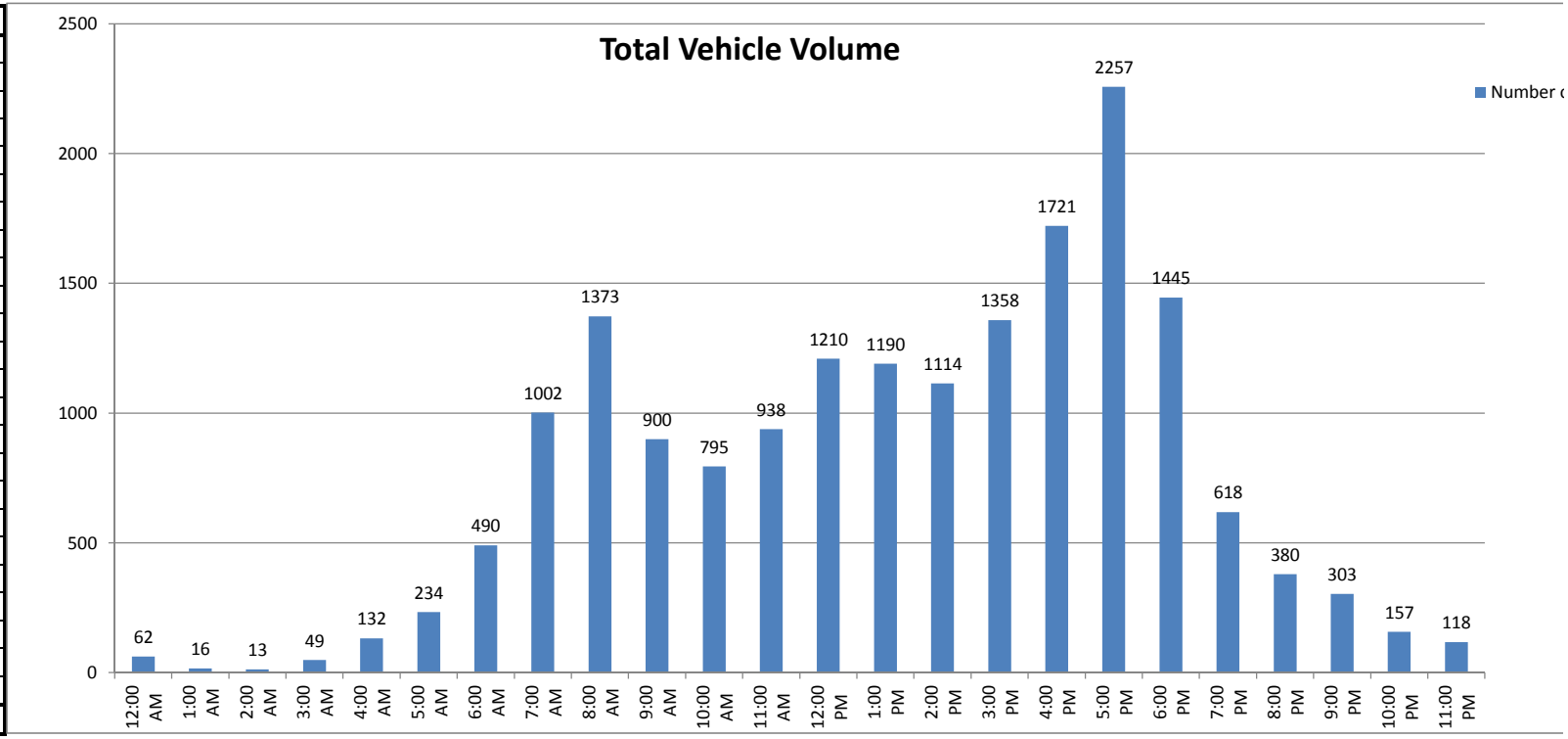
Redhill Avenue

B/ Sky Park North - MacArthur Boulevard

6/11/2014

Southbound

Start Time	6/11/2014
12:00 AM	62
1:00 AM	16
2:00 AM	13
3:00 AM	49
4:00 AM	132
5:00 AM	234
6:00 AM	490
7:00 AM	1002
8:00 AM	1373
9:00 AM	900
10:00 AM	795
11:00 AM	938
12:00 PM	1210
1:00 PM	1190
2:00 PM	1114
3:00 PM	1358
4:00 PM	1721
5:00 PM	2257
6:00 PM	1445
7:00 PM	618
8:00 PM	380
9:00 PM	303
10:00 PM	157
11:00 PM	118
Total	17875



Volumes represent the combined totals for both directions

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City of Irvine
Von Karman Avenue
B/ McGaw Avenue - Alton Parkway

File Name 311
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/6/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	249			3	129				
12:15	5	211			4	141				
12:30	10	205			1	205				
12:45	2	178	25	843	1	187	9	662	34	1505
1:00	8	214			1	235				
1:15	5	190			0	192				
1:30	8	187			0	203				
1:45	1	173	22	764	2	171	3	801	25	1565
2:00	7	183			2	125				
2:15	1	163			3	138				
2:30	3	223			1	136				
2:45	3	181	14	750	3	118	9	517	23	1267
3:00	4	218			1	97				
3:15	3	201			3	108				
3:30	4	258			4	102				
3:45	4	247	15	924	5	113	13	420	28	1344
4:00	3	318			5	96				
4:15	4	324			5	107				
4:30	8	381			8	138				
4:45	12	388	27	1411	34	110	52	451	79	1862
5:00	11	407			17	125				
5:15	9	392			28	137				
5:30	17	373			36	157				
5:45	44	417	81	1589	70	122	151	541	232	2130
6:00	46	399			55	109				
6:15	43	362			63	89				
6:30	45	260			105	87				
6:45	59	242	193	1263	162	65	385	350	578	1613
7:00	48	180			172	82				
7:15	65	151			253	66				
7:30	65	106			306	47				
7:45	96	87	274	524	390	37	1121	232	1395	756
8:00	82	86			449	33				
8:15	105	81			415	41				
8:30	90	74			395	28				
8:45	72	70	349	311	384	39	1643	141	1992	452
9:00	91	65			292	29				
9:15	77	50			172	29				
9:30	82	42			162	20				
9:45	85	70	335	227	136	16	762	94	1097	321
10:00	73	59			117	20				
10:15	84	32			77	12				
10:30	90	34			82	13				
10:45	95	20	342	145	64	14	340	59	682	204
11:00	180	23			102	6				
11:15	141	11			73	4				
11:30	237	19			124	7				
11:45	203	14	761	67	133	5	432	22	1193	89
Totals	2438	8818			4920	4290				
Combined Totals		11256				9210				
ADT										20466
AM Peak Hour	1100	AM			745	AM				
Volume	761				1649					
P.H.F.	0.803				0.918					
PM Peak Hour		500	PM			1230	PM			
Volume		1589				819				
P.H.F.		0.953				0.871				
Percentage	21.7%	78.3%			53.4%	46.6%				

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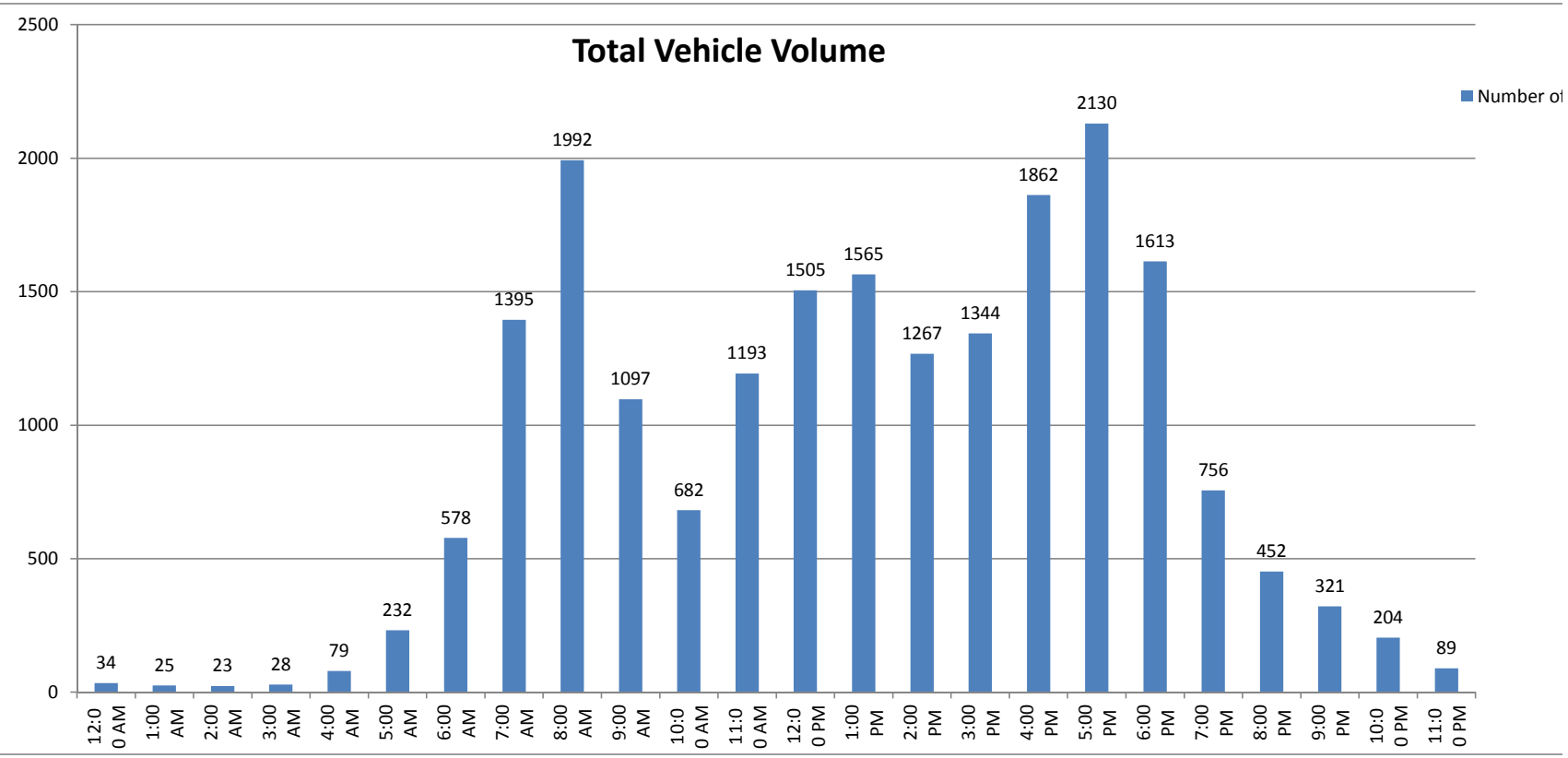
24 Hour Volume Plot

Von Karman Avenue
B/ McGaw Avenue - Alton Parkway

3/6/2014

Southbound

Start Time	3/6/2014
12:00 AM	34
1:00 AM	25
2:00 AM	23
3:00 AM	28
4:00 AM	79
5:00 AM	232
6:00 AM	578
7:00 AM	1395
8:00 AM	1992
9:00 AM	1097
10:00 AM	682
11:00 AM	1193
12:00 PM	1505
1:00 PM	1565
2:00 PM	1267
3:00 PM	1344
4:00 PM	1862
5:00 PM	2130
6:00 PM	1613
7:00 PM	756
8:00 PM	452
9:00 PM	321
10:00 PM	204
11:00 PM	89
Total	20466



Volumes represent the combined totals for both directions

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City of Irvine
Von Karman Avenue
B/ Main Street - McGaw Avenue

File Name 310
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/6/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	233			6	165				
12:15	1	211			6	174				
12:30	8	209			2	219				
12:45	2	203	17	856	2	217	16	775	33	1631
1:00	6	217			1	254				
1:15	4	206			0	215				
1:30	5	183			0	222				
1:45	1	190	16	796	4	198	5	889	21	1685
2:00	2	164			1	147				
2:15	2	165			1	173				
2:30	3	210			1	177				
2:45	8	163	15	702	3	165	6	662	21	1364
3:00	2	199			5	148				
3:15	7	189			6	138				
3:30	3	235			3	137				
3:45	8	225	20	848	5	160	19	583	39	1431
4:00	5	332			3	164				
4:15	1	294			2	148				
4:30	8	370			7	189				
4:45	17	367	31	1363	25	162	37	663	68	2026
5:00	11	446			23	185				
5:15	13	442			27	185				
5:30	23	416			33	191				
5:45	54	451	101	1755	57	163	140	724	241	2479
6:00	43	388			60	162				
6:15	55	331			70	137				
6:30	60	281			96	103				
6:45	95	246	253	1246	147	87	373	489	626	1735
7:00	58	180			168	98				
7:15	90	151			232	89				
7:30	112	83			327	69				
7:45	118	89	378	503	364	56	1091	312	1469	815
8:00	120	81			464	52				
8:15	131	73			424	56				
8:30	115	64			411	36				
8:45	112	65	478	283	384	57	1683	201	2161	484
9:00	120	67			295	43				
9:15	104	40			193	43				
9:30	102	36			167	31				
9:45	103	65	429	208	160	27	815	144	1244	352
10:00	66	53			126	30				
10:15	101	40			100	33				
10:30	89	29			112	22				
10:45	115	17	371	139	93	27	431	112	802	251
11:00	154	23			126	12				
11:15	142	10			114	9				
11:30	234	16			158	10				
11:45	217	9	747	58	204	10	602	41	1349	99
Totals	2856	8757			5218	5595				
Combined Totals		11613				10813				
ADT										22426
AM Peak Hour	1100	AM			800	AM				
Volume	747				1683					
P.H.F.	0.798				0.907					
PM Peak Hour		500	PM			1245	PM			
Volume		1755				908				
P.H.F.		0.973				0.894				
Percentage	24.6%	75.4%			48.3%	51.7%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

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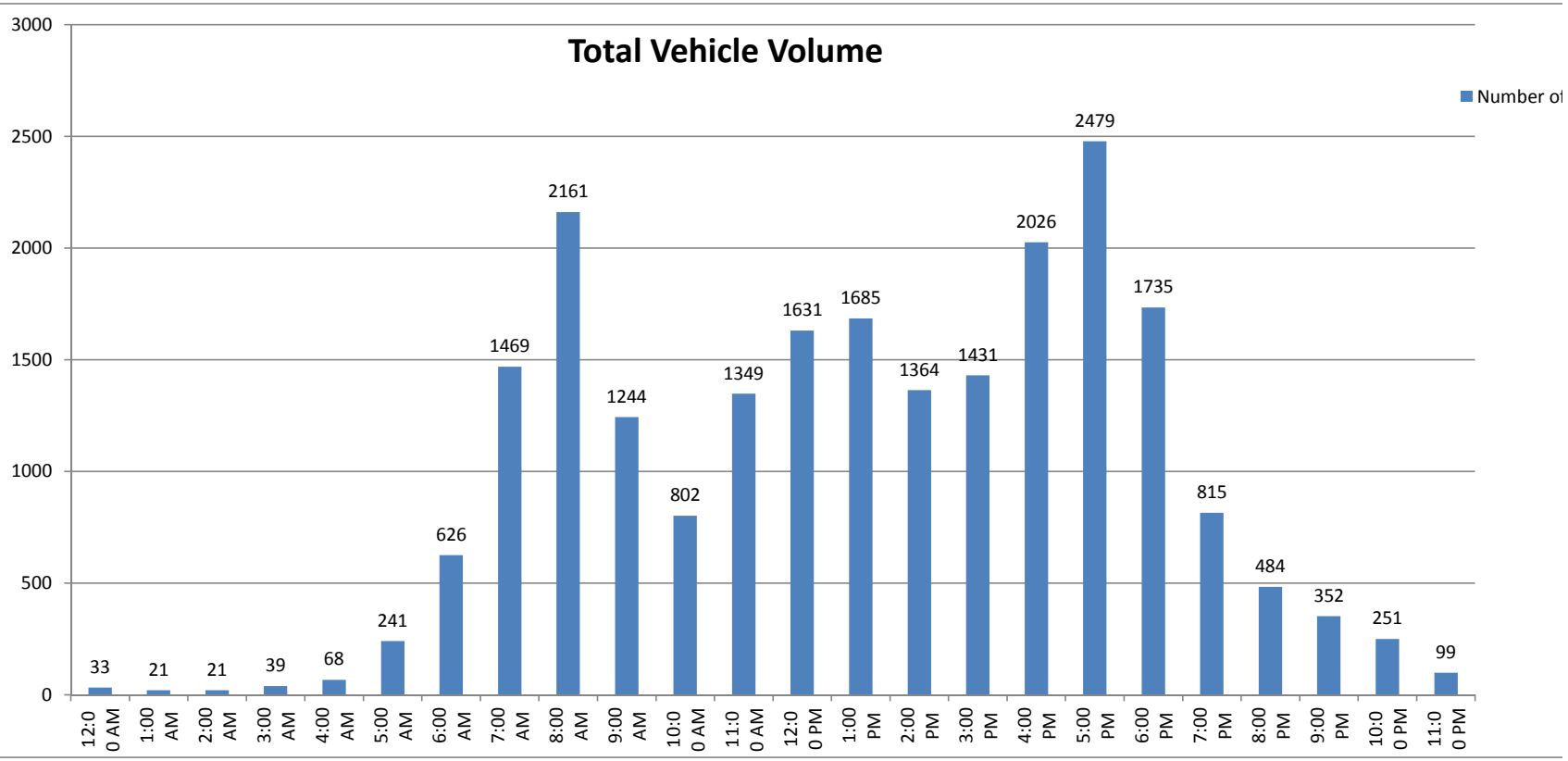
24 Hour Volume Plot

Von Karman Avenue
B/ Main Street - McGaw Avenue

3/6/2014

Southbound

Start Time	3/6/2014
12:00 AM	33
1:00 AM	21
2:00 AM	21
3:00 AM	39
4:00 AM	68
5:00 AM	241
6:00 AM	626
7:00 AM	1469
8:00 AM	2161
9:00 AM	1244
10:00 AM	802
11:00 AM	1349
12:00 PM	1631
1:00 PM	1685
2:00 PM	1364
3:00 PM	1431
4:00 PM	2026
5:00 PM	2479
6:00 PM	1735
7:00 PM	815
8:00 PM	484
9:00 PM	352
10:00 PM	251
11:00 PM	99
Total	22426



Volumes represent the combined totals for both directions

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Counts Unlimited, Inc.
PO Box 1178
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City of Irvine
Jamboree Road
B/ McGaw Avenue - Alton Parkway

File Name 190
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/30/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	45	442			37	375				
12:15	36	432			33	406				
12:30	18	368			36	431				
12:45	18	390	117	1632	39	459	145	1671	262	3303
1:00	23	379			12	432				
1:15	20	403			14	394				
1:30	16	384			10	466				
1:45	14	399	73	1565	6	387	42	1679	115	3244
2:00	13	425			15	378				
2:15	12	445			9	387				
2:30	8	447			10	425				
2:45	11	509	44	1826	8	394	42	1584	86	3410
3:00	8	519			11	342				
3:15	10	588			11	340				
3:30	14	571			15	323				
3:45	17	575	49	2253	18	358	55	1363	104	3616
4:00	15	651			15	345				
4:15	20	689			19	307				
4:30	21	538			32	379				
4:45	47	644	103	2522	69	363	135	1394	238	3916
5:00	60	730			66	408				
5:15	49	645			105	425				
5:30	85	684			140	364				
5:45	134	684	328	2743	133	359	444	1556	772	4299
6:00	112	671			212	395				
6:15	155	679			243	367				
6:30	177	594			344	342				
6:45	204	515	648	2459	493	331	1292	1435	1940	3894
7:00	242	397			457	329				
7:15	223	460			624	273				
7:30	240	312			652	299				
7:45	297	347	1002	1516	745	242	2478	1143	3480	2659
8:00	289	269			730	265				
8:15	302	273			764	209				
8:30	292	240			816	206				
8:45	287	229	1170	1011	782	245	3092	925	4262	1936
9:00	305	250			776	223				
9:15	271	234			649	217				
9:30	274	216			541	184				
9:45	271	196	1121	896	507	142	2473	766	3594	1662
10:00	302	153			482	162				
10:15	246	92			404	138				
10:30	294	118			399	130				
10:45	263	93	1105	456	361	101	1646	531	2751	987
11:00	330	68			384	76				
11:15	333	58			407	84				
11:30	386	38			372	60				
11:45	438	41	1487	205	347	39	1510	259	2997	464
Totals	7247	19084			13354	14306				
Combined Totals		26331				27660				
ADT										53991
AM Peak Hour	1100	AM			815	AM				
Volume	1487				3138					
P.H.F.	0.849				0.961					
PM Peak Hour		500	PM			2445	PM			
Volume		2743				1751				
P.H.F.		0.939				0.939				
Percentage	27.5%	72.5%			48.3%	51.7%				

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24 Hour Volume Plot

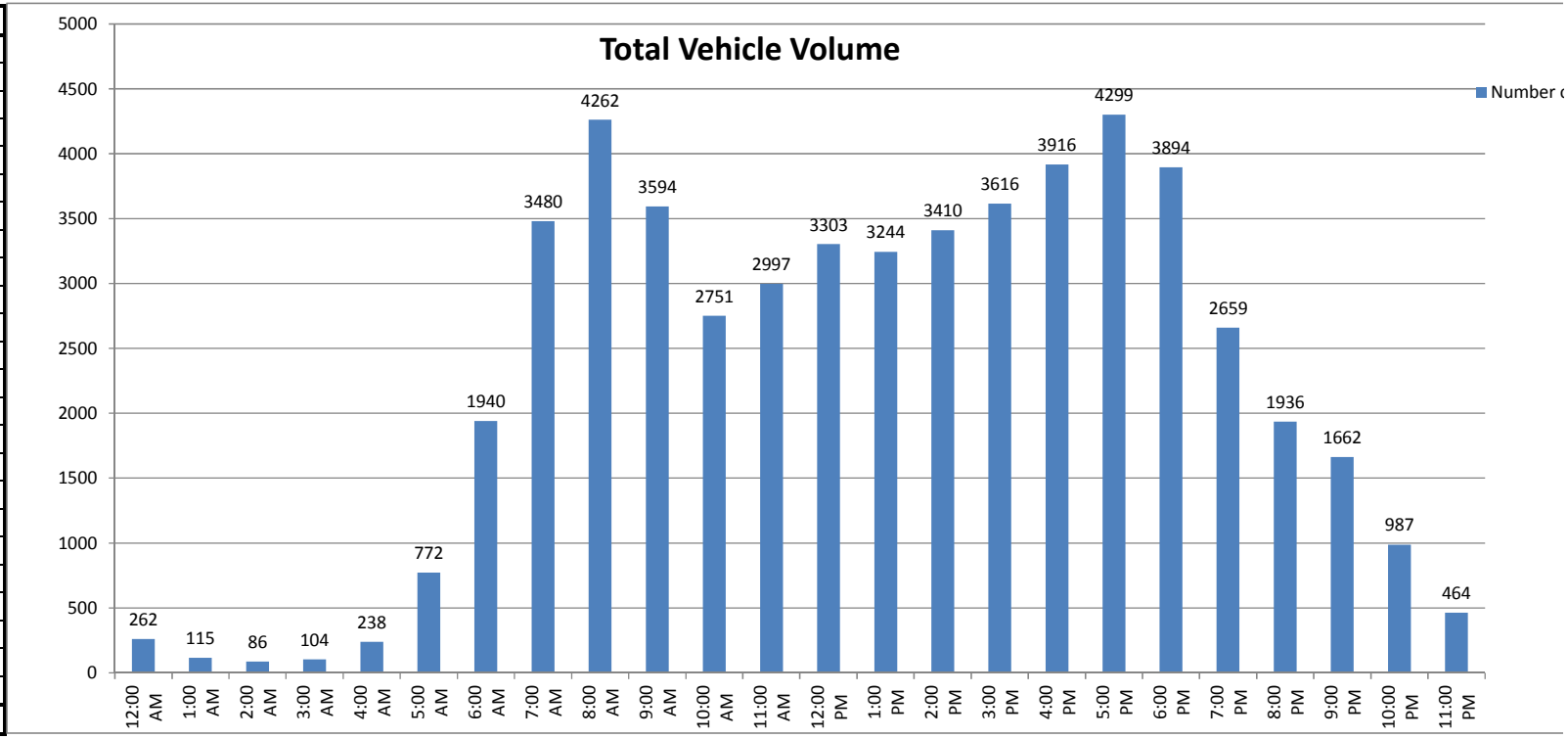
Jamboree Road

B/ McGaw Avenue - Alton Parkway

4/30/2014

Southbound

Start Time	4/30/2014
12:00 AM	262
1:00 AM	115
2:00 AM	86
3:00 AM	104
4:00 AM	238
5:00 AM	772
6:00 AM	1940
7:00 AM	3480
8:00 AM	4262
9:00 AM	3594
10:00 AM	2751
11:00 AM	2997
12:00 PM	3303
1:00 PM	3244
2:00 PM	3410
3:00 PM	3616
4:00 PM	3916
5:00 PM	4299
6:00 PM	3894
7:00 PM	2659
8:00 PM	1936
9:00 PM	1662
10:00 PM	987
11:00 PM	464
Total	53991



Volumes represent the combined totals for both directions

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PO Box 1178
Corona, CA 92878

City of Irvine
Jamboree Road
B/ Main Street - Kelvin Avenue

File Name 188
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/30/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	48	471			52	400				
12:15	36	431			33	427				
12:30	18	390			37	427				
12:45	19	397	121	1689	40	507	162	1761	283	3450
1:00	25	441			16	439				
1:15	21	452			21	422				
1:30	21	428			11	466				
1:45	19	426	86	1747	13	379	61	1706	147	3453
2:00	13	429			22	426				
2:15	12	498			9	439				
2:30	8	425			14	458				
2:45	8	578	41	1930	9	439	54	1762	95	3692
3:00	4	530			14	413				
3:15	10	601			7	361				
3:30	12	562			9	429				
3:45	30	577	56	2270	19	365	49	1568	105	3838
4:00	22	647			15	419				
4:15	29	615			16	355				
4:30	38	597			30	455				
4:45	69	676	158	2535	66	405	127	1634	285	4169
5:00	82	666			48	503				
5:15	74	785			86	476				
5:30	125	667			122	450				
5:45	204	648	485	2766	138	389	394	1818	879	4584
6:00	141	644			192	417				
6:15	200	686			245	389				
6:30	212	642			309	325				
6:45	289	545	842	2517	469	336	1215	1467	2057	3984
7:00	297	467			470	338				
7:15	253	443			546	280				
7:30	294	364			715	266				
7:45	348	354	1192	1628	633	279	2364	1163	3556	2791
8:00	346	297			762	273				
8:15	347	308			769	247				
8:30	302	267			732	220				
8:45	363	206	1358	1078	791	287	3054	1027	4412	2105
9:00	353	251			764	268				
9:15	308	248			628	238				
9:30	324	203			498	222				
9:45	320	205	1305	907	595	150	2485	878	3790	1785
10:00	353	154			427	183				
10:15	280	103			411	148				
10:30	315	120			420	159				
10:45	301	98	1249	475	366	116	1624	606	2873	1081
11:00	318	75			418	85				
11:15	367	60			391	109				
11:30	402	50			403	68				
11:45	453	43	1540	228	374	44	1586	306	3126	534
Totals	8433	19770			13175	15696				
Combined Totals		28203				28871				
ADT										57074
AM Peak Hour	1100	AM			815	AM				
Volume	1540				3056					
P.H.F.	0.850				0.966					
PM Peak Hour		445	PM			430	PM			
Volume		2794				1839				
P.H.F.		0.890				0.914				
Percentage	29.9%	70.1%			45.6%	54.4%				

Phone: 951-268-6268
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Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

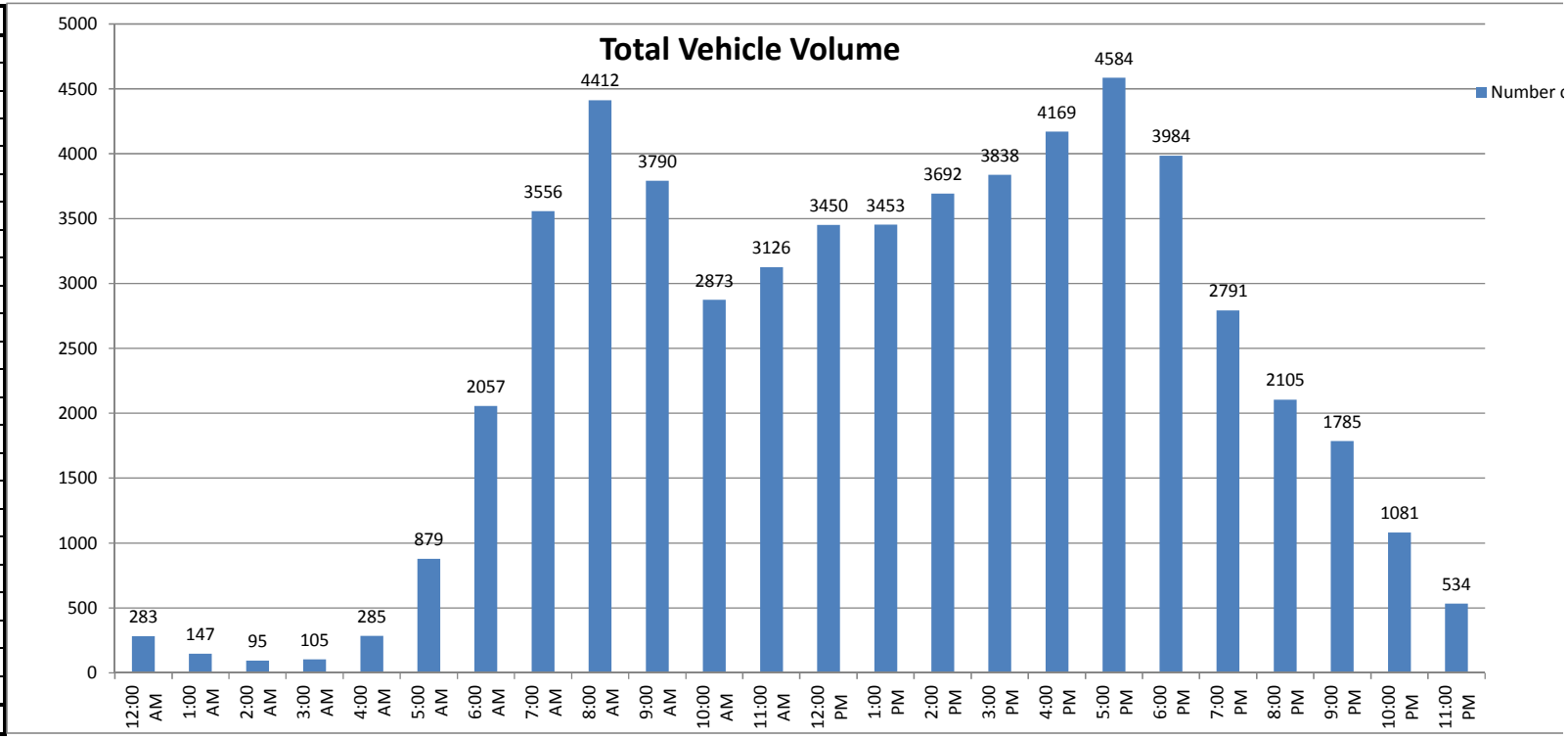
Jamboree Road

B/ Main Street - Kelvin Avenue

4/30/2014

Southbound

Start Time	4/30/2014
12:00 AM	283
1:00 AM	147
2:00 AM	95
3:00 AM	105
4:00 AM	285
5:00 AM	879
6:00 AM	2057
7:00 AM	3556
8:00 AM	4412
9:00 AM	3790
10:00 AM	2873
11:00 AM	3126
12:00 PM	3450
1:00 PM	3453
2:00 PM	3692
3:00 PM	3838
4:00 PM	4169
5:00 PM	4584
6:00 PM	3984
7:00 PM	2791
8:00 PM	2105
9:00 PM	1785
10:00 PM	1081
11:00 PM	534
Total	57074



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Harvard Avenue
B/ San Carlo - San Marino

File Name 126
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
2/20/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	10	185			10	169				
12:15	17	150			11	177				
12:30	19	154			14	166				
12:45	7	161	53	650	7	194	42	706	95	1356
1:00	10	149			10	223				
1:15	19	134			7	183				
1:30	6	129			4	194				
1:45	8	108	43	520	2	153	23	753	66	1273
2:00	4	157			3	133				
2:15	10	155			3	149				
2:30	1	187			2	141				
2:45	4	159	19	658	4	152	12	575	31	1233
3:00	6	170			2	143				
3:15	3	229			1	142				
3:30	3	209			4	156				
3:45	2	222	14	830	1	146	8	587	22	1417
4:00	1	247			1	153				
4:15	0	235			3	142				
4:30	1	274			7	141				
4:45	8	278	10	1034	12	152	23	588	33	1622
5:00	7	367			16	178				
5:15	7	438			14	163				
5:30	10	409			33	200				
5:45	14	436	38	1650	38	199	101	740	139	2390
6:00	13	366			44	177				
6:15	35	320			52	191				
6:30	33	319			52	176				
6:45	50	269	131	1274	107	145	255	689	386	1963
7:00	56	202			121	107				
7:15	71	191			161	128				
7:30	86	130			258	102				
7:45	121	126	334	649	363	108	903	445	1237	1094
8:00	124	147			356	104				
8:15	153	147			375	91				
8:30	137	99			345	95				
8:45	133	97	547	490	340	87	1416	377	1963	867
9:00	91	109			284	91				
9:15	94	96			188	72				
9:30	93	74			179	86				
9:45	95	82	373	361	166	53	817	302	1190	663
10:00	97	70			123	72				
10:15	77	73			124	58				
10:30	106	65			133	46				
10:45	90	44	370	252	105	34	485	210	855	462
11:00	103	44			107	36				
11:15	108	40			129	36				
11:30	141	30			132	17				
11:45	186	31	538	145	129	20	497	109	1035	254
Totals	2470	8513			4582	6081				
Combined Totals		10983				10663				
ADT										21646
AM Peak Hour	800	AM			745	AM				
Volume	547				1439					
P.H.F.	0.894				0.959					
PM Peak Hour		500	PM			2445	PM			
Volume		1650				794				
P.H.F.		0.942				0.890				
Percentage	22.5%	77.5%			43.0%	57.0%				

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Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

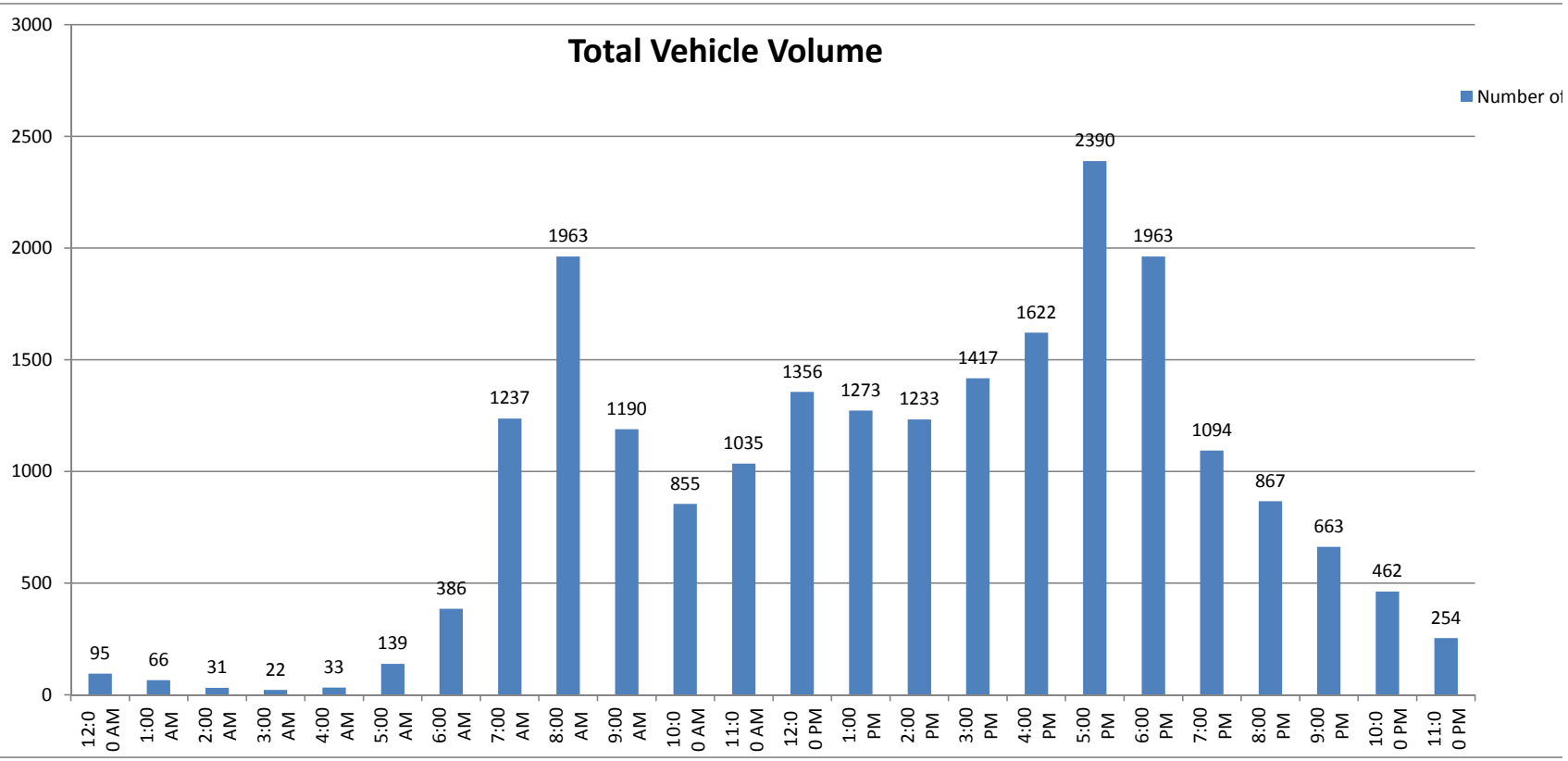
Harvard Avenue

B/ San Carlo - San Marino

2/20/2014

Southbound

Start Time	2/20/2014
12:00 AM	95
1:00 AM	66
2:00 AM	31
3:00 AM	22
4:00 AM	33
5:00 AM	139
6:00 AM	386
7:00 AM	1237
8:00 AM	1963
9:00 AM	1190
10:00 AM	855
11:00 AM	1035
12:00 PM	1356
1:00 PM	1273
2:00 PM	1233
3:00 PM	1417
4:00 PM	1622
5:00 PM	2390
6:00 PM	1963
7:00 PM	1094
8:00 PM	867
9:00 PM	663
10:00 PM	462
11:00 PM	254
Total	21646



Volumes represent the combined totals for both directions

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City of Irvine
Culver Drive
B/ Main Street - Alton Parkway

File Name 098
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/12/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	47	337			32	327				
12:15	31	373			41	307				
12:30	42	314			30	349				
12:45	25	366	145	1390	34	381	137	1364	282	2754
1:00	18	312			17	404				
1:15	9	359			12	341				
1:30	17	346			15	367				
1:45	14	320	58	1337	15	348	59	1460	117	2797
2:00	11	344			15	331				
2:15	12	377			6	323				
2:30	6	315			6	343				
2:45	7	395	36	1431	10	359	37	1356	73	2787
3:00	11	398			6	318				
3:15	13	445			6	312				
3:30	7	430			11	322				
3:45	11	438	42	1711	6	351	29	1303	71	3014
4:00	4	439			9	339				
4:15	10	463			15	338				
4:30	17	522			24	320				
4:45	23	523	54	1947	25	344	73	1341	127	3288
5:00	20	542			31	352				
5:15	34	579			58	395				
5:30	48	599			85	409				
5:45	68	580	170	2300	79	369	253	1525	423	3825
6:00	63	467			73	355				
6:15	79	456			122	340				
6:30	96	422			159	335				
6:45	135	457	373	1802	237	331	591	1361	964	3163
7:00	125	550			277	343				
7:15	200	408			347	359				
7:30	274	366			479	315				
7:45	276	293	875	1617	585	293	1688	1310	2563	2927
8:00	309	313			544	298				
8:15	334	278			559	282				
8:30	317	268			518	264				
8:45	301	192	1261	1051	543	237	2164	1081	3425	2132
9:00	303	242			420	265				
9:15	315	222			354	231				
9:30	291	192			332	193				
9:45	250	155	1159	811	354	174	1460	863	2619	1674
10:00	252	168			297	178				
10:15	243	141			285	144				
10:30	259	115			330	97				
10:45	265	75	1019	499	292	109	1204	528	2223	1027
11:00	272	61			303	96				
11:15	289	54			304	53				
11:30	307	59			301	40				
11:45	385	43	1253	217	335	55	1243	244	2496	461
Totals	6445	16113			8938	13736				
Combined Totals		22558				22674				
ADT										45232
AM Peak Hour	800	AM			745	AM				
Volume	1261				2206					
P.H.F.	0.944				0.943					
PM Peak Hour		500	PM			515	PM			
Volume		2300				1528				
P.H.F.		0.960				0.934				
Percentage	28.6%	71.4%			39.4%	60.6%				

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Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

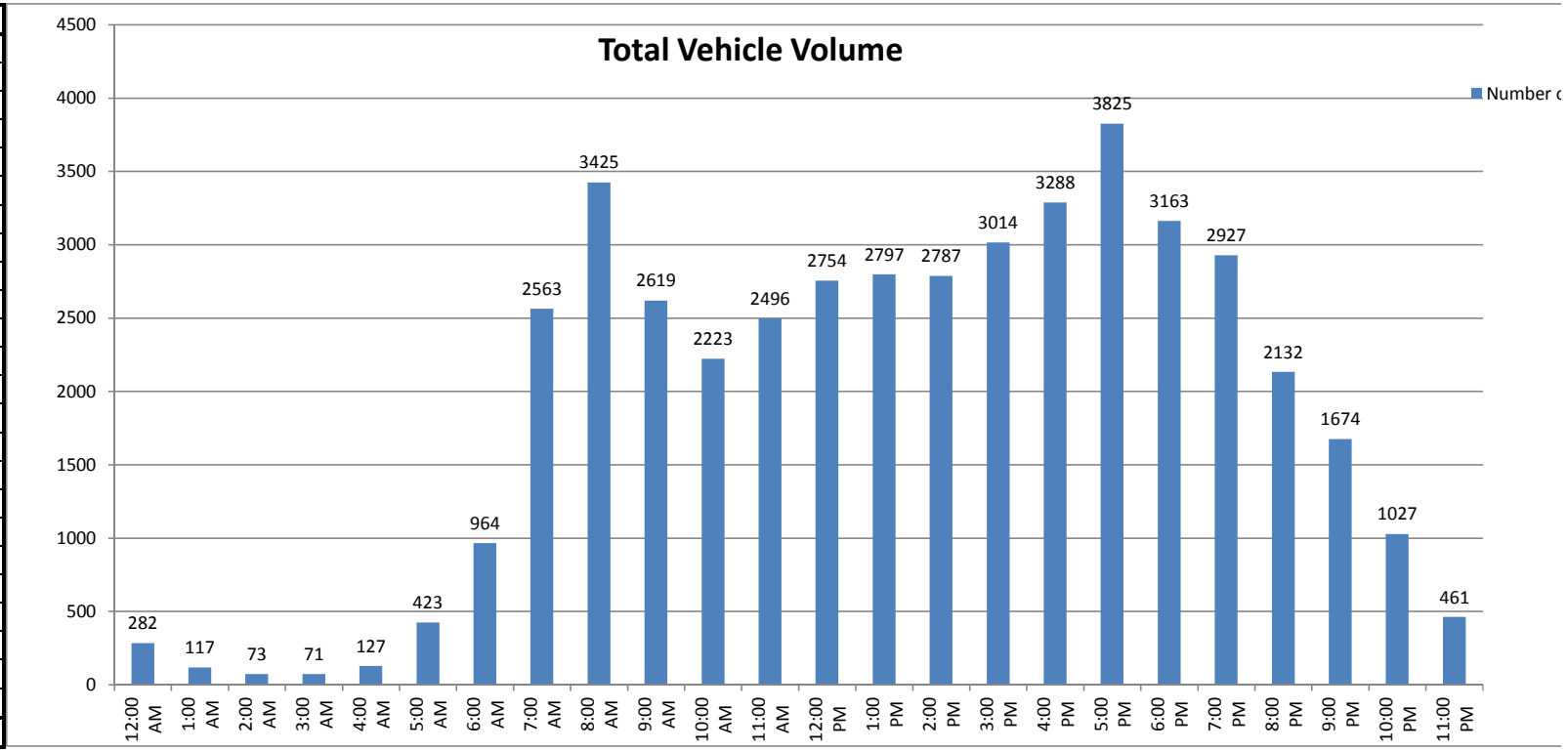
Culver Drive

B/ Main Street - Alton Parkway

3/12/2014

Southbound

Start Time	3/12/2014
12:00 AM	282
1:00 AM	117
2:00 AM	73
3:00 AM	71
4:00 AM	127
5:00 AM	423
6:00 AM	964
7:00 AM	2563
8:00 AM	3425
9:00 AM	2619
10:00 AM	2223
11:00 AM	2496
12:00 PM	2754
1:00 PM	2797
2:00 PM	2787
3:00 PM	3014
4:00 PM	3288
5:00 PM	3825
6:00 PM	3163
7:00 PM	2927
8:00 PM	2132
9:00 PM	1674
10:00 PM	1027
11:00 PM	461
Total	45232



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
MacArthur Boulevard
B/ Main Street - Redhill Avenue

File Name 230
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/6/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	217			26	223				
12:15	8	175			15	208				
12:30	5	219			21	195				
12:45	4	202	23	813	16	218	78	844	101	1657
1:00	7	203			22	229				
1:15	4	210			11	281				
1:30	4	191			11	256				
1:45	9	194	24	798	14	321	58	1087	82	1885
2:00	2	201			9	228				
2:15	2	193			15	272				
2:30	2	232			18	321				
2:45	7	178	13	804	18	290	60	1111	73	1915
3:00	6	190			9	371				
3:15	7	175			7	324				
3:30	11	182			11	390				
3:45	10	187	34	734	8	388	35	1473	69	2207
4:00	12	207			12	411				
4:15	19	169			15	437				
4:30	42	216			12	362				
4:45	55	185	128	777	36	380	75	1590	203	2367
5:00	43	246			25	422				
5:15	58	228			28	428				
5:30	59	276			47	428				
5:45	94	261	254	1011	56	393	156	1671	410	2682
6:00	96	188			70	350				
6:15	124	158			64	368				
6:30	124	157			98	305				
6:45	169	137	513	640	115	293	347	1316	860	1956
7:00	188	100			148	245				
7:15	228	135			166	170				
7:30	207	115			190	118				
7:45	243	83	866	433	207	105	711	638	1577	1071
8:00	280	61			240	96				
8:15	279	66			208	94				
8:30	244	48			194	99				
8:45	263	61	1066	236	227	85	869	374	1935	610
9:00	201	65			224	80				
9:15	171	57			177	78				
9:30	143	60			150	71				
9:45	165	41	680	223	155	81	706	310	1386	533
10:00	155	36			151	64				
10:15	144	21			146	68				
10:30	163	27			148	54				
10:45	204	16	666	100	189	42	634	228	1300	328
11:00	214	22			174	41				
11:15	230	19			174	36				
11:30	228	16			179	48				
11:45	181	15	853	72	215	19	742	144	1595	216
Totals	5120	6641			4471	10786				
Combined Totals		11761				15257				
ADT										27018
AM Peak Hour	800	AM			800	AM				
Volume	1066				869					
P.H.F.	0.952				0.905					
PM Peak Hour		500	PM			500	PM			
Volume		1011				1671				
P.H.F.		0.916				0.976				
Percentage	43.5%	56.5%			29.3%	70.7%				

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Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

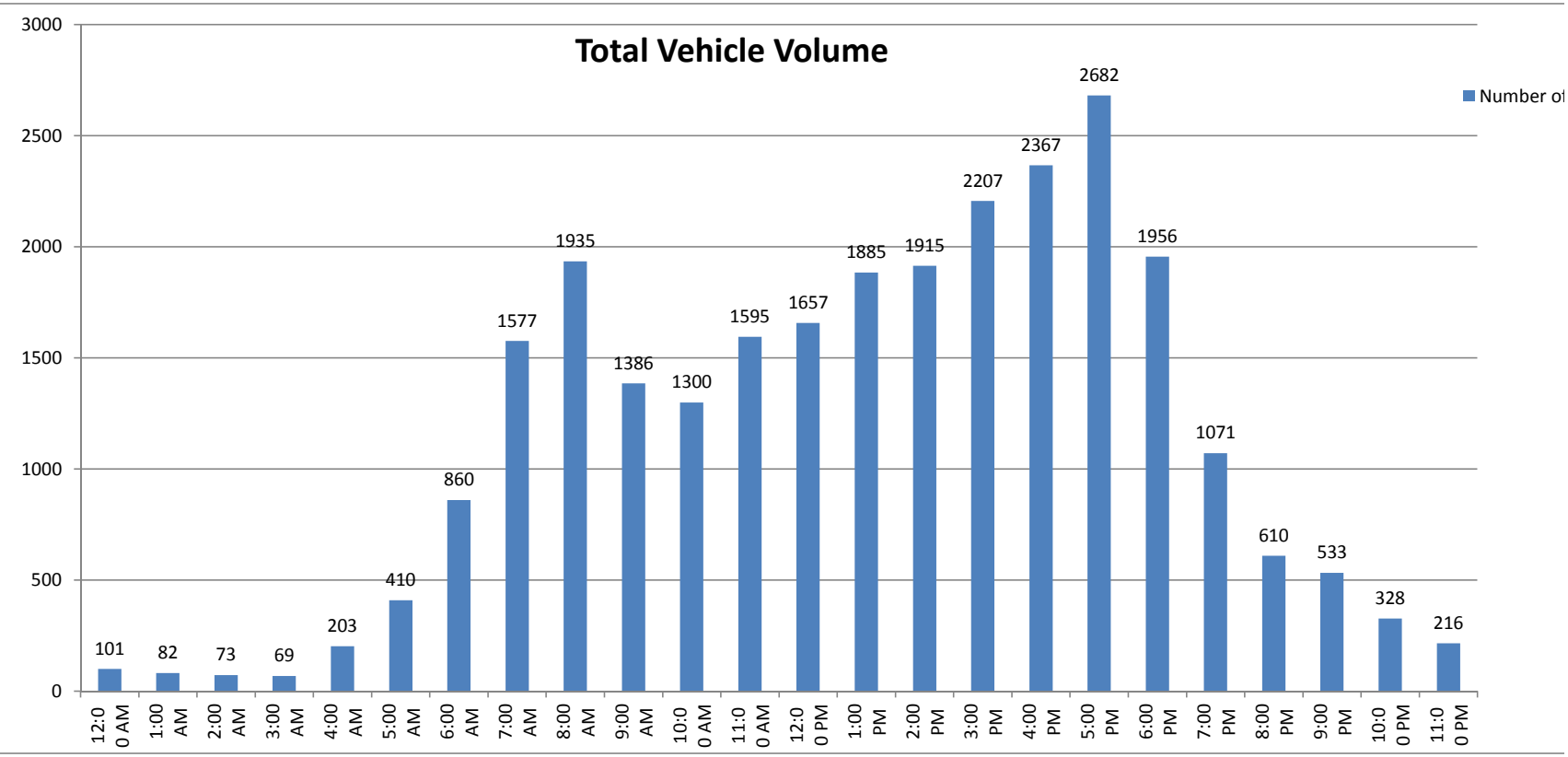
MacArthur Boulevard

B/ Main Street - Redhill Avenue

3/6/2014

Southbound

Start Time	3/6/2014
12:00 AM	101
1:00 AM	82
2:00 AM	73
3:00 AM	69
4:00 AM	203
5:00 AM	410
6:00 AM	860
7:00 AM	1577
8:00 AM	1935
9:00 AM	1386
10:00 AM	1300
11:00 AM	1595
12:00 PM	1657
1:00 PM	1885
2:00 PM	1915
3:00 PM	2207
4:00 PM	2367
5:00 PM	2682
6:00 PM	1956
7:00 PM	1071
8:00 PM	610
9:00 PM	533
10:00 PM	328
11:00 PM	216
Total	27018



Volumes represent the combined totals for both directions

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Counts Unlimited, Inc.
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City of Irvine
Main Street
B/ Redhill Avenue - MacArthur Boulevard

File Name 233
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	17	242			21	216				
12:15	14	249			11	207				
12:30	13	230			16	228				
12:45	7	244	51	965	12	221	60	872	111	1837
1:00	5	225			13	198				
1:15	2	230			6	239				
1:30	7	229			9	204				
1:45	8	226	22	910	7	225	35	866	57	1776
2:00	5	185			9	186				
2:15	4	237			14	204				
2:30	5	228			21	238				
2:45	3	195	17	845	8	230	52	858	69	1703
3:00	6	220			8	228				
3:15	5	179			2	192				
3:30	6	205			8	305				
3:45	16	215	33	819	9	268	27	993	60	1812
4:00	14	236			9	341				
4:15	23	268			5	324				
4:30	40	280			11	404				
4:45	44	267	121	1051	16	359	41	1428	162	2479
5:00	36	322			18	461				
5:15	57	327			25	422				
5:30	98	333			33	472				
5:45	133	348	324	1330	51	370	127	1725	451	3055
6:00	87	267			51	319				
6:15	103	218			64	297				
6:30	171	176			76	218				
6:45	246	155	607	816	109	208	300	1042	907	1858
7:00	224	136			120	144				
7:15	271	116			151	109				
7:30	368	89			178	100				
7:45	424	64	1287	405	200	90	649	443	1936	848
8:00	421	92			207	81				
8:15	431	66			221	65				
8:30	373	73			209	65				
8:45	327	65	1552	296	199	47	836	258	2388	554
9:00	260	65			178	63				
9:15	192	74			151	66				
9:30	174	66			119	52				
9:45	174	58	800	263	156	48	604	229	1404	492
10:00	167	60			132	45				
10:15	166	67			136	38				
10:30	169	47			126	37				
10:45	153	41	655	215	135	20	529	140	1184	355
11:00	185	32			145	34				
11:15	200	25			179	35				
11:30	198	19			165	27				
11:45	232	18	815	94	190	14	679	110	1494	204
Totals	6284	8009			3939	8964				
Combined Totals		14293				12903				
ADT										27196
AM Peak Hour	745	AM			745	AM				
Volume	1649				837					
P.H.F.	0.956				0.947					
PM Peak Hour		500	PM			500	PM			
Volume		1330				1725				
P.H.F.		0.955				0.914				
Percentage	44.0%	56.0%			30.5%	69.5%				

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

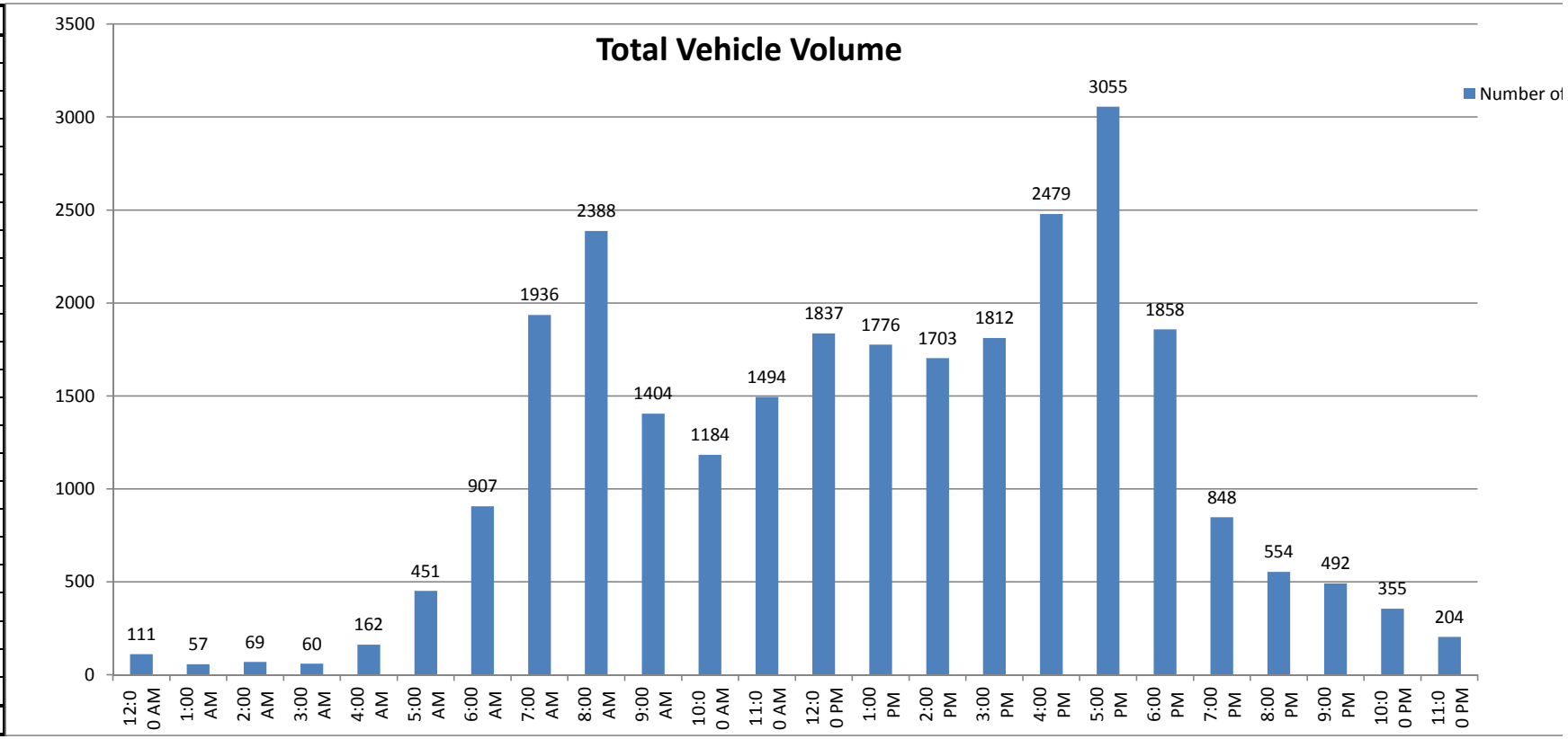
Main Street

B/ Redhill Avenue - MacArthur Boulevard

2/27/2014

Westbound

Start Time	2/27/2014
12:00 AM	111
1:00 AM	57
2:00 AM	69
3:00 AM	60
4:00 AM	162
5:00 AM	451
6:00 AM	907
7:00 AM	1936
8:00 AM	2388
9:00 AM	1404
10:00 AM	1184
11:00 AM	1494
12:00 PM	1837
1:00 PM	1776
2:00 PM	1703
3:00 PM	1812
4:00 PM	2479
5:00 PM	3055
6:00 PM	1858
7:00 PM	848
8:00 PM	554
9:00 PM	492
10:00 PM	355
11:00 PM	204
Total	27196



Volumes represent the combined totals for both directions

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Main Street
B/ MacArthur Boulevard - Von Karman Avenue

File Name 234
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/26/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	239			26	276				
12:15	13	247			18	256				
12:30	12	241			23	248				
12:45	11	279	45	1006	8	230	75	1010	120	2016
1:00	7	263			15	253				
1:15	4	278			12	251				
1:30	5	232			13	279				
1:45	4	244	20	1017	10	220	50	1003	70	2020
2:00	4	197			22	253				
2:15	4	204			7	248				
2:30	1	207			20	350				
2:45	5	244	14	852	15	254	64	1105	78	1957
3:00	8	201			15	340				
3:15	9	214			6	255				
3:30	16	198			13	380				
3:45	33	210	66	823	3	301	37	1276	103	2099
4:00	18	230			6	363				
4:15	28	257			6	340				
4:30	54	258			13	409				
4:45	133	256	233	1001	22	339	47	1451	280	2452
5:00	72	276			21	406				
5:15	89	346			31	408				
5:30	144	386			33	370				
5:45	257	319	562	1327	49	317	134	1501	696	2828
6:00	166	326			82	358				
6:15	198	297			62	284				
6:30	217	218			76	248				
6:45	291	184	872	1025	86	228	306	1118	1178	2143
7:00	356	136			127	188				
7:15	341	126			170	140				
7:30	355	112			214	131				
7:45	487	106	1539	480	210	95	721	554	2260	1034
8:00	415	100			256	110				
8:15	430	82			250	91				
8:30	379	95			218	80				
8:45	359	70	1583	347	218	61	942	342	2525	689
9:00	328	69			227	75				
9:15	256	53			192	66				
9:30	225	58			169	76				
9:45	210	76	1019	256	156	54	744	271	1763	527
10:00	174	51			177	59				
10:15	162	31			154	41				
10:30	156	40			128	56				
10:45	194	40	686	162	164	29	623	185	1309	347
11:00	165	25			193	42				
11:15	190	21			190	17				
11:30	227	23			251	71				
11:45	242	12	824	81	270	20	904	150	1728	231
Totals	7463	8377			4647	9966				
Combined Totals		15840				14613				
ADT										30453
AM Peak Hour	745	AM			800	AM				
Volume	1711				942					
P.H.F.	0.878				0.920					
PM Peak Hour		515	PM			430	PM			
Volume		1377				1562				
P.H.F.		0.892				0.955				
Percentage	47.1%	52.9%			31.8%	68.2%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

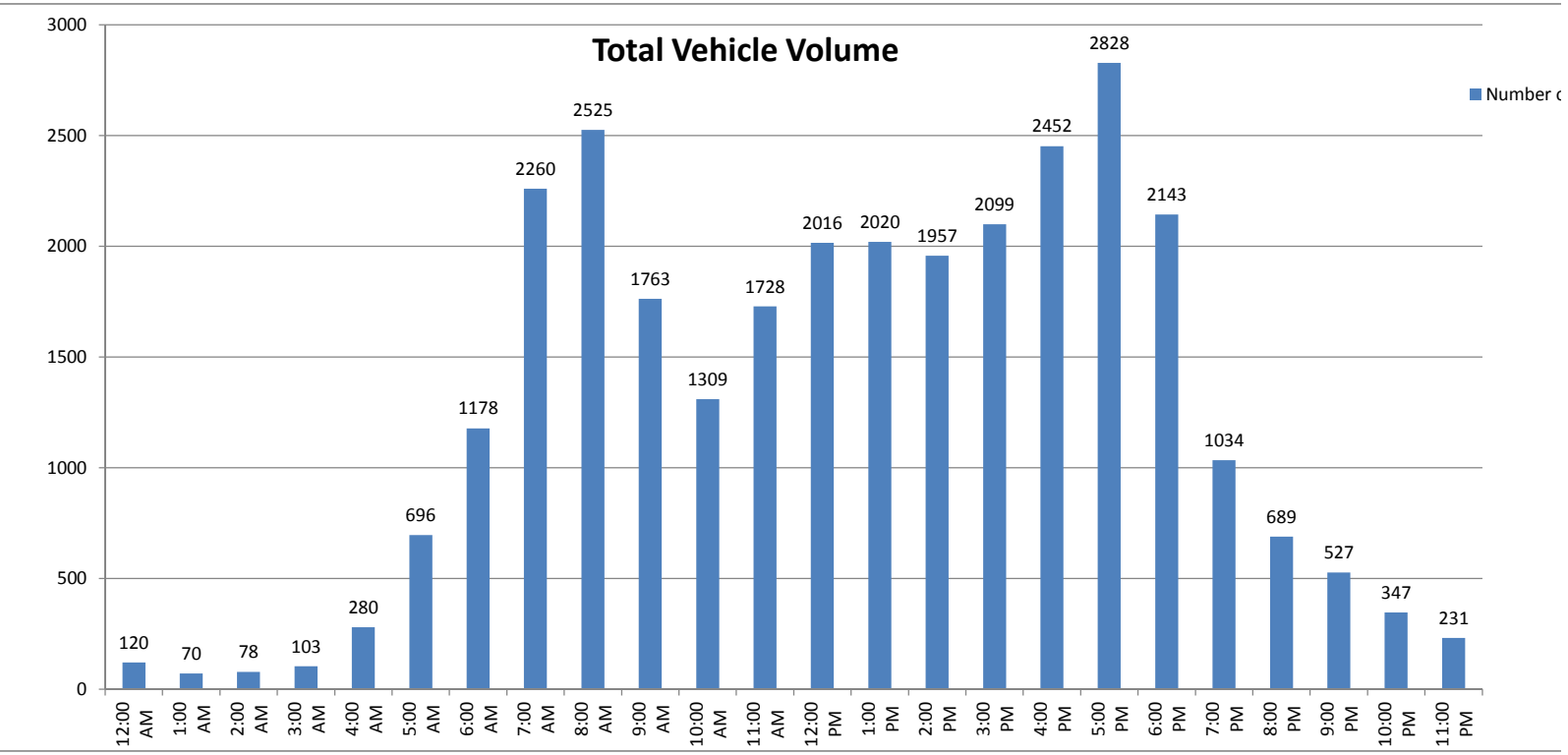
Main Street

B/ MacArthur Boulevard - Von Karman Avenue

2/26/2014

Westbound

Start Time	2/26/2014
12:00 AM	120
1:00 AM	70
2:00 AM	78
3:00 AM	103
4:00 AM	280
5:00 AM	696
6:00 AM	1178
7:00 AM	2260
8:00 AM	2525
9:00 AM	1763
10:00 AM	1309
11:00 AM	1728
12:00 PM	2016
1:00 PM	2020
2:00 PM	1957
3:00 PM	2099
4:00 PM	2452
5:00 PM	2828
6:00 PM	2143
7:00 PM	1034
8:00 PM	689
9:00 PM	527
10:00 PM	347
11:00 PM	231
Total	30453



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Main Street
B/ Von Karman Avenue - Jamboree Road

File Name 235
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	225			5	154				
12:15	10	213			4	210				
12:30	10	244			6	183				
12:45	11	231	40	913	2	195	17	742	57	1655
1:00	11	233			2	191				
1:15	9	202			2	175				
1:30	0	213			4	166				
1:45	8	159	28	807	3	164	11	696	39	1503
2:00	5	190			1	168				
2:15	4	231			1	138				
2:30	4	172			4	147				
2:45	5	200	18	793	2	165	8	618	26	1411
3:00	3	234			5	126				
3:15	3	267			2	127				
3:30	7	191			4	132				
3:45	17	328	30	1020	4	142	15	527	45	1547
4:00	6	277			4	137				
4:15	10	380			5	149				
4:30	12	344			6	154				
4:45	14	504	42	1505	25	179	40	619	82	2124
5:00	13	513			14	209				
5:15	12	517			28	222				
5:30	36	425			44	209				
5:45	47	404	108	1859	61	209	147	849	255	2708
6:00	41	371			58	161				
6:15	37	242			72	166				
6:30	62	183			78	118				
6:45	91	195	231	991	127	142	335	587	566	1578
7:00	99	165			154	83				
7:15	139	160			189	79				
7:30	149	124			232	77				
7:45	167	153	554	602	277	56	852	295	1406	897
8:00	139	126			306	54				
8:15	151	98			325	40				
8:30	144	106			311	34				
8:45	137	104	571	434	296	31	1238	159	1809	593
9:00	133	80			298	42				
9:15	114	68			163	27				
9:30	88	57			172	28				
9:45	84	54	419	259	150	35	783	132	1202	391
10:00	107	48			138	17				
10:15	120	47			110	29				
10:30	123	42			109	18				
10:45	142	32	492	169	107	10	464	74	956	243
11:00	176	30			119	15				
11:15	206	34			110	10				
11:30	236	18			115	10				
11:45	260	20	878	102	172	7	516	42	1394	144
Totals	3411	9454			4426	5340				
Combined Totals		12865				9766				
ADT										22631
AM Peak Hour	1100	AM			800	AM				
Volume	878				1238					
P.H.F.	0.844				0.952					
PM Peak Hour		445	PM			500	PM			
Volume		1959				849				
P.H.F.		0.947				0.956				
Percentage	26.5%	73.5%			45.3%	54.7%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

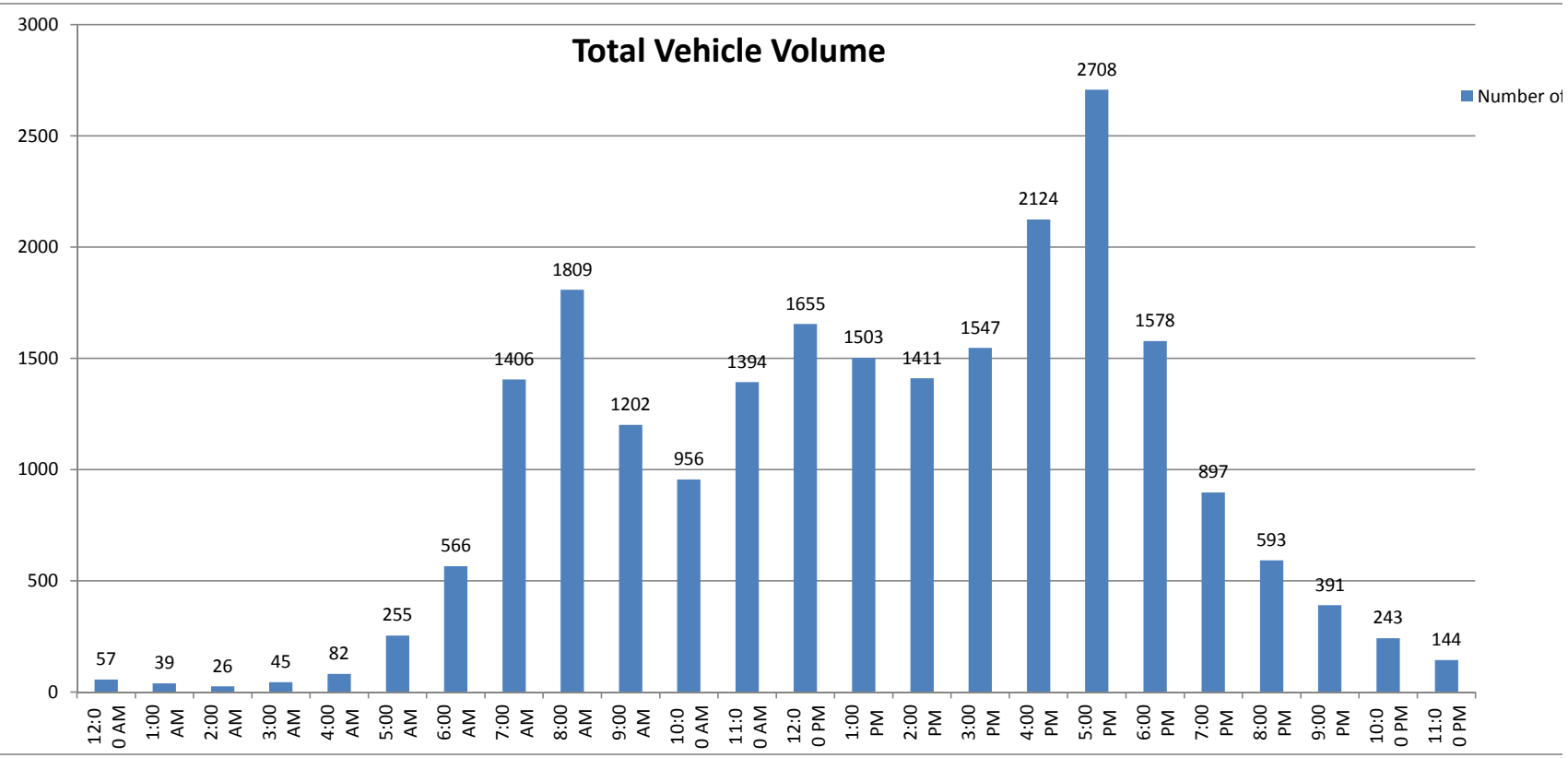
Main Street

B/ Von Karman Avenue - Jamboree Road

2/27/2014

Westbound

Start Time	2/27/2014
12:00 AM	57
1:00 AM	39
2:00 AM	26
3:00 AM	45
4:00 AM	82
5:00 AM	255
6:00 AM	566
7:00 AM	1406
8:00 AM	1809
9:00 AM	1202
10:00 AM	956
11:00 AM	1394
12:00 PM	1655
1:00 PM	1503
2:00 PM	1411
3:00 PM	1547
4:00 PM	2124
5:00 PM	2708
6:00 PM	1578
7:00 PM	897
8:00 PM	593
9:00 PM	391
10:00 PM	243
11:00 PM	144
Total	22631



Volumes represent the combined totals for both directions

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City of Irvine
Main Street
B/ Jamboree Road - Harvard Avenue

File Name 236
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/26/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	24	222			15	179				
12:15	17	217			8	178				
12:30	19	234			19	182				
12:45	13	236	73	909	6	228	48	767	121	1676
1:00	14	237			8	183				
1:15	11	186			14	184				
1:30	4	194			1	197				
1:45	3	178	32	795	2	160	25	724	57	1519
2:00	4	169			2	165				
2:15	5	155			1	165				
2:30	4	170			4	152				
2:45	7	176	20	670	2	168	9	650	29	1320
3:00	8	214			2	155				
3:15	5	212			0	155				
3:30	6	188			8	158				
3:45	6	203	25	817	6	150	16	618	41	1435
4:00	6	240			4	155				
4:15	15	245			6	158				
4:30	8	365			12	152				
4:45	5	315	34	1165	19	199	41	664	75	1829
5:00	25	486			21	201				
5:15	13	480			34	159				
5:30	23	468			47	179				
5:45	29	446	90	1880	52	194	154	733	244	2613
6:00	38	419			56	192				
6:15	53	374			69	183				
6:30	63	312			78	155				
6:45	88	252	242	1357	130	157	333	687	575	2044
7:00	106	209			140	131				
7:15	133	194			205	157				
7:30	164	192			261	124				
7:45	201	167	604	762	321	99	927	511	1531	1273
8:00	170	134			349	87				
8:15	185	129			343	74				
8:30	172	119			275	70				
8:45	175	115	702	497	277	79	1244	310	1946	807
9:00	162	115			232	56				
9:15	132	106			159	57				
9:30	136	83			185	57				
9:45	130	89	560	393	161	53	737	223	1297	616
10:00	122	80			137	44				
10:15	110	56			151	45				
10:30	154	63			144	45				
10:45	129	44	515	243	133	45	565	179	1080	422
11:00	147	46			153	39				
11:15	171	34			143	25				
11:30	200	29			165	18				
11:45	229	20	747	129	180	5	641	87	1388	216
Totals	3644	9617			4740	6153				
Combined Totals		13261				10893				
ADT										24154
AM Peak Hour	1100	AM			745	AM				
Volume	747				1288					
P.H.F.	0.816				0.923					
PM Peak Hour		500	PM			2445	PM			
Volume		1880				792				
P.H.F.		0.967				0.868				
Percentage	27.5%	72.5%			43.5%	56.5%				

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Corona, CA 92878

24 Hour Volume Plot

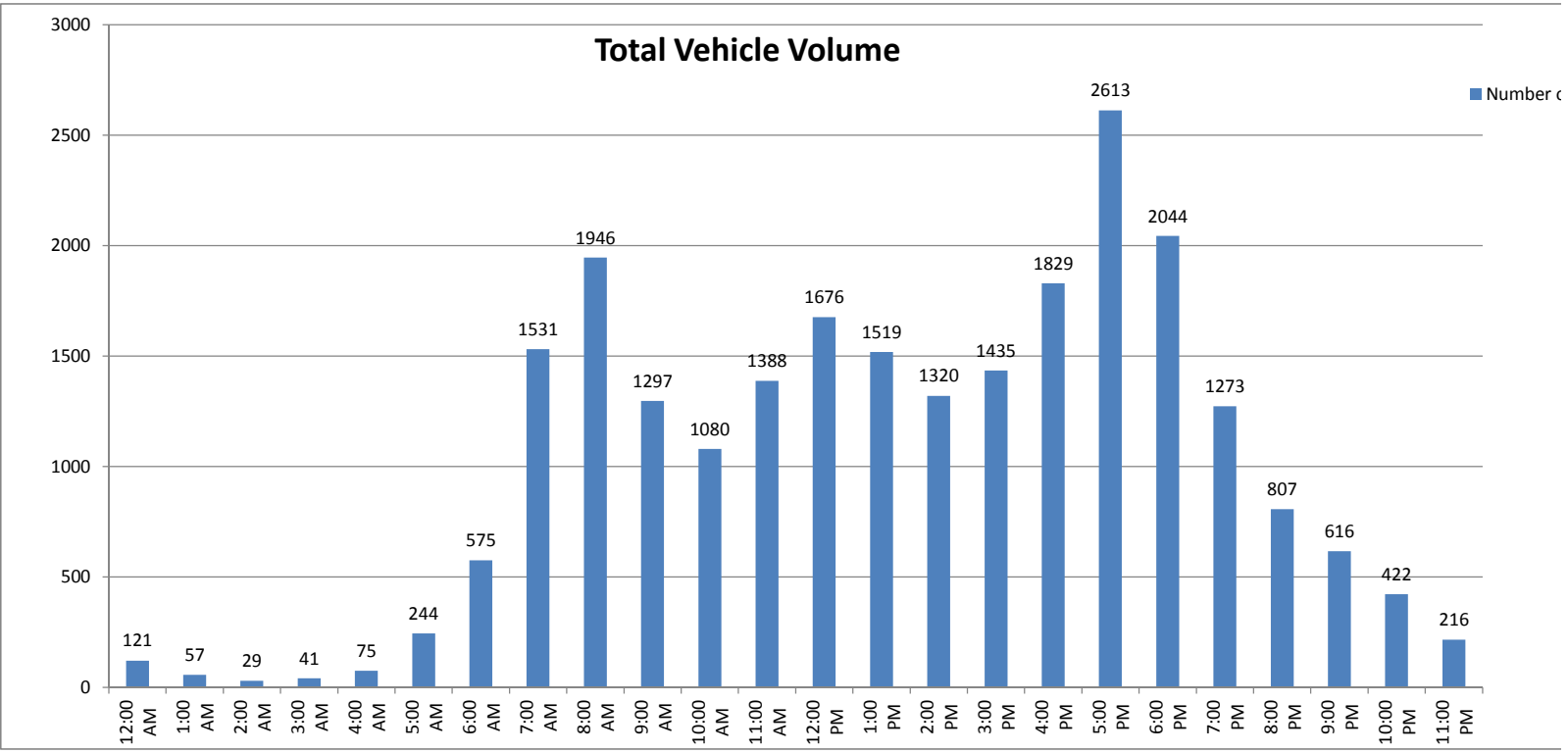
Main Street

B/ Jamboree Road - Harvard Avenue

2/26/2014

Westbound

Start Time	2/26/2014
12:00 AM	121
1:00 AM	57
2:00 AM	29
3:00 AM	41
4:00 AM	75
5:00 AM	244
6:00 AM	575
7:00 AM	1531
8:00 AM	1946
9:00 AM	1297
10:00 AM	1080
11:00 AM	1388
12:00 PM	1676
1:00 PM	1519
2:00 PM	1320
3:00 PM	1435
4:00 PM	1829
5:00 PM	2613
6:00 PM	2044
7:00 PM	1273
8:00 PM	807
9:00 PM	616
10:00 PM	422
11:00 PM	216
Total	24154



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Main Street
B/ Harvard Avenue - Culver Drive

File Name 237
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/26/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	95			3	50				
12:15	7	77			1	57				
12:30	11	97			4	56				
12:45	6	110	33	379	5	74	13	237	46	616
1:00	4	125			3	94				
1:15	3	105			3	96				
1:30	2	91			2	64				
1:45	2	64	11	385	0	87	8	341	19	726
2:00	1	85			0	58				
2:15	1	79			2	66				
2:30	2	84			0	65				
2:45	1	92	5	340	0	83	2	272	7	612
3:00	0	107			0	55				
3:15	0	107			1	55				
3:30	2	95			2	67				
3:45	2	133	4	442	1	41	4	218	8	660
4:00	2	127			1	50				
4:15	6	158			1	45				
4:30	1	210			4	55				
4:45	1	224	10	719	4	70	10	220	20	939
5:00	4	307			6	92				
5:15	6	309			8	70				
5:30	2	344			13	80				
5:45	6	303	18	1263	18	88	45	330	63	1593
6:00	15	283			17	79				
6:15	19	253			23	76				
6:30	15	228			36	72				
6:45	37	144	86	908	51	57	127	284	213	1192
7:00	31	117			79	53				
7:15	44	108			99	62				
7:30	105	95			157	42				
7:45	166	88	346	408	216	32	551	189	897	597
8:00	76	69			262	30				
8:15	66	57			216	38				
8:30	61	69			188	28				
8:45	52	58	255	253	180	22	846	118	1101	371
9:00	56	54			105	18				
9:15	61	39			81	24				
9:30	38	36			101	16				
9:45	57	44	212	173	77	21	364	79	576	252
10:00	39	32			57	15				
10:15	41	25			51	14				
10:30	59	24			45	13				
10:45	36	26	175	107	58	14	211	56	386	163
11:00	59	18			54	8				
11:15	73	11			52	8				
11:30	77	9			65	6				
11:45	79	3	288	41	63	6	234	28	522	69
Totals	1443	5418			2415	2372				
Combined Totals		6861				4787				
ADT										11648
AM Peak Hour	730	AM			745	AM				
Volume	413				882					
P.H.F.	0.622				0.842					
PM Peak Hour		500	PM			100	PM			
Volume		1263				341				
P.H.F.		0.918				0.888				
Percentage	21.0%	79.0%			50.4%	49.6%				

Phone: 951-268-6268 counts@countsunlimited.com Phone: 951-268-6268

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

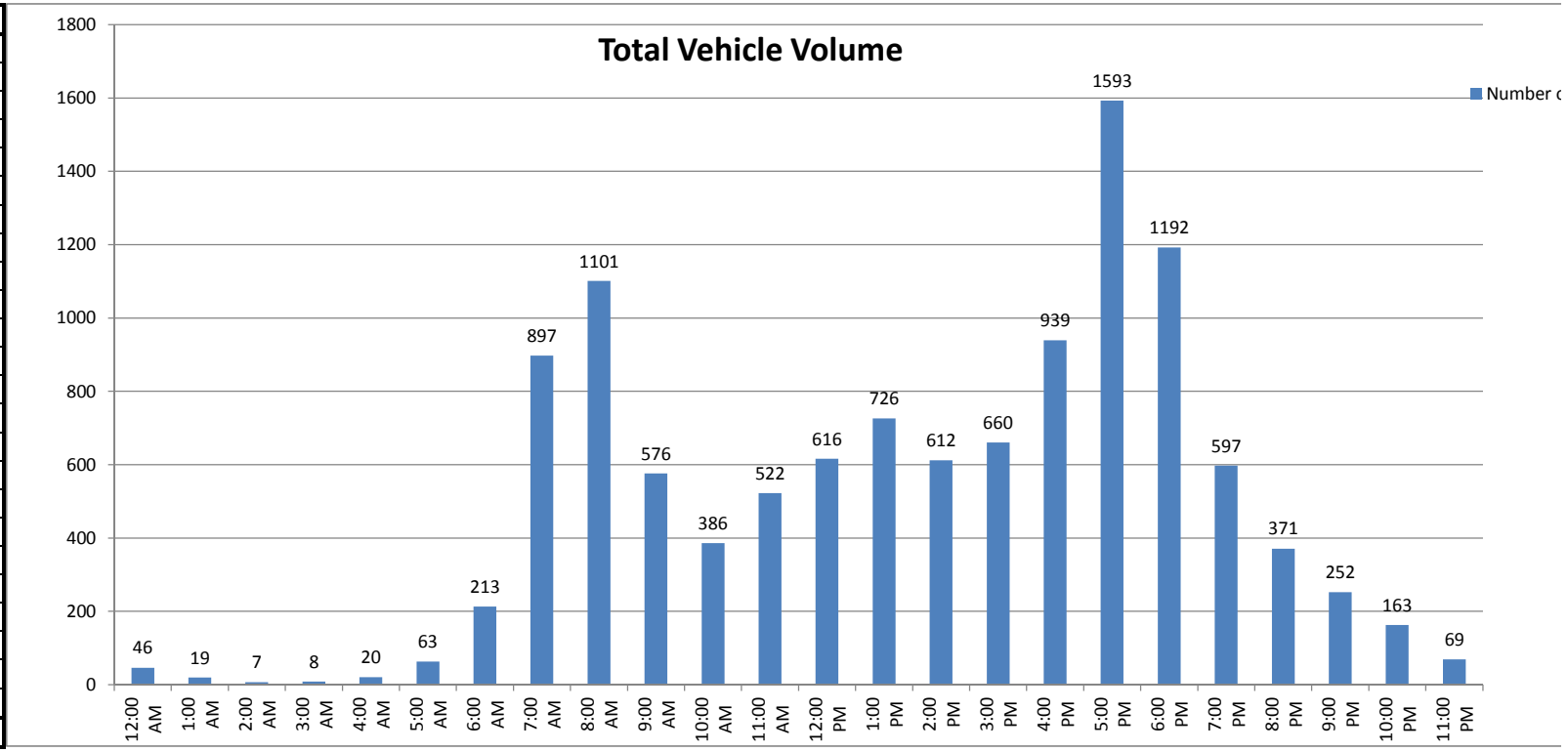
Main Street

B/ Harvard Avenue - Culver Drive

2/26/2014

Westbound

Start Time	2/26/2014
12:00 AM	46
1:00 AM	19
2:00 AM	7
3:00 AM	8
4:00 AM	20
5:00 AM	63
6:00 AM	213
7:00 AM	897
8:00 AM	1101
9:00 AM	576
10:00 AM	386
11:00 AM	522
12:00 PM	616
1:00 PM	726
2:00 PM	612
3:00 PM	660
4:00 PM	939
5:00 PM	1593
6:00 PM	1192
7:00 PM	597
8:00 PM	371
9:00 PM	252
10:00 PM	163
11:00 PM	69
Total	11648



Volumes represent the combined totals for both directions

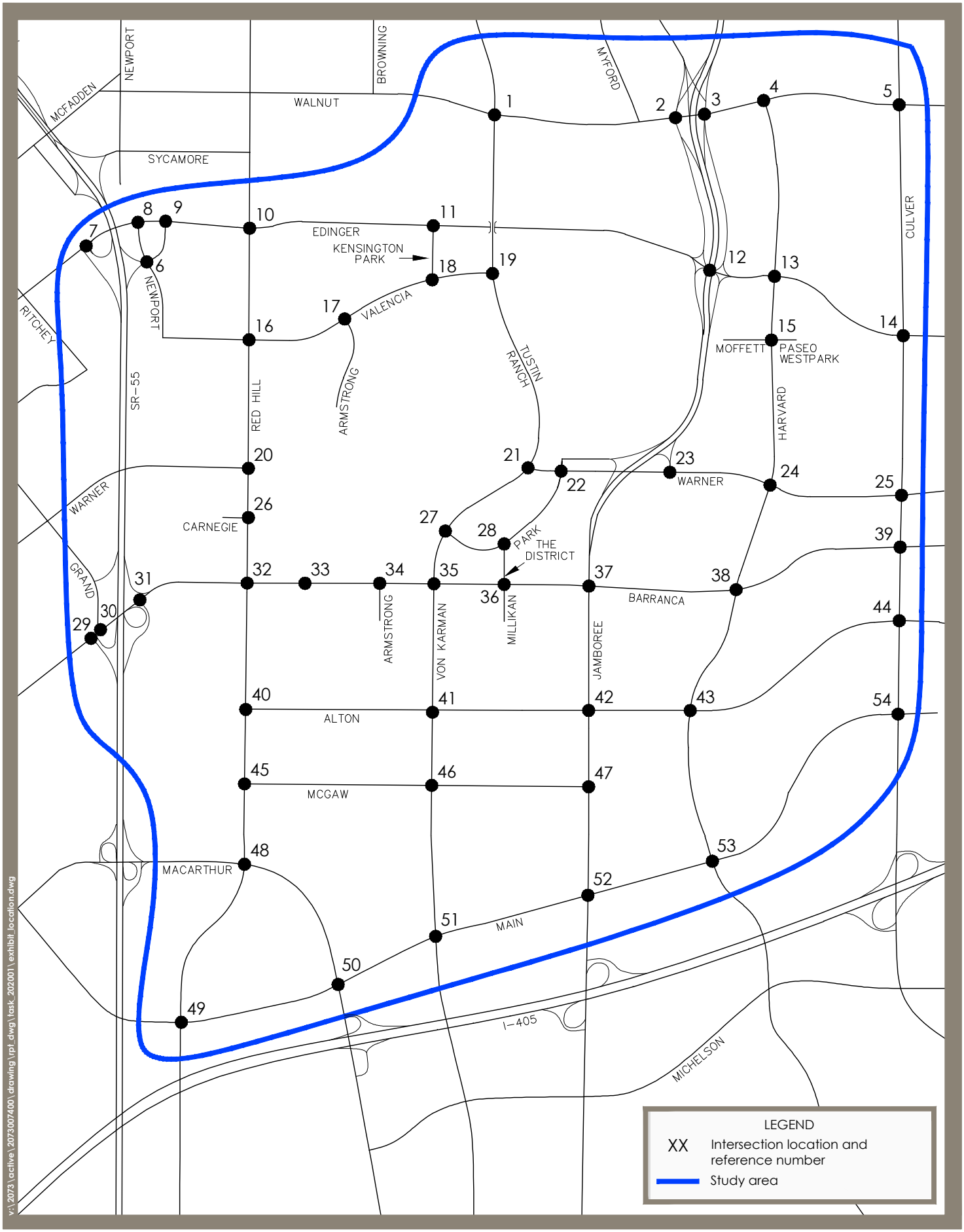
Location : ARMSTRONG AVENUE
Segment : S/O VALENCIA AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	0	0	4	12	0	0	3	19	0	0	7	31
12:15	0		3		0		7		0		10	
12:30	0		3		0		6		0		9	
12:45	0		2		0		3		0		5	
01:00	0	0	5	21	0	0	5	15	0	0	10	36
01:15	0		7		0		4		0		11	
01:30	0		4		0		4		0		8	
01:45	0		5		0		2		0		7	
02:00	0	0	7	21	0	0	2	13	0	0	9	34
02:15	0		3		0		1		0		4	
02:30	0		8		0		8		0		16	
02:45	0		3		0		2		0		5	
03:00	0	0	6	43	0	0	1	11	0	0	7	54
03:15	0		15		0		2		0		17	
03:30	0		14		0		6		0		20	
03:45	0		8		0		2		0		10	
04:00	0	0	8	70	0	1	6	18	0	1	14	88
04:15	0		48		0		2		0		50	
04:30	0		13		1		9		1		22	
04:45	0		1		0		1		0		2	
05:00	0	1	3	6	3	52	5	21	3	53	8	27
05:15	0		0		2		10		2		10	
05:30	0		1		10		3		10		4	
05:45	1		2		37		3		38		5	
06:00	0	5	7	84	30	107	5	31	30	112	12	115
06:15	2		76		48		1		50		77	
06:30	0		0		13		11		13		11	
06:45	3		1		16		14		19		15	
07:00	1	5	0	1	17	45	14	23	18	50	14	24
07:15	2		0		14		4		16		4	
07:30	0		1		5		3		5		4	
07:45	2		0		9		2		11		2	
08:00	0	10	8	54	3	17	2	3	3	27	10	57
08:15	4		11		2		1		6		12	
08:30	3		17		3		0		6		17	
08:45	3		18		9		0		12		18	
09:00	1	16	0	20	9	13	0	1	10	29	0	21
09:15	3		2		1		0		4		2	
09:30	4		18		2		1		6		19	
09:45	8		0		1		0		9		0	
10:00	7	13	1	1	3	13	0	0	10	26	1	1
10:15	2		0		2		0		4		0	
10:30	3		0		3		0		6		0	
10:45	1		0		5		0		6		0	
11:00	13	50	0	0	24	42	0	0	37	92	0	0
11:15	11		0		8		0		19		0	
11:30	18		0		3		0		21		0	
11:45	8		0		7		0		15		0	
Totals	100		333		290		155		390		488	
Split%	25.6		68.2		74.4		31.8					
Day Totals		433				445				878		
Day Splits		49.3				50.7						
Peak Hour	11:00		05:30		05:45		06:30		05:45		06:15	
Volume	50		86		128		43		131		117	
Factor	0.69		0.28		0.67		0.77		0.65		0.38	

* Data File : D1405061

INTERSECTION
PEAK HOUR COUNTS



v:\2073\active\207300740\drawing\rpt_dwg\task_202001\exhibit_location.dwg

Stantec

Figure A-2

Existing Intersection Location Reference Map

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WALNUT AVENUE

File Name : H1405080
Site Code : 00000554
Start Date : 6/10/2014
Page No : 1

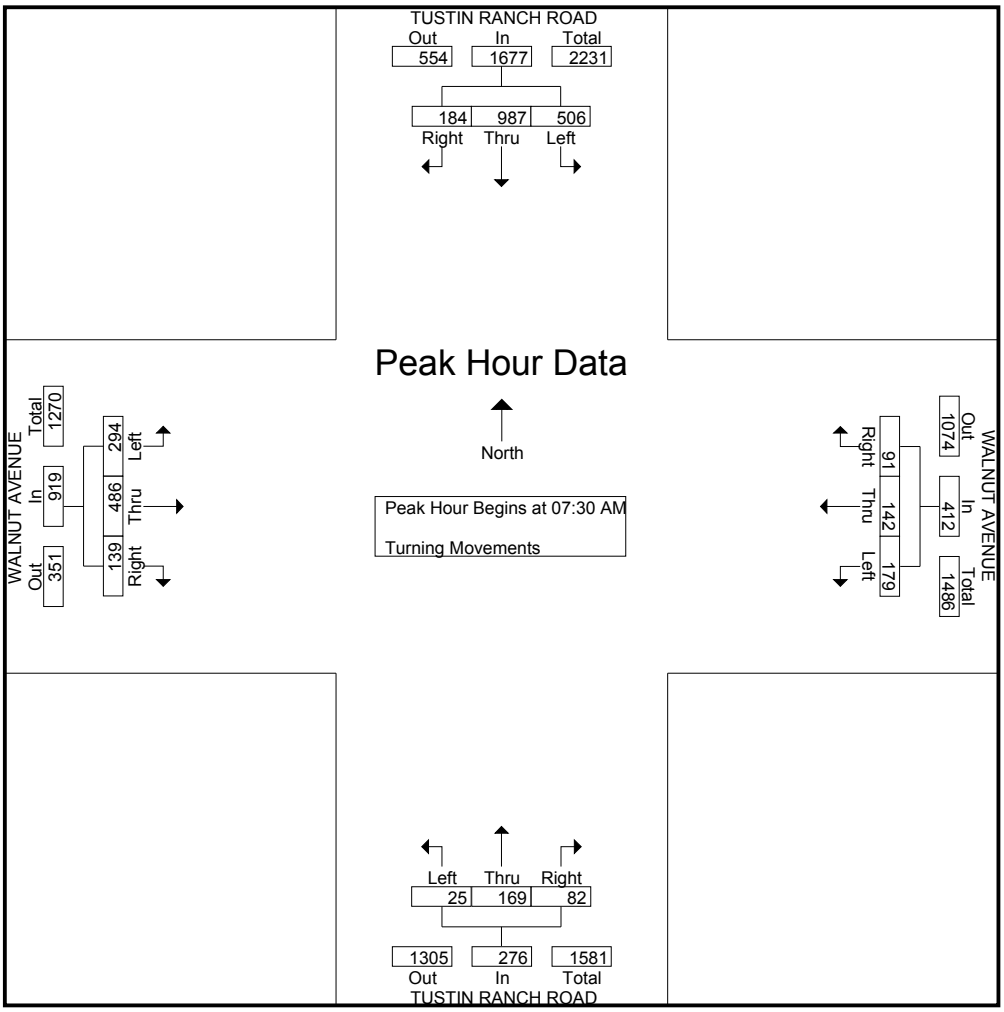
Groups Printed- Turning Movements

	TUSTIN RANCH ROAD Southbound			WALNUT AVENUE Westbound			TUSTIN RANCH ROAD Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	15	166	130	20	31	6	20	36	7	13	100	36	580
07:15 AM	29	185	148	26	34	10	12	26	4	26	103	67	670
07:30 AM	53	250	132	21	22	22	22	37	5	32	101	91	788
07:45 AM	54	284	152	22	42	29	24	36	7	41	123	87	901
Total	151	885	562	89	129	67	78	135	23	112	427	281	2939
08:00 AM	43	233	118	27	38	33	19	50	6	43	138	71	819
08:15 AM	34	220	104	21	40	95	17	46	7	23	124	45	776
08:30 AM	27	215	138	25	48	34	19	30	5	15	106	37	699
08:45 AM	18	189	122	35	31	13	16	27	11	18	93	58	631
Total	122	857	482	108	157	175	71	153	29	99	461	211	2925
*** BREAK ***													
04:00 PM	33	63	63	50	153	19	44	242	42	10	61	48	828
04:15 PM	45	74	79	117	147	26	26	265	62	10	48	62	961
04:30 PM	79	81	73	188	203	22	22	266	54	10	67	61	1126
04:45 PM	68	76	103	130	171	24	23	290	63	12	80	51	1091
Total	225	294	318	485	674	91	115	1063	221	42	256	222	4006
05:00 PM	82	99	68	138	194	34	32	295	44	12	58	67	1123
05:15 PM	92	114	82	140	190	20	45	335	76	10	74	79	1257
05:30 PM	89	114	72	148	208	33	29	287	78	17	74	67	1216
05:45 PM	97	109	72	103	172	23	35	298	63	8	82	92	1154
Total	360	436	294	529	764	110	141	1215	261	47	288	305	4750
Grand Total	858	2472	1656	1211	1724	443	405	2566	534	300	1432	1019	14620
Apprch %	17.2	49.6	33.2	35.8	51	13.1	11.6	73.2	15.2	10.9	52.1	37	
Total %	5.9	16.9	11.3	8.3	11.8	3	2.8	17.6	3.7	2.1	9.8	7	

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WALNUT AVENUE

File Name : H1405080
Site Code : 00000554
Start Date : 6/10/2014
Page No : 2

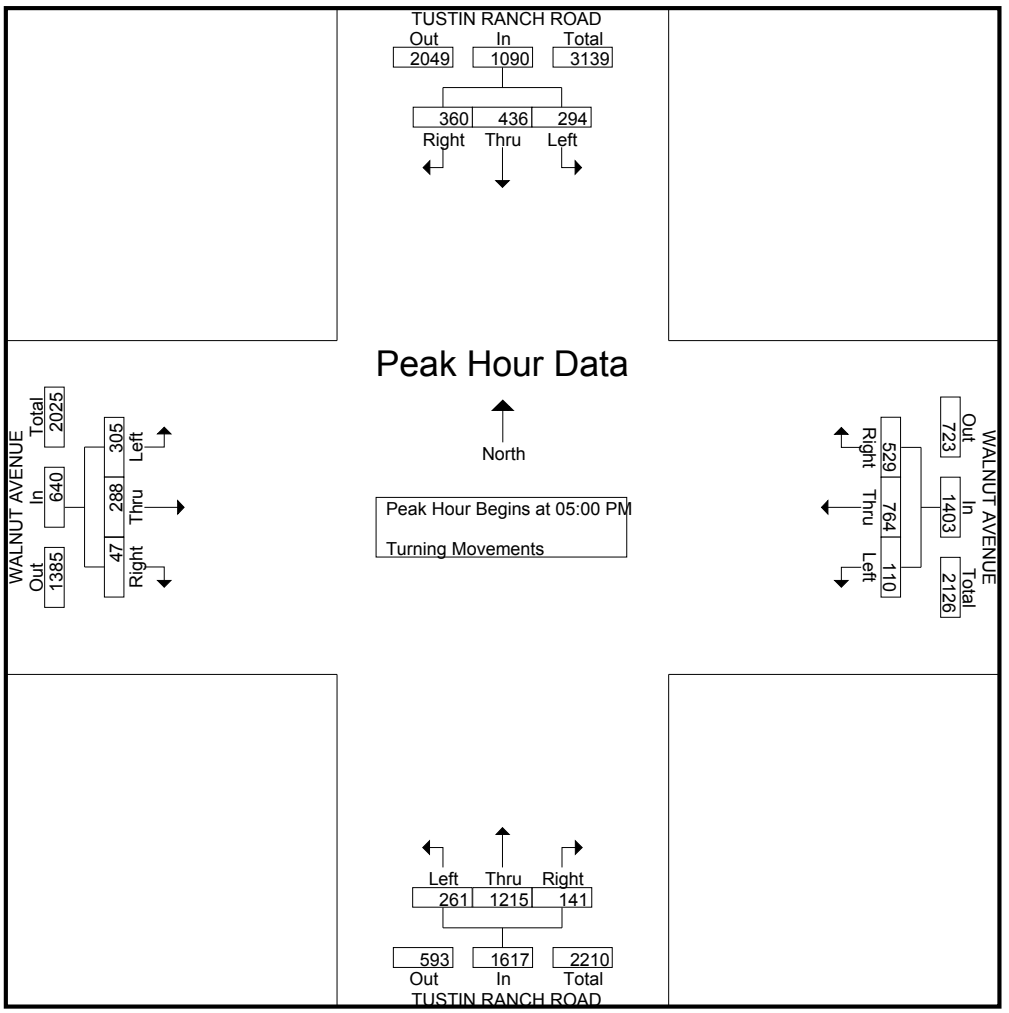
	TUSTIN RANCH ROAD Southbound				WALNUT AVENUE Westbound				TUSTIN RANCH ROAD Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	53	250	132	435	21	22	22	65	22	37	5	64	32	101	**91**	224	788
07:45 AM	**54**	**284**	**152**	**490**	22	**42**	29	93	**24**	36	**7**	67	41	123	87	251	**901**
08:00 AM	43	233	118	394	**27**	38	33	98	19	**50**	6	**75**	**43**	**138**	71	**252**	819
08:15 AM	34	220	104	358	21	40	**95**	**156**	17	46	7	70	23	124	45	192	776
Total Volume	184	987	506	1677	91	142	179	412	82	169	25	276	139	486	294	919	3284
% App. Total	11	58.9	30.2		22.1	34.5	43.4		29.7	61.2	9.1		15.1	52.9	32		
PHF	.852	.869	.832	.856	.843	.845	.471	.660	.854	.845	.893	.920	.808	.880	.808	.912	.911



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WALNUT AVENUE

File Name : H1405080
Site Code : 00000554
Start Date : 6/10/2014
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	TUSTIN RANCH ROAD Southbound				WALNUT AVENUE Westbound				TUSTIN RANCH ROAD Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	82	99	68	249	138	194	**34**	366	32	295	44	371	12	58	67	137	1123
05:15 PM	92	**114**	**82**	**288**	140	190	20	350	**45**	**335**	76	**456**	10	74	79	163	**1257**
05:30 PM	89	114	72	275	**148**	**208**	33	**389**	29	287	**78**	394	**17**	74	67	158	1216
05:45 PM	**97**	109	72	278	103	172	23	298	35	298	63	396	8	**82**	**92**	**182**	1154
Total Volume	360	436	294	1090	529	764	110	1403	141	1215	261	1617	47	288	305	640	4750
% App. Total	33	40	27		37.7	54.5	7.8		8.7	75.1	16.1		7.3	45	47.7		
PHF	.928	.956	.896	.946	.894	.918	.809	.902	.783	.907	.837	.887	.691	.878	.829	.879	.945



City: IRVINE
N-S Direction: JAMBOREE ROAD SB
E-W Direction: WALNUT AVENUE

File Name : H1404043
Site Code : 131
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

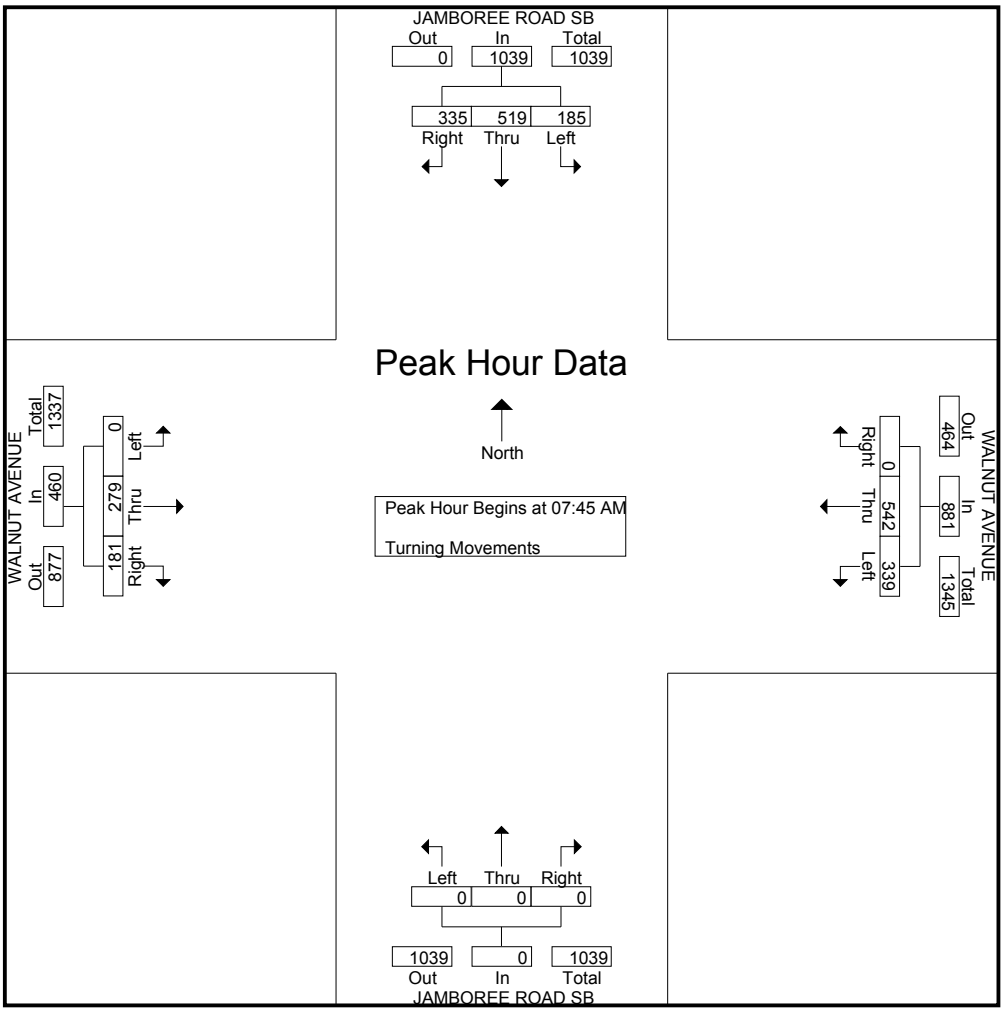
	JAMBOREE ROAD SB Southbound			WALNUT AVENUE Westbound			JAMBOREE ROAD SB Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	63	99	34	0	76	57	0	0	0	24	23	0	376
07:15 AM	65	114	28	0	80	66	0	0	0	26	45	0	424
07:30 AM	71	120	48	0	98	85	0	0	0	52	45	0	519
07:45 AM	81	156	35	0	147	99	0	0	0	41	71	0	630
Total	280	489	145	0	401	307	0	0	0	143	184	0	1949
08:00 AM	90	122	66	0	132	82	0	0	0	47	78	0	617
08:15 AM	78	110	35	0	126	79	0	0	0	45	62	0	535
08:30 AM	86	131	49	0	137	79	0	0	0	48	68	0	598
08:45 AM	76	126	49	0	141	93	0	0	0	68	68	0	621
Total	330	489	199	0	536	333	0	0	0	208	276	0	2371
*** BREAK ***													
04:00 PM	33	76	51	0	156	47	0	0	0	86	155	0	604
04:15 PM	36	87	52	0	155	46	0	0	0	69	117	0	562
04:30 PM	29	83	51	0	213	55	0	0	0	60	127	0	618
04:45 PM	27	93	52	0	187	55	0	0	0	74	153	0	641
Total	125	339	206	0	711	203	0	0	0	289	552	0	2425
05:00 PM	31	105	55	0	219	59	0	0	0	89	194	0	752
05:15 PM	38	75	71	0	205	62	0	0	0	113	166	0	730
05:30 PM	39	106	60	0	212	63	0	0	0	103	178	0	761
05:45 PM	35	99	57	0	246	65	0	0	0	74	167	0	743
Total	143	385	243	0	882	249	0	0	0	379	705	0	2986
Grand Total	878	1702	793	0	2530	1092	0	0	0	1019	1717	0	9731
Apprch %	26	50.5	23.5	0	69.9	30.1	0	0	0	37.2	62.8	0	
Total %	9	17.5	8.1	0	26	11.2	0	0	0	10.5	17.6	0	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD SB
E-W Direction: WALNUT AVENUE

File Name : H1404043
Site Code : 131
Start Date : 6/10/2014
Page No : 2

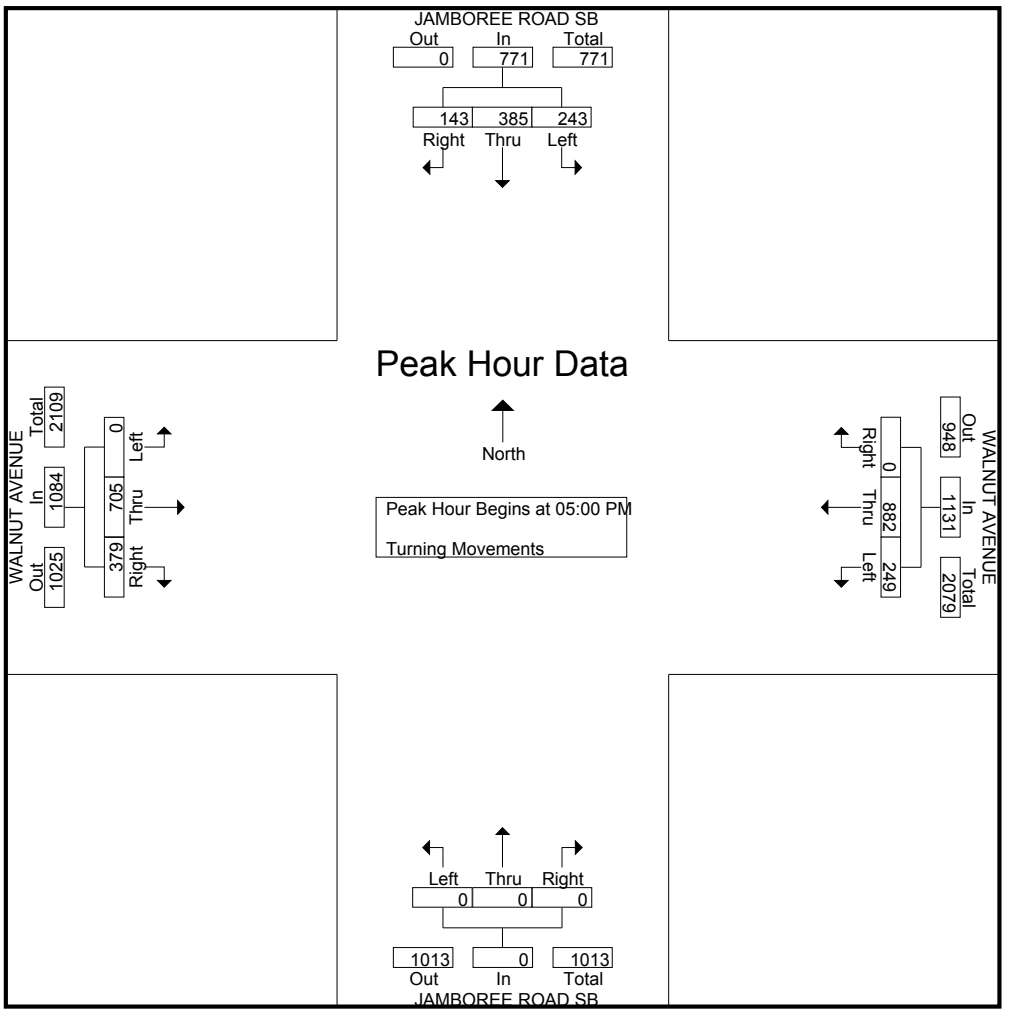
	JAMBOREE ROAD SB Southbound				WALNUT AVENUE Westbound				JAMBOREE ROAD SB Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	81	**156**	35	272	0	**147**	**99**	**246**	0	0	0	0	41	71	0	112	**630**
08:00 AM	**90**	122	**66**	**278**	0	132	82	214	0	0	0	0	47	**78**	0	**125**	617
08:15 AM	78	110	35	223	0	126	79	205	0	0	0	0	45	62	0	107	535
08:30 AM	86	131	49	266	0	137	79	216	0	0	0	0	**48**	68	0	116	598
Total Volume	335	519	185	1039	0	542	339	881	0	0	0	0	181	279	0	460	2380
% App. Total	32.2	50	17.8		0	61.5	38.5		0	0	0		39.3	60.7	0		
PHF	.931	.832	.701	.934	.000	.922	.856	.895	.000	.000	.000	.000	.943	.894	.000	.920	.944



City: IRVINE
N-S Direction: JAMBOREE ROAD SB
E-W Direction: WALNUT AVENUE

File Name : H1404043
Site Code : 131
Start Date : 6/10/2014
Page No : 3

	JAMBOREE ROAD SB Southbound				WALNUT AVENUE Westbound				JAMBOREE ROAD SB Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	31	105	55	191	0	219	59	278	0	0	0	0	89	**194**	0	**283**	752
05:15 PM	38	75	**71**	184	0	205	62	267	0	0	0	0	**113**	166	0	279	730
05:30 PM	**39**	**106**	60	**205**	0	212	63	275	0	0	0	0	103	178	0	281	**761**
05:45 PM	35	99	57	191	0	**246**	**65**	**311**	0	0	0	0	74	167	0	241	743
Total Volume	143	385	243	771	0	882	249	1131	0	0	0	0	379	705	0	1084	2986
% App. Total	18.5	49.9	31.5		0	78	22		0	0	0		35	65	0		
PHF	.917	.908	.856	.940	.000	.896	.958	.909	.000	.000	.000	.000	.838	.909	.000	.958	.981



City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WALNUT AVENUE

File Name : H1404044
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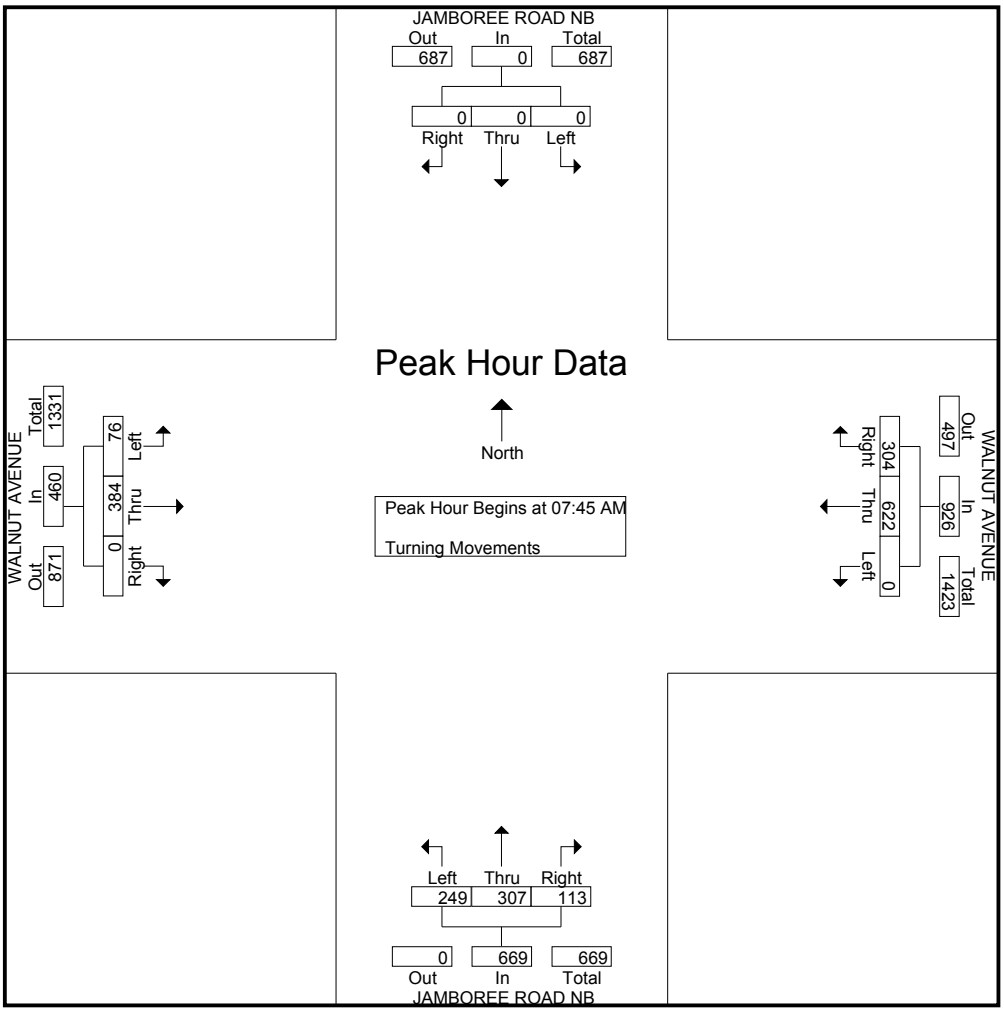
Groups Printed- Turning Movements

	JAMBOREE ROAD NB Southbound			WALNUT AVENUE Westbound			JAMBOREE ROAD NB Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	51	95	0	28	52	35	0	54	8	323
07:15 AM	0	0	0	51	108	0	22	51	44	0	62	11	349
07:30 AM	0	0	0	62	143	0	28	80	48	0	76	13	450
07:45 AM	0	0	0	66	168	0	28	94	68	0	91	14	529
Total	0	0	0	230	514	0	106	277	195	0	283	46	1651
08:00 AM	0	0	0	76	141	0	33	73	62	0	117	23	525
08:15 AM	0	0	0	67	148	0	32	73	56	0	86	18	480
08:30 AM	0	0	0	95	165	0	20	67	63	0	90	21	521
08:45 AM	0	0	0	81	163	0	39	76	56	0	96	18	529
Total	0	0	0	319	617	0	124	289	237	0	389	80	2055
*** BREAK ***													
04:00 PM	0	0	0	74	143	0	58	100	57	0	124	77	633
04:15 PM	0	0	0	72	159	0	68	106	54	0	107	42	608
04:30 PM	0	0	0	68	201	0	69	130	75	0	128	45	716
04:45 PM	0	0	0	76	170	0	71	125	62	0	122	94	720
Total	0	0	0	290	673	0	266	461	248	0	481	258	2677
05:00 PM	0	0	0	101	204	0	82	141	76	0	148	95	847
05:15 PM	0	0	0	84	194	0	89	143	74	0	161	71	816
05:30 PM	0	0	0	92	209	0	104	139	80	0	169	65	858
05:45 PM	0	0	0	102	224	0	102	123	78	0	155	73	857
Total	0	0	0	379	831	0	377	546	308	0	633	304	3378
Grand Total	0	0	0	1218	2635	0	873	1573	988	0	1786	688	9761
Apprch %	0	0	0	31.6	68.4	0	25.4	45.8	28.8	0	72.2	27.8	
Total %	0	0	0	12.5	27	0	8.9	16.1	10.1	0	18.3	7	

City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WALNUT AVENUE

File Name : H1404044
Site Code : 132
Start Date : 6/10/2014
Page No : 2

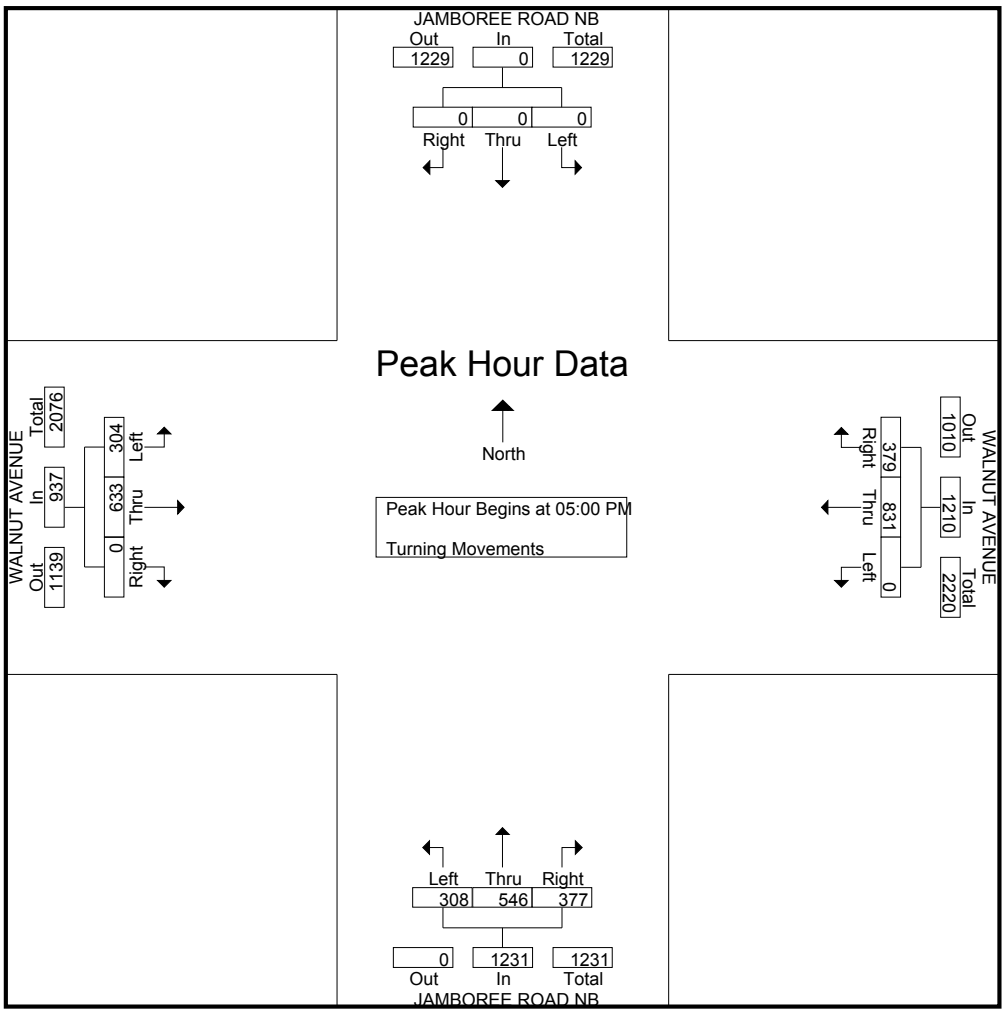
	JAMBOREE ROAD NB Southbound				WALNUT AVENUE Westbound				JAMBOREE ROAD NB Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	66	**168**	0	234	28	**94**	**68**	**190**	0	91	14	105	**529**
08:00 AM	0	0	0	0	76	141	0	217	**33**	73	62	168	0	**117**	**23**	**140**	525
08:15 AM	0	0	0	0	67	148	0	215	32	73	56	161	0	86	18	104	480
08:30 AM	0	0	0	0	**95**	165	0	**260**	20	67	63	150	0	90	21	111	521
Total Volume	0	0	0	0	304	622	0	926	113	307	249	669	0	384	76	460	2055
% App. Total	0	0	0		32.8	67.2	0		16.9	45.9	37.2		0	83.5	16.5		
PHF	.000	.000	.000	.000	.800	.926	.000	.890	.856	.816	.915	.880	.000	.821	.826	.821	.971



City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WALNUT AVENUE

File Name : H1404044
Site Code : 132
Start Date : 6/10/2014
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	JAMBOREE ROAD NB Southbound				WALNUT AVENUE Westbound				JAMBOREE ROAD NB Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	101	204	0	305	82	141	76	299	0	148	**95**	**243**	847
05:15 PM	0	0	0	0	84	194	0	278	89	**143**	74	306	0	161	71	232	816
05:30 PM	0	0	0	0	92	209	0	301	**104**	139	**80**	**323**	0	**169**	65	234	**858**
05:45 PM	0	0	0	0	**102**	**224**	0	**326**	102	123	78	303	0	155	73	228	857
Total Volume	0	0	0	0	379	831	0	1210	377	546	308	1231	0	633	304	937	3378
% App. Total	0	0	0		31.3	68.7	0		30.6	44.4	25		0	67.6	32.4		
PHF	.000	.000	.000	.000	.929	.927	.000	.928	.906	.955	.963	.953	.000	.936	.800	.964	.984



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WALNUT AVENUE

File Name : H1405096
Site Code : 00005163
Start Date : 6/12/2014
Page No : 1

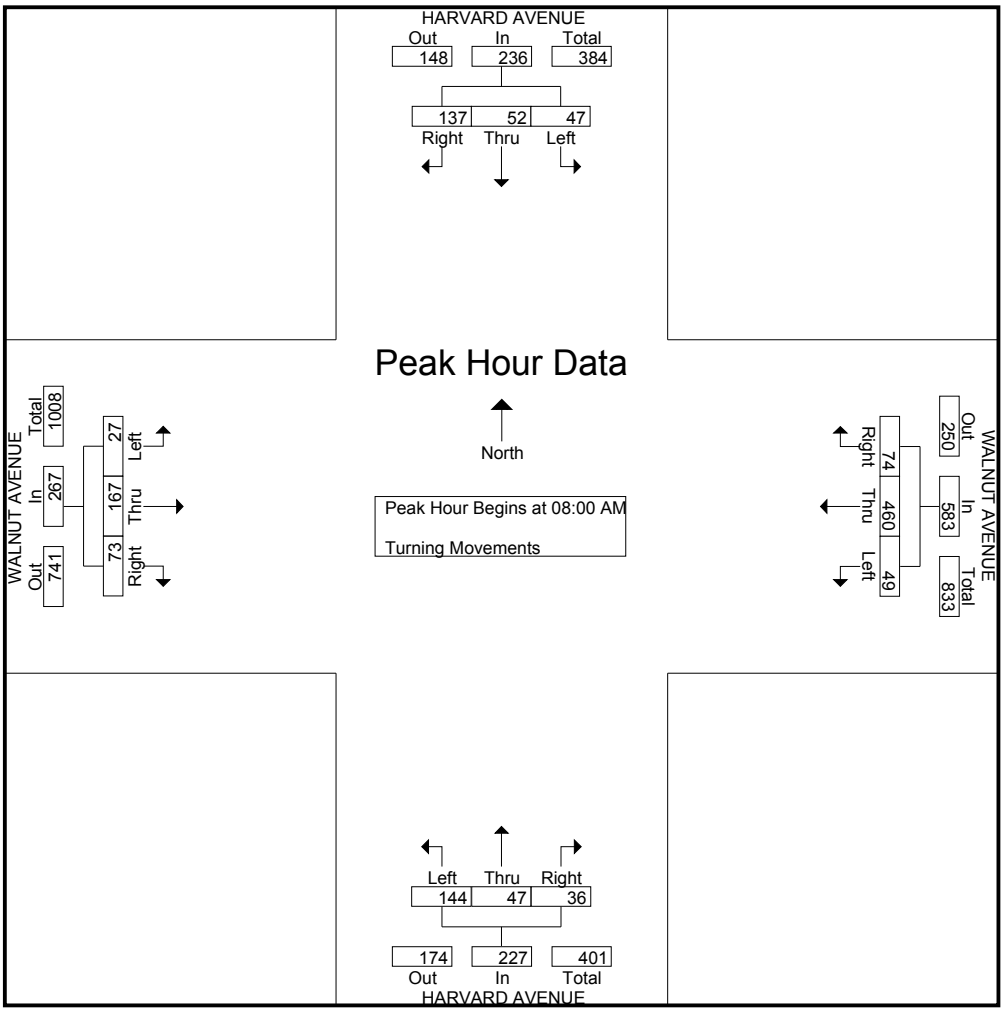
Groups Printed- Turning Movements

	HARVARD AVENUE Southbound			WALNUT AVENUE Westbound			HARVARD AVENUE Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	3	6	11	84	4	7	11	18	5	33	4	208
07:15 AM	29	6	1	11	96	10	6	3	31	16	32	7	248
07:30 AM	31	4	6	14	116	8	10	4	39	17	27	4	280
07:45 AM	32	13	9	16	130	15	7	6	36	19	25	2	310
Total	114	26	22	52	426	37	30	24	124	57	117	17	1046
08:00 AM	34	11	6	24	114	17	12	7	28	12	37	8	310
08:15 AM	33	10	14	19	116	14	11	13	44	11	33	4	322
08:30 AM	23	20	13	17	114	9	9	15	31	19	45	7	322
08:45 AM	47	11	14	14	116	9	4	12	41	31	52	8	359
Total	137	52	47	74	460	49	36	47	144	73	167	27	1313
*** BREAK ***													
04:00 PM	11	13	27	4	117	19	22	8	34	34	100	21	410
04:15 PM	16	14	14	3	118	23	20	15	39	29	105	16	412
04:30 PM	12	6	12	7	114	20	16	7	39	39	91	16	379
04:45 PM	9	8	17	2	94	17	35	9	38	39	98	21	387
Total	48	41	70	16	443	79	93	39	150	141	394	74	1588
05:00 PM	7	11	17	4	101	30	37	8	38	49	111	25	438
05:15 PM	10	21	19	5	129	27	23	14	42	47	157	23	517
05:30 PM	6	8	18	7	123	26	37	12	54	58	153	29	531
05:45 PM	13	16	33	13	148	35	44	14	54	58	144	27	599
Total	36	56	87	29	501	118	141	48	188	212	565	104	2085
Grand Total	335	175	226	171	1830	283	300	158	606	483	1243	222	6032
Apprch %	45.5	23.8	30.7	7.5	80.1	12.4	28.2	14.8	57	24.8	63.8	11.4	
Total %	5.6	2.9	3.7	2.8	30.3	4.7	5	2.6	10	8	20.6	3.7	

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WALNUT AVENUE

File Name : H1405096
Site Code : 00005163
Start Date : 6/12/2014
Page No : 2

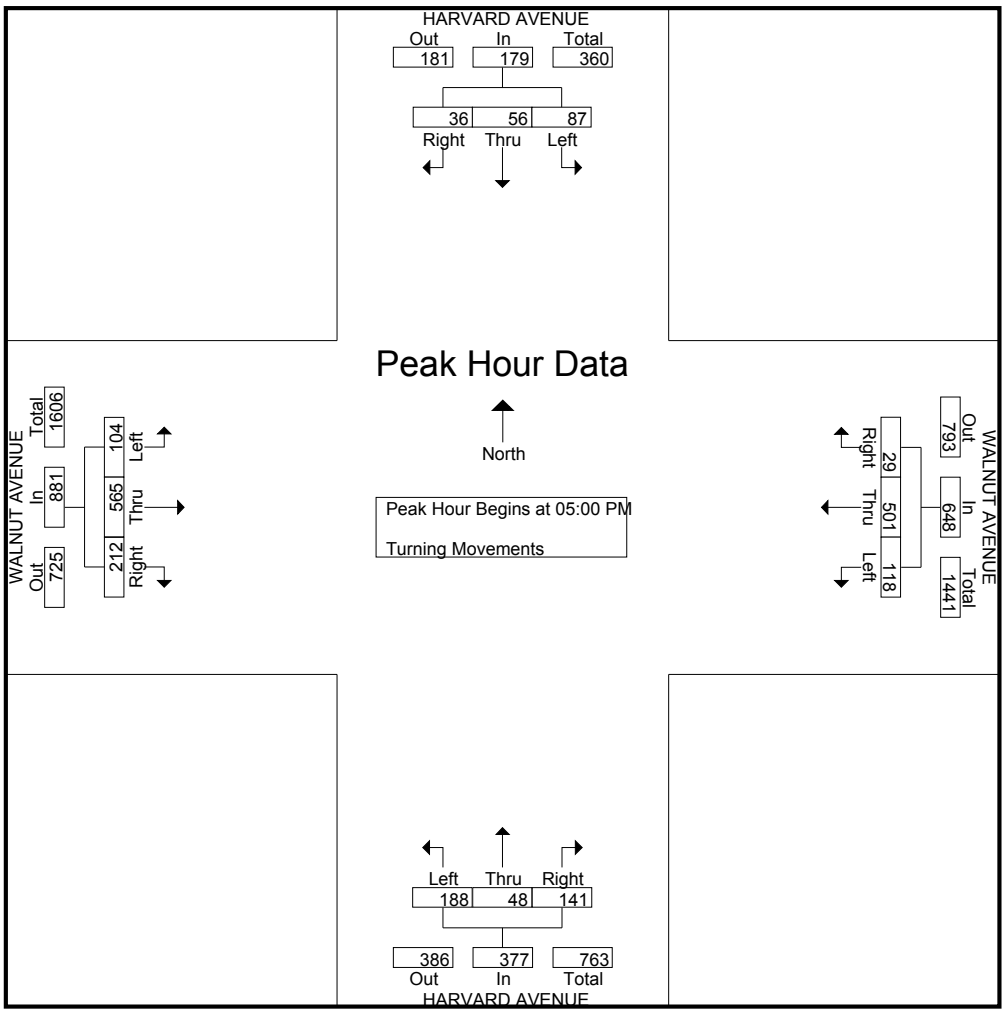
	HARVARD AVENUE Southbound				WALNUT AVENUE Westbound				HARVARD AVENUE Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	34	11	6	51	**24**	114	**17**	**155**	**12**	7	28	47	12	37	**8**	57	310
08:15 AM	33	10	**14**	57	19	**116**	14	149	11	13	**44**	**68**	11	33	4	48	322
08:30 AM	23	**20**	13	56	17	114	9	140	9	**15**	31	55	19	45	7	71	322
08:45 AM	**47**	11	14	**72**	14	116	9	139	4	12	41	57	**31**	**52**	8	**91**	**359**
Total Volume	137	52	47	236	74	460	49	583	36	47	144	227	73	167	27	267	1313
% App. Total	58.1	22	19.9		12.7	78.9	8.4		15.9	20.7	63.4		27.3	62.5	10.1		
PHF	.729	.650	.839	.819	.771	.991	.721	.940	.750	.783	.818	.835	.589	.803	.844	.734	.914



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WALNUT AVENUE

File Name : H1405096
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	HARVARD AVENUE Southbound				WALNUT AVENUE Westbound				HARVARD AVENUE Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	7	11	17	35	4	101	30	135	37	8	38	83	49	111	25	185	438
05:15 PM	10	**21**	19	50	5	129	27	161	23	**14**	42	79	47	**157**	23	227	517
05:30 PM	6	8	18	32	7	123	26	156	37	12	**54**	103	**58**	153	**29**	**240**	531
05:45 PM	**13**	16	**33**	**62**	**13**	**148**	**35**	**196**	**44**	14	54	**112**	58	144	27	229	**599**
Total Volume	36	56	87	179	29	501	118	648	141	48	188	377	212	565	104	881	2085
% App. Total	20.1	31.3	48.6		4.5	77.3	18.2		37.4	12.7	49.9		24.1	64.1	11.8		
PHF	.692	.667	.659	.722	.558	.846	.843	.827	.801	.857	.870	.842	.914	.900	.897	.918	.870



City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WALNUT AVENUE

File Name : H1404060
Site Code : 224
Start Date : 6/12/2014
Page No : 1

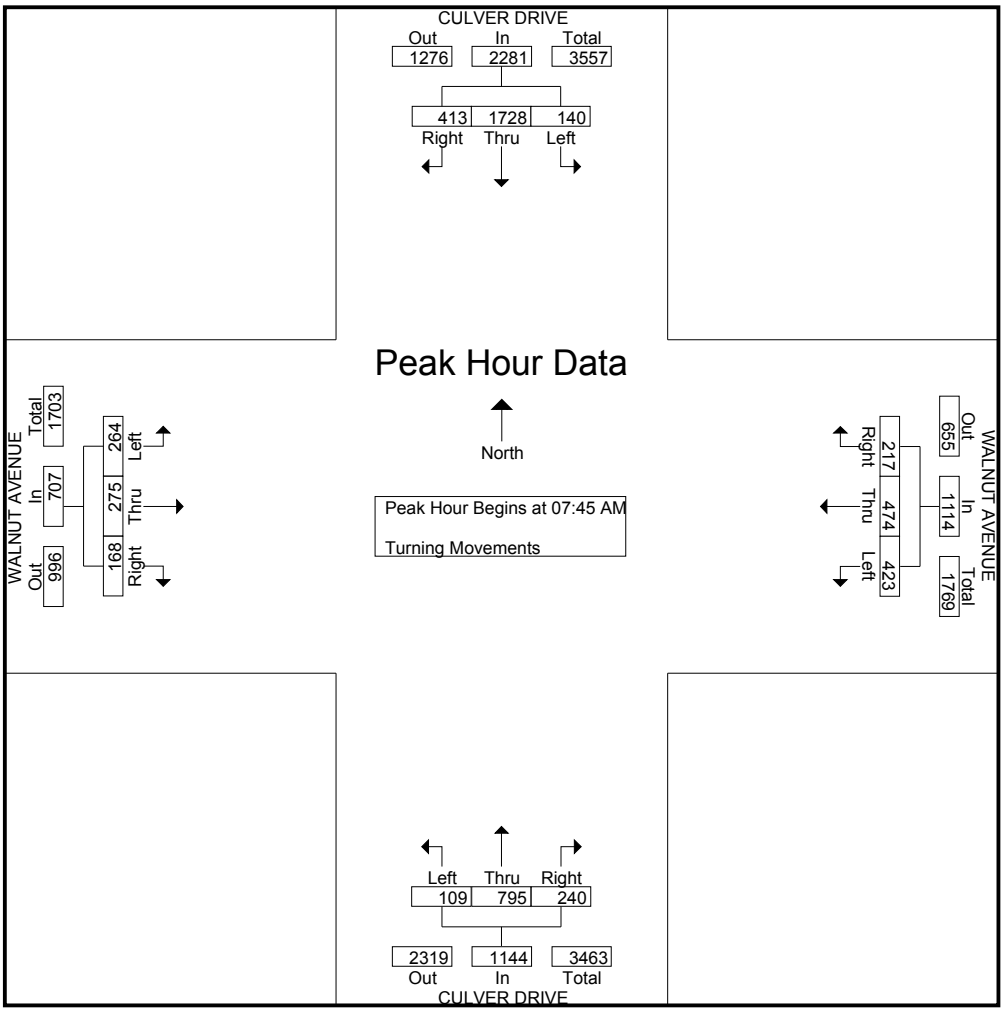
Groups Printed- Turning Movements

	CULVER DRIVE Southbound			WALNUT AVENUE Westbound			CULVER DRIVE Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	36	136	28	37	67	40	17	93	8	12	26	37	537
07:15 AM	62	213	28	49	72	56	25	139	8	10	26	43	731
07:30 AM	86	321	35	52	91	67	55	172	23	33	101	59	1095
07:45 AM	130	434	43	59	127	121	120	190	27	37	141	75	1504
Total	314	1104	134	197	357	284	217	594	66	92	294	214	3867
08:00 AM	88	462	29	75	155	138	32	189	25	57	50	70	1370
08:15 AM	84	416	38	47	86	79	52	200	31	50	43	69	1195
08:30 AM	111	416	30	36	106	85	36	216	26	24	41	50	1177
08:45 AM	74	377	39	44	75	62	33	175	26	17	43	59	1024
Total	357	1671	136	202	422	364	153	780	108	148	177	248	4766
*** BREAK ***													
04:00 PM	41	278	63	44	152	90	61	275	33	21	76	72	1206
04:15 PM	54	253	57	33	132	68	59	313	51	15	81	80	1196
04:30 PM	54	248	42	44	130	85	51	290	39	28	87	80	1178
04:45 PM	70	285	78	47	128	72	62	345	53	35	93	95	1363
Total	219	1064	240	168	542	315	233	1223	176	99	337	327	4943
05:00 PM	59	287	69	50	126	74	97	394	49	38	80	102	1425
05:15 PM	60	313	59	44	124	105	90	411	45	41	110	112	1514
05:30 PM	66	327	65	34	124	105	97	436	51	29	110	109	1553
05:45 PM	85	327	75	55	137	80	102	373	50	25	131	104	1544
Total	270	1254	268	183	511	364	386	1614	195	133	431	427	6036
Grand Total	1160	5093	778	750	1832	1327	989	4211	545	472	1239	1216	19612
Apprch %	16.5	72.4	11.1	19.2	46.9	33.9	17.2	73.3	9.5	16.1	42.3	41.5	
Total %	5.9	26	4	3.8	9.3	6.8	5	21.5	2.8	2.4	6.3	6.2	

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WALNUT AVENUE

File Name : H1404060
Site Code : 224
Start Date : 6/12/2014
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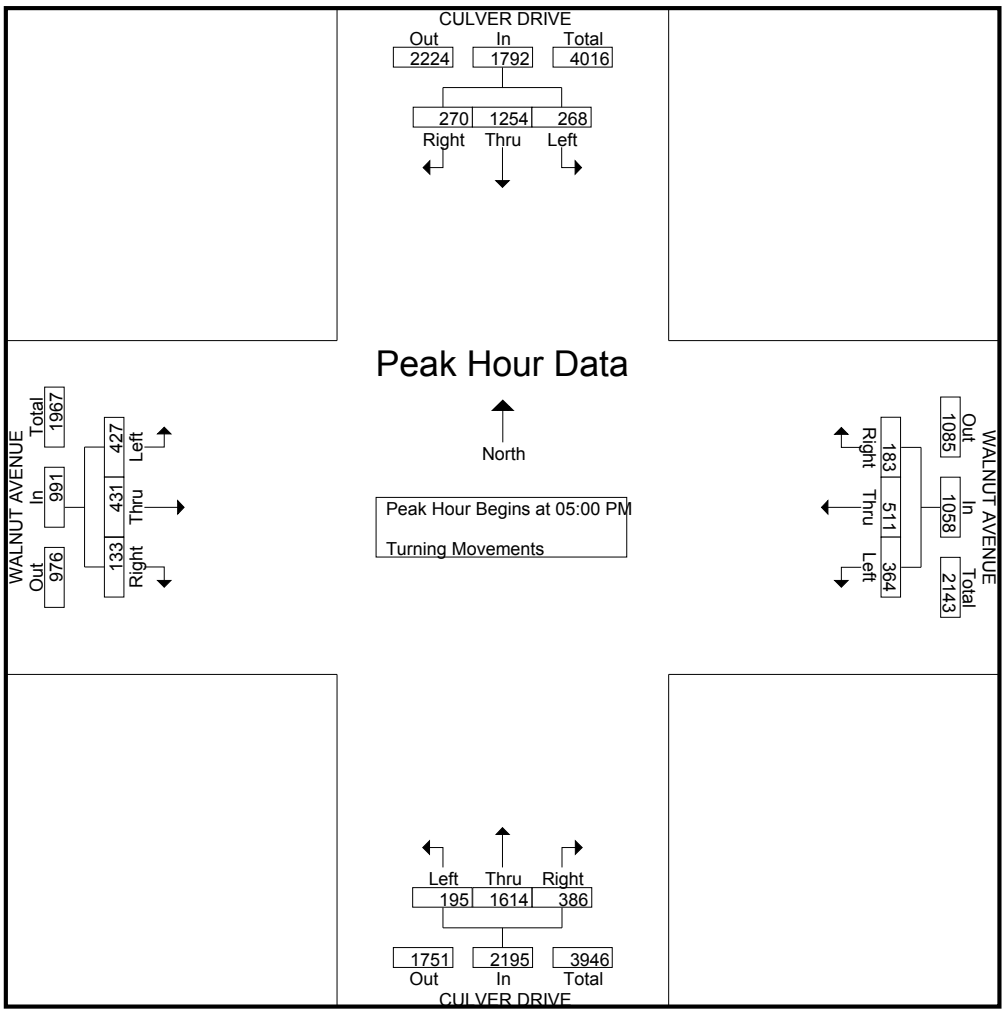
	CULVER DRIVE Southbound				WALNUT AVENUE Westbound				CULVER DRIVE Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**130**	434	**43**	**607**	59	127	121	307	**120**	190	27	**337**	37	**141**	**75**	**253**	**1504**
08:00 AM	88	**462**	29	579	**75**	**155**	**138**	**368**	32	189	25	246	**57**	50	70	177	1370
08:15 AM	84	416	38	538	47	86	79	212	52	200	**31**	283	50	43	69	162	1195
08:30 AM	111	416	30	557	36	106	85	227	36	**216**	26	278	24	41	50	115	1177
Total Volume	413	1728	140	2281	217	474	423	1114	240	795	109	1144	168	275	264	707	5246
% App. Total	18.1	75.8	6.1		19.5	42.5	38		21	69.5	9.5		23.8	38.9	37.3		
PHF	.794	.935	.814	.939	.723	.765	.766	.757	.500	.920	.879	.849	.737	.488	.880	.699	.872



City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WALNUT AVENUE

File Name : H1404060
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	CULVER DRIVE Southbound				WALNUT AVENUE Westbound				CULVER DRIVE Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	59	287	69	415	50	126	74	250	97	394	49	540	38	80	102	220	1425
05:15 PM	60	313	59	432	44	124	**105**	**273**	90	411	45	546	**41**	110	**112**	**263**	1514
05:30 PM	66	**327**	65	458	34	124	105	263	97	**436**	**51**	**584**	29	110	109	248	**1553**
05:45 PM	**85**	327	**75**	**487**	**55**	**137**	80	272	**102**	373	50	525	25	**131**	104	260	1544
Total Volume	270	1254	268	1792	183	511	364	1058	386	1614	195	2195	133	431	427	991	6036
% App. Total	15.1	70	15		17.3	48.3	34.4		17.6	73.5	8.9		13.4	43.5	43.1		
PHF	.794	.959	.893	.920	.832	.932	.867	.969	.946	.925	.956	.940	.811	.823	.953	.942	.972



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: SR-55 NB RAMPS

File Name : h1405075
Site Code : 00000000
Start Date : 6/11/2014
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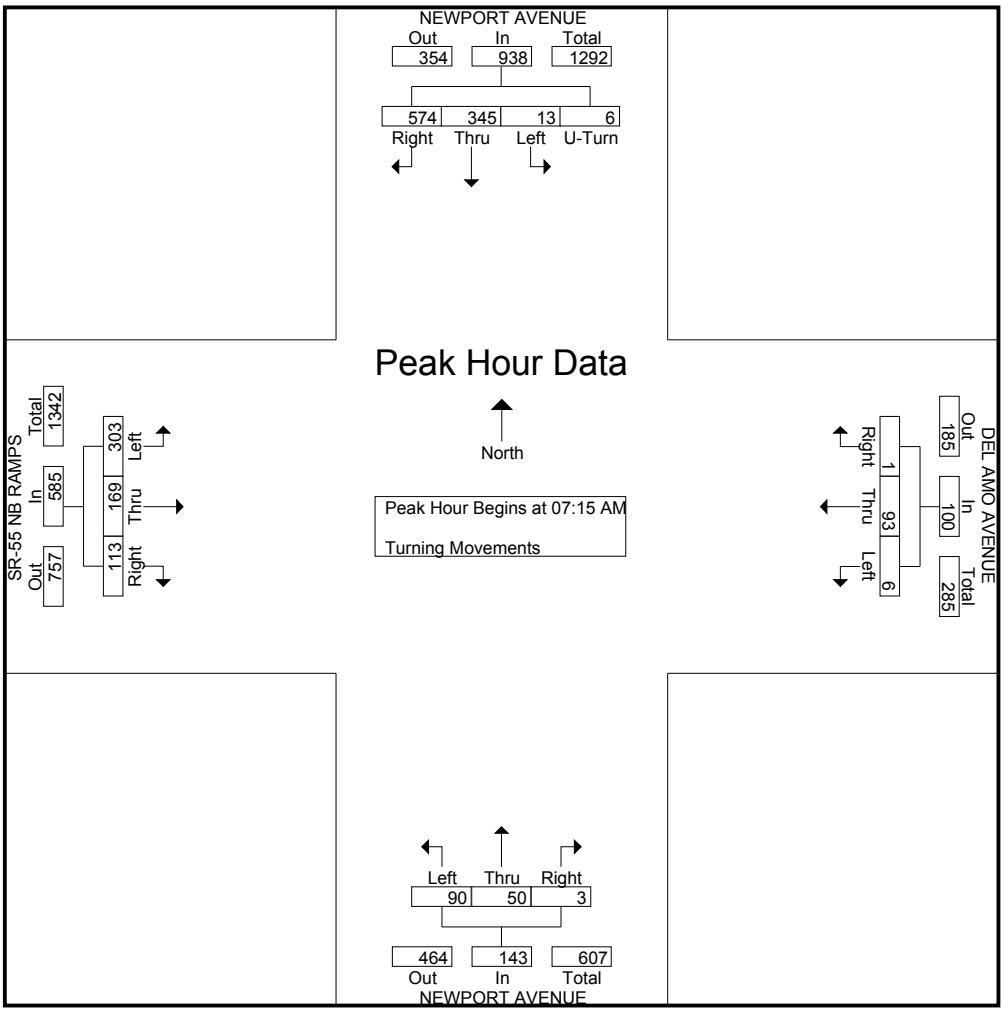
Groups Printed- Turning Movements

	NEWPORT AVENUE Southbound				DEL AMO AVENUE Westbound			NEWPORT AVENUE Northbound			SR-55 NB RAMPS Eastbound			
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	136	85	1	0	0	12	3	2	11	19	17	33	85	404
07:15 AM	148	90	3	1	0	17	3	1	10	18	32	45	72	440
07:30 AM	157	76	2	3	0	20	2	0	12	29	26	50	80	457
07:45 AM	131	95	5	0	0	39	1	1	10	21	26	43	76	448
Total	572	346	11	4	0	88	9	4	43	87	101	171	313	1749
08:00 AM	138	84	3	2	1	17	0	1	18	22	29	31	75	421
08:15 AM	148	70	2	0	0	31	1	1	7	27	29	50	57	423
08:30 AM	156	44	0	0	1	26	0	1	9	45	30	37	62	411
08:45 AM	134	47	2	0	1	19	0	1	11	21	22	41	76	375
Total	576	245	7	2	3	93	1	4	45	115	110	159	270	1630
*** BREAK ***														
04:00 PM	132	19	0	2	3	118	6	8	30	147	6	7	24	502
04:15 PM	115	17	1	0	4	128	3	5	32	122	2	5	17	451
04:30 PM	90	20	2	0	2	115	0	5	55	183	4	2	21	499
04:45 PM	128	15	0	1	3	103	1	7	43	126	0	4	21	452
Total	465	71	3	3	12	464	10	25	160	578	12	18	83	1904
05:00 PM	86	21	1	1	4	147	1	19	85	176	1	9	21	572
05:15 PM	82	21	3	2	4	122	1	9	42	186	1	8	13	494
05:30 PM	103	12	1	0	4	104	0	9	44	161	2	11	24	475
05:45 PM	107	25	1	1	3	101	2	4	31	156	4	5	18	458
Total	378	79	6	4	15	474	4	41	202	679	8	33	76	1999
Grand Total	1991	741	27	13	30	1119	24	74	450	1459	231	381	742	7282
Apprch %	71.8	26.7	1	0.5	2.6	95.4	2	3.7	22.7	73.6	17.1	28.1	54.8	
Total %	27.3	10.2	0.4	0.2	0.4	15.4	0.3	1	6.2	20	3.2	5.2	10.2	

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: SR-55 NB RAMPS

File Name : h1405075
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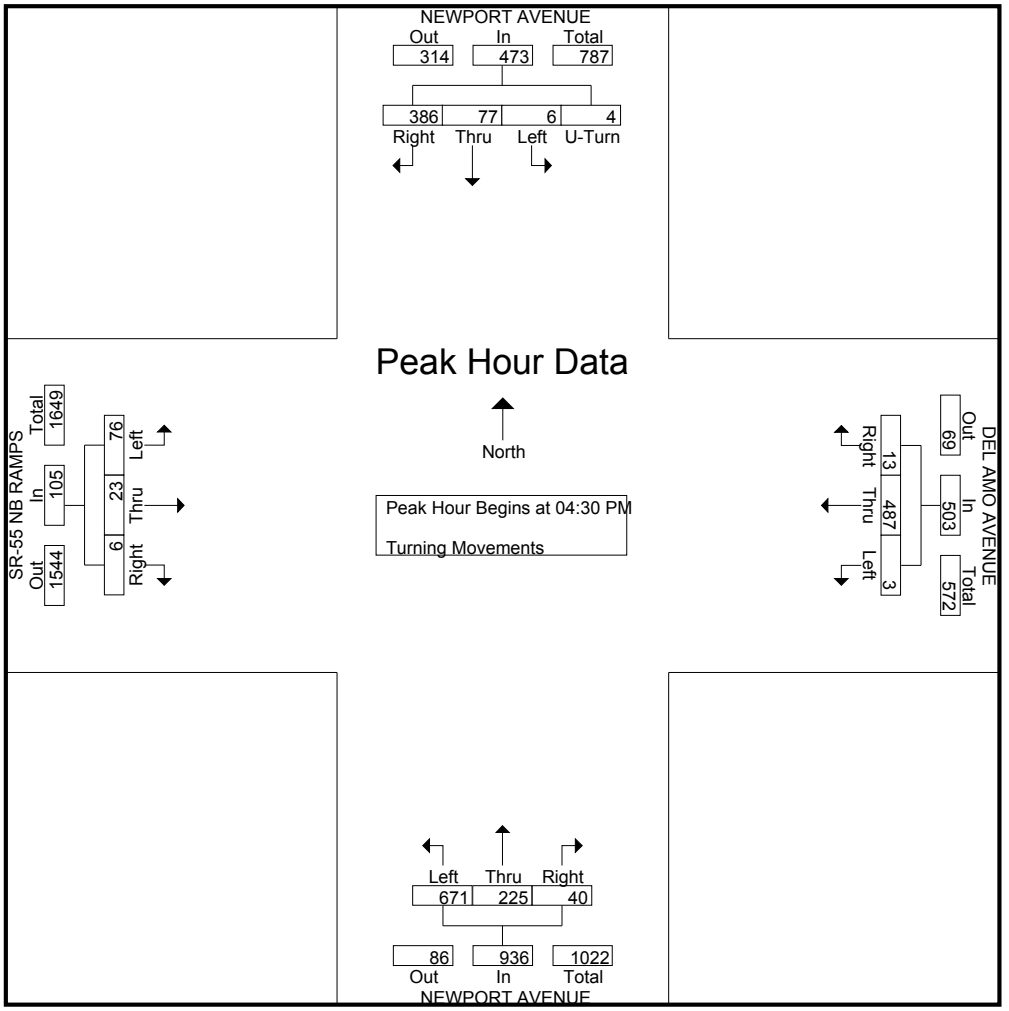
	NEWPORT AVENUE Southbound					DEL AMO AVENUE Westbound				NEWPORT AVENUE Northbound				SR-55 NB RAMPS Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15 AM																		
07:15 AM	148	90	3	1	**242**	0	17	**3**	20	**1**	10	18	29	**32**	45	72	149	440
07:30 AM	**157**	76	2	**3**	238	0	20	2	22	0	12	**29**	**41**	26	**50**	**80**	**156**	**457**
07:45 AM	131	**95**	**5**	0	231	0	**39**	1	**40**	1	10	21	32	26	43	76	145	448
08:00 AM	138	84	3	2	227	**1**	17	0	18	1	**18**	22	41	29	31	75	135	421
Total Volume	574	345	13	6	938	1	93	6	100	3	50	90	143	113	169	303	585	1766
% App. Total	61.2	36.8	1.4	0.6		1	93	6		2.1	35	62.9		19.3	28.9	51.8		
PHF	.914	.908	.650	.500	.969	.250	.596	.500	.625	.750	.694	.776	.872	.883	.845	.947	.938	.966



City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: SR-55 NB RAMPS

File Name : h1405075
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	NEWPORT AVENUE Southbound					DEL AMO AVENUE Westbound				NEWPORT AVENUE Northbound				SR-55 NB RAMPS Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	90	20	2	0	112	2	115	0	117	5	55	183	243	**4**	2	**21**	27	499
04:45 PM	**128**	15	0	1	**144**	3	103	**1**	107	7	43	126	176	0	4	21	25	452
05:00 PM	86	**21**	1	1	109	**4**	**147**	1	**152**	**19**	**85**	176	**280**	1	**9**	21	**31**	**572**
05:15 PM	82	21	**3**	**2**	108	4	122	1	127	9	42	**186**	237	1	8	13	22	494
Total Volume	386	77	6	4	473	13	487	3	503	40	225	671	936	6	23	76	105	2017
% App. Total	81.6	16.3	1.3	0.8		2.6	96.8	0.6		4.3	24	71.7		5.7	21.9	72.4		
PHF	.754	.917	.500	.500	.821	.813	.828	.750	.827	.526	.662	.902	.836	.375	.639	.905	.847	.882



City: SANTA ANA
N-S Direction: SR-55 SB RAMPS
E-W Direction: EDINGER AVENUE

File Name : H1405074
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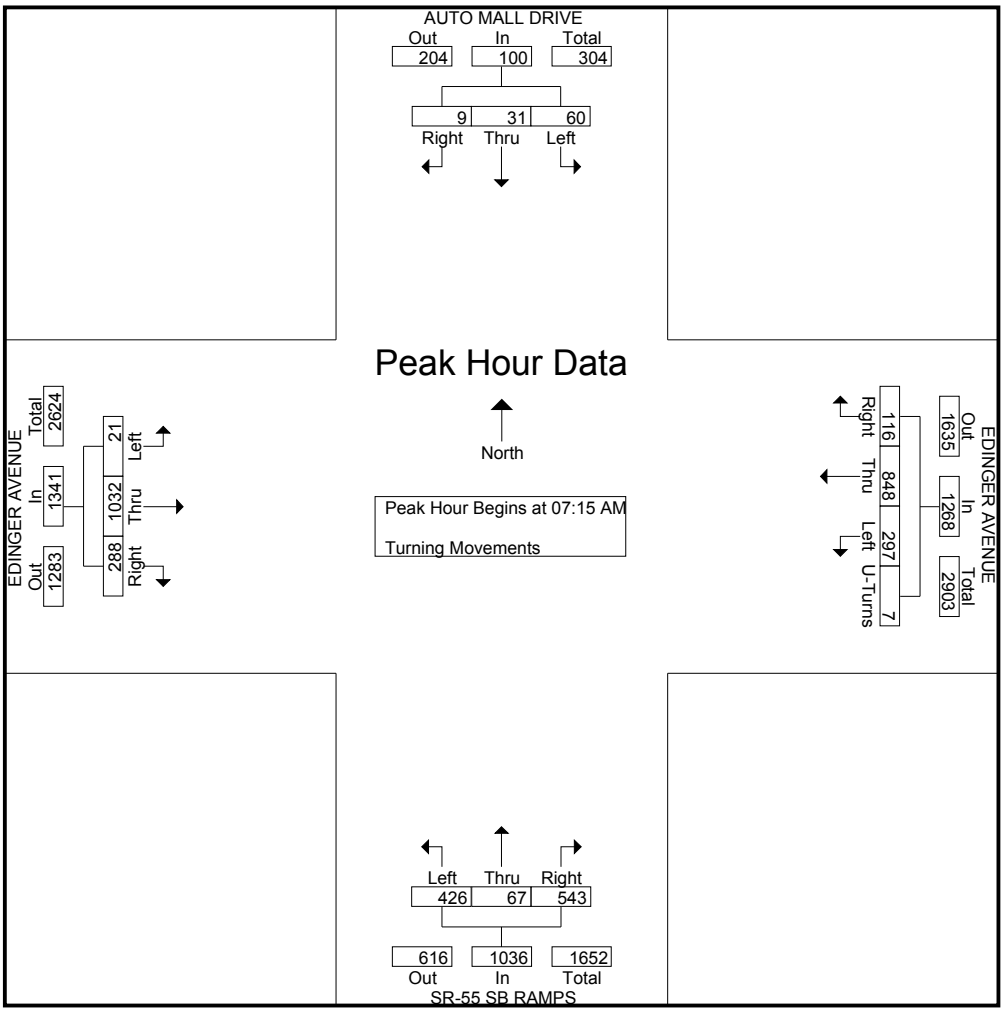
Groups Printed- Turning Movements

	AUTO MALL DRIVE Southbound			EDINGER AVENUE Westbound				SR-55 SB RAMPS Northbound			EDINGER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	1	3	7	23	182	55	0	119	22	123	70	239	6	850
07:15 AM	2	7	12	24	172	59	2	132	11	118	72	254	6	871
07:30 AM	2	6	17	32	230	81	1	150	12	114	82	250	5	982
07:45 AM	2	10	11	28	239	76	1	129	25	113	72	224	4	934
Total	7	26	47	107	823	271	4	530	70	468	296	967	21	3637
08:00 AM	3	8	20	32	207	81	3	132	19	81	62	304	6	958
08:15 AM	3	7	15	21	184	66	0	103	15	90	52	287	8	851
08:30 AM	10	7	12	27	202	83	0	86	20	85	56	299	5	892
08:45 AM	5	9	14	29	198	88	1	87	15	75	60	267	10	858
Total	21	31	61	109	791	318	4	408	69	331	230	1157	29	3559
*** BREAK ***														
04:00 PM	8	31	17	16	273	74	4	59	17	101	81	305	6	992
04:15 PM	11	10	22	17	226	72	2	58	12	95	76	258	6	865
04:30 PM	12	15	29	17	277	83	3	62	7	79	83	306	9	982
04:45 PM	8	14	23	23	230	75	4	49	11	106	64	259	6	872
Total	39	70	91	73	1006	304	13	228	47	381	304	1128	27	3711
05:00 PM	6	19	26	25	288	104	1	71	8	74	82	319	8	1031
05:15 PM	10	14	27	28	249	91	4	74	7	66	76	266	10	922
05:30 PM	8	13	18	18	230	91	1	58	3	61	65	277	12	855
05:45 PM	8	9	31	10	230	70	2	89	7	65	39	245	8	813
Total	32	55	102	81	997	356	8	292	25	266	262	1107	38	3621
Grand Total	99	182	301	370	3617	1249	29	1458	211	1446	1092	4359	115	14528
Apprch %	17	31.3	51.7	7	68.7	23.7	0.6	46.8	6.8	46.4	19.6	78.3	2.1	
Total %	0.7	1.3	2.1	2.5	24.9	8.6	0.2	10	1.5	10	7.5	30	0.8	

City: SANTA ANA
N-S Direction: SR-55 SB RAMPS
E-W Direction: EDINGER AVENUE

File Name : H1405074
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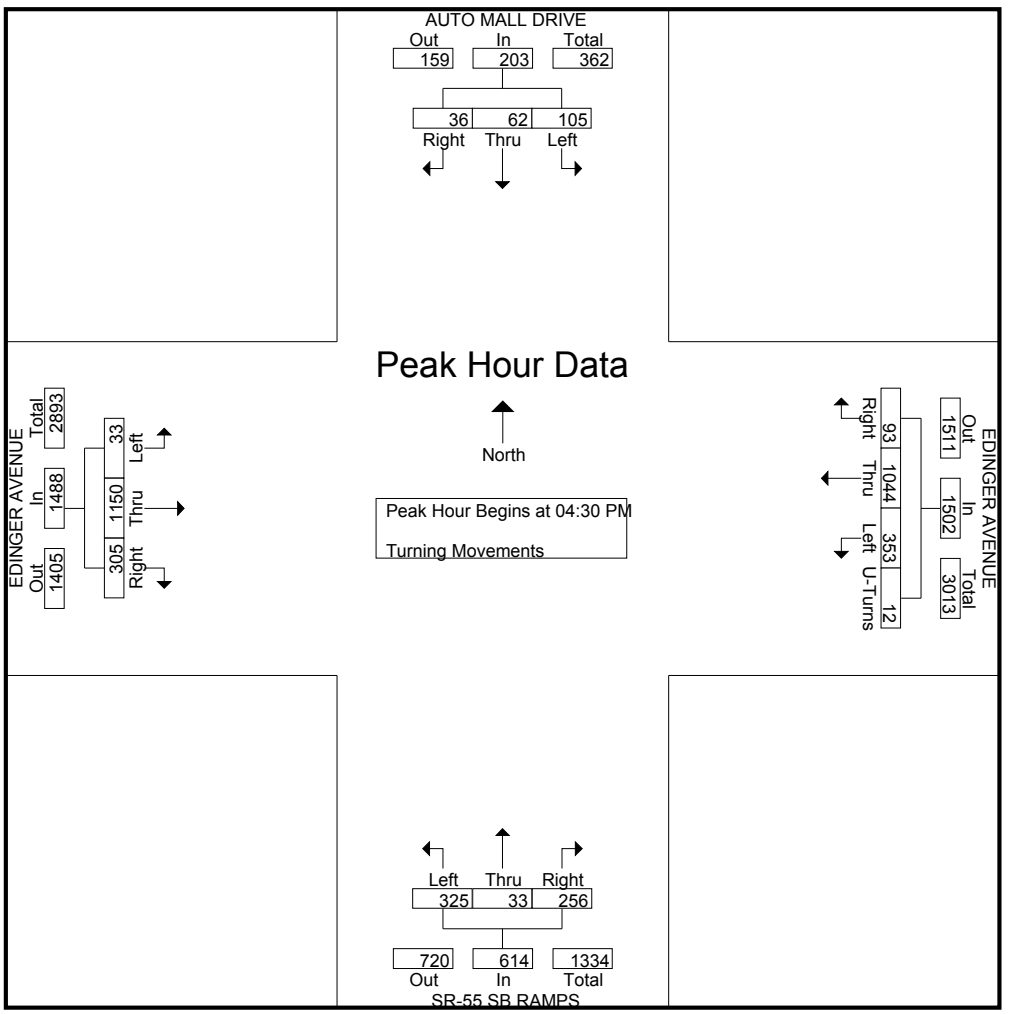
	AUTO MALL DRIVE Southbound				EDINGER AVENUE Westbound					SR-55 SB RAMPS Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15 AM																		
07:15 AM	2	7	12	21	24	172	59	2	257	132	11	**118**	261	72	254	**6**	332	871
07:30 AM	2	6	17	25	**32**	230	**81**	1	**344**	**150**	12	114	**276**	**82**	250	5	337	**982**
07:45 AM	2	**10**	11	23	28	**239**	76	1	344	129	**25**	113	267	72	224	4	300	934
08:00 AM	**3**	8	**20**	**31**	32	207	81	**3**	323	132	19	81	232	62	**304**	6	**372**	958
Total Volume	9	31	60	100	116	848	297	7	1268	543	67	426	1036	288	1032	21	1341	3745
% App. Total	9	31	60		9.1	66.9	23.4	0.6		52.4	6.5	41.1		21.5	77	1.6		
PHF	.750	.775	.750	.806	.906	.887	.917	.583	.922	.905	.670	.903	.938	.878	.849	.875	.901	.953



City: SANTA ANA
N-S Direction: SR-55 SB RAMPS
E-W Direction: EDINGER AVENUE

File Name : H1405074
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	AUTO MALL DRIVE Southbound				EDINGER AVENUE Westbound					SR-55 SB RAMPS Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	**12**	15	**29**	**56**	17	277	83	3	380	62	7	79	148	**83**	306	9	398	982
04:45 PM	8	14	23	45	23	230	75	**4**	332	49	**11**	**106**	**166**	64	259	6	329	872
05:00 PM	6	**19**	26	51	25	**288**	**104**	1	**418**	71	8	74	153	82	**319**	8	**409**	**1031**
05:15 PM	10	14	27	51	**28**	249	91	4	372	**74**	7	66	147	76	266	**10**	352	922
Total Volume	36	62	105	203	93	1044	353	12	1502	256	33	325	614	305	1150	33	1488	3807
% App. Total	17.7	30.5	51.7		6.2	69.5	23.5	0.8		41.7	5.4	52.9		20.5	77.3	2.2		
PHF	.750	.816	.905	.906	.830	.906	.849	.750	.898	.865	.750	.767	.925	.919	.901	.825	.910	.923



City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405076
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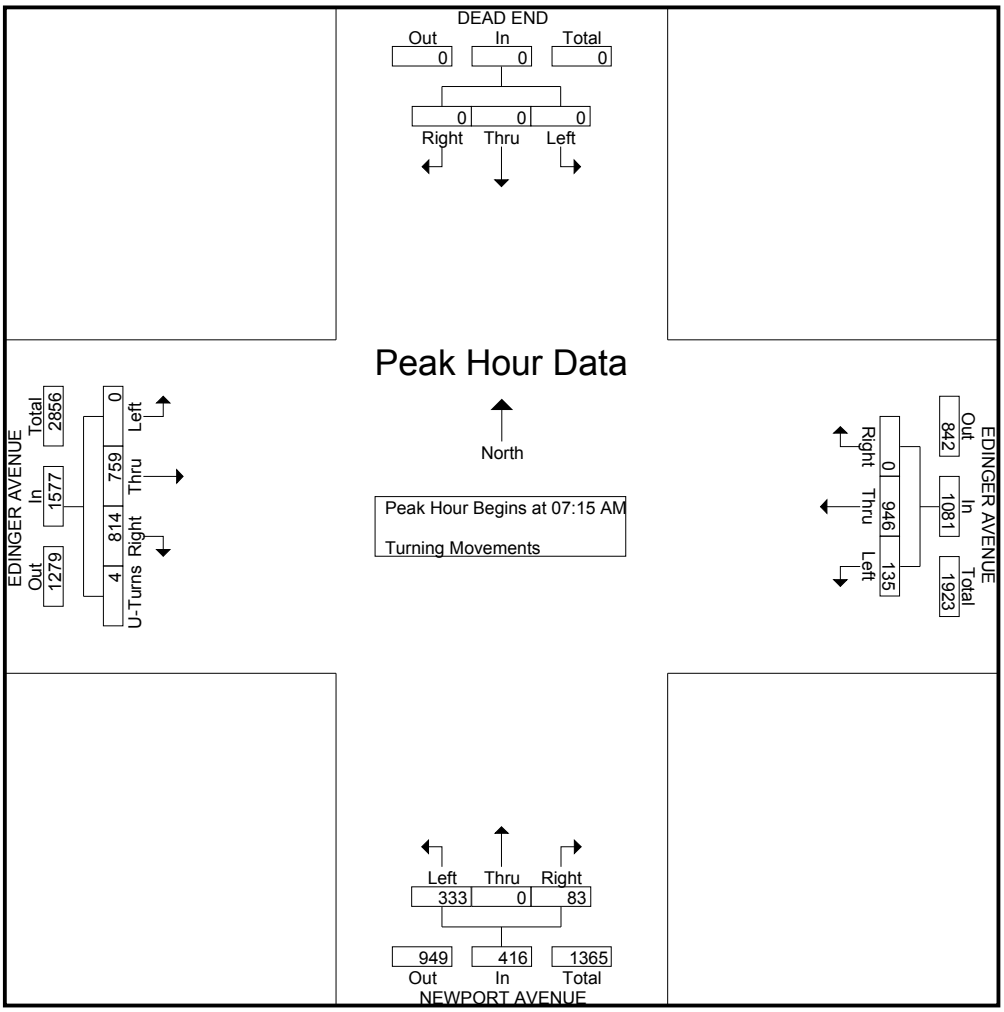
Groups Printed- Turning Movements

	DEAD END Southbound			EDINGER AVENUE Westbound			NEWPORT AVENUE Northbound			EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turns	Int. Total
07:00 AM	0	0	0	0	164	21	10	0	98	213	161	0	1	668
07:15 AM	0	0	0	0	198	39	24	0	70	213	182	0	1	727
07:30 AM	0	0	0	0	258	28	22	0	82	215	201	0	2	808
07:45 AM	0	0	0	0	256	28	17	0	88	185	192	0	0	766
Total	0	0	0	0	876	116	73	0	338	826	736	0	4	2969
08:00 AM	0	0	0	0	234	40	20	0	93	201	184	0	1	773
08:15 AM	0	0	0	0	212	42	12	0	64	167	180	0	1	678
08:30 AM	0	0	0	0	235	35	14	0	69	173	152	0	1	679
08:45 AM	0	0	0	0	224	38	12	0	75	440	150	0	3	942
Total	0	0	0	0	905	155	58	0	301	981	666	0	6	3072
*** BREAK ***														
04:00 PM	0	0	0	0	274	25	10	0	54	155	220	0	2	740
04:15 PM	0	0	0	0	268	17	11	0	38	111	243	0	1	689
04:30 PM	0	0	0	0	306	16	12	0	80	123	281	0	2	820
04:45 PM	0	0	0	0	291	36	7	0	60	116	201	0	1	712
Total	0	0	0	0	1139	94	40	0	232	505	945	0	6	2961
05:00 PM	0	0	0	0	307	27	19	0	106	89	317	0	1	866
05:15 PM	0	0	0	0	285	21	19	0	58	78	309	0	2	772
05:30 PM	0	0	0	0	287	21	12	0	57	88	270	0	2	737
05:45 PM	0	0	0	0	263	15	20	0	52	95	259	0	2	706
Total	0	0	0	0	1142	84	70	0	273	350	1155	0	7	3081
Grand Total	0	0	0	0	4062	449	241	0	1144	2662	3502	0	23	12083
Apprch %	0	0	0	0	90	10	17.4	0	82.6	43	56.6	0	0.4	
Total %	0	0	0	0	33.6	3.7	2	0	9.5	22	29	0	0.2	

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405076
Site Code : 00000000
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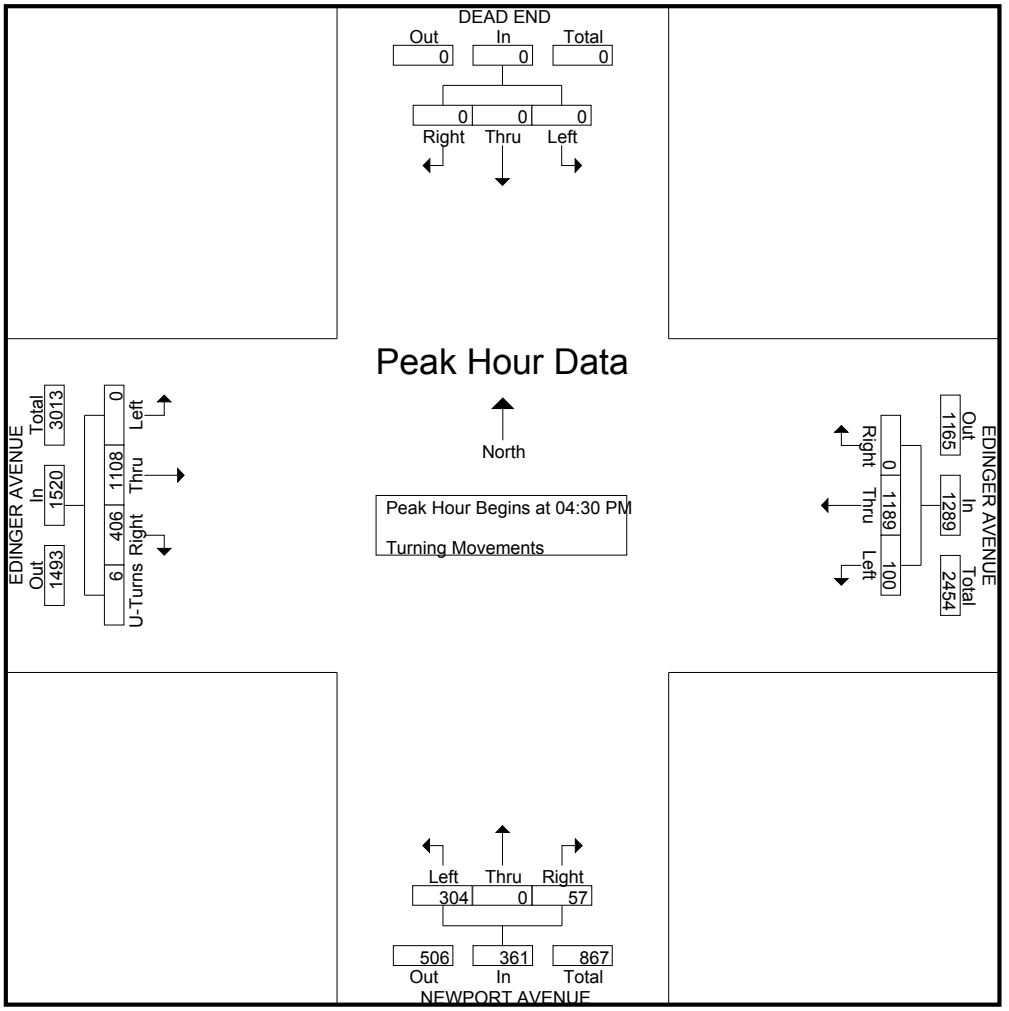
	DEAD END Southbound				EDINGER AVENUE Westbound				NEWPORT AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15 AM																		
07:15 AM	0	0	0	0	0	198	39	237	**24**	0	70	94	213	182	0	1	396	727
07:30 AM	0	0	0	0	0	**258**	28	**286**	22	0	82	104	**215**	**201**	0	**2**	**418**	**808**
07:45 AM	0	0	0	0	0	256	28	284	17	0	88	105	185	192	0	0	377	766
08:00 AM	0	0	0	0	0	234	**40**	274	20	0	**93**	**113**	201	184	0	1	386	773
Total Volume	0	0	0	0	0	946	135	1081	83	0	333	416	814	759	0	4	1577	3074
% App. Total	0	0	0		0	87.5	12.5		20	0	80		51.6	48.1	0	0.3		
PHF	.000	.000	.000	.000	.000	.917	.844	.945	.865	.000	.895	.920	.947	.944	.000	.500	.943	.951



City: TUSTIN
N-S Direction: NEWPORT AVENUE
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	DEAD END Southbound				EDINGER AVENUE Westbound				NEWPORT AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	0	0	0	0	0	306	16	322	12	0	80	92	**123**	281	0	**2**	406	820
04:45 PM	0	0	0	0	0	291	**36**	327	7	0	60	67	116	201	0	1	318	712
05:00 PM	0	0	0	0	0	**307**	27	**334**	**19**	0	**106**	**125**	89	**317**	0	1	**407**	**866**
05:15 PM	0	0	0	0	0	285	21	306	19	0	58	77	78	309	0	2	389	772
Total Volume	0	0	0	0	0	1189	100	1289	57	0	304	361	406	1108	0	6	1520	3170
% App. Total	0	0	0		0	92.2	7.8		15.8	0	84.2		26.7	72.9	0	0.4		
PHF	.000	.000	.000	.000	.000	.968	.694	.965	.750	.000	.717	.722	.825	.874	.000	.750	.934	.915



City: TUSTIN
N-S Direction: DEL AMO AVENUE
E-W Direction: EDINGER AVENUE

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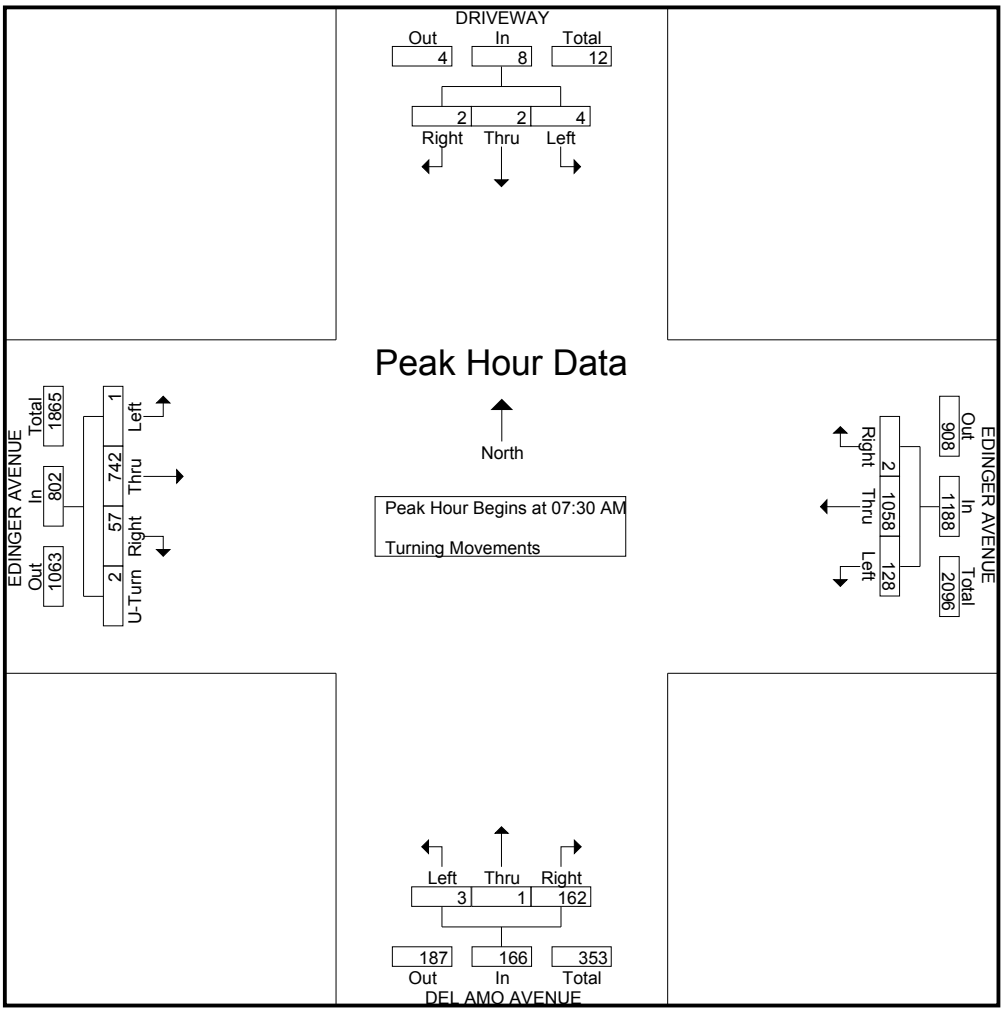
Groups Printed- Turning Movements

	DRIVEWAY Southbound			EDINGER AVENUE Westbound			DEL AMO AVENUE Northbound			EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	2	1	0	1	181	13	29	0	0	8	165	0	1	401
07:15 AM	0	0	0	0	241	22	48	1	0	13	182	4	0	511
07:30 AM	2	1	2	1	257	26	47	0	2	9	205	1	2	555
07:45 AM	0	0	1	0	313	45	41	1	1	14	185	0	0	601
Total	4	2	3	2	992	106	165	2	3	44	737	5	3	2068
08:00 AM	0	1	0	0	243	21	28	0	0	21	181	0	0	495
08:15 AM	0	0	1	1	245	36	46	0	0	13	171	0	0	513
08:30 AM	1	0	0	0	280	30	37	0	2	16	148	1	0	515
08:45 AM	0	1	0	0	273	26	41	2	2	9	156	1	0	511
Total	1	2	1	1	1041	113	152	2	4	59	656	2	0	2034
*** BREAK ***														
04:00 PM	0	0	1	0	283	52	20	0	16	57	179	0	1	609
04:15 PM	0	0	0	0	280	79	16	0	10	43	197	0	0	625
04:30 PM	0	1	0	1	313	75	16	0	8	41	242	0	1	698
04:45 PM	2	0	0	0	296	83	11	0	7	37	184	0	4	624
Total	2	1	1	1	1172	289	63	0	41	178	802	0	6	2556
05:00 PM	0	1	0	0	316	74	34	0	17	53	318	0	2	815
05:15 PM	0	0	0	0	277	53	21	0	12	43	297	0	2	705
05:30 PM	0	0	2	0	347	84	27	0	10	30	231	0	2	733
05:45 PM	0	0	1	0	231	79	17	0	4	14	253	0	0	599
Total	0	1	3	0	1171	290	99	0	43	140	1099	0	6	2852
Grand Total	7	6	8	4	4376	798	479	4	91	421	3294	7	15	9510
Apprch %	33.3	28.6	38.1	0.1	84.5	15.4	83.4	0.7	15.9	11.3	88.1	0.2	0.4	
Total %	0.1	0.1	0.1	0	46	8.4	5	0	1	4.4	34.6	0.1	0.2	

City: TUSTIN
N-S Direction: DEL AMO AVENUE
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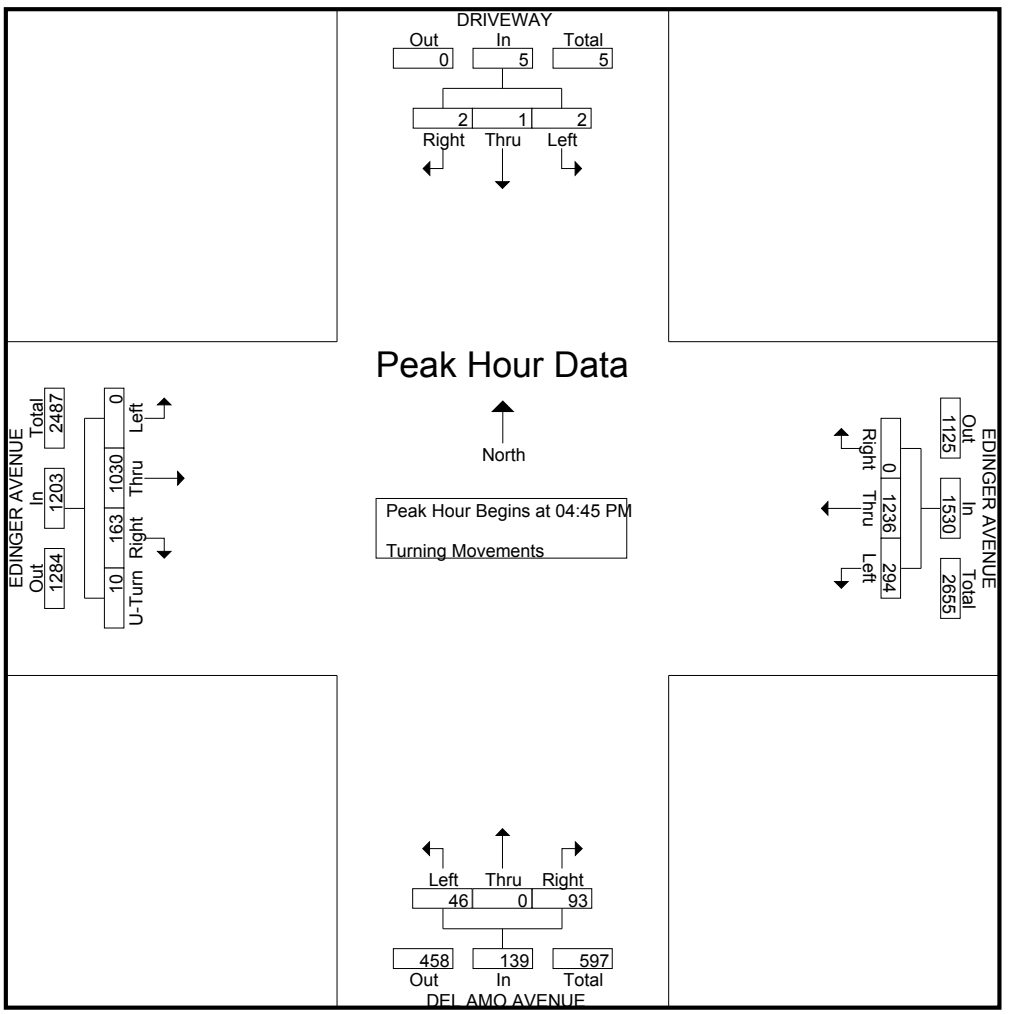
	DRIVEWAY Southbound				EDINGER AVENUE Westbound				DEL AMO AVENUE Northbound				EDINGER AVENUE Eastbound						
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30 AM																		
07:30 AM	**2**	**1**	**2**	**5**	**1**	257	26	284	**47**	0	**2**	**49**	9	**205**	**1**	**2**	**217**	555
07:45 AM	0	0	1	1	0	**313**	**45**	**358**	41	**1**	1	43	14	185	0	0	199	**601**
08:00 AM	0	1	0	1	0	243	21	264	28	0	0	28	**21**	181	0	0	202	495
08:15 AM	0	0	1	1	1	245	36	282	46	0	0	46	13	171	0	0	184	513
Total Volume	2	2	4	8	2	1058	128	1188	162	1	3	166	57	742	1	2	802	2164
% App. Total	25	25	50		0.2	89.1	10.8		97.6	0.6	1.8		7.1	92.5	0.1	0.2		
PHF	.250	.500	.500	.400	.500	.845	.711	.830	.862	.250	.375	.847	.679	.905	.250	.250	.924	.900



City: TUSTIN
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	DRIVEWAY Southbound				EDINGER AVENUE Westbound				DEL AMO AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:45 PM																		
04:45 PM	**2**	0	0	**2**	0	296	83	379	11	0	7	18	37	184	0	**4**	225	624
05:00 PM	0	**1**	0	1	0	316	74	390	**34**	0	**17**	**51**	**53**	**318**	0	2	**373**	**815**
05:15 PM	0	0	0	0	0	277	53	330	21	0	12	33	43	297	0	2	342	705
05:30 PM	0	0	**2**	2	0	**347**	**84**	**431**	27	0	10	37	30	231	0	2	263	733
Total Volume	2	1	2	5	0	1236	294	1530	93	0	46	139	163	1030	0	10	1203	2877
% App. Total	40	20	40		0	80.8	19.2		66.9	0	33.1		13.5	85.6	0	0.8		
PHF	.250	.250	.250	.625	.000	.890	.875	.887	.684	.000	.676	.681	.769	.810	.000	.625	.806	.883



City: TUSTIN
N-S Direction: REDHILL AVENUE
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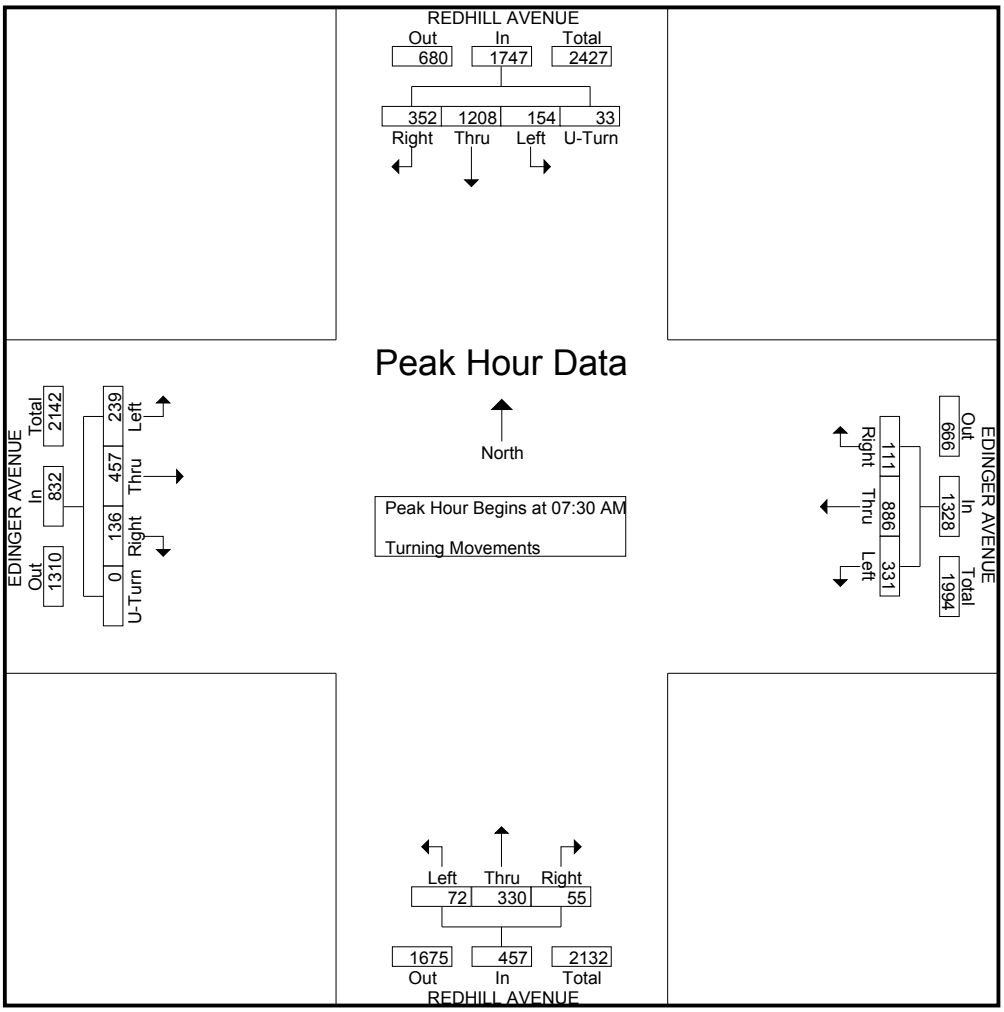
Groups Printed- Turning Movements

	REDHILL AVENUE Southbound				EDINGER AVENUE Westbound			REDHILL AVENUE Northbound			EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	79	189	26	9	22	73	33	9	50	11	20	79	49	0	649
07:15 AM	95	233	34	6	32	148	66	9	52	12	25	95	57	1	865
07:30 AM	100	275	36	9	35	226	75	8	80	9	32	113	65	0	1063
07:45 AM	122	350	41	8	28	224	77	14	75	24	31	95	66	0	1155
Total	396	1047	137	32	117	671	251	40	257	56	108	382	237	1	3732
08:00 AM	57	267	40	8	19	241	98	16	99	21	34	144	46	0	1090
08:15 AM	73	316	37	8	29	195	81	17	76	18	39	105	62	0	1056
08:30 AM	76	199	33	8	28	207	69	16	68	17	23	125	50	1	920
08:45 AM	70	230	34	11	25	168	67	9	67	21	46	123	46	3	920
Total	276	1012	144	35	101	811	315	58	310	77	142	497	204	4	3986
*** BREAK ***															
04:00 PM	65	100	14	2	79	263	24	37	390	44	28	93	71	11	1221
04:15 PM	54	88	45	9	98	277	34	41	350	52	26	102	74	2	1252
04:30 PM	35	91	22	3	103	257	31	44	432	46	32	122	84	8	1310
04:45 PM	67	95	34	7	93	276	23	53	415	51	29	100	66	5	1314
Total	221	374	115	21	373	1073	112	175	1587	193	115	417	295	26	5097
05:00 PM	70	93	29	6	86	232	30	47	432	57	31	205	115	4	1437
05:15 PM	62	91	32	9	120	255	28	48	448	43	20	233	104	3	1496
05:30 PM	46	101	25	8	92	263	30	48	426	54	26	196	80	2	1397
05:45 PM	69	130	19	5	88	234	27	35	446	50	13	141	62	2	1321
Total	247	415	105	28	386	984	115	178	1752	204	90	775	361	11	5651
Grand Total	1140	2848	501	116	977	3539	793	451	3906	530	455	2071	1097	42	18466
Apprch %	24.8	61.8	10.9	2.5	18.4	66.7	14.9	9.2	79.9	10.8	12.4	56.5	29.9	1.1	
Total %	6.2	15.4	2.7	0.6	5.3	19.2	4.3	2.4	21.2	2.9	2.5	11.2	5.9	0.2	

City: TUSTIN
N-S Direction: REDHILL AVENUE
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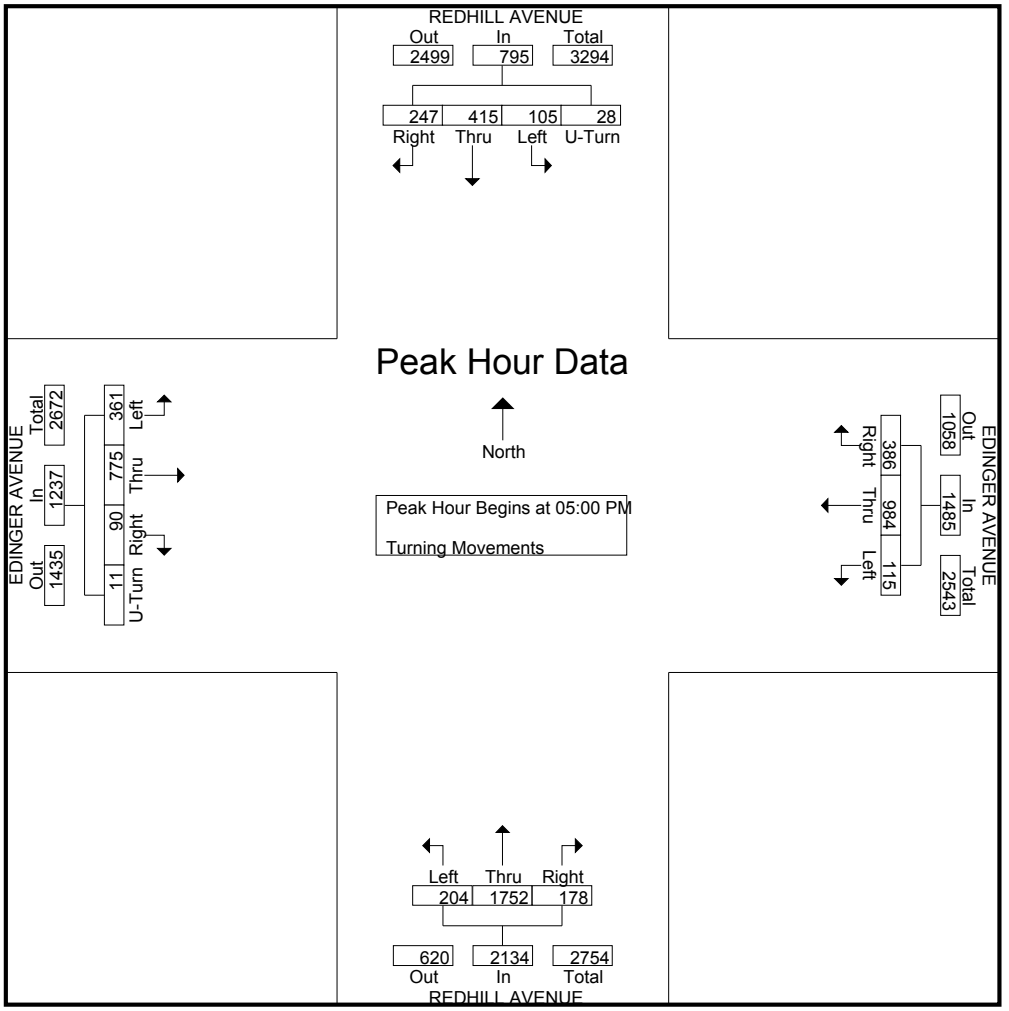
	REDHILL AVENUE Southbound					EDINGER AVENUE Westbound				REDHILL AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:30 AM																			
07:30 AM	100	275	36	**9**	420	**35**	226	75	336	8	80	9	97	32	113	65	0	210	1063
07:45 AM	**122**	**350**	**41**	8	**521**	28	224	77	329	14	75	**24**	113	31	95	**66**	0	192	**1155**
08:00 AM	57	267	40	8	372	19	**241**	**98**	**358**	16	**99**	21	**136**	34	**144**	46	0	**224**	1090
08:15 AM	73	316	37	8	434	29	195	81	305	**17**	76	18	111	**39**	105	62	0	206	1056
Total Volume	352	1208	154	33	1747	111	886	331	1328	55	330	72	457	136	457	239	0	832	4364
% App. Total	20.1	69.1	8.8	1.9		8.4	66.7	24.9		12	72.2	15.8		16.3	54.9	28.7	0		
PHF	.721	.863	.939	.917	.838	.793	.919	.844	.927	.809	.833	.750	.840	.872	.793	.905	.000	.929	.945



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	REDHILL AVENUE Southbound					EDINGER AVENUE Westbound				REDHILL AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	**70**	93	29	6	198	86	232	**30**	348	47	432	**57**	536	**31**	205	**115**	**4**	355	1437
05:15 PM	62	91	**32**	**9**	194	**120**	255	28	**403**	**48**	**448**	43	**539**	20	**233**	104	3	**360**	**1496**
05:30 PM	46	101	25	8	180	92	**263**	30	385	48	426	54	528	26	196	80	2	304	1397
05:45 PM	69	**130**	19	5	**223**	88	234	27	349	35	446	50	531	13	141	62	2	218	1321
Total Volume	247	415	105	28	795	386	984	115	1485	178	1752	204	2134	90	775	361	11	1237	5651
% App. Total	31.1	52.2	13.2	3.5		26	66.3	7.7		8.3	82.1	9.6		7.3	62.7	29.2	0.9		
PHF	.882	.798	.820	.778	.891	.804	.935	.958	.921	.927	.978	.895	.990	.726	.832	.785	.688	.859	.944



City: TUSTIN
N-S Direction: KENSINGTON PARK DRIVE
E-W Direction: EDINGER AVENUE

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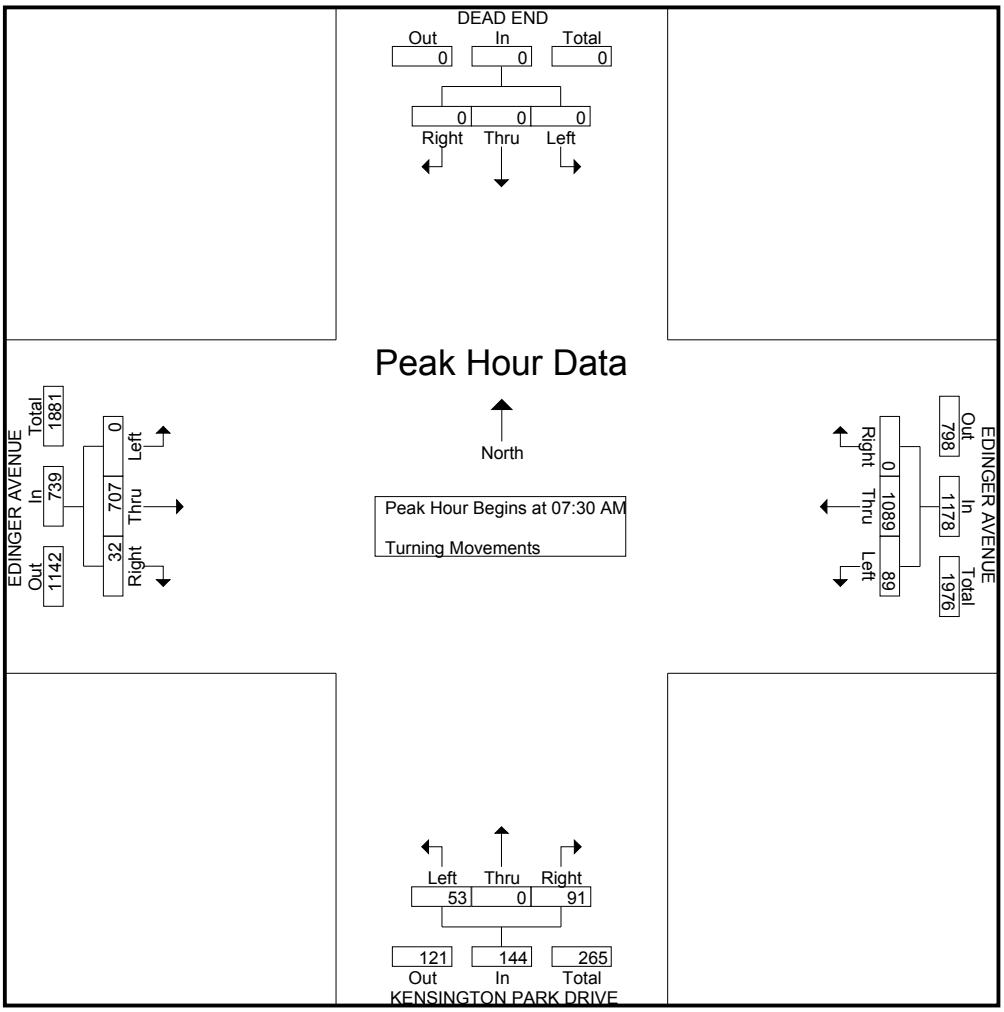
Groups Printed- Turning Movements

	DEAD END Southbound			EDINGER AVENUE Westbound			KENSINGTON PARK DRIVE Northbound			EDINGER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	145	12	17	0	10	3	117	0	304
07:15 AM	0	0	0	0	207	19	19	0	6	7	152	0	410
07:30 AM	0	0	0	0	254	21	24	0	13	5	186	0	503
07:45 AM	0	0	0	0	307	22	28	0	19	11	191	0	578
Total	0	0	0	0	913	74	88	0	48	26	646	0	1795
08:00 AM	0	0	0	0	258	24	19	0	8	7	164	0	480
08:15 AM	0	0	0	0	270	22	20	0	13	9	166	0	500
08:30 AM	0	0	0	0	200	24	26	0	12	10	150	0	422
08:45 AM	0	0	0	0	198	13	26	0	14	14	143	0	408
Total	0	0	0	0	926	83	91	0	47	40	623	0	1810
*** BREAK ***													
04:00 PM	0	0	0	0	283	22	22	0	12	19	134	0	492
04:15 PM	0	0	0	0	323	21	33	0	13	14	158	0	562
04:30 PM	0	0	0	0	298	33	29	0	8	13	193	0	574
04:45 PM	0	0	0	0	323	30	37	0	9	13	197	0	609
Total	0	0	0	0	1227	106	121	0	42	59	682	0	2237
05:00 PM	0	0	0	0	308	25	34	0	13	16	211	0	607
05:15 PM	0	0	0	0	369	35	37	0	9	20	252	0	722
05:30 PM	0	0	0	0	401	44	41	0	13	24	254	0	777
05:45 PM	0	0	0	0	296	39	32	0	6	26	212	0	611
Total	0	0	0	0	1374	143	144	0	41	86	929	0	2717
Grand Total	0	0	0	0	4440	406	444	0	178	211	2880	0	8559
Apprch %	0	0	0	0	91.6	8.4	71.4	0	28.6	6.8	93.2	0	
Total %	0	0	0	0	51.9	4.7	5.2	0	2.1	2.5	33.6	0	

City: TUSTIN
N-S Direction: KENSINGTON PARK DRIVE
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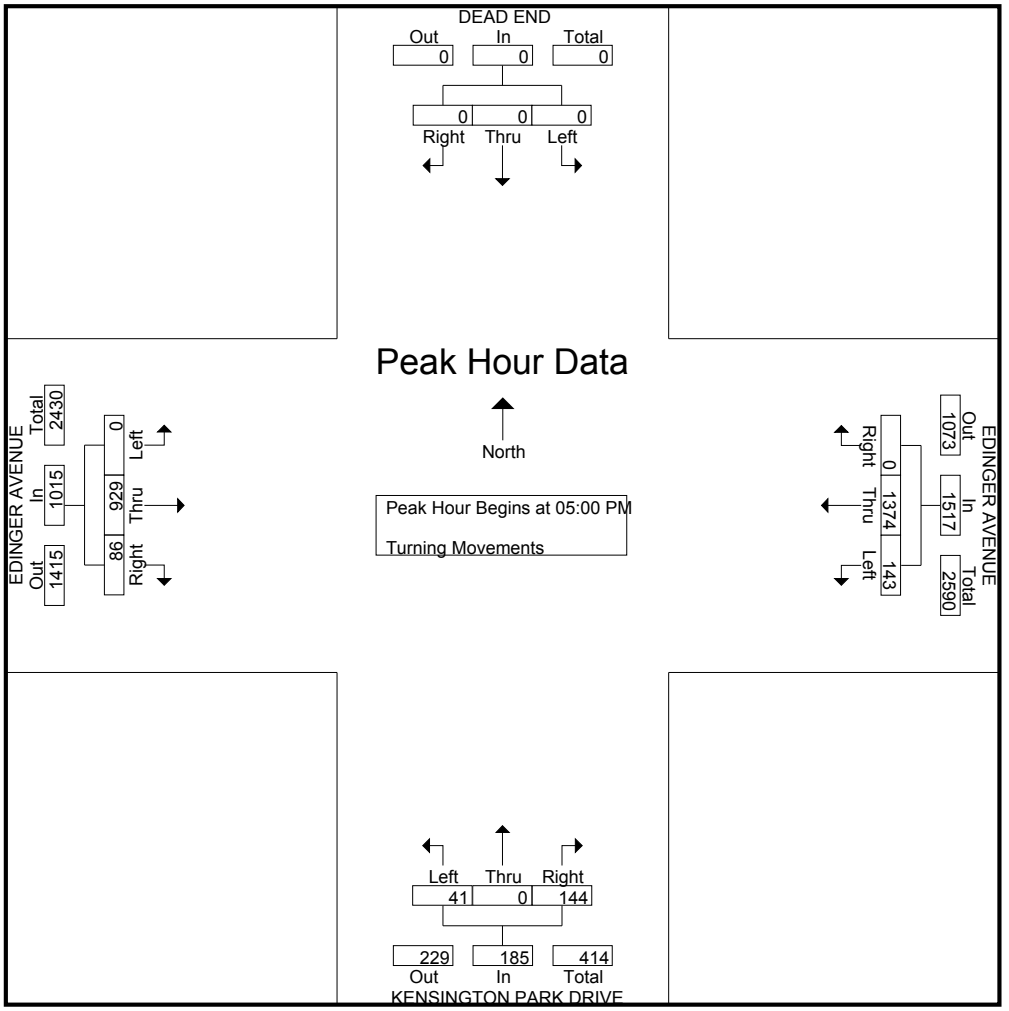
	DEAD END Southbound				EDINGER AVENUE Westbound				KENSINGTON PARK DRIVE Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	254	21	275	24	0	13	37	5	186	0	191	503
07:45 AM	0	0	0	0	0	**307**	22	**329**	**28**	0	**19**	**47**	**11**	**191**	0	**202**	**578**
08:00 AM	0	0	0	0	0	258	**24**	282	19	0	8	27	7	164	0	171	480
08:15 AM	0	0	0	0	0	270	22	292	20	0	13	33	9	166	0	175	500
Total Volume	0	0	0	0	0	1089	89	1178	91	0	53	144	32	707	0	739	2061
% App. Total	0	0	0		0	92.4	7.6		63.2	0	36.8		4.3	95.7	0		
PHF	.000	.000	.000	.000	.000	.887	.927	.895	.813	.000	.697	.766	.727	.925	.000	.915	.891



City: TUSTIN
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	DEAD END Southbound				EDINGER AVENUE Westbound				KENSINGTON PARK DRIVE Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	308	25	333	34	0	**13**	47	16	211	0	227	607
05:15 PM	0	0	0	0	0	369	35	404	37	0	9	46	20	252	0	272	722
05:30 PM	0	0	0	0	0	**401**	**44**	**445**	**41**	0	13	**54**	24	**254**	0	**278**	**777**
05:45 PM	0	0	0	0	0	296	39	335	32	0	6	38	**26**	212	0	238	611
Total Volume	0	0	0	0	0	1374	143	1517	144	0	41	185	86	929	0	1015	2717
% App. Total	0	0	0		0	90.6	9.4		77.8	0	22.2		8.5	91.5	0		
PHF	.000	.000	.000	.000	.000	.857	.813	.852	.878	.000	.788	.856	.827	.914	.000	.913	.874



City: TUSTIN
N-S Direction: JAMBOREE ROAD
E-W Direction: EDINGER AVENUE

File Name : H1404045
Site Code : 133
Start Date : 5/14/2014
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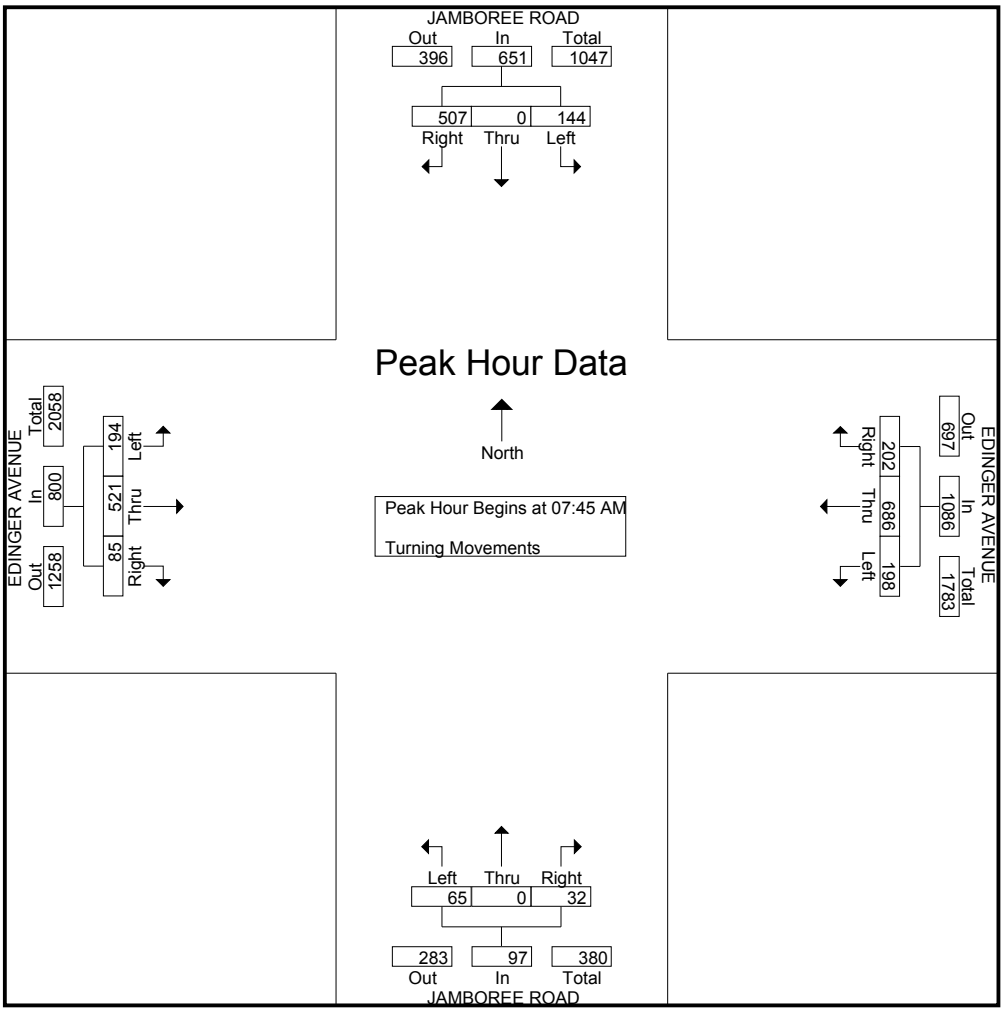
Groups Printed- Turning Movements

	JAMBOREE ROAD Southbound			EDINGER AVENUE Westbound			JAMBOREE ROAD Northbound			EDINGER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	109	0	15	33	109	26	9	0	14	18	90	39	462
07:15 AM	83	0	34	35	112	41	7	0	13	26	101	34	486
07:30 AM	111	0	23	43	140	39	5	0	8	21	151	45	586
07:45 AM	158	0	37	44	178	62	9	0	15	18	135	49	705
Total	461	0	109	155	539	168	30	0	50	83	477	167	2239
08:00 AM	121	0	30	60	187	51	7	0	14	17	147	56	690
08:15 AM	104	0	31	51	151	45	8	0	16	29	126	57	618
08:30 AM	124	0	46	47	170	40	8	0	20	21	113	32	621
08:45 AM	118	0	39	55	143	39	14	0	14	16	126	46	610
Total	467	0	146	213	651	175	37	0	64	83	512	191	2539
*** BREAK ***													
04:00 PM	69	0	30	27	171	22	36	0	51	15	96	67	584
04:15 PM	106	0	47	41	248	29	44	0	58	20	137	70	800
04:30 PM	80	0	55	39	244	23	35	0	52	30	64	64	686
04:45 PM	78	0	42	41	271	14	64	0	56	25	153	96	840
Total	333	0	174	148	934	88	179	0	217	90	450	297	2910
05:00 PM	73	0	62	36	215	72	45	0	50	29	193	104	879
05:15 PM	95	0	60	61	232	13	61	0	74	24	182	139	941
05:30 PM	94	0	64	56	282	23	64	0	45	29	231	93	981
05:45 PM	93	0	73	100	234	28	59	0	58	23	218	100	986
Total	355	0	259	253	963	136	229	0	227	105	824	436	3787
Grand Total	1616	0	688	769	3087	567	475	0	558	361	2263	1091	11475
Apprch %	70.1	0	29.9	17.4	69.8	12.8	46	0	54	9.7	60.9	29.4	
Total %	14.1	0	6	6.7	26.9	4.9	4.1	0	4.9	3.1	19.7	9.5	

City: TUSTIN
N-S Direction: JAMBOREE ROAD
E-W Direction: EDINGER AVENUE

File Name : H1404045
Site Code : 133
Start Date : 5/14/2014
Page No : 2

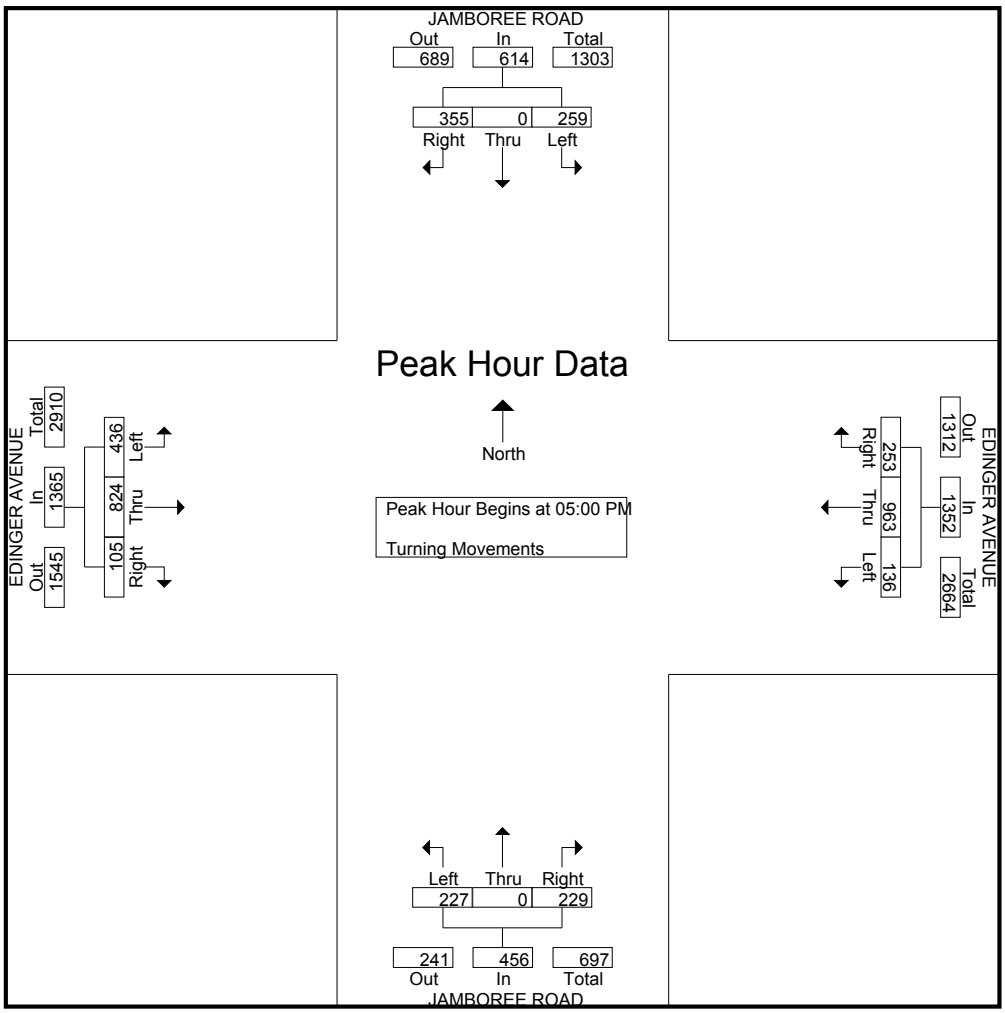
	JAMBOREE ROAD Southbound				EDINGER AVENUE Westbound				JAMBOREE ROAD Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**158**	0	37	**195**	44	178	**62**	284	**9**	0	15	24	18	135	49	202	**705**
08:00 AM	121	0	30	151	**60**	**187**	51	**298**	7	0	14	21	17	**147**	56	**220**	690
08:15 AM	104	0	31	135	51	151	45	247	8	0	16	24	**29**	126	**57**	212	618
08:30 AM	124	0	**46**	170	47	170	40	257	8	0	**20**	**28**	21	113	32	166	621
Total Volume	507	0	144	651	202	686	198	1086	32	0	65	97	85	521	194	800	2634
% App. Total	77.9	0	22.1		18.6	63.2	18.2		33	0	67		10.6	65.1	24.2		
PHF	.802	.000	.783	.835	.842	.917	.798	.911	.889	.000	.813	.866	.733	.886	.851	.909	.934



City: TUSTIN
N-S Direction: JAMBOREE ROAD
E-W Direction: EDINGER AVENUE

File Name : H1404045
Site Code : 133
Start Date : 5/14/2014
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	JAMBOREE ROAD Southbound				EDINGER AVENUE Westbound				JAMBOREE ROAD Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	73	0	62	135	36	215	**72**	323	45	0	50	95	**29**	193	104	326	879
05:15 PM	**95**	0	60	155	61	232	13	306	61	0	**74**	**135**	24	182	**139**	345	941
05:30 PM	94	0	64	158	56	**282**	23	361	**64**	0	45	109	29	**231**	93	**353**	981
05:45 PM	93	0	**73**	**166**	**100**	234	28	**362**	59	0	58	117	23	218	100	341	**986**
Total Volume	355	0	259	614	253	963	136	1352	229	0	227	456	105	824	436	1365	3787
% App. Total	57.8	0	42.2		18.7	71.2	10.1		50.2	0	49.8		7.7	60.4	31.9		
PHF	.934	.000	.887	.925	.633	.854	.472	.934	.895	.000	.767	.844	.905	.892	.784	.967	.960



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: EDINGER AVE/ ICD

File Name : H1405097
Site Code : 00005701
Start Date : 6/12/2014
Page No : 1

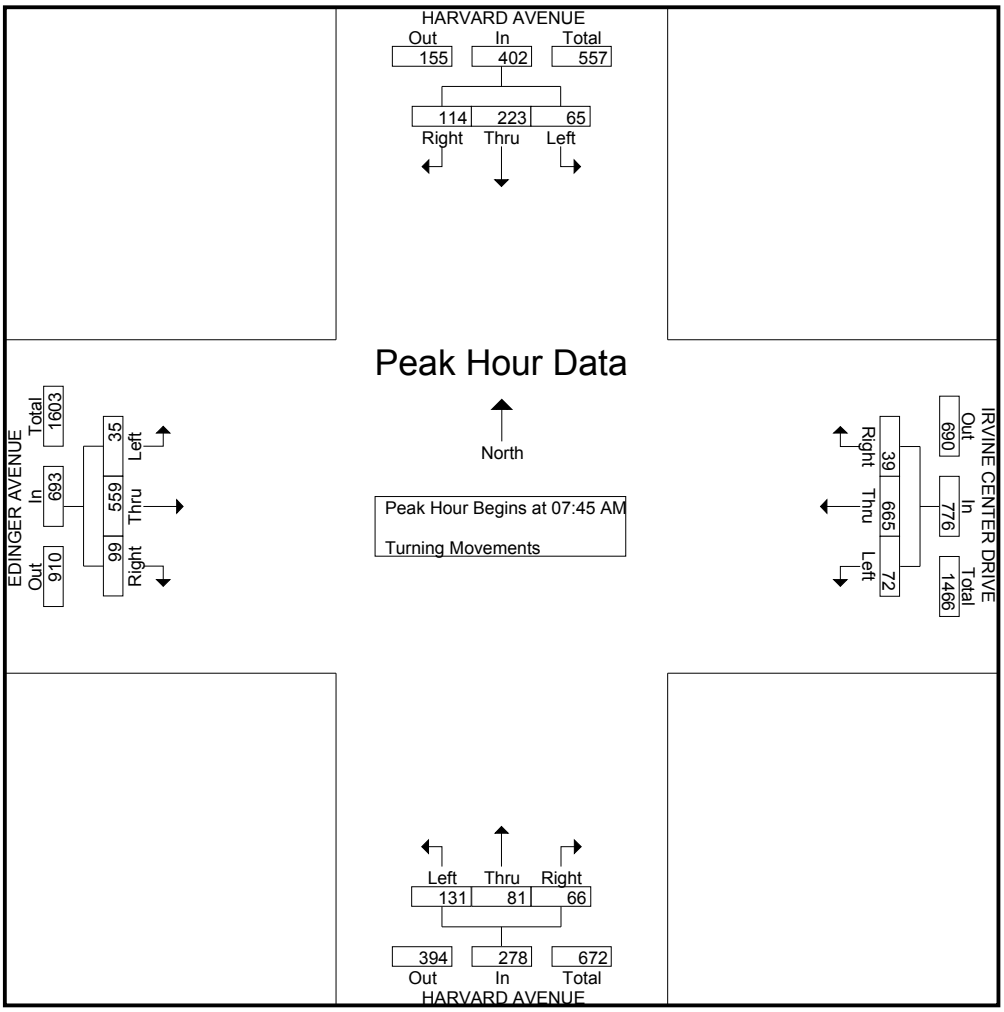
Groups Printed- Turning Movements

	HARVARD AVENUE Southbound			IRVINE CENTER DRIVE Westbound			HARVARD AVENUE Northbound			EDINGER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	25	12	4	10	98	9	10	6	26	16	97	11	324
07:15 AM	13	21	11	3	127	11	7	23	20	19	105	3	363
07:30 AM	37	32	10	9	128	18	22	17	23	30	153	2	481
07:45 AM	32	64	18	7	188	18	21	13	31	16	170	4	582
Total	107	129	43	29	541	56	60	59	100	81	525	20	1750
08:00 AM	28	52	8	10	182	18	19	21	41	23	145	9	556
08:15 AM	27	51	19	10	161	20	9	20	29	25	129	12	512
08:30 AM	27	56	20	12	134	16	17	27	30	35	115	10	499
08:45 AM	34	55	19	13	152	22	16	27	29	24	165	4	560
Total	116	214	66	45	629	76	61	95	129	107	554	35	2127
*** BREAK ***													
04:00 PM	17	28	8	12	177	20	21	46	48	25	134	27	563
04:15 PM	10	25	10	33	334	24	17	75	36	45	154	19	782
04:30 PM	14	26	14	13	218	20	29	92	41	34	154	43	698
04:45 PM	18	29	12	26	320	22	39	107	59	37	217	30	916
Total	59	108	44	84	1049	86	106	320	184	141	659	119	2959
05:00 PM	16	40	23	18	234	22	31	101	36	35	177	29	762
05:15 PM	12	49	16	20	357	25	52	101	48	42	241	24	987
05:30 PM	22	35	16	21	354	27	77	124	42	44	210	29	1001
05:45 PM	16	52	25	23	340	41	57	128	55	39	235	23	1034
Total	66	176	80	82	1285	115	217	454	181	160	863	105	3784
Grand Total	348	627	233	240	3504	333	444	928	594	489	2601	279	10620
Apprch %	28.8	51.9	19.3	5.9	85.9	8.2	22.6	47.2	30.2	14.5	77.2	8.3	
Total %	3.3	5.9	2.2	2.3	33	3.1	4.2	8.7	5.6	4.6	24.5	2.6	

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: EDINGER AVE/ ICD

File Name : H1405097
Site Code : 00005701
Start Date : 6/12/2014
Page No : 2

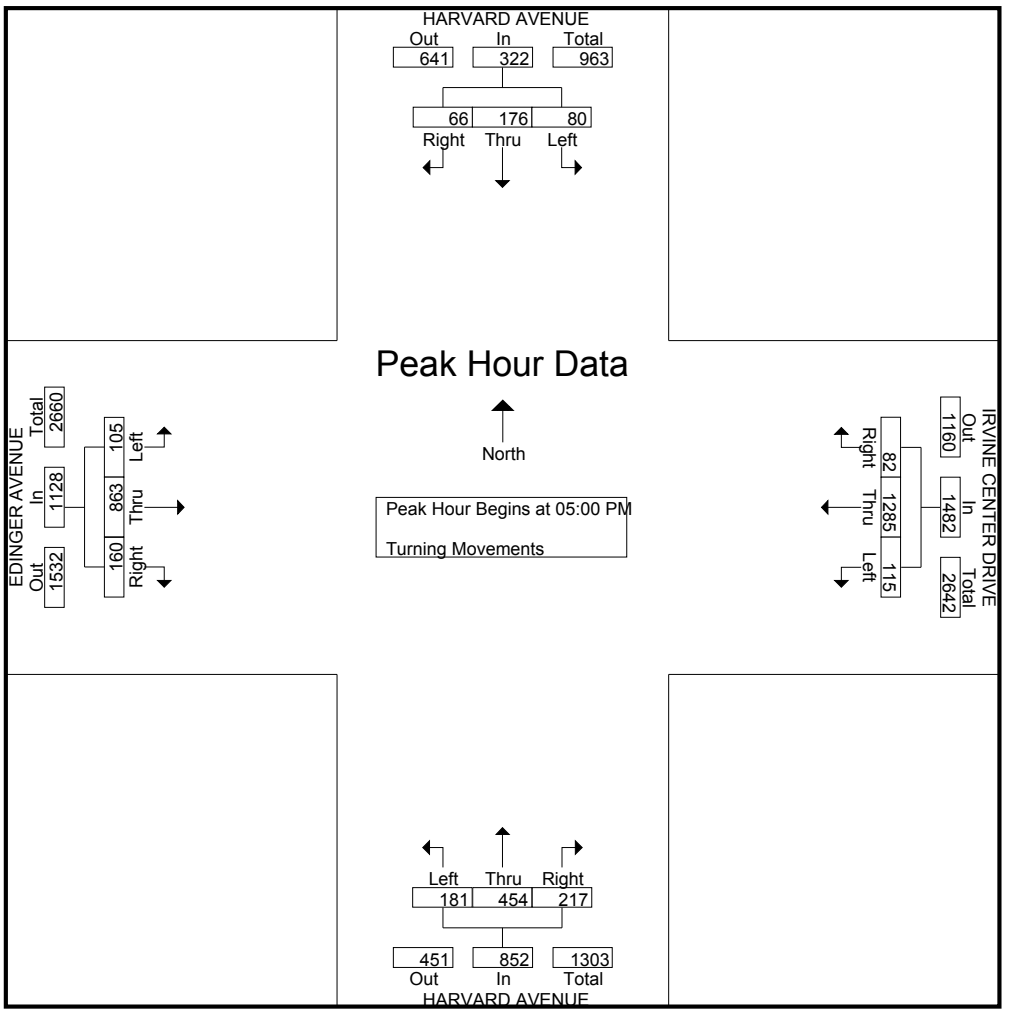
	HARVARD AVENUE Southbound				IRVINE CENTER DRIVE Westbound				HARVARD AVENUE Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**32**	**64**	18	**114**	7	**188**	18	**213**	**21**	13	31	65	16	**170**	4	**190**	**582**
08:00 AM	28	52	8	88	10	182	18	210	19	21	**41**	**81**	23	145	9	177	556
08:15 AM	27	51	19	97	10	161	**20**	191	9	20	29	58	25	129	**12**	166	512
08:30 AM	27	56	**20**	103	**12**	134	16	162	17	**27**	30	74	**35**	115	10	160	499
Total Volume	114	223	65	402	39	665	72	776	66	81	131	278	99	559	35	693	2149
% App. Total	28.4	55.5	16.2		5	85.7	9.3		23.7	29.1	47.1		14.3	80.7	5.1		
PHF	.891	.871	.813	.882	.813	.884	.900	.911	.786	.750	.799	.858	.707	.822	.729	.912	.923



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: EDINGER AVE/ ICD

File Name : H1405097
Site Code : 00005701
Start Date : 6/12/2014
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	HARVARD AVENUE Southbound				IRVINE CENTER DRIVE Westbound				HARVARD AVENUE Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	40	23	79	18	234	22	274	31	101	36	168	35	177	**29**	241	762
05:15 PM	12	49	16	77	20	**357**	25	402	52	101	48	201	42	**241**	24	**307**	987
05:30 PM	**22**	35	16	73	21	354	27	402	**77**	124	42	**243**	**44**	210	29	283	1001
05:45 PM	16	**52**	**25**	**93**	**23**	340	**41**	**404**	57	**128**	**55**	240	39	235	23	297	**1034**
Total Volume	66	176	80	322	82	1285	115	1482	217	454	181	852	160	863	105	1128	3784
% App. Total	20.5	54.7	24.8		5.5	86.7	7.8		25.5	53.3	21.2		14.2	76.5	9.3		
PHF	.750	.846	.800	.866	.891	.900	.701	.917	.705	.887	.823	.877	.909	.895	.905	.919	.915



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: IRVINE CENTER DRIVE

File Name : H1404061
Site Code : 226
Start Date : 6/3/2014
Page No : 1

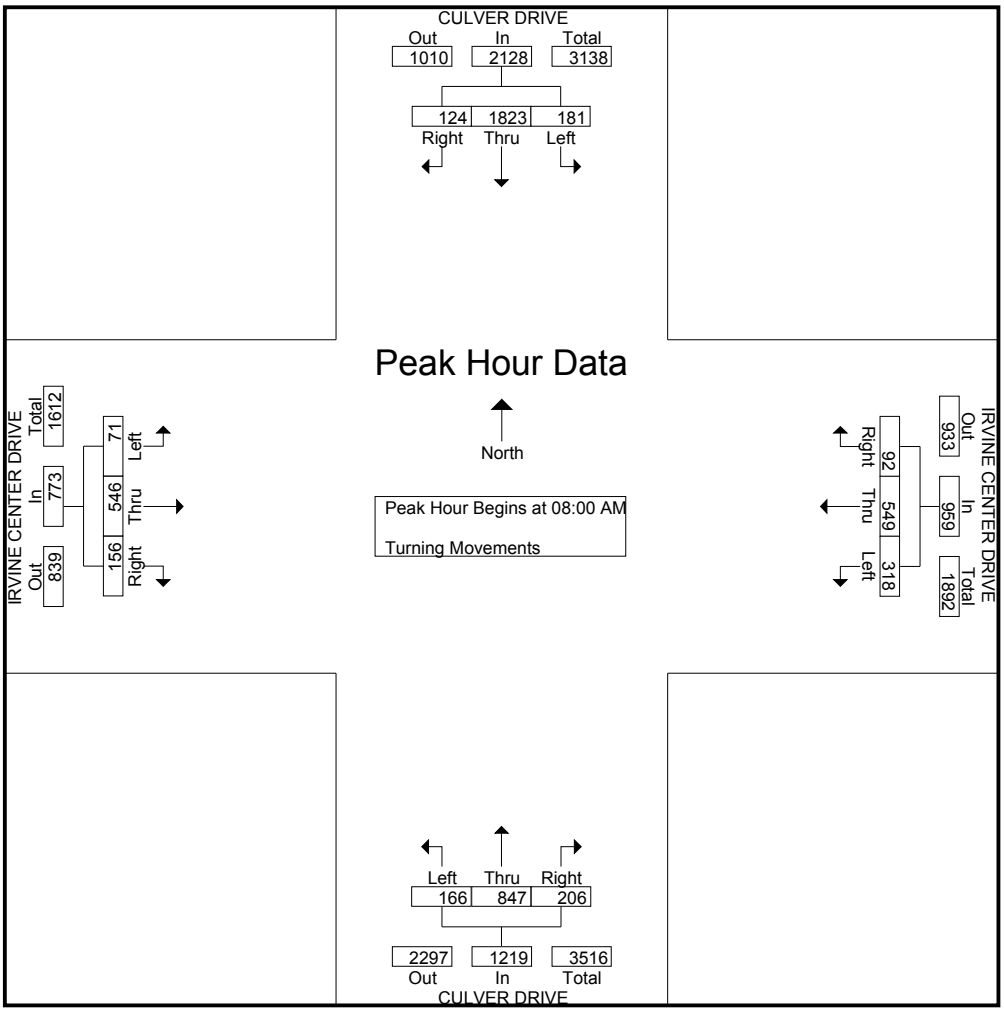
Groups Printed- Turning Movements

	CULVER DRIVE Southbound			IRVINE CENTER DRIVE Westbound			CULVER DRIVE Northbound			IRVINE CENTER DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	6	163	21	16	62	31	17	170	26	22	65	32	631
07:15 AM	13	247	41	27	88	50	30	278	41	25	81	27	948
07:30 AM	28	369	38	15	103	73	24	120	34	36	112	26	978
07:45 AM	33	430	37	21	158	81	38	152	48	59	136	23	1216
Total	80	1209	137	79	411	235	109	720	149	142	394	108	3773
08:00 AM	33	433	38	19	118	79	50	170	44	30	138	9	1161
08:15 AM	34	473	36	15	131	79	50	228	40	46	143	20	1295
08:30 AM	23	459	51	30	133	73	39	225	42	45	125	11	1256
08:45 AM	34	458	56	28	167	87	67	224	40	35	140	31	1367
Total	124	1823	181	92	549	318	206	847	166	156	546	71	5079
*** BREAK ***													
04:00 PM	15	240	39	84	304	85	23	198	35	22	70	28	1143
04:15 PM	33	240	50	34	218	37	20	212	31	24	98	31	1028
04:30 PM	25	258	36	42	208	33	48	322	64	32	90	23	1181
04:45 PM	23	291	55	74	193	37	74	420	41	30	134	44	1416
Total	96	1029	180	234	923	192	165	1152	171	108	392	126	4768
05:00 PM	26	296	59	36	213	76	69	429	79	50	138	30	1501
05:15 PM	28	286	52	31	287	68	103	451	93	39	169	40	1647
05:30 PM	34	295	69	46	297	83	90	479	88	52	170	46	1749
05:45 PM	40	314	81	50	214	58	84	482	86	37	171	46	1663
Total	128	1191	261	163	1011	285	346	1841	346	178	648	162	6560
Grand Total	428	5252	759	568	2894	1030	826	4560	832	584	1980	467	20180
Apprch %	6.6	81.6	11.8	12.6	64.4	22.9	13.3	73.3	13.4	19.3	65.3	15.4	
Total %	2.1	26	3.8	2.8	14.3	5.1	4.1	22.6	4.1	2.9	9.8	2.3	

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: IRVINE CENTER DRIVE

File Name : H1404061
Site Code : 226
Start Date : 6/3/2014
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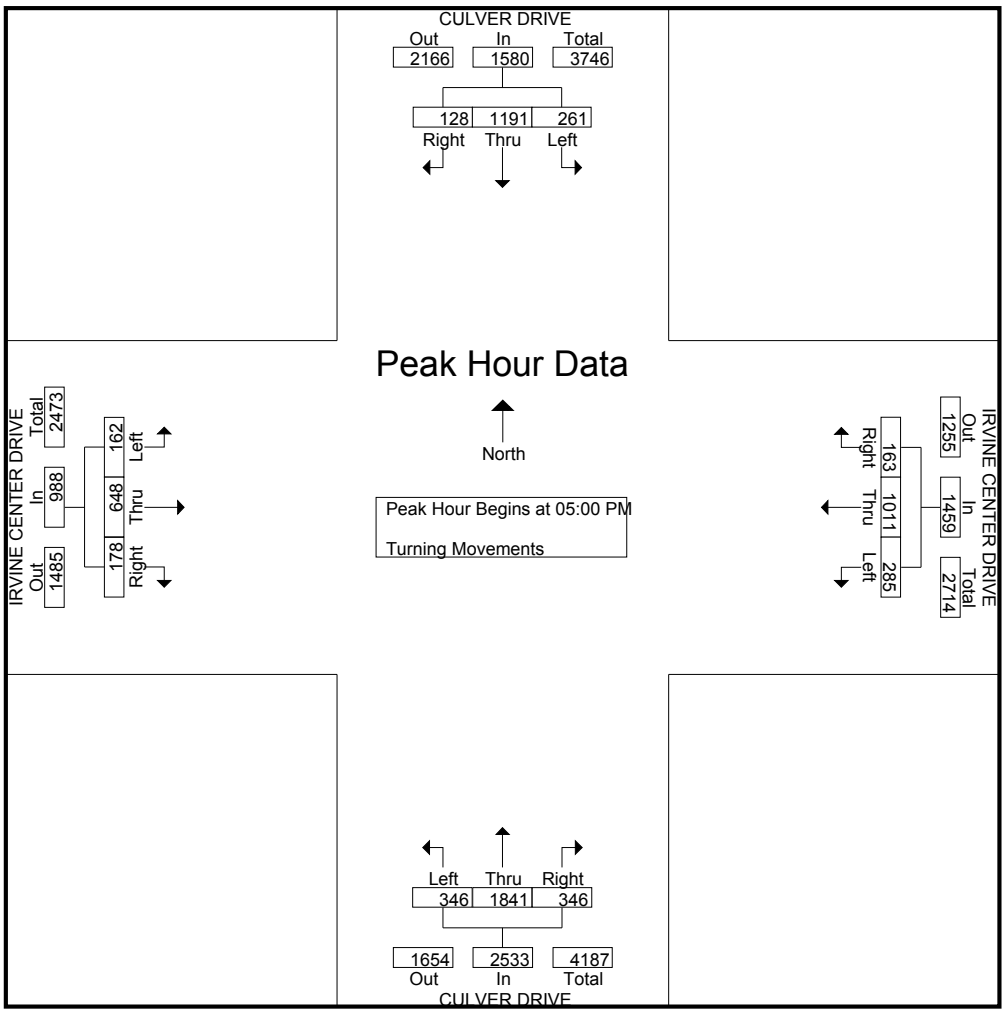
	CULVER DRIVE Southbound				IRVINE CENTER DRIVE Westbound				CULVER DRIVE Northbound				IRVINE CENTER DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	33	433	38	504	19	118	79	216	50	170	**44**	264	30	138	9	177	1161
08:15 AM	**34**	**473**	36	543	15	131	79	225	50	**228**	40	318	**46**	**143**	20	**209**	1295
08:30 AM	23	459	51	533	**30**	133	73	236	39	225	42	306	45	125	11	181	1256
08:45 AM	34	458	**56**	**548**	28	**167**	**87**	**282**	**67**	224	40	**331**	35	140	**31**	206	**1367**
Total Volume	124	1823	181	2128	92	549	318	959	206	847	166	1219	156	546	71	773	5079
% App. Total	5.8	85.7	8.5		9.6	57.2	33.2		16.9	69.5	13.6		20.2	70.6	9.2		
PHF	.912	.964	.808	.971	.767	.822	.914	.850	.769	.929	.943	.921	.848	.955	.573	.925	.929



City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: IRVINE CENTER DRIVE

File Name : H1404061
Site Code : 226
Start Date : 6/3/2014
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	CULVER DRIVE Southbound				IRVINE CENTER DRIVE Westbound				CULVER DRIVE Northbound				IRVINE CENTER DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	26	296	59	381	36	213	76	325	69	429	79	577	50	138	30	218	1501
05:15 PM	28	286	52	366	31	287	68	386	**103**	451	**93**	647	39	169	40	248	1647
05:30 PM	34	295	69	398	46	**297**	**83**	**426**	90	479	88	**657**	**52**	170	**46**	**268**	**1749**
05:45 PM	**40**	**314**	**81**	**435**	**50**	214	58	322	84	**482**	86	652	37	**171**	46	254	1663
Total Volume	128	1191	261	1580	163	1011	285	1459	346	1841	346	2533	178	648	162	988	6560
% App. Total	8.1	75.4	16.5		11.2	69.3	19.5		13.7	72.7	13.7		18	65.6	16.4		
PHF	.800	.948	.806	.908	.815	.851	.858	.856	.840	.955	.930	.964	.856	.947	.880	.922	.938



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: PASEO WESTPARK

File Name : H1405098
Site Code : 00005724
Start Date : 6/12/2014
Page No : 1

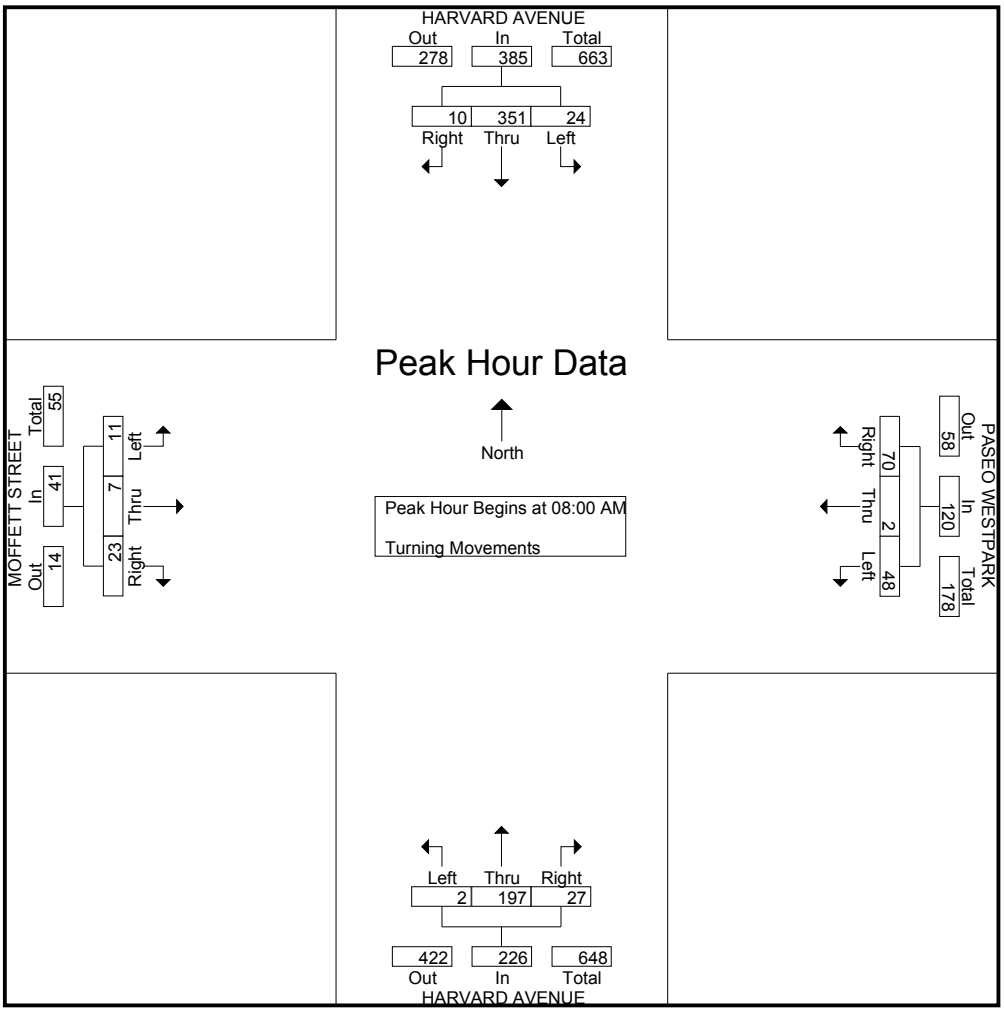
Groups Printed- Turning Movements

	HARVARD AVENUE Southbound			PASEO WESTPARK Westbound			HARVARD AVENUE Northbound			MOFFETT STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	31	7	5	0	4	2	35	0	1	1	0	86
07:15 AM	2	45	3	9	0	8	3	39	1	2	2	1	115
07:30 AM	3	70	4	14	0	11	0	44	1	2	1	3	153
07:45 AM	3	86	6	24	0	15	6	35	0	7	2	5	189
Total	8	232	20	52	0	38	11	153	2	12	6	9	543
08:00 AM	2	93	8	18	1	7	6	54	0	7	1	5	202
08:15 AM	2	86	4	18	1	15	5	38	0	5	1	2	177
08:30 AM	3	94	8	15	0	8	8	53	0	7	2	3	201
08:45 AM	3	78	4	19	0	18	8	52	2	4	3	1	192
Total	10	351	24	70	2	48	27	197	2	23	7	11	772
*** BREAK ***													
04:00 PM	11	61	7	12	1	3	15	99	3	0	2	2	216
04:15 PM	5	58	8	12	3	8	21	111	0	9	1	4	240
04:30 PM	6	69	5	12	2	8	10	132	1	1	1	2	249
04:45 PM	5	68	3	17	0	3	12	171	2	0	4	4	289
Total	27	256	23	53	6	22	58	513	6	10	8	12	994
05:00 PM	8	71	12	9	1	11	16	181	4	3	0	3	319
05:15 PM	11	100	3	14	3	3	13	205	4	5	3	4	368
05:30 PM	9	81	9	16	4	2	22	211	7	3	1	5	370
05:45 PM	10	111	11	19	1	6	14	202	7	5	2	6	394
Total	38	363	35	58	9	22	65	799	22	16	6	18	1451
Grand Total	83	1202	102	233	17	130	161	1662	32	61	27	50	3760
Apprch %	6	86.7	7.4	61.3	4.5	34.2	8.7	89.6	1.7	44.2	19.6	36.2	
Total %	2.2	32	2.7	6.2	0.5	3.5	4.3	44.2	0.9	1.6	0.7	1.3	

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: PASEO WESTPARK

File Name : H1405098
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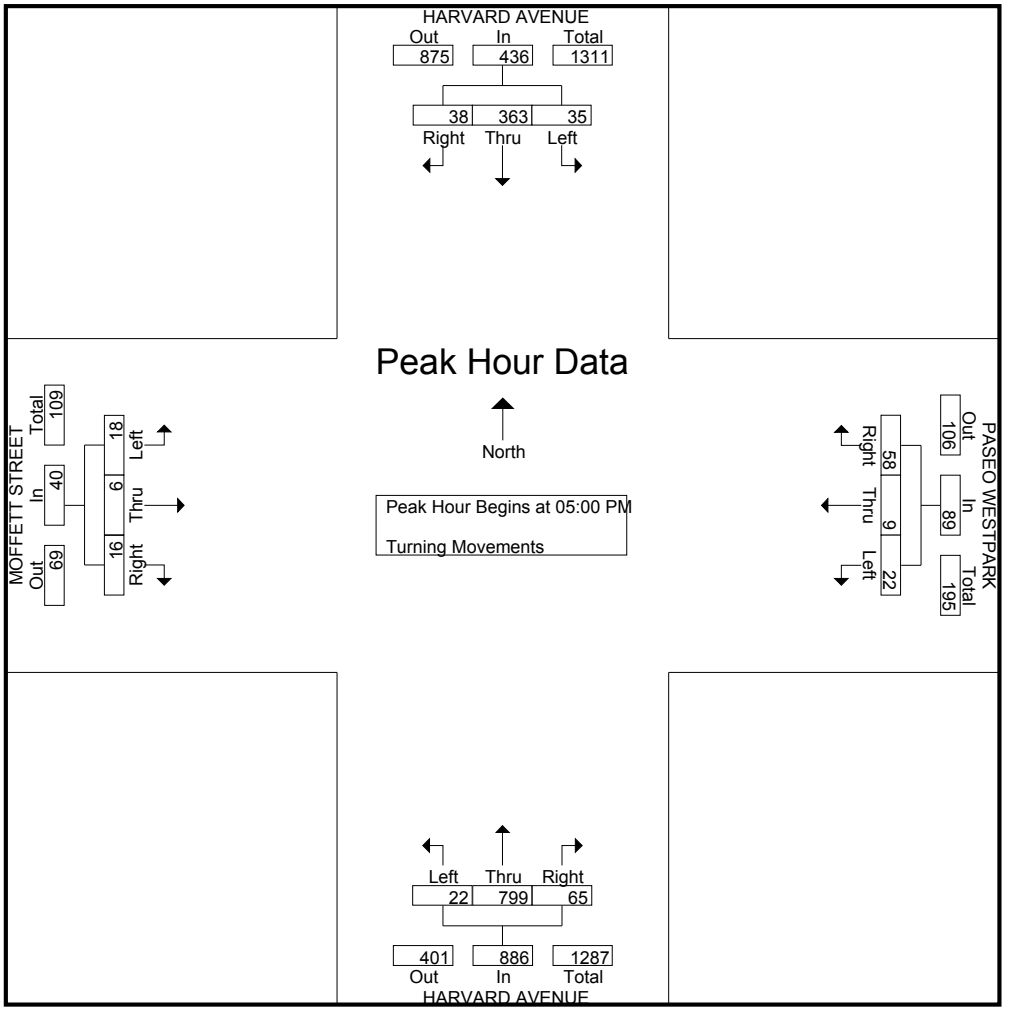
	HARVARD AVENUE Southbound				PASEO WESTPARK Westbound				HARVARD AVENUE Northbound				MOFFETT STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	93	**8**	103	18	**1**	7	26	6	**54**	0	60	**7**	1	**5**	**13**	**202**
08:15 AM	2	86	4	92	18	1	15	34	5	38	0	43	5	1	2	8	177
08:30 AM	**3**	**94**	8	**105**	15	0	8	23	**8**	53	0	61	7	2	3	12	201
08:45 AM	3	78	4	85	**19**	0	**18**	**37**	8	52	**2**	**62**	4	**3**	1	8	192
Total Volume	10	351	24	385	70	2	48	120	27	197	2	226	23	7	11	41	772
% App. Total	2.6	91.2	6.2		58.3	1.7	40		11.9	87.2	0.9		56.1	17.1	26.8		
PHF	.833	.934	.750	.917	.921	.500	.667	.811	.844	.912	.250	.911	.821	.583	.550	.788	.955



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: PASEO WESTPARK

File Name : H1405098
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	HARVARD AVENUE Southbound				PASEO WESTPARK Westbound				HARVARD AVENUE Northbound				MOFFETT STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	8	71	**12**	91	9	1	**11**	21	16	181	4	201	3	0	3	6	319
05:15 PM	**11**	100	3	114	14	3	3	20	13	205	4	222	**5**	**3**	4	12	368
05:30 PM	9	81	9	99	16	**4**	2	22	**22**	**211**	**7**	**240**	3	1	5	9	370
05:45 PM	10	**111**	11	**132**	**19**	1	6	**26**	14	202	7	223	5	2	**6**	**13**	**394**
Total Volume	38	363	35	436	58	9	22	89	65	799	22	886	16	6	18	40	1451
% App. Total	8.7	83.3	8		65.2	10.1	24.7		7.3	90.2	2.5		40	15	45		
PHF	.864	.818	.729	.826	.763	.563	.500	.856	.739	.947	.786	.923	.800	.500	.750	.769	.921



City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405079
Site Code : 00001944
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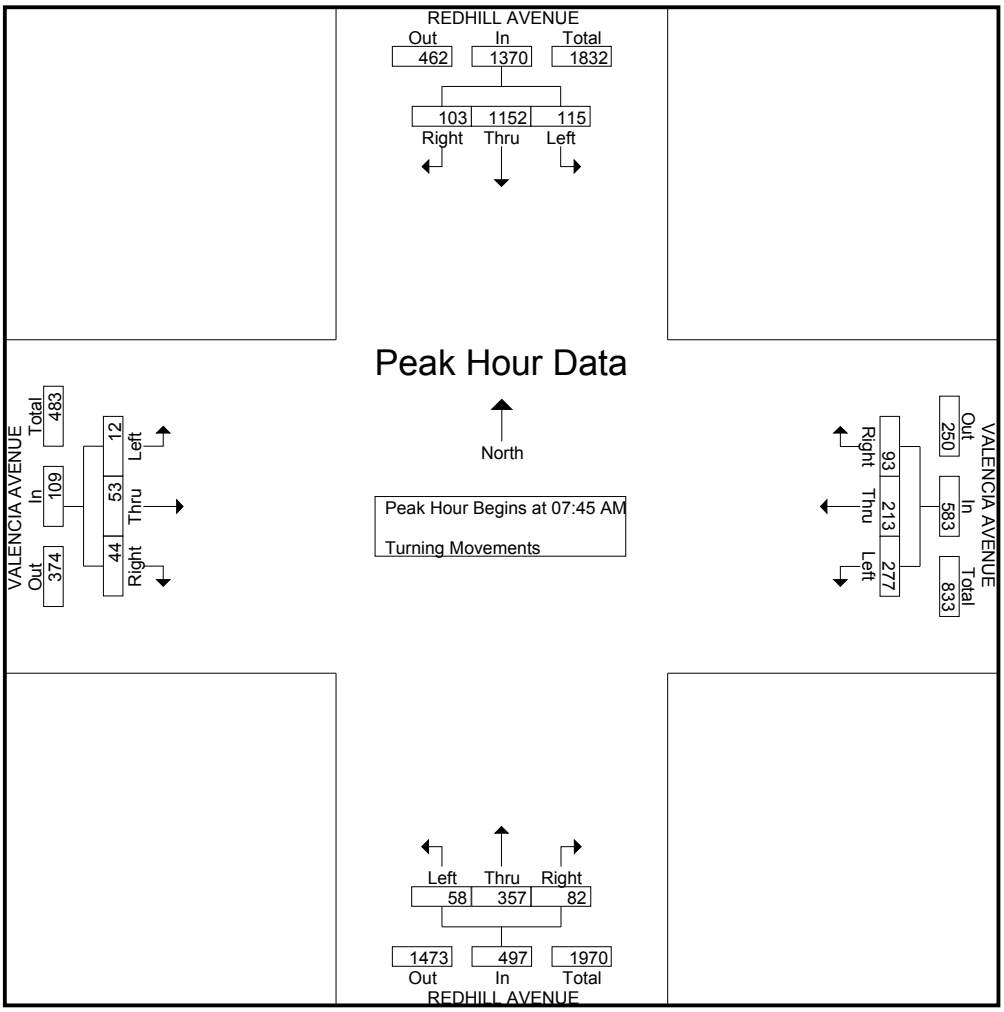
Groups Printed- Turning Movements

	REDHILL AVENUE Southbound			VALENCIA AVENUE Westbound			REDHILL AVENUE Northbound			VALENCIA AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	15	198	11	6	34	39	14	65	4	10	6	1	403
07:15 AM	17	220	9	18	31	36	16	60	3	15	8	4	437
07:30 AM	13	266	29	25	47	52	26	69	10	12	15	1	565
07:45 AM	16	325	36	29	54	81	22	88	12	10	17	1	691
Total	61	1009	85	78	166	208	78	282	29	47	46	7	2096
08:00 AM	20	275	43	26	67	62	22	93	23	15	13	6	665
08:15 AM	42	297	21	30	44	59	20	87	12	9	6	0	627
08:30 AM	25	255	15	8	48	75	18	89	11	10	17	5	576
08:45 AM	15	269	17	17	47	62	14	76	13	9	10	3	552
Total	102	1096	96	81	206	258	74	345	59	43	46	14	2420
*** BREAK ***													
04:00 PM	7	125	14	13	26	17	45	425	51	12	27	21	783
04:15 PM	5	97	7	14	39	39	41	433	54	8	18	18	773
04:30 PM	9	115	30	12	19	18	55	448	50	10	23	21	810
04:45 PM	8	111	14	11	11	28	74	449	41	11	28	14	800
Total	29	448	65	50	95	102	215	1755	196	41	96	74	3166
05:00 PM	14	117	23	13	13	31	73	448	48	18	39	5	842
05:15 PM	11	98	17	12	24	37	103	527	46	15	49	21	960
05:30 PM	9	112	21	12	8	23	110	534	52	14	35	13	943
05:45 PM	9	128	21	11	28	29	79	452	60	8	32	13	870
Total	43	455	82	48	73	120	365	1961	206	55	155	52	3615
Grand Total	235	3008	328	257	540	688	732	4343	490	186	343	147	11297
Apprch %	6.6	84.2	9.2	17.3	36.4	46.3	13.2	78	8.8	27.5	50.7	21.7	
Total %	2.1	26.6	2.9	2.3	4.8	6.1	6.5	38.4	4.3	1.6	3	1.3	

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405079
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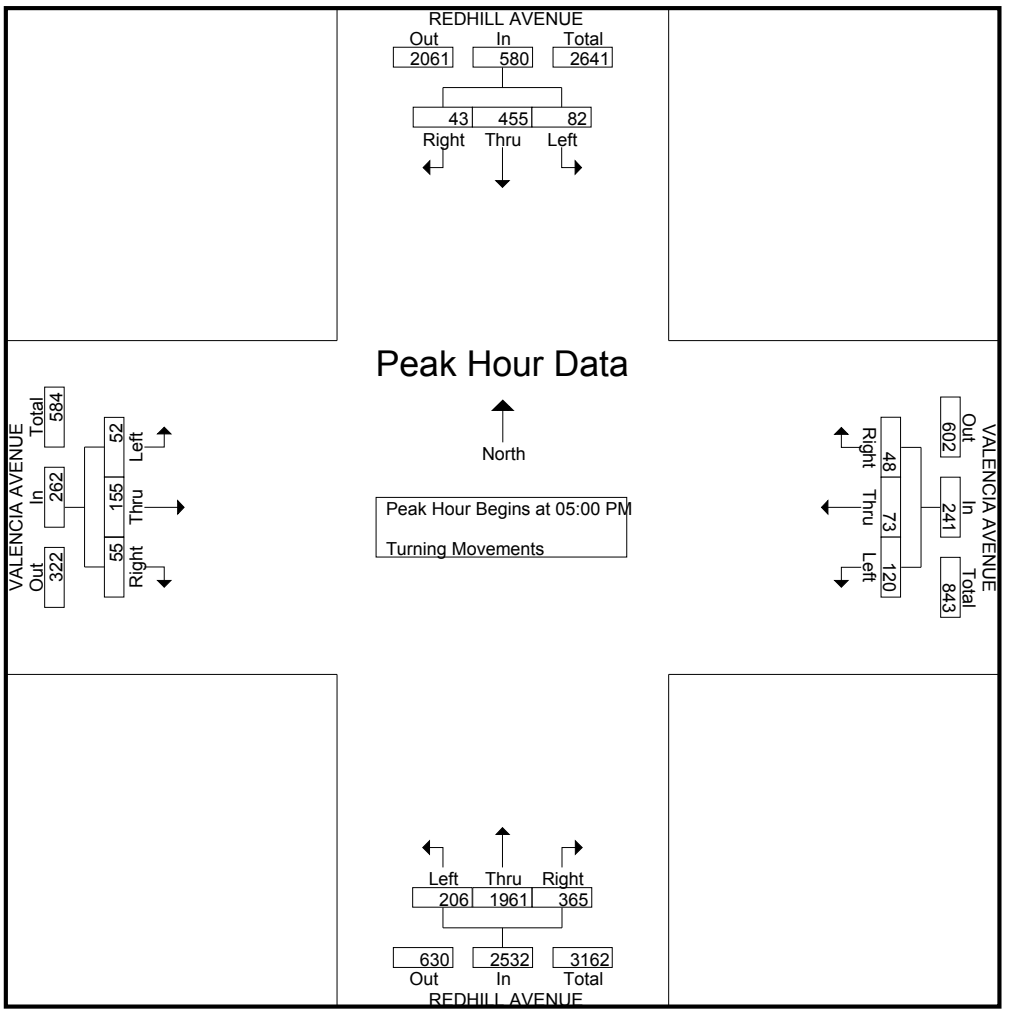
	REDHILL AVENUE Southbound				VALENCIA AVENUE Westbound				REDHILL AVENUE Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	16	**325**	36	**377**	29	54	**81**	**164**	**22**	88	12	122	10	**17**	1	28	**691**
08:00 AM	20	275	**43**	338	26	**67**	62	155	22	**93**	**23**	**138**	**15**	13	**6**	**34**	665
08:15 AM	**42**	297	21	360	**30**	44	59	133	20	87	12	119	9	6	0	15	627
08:30 AM	25	255	15	295	8	48	75	131	18	89	11	118	10	17	5	32	576
Total Volume	103	1152	115	1370	93	213	277	583	82	357	58	497	44	53	12	109	2559
% App. Total	7.5	84.1	8.4		16	36.5	47.5		16.5	71.8	11.7		40.4	48.6	11		
PHF	.613	.886	.669	.908	.775	.795	.855	.889	.932	.960	.630	.900	.733	.779	.500	.801	.926



City: TUSTIN
N-S Direction: REDHILL AVENUE
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	REDHILL AVENUE Southbound				VALENCIA AVENUE Westbound				REDHILL AVENUE Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**14**	117	**23**	154	**13**	13	31	57	73	448	48	569	**18**	39	5	62	842
05:15 PM	11	98	17	126	12	24	**37**	**73**	103	527	46	676	15	**49**	**21**	**85**	**960**
05:30 PM	9	112	21	142	12	8	23	43	**110**	**534**	52	**696**	14	35	13	62	943
05:45 PM	9	**128**	21	**158**	11	**28**	29	68	79	452	**60**	591	8	32	13	53	870
Total Volume	43	455	82	580	48	73	120	241	365	1961	206	2532	55	155	52	262	3615
% App. Total	7.4	78.4	14.1		19.9	30.3	49.8		14.4	77.4	8.1		21	59.2	19.8		
PHF	.768	.889	.891	.918	.923	.652	.811	.825	.830	.918	.858	.909	.764	.791	.619	.771	.941



City: TUSTIN
N-S Direction: ARMSTRONG AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405086
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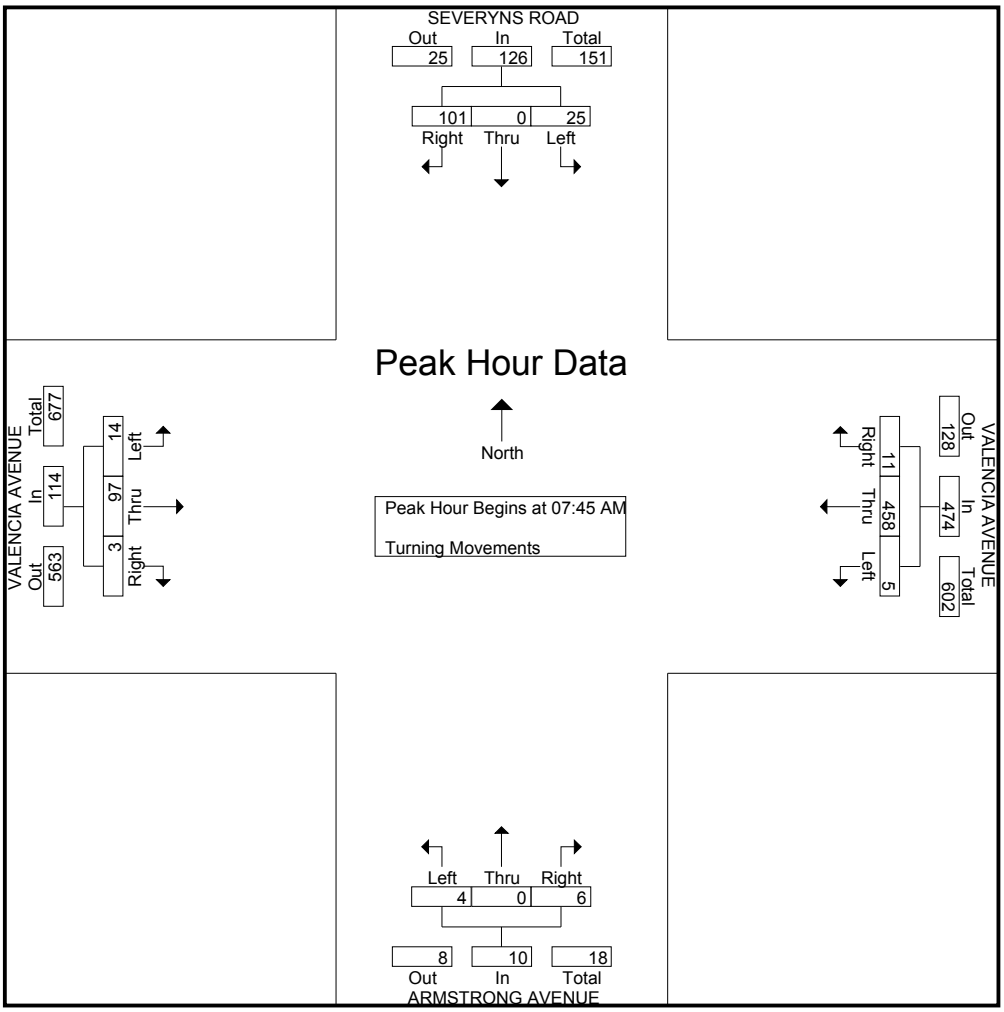
Groups Printed- Turning Movements

	SEVERYNS ROAD Southbound			VALENCIA AVENUE Westbound			ARMSTRONG AVENUE Northbound			VALENCIA AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	13	0	4	0	58	0	8	0	1	2	22	3	111
07:15 AM	15	0	3	1	91	0	7	0	0	4	19	3	143
07:30 AM	22	0	8	0	93	0	2	0	1	4	16	1	147
07:45 AM	33	0	7	2	145	2	1	0	0	2	38	2	232
Total	83	0	22	3	387	2	18	0	2	12	95	9	633
08:00 AM	20	0	6	1	115	2	2	0	2	0	25	4	177
08:15 AM	28	0	5	5	99	1	2	0	0	0	22	4	166
08:30 AM	20	0	7	3	99	0	1	0	2	1	12	4	149
08:45 AM	20	0	6	2	85	0	0	0	2	1	16	3	135
Total	88	0	24	11	398	3	5	0	6	2	75	15	627
*** BREAK ***													
04:00 PM	9	0	2	7	28	0	11	0	25	2	67	5	156
04:15 PM	6	0	1	5	39	0	3	0	26	1	85	10	176
04:30 PM	9	0	4	4	40	1	2	0	3	0	95	8	166
04:45 PM	6	1	3	7	34	0	0	0	1	2	93	12	159
Total	30	1	10	23	141	1	16	0	55	5	340	35	657
05:00 PM	6	0	4	2	40	0	0	1	0	2	155	13	223
05:15 PM	5	0	1	6	48	3	0	0	0	10	156	18	247
05:30 PM	6	2	3	9	42	0	0	0	1	20	134	18	235
05:45 PM	5	0	4	12	49	4	0	0	1	8	102	21	206
Total	22	2	12	29	179	7	0	1	2	40	547	70	911
Grand Total	223	3	68	66	1105	13	39	1	65	59	1057	129	2828
Apprch %	75.9	1	23.1	5.6	93.3	1.1	37.1	1	61.9	4.7	84.9	10.4	
Total %	7.9	0.1	2.4	2.3	39.1	0.5	1.4	0	2.3	2.1	37.4	4.6	

City: TUSTIN
N-S Direction: ARMSTRONG AVENUE
E-W Direction: VALENCIA AVENUE

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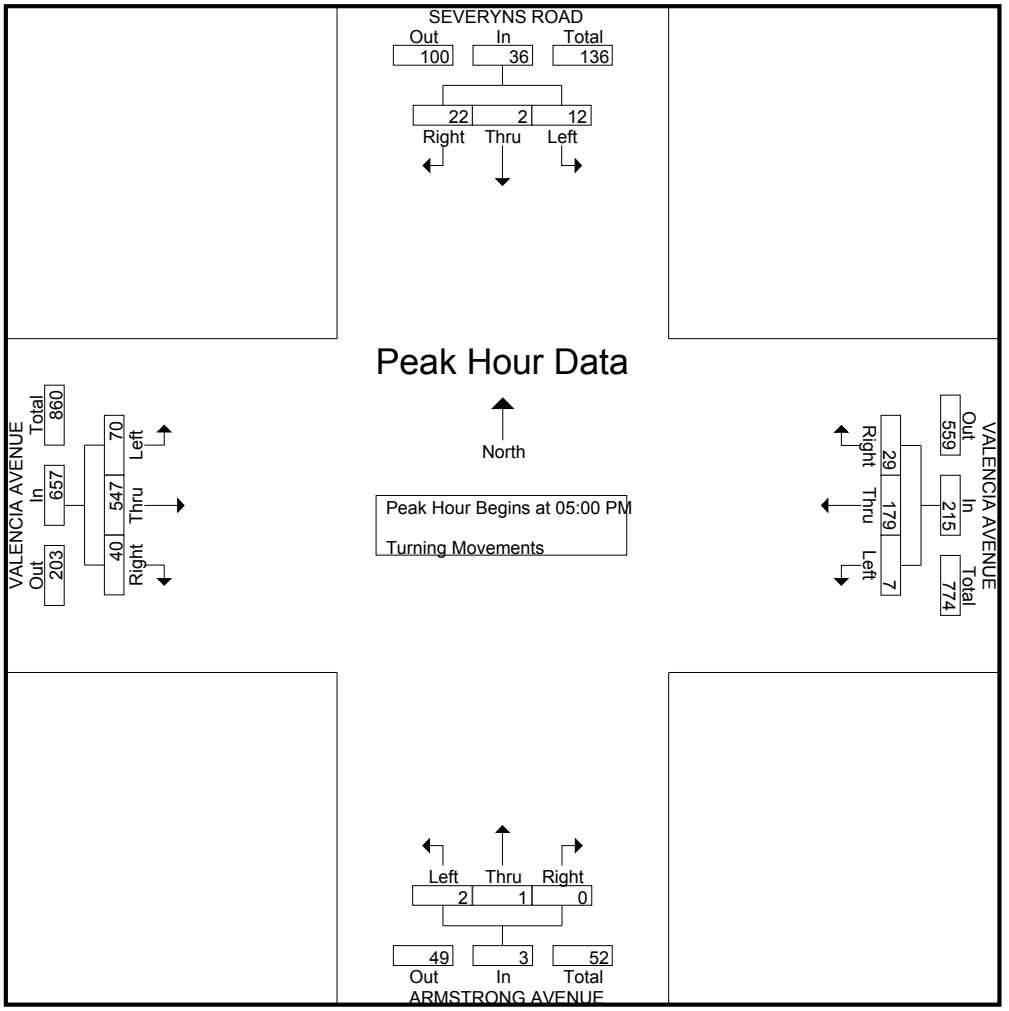
	SEVERYNS ROAD Southbound				VALENCIA AVENUE Westbound				ARMSTRONG AVENUE Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**33**	0	**7**	**40**	2	**145**	**2**	**149**	1	0	0	1	**2**	**38**	2	**42**	**232**
08:00 AM	20	0	6	26	1	115	2	118	**2**	0	**2**	**4**	0	25	**4**	29	177
08:15 AM	28	0	5	33	**5**	99	1	105	2	0	0	2	0	22	4	26	166
08:30 AM	20	0	7	27	3	99	0	102	1	0	2	3	1	12	4	17	149
Total Volume	101	0	25	126	11	458	5	474	6	0	4	10	3	97	14	114	724
% App. Total	80.2	0	19.8		2.3	96.6	1.1		60	0	40		2.6	85.1	12.3		
PHF	.765	.000	.893	.788	.550	.790	.625	.795	.750	.000	.500	.625	.375	.638	.875	.679	.780



City: TUSTIN
N-S Direction: ARMSTRONG AVENUE
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	SEVERYNS ROAD Southbound				VALENCIA AVENUE Westbound				ARMSTRONG AVENUE Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**6**	0	**4**	10	2	40	0	42	0	**1**	0	**1**	2	155	13	170	223
05:15 PM	5	0	1	6	6	48	3	57	0	0	0	0	10	**156**	18	**184**	**247**
05:30 PM	6	**2**	3	**11**	9	42	0	51	0	0	**1**	1	**20**	134	18	172	235
05:45 PM	5	0	4	9	**12**	**49**	**4**	**65**	0	0	1	1	8	102	**21**	131	206
Total Volume	22	2	12	36	29	179	7	215	0	1	2	3	40	547	70	657	911
% App. Total	61.1	5.6	33.3		13.5	83.3	3.3		0	33.3	66.7		6.1	83.3	10.7		
PHF	.917	.250	.750	.818	.604	.913	.438	.827	.000	.250	.500	.750	.500	.877	.833	.893	.922



City: TUSTIN
N-S Direction: KENSINGTON DRIVE
E-W Direction: VALENCIA AVENUE

File Name : H1405085
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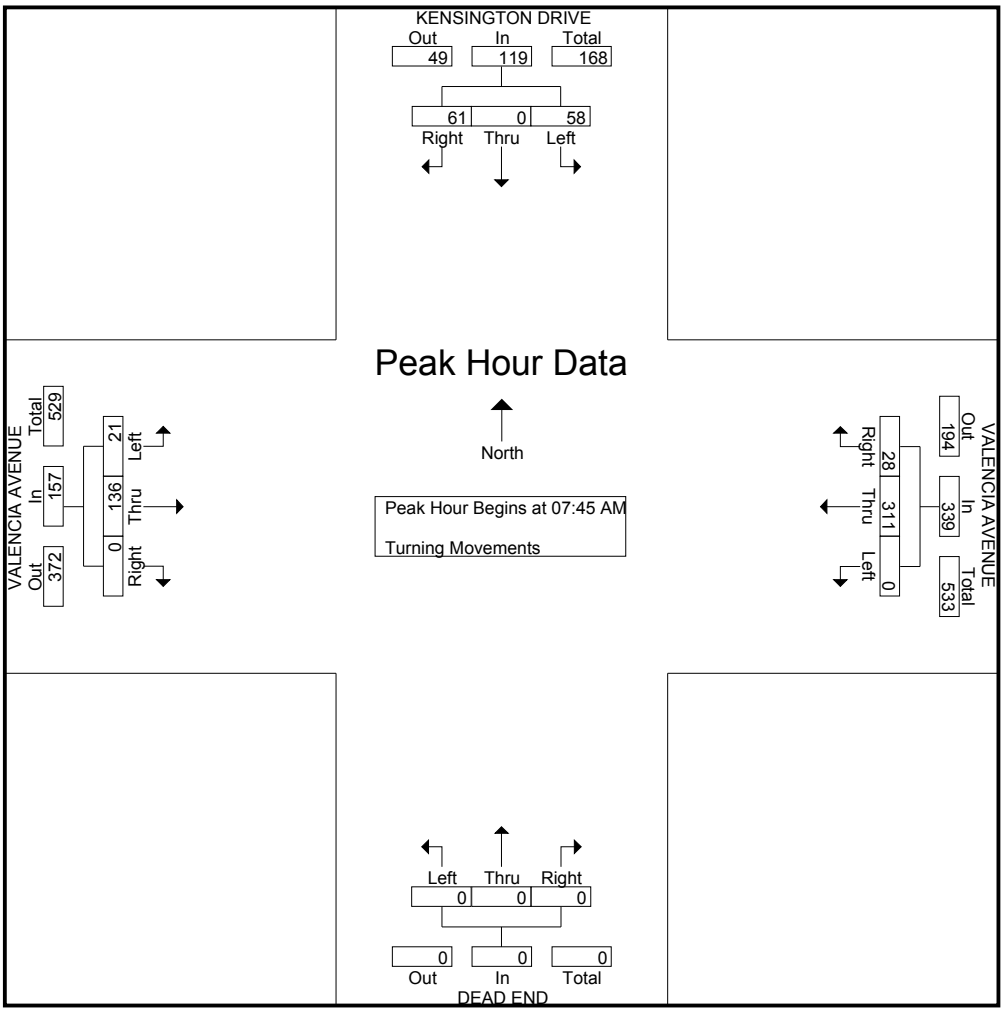
Groups Printed- Turning Movements

	KENSINGTON DRIVE Southbound			VALENCIA AVENUE Westbound			DEAD END Northbound			VALENCIA AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	9	0	11	3	32	0	0	0	0	0	32	6	93
07:15 AM	22	0	13	3	57	0	0	0	0	0	19	8	122
07:30 AM	18	0	21	7	59	0	0	0	0	0	34	3	142
07:45 AM	17	0	19	10	96	0	0	0	0	0	35	7	184
Total	66	0	64	23	244	0	0	0	0	0	120	24	541
08:00 AM	17	0	16	8	58	0	0	0	0	0	38	3	140
08:15 AM	18	0	12	4	78	0	0	0	0	0	26	5	143
08:30 AM	9	0	11	6	79	0	0	0	0	0	37	6	148
08:45 AM	12	0	13	11	75	0	0	0	0	0	32	4	147
Total	56	0	52	29	290	0	0	0	0	0	133	18	578
*** BREAK ***													
04:00 PM	6	0	11	21	31	0	0	0	0	0	51	15	135
04:15 PM	7	0	19	9	35	0	0	0	0	0	68	15	153
04:30 PM	6	0	13	15	41	0	0	0	0	0	80	21	176
04:45 PM	9	0	14	23	46	0	0	0	0	0	59	21	172
Total	28	0	57	68	153	0	0	0	0	0	258	72	636
05:00 PM	18	0	26	26	41	0	0	0	0	0	131	37	279
05:15 PM	23	0	29	25	47	0	0	0	0	0	102	31	257
05:30 PM	19	0	15	20	51	0	0	0	0	0	84	41	230
05:45 PM	18	0	20	25	36	0	0	0	0	0	79	32	210
Total	78	0	90	96	175	0	0	0	0	0	396	141	976
Grand Total	228	0	263	216	862	0	0	0	0	0	907	255	2731
Apprch %	46.4	0	53.6	20	80	0	0	0	0	0	78.1	21.9	
Total %	8.3	0	9.6	7.9	31.6	0	0	0	0	0	33.2	9.3	

City: TUSTIN
N-S Direction: KENSINGTON DRIVE
E-W Direction: VALENCIA AVENUE

File Name : H1405085
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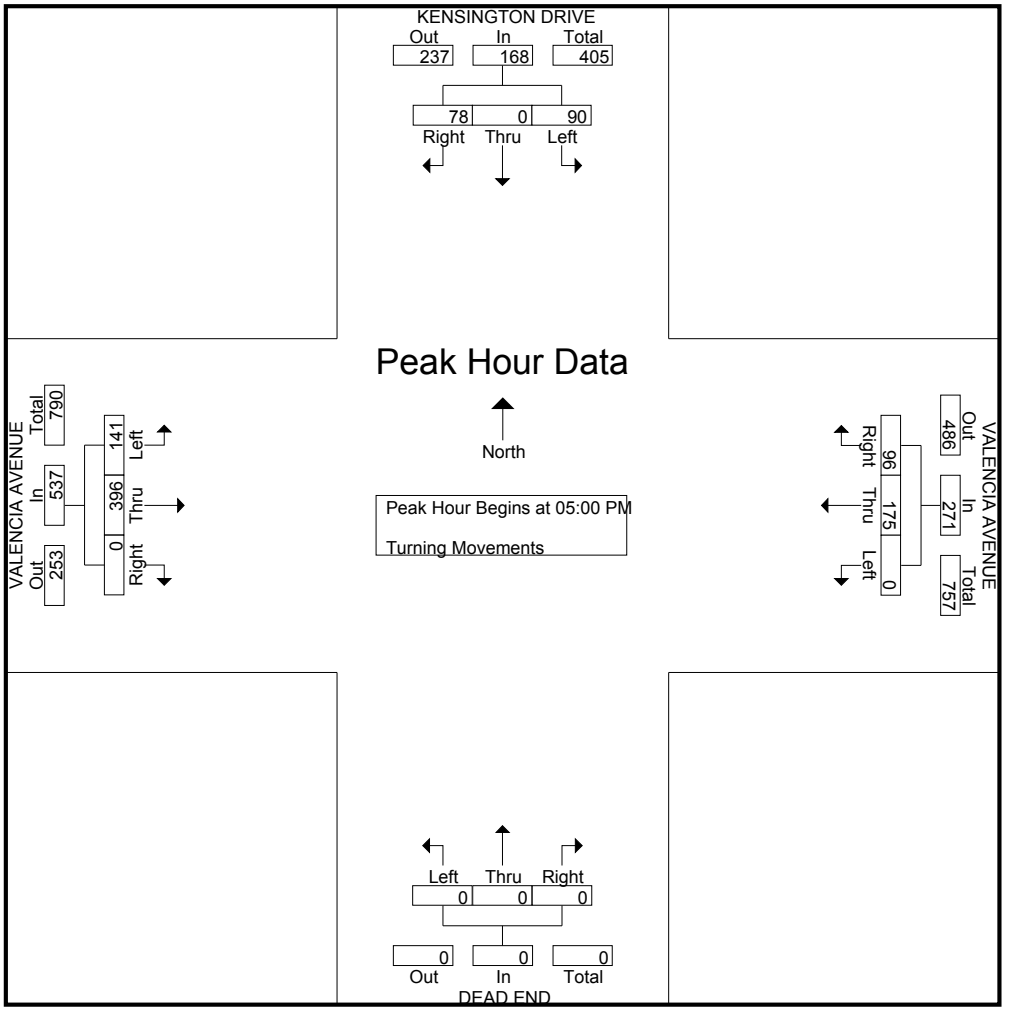
	KENSINGTON DRIVE Southbound				VALENCIA AVENUE Westbound				DEAD END Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	17	0	**19**	**36**	**10**	**96**	0	**106**	0	0	0	0	0	35	**7**	42	**184**
08:00 AM	17	0	16	33	8	58	0	66	0	0	0	0	0	**38**	3	41	140
08:15 AM	**18**	0	12	30	4	78	0	82	0	0	0	0	0	26	5	31	143
08:30 AM	9	0	11	20	6	79	0	85	0	0	0	0	0	37	6	**43**	148
Total Volume	61	0	58	119	28	311	0	339	0	0	0	0	0	136	21	157	615
% App. Total	51.3	0	48.7		8.3	91.7	0		0	0	0		0	86.6	13.4		
PHF	.847	.000	.763	.826	.700	.810	.000	.800	.000	.000	.000	.000	.000	.895	.750	.913	.836



City: TUSTIN
N-S Direction: KENSINGTON DRIVE
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	KENSINGTON DRIVE Southbound				VALENCIA AVENUE Westbound				DEAD END Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	18	0	26	44	**26**	41	0	67	0	0	0	0	0	**131**	37	**168**	**279**
05:15 PM	**23**	0	**29**	**52**	25	47	0	**72**	0	0	0	0	0	102	31	133	257
05:30 PM	19	0	15	34	20	**51**	0	71	0	0	0	0	0	84	**41**	125	230
05:45 PM	18	0	20	38	25	36	0	61	0	0	0	0	0	79	32	111	210
Total Volume	78	0	90	168	96	175	0	271	0	0	0	0	0	396	141	537	976
% App. Total	46.4	0	53.6		35.4	64.6	0		0	0	0		0	73.7	26.3		
PHF	.848	.000	.776	.808	.923	.858	.000	.941	.000	.000	.000	.000	.000	.756	.860	.799	.875



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: VALENCIA AVENUE

File Name : H1405081
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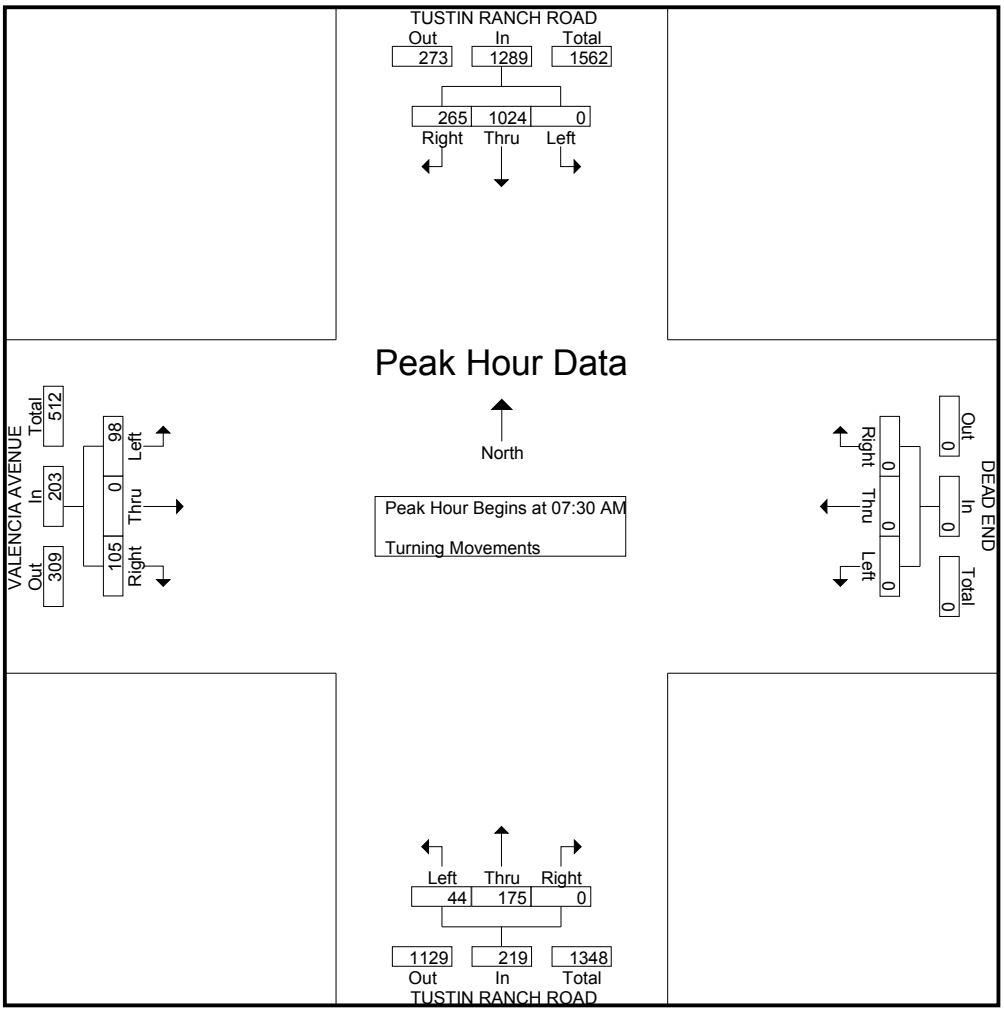
Groups Printed- Turning Movements

	TUSTIN RANCH ROAD Southbound			DEAD END Westbound			TUSTIN RANCH ROAD Northbound			VALENCIA AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	44	147	0	0	0	0	0	29	6	15	0	28	269
07:15 AM	33	175	0	0	0	0	0	31	6	12	0	22	279
07:30 AM	55	244	0	0	0	0	0	43	8	19	0	18	387
07:45 AM	77	299	0	0	0	0	0	42	15	37	0	23	493
Total	209	865	0	0	0	0	0	145	35	83	0	91	1428
08:00 AM	74	231	0	0	0	0	0	53	10	28	0	30	426
08:15 AM	59	250	0	0	0	0	0	37	11	21	0	27	405
08:30 AM	66	193	0	0	0	0	0	34	11	12	0	22	338
08:45 AM	71	228	0	0	0	0	0	38	9	25	0	22	393
Total	270	902	0	0	0	0	0	162	41	86	0	101	1562
*** BREAK ***													
04:00 PM	16	80	0	0	0	0	0	240	24	15	0	39	414
04:15 PM	14	90	0	0	0	0	0	309	30	21	0	58	522
04:30 PM	22	67	0	0	0	0	0	286	21	19	0	60	475
04:45 PM	19	90	0	0	0	0	0	302	35	18	0	82	546
Total	71	327	0	0	0	0	0	1137	110	73	0	239	1957
05:00 PM	31	103	0	0	0	0	0	323	32	16	0	83	588
05:15 PM	29	112	0	0	0	0	0	345	38	34	0	117	675
05:30 PM	30	106	0	0	0	0	0	319	32	20	0	77	584
05:45 PM	34	116	0	0	0	0	0	337	34	27	0	96	644
Total	124	437	0	0	0	0	0	1324	136	97	0	373	2491
Grand Total	674	2531	0	0	0	0	0	2768	322	339	0	804	7438
Apprch %	21	79	0	0	0	0	0	89.6	10.4	29.7	0	70.3	
Total %	9.1	34	0	0	0	0	0	37.2	4.3	4.6	0	10.8	

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: VALENCIA AVENUE

File Name : H1405081
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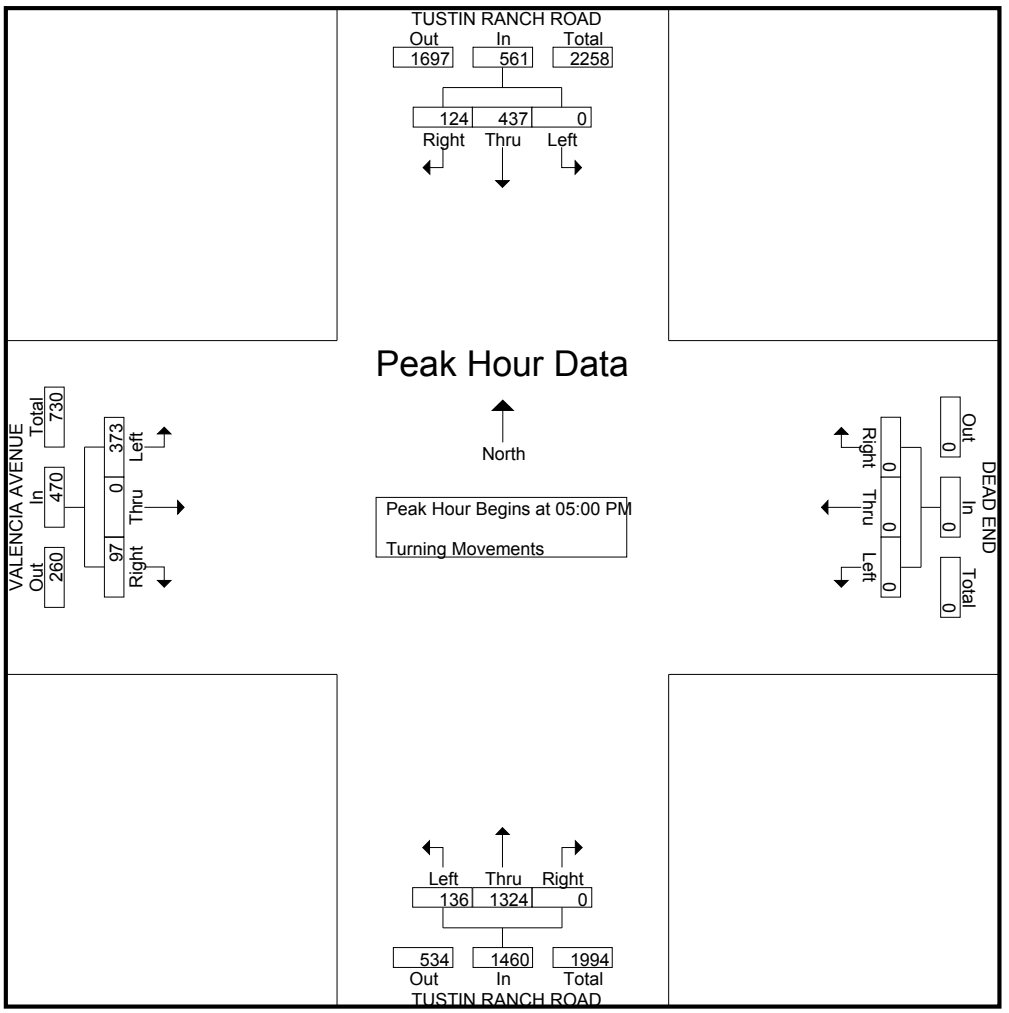
	TUSTIN RANCH ROAD Southbound				DEAD END Westbound				TUSTIN RANCH ROAD Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	55	244	0	299	0	0	0	0	0	43	8	51	19	0	18	37	387
07:45 AM	**77**	**299**	0	**376**	0	0	0	0	0	42	**15**	57	**37**	0	23	**60**	**493**
08:00 AM	74	231	0	305	0	0	0	0	0	**53**	10	**63**	28	0	**30**	58	426
08:15 AM	59	250	0	309	0	0	0	0	0	37	11	48	21	0	27	48	405
Total Volume	265	1024	0	1289	0	0	0	0	0	175	44	219	105	0	98	203	1711
% App. Total	20.6	79.4	0		0	0	0		0	79.9	20.1		51.7	0	48.3		
PHF	.860	.856	.000	.857	.000	.000	.000	.000	.000	.825	.733	.869	.709	.000	.817	.846	.868



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
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	TUSTIN RANCH ROAD Southbound				DEAD END Westbound				TUSTIN RANCH ROAD Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	31	103	0	134	0	0	0	0	0	323	32	355	16	0	83	99	588
05:15 PM	29	112	0	141	0	0	0	0	0	**345**	**38**	**383**	**34**	0	**117**	**151**	**675**
05:30 PM	30	106	0	136	0	0	0	0	0	319	32	351	20	0	77	97	584
05:45 PM	**34**	**116**	0	**150**	0	0	0	0	0	337	34	371	27	0	96	123	644
Total Volume	124	437	0	561	0	0	0	0	0	1324	136	1460	97	0	373	470	2491
% App. Total	22.1	77.9	0		0	0	0		0	90.7	9.3		20.6	0	79.4		
PHF	.912	.942	.000	.935	.000	.000	.000	.000	.000	.959	.895	.953	.713	.000	.797	.778	.923



City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405072
Site Code : 00000000
Start Date : 6/10/2014
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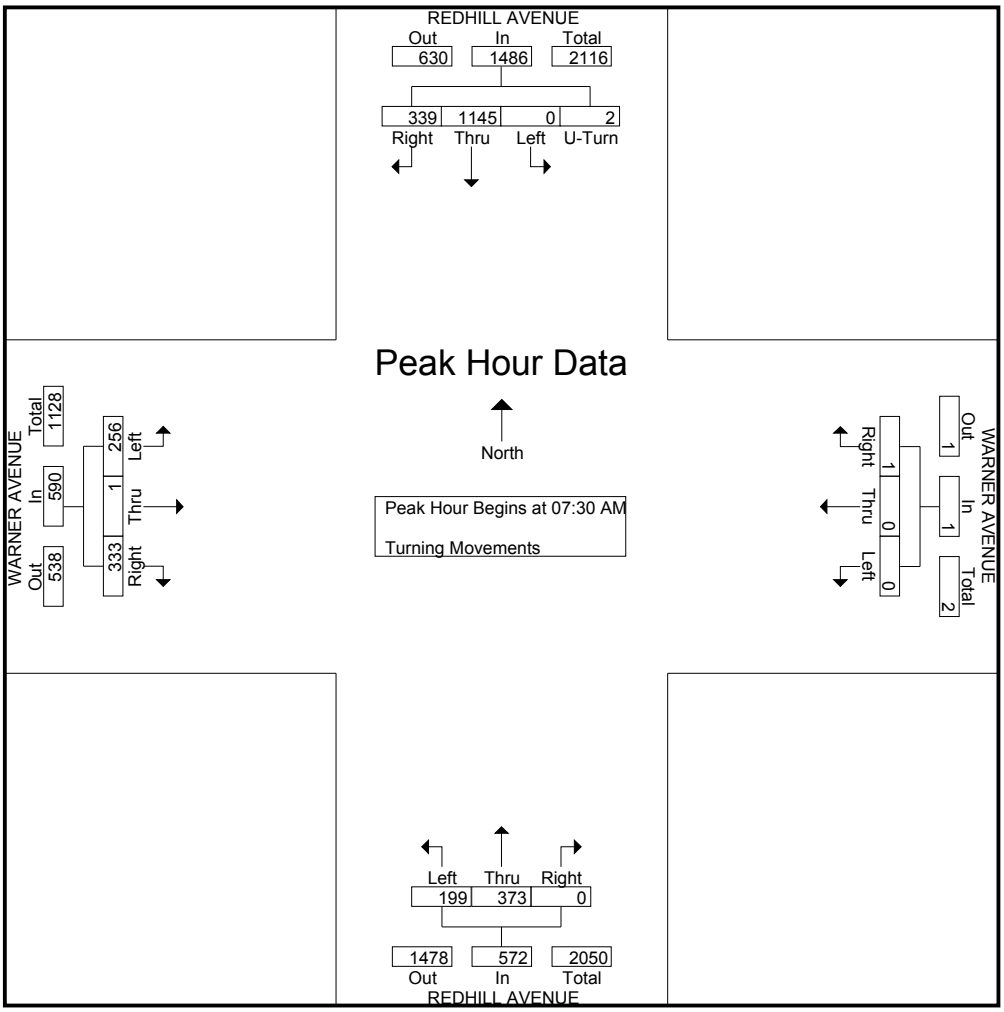
Groups Printed- Turning Movements

	REDHILL AVENUE Southbound				WARNER AVENUE Westbound			REDHILL AVENUE Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	59	153	1	0	0	0	0	0	56	26	50	0	51	396
07:15 AM	71	184	0	0	0	0	0	0	54	33	60	0	47	449
07:30 AM	80	227	0	0	0	0	0	0	79	48	88	0	76	598
07:45 AM	95	301	0	0	1	0	0	0	119	61	103	1	61	742
Total	305	865	1	0	1	0	0	0	308	168	301	1	235	2185
08:00 AM	80	313	0	2	0	0	0	0	95	50	64	0	59	663
08:15 AM	84	304	0	0	0	0	0	0	80	40	78	0	60	646
08:30 AM	72	262	0	1	0	0	0	0	87	38	67	0	40	567
08:45 AM	69	246	0	0	0	0	0	0	85	40	64	0	40	544
Total	305	1125	0	3	0	0	0	0	347	168	273	0	199	2420
*** BREAK ***														
04:00 PM	67	117	0	3	0	0	0	0	455	120	45	0	103	910
04:15 PM	70	112	0	0	0	0	0	0	444	78	48	0	79	831
04:30 PM	104	126	0	1	0	0	0	0	441	130	55	0	133	990
04:45 PM	62	132	0	3	0	0	0	0	505	104	55	0	90	951
Total	303	487	0	7	0	0	0	0	1845	432	203	0	405	3682
05:00 PM	103	144	0	5	0	0	0	0	491	163	76	0	138	1120
05:15 PM	70	123	0	5	0	0	0	0	512	147	59	0	139	1055
05:30 PM	83	126	0	0	0	0	0	0	522	107	70	0	106	1014
05:45 PM	55	141	0	2	0	0	0	0	513	113	46	0	76	946
Total	311	534	0	12	0	0	0	0	2038	530	251	0	459	4135
Grand Total	1224	3011	1	22	1	0	0	0	4538	1298	1028	1	1298	12422
Apprch %	28.7	70.7	0	0.5	100	0	0	0	77.8	22.2	44.2	0	55.8	
Total %	9.9	24.2	0	0.2	0	0	0	0	36.5	10.4	8.3	0	10.4	

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: WARNER AVENUE

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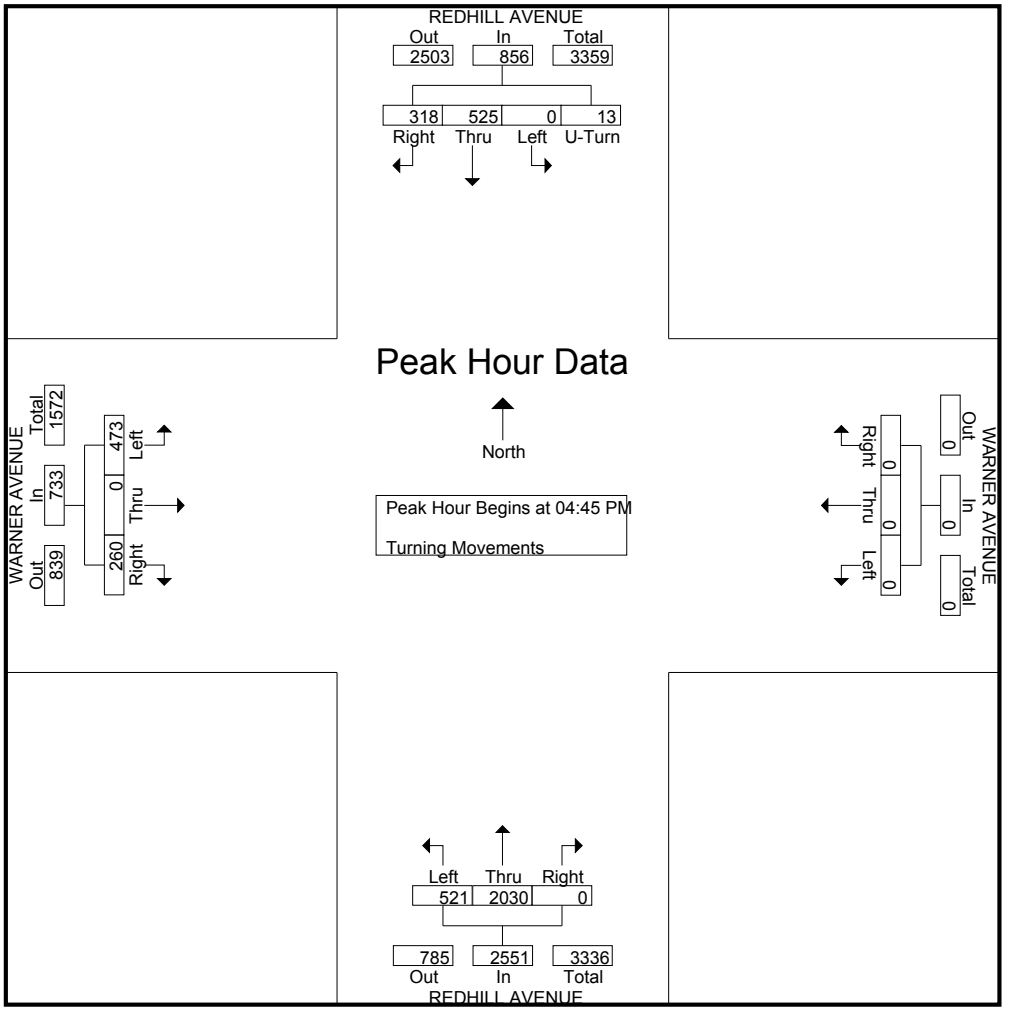
	REDHILL AVENUE Southbound					WARNER AVENUE Westbound				REDHILL AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30 AM																		
07:30 AM	80	227	0	0	307	0	0	0	0	0	79	48	127	88	0	**76**	164	598
07:45 AM	**95**	301	0	0	**396**	**1**	0	0	**1**	0	**119**	**61**	**180**	**103**	**1**	61	**165**	**742**
08:00 AM	80	**313**	0	**2**	395	0	0	0	0	0	95	50	145	64	0	59	123	663
08:15 AM	84	304	0	0	388	0	0	0	0	0	80	40	120	78	0	60	138	646
Total Volume	339	1145	0	2	1486	1	0	0	1	0	373	199	572	333	1	256	590	2649
% App. Total	22.8	77.1	0	0.1		100	0	0		0	65.2	34.8		56.4	0.2	43.4		
PHF	.892	.915	.000	.250	.938	.250	.000	.000	.250	.000	.784	.816	.794	.808	.250	.842	.894	.893



City: TUSTIN
N-S Direction: REDHILL AVENUE
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File Name : H1405072
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	REDHILL AVENUE Southbound					WARNER AVENUE Westbound				REDHILL AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:45 PM																		
04:45 PM	62	132	0	3	197	0	0	0	0	0	505	104	609	55	0	90	145	951
05:00 PM	**103**	**144**	0	**5**	**252**	0	0	0	0	0	491	**163**	654	**76**	0	138	**214**	**1120**
05:15 PM	70	123	0	5	198	0	0	0	0	0	512	147	**659**	59	0	**139**	198	1055
05:30 PM	83	126	0	0	209	0	0	0	0	0	**522**	107	629	70	0	106	176	1014
Total Volume	318	525	0	13	856	0	0	0	0	0	2030	521	2551	260	0	473	733	4140
% App. Total	37.1	61.3	0	1.5		0	0	0		0	79.6	20.4		35.5	0	64.5		
PHF	.772	.911	.000	.650	.849	.000	.000	.000	.000	.000	.972	.799	.968	.855	.000	.851	.856	.924



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WARNER AVENUE

File Name : H1405082
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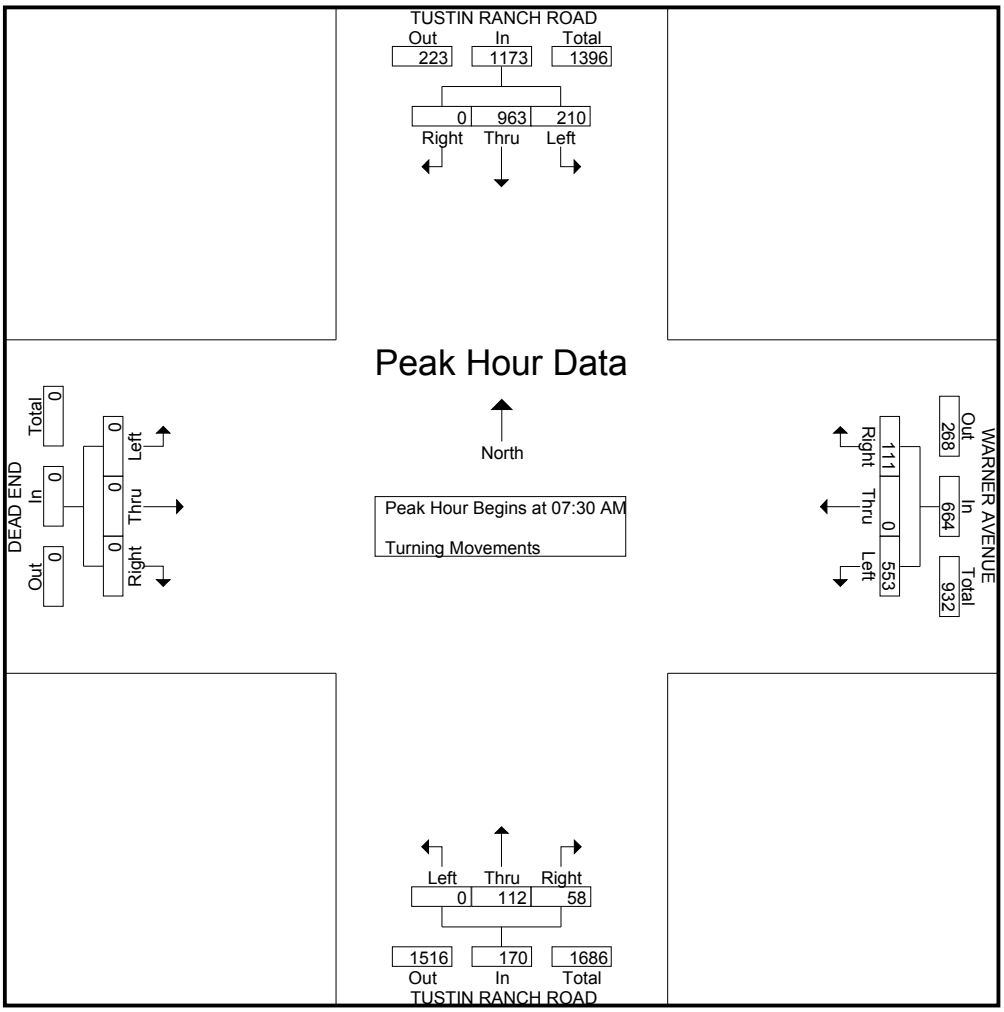
Groups Printed- Turning Movements

	TUSTIN RANCH ROAD Southbound			WARNER AVENUE Westbound			TUSTIN RANCH ROAD Northbound			DEAD END Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	125	42	16	0	73	15	13	0	0	0	0	284
07:15 AM	0	181	30	26	0	99	11	28	0	0	0	0	375
07:30 AM	0	260	67	29	0	124	11	17	0	0	0	0	508
07:45 AM	0	252	61	24	0	171	20	43	0	0	0	0	571
Total	0	818	200	95	0	467	57	101	0	0	0	0	1738
08:00 AM	0	234	43	22	0	131	14	27	0	0	0	0	471
08:15 AM	0	217	39	36	0	127	13	25	0	0	0	0	457
08:30 AM	0	192	31	20	0	110	16	41	0	0	0	0	410
08:45 AM	0	180	32	16	0	102	14	28	0	0	0	0	372
Total	0	823	145	94	0	470	57	121	0	0	0	0	1710
*** BREAK ***													
04:00 PM	0	75	31	57	0	36	98	225	0	0	0	0	522
04:15 PM	0	59	42	54	0	34	82	239	0	0	0	0	510
04:30 PM	0	47	43	74	0	45	94	232	0	0	0	0	535
04:45 PM	0	53	40	65	0	40	106	323	0	0	0	0	627
Total	0	234	156	250	0	155	380	1019	0	0	0	0	2194
05:00 PM	0	82	51	100	0	51	117	286	0	0	0	0	687
05:15 PM	0	96	58	97	0	39	123	288	0	0	0	0	701
05:30 PM	0	86	58	87	0	46	128	293	0	0	0	0	698
05:45 PM	0	76	56	76	0	41	89	229	0	0	0	0	567
Total	0	340	223	360	0	177	457	1096	0	0	0	0	2653
Grand Total	0	2215	724	799	0	1269	951	2337	0	0	0	0	8295
Apprch %	0	75.4	24.6	38.6	0	61.4	28.9	71.1	0	0	0	0	
Total %	0	26.7	8.7	9.6	0	15.3	11.5	28.2	0	0	0	0	

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WARNER AVENUE

File Name : H1405082
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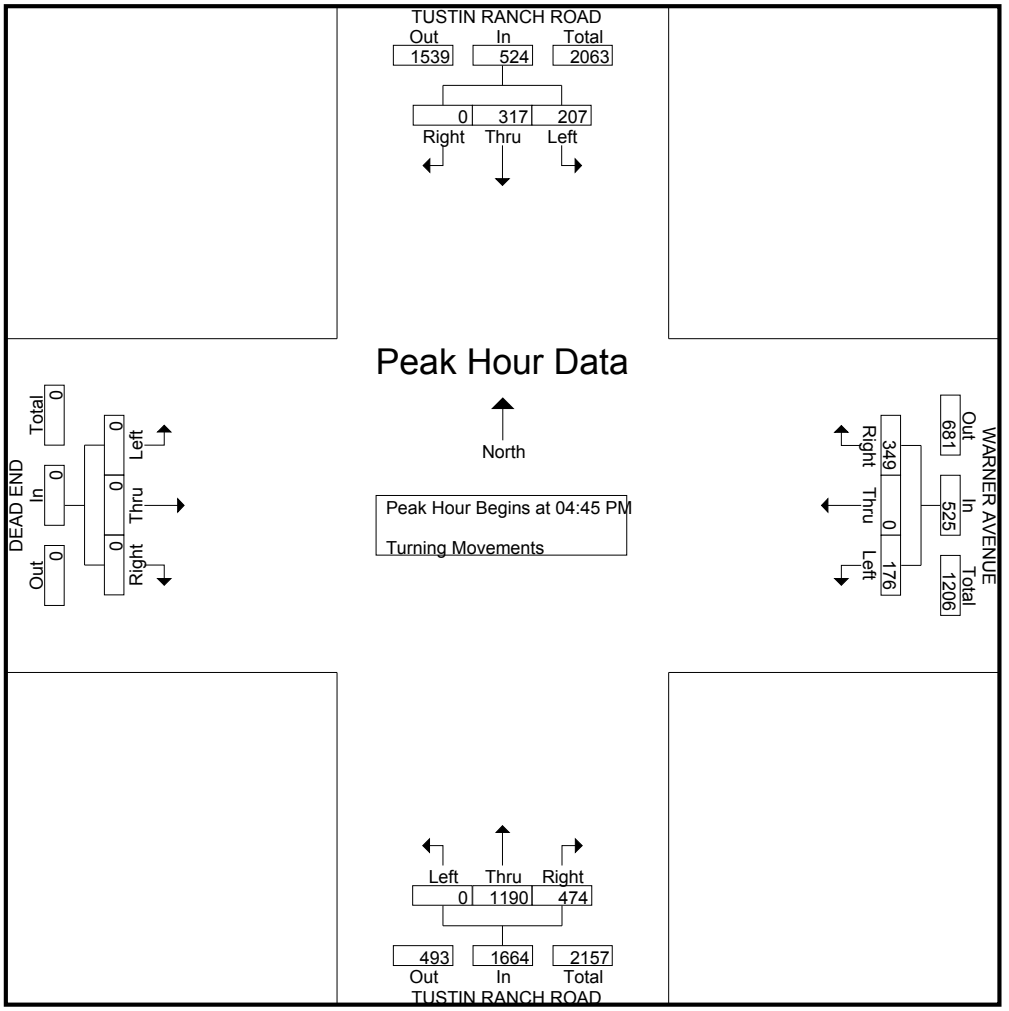
	TUSTIN RANCH ROAD Southbound				WARNER AVENUE Westbound				TUSTIN RANCH ROAD Northbound				DEAD END Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**260**	**67**	**327**	29	0	124	153	11	17	0	28	0	0	0	0	508
07:45 AM	0	252	61	313	24	0	**171**	**195**	**20**	**43**	0	**63**	0	0	0	0	**571**
08:00 AM	0	234	43	277	22	0	131	153	14	27	0	41	0	0	0	0	471
08:15 AM	0	217	39	256	**36**	0	127	163	13	25	0	38	0	0	0	0	457
Total Volume	0	963	210	1173	111	0	553	664	58	112	0	170	0	0	0	0	2007
% App. Total	0	82.1	17.9		16.7	0	83.3		34.1	65.9	0		0	0	0		
PHF	.000	.926	.784	.897	.771	.000	.808	.851	.725	.651	.000	.675	.000	.000	.000	.000	.879



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WARNER AVENUE

File Name : H1405082
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	TUSTIN RANCH ROAD Southbound				WARNER AVENUE Westbound				TUSTIN RANCH ROAD Northbound				DEAD END Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	53	40	93	65	0	40	105	106	**323**	0	**429**	0	0	0	0	627
05:00 PM	0	82	51	133	**100**	0	**51**	**151**	117	286	0	403	0	0	0	0	687
05:15 PM	0	**96**	**58**	**154**	97	0	39	136	123	288	0	411	0	0	0	0	**701**
05:30 PM	0	86	58	144	87	0	46	133	**128**	293	0	421	0	0	0	0	698
Total Volume	0	317	207	524	349	0	176	525	474	1190	0	1664	0	0	0	0	2713
% App. Total	0	60.5	39.5		66.5	0	33.5		28.5	71.5	0		0	0	0		
PHF	.000	.826	.892	.851	.873	.000	.863	.869	.926	.921	.000	.970	.000	.000	.000	.000	.968



City: TUSTIN
N-S Direction: PARK AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405087
Site Code : 00000562
Start Date : 6/3/2014
Page No : 1

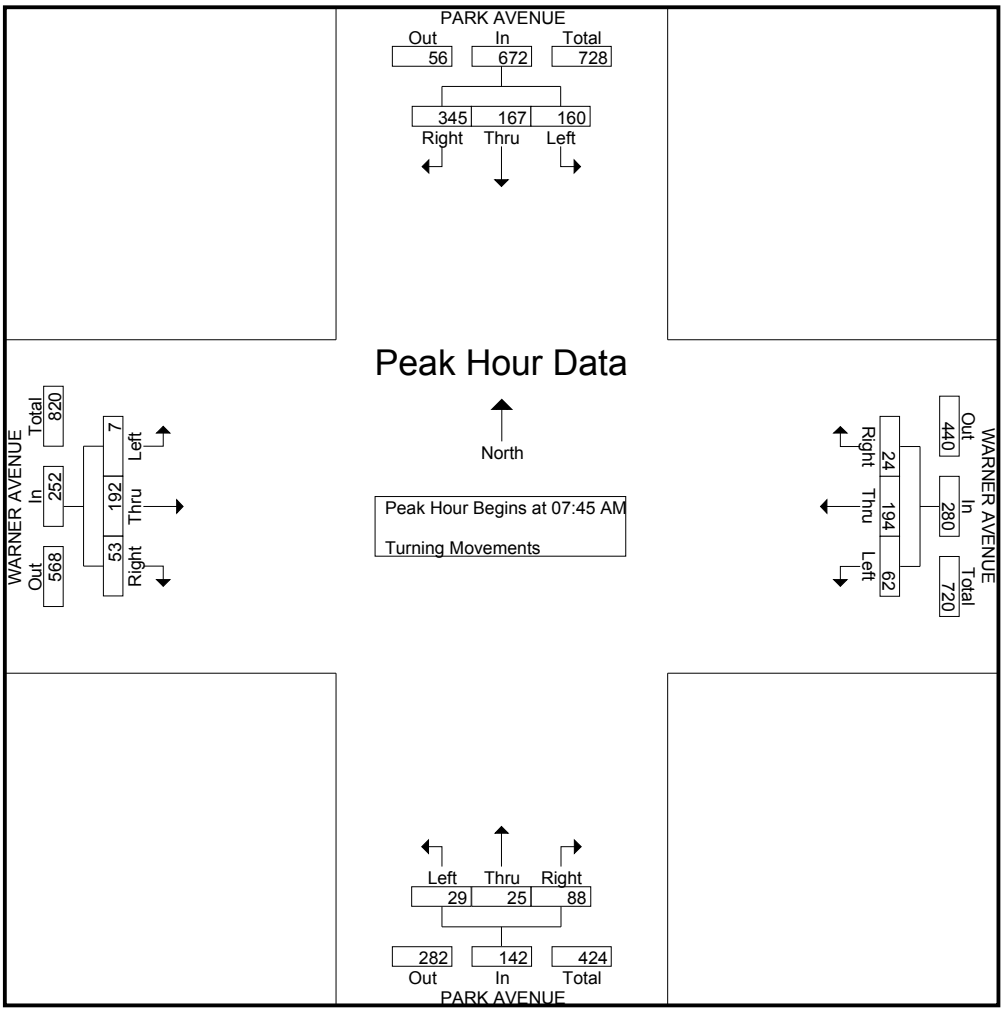
Groups Printed- Turning Movements

	PARK AVENUE Southbound			WARNER AVENUE Westbound			PARK AVENUE Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	53	31	28	1	29	21	20	7	10	3	31	1	235
07:15 AM	48	46	25	6	26	12	25	6	9	17	42	4	266
07:30 AM	80	42	30	6	29	8	21	2	3	10	24	1	256
07:45 AM	85	54	38	3	49	11	14	6	6	21	46	3	336
Total	266	173	121	16	133	52	80	21	28	51	143	9	1093
08:00 AM	96	44	40	10	55	14	30	8	9	11	51	3	371
08:15 AM	91	33	35	7	45	17	19	6	4	13	54	0	324
08:30 AM	73	36	47	4	45	20	25	5	10	8	41	1	315
08:45 AM	82	43	40	6	41	15	22	6	8	16	36	1	316
Total	342	156	162	27	186	66	96	25	31	48	182	5	1326
*** BREAK ***													
04:00 PM	6	61	36	5	30	47	82	9	14	14	117	0	421
04:15 PM	7	57	33	8	56	43	81	7	18	23	118	5	456
04:30 PM	6	54	45	9	43	40	75	10	17	14	94	3	410
04:45 PM	15	79	42	4	84	44	72	7	23	19	136	4	529
Total	34	251	156	26	213	174	310	33	72	70	465	12	1816
05:00 PM	7	50	43	5	58	48	80	15	17	16	110	3	452
05:15 PM	9	51	44	3	80	41	95	7	21	21	150	7	529
05:30 PM	12	69	54	2	72	52	65	14	29	20	132	2	523
05:45 PM	5	64	54	4	69	41	89	6	26	25	138	2	523
Total	33	234	195	14	279	182	329	42	93	82	530	14	2027
Grand Total	675	814	634	83	811	474	815	121	224	251	1320	40	6262
Apprch %	31.8	38.3	29.9	6.1	59.3	34.6	70.3	10.4	19.3	15.6	81.9	2.5	
Total %	10.8	13	10.1	1.3	13	7.6	13	1.9	3.6	4	21.1	0.6	

City: TUSTIN
N-S Direction: PARK AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405087
Site Code : 00000562
Start Date : 6/3/2014
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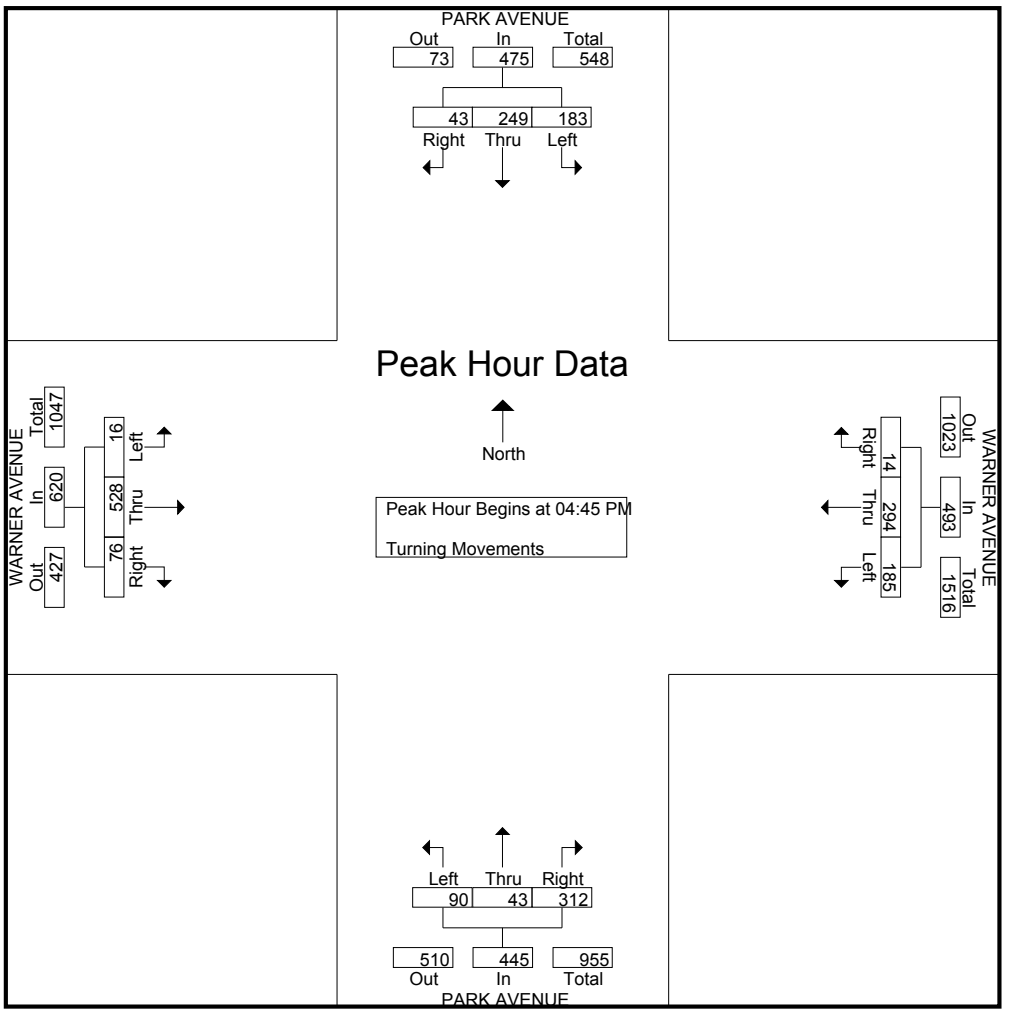
	PARK AVENUE Southbound				WARNER AVENUE Westbound				PARK AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	85	**54**	38	177	3	49	11	63	14	6	6	26	**21**	46	**3**	**70**	336
08:00 AM	**96**	44	40	**180**	**10**	**55**	14	**79**	**30**	**8**	9	**47**	11	51	3	65	**371**
08:15 AM	91	33	35	159	7	45	17	69	19	6	4	29	13	**54**	0	67	324
08:30 AM	73	36	**47**	156	4	45	**20**	69	25	5	**10**	40	8	41	1	50	315
Total Volume	345	167	160	672	24	194	62	280	88	25	29	142	53	192	7	252	1346
% App. Total	51.3	24.9	23.8		8.6	69.3	22.1		62	17.6	20.4		21	76.2	2.8		
PHF	.898	.773	.851	.933	.600	.882	.775	.886	.733	.781	.725	.755	.631	.889	.583	.900	.907



City: TUSTIN
N-S Direction: PARK AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405087
Site Code : 00000562
Start Date : 6/3/2014
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	PARK AVENUE Southbound				WARNER AVENUE Westbound				PARK AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**15**	**79**	42	**136**	4	**84**	44	**132**	72	7	23	102	19	136	4	159	**529**
05:00 PM	7	50	43	100	**5**	58	48	111	80	**15**	17	112	16	110	3	129	452
05:15 PM	9	51	44	104	3	80	41	124	**95**	7	21	**123**	**21**	**150**	**7**	**178**	529
05:30 PM	12	69	**54**	135	2	72	**52**	126	65	14	**29**	108	20	132	2	154	523
Total Volume	43	249	183	475	14	294	185	493	312	43	90	445	76	528	16	620	2033
% App. Total	9.1	52.4	38.5		2.8	59.6	37.5		70.1	9.7	20.2		12.3	85.2	2.6		
PHF	.717	.788	.847	.873	.700	.875	.889	.934	.821	.717	.776	.904	.905	.880	.571	.871	.961



City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WARNER AVENUE

File Name : H1404046
Site Code : 135
Start Date : 5/20/2014
Page No : 1

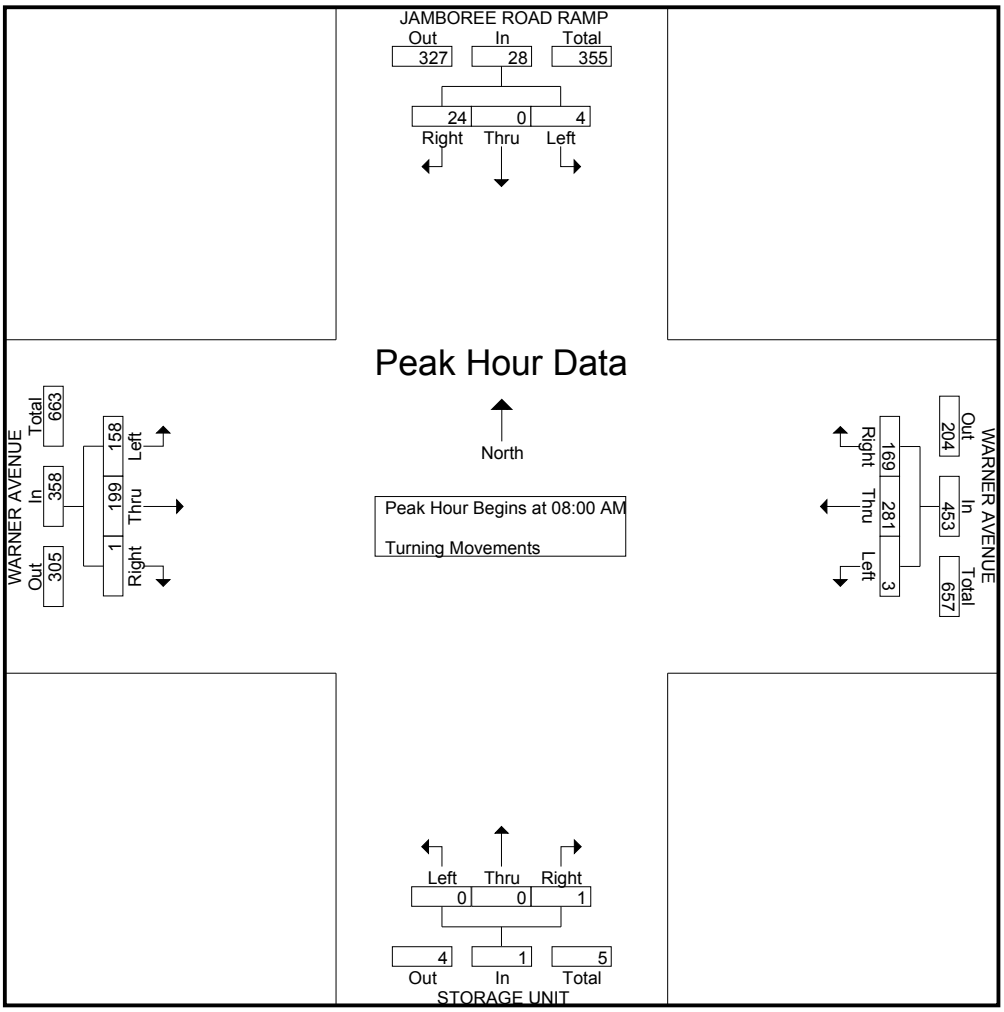
Groups Printed- Turning Movements

	JAMBOREE ROAD RAMP Southbound			WARNER AVENUE Westbound			STORAGE UNIT Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	0	1	22	33	2	0	1	0	0	28	35	124
07:15 AM	1	0	0	25	41	1	0	0	0	0	43	56	167
07:30 AM	3	0	1	46	39	0	0	0	0	0	46	38	173
07:45 AM	1	0	0	38	67	1	1	0	0	0	57	32	197
Total	7	0	2	131	180	4	1	1	0	0	174	161	661
08:00 AM	8	0	0	36	74	0	0	0	0	0	49	33	200
08:15 AM	4	0	1	45	64	1	0	0	0	0	60	35	210
08:30 AM	6	0	2	41	60	2	1	0	0	1	43	50	206
08:45 AM	6	0	1	47	83	0	0	0	0	0	47	40	224
Total	24	0	4	169	281	3	1	0	0	1	199	158	840
*** BREAK ***													
04:00 PM	16	0	2	28	59	1	0	2	0	0	116	124	348
04:15 PM	12	0	4	38	65	0	1	0	0	1	129	118	368
04:30 PM	12	0	2	40	80	0	1	0	0	0	138	131	404
04:45 PM	18	0	3	41	79	0	0	0	0	0	119	154	414
Total	58	0	11	147	283	1	2	2	0	1	502	527	1534
05:00 PM	16	0	0	40	97	2	0	0	0	0	143	137	435
05:15 PM	17	2	0	50	110	1	0	0	0	0	136	159	475
05:30 PM	23	0	1	38	103	2	3	0	0	0	138	166	474
05:45 PM	14	0	1	43	116	0	1	0	0	1	157	145	478
Total	70	2	2	171	426	5	4	0	0	1	574	607	1862
Grand Total	159	2	19	618	1170	13	8	3	0	3	1449	1453	4897
Apprch %	88.3	1.1	10.6	34.3	65	0.7	72.7	27.3	0	0.1	49.9	50	
Total %	3.2	0	0.4	12.6	23.9	0.3	0.2	0.1	0	0.1	29.6	29.7	

City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WARNER AVENUE

File Name : H1404046
Site Code : 135
Start Date : 5/20/2014
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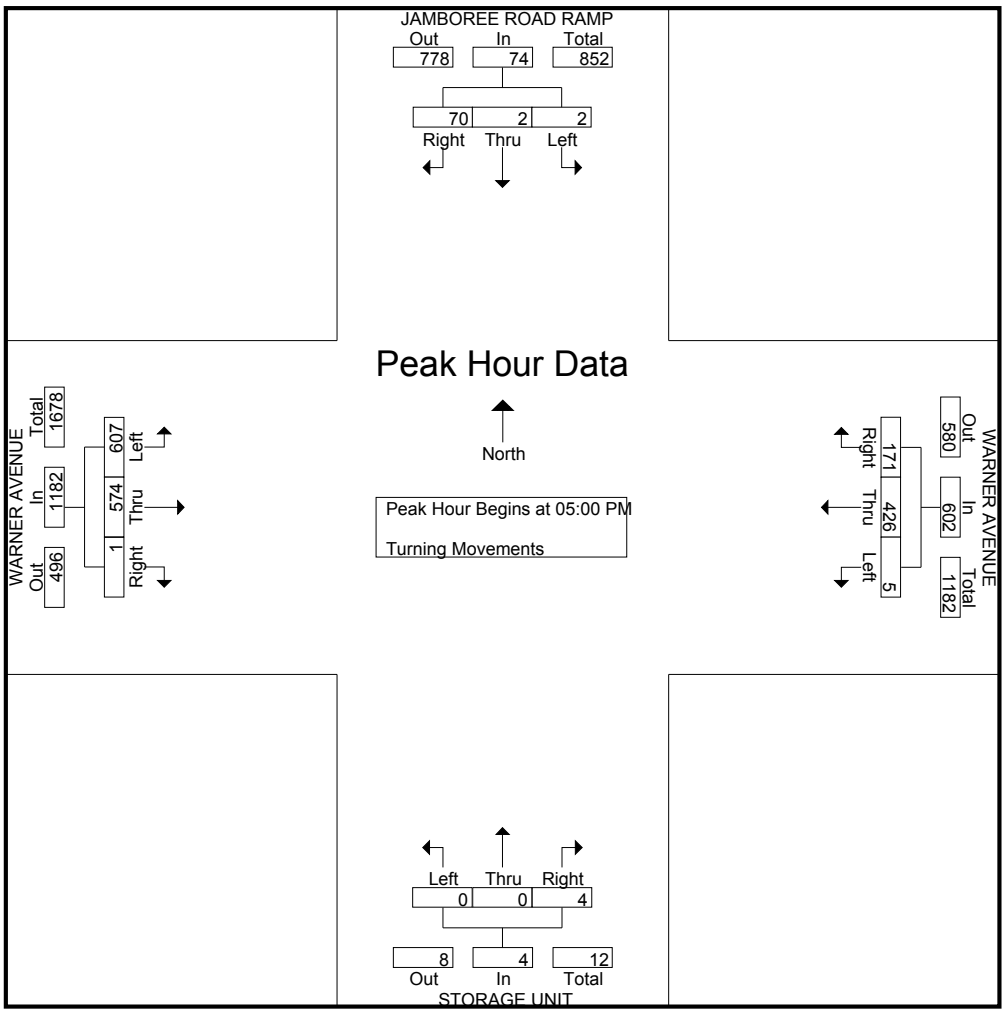
	JAMBOREE ROAD RAMP Southbound				WARNER AVENUE Westbound				STORAGE UNIT Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**8**	0	0	**8**	36	74	0	110	0	0	0	0	0	49	33	82	200
08:15 AM	4	0	1	5	45	64	1	110	0	0	0	0	0	**60**	35	**95**	210
08:30 AM	6	0	**2**	8	41	60	**2**	103	**1**	0	0	**1**	**1**	43	**50**	94	206
08:45 AM	6	0	1	7	**47**	**83**	0	**130**	0	0	0	0	0	47	40	87	**224**
Total Volume	24	0	4	28	169	281	3	453	1	0	0	1	1	199	158	358	840
% App. Total	85.7	0	14.3		37.3	62	0.7		100	0	0		0.3	55.6	44.1		
PHF	.750	.000	.500	.875	.899	.846	.375	.871	.250	.000	.000	.250	.250	.829	.790	.942	.938



City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WARNER AVENUE

File Name : H1404046
Site Code : 135
Start Date : 5/20/2014
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	JAMBOREE ROAD RAMP Southbound				WARNER AVENUE Westbound				STORAGE UNIT Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	0	0	16	40	97	**2**	139	0	0	0	0	0	143	137	280	435
05:15 PM	17	**2**	0	19	**50**	110	1	**161**	0	0	0	0	0	136	159	295	475
05:30 PM	**23**	0	**1**	**24**	38	103	2	143	**3**	0	0	**3**	0	138	**166**	**304**	474
05:45 PM	14	0	1	15	43	**116**	0	159	1	0	0	1	**1**	**157**	145	303	**478**
Total Volume	70	2	2	74	171	426	5	602	4	0	0	4	1	574	607	1182	1862
% App. Total	94.6	2.7	2.7		28.4	70.8	0.8		100	0	0		0.1	48.6	51.4		
PHF	.761	.250	.500	.771	.855	.918	.625	.935	.333	.000	.000	.333	.250	.914	.914	.972	.974



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405099
Site Code : 00005724
Start Date : 6/11/2014
Page No : 1

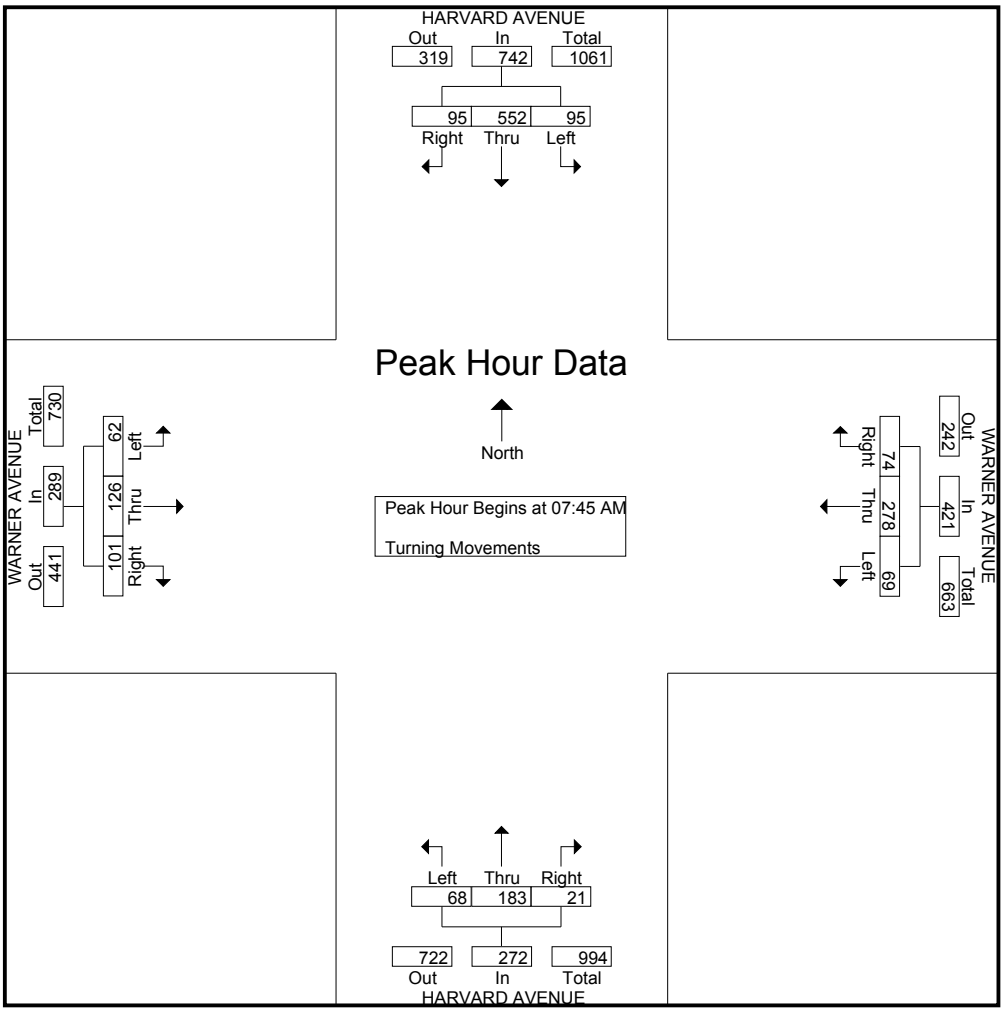
Groups Printed- Turning Movements

	HARVARD AVENUE Southbound			WARNER AVENUE Westbound			HARVARD AVENUE Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	8	46	4	3	53	7	1	19	9	8	15	14	187
07:15 AM	17	46	9	6	46	7	3	25	8	14	27	16	224
07:30 AM	19	95	17	5	44	6	7	43	17	19	21	18	311
07:45 AM	28	149	35	18	58	14	5	44	15	36	40	17	459
Total	72	336	65	32	201	34	16	131	49	77	103	65	1181
08:00 AM	29	156	41	25	78	19	5	44	21	29	44	16	507
08:15 AM	21	147	12	24	75	22	5	50	14	17	16	12	415
08:30 AM	17	100	7	7	67	14	6	45	18	19	26	17	343
08:45 AM	21	106	10	12	64	11	9	54	18	12	26	8	351
Total	88	509	70	68	284	66	25	193	71	77	112	53	1616
*** BREAK ***													
04:00 PM	7	58	10	7	45	4	16	82	35	20	68	24	376
04:15 PM	13	51	7	9	49	8	18	119	50	29	73	31	457
04:30 PM	13	63	7	8	44	9	13	112	41	19	75	42	446
04:45 PM	17	49	10	8	81	13	25	135	69	25	85	32	549
Total	50	221	34	32	219	34	72	448	195	93	301	129	1828
05:00 PM	17	61	9	8	55	11	16	161	74	19	75	29	535
05:15 PM	12	74	18	12	93	13	19	179	82	24	88	50	664
05:30 PM	12	72	15	10	56	5	27	206	87	23	78	36	627
05:45 PM	13	73	20	14	71	11	31	200	86	19	111	35	684
Total	54	280	62	44	275	40	93	746	329	85	352	150	2510
Grand Total	264	1346	231	176	979	174	206	1518	644	332	868	397	7135
Apprch %	14.3	73.1	12.5	13.2	73.7	13.1	8.7	64.1	27.2	20.8	54.4	24.9	
Total %	3.7	18.9	3.2	2.5	13.7	2.4	2.9	21.3	9	4.7	12.2	5.6	

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405099
Site Code : 00005724
Start Date : 6/11/2014
Page No : 2

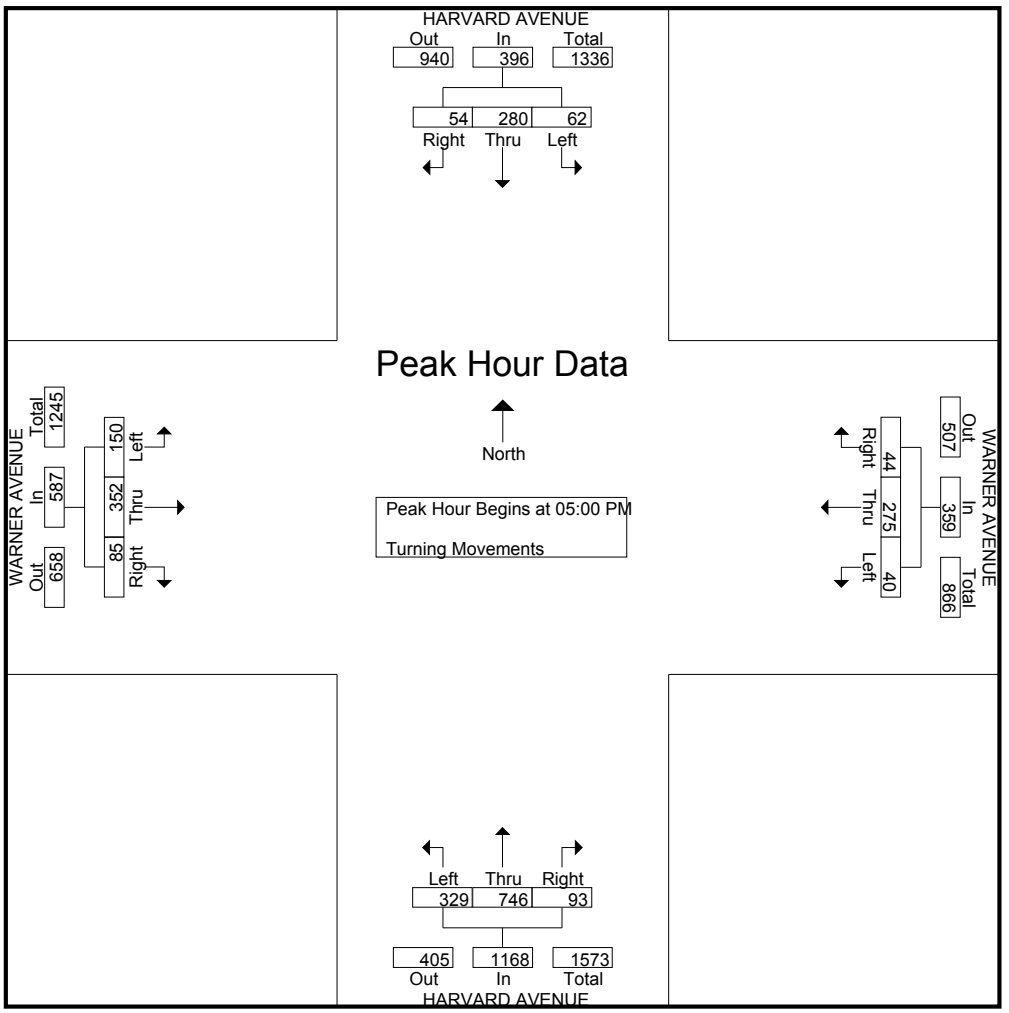
	HARVARD AVENUE Southbound				WARNER AVENUE Westbound				HARVARD AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	28	149	35	212	18	58	14	90	5	44	15	64	**36**	40	**17**	**93**	459
08:00 AM	**29**	**156**	**41**	**226**	**25**	**78**	19	**122**	5	44	**21**	**70**	29	**44**	16	89	**507**
08:15 AM	21	147	12	180	24	75	**22**	121	5	**50**	14	69	17	16	12	45	415
08:30 AM	17	100	7	124	7	67	14	88	**6**	45	18	69	19	26	17	62	343
Total Volume	95	552	95	742	74	278	69	421	21	183	68	272	101	126	62	289	1724
% App. Total	12.8	74.4	12.8		17.6	66	16.4		7.7	67.3	25		34.9	43.6	21.5		
PHF	.819	.885	.579	.821	.740	.891	.784	.863	.875	.915	.810	.971	.701	.716	.912	.777	.850



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405099
Site Code : 00005724
Start Date : 6/11/2014
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	HARVARD AVENUE Southbound				WARNER AVENUE Westbound				HARVARD AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**17**	61	9	87	8	55	11	74	16	161	74	251	19	75	29	123	535
05:15 PM	12	**74**	18	104	12	**93**	**13**	**118**	19	179	82	280	**24**	88	**50**	162	664
05:30 PM	12	72	15	99	10	56	5	71	27	**206**	**87**	**320**	23	78	36	137	627
05:45 PM	13	73	**20**	**106**	**14**	71	11	96	**31**	200	86	317	19	**111**	35	**165**	**684**
Total Volume	54	280	62	396	44	275	40	359	93	746	329	1168	85	352	150	587	2510
% App. Total	13.6	70.7	15.7		12.3	76.6	11.1		8	63.9	28.2		14.5	60	25.6		
PHF	.794	.946	.775	.934	.786	.739	.769	.761	.750	.905	.945	.913	.885	.793	.750	.889	.917



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WARNER AVENUE

File Name : H1404062
Site Code : 227
Start Date : 5/22/2014
Page No : 1

Groups Printed- Turning Movements

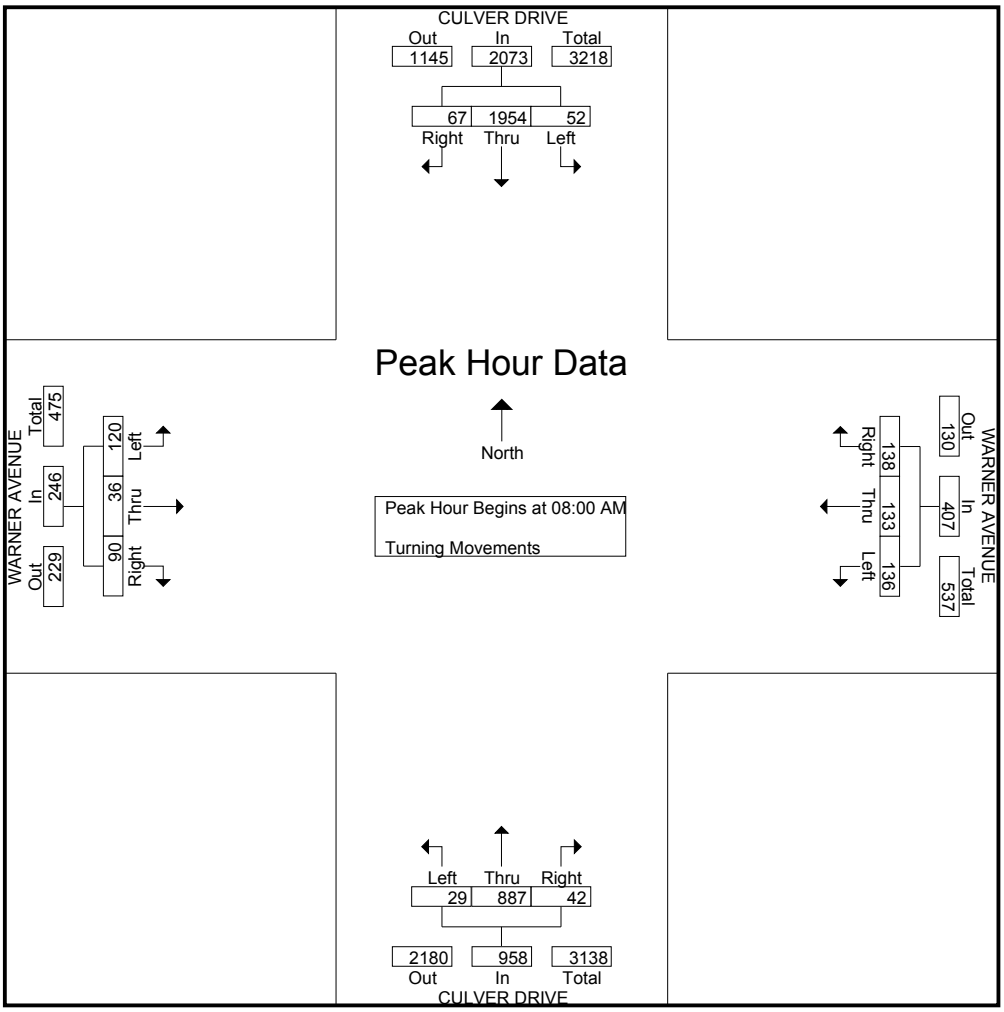
	CULVER DRIVE Southbound			WARNER AVENUE Westbound			CULVER DRIVE Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	5	179	8	19	10	20	8	197	7	22	8	29	512
07:15 AM	19	332	9	33	12	20	6	231	4	13	4	29	712
07:30 AM	18	465	8	28	24	27	6	135	9	14	9	15	758
07:45 AM	14	458	13	26	20	36	4	169	4	20	15	31	810
Total	56	1434	38	106	66	103	24	732	24	69	36	104	2792
08:00 AM	16	478	18	31	31	32	10	189	5	19	14	31	874
08:15 AM	13	469	12	33	26	33	11	241	6	23	12	28	907
08:30 AM	19	500	12	38	39	36	10	229	10	23	6	25	947
08:45 AM	19	507	10	36	37	35	11	228	8	25	4	36	956
Total	67	1954	52	138	133	136	42	887	29	90	36	120	3684
*** BREAK ***													
04:00 PM	21	259	29	25	19	24	36	278	22	19	16	20	768
04:15 PM	25	302	26	18	18	20	29	318	19	15	29	28	847
04:30 PM	14	210	10	28	37	15	36	337	12	12	19	16	746
04:45 PM	34	320	31	20	18	13	38	397	17	17	38	35	978
Total	94	1091	96	91	92	72	139	1330	70	63	102	99	3339
05:00 PM	24	331	14	28	25	15	26	525	17	15	40	34	1094
05:15 PM	37	345	21	29	23	16	25	499	21	16	36	28	1096
05:30 PM	40	357	26	31	25	26	41	535	20	26	30	33	1190
05:45 PM	40	365	21	28	22	24	40	519	18	26	30	34	1167
Total	141	1398	82	116	95	81	132	2078	76	83	136	129	4547
Grand Total	358	5877	268	451	386	392	337	5027	199	305	310	452	14362
Apprch %	5.5	90.4	4.1	36.7	31.4	31.9	6.1	90.4	3.6	28.6	29.1	42.4	
Total %	2.5	40.9	1.9	3.1	2.7	2.7	2.3	35	1.4	2.1	2.2	3.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WARNER AVENUE

File Name : H1404062
Site Code : 227
Start Date : 5/22/2014
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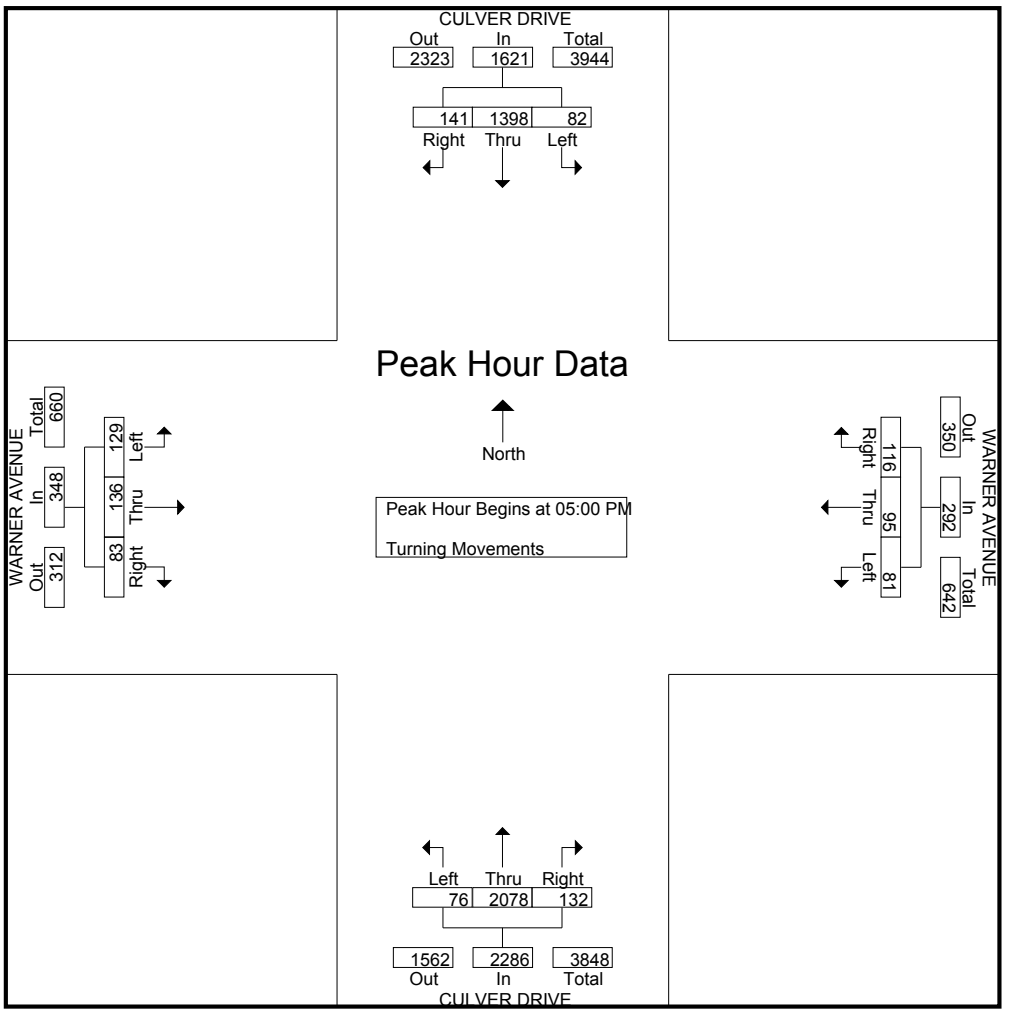
	CULVER DRIVE Southbound				WARNER AVENUE Westbound				CULVER DRIVE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	16	478	**18**	512	31	31	32	94	10	189	5	204	19	**14**	31	64	874
08:15 AM	13	469	12	494	33	26	33	92	**11**	**241**	6	**258**	23	12	28	63	907
08:30 AM	**19**	500	12	531	**38**	**39**	**36**	**113**	10	229	**10**	249	23	6	25	54	947
08:45 AM	19	**507**	10	**536**	36	37	35	108	11	228	8	247	**25**	4	**36**	**65**	**956**
Total Volume	67	1954	52	2073	138	133	136	407	42	887	29	958	90	36	120	246	3684
% App. Total	3.2	94.3	2.5		33.9	32.7	33.4		4.4	92.6	3		36.6	14.6	48.8		
PHF	.882	.964	.722	.967	.908	.853	.944	.900	.955	.920	.725	.928	.900	.643	.833	.946	.963



City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WARNER AVENUE

File Name : H1404062
Site Code : 227
Start Date : 5/22/2014
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	CULVER DRIVE Southbound				WARNER AVENUE Westbound				CULVER DRIVE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	24	331	14	369	28	**25**	15	68	26	525	17	568	15	**40**	**34**	89	1094
05:15 PM	37	345	21	403	29	23	16	68	25	499	**21**	545	16	36	28	80	1096
05:30 PM	**40**	357	**26**	423	**31**	25	**26**	**82**	**41**	**535**	20	**596**	**26**	30	33	89	**1190**
05:45 PM	40	**365**	21	**426**	28	22	24	74	40	519	18	577	26	30	34	**90**	1167
Total Volume	141	1398	82	1621	116	95	81	292	132	2078	76	2286	83	136	129	348	4547
% App. Total	8.7	86.2	5.1		39.7	32.5	27.7		5.8	90.9	3.3		23.9	39.1	37.1		
PHF	.881	.958	.788	.951	.935	.950	.779	.890	.805	.971	.905	.959	.798	.850	.949	.967	.955



City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: CARNEGIE AVENUE

File Name : H1405073
Site Code : 00000000
Start Date : 6/10/2014
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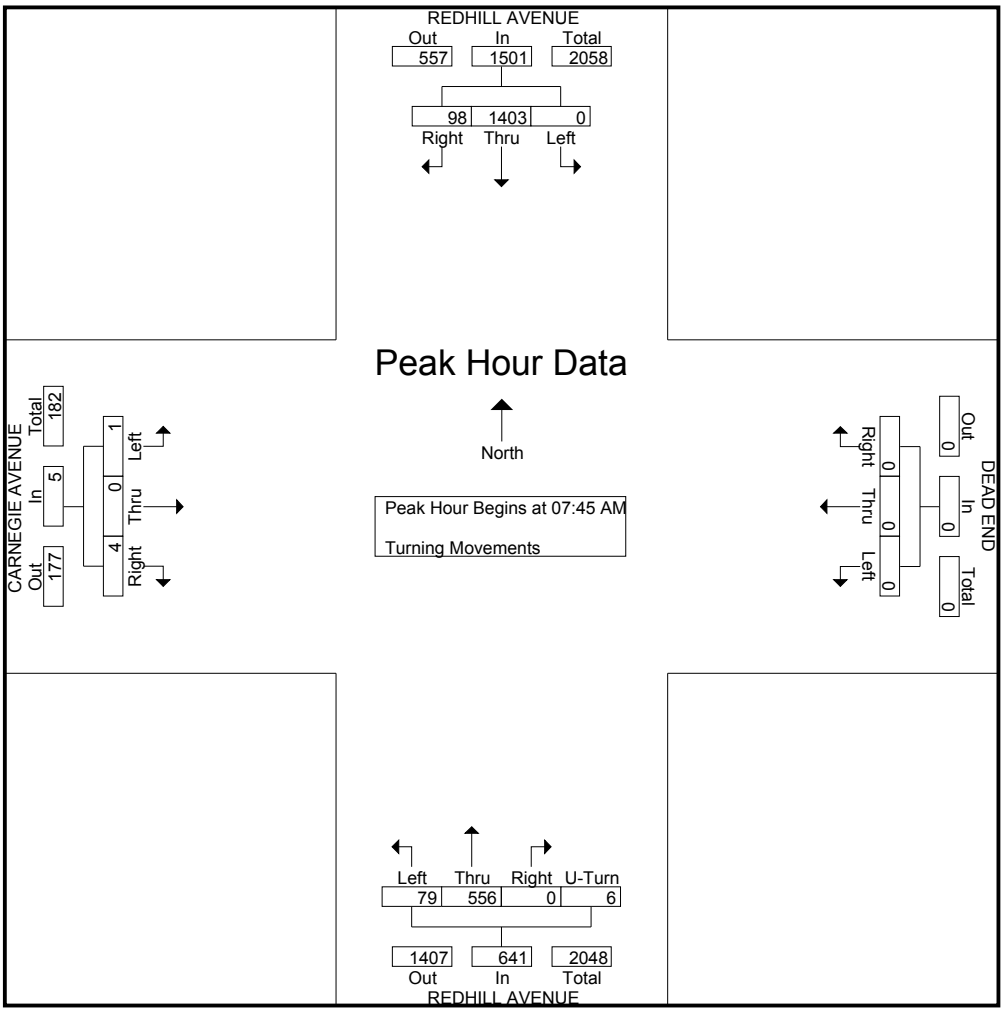
Groups Printed- Turning Movements

	REDHILL AVENUE Southbound			DEAD END Westbound			REDHILL AVENUE Northbound				CARNEGIE AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Int. Total
07:00 AM	11	211	0	0	0	0	0	76	10	2	1	0	1	312
07:15 AM	23	275	0	0	0	0	0	89	20	1	1	0	1	410
07:30 AM	12	292	0	0	0	0	0	123	12	2	2	0	1	444
07:45 AM	32	397	0	0	0	0	0	156	24	2	2	0	0	613
Total	78	1175	0	0	0	0	0	444	66	7	6	0	3	1779
08:00 AM	28	330	0	0	0	0	0	158	27	0	0	0	0	543
08:15 AM	22	363	0	0	0	0	0	127	15	1	0	0	1	529
08:30 AM	16	313	0	0	0	0	0	115	13	3	2	0	0	462
08:45 AM	22	287	0	0	0	0	0	122	20	4	5	0	3	463
Total	88	1293	0	0	0	0	0	522	75	8	7	0	4	1997
*** BREAK ***														
04:00 PM	3	137	0	0	0	0	0	556	8	0	15	0	27	746
04:15 PM	6	156	0	0	0	0	0	489	17	0	8	0	14	690
04:30 PM	3	155	0	0	0	0	0	560	12	0	16	0	31	777
04:45 PM	4	170	0	0	0	0	0	578	12	2	11	0	30	807
Total	16	618	0	0	0	0	0	2183	49	2	50	0	102	3020
05:00 PM	4	196	0	0	0	0	0	619	10	2	29	0	48	908
05:15 PM	3	191	0	0	0	0	0	661	10	0	24	0	18	907
05:30 PM	4	188	0	0	0	0	0	610	5	1	13	0	18	839
05:45 PM	6	167	0	0	0	0	0	586	6	1	9	0	18	793
Total	17	742	0	0	0	0	0	2476	31	4	75	0	102	3447
Grand Total	199	3828	0	0	0	0	0	5625	221	21	138	0	211	10243
Apprch %	4.9	95.1	0	0	0	0	0	95.9	3.8	0.4	39.5	0	60.5	
Total %	1.9	37.4	0	0	0	0	0	54.9	2.2	0.2	1.3	0	2.1	

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: CARNEGIE AVENUE

File Name : H1405073
Site Code : 00000000
Start Date : 6/10/2014
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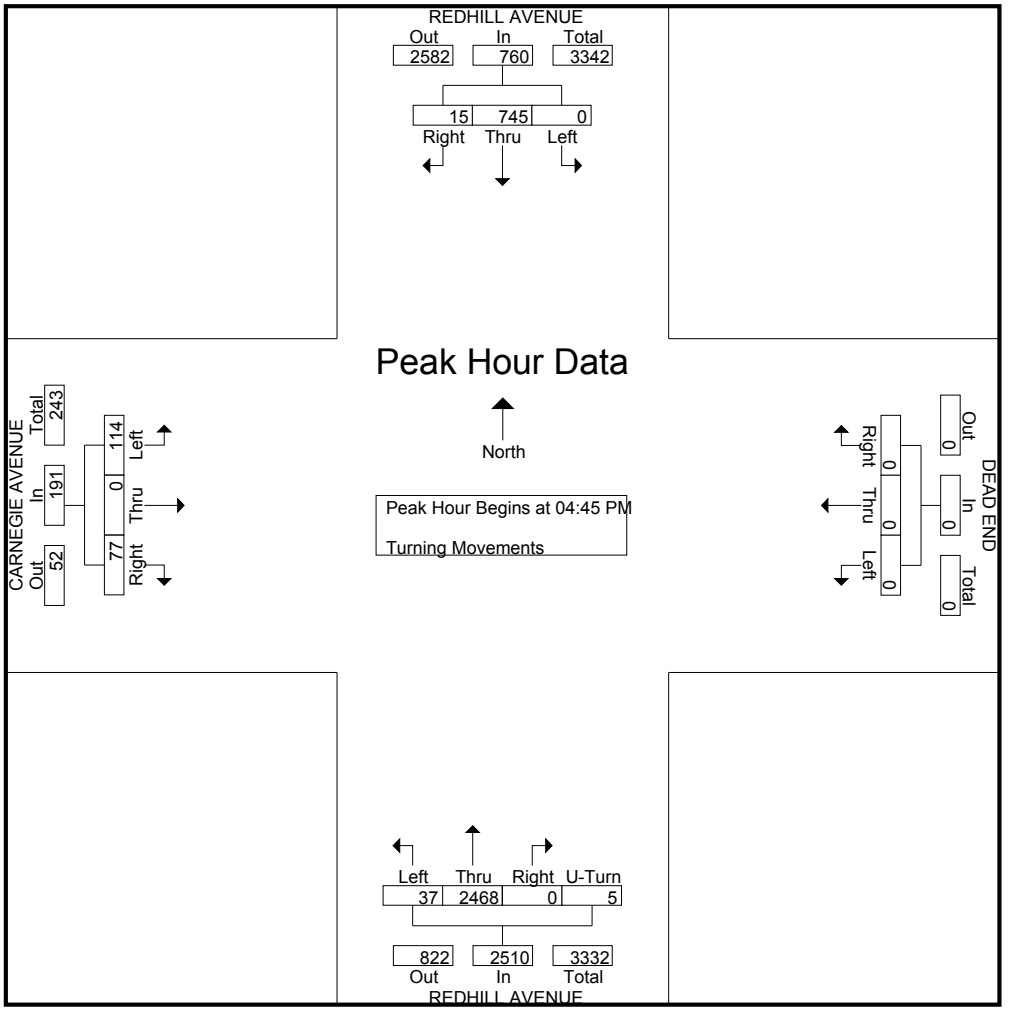
	REDHILL AVENUE Southbound				DEAD END Westbound				REDHILL AVENUE Northbound					CARNEGIE AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	**32**	**397**	0	**429**	0	0	0	0	0	156	24	2	182	**2**	0	0	**2**	**613**
08:00 AM	28	330	0	358	0	0	0	0	0	**158**	**27**	0	**185**	0	0	0	0	543
08:15 AM	22	363	0	385	0	0	0	0	0	127	15	1	143	0	0	**1**	1	529
08:30 AM	16	313	0	329	0	0	0	0	0	115	13	**3**	131	2	0	0	2	462
Total Volume	98	1403	0	1501	0	0	0	0	0	556	79	6	641	4	0	1	5	2147
% App. Total	6.5	93.5	0		0	0	0		0	86.7	12.3	0.9		80	0	20		
PHF	.766	.884	.000	.875	.000	.000	.000	.000	.000	.880	.731	.500	.866	.500	.000	.250	.625	.876



City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: CARNEGIE AVENUE

File Name : H1405073
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	REDHILL AVENUE Southbound				DEAD END Westbound				REDHILL AVENUE Northbound					CARNEGIE AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:45 PM																		
04:45 PM	**4**	170	0	174	0	0	0	0	0	578	**12**	**2**	592	11	0	30	41	807
05:00 PM	4	**196**	0	**200**	0	0	0	0	0	619	10	2	631	**29**	0	**48**	**77**	**908**
05:15 PM	3	191	0	194	0	0	0	0	0	**661**	10	0	**671**	24	0	18	42	907
05:30 PM	4	188	0	192	0	0	0	0	0	610	5	1	616	13	0	18	31	839
Total Volume	15	745	0	760	0	0	0	0	0	2468	37	5	2510	77	0	114	191	3461
% App. Total	2	98	0		0	0	0		0	98.3	1.5	0.2		40.3	0	59.7		
PHF	.938	.950	.000	.950	.000	.000	.000	.000	.000	.933	.771	.625	.935	.664	.000	.594	.620	.953



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: PARK AVENUE

File Name : H1405083
Site Code : 00000000
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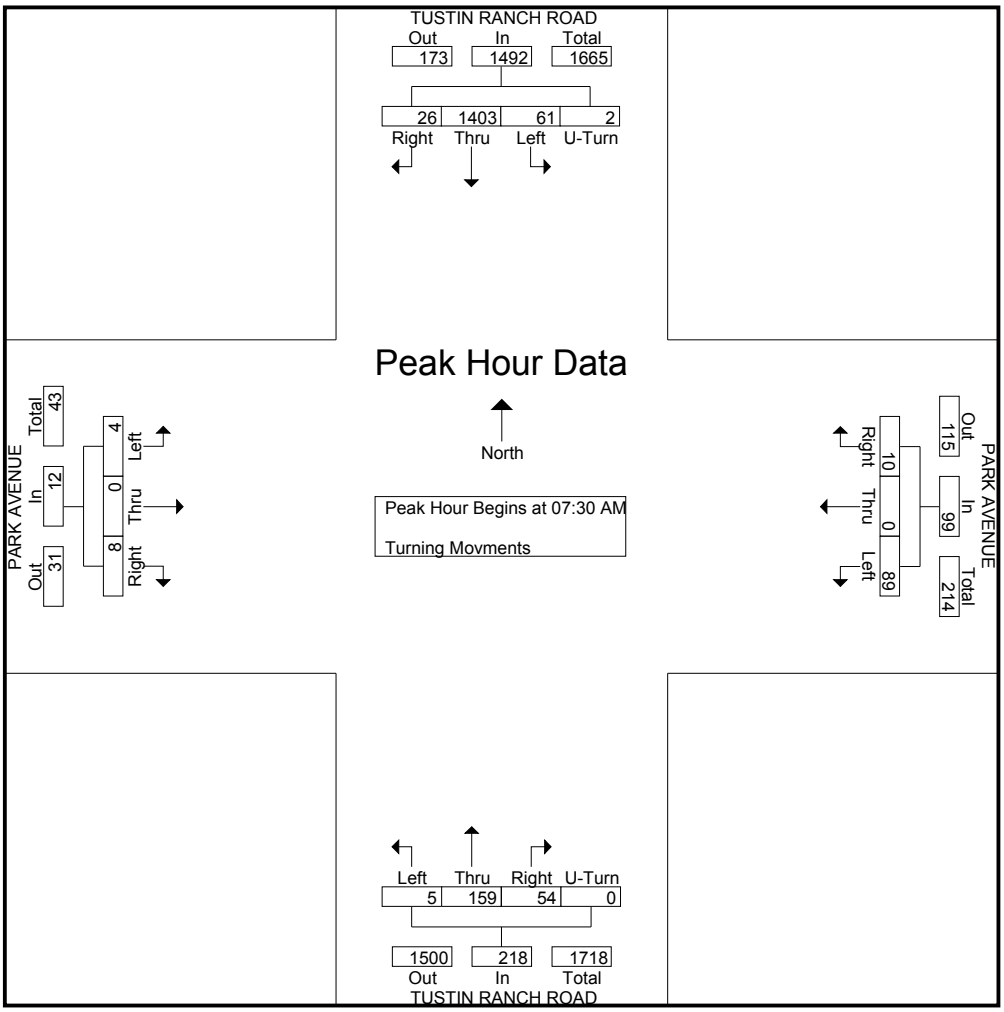
Groups Printed- Turning Movments

	TUSTIN RANCH ROAD Southbound				PARK AVENUE Westbound			TUSTIN RANCH ROAD Northbound				PARK AVENUE Eastbound			
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Int. Total
07:00 AM	16	188	2	0	1	0	13	9	27	11	0	1	1	0	269
07:15 AM	8	263	6	1	2	0	21	10	29	8	0	0	0	2	350
07:30 AM	6	343	13	0	1	0	18	12	37	1	0	0	0	0	431
07:45 AM	5	414	16	2	4	0	26	8	55	2	0	0	0	0	532
Total	35	1208	37	3	8	0	78	39	148	22	0	1	1	2	1582
08:00 AM	11	340	18	0	3	0	20	17	34	1	0	4	0	4	452
08:15 AM	4	306	14	0	2	0	25	17	33	1	0	4	0	0	406
08:30 AM	0	309	16	0	3	1	24	14	55	0	0	2	0	1	425
08:45 AM	6	264	13	3	11	0	23	25	29	0	0	0	0	0	374
Total	21	1219	61	3	19	1	92	73	151	2	0	10	0	5	1657
*** BREAK ***															
04:00 PM	1	70	26	6	44	0	73	62	241	0	3	14	0	3	543
04:15 PM	2	61	34	2	30	0	59	66	299	0	4	9	0	2	568
04:30 PM	1	58	31	2	29	0	75	79	253	0	8	8	0	2	546
04:45 PM	2	62	33	8	36	0	48	86	379	0	4	9	0	5	672
Total	6	251	124	18	139	0	255	293	1172	0	19	40	0	12	2329
05:00 PM	0	101	26	4	41	0	69	80	355	0	1	3	0	0	680
05:15 PM	0	97	31	2	37	0	55	88	378	0	4	2	0	0	694
05:30 PM	0	90	40	3	38	0	57	87	379	0	2	3	0	0	699
05:45 PM	0	69	54	2	48	0	54	106	301	0	6	6	0	0	646
Total	0	357	151	11	164	0	235	361	1413	0	13	14	0	0	2719
Grand Total	62	3035	373	35	330	1	660	766	2884	24	32	65	1	19	8287
Apprch %	1.8	86.6	10.6	1	33.3	0.1	66.6	20.7	77.8	0.6	0.9	76.5	1.2	22.4	
Total %	0.7	36.6	4.5	0.4	4	0	8	9.2	34.8	0.3	0.4	0.8	0	0.2	

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: PARK AVENUE

File Name : H1405083
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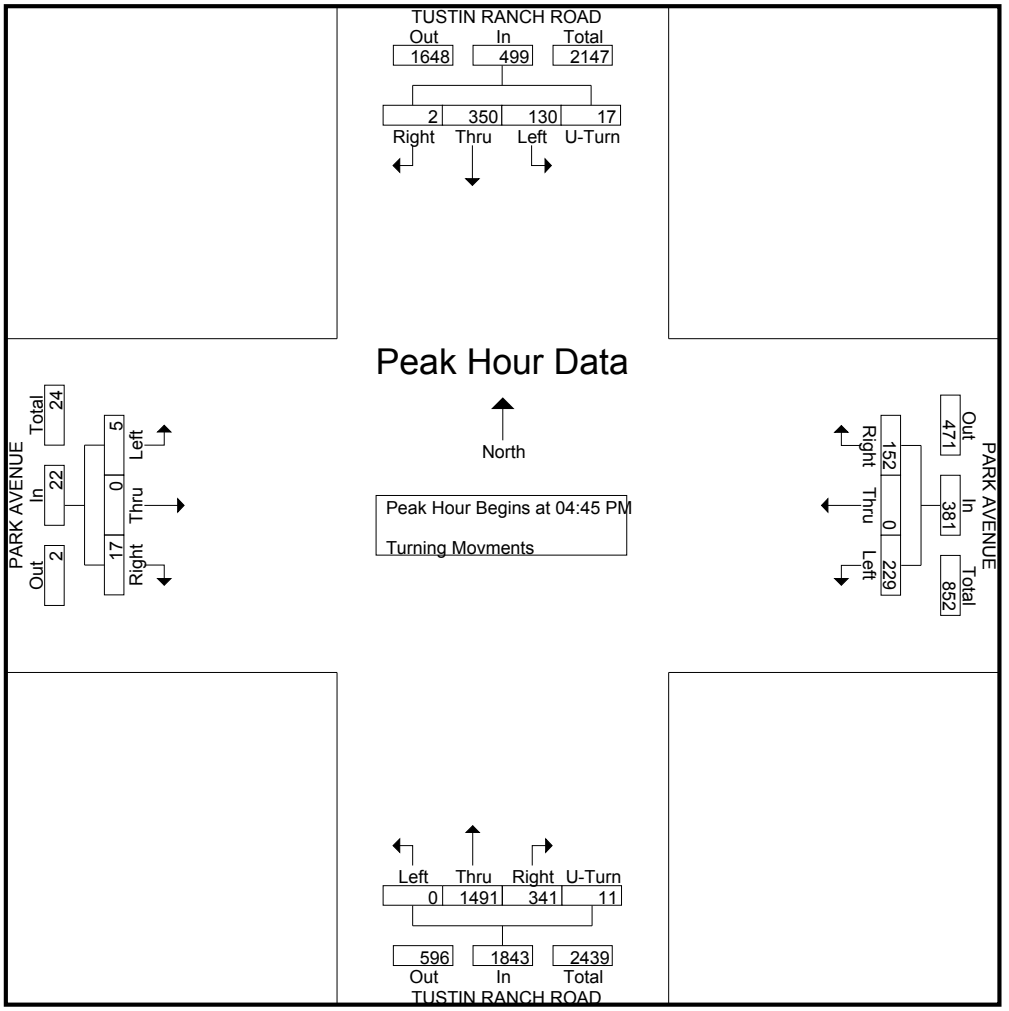
	TUSTIN RANCH ROAD Southbound					PARK AVENUE Westbound				TUSTIN RANCH ROAD Northbound					PARK AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:30 AM																			
07:30 AM	6	343	13	0	362	1	0	18	19	12	37	1	0	50	0	0	0	0	431
07:45 AM	5	**414**	16	**2**	**437**	**4**	0	**26**	**30**	8	**55**	**2**	0	**65**	0	0	0	0	**532**
08:00 AM	**11**	340	**18**	0	369	3	0	20	23	**17**	34	1	0	52	**4**	0	**4**	**8**	452
08:15 AM	4	306	14	0	324	2	0	25	27	17	33	1	0	51	4	0	0	4	406
Total Volume	26	1403	61	2	1492	10	0	89	99	54	159	5	0	218	8	0	4	12	1821
% App. Total	1.7	94	4.1	0.1		10.1	0	89.9		24.8	72.9	2.3	0		66.7	0	33.3		
PHF	.591	.847	.847	.250	.854	.625	.000	.856	.825	.794	.723	.625	.000	.838	.500	.000	.250	.375	.856



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: PARK AVENUE

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	TUSTIN RANCH ROAD Southbound					PARK AVENUE Westbound				TUSTIN RANCH ROAD Northbound					PARK AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:45 PM																			
04:45 PM	**2**	62	33	**8**	105	36	0	48	84	86	**379**	0	**4**	469	**9**	0	**5**	**14**	672
05:00 PM	0	**101**	26	4	131	**41**	0	**69**	**110**	80	355	0	1	436	3	0	0	3	680
05:15 PM	0	97	31	2	130	37	0	55	92	**88**	378	0	4	**470**	2	0	0	2	694
05:30 PM	0	90	**40**	3	**133**	38	0	57	95	87	379	0	2	468	3	0	0	3	**699**
Total Volume	2	350	130	17	499	152	0	229	381	341	1491	0	11	1843	17	0	5	22	2745
% App. Total	0.4	70.1	26.1	3.4		39.9	0	60.1		18.5	80.9	0	0.6		77.3	0	22.7		
PHF	.250	.866	.813	.531	.938	.927	.000	.830	.866	.969	.984	.000	.688	.980	.472	.000	.250	.393	.982



City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: PARK AVENUE

File Name : H1405088
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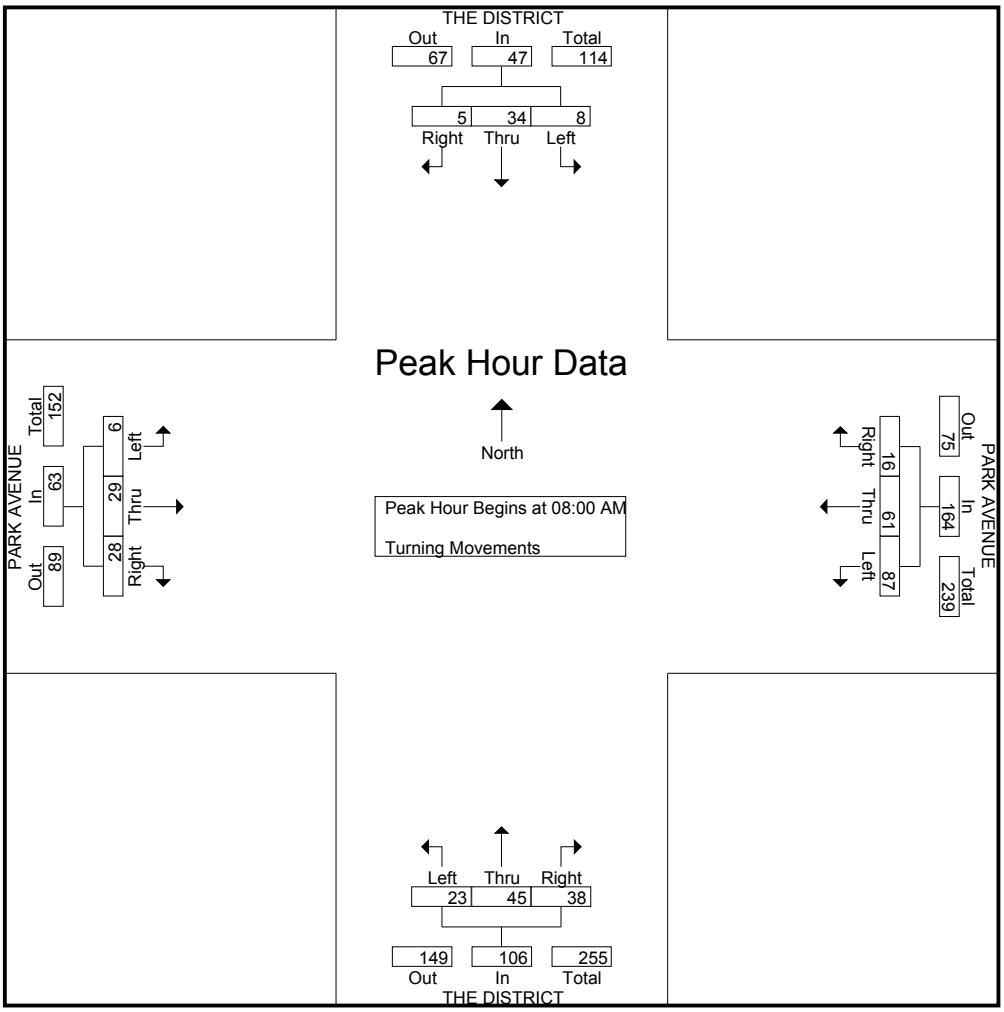
Groups Printed- Turning Movements

	THE DISTRICT Southbound			PARK AVENUE Westbound			THE DISTRICT Northbound			PARK AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	1	1	0	0	5	10	9	3	0	3	4	0	36
07:15 AM	0	3	0	1	10	18	5	6	3	6	9	0	61
07:30 AM	3	6	0	1	13	22	6	6	2	6	7	0	72
07:45 AM	0	6	1	2	18	21	7	6	4	7	8	0	80
Total	4	16	1	4	46	71	27	21	9	22	28	0	249
08:00 AM	4	9	0	3	18	22	11	5	4	5	6	3	90
08:15 AM	0	5	0	4	10	34	12	10	4	8	6	0	93
08:30 AM	0	7	2	5	17	14	10	13	2	9	4	1	84
08:45 AM	1	13	6	4	16	17	5	17	13	6	13	2	113
Total	5	34	8	16	61	87	38	45	23	28	29	6	380
*** BREAK ***													
04:00 PM	7	28	7	10	27	29	26	39	26	9	28	6	242
04:15 PM	4	28	4	3	27	35	37	38	21	16	21	4	238
04:30 PM	1	33	9	3	26	35	43	41	26	15	27	4	263
04:45 PM	5	33	10	8	24	30	43	44	16	19	36	3	271
Total	17	122	30	24	104	129	149	162	89	59	112	17	1014
05:00 PM	7	20	12	13	19	40	38	48	18	20	27	4	266
05:15 PM	7	21	8	9	27	38	29	34	31	23	29	7	263
05:30 PM	4	19	8	11	31	38	44	47	33	32	35	8	310
05:45 PM	3	26	4	4	44	38	39	42	25	21	33	7	286
Total	21	86	32	37	121	154	150	171	107	96	124	26	1125
Grand Total	47	258	71	81	332	441	364	399	228	205	293	49	2768
Apprch %	12.5	68.6	18.9	9.5	38.9	51.6	36.7	40.3	23	37.5	53.6	9	
Total %	1.7	9.3	2.6	2.9	12	15.9	13.2	14.4	8.2	7.4	10.6	1.8	

City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: PARK AVENUE

File Name : H1405088
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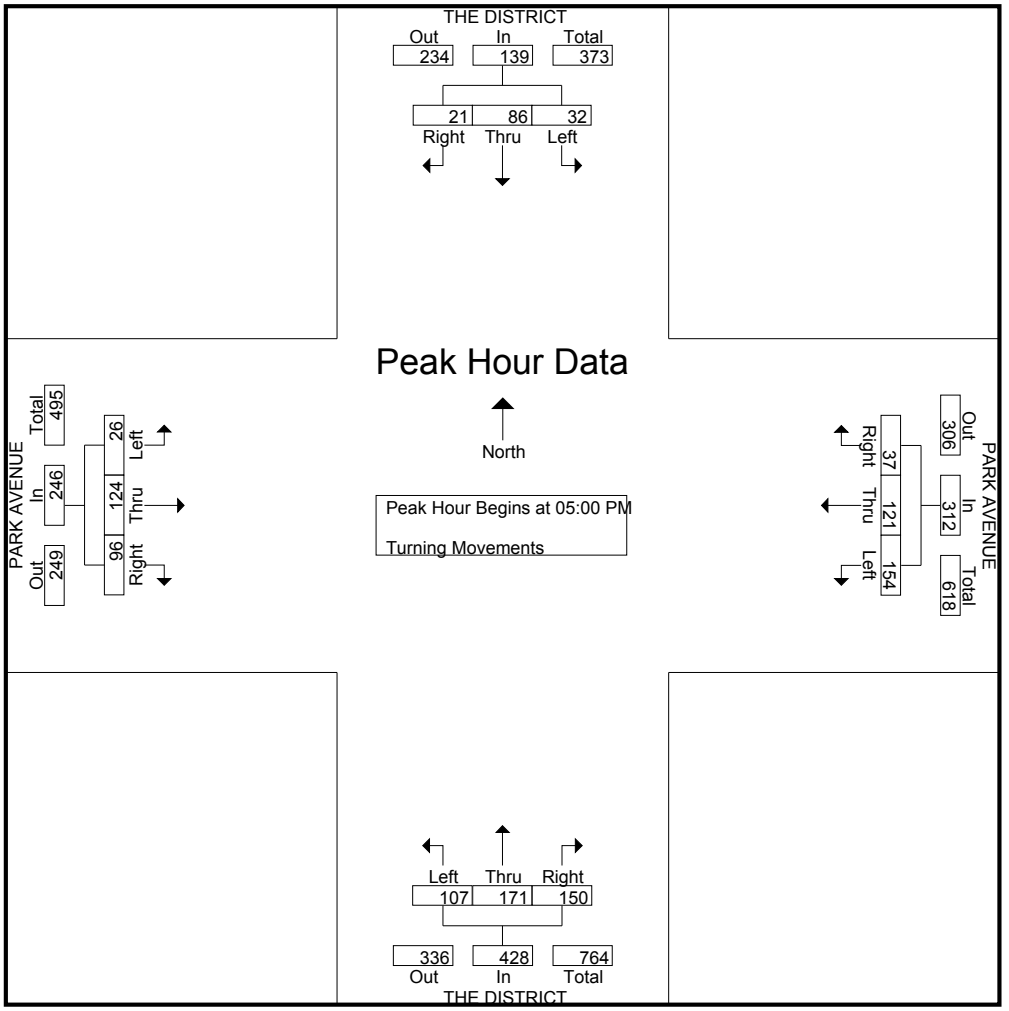
	THE DISTRICT Southbound				PARK AVENUE Westbound				THE DISTRICT Northbound				PARK AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**4**	9	0	13	3	**18**	22	43	11	5	4	20	5	6	**3**	14	90
08:15 AM	0	5	0	5	4	10	**34**	**48**	**12**	10	4	26	8	6	0	14	93
08:30 AM	0	7	2	9	**5**	17	14	36	10	13	2	25	**9**	4	1	14	84
08:45 AM	1	**13**	**6**	**20**	4	16	17	37	5	**17**	**13**	**35**	6	**13**	2	**21**	**113**
Total Volume	5	34	8	47	16	61	87	164	38	45	23	106	28	29	6	63	380
% App. Total	10.6	72.3	17		9.8	37.2	53		35.8	42.5	21.7		44.4	46	9.5		
PHF	.313	.654	.333	.588	.800	.847	.640	.854	.792	.662	.442	.757	.778	.558	.500	.750	.841



City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: PARK AVENUE

File Name : H1405088
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	THE DISTRICT Southbound				PARK AVENUE Westbound				THE DISTRICT Northbound				PARK AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**7**	20	**12**	**39**	**13**	19	**40**	72	38	**48**	18	104	20	27	4	51	266
05:15 PM	7	21	8	36	9	27	38	74	29	34	31	94	23	29	7	59	263
05:30 PM	4	19	8	31	11	31	38	80	**44**	47	**33**	**124**	**32**	**35**	**8**	**75**	**310**
05:45 PM	3	**26**	4	33	4	**44**	38	**86**	39	42	25	106	21	33	7	61	286
Total Volume	21	86	32	139	37	121	154	312	150	171	107	428	96	124	26	246	1125
% App. Total	15.1	61.9	23		11.9	38.8	49.4		35	40	25		39	50.4	10.6		
PHF	.750	.827	.667	.891	.712	.688	.963	.907	.852	.891	.811	.863	.750	.886	.813	.820	.907



City: SANTA ANA
N-S- Direction: SR-55 SB RAMPS
E-W Direction: DYER ROAD

File Name : H1409060
Site Code : 00000000
Start Date : 9/23/2014
Page No : 1

Groups Printed- Turning Movements

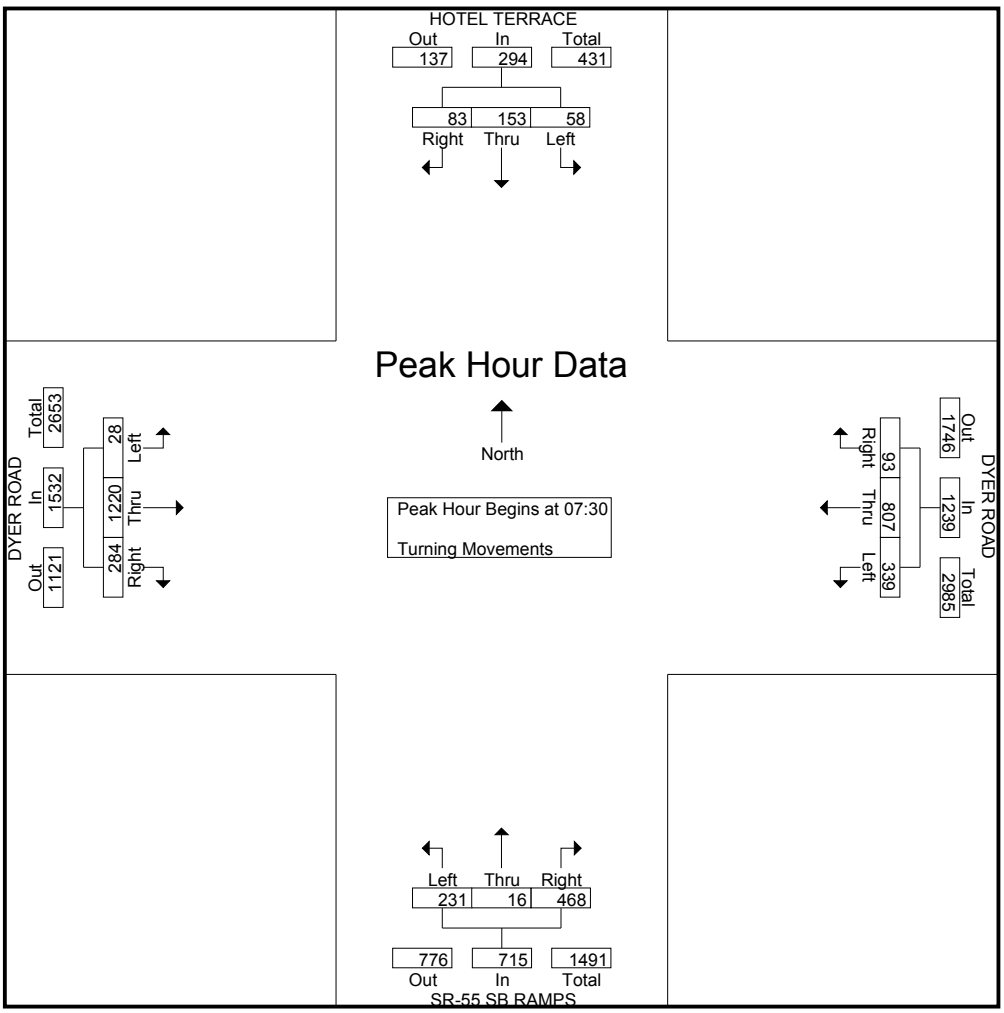
	HOTEL TERRACE Southbound			DYER ROAD Westbound			SR-55 SB RAMPS Northbound			DYER ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	18	27	10	26	159	55	138	2	69	62	229	7	802
07:15	21	45	8	25	169	80	128	7	63	68	246	9	869
07:30	27	42	13	19	181	91	113	5	81	78	287	3	940
07:45	22	49	16	21	221	77	128	4	63	65	312	11	989
Total	88	163	47	91	730	303	507	18	276	273	1074	30	3600
08:00	16	28	20	27	200	74	124	4	50	77	314	7	941
08:15	18	34	9	26	205	97	103	3	37	64	307	7	910
08:30	14	34	17	33	196	88	107	5	35	70	237	7	843
08:45	16	22	24	27	193	99	129	3	37	58	224	4	836
Total	64	118	70	113	794	358	463	15	159	269	1082	25	3530
*** BREAK ***													
16:00	27	53	38	14	257	139	56	2	55	56	308	25	1030
16:15	18	43	24	22	218	125	43	3	63	46	359	20	984
16:30	35	68	25	5	259	153	52	0	61	61	368	27	1114
16:45	27	43	24	23	243	108	54	0	62	59	375	19	1037
Total	107	207	111	64	977	525	205	5	241	222	1410	91	4165
17:00	23	70	32	20	272	143	48	3	74	65	346	19	1115
17:15	30	44	22	9	298	132	57	1	59	51	421	21	1145
17:30	18	43	20	15	242	124	44	3	70	49	361	23	1012
17:45	24	42	24	24	216	122	51	0	65	33	323	15	939
Total	95	199	98	68	1028	521	200	7	268	198	1451	78	4211
Grand Total	354	687	326	336	3529	1707	1375	45	944	962	5017	224	15506
Apprch %	25.9	50.3	23.8	6	63.3	30.6	58.2	1.9	39.9	15.5	80.9	3.6	
Total %	2.3	4.4	2.1	2.2	22.8	11	8.9	0.3	6.1	6.2	32.4	1.4	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: SR-55 SB RAMPS
E-W Direction: DYER ROAD

File Name : H1409060
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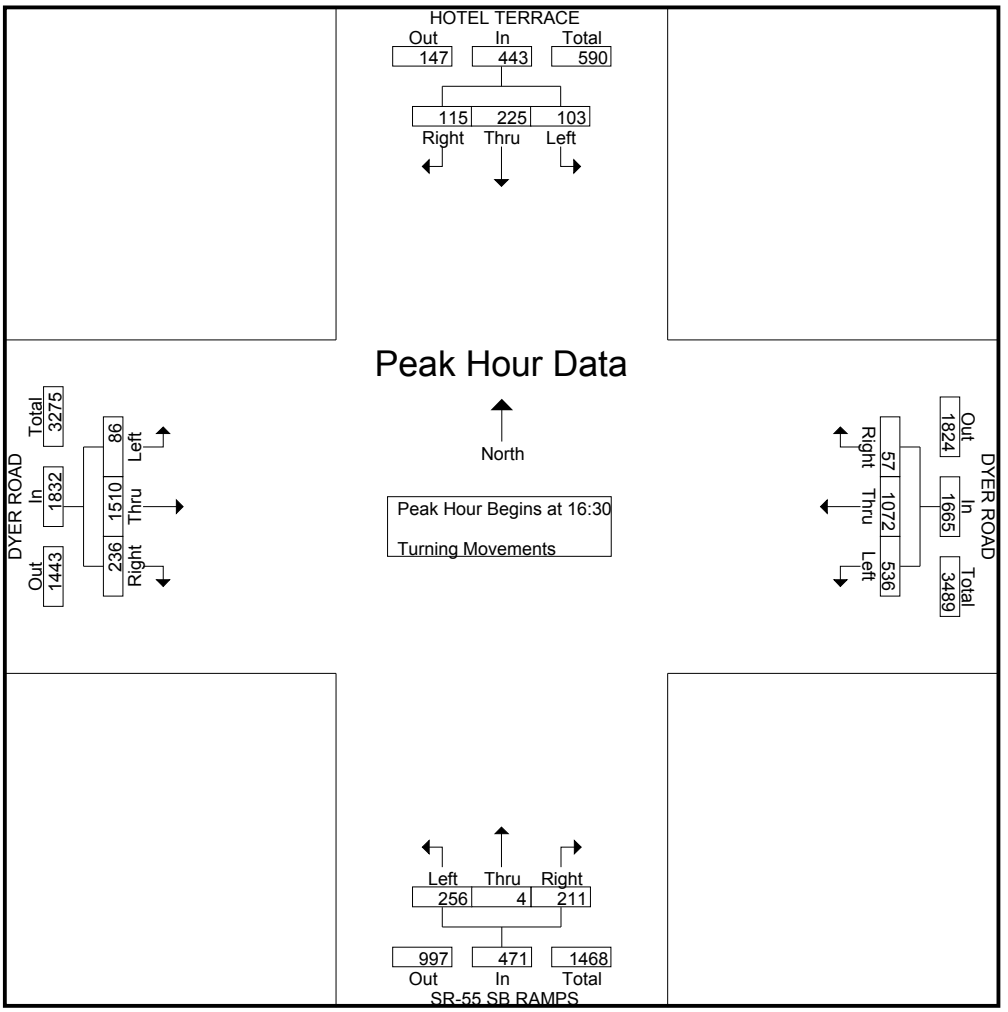
	HOTEL TERRACE Southbound				DYER ROAD Westbound				SR-55 SB RAMPS Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	**27**	42	13	82	19	181	91	291	113	**5**	**81**	**199**	**78**	287	3	368	940
07:45	22	**49**	16	**87**	21	**221**	77	319	**128**	4	63	195	65	312	**11**	388	**989**
08:00	16	28	**20**	64	**27**	200	74	301	124	4	50	178	77	**314**	7	**398**	941
08:15	18	34	9	61	26	205	**97**	**328**	103	3	37	143	64	307	7	378	910
Total Volume	83	153	58	294	93	807	339	1239	468	16	231	715	284	1220	28	1532	3780
% App. Total	28.2	52	19.7		7.5	65.1	27.4		65.5	2.2	32.3		18.5	79.6	1.8		
PHF	.769	.781	.725	.845	.861	.913	.874	.944	.914	.800	.713	.898	.910	.971	.636	.962	.956



City: SANTA ANA
N-S- Direction: SR-55 SB RAMPS
E-W Direction: DYER ROAD

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	HOTEL TERRACE Southbound				DYER ROAD Westbound				SR-55 SB RAMPS Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	**35**	68	25	**128**	5	259	**153**	417	52	0	61	113	61	368	**27**	456	1114
16:45	27	43	24	94	**23**	243	108	374	54	0	62	116	59	375	19	453	1037
17:00	23	**70**	**32**	125	20	272	143	435	48	**3**	**74**	**125**	**65**	346	19	430	1115
17:15	30	44	22	96	9	**298**	132	**439**	**57**	1	59	117	51	**421**	21	**493**	**1145**
Total Volume	115	225	103	443	57	1072	536	1665	211	4	256	471	236	1510	86	1832	4411
% App. Total	26	50.8	23.3		3.4	64.4	32.2		44.8	0.8	54.4		12.9	82.4	4.7		
PHF	.821	.804	.805	.865	.620	.899	.876	.948	.925	.333	.865	.942	.908	.897	.796	.929	.963



City: SANTA ANA
N-S- Direction: GRAND AVENUE
E-W Direction: DYER ROAD

File Name : H1409061
Site Code : 00000000
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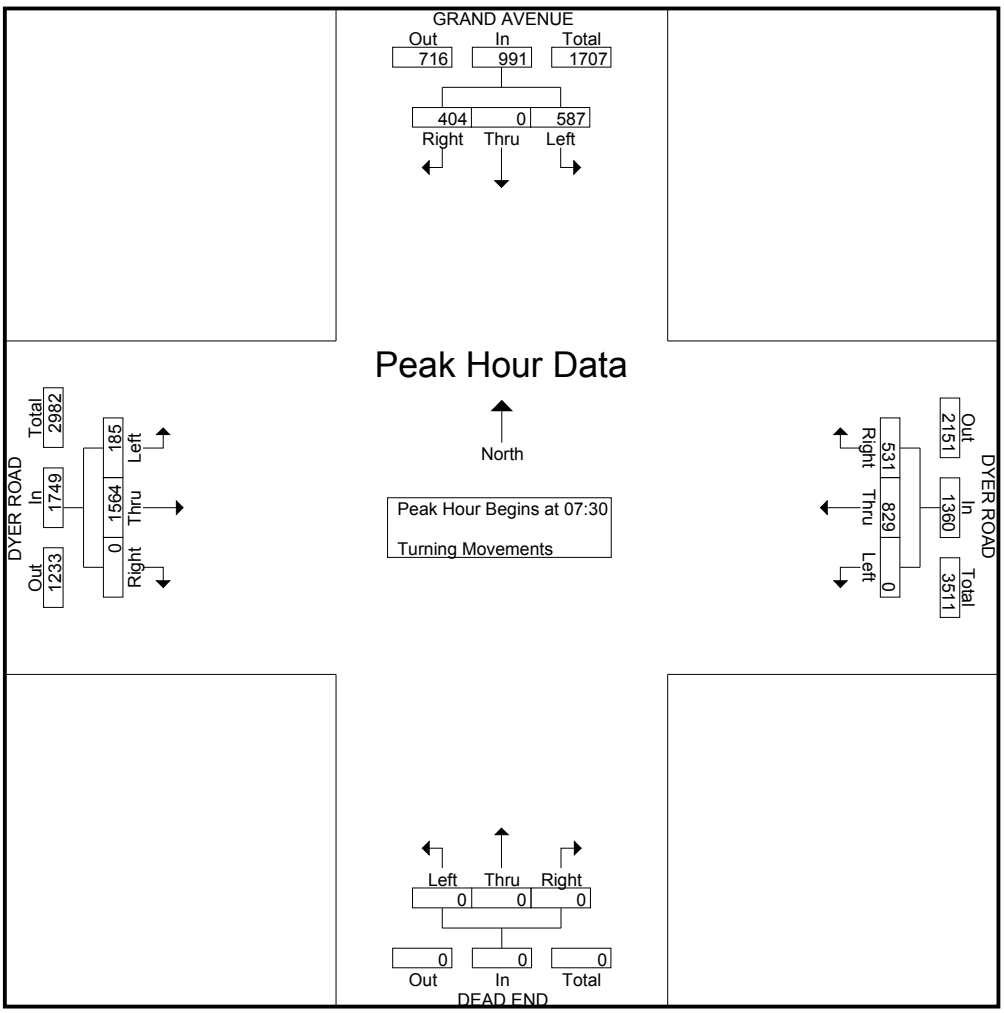
Groups Printed- Turning Movements

	GRAND AVENUE Southbound			DYER ROAD Westbound			DEAD END Northbound			DYER ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	84	0	150	98	176	0	0	0	0	0	334	35	877
07:15	84	0	153	126	174	0	0	0	0	0	346	26	909
07:30	116	0	154	120	186	0	0	0	0	0	376	40	992
07:45	81	0	176	156	228	0	0	0	0	0	401	61	1103
Total	365	0	633	500	764	0	0	0	0	0	1457	162	3881
08:00	109	0	146	134	193	0	0	0	0	0	405	43	1030
08:15	98	0	111	121	222	0	0	0	0	0	382	41	975
08:30	98	0	119	113	224	0	0	0	0	0	318	31	903
08:45	96	0	104	123	225	0	0	0	0	0	370	24	942
Total	401	0	480	491	864	0	0	0	0	0	1475	139	3850
*** BREAK ***													
16:00	93	0	55	101	318	0	0	0	0	0	333	75	975
16:15	110	0	67	108	253	0	0	0	0	0	337	98	973
16:30	119	0	72	106	302	0	0	0	0	0	368	71	1038
16:45	105	0	59	105	266	0	0	0	0	0	355	91	981
Total	427	0	253	420	1139	0	0	0	0	0	1393	335	3967
17:00	124	0	79	87	342	0	0	0	0	0	353	59	1044
17:15	92	0	77	106	295	0	0	0	0	0	363	106	1039
17:30	112	0	105	114	272	0	0	0	0	0	346	102	1051
17:45	85	0	67	122	285	0	0	0	0	0	356	70	985
Total	413	0	328	429	1194	0	0	0	0	0	1418	337	4119
Grand Total	1606	0	1694	1840	3961	0	0	0	0	0	5743	973	15817
Apprch %	48.7	0	51.3	31.7	68.3	0	0	0	0	0	85.5	14.5	
Total %	10.2	0	10.7	11.6	25	0	0	0	0	0	36.3	6.2	

City: SANTA ANA
N-S- Direction: GRAND AVENUE
E-W Direction: DYER ROAD

File Name : H1409061
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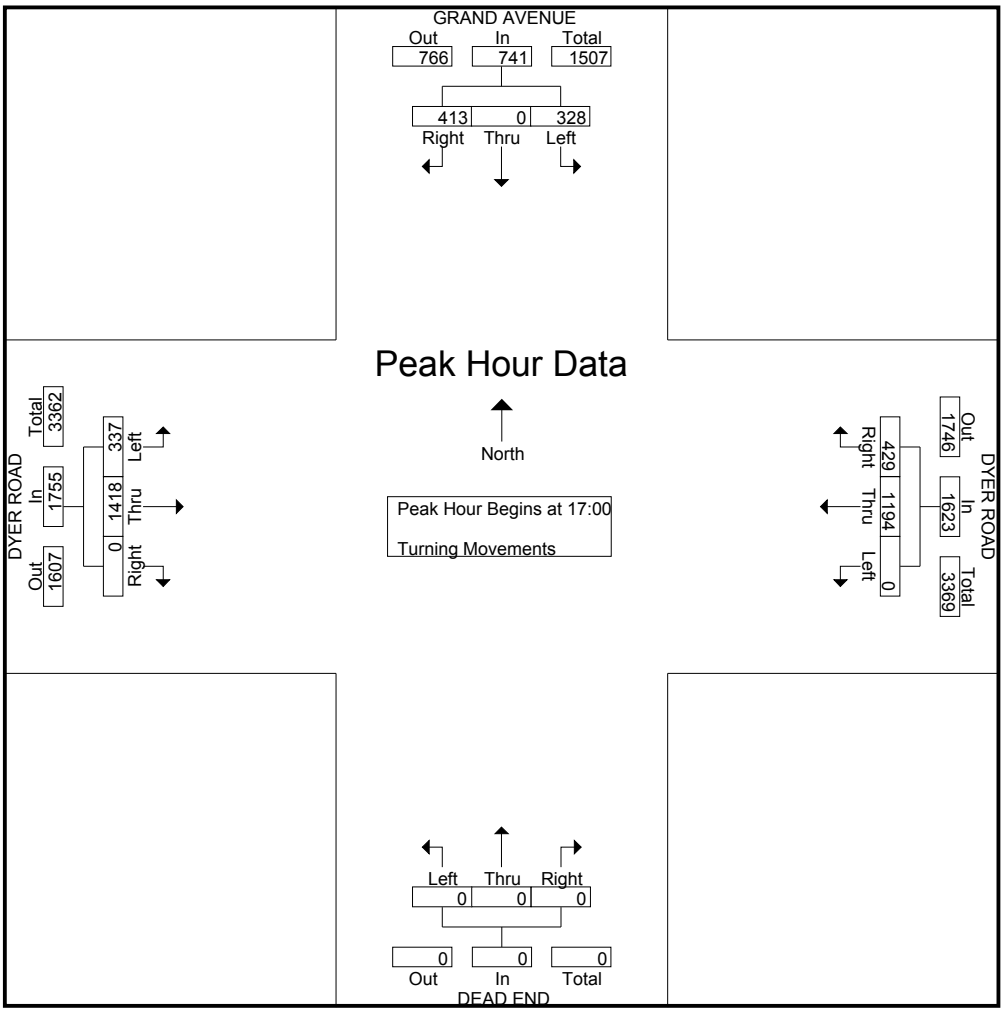
	GRAND AVENUE Southbound				DYER ROAD Westbound				DEAD END Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	**116**	0	154	**270**	120	186	0	306	0	0	0	0	0	376	40	416	992
07:45	81	0	**176**	257	**156**	**228**	0	**384**	0	0	0	0	0	401	**61**	**462**	**1103**
08:00	109	0	146	255	134	193	0	327	0	0	0	0	0	**405**	43	448	1030
08:15	98	0	111	209	121	222	0	343	0	0	0	0	0	382	41	423	975
Total Volume	404	0	587	991	531	829	0	1360	0	0	0	0	0	1564	185	1749	4100
% App. Total	40.8	0	59.2		39	61	0		0	0	0		0	89.4	10.6		
PHF	.871	.000	.834	.918	.851	.909	.000	.885	.000	.000	.000	.000	.000	.965	.758	.946	.929



City: SANTA ANA
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	GRAND AVENUE Southbound				DYER ROAD Westbound				DEAD END Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**124**	0	79	203	87	**342**	0	**429**	0	0	0	0	0	353	59	412	1044
17:15	92	0	77	169	106	295	0	401	0	0	0	0	0	**363**	**106**	**469**	1039
17:30	112	0	**105**	**217**	114	272	0	386	0	0	0	0	0	346	102	448	**1051**
17:45	85	0	67	152	**122**	285	0	407	0	0	0	0	0	356	70	426	985
Total Volume	413	0	328	741	429	1194	0	1623	0	0	0	0	0	1418	337	1755	4119
% App. Total	55.7	0	44.3		26.4	73.6	0		0	0	0		0	80.8	19.2		
PHF	.833	.000	.781	.854	.879	.873	.000	.946	.000	.000	.000	.000	.000	.977	.795	.936	.980



City: SANTA ANA
N-S- Direction: SR-55 NB RAMPS
E-W Direction: DYER ROAD

File Name : H1409062
Site Code : 00000000
Start Date : 9/23/2014
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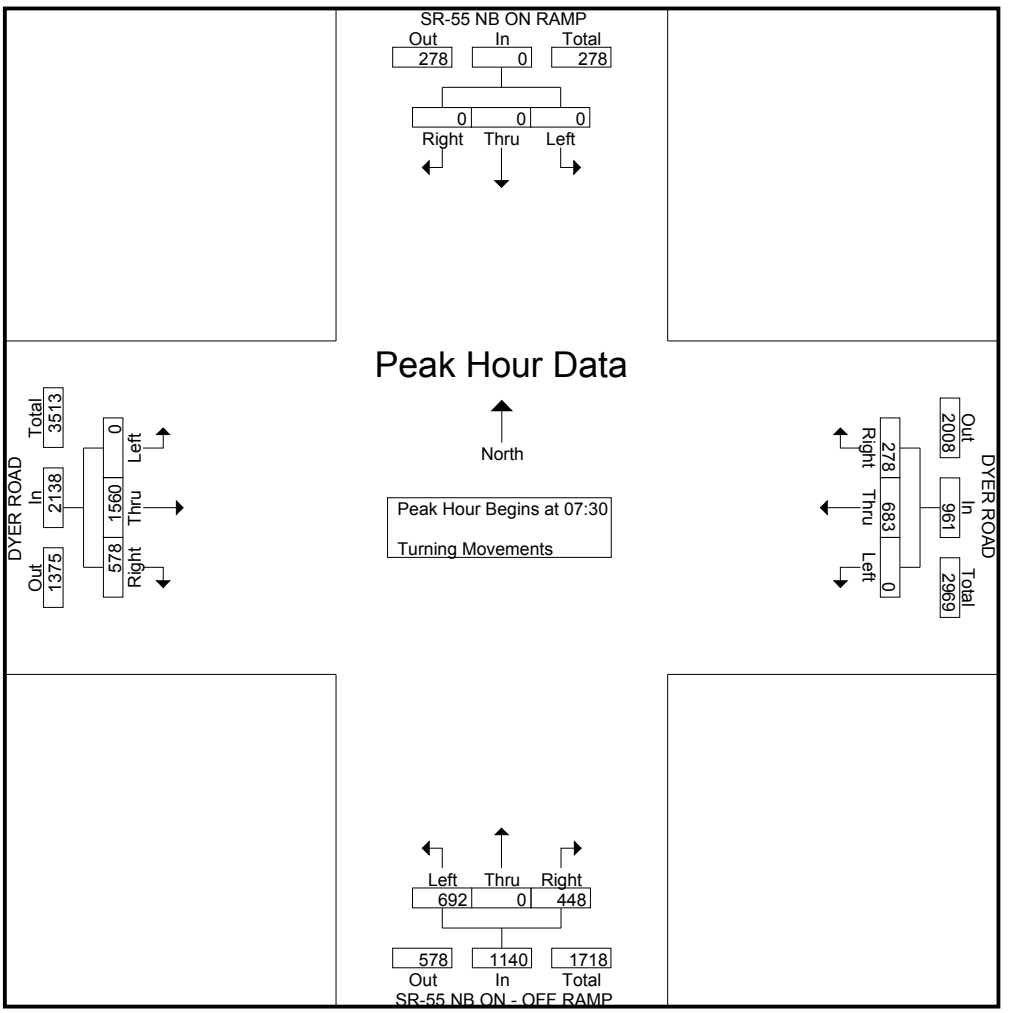
Groups Printed- Turning Movements

	SR-55 NB ON RAMP Southbound			DYER ROAD Westbound			SR-55 NB ON - OFF RAMP Northbound			DYER ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	0	0	0	71	102	0	101	0	164	143	367	0	948
07:15	0	0	0	63	123	0	117	0	175	125	382	0	985
07:30	0	0	0	72	147	0	94	0	153	170	364	0	1000
07:45	0	0	0	71	182	0	110	0	211	125	423	0	1122
Total	0	0	0	277	554	0	422	0	703	563	1536	0	4055
08:00	0	0	0	66	182	0	119	0	160	143	418	0	1088
08:15	0	0	0	69	172	0	125	0	168	140	355	0	1029
08:30	0	0	0	76	191	0	126	0	164	110	318	0	985
08:45	0	0	0	65	170	0	105	0	152	130	361	0	983
Total	0	0	0	276	715	0	475	0	644	523	1452	0	4085
*** BREAK ***													
16:00	0	0	0	298	346	0	32	0	64	159	228	0	1127
16:15	0	0	0	243	306	0	20	0	60	161	244	0	1034
16:30	0	0	0	261	372	0	23	0	42	164	270	0	1132
16:45	0	0	0	210	326	0	23	0	46	156	272	0	1033
Total	0	0	0	1012	1350	0	98	0	212	640	1014	0	4326
17:00	0	0	0	284	387	0	14	0	53	166	275	0	1179
17:15	0	0	0	246	378	0	21	0	40	155	319	0	1159
17:30	0	0	0	219	349	0	21	0	33	138	289	0	1049
17:45	0	0	0	185	326	0	18	0	56	129	274	0	988
Total	0	0	0	934	1440	0	74	0	182	588	1157	0	4375
Grand Total	0	0	0	2499	4059	0	1069	0	1741	2314	5159	0	16841
Apprch %	0	0	0	38.1	61.9	0	38	0	62	31	69	0	
Total %	0	0	0	14.8	24.1	0	6.3	0	10.3	13.7	30.6	0	

City: SANTA ANA
N-S- Direction: SR-55 NB RAMPS
E-W Direction: DYER ROAD

File Name : H1409062
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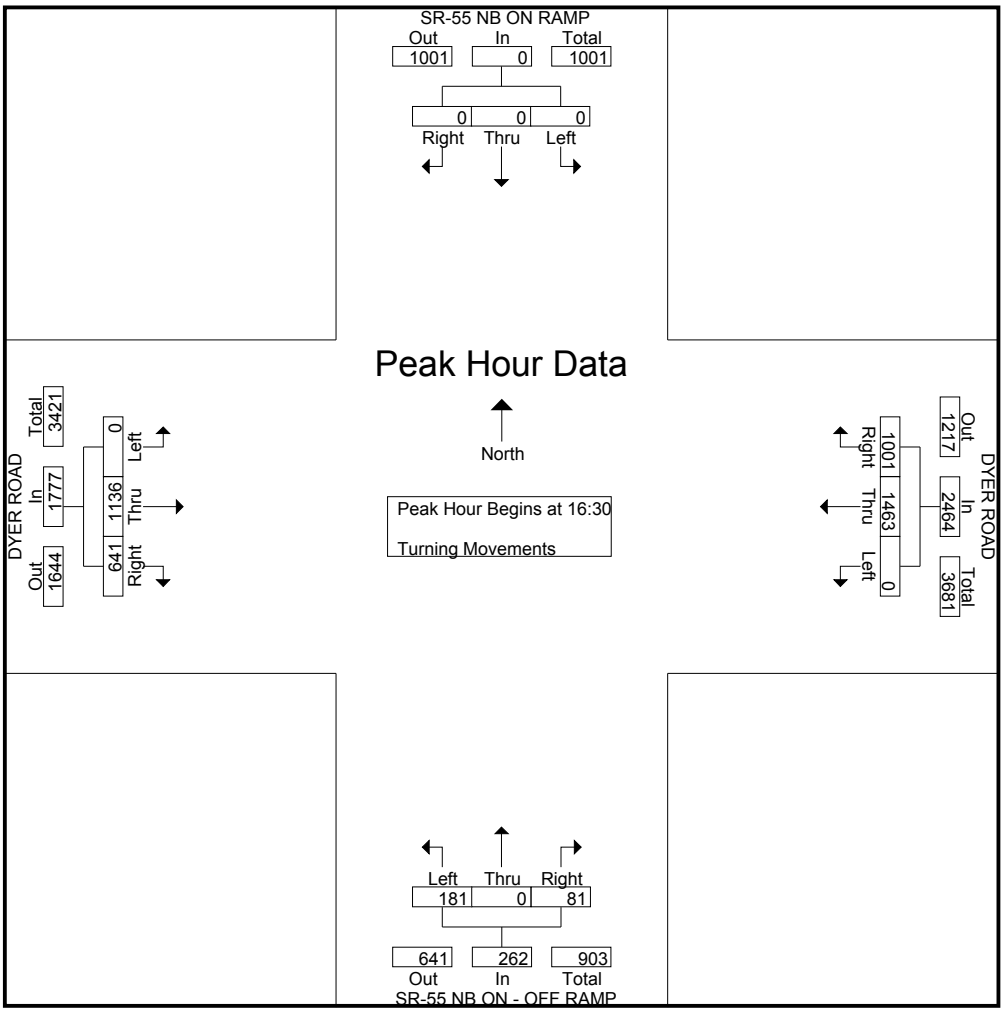
	SR-55 NB ON RAMP Southbound				DYER ROAD Westbound				SR-55 NB ON - OFF RAMP Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	0	0	0	**72**	147	0	219	94	0	153	247	**170**	364	0	534	1000
07:45	0	0	0	0	71	**182**	0	**253**	110	0	**211**	**321**	125	**423**	0	548	**1122**
08:00	0	0	0	0	66	182	0	248	119	0	160	279	143	418	0	**561**	1088
08:15	0	0	0	0	69	172	0	241	**125**	0	168	293	140	355	0	495	1029
Total Volume	0	0	0	0	278	683	0	961	448	0	692	1140	578	1560	0	2138	4239
% App. Total	0	0	0		28.9	71.1	0		39.3	0	60.7		27	73	0		
PHF	.000	.000	.000	.000	.965	.938	.000	.950	.896	.000	.820	.888	.850	.922	.000	.953	.945



City: SANTA ANA
N-S- Direction: SR-55 NB RAMPS
E-W Direction: DYER ROAD

File Name : H1409062
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	SR-55 NB ON RAMP Southbound				DYER ROAD Westbound				SR-55 NB ON - OFF RAMP Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	0	0	0	261	372	0	633	**23**	0	42	65	164	270	0	434	1132
16:45	0	0	0	0	210	326	0	536	23	0	46	**69**	156	272	0	428	1033
17:00	0	0	0	0	**284**	**387**	0	**671**	14	0	**53**	67	**166**	275	0	441	**1179**
17:15	0	0	0	0	246	378	0	624	21	0	40	61	155	**319**	0	**474**	1159
Total Volume	0	0	0	0	1001	1463	0	2464	81	0	181	262	641	1136	0	1777	4503
% App. Total	0	0	0		40.6	59.4	0		30.9	0	69.1		36.1	63.9	0		
PHF	.000	.000	.000	.000	.881	.945	.000	.918	.880	.000	.854	.949	.965	.890	.000	.937	.955



City: IRVINE
N-S Direction: RED HILL AVENUE
E-W Direction: DYER RD / BARRANCA PKWY

File Name : H1405090
Site Code : 00000000
Start Date : 6/10/2014
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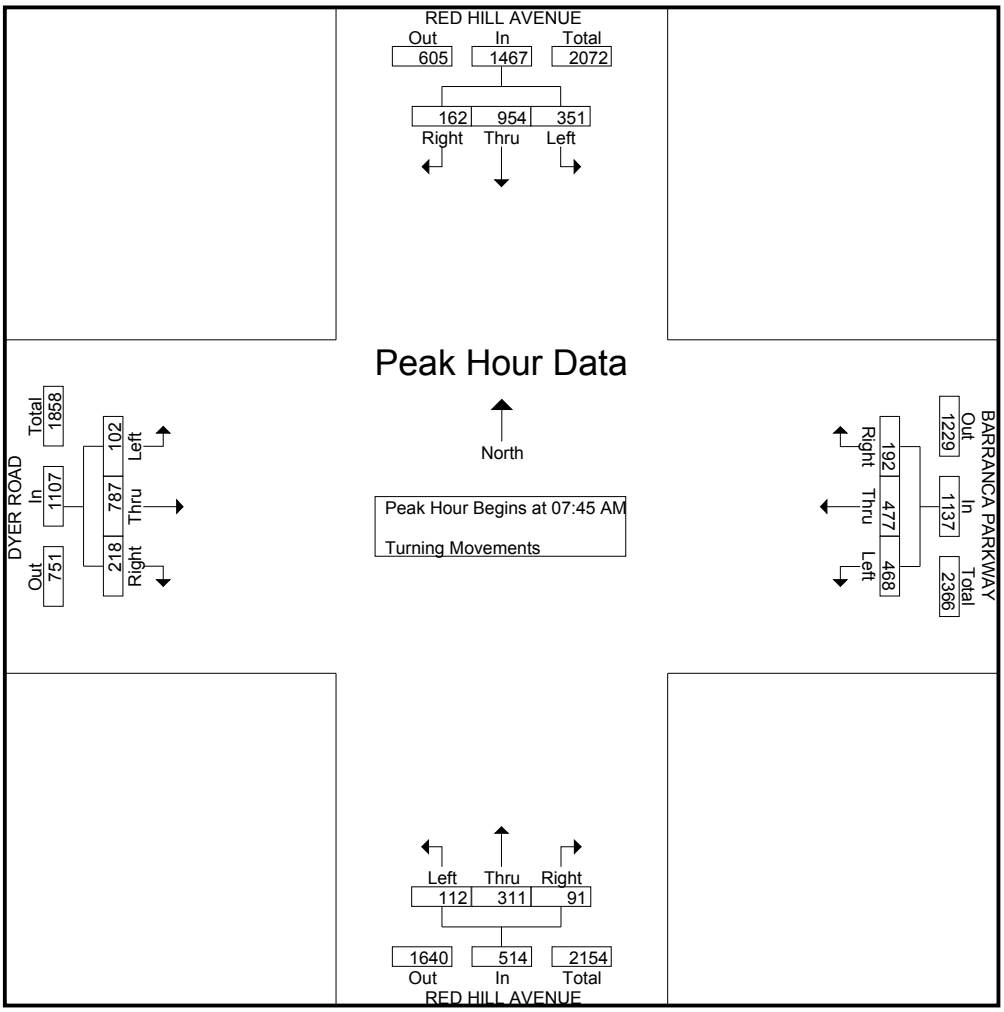
Groups Printed- Turning Movements

	RED HILL AVENUE Southbound			BARRANCA PARKWAY Westbound			RED HILL AVENUE Northbound			DYER ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	163	49	33	98	48	15	39	23	57	159	20	726
07:15 AM	16	155	76	42	144	61	25	67	23	47	216	22	894
07:30 AM	27	195	78	47	137	89	29	65	24	65	200	36	992
07:45 AM	32	268	113	53	110	110	23	70	29	61	239	31	1139
Total	97	781	316	175	489	308	92	241	99	230	814	109	3751
08:00 AM	29	209	79	52	119	111	23	100	25	58	177	20	1002
08:15 AM	47	265	95	41	121	119	20	70	24	54	205	22	1083
08:30 AM	54	212	64	46	127	128	25	71	34	45	166	29	1001
08:45 AM	25	157	80	50	112	163	22	65	33	54	174	25	960
Total	155	843	318	189	479	521	90	306	116	211	722	96	4046
*** BREAK ***													
04:00 PM	21	68	63	108	219	35	91	396	90	29	149	47	1316
04:15 PM	33	99	55	115	200	21	102	374	71	17	136	30	1253
04:30 PM	27	97	75	130	259	30	87	427	87	18	164	40	1441
04:45 PM	22	95	77	122	186	41	92	463	72	28	214	30	1442
Total	103	359	270	475	864	127	372	1660	320	92	663	147	5452
05:00 PM	37	136	84	130	255	33	94	447	102	31	184	62	1595
05:15 PM	34	109	94	105	187	32	94	467	93	14	279	69	1577
05:30 PM	30	114	82	115	240	29	83	452	91	15	190	54	1495
05:45 PM	18	94	54	84	189	42	109	504	79	23	188	41	1425
Total	119	453	314	434	871	136	380	1870	365	83	841	226	6092
Grand Total	474	2436	1218	1273	2703	1092	934	4077	900	616	3040	578	19341
Apprch %	11.5	59	29.5	25.1	53.3	21.5	15.8	69	15.2	14.5	71.8	13.7	
Total %	2.5	12.6	6.3	6.6	14	5.6	4.8	21.1	4.7	3.2	15.7	3	

City: IRVINE
N-S Direction: RED HILL AVENUE
E-W Direction: DYER RD / BARRANCA PKWY

File Name : H1405090
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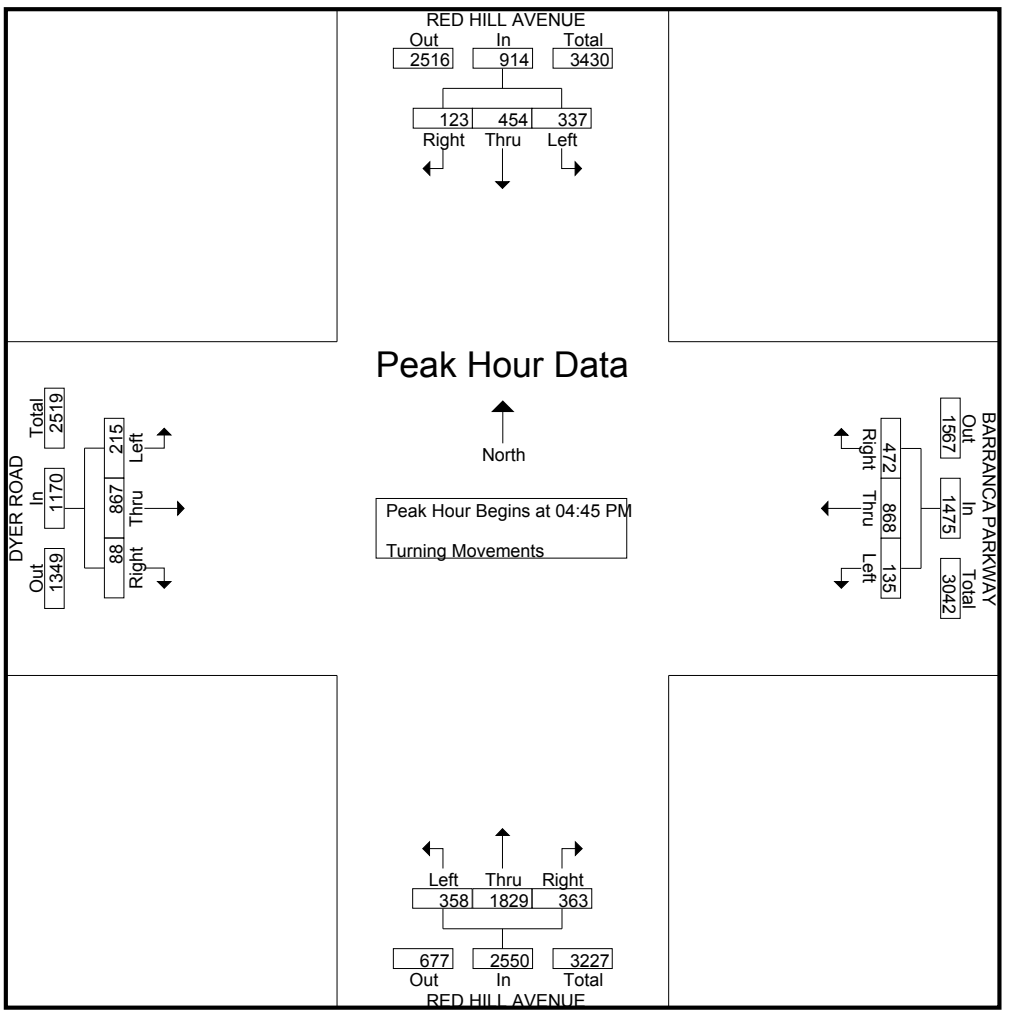
	RED HILL AVENUE Southbound				BARRANCA PARKWAY Westbound				RED HILL AVENUE Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	32	**268**	**113**	**413**	**53**	110	110	273	23	70	29	122	**61**	**239**	**31**	**331**	**1139**
08:00 AM	29	209	79	317	52	119	111	282	23	**100**	25	**148**	58	177	20	255	1002
08:15 AM	47	265	95	407	41	121	119	281	20	70	24	114	54	205	22	281	1083
08:30 AM	**54**	212	64	330	46	**127**	**128**	**301**	**25**	71	**34**	130	45	166	29	240	1001
Total Volume	162	954	351	1467	192	477	468	1137	91	311	112	514	218	787	102	1107	4225
% App. Total	11	65	23.9		16.9	42	41.2		17.7	60.5	21.8		19.7	71.1	9.2		
PHF	.750	.890	.777	.888	.906	.939	.914	.944	.910	.778	.824	.868	.893	.823	.823	.836	.927



City: IRVINE
N-S Direction: RED HILL AVENUE
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	RED HILL AVENUE Southbound				BARRANCA PARKWAY Westbound				RED HILL AVENUE Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	22	95	77	194	122	186	**41**	349	92	463	72	627	28	214	30	272	1442
05:00 PM	**37**	**136**	84	**257**	**130**	**255**	33	**418**	**94**	447	**102**	643	**31**	184	62	277	**1595**
05:15 PM	34	109	**94**	237	105	187	32	324	94	**467**	93	**654**	14	**279**	**69**	**362**	1577
05:30 PM	30	114	82	226	115	240	29	384	83	452	91	626	15	190	54	259	1495
Total Volume	123	454	337	914	472	868	135	1475	363	1829	358	2550	88	867	215	1170	6109
% App. Total	13.5	49.7	36.9		32	58.8	9.2		14.2	71.7	14		7.5	74.1	18.4		
PHF	.831	.835	.896	.889	.908	.851	.823	.882	.965	.979	.877	.975	.710	.777	.779	.808	.958



City: IRVINE
N-S Direction: ASTON STREET
E-W Direction: BARRANCA PARKWAY

File Name : H1405091
Site Code : 00005701
Start Date : 6/11/2014
Page No : 1

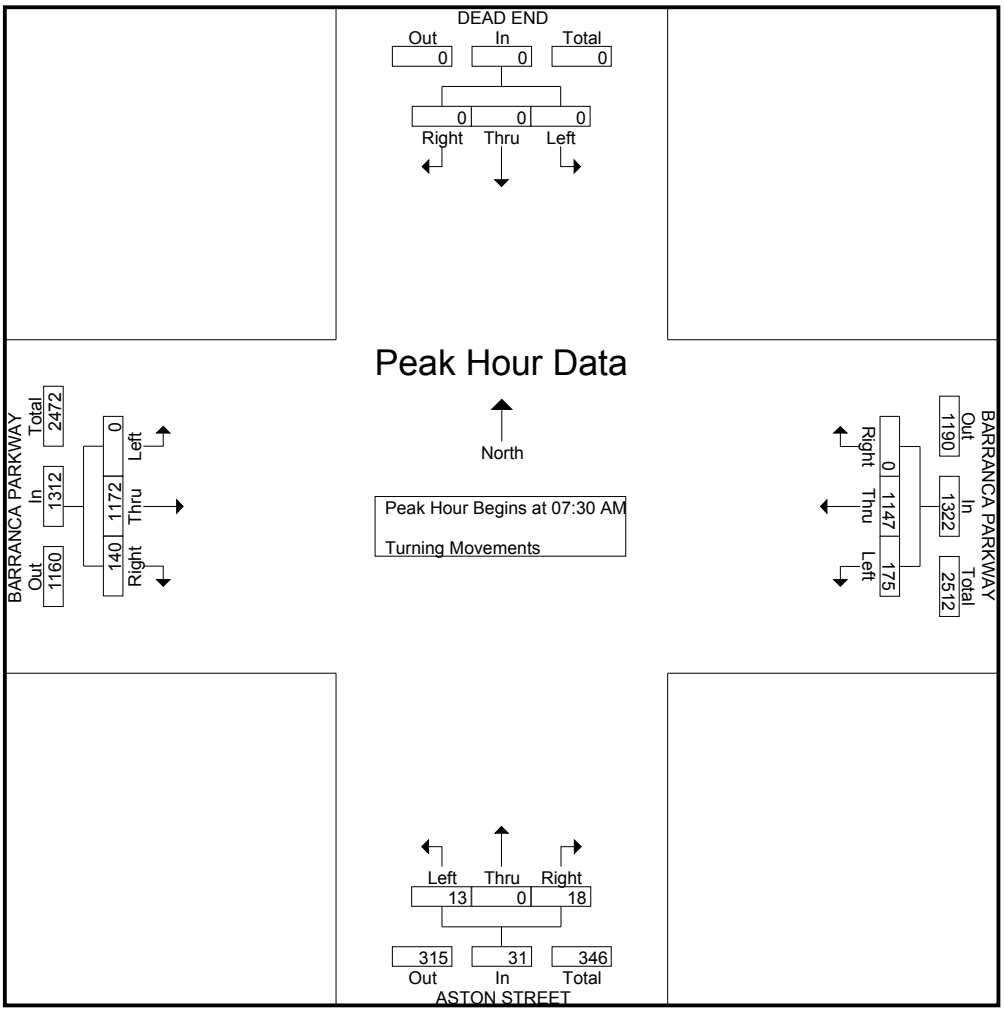
Groups Printed- Turning Movements

	DEAD END Southbound			BARRANCA PARKWAY Westbound			ASTON STREET Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	156	22	6	0	4	29	267	0	484
07:15 AM	0	0	0	0	205	24	4	0	13	24	268	0	538
07:30 AM	0	0	0	0	238	34	2	0	7	42	287	0	610
07:45 AM	0	0	0	0	297	42	1	0	2	33	316	0	691
Total	0	0	0	0	896	122	13	0	26	128	1138	0	2323
08:00 AM	0	0	0	0	303	53	11	0	2	42	299	0	710
08:15 AM	0	0	0	0	309	46	4	0	2	23	270	0	654
08:30 AM	0	0	0	0	285	43	3	0	2	28	233	0	594
08:45 AM	0	0	0	0	264	34	6	0	1	19	220	0	544
Total	0	0	0	0	1161	176	24	0	7	112	1022	0	2502
*** BREAK ***													
04:00 PM	0	0	0	0	338	8	18	0	7	9	222	0	602
04:15 PM	0	0	0	0	430	6	13	0	6	5	316	0	776
04:30 PM	0	0	0	0	338	5	16	0	16	3	313	0	691
04:45 PM	0	0	0	0	365	9	14	0	6	8	337	0	739
Total	0	0	0	0	1471	28	61	0	35	25	1188	0	2808
05:00 PM	0	0	0	0	402	5	34	0	8	5	350	0	804
05:15 PM	0	0	0	0	422	3	25	0	15	10	425	0	900
05:30 PM	0	0	0	0	363	2	32	0	19	29	383	0	828
05:45 PM	0	0	0	0	398	4	23	0	7	12	349	0	793
Total	0	0	0	0	1585	14	114	0	49	56	1507	0	3325
Grand Total	0	0	0	0	5113	340	212	0	117	321	4855	0	10958
Apprch %	0	0	0	0	93.8	6.2	64.4	0	35.6	6.2	93.8	0	
Total %	0	0	0	0	46.7	3.1	1.9	0	1.1	2.9	44.3	0	

City: IRVINE
N-S Direction: ASTON STREET
E-W Direction: BARRANCA PARKWAY

File Name : H1405091
Site Code : 00005701
Start Date : 6/11/2014
Page No : 2

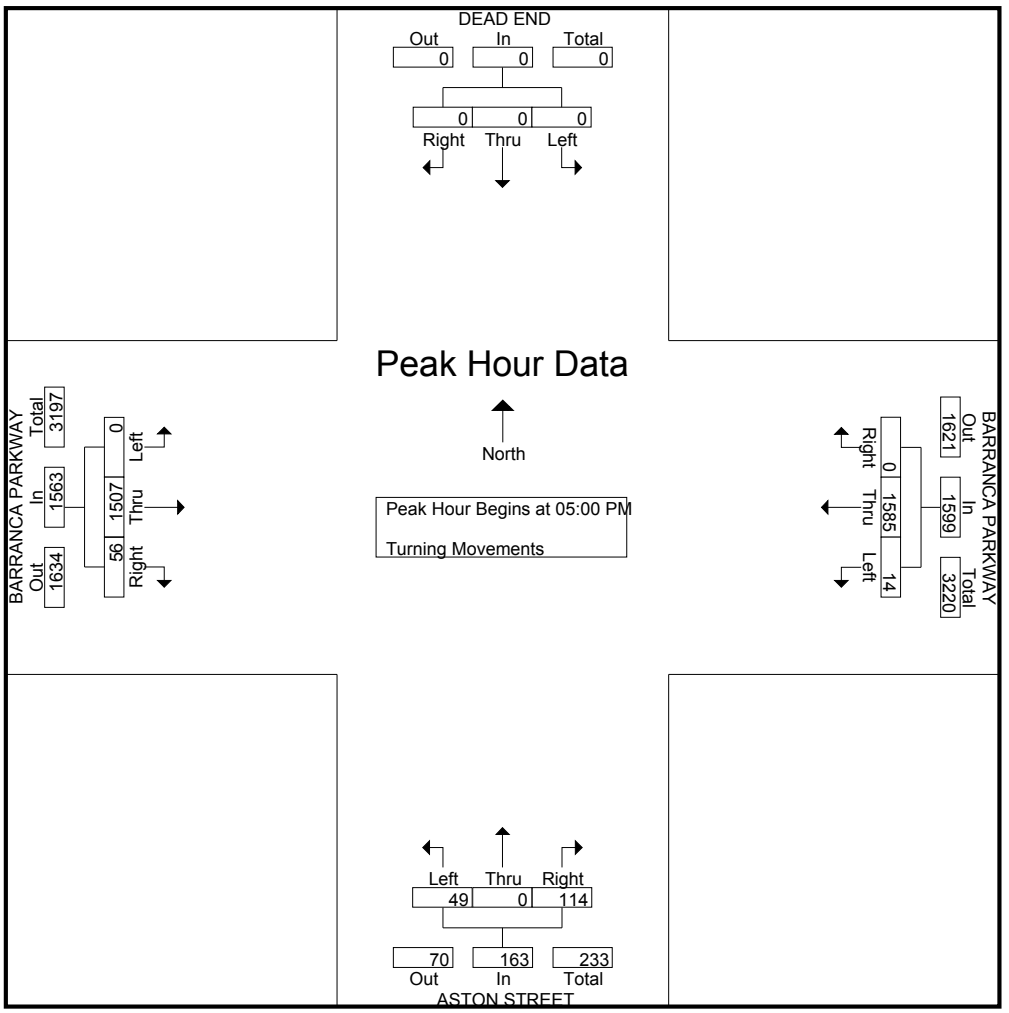
	DEAD END Southbound				BARRANCA PARKWAY Westbound				ASTON STREET Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	238	34	272	2	0	**7**	9	**42**	287	0	329	610
07:45 AM	0	0	0	0	0	297	42	339	1	0	2	3	33	**316**	0	**349**	691
08:00 AM	0	0	0	0	0	303	**53**	**356**	**11**	0	2	**13**	42	299	0	341	**710**
08:15 AM	0	0	0	0	0	**309**	46	355	4	0	2	6	23	270	0	293	654
Total Volume	0	0	0	0	0	1147	175	1322	18	0	13	31	140	1172	0	1312	2665
% App. Total	0	0	0		0	86.8	13.2		58.1	0	41.9		10.7	89.3	0		
PHF	.000	.000	.000	.000	.000	.928	.825	.928	.409	.000	.464	.596	.833	.927	.000	.940	.938



City: IRVINE
N-S Direction: ASTON STREET
E-W Direction: BARRANCA PARKWAY

File Name : H1405091
Site Code : 00005701
Start Date : 6/11/2014
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	DEAD END Southbound				BARRANCA PARKWAY Westbound				ASTON STREET Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	402	**5**	407	**34**	0	8	42	5	350	0	355	804
05:15 PM	0	0	0	0	0	**422**	3	**425**	25	0	15	40	10	**425**	0	**435**	**900**
05:30 PM	0	0	0	0	0	363	2	365	32	0	**19**	**51**	**29**	383	0	412	828
05:45 PM	0	0	0	0	0	398	4	402	23	0	7	30	12	349	0	361	793
Total Volume	0	0	0	0	0	1585	14	1599	114	0	49	163	56	1507	0	1563	3325
% App. Total	0	0	0		0	99.1	0.9		69.9	0	30.1		3.6	96.4	0		
PHF	.000	.000	.000	.000	.000	.939	.700	.941	.838	.000	.645	.799	.483	.886	.000	.898	.924



City: IRVINE
N-S Direction: ARMSTRONG AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405092
Site Code : 00000561
Start Date : 6/3/2014
Page No : 1

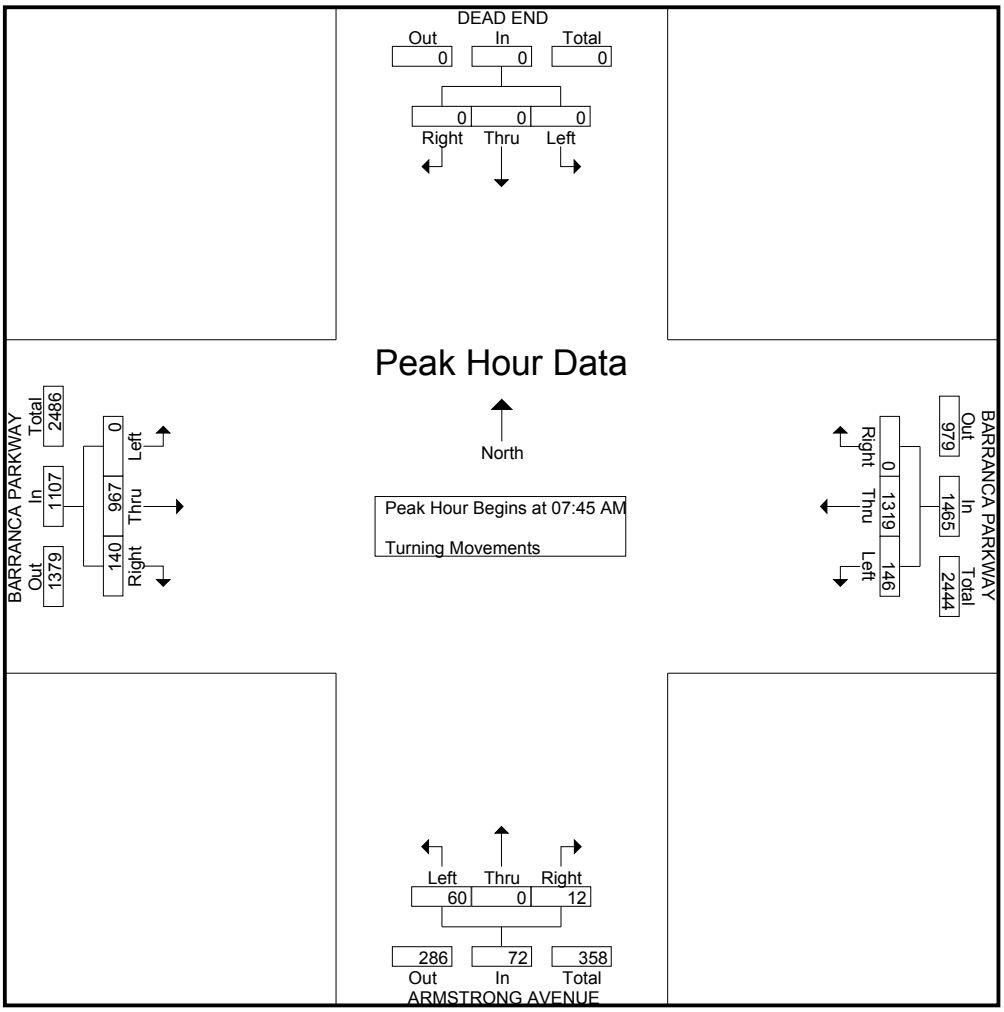
Groups Printed- Turning Movements

	DEAD END Southbound			BARRANCA PARKWAY Westbound			ARMSTRONG AVENUE Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	158	16	6	0	10	26	259	0	475
07:15 AM	0	0	0	0	212	12	2	0	23	35	223	0	507
07:30 AM	0	0	0	0	241	28	2	0	17	33	250	0	571
07:45 AM	0	0	0	0	330	22	1	0	13	37	275	0	678
Total	0	0	0	0	941	78	11	0	63	131	1007	0	2231
08:00 AM	0	0	0	0	339	48	2	0	10	39	248	0	686
08:15 AM	0	0	0	0	317	35	4	0	13	34	226	0	629
08:30 AM	0	0	0	0	333	41	5	0	24	30	218	0	651
08:45 AM	0	0	0	0	258	23	8	0	8	19	204	0	520
Total	0	0	0	0	1247	147	19	0	55	122	896	0	2486
*** BREAK ***													
04:00 PM	0	0	0	0	215	34	33	0	65	21	256	0	624
04:15 PM	0	0	0	0	301	27	42	0	66	24	305	0	765
04:30 PM	0	0	0	0	307	19	48	0	77	18	278	0	747
04:45 PM	0	0	0	0	314	17	42	0	89	12	377	0	851
Total	0	0	0	0	1137	97	165	0	297	75	1216	0	2987
05:00 PM	0	0	0	0	298	11	45	0	96	4	344	0	798
05:15 PM	0	0	0	0	354	10	82	0	136	19	465	0	1066
05:30 PM	0	0	0	0	303	27	70	0	107	11	350	0	868
05:45 PM	0	0	0	0	290	16	63	0	84	13	456	0	922
Total	0	0	0	0	1245	64	260	0	423	47	1615	0	3654
Grand Total	0	0	0	0	4570	386	455	0	838	375	4734	0	11358
Apprch %	0	0	0	0	92.2	7.8	35.2	0	64.8	7.3	92.7	0	
Total %	0	0	0	0	40.2	3.4	4	0	7.4	3.3	41.7	0	

City: IRVINE
N-S Direction: ARMSTRONG AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405092
Site Code : 00000561
Start Date : 6/3/2014
Page No : 2

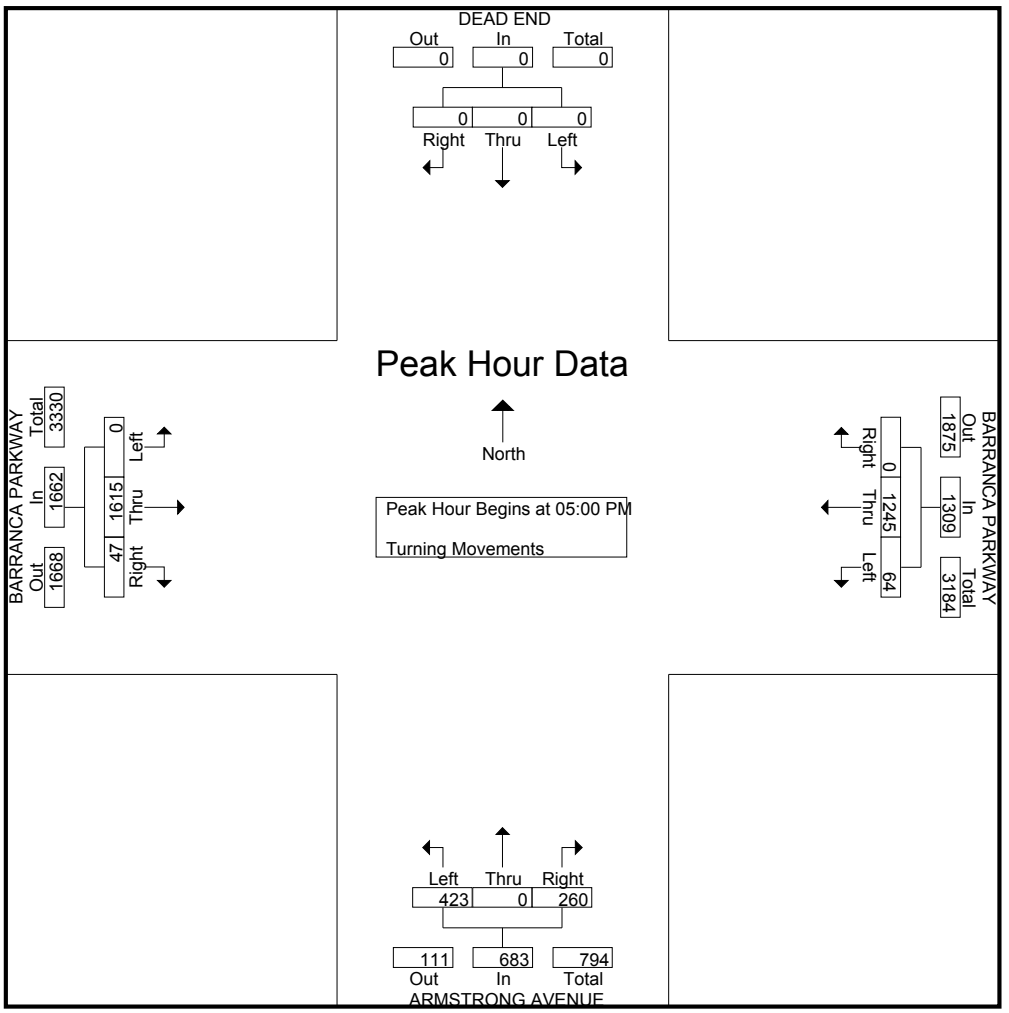
	DEAD END Southbound				BARRANCA PARKWAY Westbound				ARMSTRONG AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	330	22	352	1	0	13	14	37	**275**	0	**312**	678
08:00 AM	0	0	0	0	0	**339**	**48**	**387**	2	0	10	12	**39**	248	0	287	**686**
08:15 AM	0	0	0	0	0	317	35	352	4	0	13	17	34	226	0	260	629
08:30 AM	0	0	0	0	0	333	41	374	**5**	0	**24**	**29**	30	218	0	248	651
Total Volume	0	0	0	0	0	1319	146	1465	12	0	60	72	140	967	0	1107	2644
% App. Total	0	0	0		0	90	10		16.7	0	83.3		12.6	87.4	0		
PHF	.000	.000	.000	.000	.000	.973	.760	.946	.600	.000	.625	.621	.897	.879	.000	.887	.964



City: IRVINE
N-S Direction: ARMSTRONG AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405092
Site Code : 00000561
Start Date : 6/3/2014
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	DEAD END Southbound				BARRANCA PARKWAY Westbound				ARMSTRONG AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	298	11	309	45	0	96	141	4	344	0	348	798
05:15 PM	0	0	0	0	0	**354**	10	**364**	**82**	0	**136**	**218**	**19**	**465**	0	**484**	**1066**
05:30 PM	0	0	0	0	0	303	**27**	330	70	0	107	177	11	350	0	361	868
05:45 PM	0	0	0	0	0	290	16	306	63	0	84	147	13	456	0	469	922
Total Volume	0	0	0	0	0	1245	64	1309	260	0	423	683	47	1615	0	1662	3654
% App. Total	0	0	0		0	95.1	4.9		38.1	0	61.9		2.8	97.2	0		
PHF	.000	.000	.000	.000	.000	.879	.593	.899	.793	.000	.778	.783	.618	.868	.000	.858	.857



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1405093
Site Code : 00000000
Start Date : 6/12/2014
Page No : 1

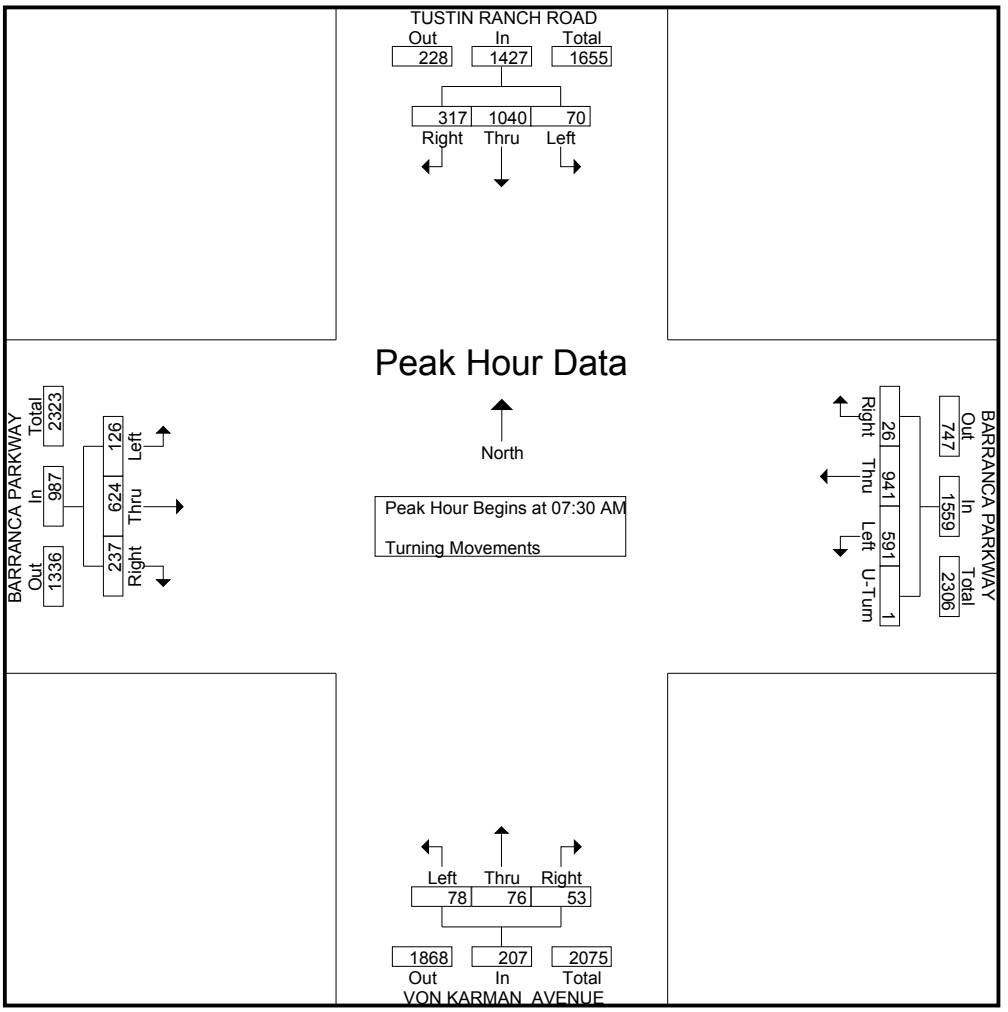
Groups Printed- Turning Movements

	TUSTIN RANCH ROAD Southbound			BARRANCA PARKWAY Westbound				VON KARMAN AVENUE Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	38	146	12	1	147	124	1	9	14	15	70	122	38	737
07:15 AM	35	254	15	6	215	112	0	7	17	17	88	134	28	928
07:30 AM	55	234	14	3	248	142	0	11	14	23	78	160	28	1010
07:45 AM	109	314	23	8	257	131	0	13	20	20	58	189	39	1181
Total	237	948	64	18	867	509	1	40	65	75	294	605	133	3856
08:00 AM	82	233	20	8	232	169	0	8	18	18	32	143	30	993
08:15 AM	71	259	13	7	204	149	1	21	24	17	69	132	29	996
08:30 AM	66	242	19	9	224	169	0	17	27	19	49	128	30	999
08:45 AM	60	239	15	12	202	144	1	12	18	19	43	121	31	917
Total	279	973	67	36	862	631	2	58	87	73	193	524	120	3905
*** BREAK ***														
04:00 PM	95	70	18	19	168	67	0	75	169	81	30	203	81	1076
04:15 PM	64	65	10	46	174	51	2	69	194	68	22	216	109	1090
04:30 PM	58	68	20	36	149	59	2	75	215	88	25	270	89	1154
04:45 PM	65	61	13	41	160	50	3	75	270	72	24	253	107	1194
Total	282	264	61	142	651	227	7	294	848	309	101	942	386	4514
05:00 PM	81	63	12	38	188	55	1	83	283	82	25	379	103	1393
05:15 PM	69	82	15	48	189	63	2	121	303	67	24	368	87	1438
05:30 PM	73	73	16	54	218	54	1	84	270	64	20	363	96	1386
05:45 PM	60	55	19	34	166	44	3	89	269	61	36	370	104	1310
Total	283	273	62	174	761	216	7	377	1125	274	105	1480	390	5527
Grand Total	1081	2458	254	370	3141	1583	17	769	2125	731	693	3551	1029	17802
Apprch %	28.5	64.8	6.7	7.2	61.5	31	0.3	21.2	58.6	20.2	13.1	67.3	19.5	
Total %	6.1	13.8	1.4	2.1	17.6	8.9	0.1	4.3	11.9	4.1	3.9	19.9	5.8	

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1405093
Site Code : 00000000
Start Date : 6/12/2014
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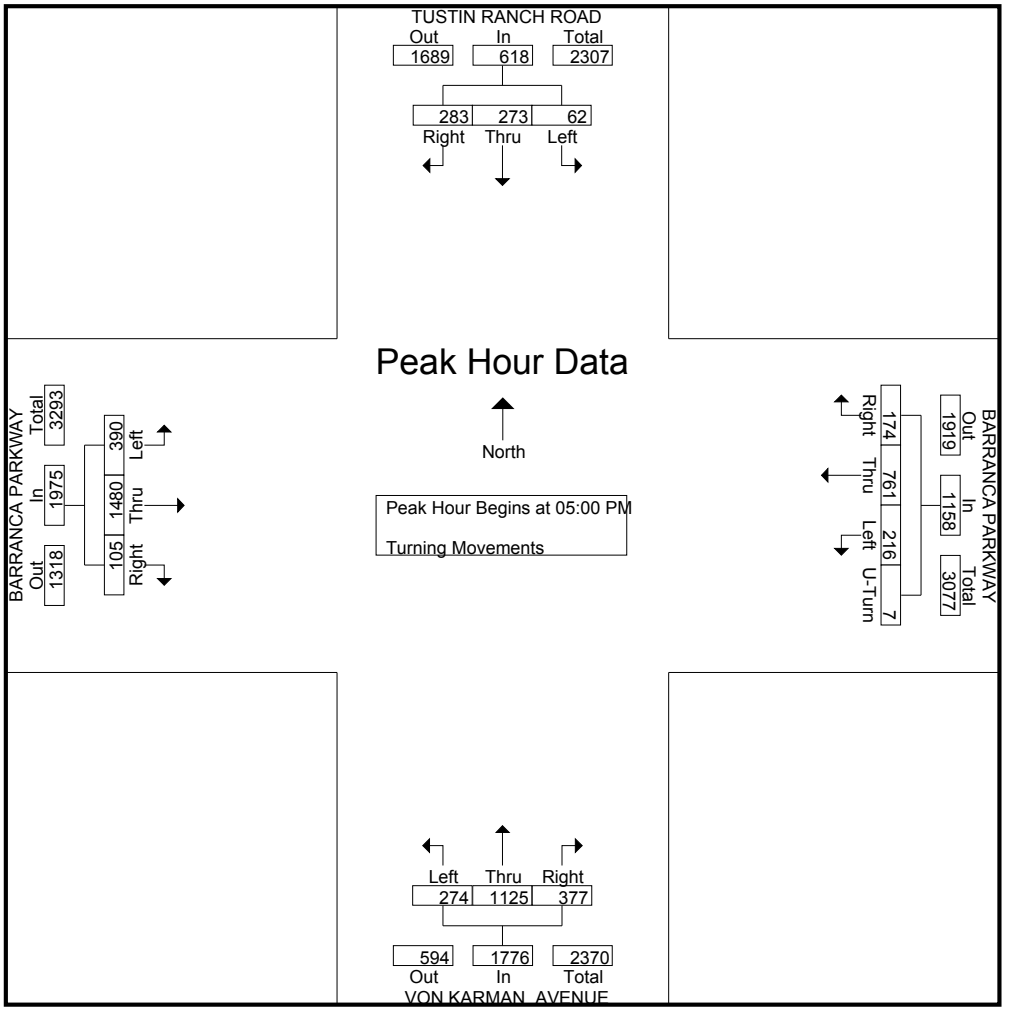
	TUSTIN RANCH ROAD Southbound				BARRANCA PARKWAY Westbound					VON KARMAN AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30 AM																		
07:30 AM	55	234	14	303	3	248	142	0	393	11	14	**23**	48	**78**	160	28	266	1010
07:45 AM	**109**	**314**	**23**	**446**	**8**	**257**	131	0	396	13	20	20	53	58	**189**	**39**	**286**	**1181**
08:00 AM	82	233	20	335	8	232	**169**	0	**409**	8	18	18	44	32	143	30	205	993
08:15 AM	71	259	13	343	7	204	149	**1**	361	**21**	**24**	17	**62**	69	132	29	230	996
Total Volume	317	1040	70	1427	26	941	591	1	1559	53	76	78	207	237	624	126	987	4180
% App. Total	22.2	72.9	4.9		1.7	60.4	37.9	0.1		25.6	36.7	37.7		24	63.2	12.8		
PHF	.727	.828	.761	.800	.813	.915	.874	.250	.953	.631	.792	.848	.835	.760	.825	.808	.863	.885



City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1405093
Site Code : 00000000
Start Date : 6/12/2014
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	TUSTIN RANCH ROAD Southbound				BARRANCA PARKWAY Westbound					VON KARMAN AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	**81**	63	12	156	38	188	55	1	282	83	283	**82**	448	25	**379**	103	507	1393
05:15 PM	69	**82**	15	**166**	48	189	**63**	2	302	**121**	**303**	67	**491**	24	368	87	479	**1438**
05:30 PM	73	73	16	162	**54**	**218**	54	1	**327**	84	270	64	418	20	363	96	479	1386
05:45 PM	60	55	**19**	134	34	166	44	**3**	247	89	269	61	419	**36**	370	**104**	**510**	1310
Total Volume	283	273	62	618	174	761	216	7	1158	377	1125	274	1776	105	1480	390	1975	5527
% App. Total	45.8	44.2	10		15	65.7	18.7	0.6		21.2	63.3	15.4		5.3	74.9	19.7		
PHF	.873	.832	.816	.931	.806	.873	.857	.583	.885	.779	.928	.835	.904	.729	.976	.938	.968	.961



City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: BARRANCA PARKWAY

File Name : H1405094
Site Code : 00000000
Start Date : 6/12/2014
Page No : 1

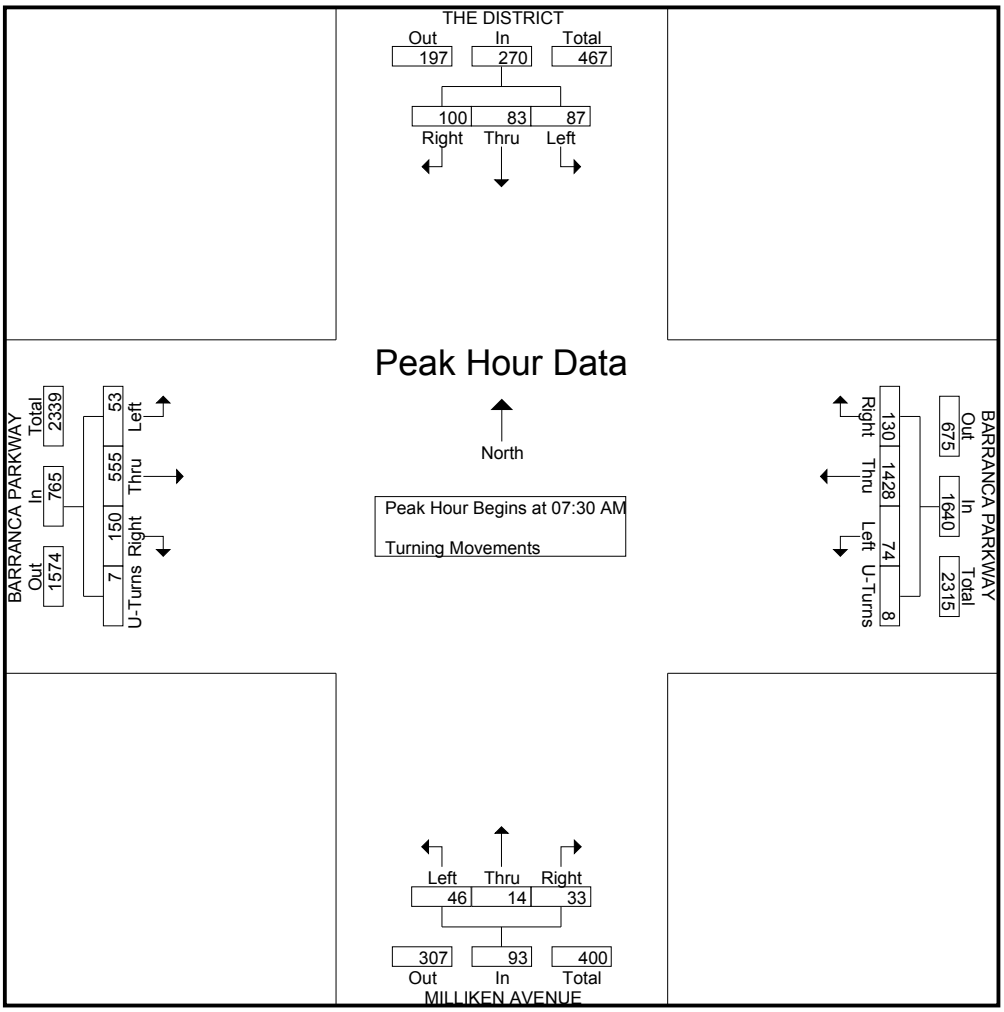
Groups Printed- Turning Movements

	THE DISTRICT Southbound			BARRANCA PARKWAY Westbound				MILLIKEN AVENUE Northbound			BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	U-Turns	Int. Total
07:00 AM	20	6	14	26	240	12	0	14	5	20	45	100	10	0	512
07:15 AM	21	13	13	29	315	17	3	11	3	14	37	96	16	0	588
07:30 AM	18	17	24	25	330	16	1	11	3	19	37	162	8	2	673
07:45 AM	35	30	24	32	369	23	3	7	4	12	38	141	17	1	736
Total	94	66	75	112	1254	68	7	43	15	65	157	499	51	3	2509
08:00 AM	32	17	17	43	332	16	1	6	3	10	38	142	8	1	666
08:15 AM	15	19	22	30	397	19	3	9	4	5	37	110	20	3	693
08:30 AM	33	15	21	57	329	21	1	6	2	17	30	123	14	4	673
08:45 AM	26	10	30	34	327	15	0	9	8	13	27	136	14	1	650
Total	106	61	90	164	1385	71	5	30	17	45	132	511	56	9	2682
*** BREAK ***															
04:00 PM	38	20	107	108	147	5	0	36	12	37	5	265	25	4	809
04:15 PM	54	14	64	123	171	4	0	22	23	32	13	226	41	1	788
04:30 PM	46	12	84	138	204	9	0	42	24	49	19	336	45	2	1010
04:45 PM	44	14	89	148	184	12	0	28	20	33	12	281	47	1	913
Total	182	60	344	517	706	30	0	128	79	151	49	1108	158	8	3520
05:00 PM	36	11	84	75	206	6	2	57	38	55	22	376	42	1	1011
05:15 PM	53	11	96	85	204	14	1	40	28	29	36	456	58	4	1115
05:30 PM	39	11	87	84	167	5	1	30	29	43	20	354	72	2	944
05:45 PM	58	11	86	127	207	5	1	19	32	23	22	396	45	5	1037
Total	186	44	353	371	784	30	5	146	127	150	100	1582	217	12	4107
Grand Total	568	231	862	1164	4129	199	17	347	238	411	438	3700	482	32	12818
Apprch %	34.2	13.9	51.9	21.1	75	3.6	0.3	34.8	23.9	41.3	9.4	79.5	10.4	0.7	
Total %	4.4	1.8	6.7	9.1	32.2	1.6	0.1	2.7	1.9	3.2	3.4	28.9	3.8	0.2	

City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: BARRANCA PARKWAY

File Name : H1405094
Site Code : 00000000
Start Date : 6/12/2014
Page No : 2

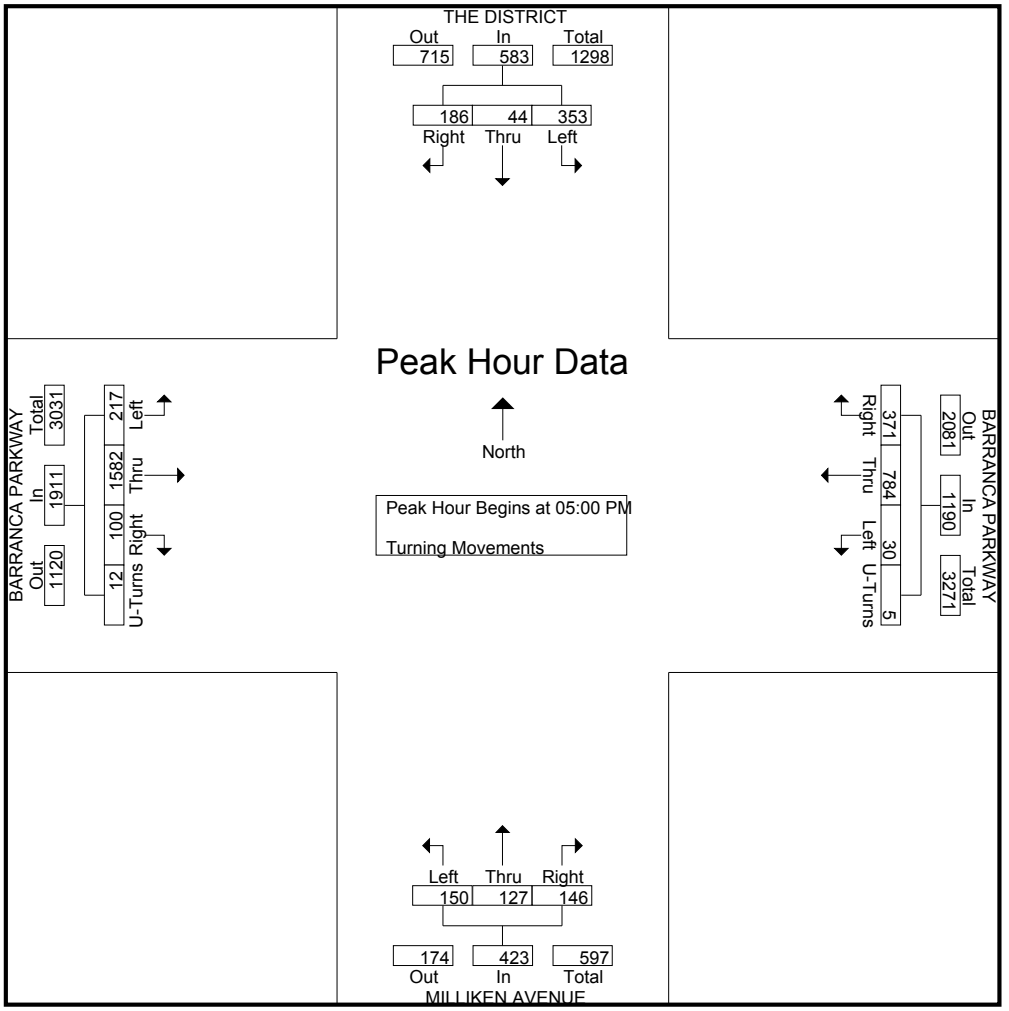
	THE DISTRICT Southbound				BARRANCA PARKWAY Westbound					MILLIKEN AVENUE Northbound				BARRANCA PARKWAY Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:30 AM																			
07:30 AM	18	17	**24**	59	25	330	16	1	372	**11**	3	**19**	**33**	37	**162**	8	2	**209**	673
07:45 AM	**35**	**30**	24	**89**	32	369	**23**	**3**	427	7	**4**	12	23	**38**	141	17	1	197	**736**
08:00 AM	32	17	17	66	**43**	332	16	1	392	6	3	10	19	38	142	8	1	189	666
08:15 AM	15	19	22	56	30	**397**	19	3	**449**	9	4	5	18	37	110	**20**	**3**	170	693
Total Volume	100	83	87	270	130	1428	74	8	1640	33	14	46	93	150	555	53	7	765	2768
% App. Total	37	30.7	32.2		7.9	87.1	4.5	0.5		35.5	15.1	49.5		19.6	72.5	6.9	0.9		
PHF	.714	.692	.906	.758	.756	.899	.804	.667	.913	.750	.875	.605	.705	.987	.856	.663	.583	.915	.940



City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: BARRANCA PARKWAY

File Name : H1405094
Site Code : 00000000
Start Date : 6/12/2014
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	THE DISTRICT Southbound				BARRANCA PARKWAY Westbound					MILLIKEN AVENUE Northbound				BARRANCA PARKWAY Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	36	**11**	84	131	75	206	6	**2**	289	**57**	**38**	**55**	**150**	22	376	42	1	441	1011
05:15 PM	53	11	**96**	**160**	85	204	**14**	1	304	40	28	29	97	**36**	**456**	58	4	**554**	**1115**
05:30 PM	39	11	87	137	84	167	5	1	257	30	29	43	102	20	354	**72**	2	448	944
05:45 PM	**58**	11	86	155	**127**	**207**	5	1	**340**	19	32	23	74	22	396	45	**5**	468	1037
Total Volume	186	44	353	583	371	784	30	5	1190	146	127	150	423	100	1582	217	12	1911	4107
% App. Total	31.9	7.5	60.5		31.2	65.9	2.5	0.4		34.5	30	35.5		5.2	82.8	11.4	0.6		
PHF	.802	1.00	.919	.911	.730	.947	.536	.625	.875	.640	.836	.682	.705	.694	.867	.753	.600	.862	.921



City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1404047
Site Code : 136
Start Date : 5/21/2014
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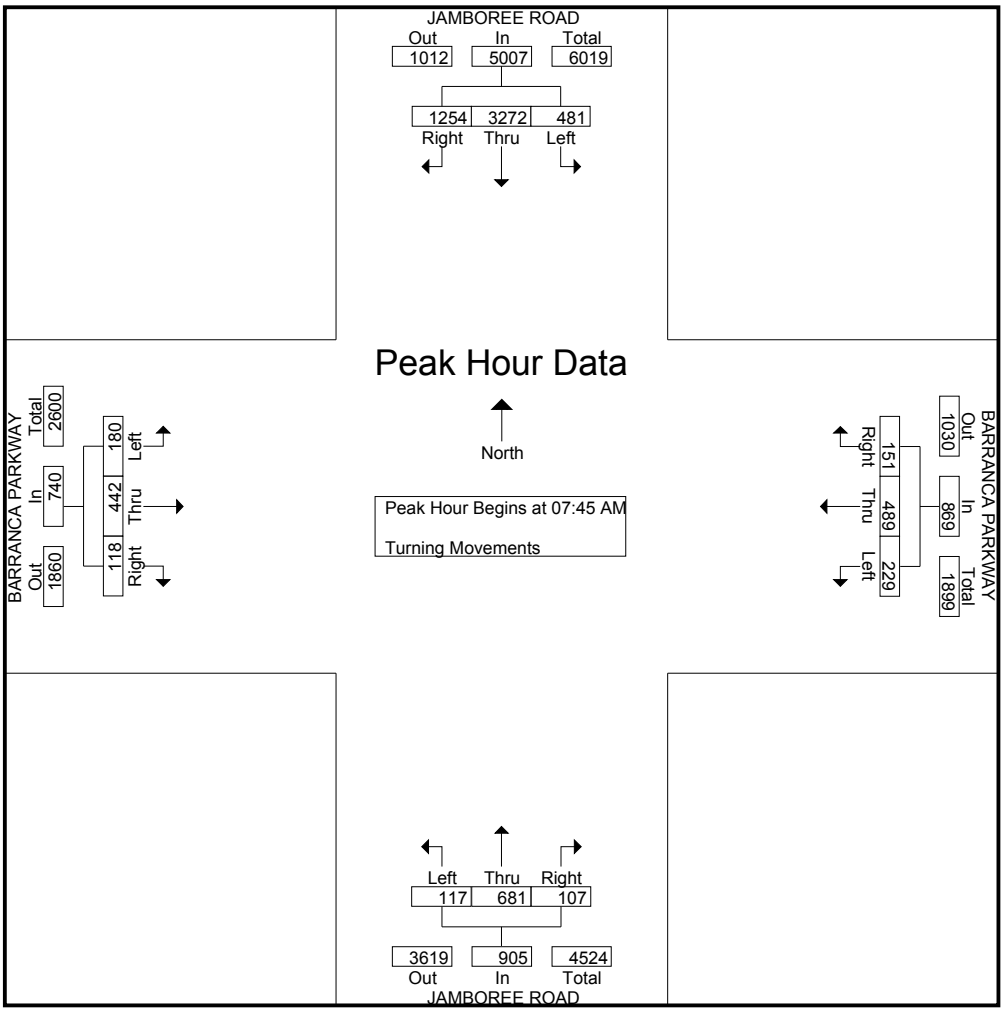
Groups Printed- Turning Movements

	JAMBOREE ROAD Southbound			BARRANCA PARKWAY Westbound			JAMBOREE ROAD Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	175	402	66	35	73	34	22	80	31	15	84	28	1045
07:15 AM	225	591	93	30	67	61	13	134	26	17	48	22	1327
07:30 AM	316	721	101	28	95	63	29	83	18	24	100	29	1607
07:45 AM	393	924	126	49	102	64	34	137	34	34	115	49	2061
Total	1109	2638	386	142	337	222	98	434	109	90	347	128	6040
08:00 AM	336	850	132	30	132	40	25	181	22	25	112	40	1925
08:15 AM	308	701	97	39	145	62	18	145	36	28	107	40	1726
08:30 AM	217	797	126	33	110	63	30	218	25	31	108	51	1809
08:45 AM	227	725	123	29	139	53	22	182	36	32	120	45	1733
Total	1088	3073	478	131	526	218	95	726	119	116	447	176	7193
*** BREAK ***													
04:00 PM	54	258	65	84	113	26	27	635	116	58	159	205	1800
04:15 PM	58	274	66	74	94	21	25	608	87	76	133	204	1720
04:30 PM	56	269	85	59	152	35	24	640	125	62	171	237	1915
04:45 PM	55	254	52	100	125	20	46	742	116	62	199	272	2043
Total	223	1055	268	317	484	102	122	2625	444	258	662	918	7478
05:00 PM	49	285	75	66	139	40	25	645	105	59	195	294	1977
05:15 PM	74	348	84	82	175	36	18	691	106	66	222	280	2182
05:30 PM	53	295	73	84	169	27	26	731	73	55	227	316	2129
05:45 PM	56	293	74	102	211	29	25	709	113	52	157	250	2071
Total	232	1221	306	334	694	132	94	2776	397	232	801	1140	8359
Grand Total	2652	7987	1438	924	2041	674	409	6561	1069	696	2257	2362	29070
Apprch %	22	66.1	11.9	25.4	56.1	18.5	5.1	81.6	13.3	13.1	42.5	44.4	
Total %	9.1	27.5	4.9	3.2	7	2.3	1.4	22.6	3.7	2.4	7.8	8.1	

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1404047
Site Code : 136
Start Date : 5/21/2014
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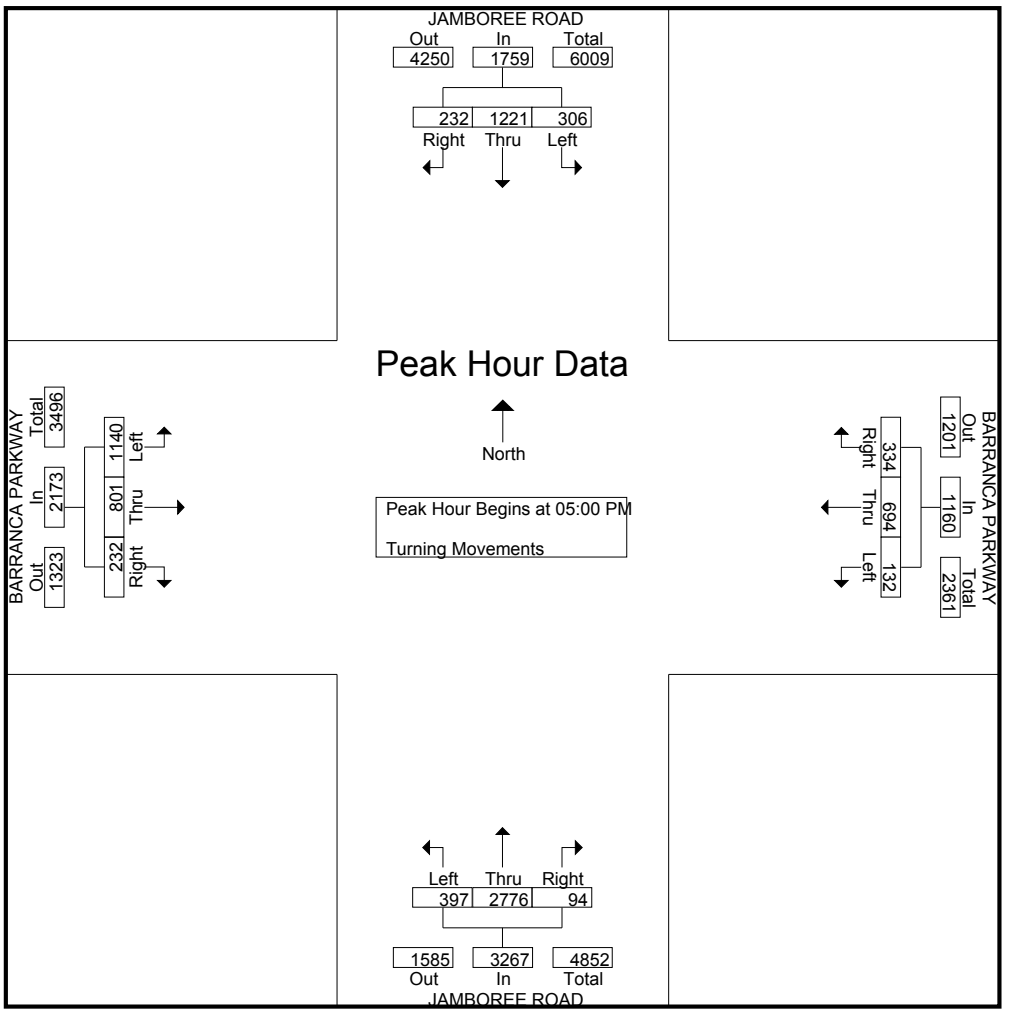
	JAMBOREE ROAD Southbound				BARRANCA PARKWAY Westbound				JAMBOREE ROAD Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**393**	**924**	126	**1443**	**49**	102	**64**	215	**34**	137	34	205	**34**	**115**	49	**198**	**2061**
08:00 AM	336	850	**132**	1318	30	132	40	202	25	181	22	228	25	112	40	177	1925
08:15 AM	308	701	97	1106	39	**145**	62	**246**	18	145	**36**	199	28	107	40	175	1726
08:30 AM	217	797	126	1140	33	110	63	206	30	**218**	25	**273**	31	108	**51**	190	1809
Total Volume	1254	3272	481	5007	151	489	229	869	107	681	117	905	118	442	180	740	7521
% App. Total	25	65.3	9.6		17.4	56.3	26.4		11.8	75.2	12.9		15.9	59.7	24.3		
PHF	.798	.885	.911	.867	.770	.843	.895	.883	.787	.781	.813	.829	.868	.961	.882	.934	.912



City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1404047
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Start Date : 5/21/2014
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	JAMBOREE ROAD Southbound				BARRANCA PARKWAY Westbound				JAMBOREE ROAD Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	49	285	75	409	66	139	**40**	245	25	645	105	775	59	195	294	548	1977
05:15 PM	**74**	**348**	**84**	**506**	82	175	36	293	18	691	106	815	**66**	222	280	568	**2182**
05:30 PM	53	295	73	421	84	169	27	280	**26**	**731**	73	830	55	**227**	**316**	**598**	2129
05:45 PM	56	293	74	423	**102**	**211**	29	**342**	25	709	**113**	**847**	52	157	250	459	2071
Total Volume	232	1221	306	1759	334	694	132	1160	94	2776	397	3267	232	801	1140	2173	8359
% App. Total	13.2	69.4	17.4		28.8	59.8	11.4		2.9	85	12.2		10.7	36.9	52.5		
PHF	.784	.877	.911	.869	.819	.822	.825	.848	.904	.949	.878	.964	.879	.882	.902	.908	.958



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405100
Site Code : 00005701
Start Date : 6/11/2014
Page No : 1

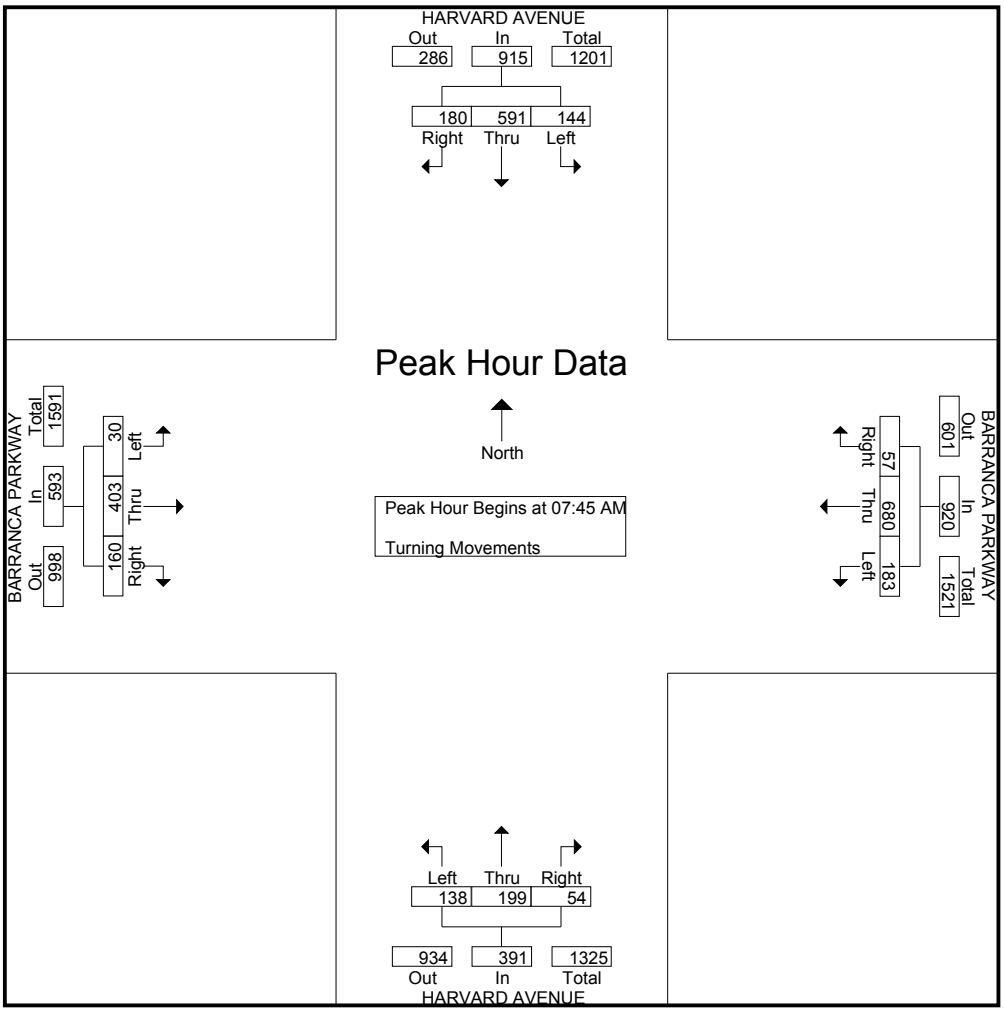
Groups Printed- Turning Movements

	HARVARD AVENUE Southbound			BARRANCA PARKWAY Westbound			HARVARD AVENUE Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	10	61	7	11	60	15	9	21	14	34	60	3	305
07:15 AM	23	48	7	4	75	16	7	31	15	30	70	7	333
07:30 AM	24	109	26	11	125	26	8	43	24	48	119	8	571
07:45 AM	74	125	35	11	142	34	11	54	41	51	77	13	668
Total	131	343	75	37	402	91	35	149	94	163	326	31	1877
08:00 AM	37	194	48	18	170	37	11	53	39	42	126	4	779
08:15 AM	32	134	43	11	195	51	17	34	18	31	111	8	685
08:30 AM	37	138	18	17	173	61	15	58	40	36	89	5	687
08:45 AM	27	112	28	18	153	42	9	50	38	31	117	16	641
Total	133	578	137	64	691	191	52	195	135	140	443	33	2792
*** BREAK ***													
04:00 PM	12	53	20	13	162	21	18	103	41	35	176	17	671
04:15 PM	13	71	25	20	171	27	31	180	37	50	153	29	807
04:30 PM	8	63	21	25	180	19	27	139	36	41	140	22	721
04:45 PM	12	67	24	28	185	21	33	209	52	47	185	30	893
Total	45	254	90	86	698	88	109	631	166	173	654	98	3092
05:00 PM	7	58	20	33	218	21	34	166	33	37	195	25	847
05:15 PM	23	83	32	45	181	23	41	231	67	44	184	69	1023
05:30 PM	8	67	25	25	216	30	41	213	61	62	258	33	1039
05:45 PM	9	92	29	23	182	14	49	220	54	57	216	29	974
Total	47	300	106	126	797	88	165	830	215	200	853	156	3883
Grand Total	356	1475	408	313	2588	458	361	1805	610	676	2276	318	11644
Apprch %	15.9	65.9	18.2	9.3	77	13.6	13	65	22	20.7	69.6	9.7	
Total %	3.1	12.7	3.5	2.7	22.2	3.9	3.1	15.5	5.2	5.8	19.5	2.7	

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405100
Site Code : 00005701
Start Date : 6/11/2014
Page No : 2

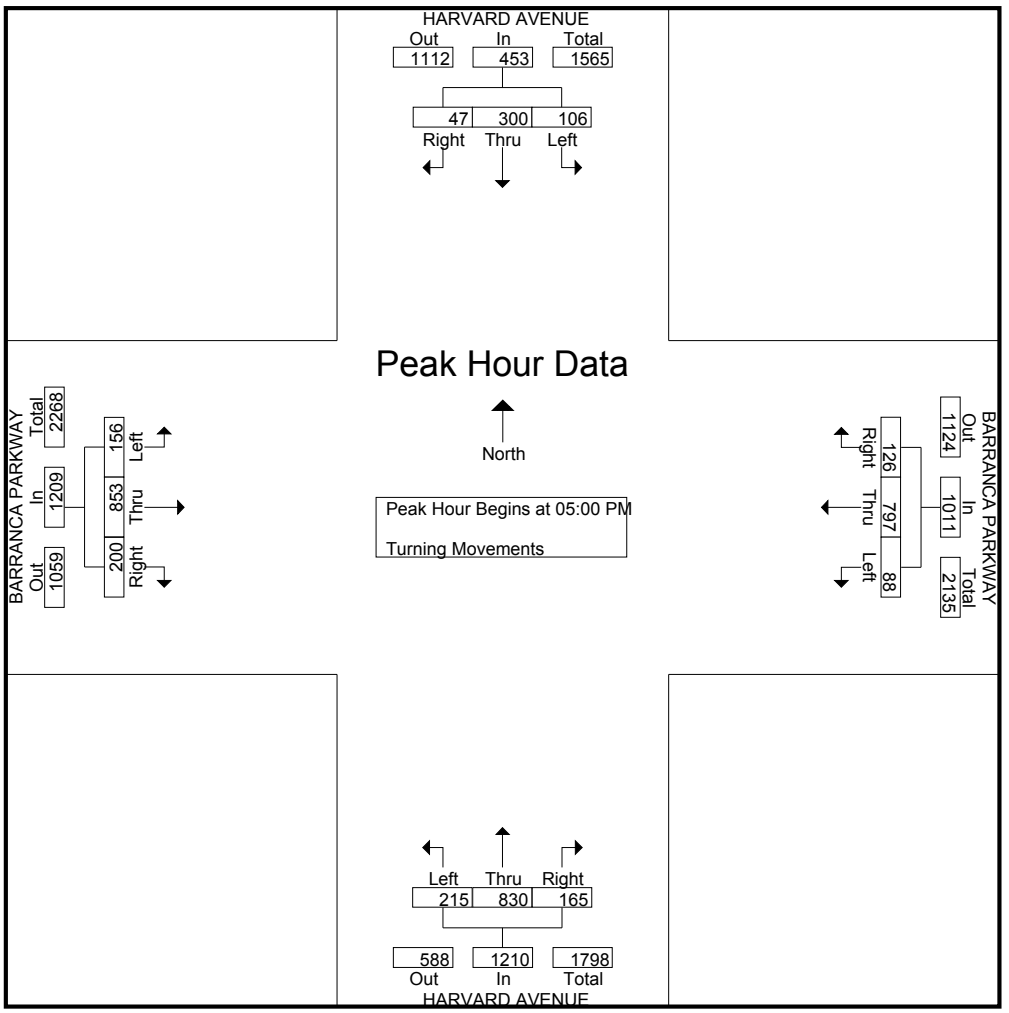
	HARVARD AVENUE Southbound				BARRANCA PARKWAY Westbound				HARVARD AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**74**	125	35	234	11	142	34	187	11	54	**41**	106	**51**	77	**13**	141	668
08:00 AM	37	**194**	**48**	**279**	**18**	170	37	225	11	53	39	103	42	**126**	4	**172**	**779**
08:15 AM	32	134	43	209	11	**195**	51	**257**	**17**	34	18	69	31	111	8	150	685
08:30 AM	37	138	18	193	17	173	**61**	251	15	**58**	40	**113**	36	89	5	130	687
Total Volume	180	591	144	915	57	680	183	920	54	199	138	391	160	403	30	593	2819
% App. Total	19.7	64.6	15.7		6.2	73.9	19.9		13.8	50.9	35.3		27	68	5.1		
PHF	.608	.762	.750	.820	.792	.872	.750	.895	.794	.858	.841	.865	.784	.800	.577	.862	.905



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405100
Site Code : 00005701
Start Date : 6/11/2014
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	HARVARD AVENUE Southbound				BARRANCA PARKWAY Westbound				HARVARD AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	7	58	20	85	33	**218**	21	**272**	34	166	33	233	37	195	25	257	847
05:15 PM	**23**	83	**32**	**138**	**45**	181	23	249	41	**231**	**67**	**339**	44	184	**69**	297	1023
05:30 PM	8	67	25	100	25	216	**30**	271	41	213	61	315	**62**	**258**	33	**353**	**1039**
05:45 PM	9	**92**	29	130	23	182	14	219	**49**	220	54	323	57	216	29	302	974
Total Volume	47	300	106	453	126	797	88	1011	165	830	215	1210	200	853	156	1209	3883
% App. Total	10.4	66.2	23.4		12.5	78.8	8.7		13.6	68.6	17.8		16.5	70.6	12.9		
PHF	.511	.815	.828	.821	.700	.914	.733	.929	.842	.898	.802	.892	.806	.827	.565	.856	.934



City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: BARRANCA PARKWAY

File Name : H1404063
Site Code : 228
Start Date : 5/20/2014
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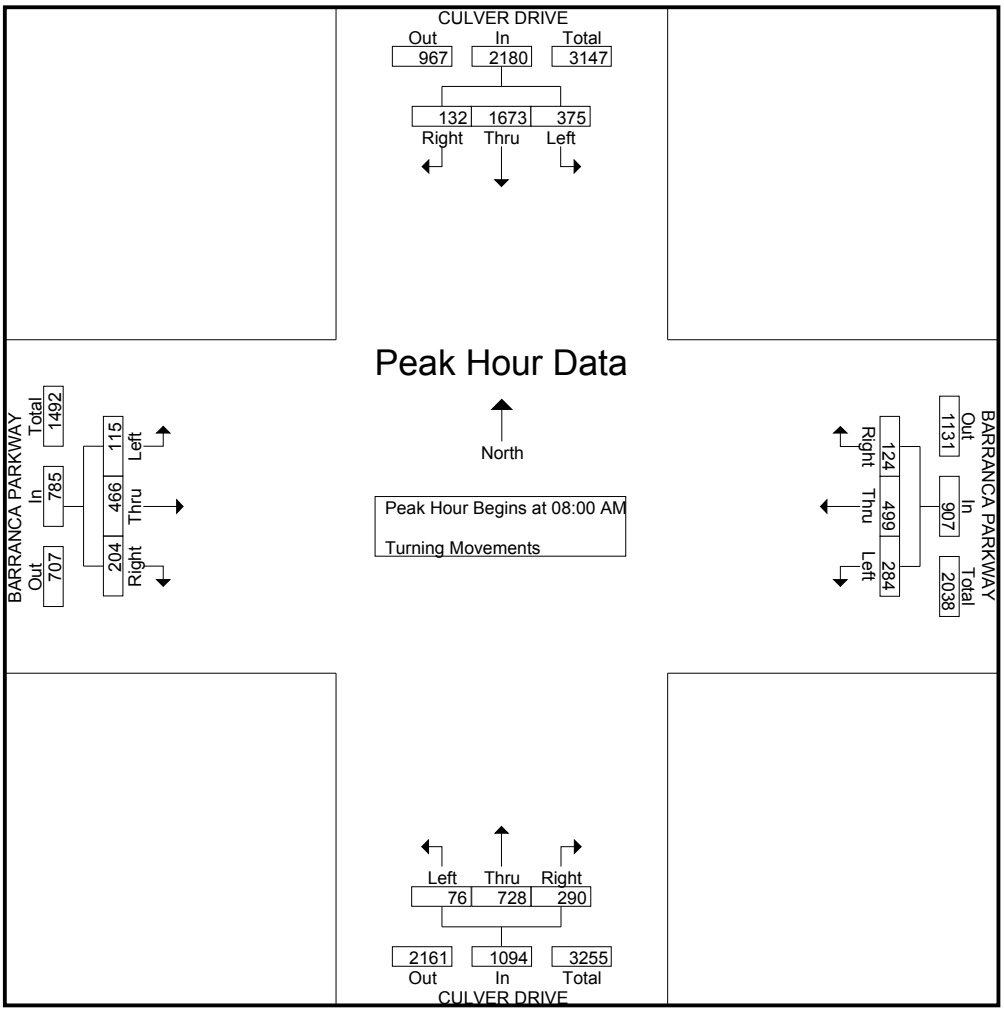
Groups Printed- Turning Movements

	CULVER DRIVE Southbound			BARRANCA PARKWAY Westbound			CULVER DRIVE Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	161	35	28	45	27	31	168	15	32	62	25	651
07:15 AM	29	304	44	15	65	43	33	211	10	37	66	20	877
07:30 AM	45	425	53	22	102	47	46	105	12	48	74	14	993
07:45 AM	26	403	68	20	112	68	54	161	14	57	105	18	1106
Total	122	1293	200	85	324	185	164	645	51	174	307	77	3627
08:00 AM	36	419	75	27	101	59	65	183	11	57	103	24	1160
08:15 AM	35	423	92	37	138	60	68	183	25	54	132	29	1276
08:30 AM	27	425	91	32	131	80	79	176	13	50	107	29	1240
08:45 AM	34	406	117	28	129	85	78	186	27	43	124	33	1290
Total	132	1673	375	124	499	284	290	728	76	204	466	115	4966
*** BREAK ***													
04:00 PM	29	213	51	61	124	44	66	213	31	50	134	55	1071
04:15 PM	35	217	57	65	129	61	89	235	22	58	165	61	1194
04:30 PM	31	240	64	68	151	64	96	230	46	57	179	67	1293
04:45 PM	23	265	47	81	156	68	94	309	40	49	191	64	1387
Total	118	935	219	275	560	237	345	987	139	214	669	247	4945
05:00 PM	25	254	53	79	176	60	70	387	44	49	169	74	1440
05:15 PM	27	279	83	81	180	65	73	354	39	54	229	91	1555
05:30 PM	23	259	48	90	176	77	87	408	40	40	235	94	1577
05:45 PM	33	284	64	74	153	66	94	397	23	52	204	89	1533
Total	108	1076	248	324	685	268	324	1546	146	195	837	348	6105
Grand Total	480	4977	1042	808	2068	974	1123	3906	412	787	2279	787	19643
Apprch %	7.4	76.6	16	21	53.7	25.3	20.6	71.8	7.6	20.4	59.1	20.4	
Total %	2.4	25.3	5.3	4.1	10.5	5	5.7	19.9	2.1	4	11.6	4	

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: BARRANCA PARKWAY

File Name : H1404063
Site Code : 228
Start Date : 5/20/2014
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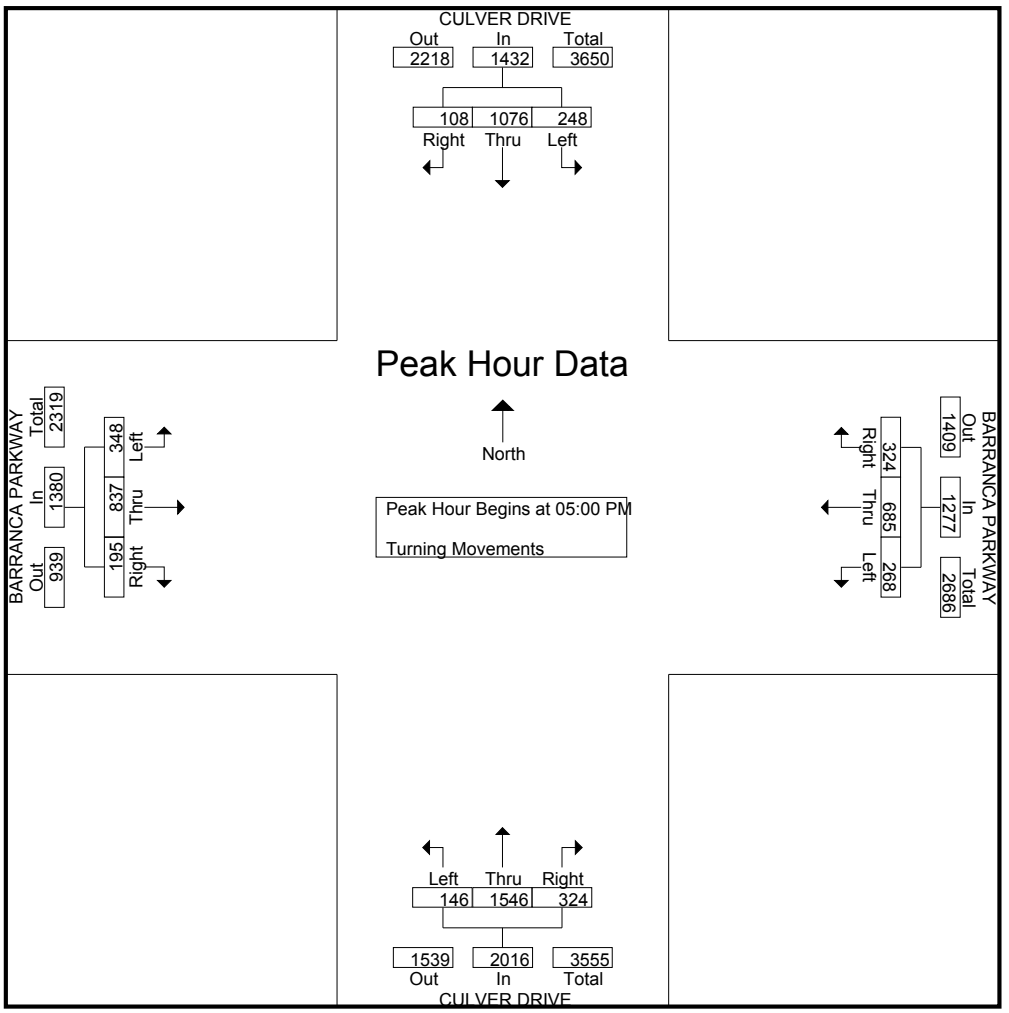
	CULVER DRIVE Southbound				BARRANCA PARKWAY Westbound				CULVER DRIVE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**36**	419	75	530	27	101	59	187	65	183	11	259	**57**	103	24	184	1160
08:15 AM	35	423	92	550	**37**	**138**	60	235	68	183	25	276	54	**132**	29	**215**	1276
08:30 AM	27	**425**	91	543	32	131	80	**243**	**79**	176	13	268	50	107	29	186	1240
08:45 AM	34	406	**117**	**557**	28	129	**85**	242	78	**186**	**27**	**291**	43	124	**33**	200	**1290**
Total Volume	132	1673	375	2180	124	499	284	907	290	728	76	1094	204	466	115	785	4966
% App. Total	6.1	76.7	17.2		13.7	55	31.3		26.5	66.5	6.9		26	59.4	14.6		
PHF	.917	.984	.801	.978	.838	.904	.835	.933	.918	.978	.704	.940	.895	.883	.871	.913	.962



City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: BARRANCA PARKWAY

File Name : H1404063
Site Code : 228
Start Date : 5/20/2014
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	CULVER DRIVE Southbound				BARRANCA PARKWAY Westbound				CULVER DRIVE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	25	254	53	332	79	176	60	315	70	387	**44**	501	49	169	74	292	1440
05:15 PM	27	279	**83**	**389**	81	**180**	65	326	73	354	39	466	**54**	229	91	**374**	1555
05:30 PM	23	259	48	330	**90**	176	**77**	**343**	87	**408**	40	**535**	40	**235**	**94**	369	**1577**
05:45 PM	**33**	**284**	64	381	74	153	66	293	**94**	397	23	514	52	204	89	345	1533
Total Volume	108	1076	248	1432	324	685	268	1277	324	1546	146	2016	195	837	348	1380	6105
% App. Total	7.5	75.1	17.3		25.4	53.6	21		16.1	76.7	7.2		14.1	60.7	25.2		
PHF	.818	.947	.747	.920	.900	.951	.870	.931	.862	.947	.830	.942	.903	.890	.926	.922	.968



City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405102
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

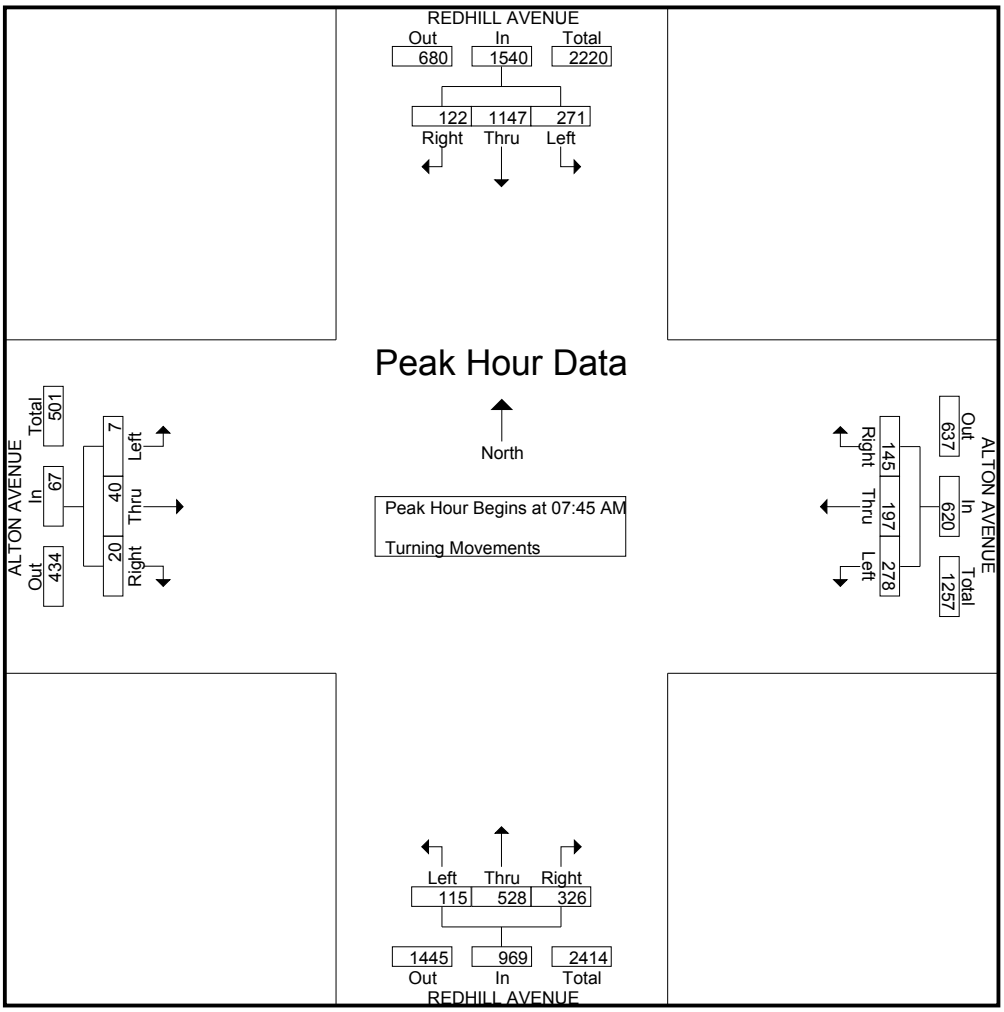
Groups Printed- Turning Movements

	REDHILL AVENUE Southbound			ALTON AVENUE Westbound			REDHILL AVENUE Northbound			ALTON AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	18	139	52	13	15	25	49	63	28	4	5	3	414
07:15 AM	18	191	57	22	28	31	63	79	24	0	6	2	521
07:30 AM	13	207	61	23	18	40	66	127	24	6	19	4	608
07:45 AM	20	278	64	39	39	63	86	172	38	1	9	0	809
Total	69	815	234	97	100	159	264	441	114	11	39	9	2352
08:00 AM	33	283	79	32	53	72	81	126	33	6	13	1	812
08:15 AM	38	307	68	37	56	81	87	126	29	4	9	2	844
08:30 AM	31	279	60	37	49	62	72	104	15	9	9	4	731
08:45 AM	23	248	56	26	34	83	73	135	19	6	13	2	718
Total	125	1117	263	132	192	298	313	491	96	25	44	9	3105
*** BREAK ***													
04:00 PM	5	151	28	73	15	78	45	460	20	36	30	13	954
04:15 PM	4	119	25	78	11	80	41	382	14	37	26	15	832
04:30 PM	2	122	31	111	25	123	48	413	9	32	58	12	986
04:45 PM	7	150	34	77	17	88	55	499	13	38	39	9	1026
Total	18	542	118	339	68	369	189	1754	56	143	153	49	3798
05:00 PM	1	168	47	140	35	126	58	504	11	47	68	29	1234
05:15 PM	1	162	45	122	28	132	63	462	13	33	77	19	1157
05:30 PM	3	161	33	121	22	123	51	518	11	32	66	20	1161
05:45 PM	1	170	33	78	31	101	67	487	8	20	43	10	1049
Total	6	661	158	461	116	482	239	1971	43	132	254	78	4601
Grand Total	218	3135	773	1029	476	1308	1005	4657	309	311	490	145	13856
Apprch %	5.3	76	18.7	36.6	16.9	46.5	16.8	78	5.2	32.9	51.8	15.3	
Total %	1.6	22.6	5.6	7.4	3.4	9.4	7.3	33.6	2.2	2.2	3.5	1	

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405102
Site Code : 00000000
Start Date : 6/10/2014
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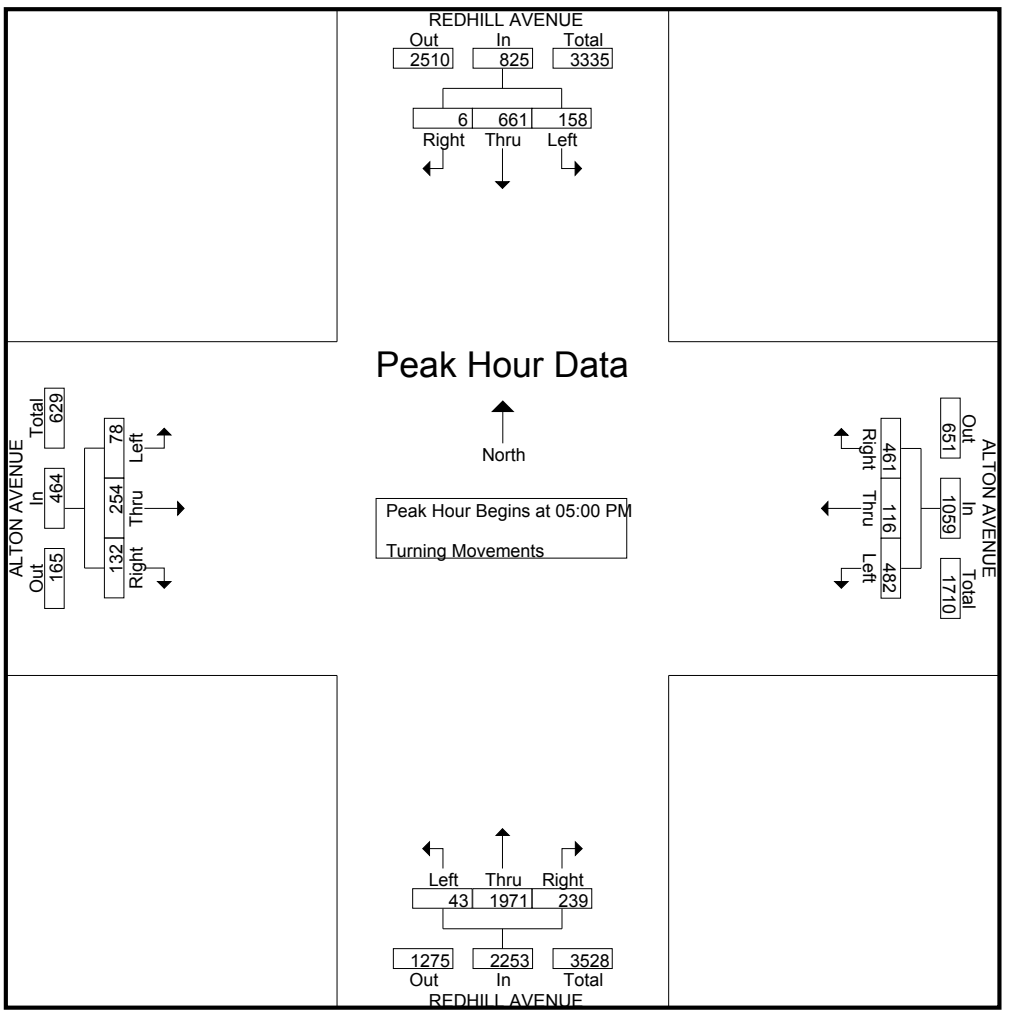
	REDHILL AVENUE Southbound				ALTON AVENUE Westbound				REDHILL AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	20	278	64	362	**39**	39	63	141	86	**172**	**38**	**296**	1	9	0	10	809
08:00 AM	33	283	**79**	395	32	53	72	157	81	126	33	240	6	**13**	1	20	812
08:15 AM	**38**	**307**	68	**413**	37	**56**	**81**	**174**	**87**	126	29	242	4	9	2	15	**844**
08:30 AM	31	279	60	370	37	49	62	148	72	104	15	191	**9**	9	**4**	**22**	731
Total Volume	122	1147	271	1540	145	197	278	620	326	528	115	969	20	40	7	67	3196
% App. Total	7.9	74.5	17.6		23.4	31.8	44.8		33.6	54.5	11.9		29.9	59.7	10.4		
PHF	.803	.934	.858	.932	.929	.879	.858	.891	.937	.767	.757	.818	.556	.769	.438	.761	.947



City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405102
Site Code : 00000000
Start Date : 6/10/2014
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	REDHILL AVENUE Southbound				ALTON AVENUE Westbound				REDHILL AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	168	**47**	**216**	**140**	**35**	126	**301**	58	504	11	573	**47**	68	**29**	**144**	**1234**
05:15 PM	1	162	45	208	122	28	**132**	282	63	462	**13**	538	33	**77**	19	129	1157
05:30 PM	**3**	161	33	197	121	22	123	266	51	**518**	11	**580**	32	66	20	118	1161
05:45 PM	1	**170**	33	204	78	31	101	210	**67**	487	8	562	20	43	10	73	1049
Total Volume	6	661	158	825	461	116	482	1059	239	1971	43	2253	132	254	78	464	4601
% App. Total	0.7	80.1	19.2		43.5	11	45.5		10.6	87.5	1.9		28.4	54.7	16.8		
PHF	.500	.972	.840	.955	.823	.829	.913	.880	.892	.951	.827	.971	.702	.825	.672	.806	.932



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405103
Site Code : 00005163
Start Date : 6/12/2014
Page No : 1

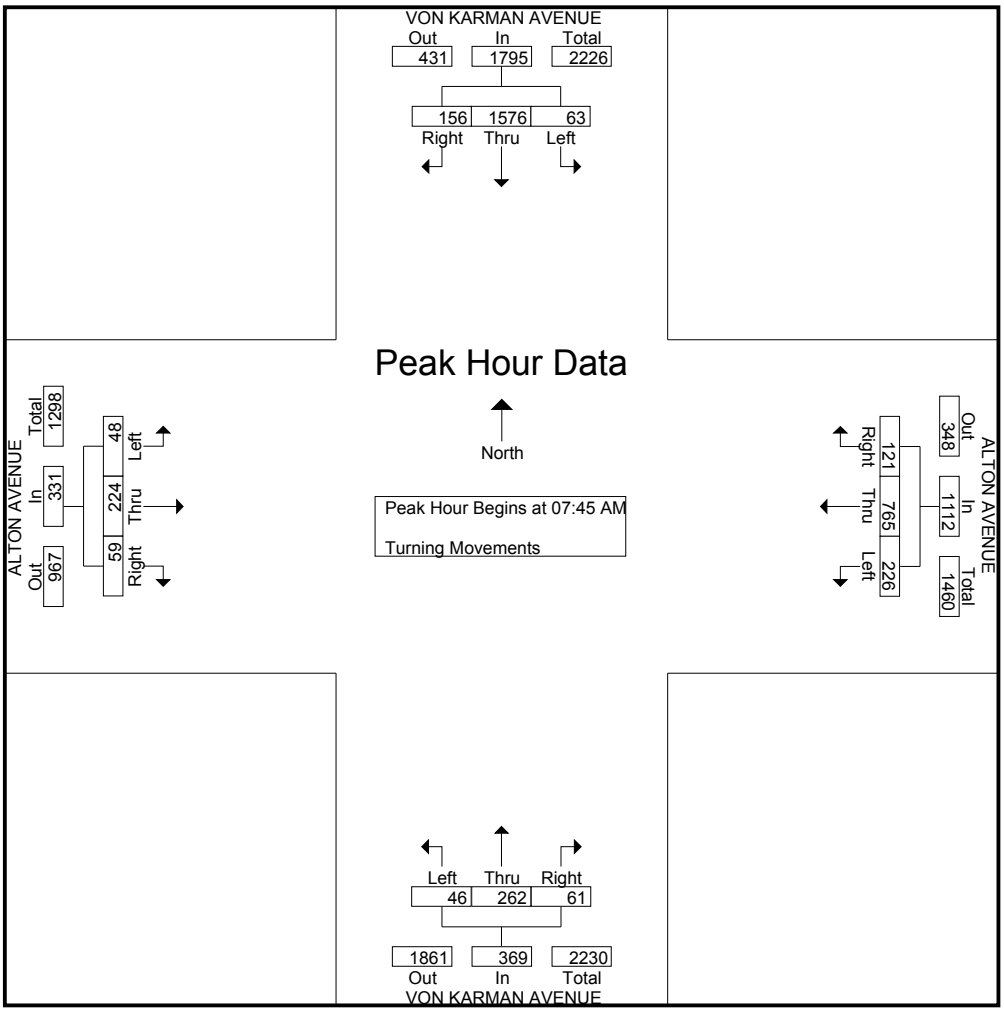
Groups Printed- Turning Movements

	VON KARMAN AVENUE Southbound			ALTON AVENUE Westbound			VON KARMAN AVENUE Northbound			ALTON AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	29	179	6	35	70	19	15	54	4	12	28	11	462
07:15 AM	38	214	16	31	89	22	6	46	3	16	43	6	530
07:30 AM	54	277	11	38	101	34	10	62	7	11	59	15	679
07:45 AM	28	320	9	35	187	62	10	67	12	24	68	7	829
Total	149	990	42	139	447	137	41	229	26	63	198	39	2500
08:00 AM	48	400	7	38	194	45	6	68	15	5	64	17	907
08:15 AM	36	476	26	23	199	75	13	42	6	12	48	11	967
08:30 AM	44	380	21	25	185	44	32	85	13	18	44	13	904
08:45 AM	43	351	9	31	149	38	14	49	9	6	60	7	766
Total	171	1607	63	117	727	202	65	244	43	41	216	48	3544
*** BREAK ***													
04:00 PM	25	107	37	27	98	19	23	221	17	9	119	26	728
04:15 PM	34	101	24	38	93	22	42	312	34	9	136	36	881
04:30 PM	26	110	35	34	137	17	30	268	17	13	155	27	869
04:45 PM	38	94	41	42	93	23	70	382	20	17	190	30	1040
Total	123	412	137	141	421	81	165	1183	88	48	600	119	3518
05:00 PM	43	129	40	20	137	24	64	295	22	16	209	45	1044
05:15 PM	66	121	57	25	176	22	83	313	29	17	261	58	1228
05:30 PM	46	110	31	12	208	30	77	263	13	18	306	52	1166
05:45 PM	35	115	39	21	124	24	56	323	27	15	195	57	1031
Total	190	475	167	78	645	100	280	1194	91	66	971	212	4469
Grand Total	633	3484	409	475	2240	520	551	2850	248	218	1985	418	14031
Apprch %	14	77	9	14.7	69.2	16.1	15.1	78.1	6.8	8.3	75.7	15.9	
Total %	4.5	24.8	2.9	3.4	16	3.7	3.9	20.3	1.8	1.6	14.1	3	

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405103
Site Code : 00005163
Start Date : 6/12/2014
Page No : 2

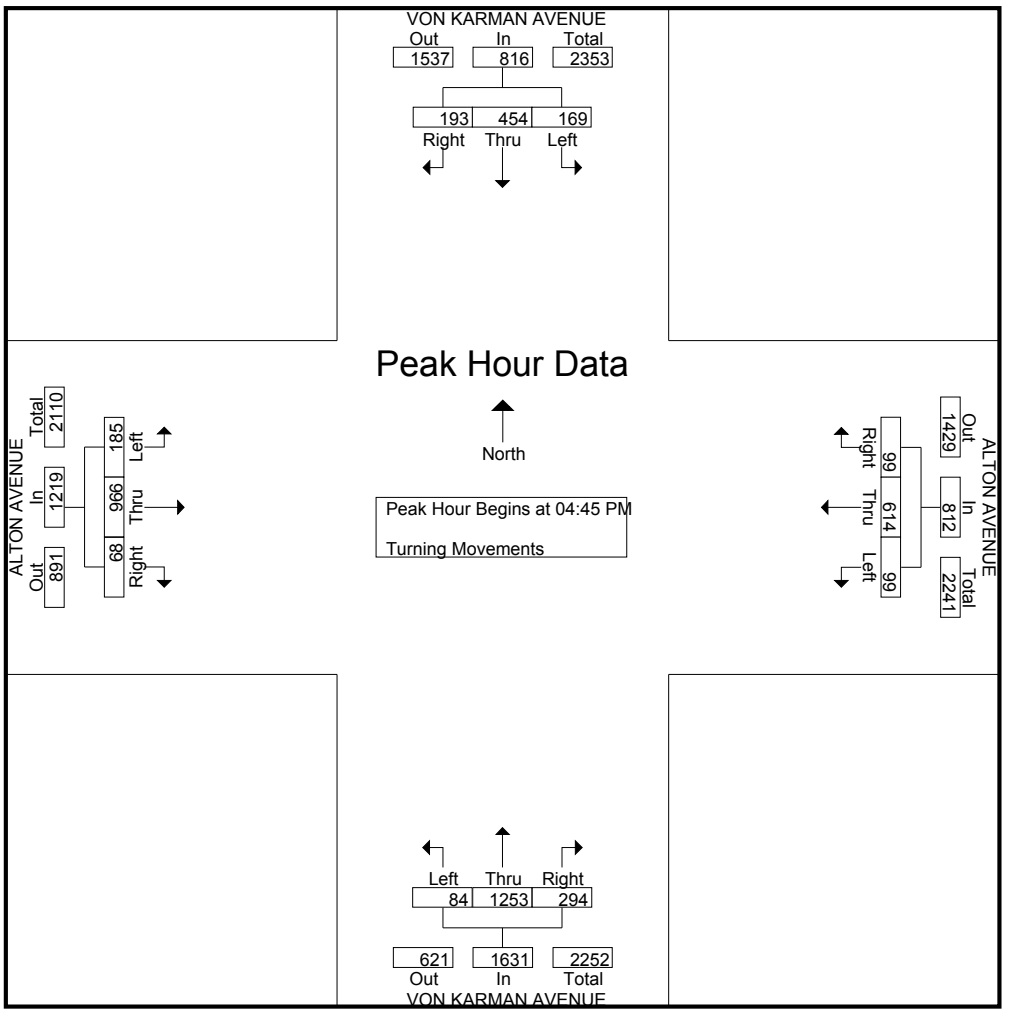
	VON KARMAN AVENUE Southbound				ALTON AVENUE Westbound				VON KARMAN AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	28	320	9	357	35	187	62	284	10	67	12	89	**24**	**68**	7	**99**	829
08:00 AM	**48**	400	7	455	**38**	194	45	277	6	68	**15**	89	5	64	**17**	86	907
08:15 AM	36	**476**	**26**	**538**	23	**199**	**75**	**297**	13	42	6	61	12	48	11	71	**967**
08:30 AM	44	380	21	445	25	185	44	254	**32**	**85**	13	**130**	18	44	13	75	904
Total Volume	156	1576	63	1795	121	765	226	1112	61	262	46	369	59	224	48	331	3607
% App. Total	8.7	87.8	3.5		10.9	68.8	20.3		16.5	71	12.5		17.8	67.7	14.5		
PHF	.813	.828	.606	.834	.796	.961	.753	.936	.477	.771	.767	.710	.615	.824	.706	.836	.933



City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405103
Site Code : 00005163
Start Date : 6/12/2014
Page No : 3

	VON KARMAN AVENUE Southbound				ALTON AVENUE Westbound				VON KARMAN AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	38	94	41	173	**42**	93	23	158	70	**382**	20	**472**	17	190	30	237	1040
05:00 PM	43	**129**	40	212	20	137	24	181	64	295	22	381	16	209	45	270	1044
05:15 PM	**66**	121	**57**	**244**	25	176	22	223	**83**	313	**29**	425	17	261	**58**	336	**1228**
05:30 PM	46	110	31	187	12	**208**	**30**	**250**	77	263	13	353	**18**	**306**	52	**376**	1166
Total Volume	193	454	169	816	99	614	99	812	294	1253	84	1631	68	966	185	1219	4478
% App. Total	23.7	55.6	20.7		12.2	75.6	12.2		18	76.8	5.2		5.6	79.2	15.2		
PHF	.731	.880	.741	.836	.589	.738	.825	.812	.886	.820	.724	.864	.944	.789	.797	.811	.912



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: ALTON AVENUE

File Name : H1405095
Site Code : 00005724
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

	JAMBOREE ROAD Southbound			ALTON AVENUE Westbound			JAMBOREE ROAD Northbound			ALTON AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	27	456	30	12	55	20	26	137	45	13	25	11	857
07:15 AM	35	545	14	14	59	17	21	159	39	10	32	5	950
07:30 AM	35	639	38	15	93	44	34	191	76	15	33	7	1220
07:45 AM	63	634	59	21	228	50	34	207	46	18	46	6	1412
Total	160	2274	141	62	435	131	115	694	206	56	136	29	4439
08:00 AM	50	490	28	29	193	33	26	210	71	19	41	8	1198
08:15 AM	47	542	44	36	202	48	38	181	45	16	48	21	1268
08:30 AM	84	610	42	29	196	47	37	205	44	15	41	16	1366
08:45 AM	54	508	36	31	188	57	44	230	57	20	54	24	1303
Total	235	2150	150	125	779	185	145	826	217	70	184	69	5135
*** BREAK ***													
04:00 PM	39	226	24	50	92	36	40	580	43	54	122	51	1357
04:15 PM	34	246	45	39	84	40	28	641	54	57	130	70	1468
04:30 PM	31	301	50	68	94	48	31	680	54	73	127	62	1619
04:45 PM	28	282	41	30	119	54	38	725	47	60	181	105	1710
Total	132	1055	160	187	389	178	137	2626	198	244	560	288	6154
05:00 PM	28	334	40	78	119	56	46	679	43	47	198	104	1772
05:15 PM	54	452	53	82	137	57	46	797	53	67	216	116	2130
05:30 PM	32	316	39	59	132	49	61	699	65	48	263	130	1893
05:45 PM	52	383	48	45	123	77	66	745	58	73	221	106	1997
Total	166	1485	180	264	511	239	219	2920	219	235	898	456	7792
Grand Total	693	6964	631	638	2114	733	616	7066	840	605	1778	842	23520
Apprch %	8.4	84	7.6	18.3	60.7	21	7.2	82.9	9.9	18.8	55.1	26.1	
Total %	2.9	29.6	2.7	2.7	9	3.1	2.6	30	3.6	2.6	7.6	3.6	

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: ALTON AVENUE

File Name : H1405095
Site Code : 00005724
Start Date : 6/10/2014
Page No : 2

	JAMBOREE ROAD Southbound				ALTON AVENUE Westbound				JAMBOREE ROAD Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	63	**634**	**59**	**756**	21	**228**	**50**	**299**	34	207	46	287	18	46	6	70	**1412**
08:00 AM	50	490	28	568	29	193	33	255	26	**210**	**71**	**307**	**19**	41	8	68	1198
08:15 AM	47	542	44	633	**36**	202	48	286	**38**	181	45	264	16	**48**	**21**	**85**	1268
08:30 AM	**84**	610	42	736	29	196	47	272	37	205	44	286	15	41	16	72	1366
Total Volume	244	2276	173	2693	115	819	178	1112	135	803	206	1144	68	176	51	295	5244
% App. Total	9.1	84.5	6.4		10.3	73.7	16		11.8	70.2	18		23.1	59.7	17.3		
PHF	.726	.897	.733	.891	.799	.898	.890	.930	.888	.956	.725	.932	.895	.917	.607	.868	.928

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				08:00 AM				08:00 AM			
+0 mins.	63	**634**	**59**	**756**	21	**228**	**50**	**299**	26	210	**71**	307	19	41	8	68
+15 mins.	50	490	28	568	29	193	33	255	38	181	45	264	16	48	21	85
+30 mins.	47	542	44	633	**36**	202	48	286	37	205	44	286	15	41	16	72
+45 mins.	**84**	610	42	736	29	196	47	272	**44**	**230**	57	**331**	**20**	**54**	**24**	**98**
Total Volume	244	2276	173	2693	115	819	178	1112	145	826	217	1188	70	184	69	323
% App. Total	9.1	84.5	6.4		10.3	73.7	16		12.2	69.5	18.3		21.7	57	21.4	
PHF	.726	.897	.733	.891	.799	.898	.890	.930	.824	.898	.764	.897	.875	.852	.719	.824

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: ALTON AVENUE

File Name : H1405095
Site Code : 00005724
Start Date : 6/10/2014
Page No : 3

	JAMBOREE ROAD Southbound				ALTON AVENUE Westbound				JAMBOREE ROAD Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	28	334	40	402	78	119	56	253	46	679	43	768	47	198	104	349	1772
05:15 PM	**54**	**452**	**53**	**559**	**82**	**137**	57	**276**	46	**797**	53	**896**	67	216	116	399	**2130**
05:30 PM	32	316	39	387	59	132	49	240	61	699	**65**	825	48	**263**	**130**	**441**	1893
05:45 PM	52	383	48	483	45	123	**77**	245	**66**	745	58	869	**73**	221	106	400	1997
Total Volume	166	1485	180	1831	264	511	239	1014	219	2920	219	3358	235	898	456	1589	7792
% App. Total	9.1	81.1	9.8		26	50.4	23.6		6.5	87	6.5		14.8	56.5	28.7		
PHF	.769	.821	.849	.819	.805	.932	.776	.918	.830	.916	.842	.937	.805	.854	.877	.901	.915

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	28	334	40	402	78	119	56	253	46	679	43	768	47	198	104	349
+15 mins.	**54**	**452**	**53**	**559**	**82**	**137**	57	**276**	46	**797**	53	**896**	67	216	116	399
+30 mins.	32	316	39	387	59	132	49	240	61	699	**65**	825	48	**263**	**130**	**441**
+45 mins.	52	383	48	483	45	123	**77**	245	**66**	745	58	869	**73**	221	106	400
Total Volume	166	1485	180	1831	264	511	239	1014	219	2920	219	3358	235	898	456	1589
% App. Total	9.1	81.1	9.8		26	50.4	23.6		6.5	87	6.5		14.8	56.5	28.7	
PHF	.769	.821	.849	.819	.805	.932	.776	.918	.830	.916	.842	.937	.805	.854	.877	.901

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405101
Site Code :
Start Date : 6/12/2014
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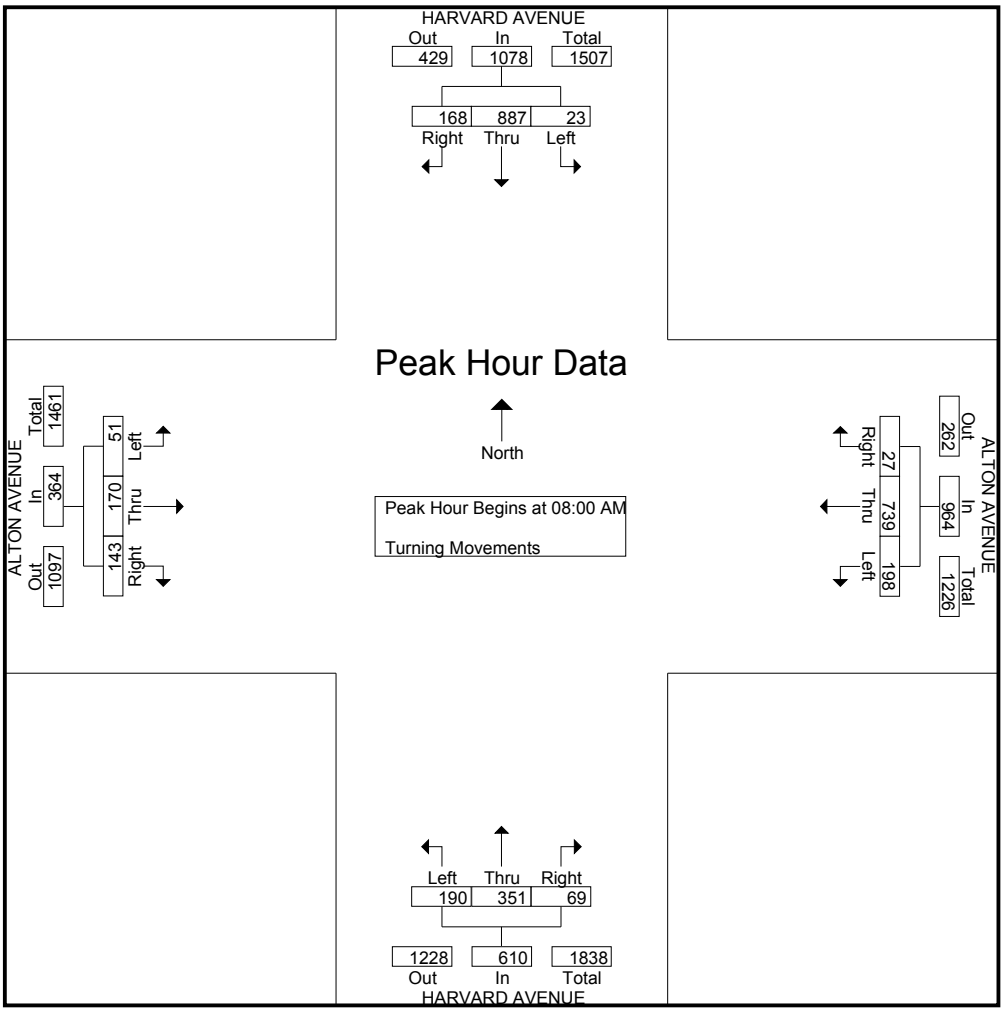
Groups Printed- Turning Movements

	HARVARD AVENUE Southbound			ALTON AVENUE Westbound			HARVARD AVENUE Northbound			ALTON AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	11	69	4	1	45	9	4	31	10	11	21	13	229
07:15 AM	19	86	8	8	63	15	5	39	24	17	22	5	311
07:30 AM	22	144	3	3	108	11	7	46	24	24	42	20	454
07:45 AM	31	180	8	4	131	36	12	87	38	29	43	15	614
Total	83	479	23	16	347	71	28	203	96	81	128	53	1608
08:00 AM	54	256	3	6	180	34	15	94	38	46	43	15	784
08:15 AM	38	222	6	9	194	54	19	102	55	37	36	16	788
08:30 AM	37	232	11	9	180	61	17	88	49	38	44	10	776
08:45 AM	39	177	3	3	185	49	18	67	48	22	47	10	668
Total	168	887	23	27	739	198	69	351	190	143	170	51	3016
*** BREAK ***													
04:00 PM	22	75	4	9	109	30	19	192	47	35	118	27	687
04:15 PM	15	83	15	11	122	21	26	253	37	54	147	33	817
04:30 PM	22	90	13	6	89	32	26	215	40	45	125	31	734
04:45 PM	15	96	15	8	117	24	25	248	41	56	187	34	866
Total	74	344	47	34	437	107	96	908	165	190	577	125	3104
05:00 PM	9	158	20	6	118	39	29	244	27	72	146	38	906
05:15 PM	14	118	13	9	138	15	58	323	37	96	267	44	1132
05:30 PM	4	132	15	10	134	40	67	312	48	87	264	50	1163
05:45 PM	8	155	20	22	159	30	59	363	41	104	180	60	1201
Total	35	563	68	47	549	124	213	1242	153	359	857	192	4402
Grand Total	360	2273	161	124	2072	500	406	2704	604	773	1732	421	12130
Apprch %	12.9	81.4	5.8	4.6	76.9	18.5	10.9	72.8	16.3	26.4	59.2	14.4	
Total %	3	18.7	1.3	1	17.1	4.1	3.3	22.3	5	6.4	14.3	3.5	

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405101
Site Code :
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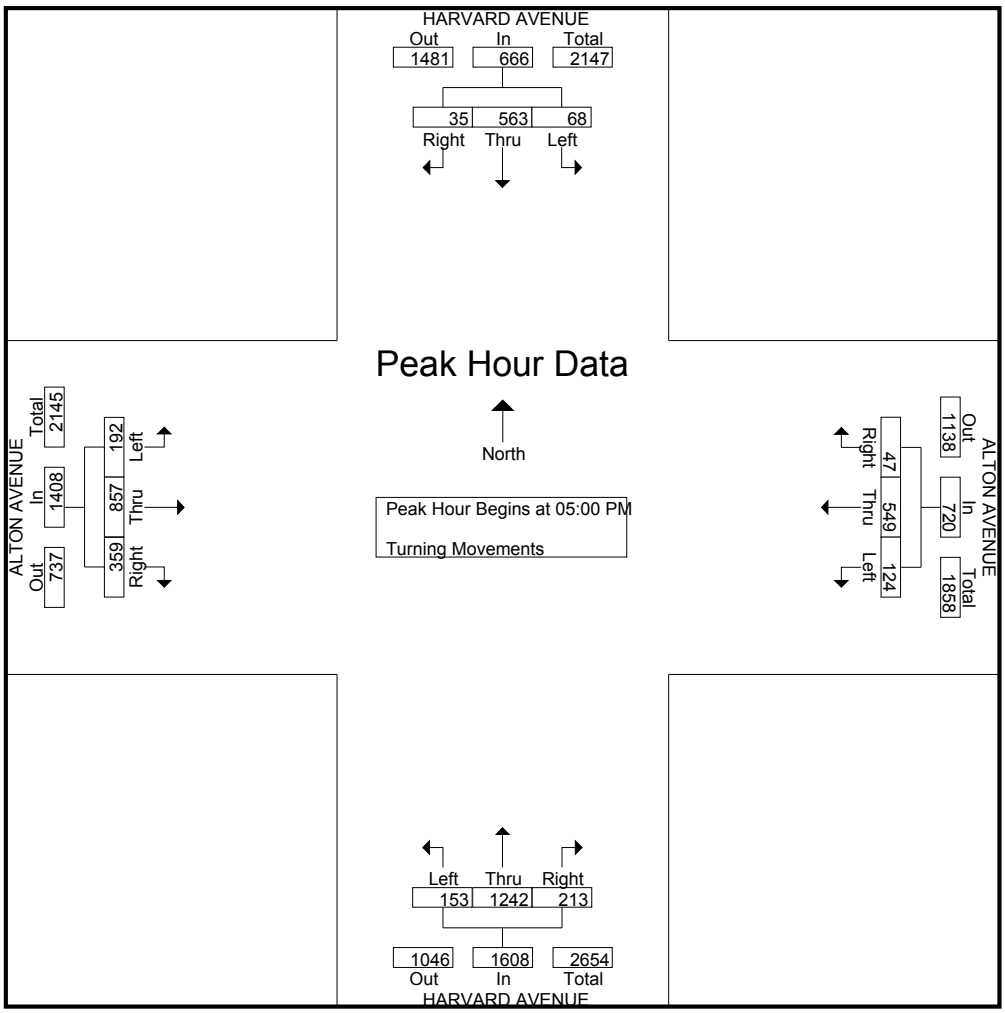
	HARVARD AVENUE Southbound				ALTON AVENUE Westbound				HARVARD AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**54**	**256**	3	**313**	6	180	34	220	15	94	38	147	**46**	43	15	**104**	784
08:15 AM	38	222	6	266	**9**	**194**	54	**257**	**19**	**102**	**55**	**176**	37	36	**16**	89	**788**
08:30 AM	37	232	**11**	280	9	180	**61**	250	17	88	49	154	38	44	10	92	776
08:45 AM	39	177	3	219	3	185	49	237	18	67	48	133	22	**47**	10	79	668
Total Volume	168	887	23	1078	27	739	198	964	69	351	190	610	143	170	51	364	3016
% App. Total	15.6	82.3	2.1		2.8	76.7	20.5		11.3	57.5	31.1		39.3	46.7	14		
PHF	.778	.866	.523	.861	.750	.952	.811	.938	.908	.860	.864	.866	.777	.904	.797	.875	.957



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405101
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Start Date : 6/12/2014
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	HARVARD AVENUE Southbound				ALTON AVENUE Westbound				HARVARD AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	9	**158**	**20**	**187**	6	118	39	163	29	244	27	300	72	146	38	256	906
05:15 PM	**14**	118	13	145	9	138	15	162	58	323	37	418	96	**267**	44	**407**	1132
05:30 PM	4	132	15	151	10	134	**40**	184	**67**	312	**48**	427	87	264	50	401	1163
05:45 PM	8	155	20	183	**22**	**159**	30	**211**	59	**363**	41	**463**	**104**	180	**60**	344	**1201**
Total Volume	35	563	68	666	47	549	124	720	213	1242	153	1608	359	857	192	1408	4402
% App. Total	5.3	84.5	10.2		6.5	76.2	17.2		13.2	77.2	9.5		25.5	60.9	13.6		
PHF	.625	.891	.850	.890	.534	.863	.775	.853	.795	.855	.797	.868	.863	.802	.800	.865	.916



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: ALTON PARKWAY

File Name : H1404064
Site Code : 229
Start Date : 5/28/2014
Page No : 1

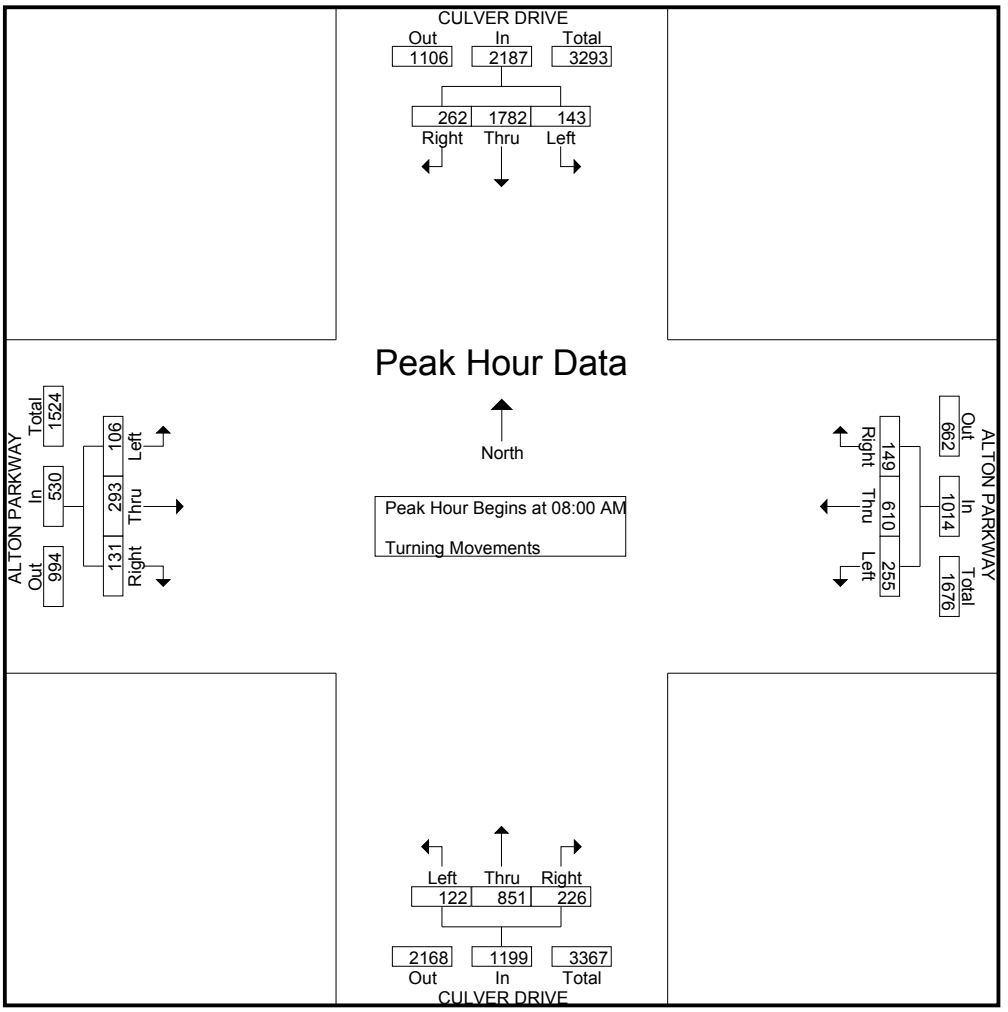
Groups Printed- Turning Movements

	CULVER DRIVE Southbound			ALTON PARKWAY Westbound			CULVER DRIVE Northbound			ALTON PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	31	202	15	28	53	19	12	188	21	17	29	28	643
07:15 AM	44	288	15	27	76	17	19	170	31	34	55	24	800
07:30 AM	61	424	36	28	85	36	17	131	21	39	47	22	947
07:45 AM	60	427	51	36	131	27	51	187	14	43	86	25	1138
Total	196	1341	117	119	345	99	99	676	87	133	217	99	3528
08:00 AM	56	417	37	28	129	43	49	180	29	24	77	18	1087
08:15 AM	67	436	45	45	167	67	55	232	32	35	65	28	1274
08:30 AM	80	446	21	33	150	68	64	201	33	36	67	29	1228
08:45 AM	59	483	40	43	164	77	58	238	28	36	84	31	1341
Total	262	1782	143	149	610	255	226	851	122	131	293	106	4930
*** BREAK ***													
04:00 PM	63	226	40	57	144	56	40	245	58	71	114	41	1155
04:15 PM	72	256	40	58	149	47	47	251	53	59	140	53	1225
04:30 PM	69	250	40	55	130	43	61	240	64	62	154	50	1218
04:45 PM	65	230	42	50	103	48	66	253	50	49	170	75	1201
Total	269	962	162	220	526	194	214	989	225	241	578	219	4799
05:00 PM	58	260	42	66	137	52	82	359	52	53	177	62	1400
05:15 PM	59	250	49	62	166	61	86	378	48	61	200	76	1496
05:30 PM	82	238	78	63	166	66	94	364	58	59	204	93	1565
05:45 PM	80	262	77	55	177	42	88	367	43	64	234	91	1580
Total	279	1010	246	246	646	221	350	1468	201	237	815	322	6041
Grand Total	1006	5095	668	734	2127	769	889	3984	635	742	1903	746	19298
Apprch %	14.9	75.3	9.9	20.2	58.6	21.2	16.1	72.3	11.5	21.9	56.1	22	
Total %	5.2	26.4	3.5	3.8	11	4	4.6	20.6	3.3	3.8	9.9	3.9	

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: ALTON PARKWAY

File Name : H1404064
Site Code : 229
Start Date : 5/28/2014
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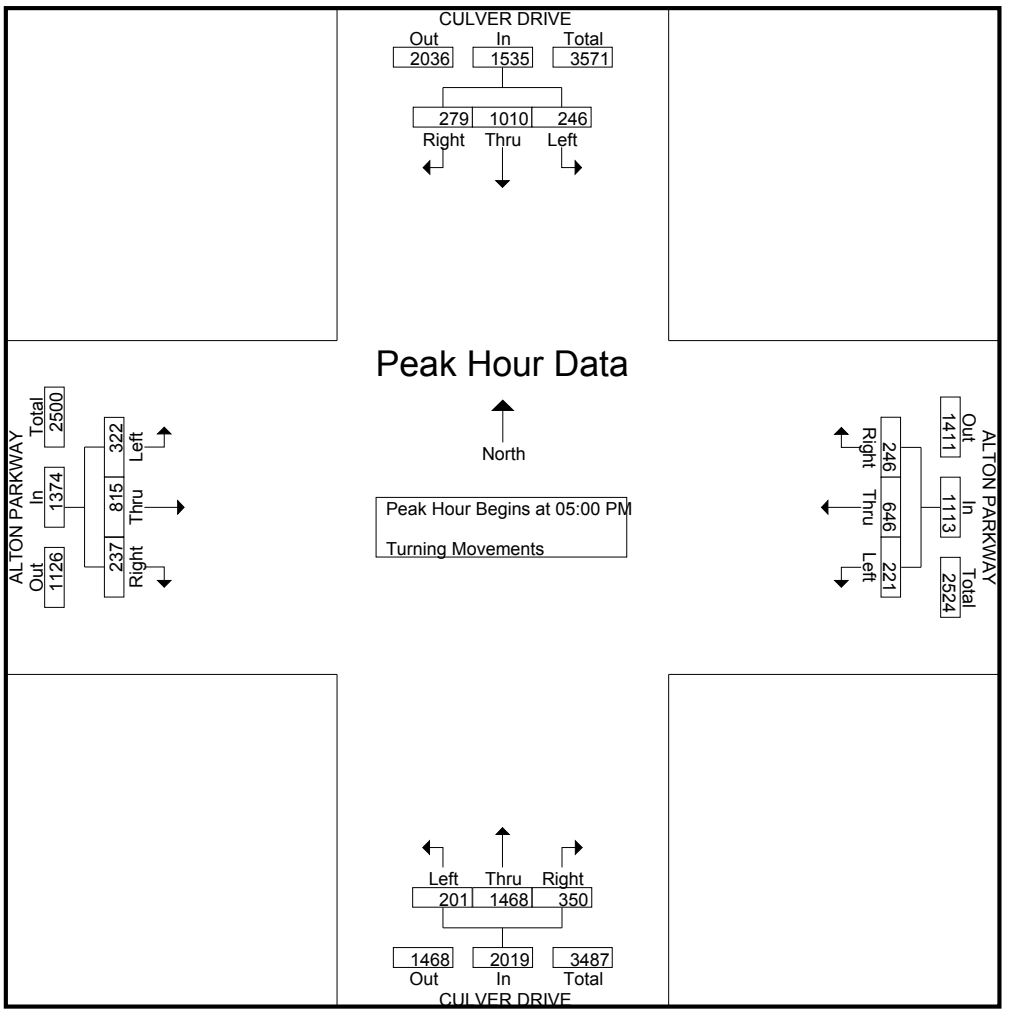
	CULVER DRIVE Southbound				ALTON PARKWAY Westbound				CULVER DRIVE Northbound				ALTON PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	56	417	37	510	28	129	43	200	49	180	29	258	24	77	18	119	1087
08:15 AM	67	436	**45**	548	**45**	**167**	67	279	55	232	32	319	35	65	28	128	1274
08:30 AM	**80**	446	21	547	33	150	68	251	**64**	201	**33**	298	**36**	67	29	132	1228
08:45 AM	59	**483**	40	**582**	43	164	**77**	**284**	58	**238**	28	**324**	36	**84**	**31**	**151**	**1341**
Total Volume	262	1782	143	2187	149	610	255	1014	226	851	122	1199	131	293	106	530	4930
% App. Total	12	81.5	6.5		14.7	60.2	25.1		18.8	71	10.2		24.7	55.3	20		
PHF	.819	.922	.794	.939	.828	.913	.828	.893	.883	.894	.924	.925	.910	.872	.855	.877	.919



City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: ALTON PARKWAY

File Name : H1404064
Site Code : 229
Start Date : 5/28/2014
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	CULVER DRIVE Southbound				ALTON PARKWAY Westbound				CULVER DRIVE Northbound				ALTON PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	58	260	42	360	**66**	137	52	255	82	359	52	493	53	177	62	292	1400
05:15 PM	59	250	49	358	62	166	61	289	86	**378**	48	512	61	200	76	337	1496
05:30 PM	**82**	238	**78**	398	63	166	**66**	**295**	**94**	364	**58**	**516**	59	204	**93**	356	1565
05:45 PM	80	**262**	77	**419**	55	**177**	42	274	88	367	43	498	**64**	**234**	91	**389**	**1580**
Total Volume	279	1010	246	1535	246	646	221	1113	350	1468	201	2019	237	815	322	1374	6041
% App. Total	18.2	65.8	16		22.1	58	19.9		17.3	72.7	10		17.2	59.3	23.4		
PHF	.851	.964	.788	.916	.932	.912	.837	.943	.931	.971	.866	.978	.926	.871	.866	.883	.956



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MC GAW AVENUE

File Name : H1405108
Site Code : 00000000
Start Date : 6/10/2014
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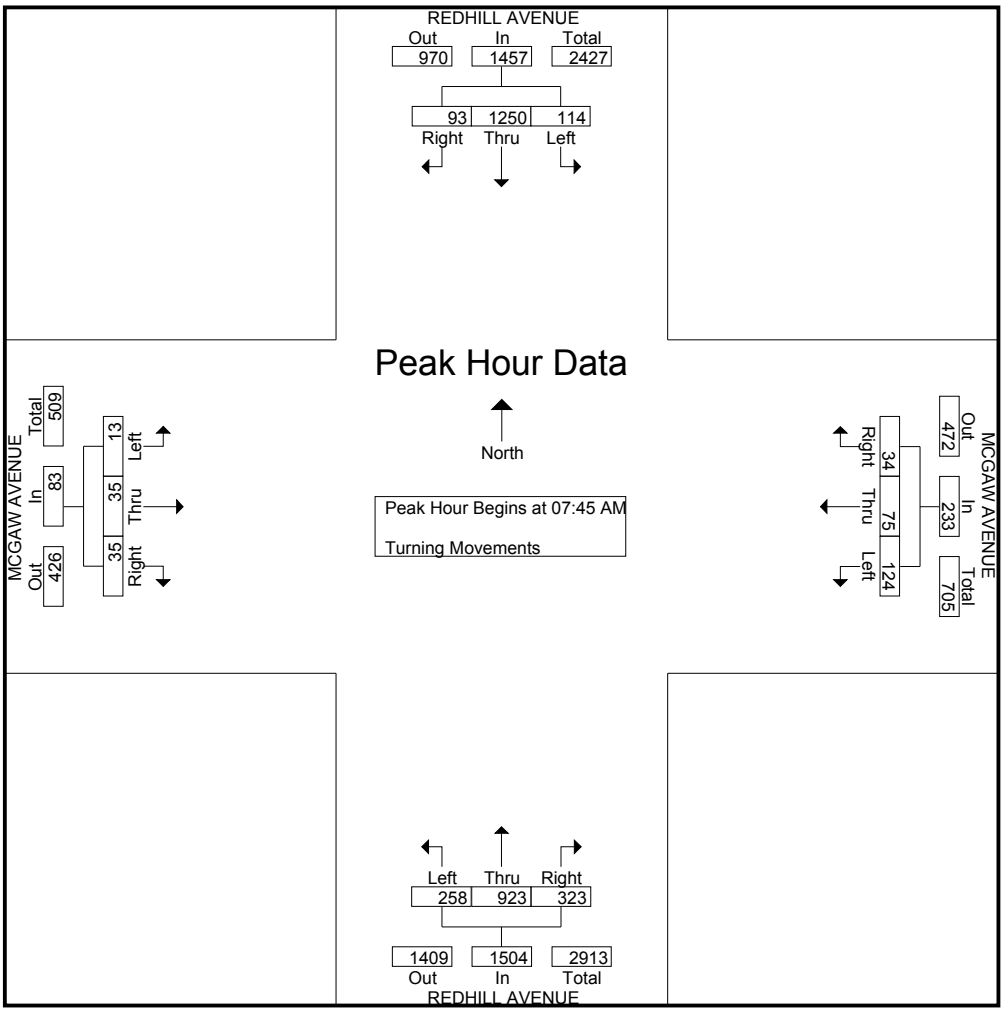
Groups Printed- Turning Movements

	REDHILL AVENUE Southbound			MCGAW AVENUE Westbound			REDHILL AVENUE Northbound			MCGAW AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	11	146	23	2	6	20	85	148	29	8	8	1	487
07:15 AM	14	185	27	3	14	24	61	156	50	5	11	0	550
07:30 AM	18	220	25	13	12	41	80	218	43	3	8	2	683
07:45 AM	16	287	37	11	15	20	81	289	70	11	6	1	844
Total	59	838	112	29	47	105	307	811	192	27	33	4	2564
08:00 AM	22	287	26	7	23	35	104	226	80	9	10	7	836
08:15 AM	32	348	23	6	16	31	76	227	58	5	6	1	829
08:30 AM	23	328	28	10	21	38	62	181	50	10	13	4	768
08:45 AM	36	271	31	9	12	32	63	220	38	3	7	3	725
Total	113	1234	108	32	72	136	305	854	226	27	36	15	3158
*** BREAK ***													
04:00 PM	3	237	10	39	10	120	52	474	8	67	17	19	1056
04:15 PM	5	232	8	24	18	80	39	393	7	48	10	5	869
04:30 PM	2	270	4	49	26	107	73	472	15	68	23	17	1126
04:45 PM	2	278	9	42	17	92	75	481	8	54	19	17	1094
Total	12	1017	31	154	71	399	239	1820	38	237	69	58	4145
05:00 PM	6	307	6	61	46	124	97	469	15	79	21	24	1255
05:15 PM	1	306	13	34	20	95	118	495	7	69	44	17	1219
05:30 PM	4	301	5	51	24	79	133	484	9	58	23	10	1181
05:45 PM	2	254	11	28	14	81	134	525	7	51	15	11	1133
Total	13	1168	35	174	104	379	482	1973	38	257	103	62	4788
Grand Total	197	4257	286	389	294	1019	1333	5458	494	548	241	139	14655
Apprch %	4.2	89.8	6	22.9	17.3	59.9	18.3	74.9	6.8	59.1	26	15	
Total %	1.3	29	2	2.7	2	7	9.1	37.2	3.4	3.7	1.6	0.9	

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MC GAW AVENUE

File Name : H1405108
Site Code : 00000000
Start Date : 6/10/2014
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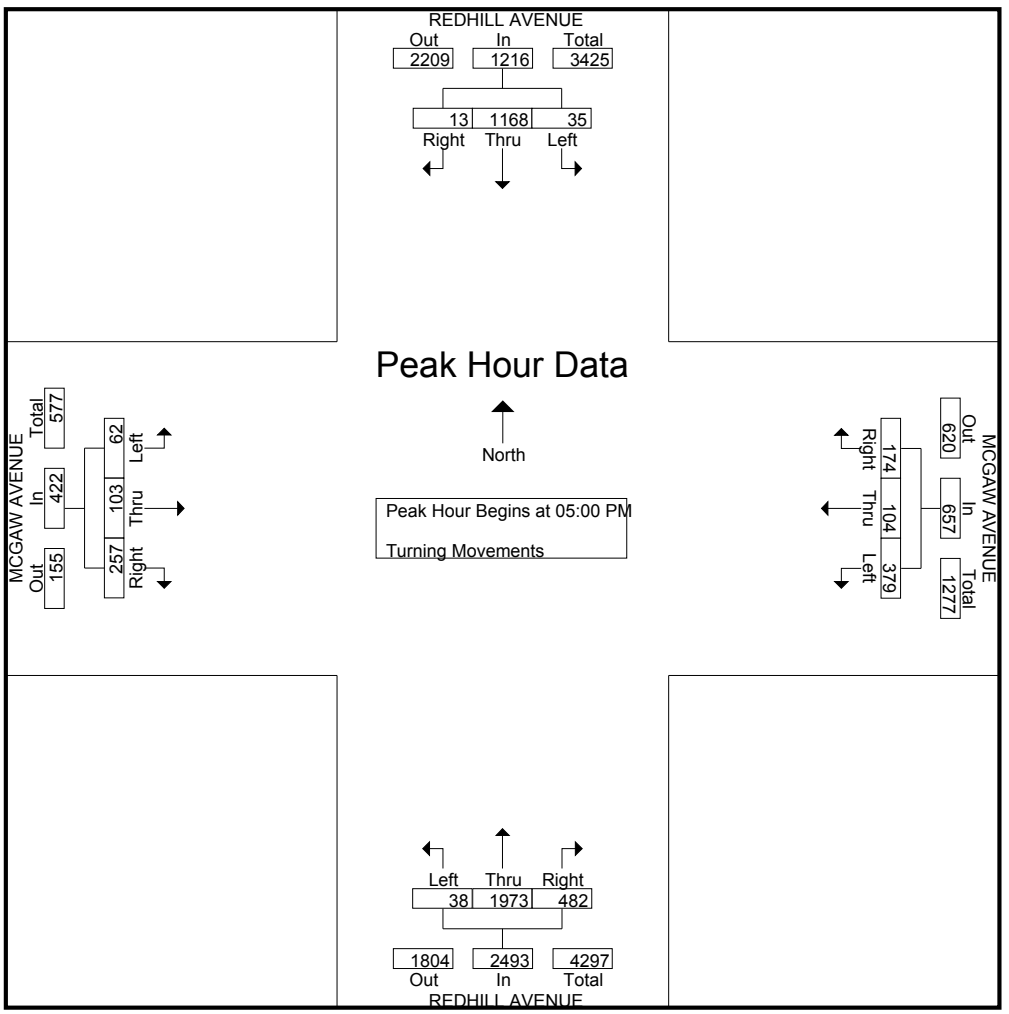
	REDHILL AVENUE Southbound				MCGAW AVENUE Westbound				REDHILL AVENUE Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	16	287	**37**	340	**11**	15	20	46	81	**289**	70	**440**	**11**	6	1	18	**844**
08:00 AM	22	287	26	335	7	**23**	35	65	**104**	226	**80**	410	9	10	**7**	26	836
08:15 AM	**32**	**348**	23	**403**	6	16	31	53	76	227	58	361	5	6	1	12	829
08:30 AM	23	328	28	379	10	21	**38**	**69**	62	181	50	293	10	**13**	4	**27**	768
Total Volume	93	1250	114	1457	34	75	124	233	323	923	258	1504	35	35	13	83	3277
% App. Total	6.4	85.8	7.8		14.6	32.2	53.2		21.5	61.4	17.2		42.2	42.2	15.7		
PHF	.727	.898	.770	.904	.773	.815	.816	.844	.776	.798	.806	.855	.795	.673	.464	.769	.971



City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MC GAW AVENUE

File Name : H1405108
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	REDHILL AVENUE Southbound				MCGAW AVENUE Westbound				REDHILL AVENUE Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**6**	**307**	6	319	**61**	**46**	**124**	**231**	97	469	**15**	581	**79**	21	**24**	124	**1255**
05:15 PM	1	306	**13**	**320**	34	20	95	149	118	495	7	620	69	**44**	17	**130**	1219
05:30 PM	4	301	5	310	51	24	79	154	133	484	9	626	58	23	10	91	1181
05:45 PM	2	254	11	267	28	14	81	123	**134**	**525**	7	**666**	51	15	11	77	1133
Total Volume	13	1168	35	1216	174	104	379	657	482	1973	38	2493	257	103	62	422	4788
% App. Total	1.1	96.1	2.9		26.5	15.8	57.7		19.3	79.1	1.5		60.9	24.4	14.7		
PHF	.542	.951	.673	.950	.713	.565	.764	.711	.899	.940	.633	.936	.813	.585	.646	.812	.954



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MCGAW AVENUE

File Name : H1405112
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

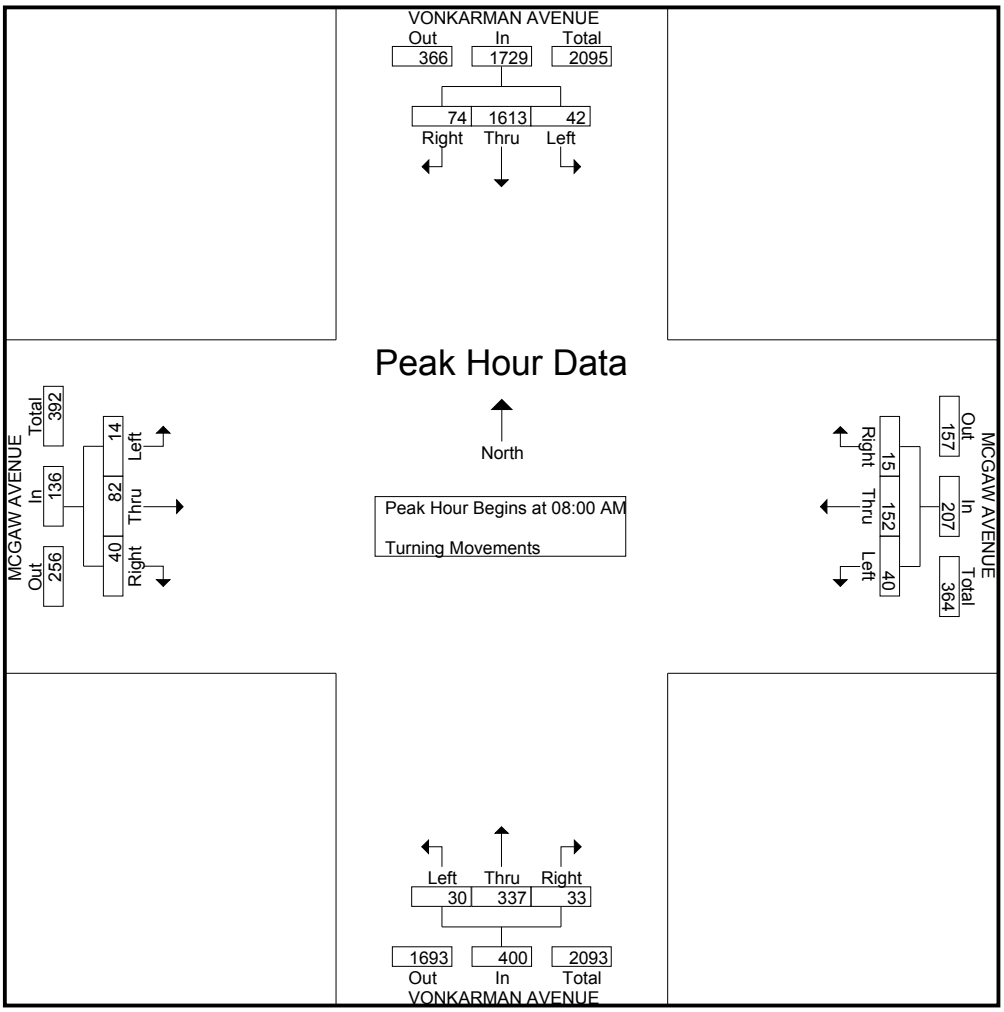
Groups Printed- Turning Movements

	VONKARMAN AVENUE Southbound			MCGAW AVENUE Westbound			VONKARMAN AVENUE Northbound			MCGAW AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	19	207	9	5	25	5	3	48	9	4	22	4	360
07:15 AM	22	258	9	1	43	6	3	64	5	8	22	0	441
07:30 AM	25	312	12	6	56	12	6	66	11	15	38	4	563
07:45 AM	24	381	17	9	38	9	9	101	7	5	29	5	634
Total	90	1158	47	21	162	32	21	279	32	32	111	13	1998
08:00 AM	16	360	7	4	40	13	8	88	7	8	18	4	573
08:15 AM	18	417	14	5	44	11	7	76	3	13	30	2	640
08:30 AM	15	397	12	5	37	9	7	80	12	13	17	6	610
08:45 AM	25	439	9	1	31	7	11	93	8	6	17	2	649
Total	74	1613	42	15	152	40	33	337	30	40	82	14	2472
*** BREAK ***													
04:00 PM	11	106	1	22	37	5	15	279	15	14	66	20	591
04:15 PM	5	87	7	16	27	6	16	319	10	16	46	24	579
04:30 PM	14	93	5	31	56	9	28	339	13	10	90	23	711
04:45 PM	8	125	6	12	20	5	28	361	10	14	71	20	680
Total	38	411	19	81	140	25	87	1298	48	54	273	87	2561
05:00 PM	5	168	13	20	43	12	46	356	12	21	109	34	839
05:15 PM	12	137	11	18	25	8	53	333	14	17	152	44	824
05:30 PM	4	132	12	17	23	3	67	352	27	7	100	33	777
05:45 PM	7	128	12	21	37	6	55	315	22	7	93	38	741
Total	28	565	48	76	128	29	221	1356	75	52	454	149	3181
Grand Total	230	3747	156	193	582	126	362	3270	185	178	920	263	10212
Apprch %	5.6	90.7	3.8	21.4	64.6	14	9.5	85.7	4.8	13.1	67.6	19.3	
Total %	2.3	36.7	1.5	1.9	5.7	1.2	3.5	32	1.8	1.7	9	2.6	

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MCGAW AVENUE

File Name : H1405112
Site Code : 00000000
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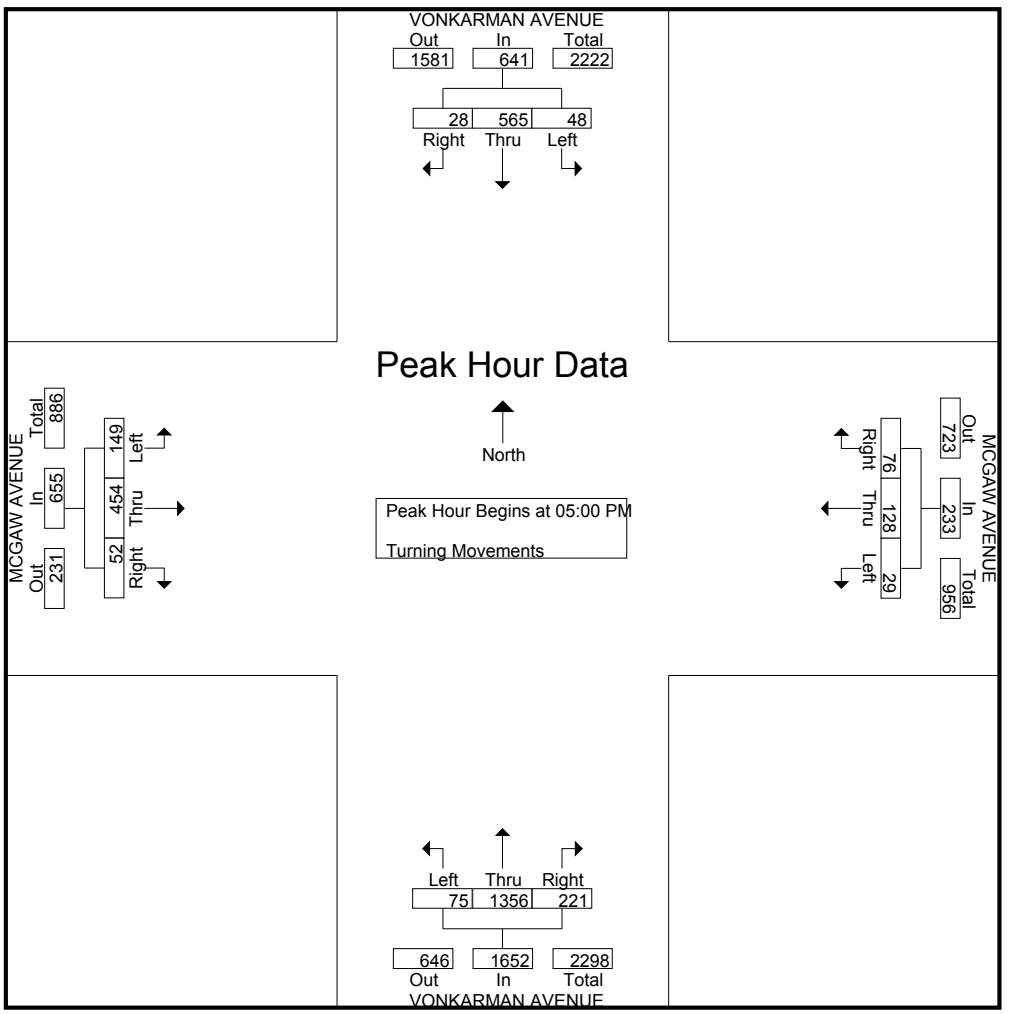
	VONKARMAN AVENUE Southbound				MCGAW AVENUE Westbound				VONKARMAN AVENUE Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	16	360	7	383	4	40	**13**	57	8	88	7	103	8	18	4	30	573
08:15 AM	18	417	**14**	449	**5**	**44**	11	**60**	7	76	3	86	**13**	**30**	2	**45**	640
08:30 AM	15	397	12	424	5	37	9	51	7	80	**12**	99	13	17	**6**	36	610
08:45 AM	**25**	**439**	9	**473**	1	31	7	39	**11**	**93**	8	**112**	6	17	2	25	**649**
Total Volume	74	1613	42	1729	15	152	40	207	33	337	30	400	40	82	14	136	2472
% App. Total	4.3	93.3	2.4		7.2	73.4	19.3		8.2	84.2	7.5		29.4	60.3	10.3		
PHF	.740	.919	.750	.914	.750	.864	.769	.863	.750	.906	.625	.893	.769	.683	.583	.756	.952



City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MCGAW AVENUE

File Name : H1405112
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	VONKARMAN AVENUE Southbound				MCGAW AVENUE Westbound				VONKARMAN AVENUE Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	5	**168**	**13**	**186**	20	**43**	**12**	**75**	46	**356**	12	414	**21**	109	34	164	**839**
05:15 PM	**12**	137	11	160	18	25	8	51	53	333	14	400	17	**152**	**44**	**213**	824
05:30 PM	4	132	12	148	17	23	3	43	**67**	352	**27**	**446**	7	100	33	140	777
05:45 PM	7	128	12	147	**21**	37	6	64	55	315	22	392	7	93	38	138	741
Total Volume	28	565	48	641	76	128	29	233	221	1356	75	1652	52	454	149	655	3181
% App. Total	4.4	88.1	7.5		32.6	54.9	12.4		13.4	82.1	4.5		7.9	69.3	22.7		
PHF	.583	.841	.923	.862	.905	.744	.604	.777	.825	.952	.694	.926	.619	.747	.847	.769	.948



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MCGAW AVENUE

File Name : H1405104
Site Code : 00000000
Start Date : 6/10/2014
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Groups Printed- Turning Movements

	JAMBOREE ROAD Southbound			MCGAW AVENUE Westbound			JAMBOREE ROAD Northbound			MCGAW AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	28	515	7	5	1	5	13	217	41	7	3	4	846
07:15 AM	43	643	0	2	2	4	17	236	36	8	5	2	998
07:30 AM	46	664	3	6	10	7	6	240	37	11	9	4	1043
07:45 AM	37	478	3	4	7	3	18	295	34	8	7	5	899
Total	154	2300	13	17	20	19	54	988	148	34	24	15	3786
08:00 AM	18	298	2	6	10	2	10	298	40	15	15	4	718
08:15 AM	32	689	2	1	9	8	11	292	27	15	5	5	1096
08:30 AM	34	801	3	3	5	6	1	268	36	9	1	2	1169
08:45 AM	32	697	7	2	2	7	14	346	25	10	4	3	1149
Total	116	2485	14	12	26	23	36	1204	128	49	25	14	4132
*** BREAK ***													
04:00 PM	2	306	3	7	13	13	9	593	17	40	22	38	1063
04:15 PM	11	376	1	6	7	12	8	686	19	27	12	36	1201
04:30 PM	8	323	4	8	17	6	6	641	20	54	47	60	1194
04:45 PM	10	377	2	13	15	26	4	771	16	40	20	58	1352
Total	31	1382	10	34	52	57	27	2691	72	161	101	192	4810
05:00 PM	13	454	3	12	15	18	6	754	20	61	63	84	1503
05:15 PM	11	383	1	1	6	10	5	735	16	55	68	83	1374
05:30 PM	13	412	2	4	4	8	8	811	27	40	60	65	1454
05:45 PM	15	398	5	2	5	9	6	795	31	23	58	63	1410
Total	52	1647	11	19	30	45	25	3095	94	179	249	295	5741
Grand Total	353	7814	48	82	128	144	142	7978	442	423	399	516	18469
Apprch %	4.3	95.1	0.6	23.2	36.2	40.7	1.7	93.2	5.2	31.6	29.8	38.6	
Total %	1.9	42.3	0.3	0.4	0.7	0.8	0.8	43.2	2.4	2.3	2.2	2.8	

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MCGAW AVENUE

File Name : H1405104
Site Code : 00000000
Start Date : 6/10/2014
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	JAMBOREE ROAD Southbound				MCGAW AVENUE Westbound				JAMBOREE ROAD Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	18	298	2	318	**6**	**10**	2	**18**	10	298	**40**	348	**15**	**15**	4	**34**	718
08:15 AM	32	689	2	723	1	9	**8**	18	11	292	27	330	15	5	**5**	25	1096
08:30 AM	**34**	**801**	3	**838**	3	5	6	14	1	268	36	305	9	1	2	12	**1169**
08:45 AM	32	697	**7**	736	2	2	7	11	**14**	**346**	25	**385**	10	4	3	17	1149
Total Volume	116	2485	14	2615	12	26	23	61	36	1204	128	1368	49	25	14	88	4132
% App. Total	4.4	95	0.5		19.7	42.6	37.7		2.6	88	9.4		55.7	28.4	15.9		
PHF	.853	.776	.500	.780	.500	.650	.719	.847	.643	.870	.800	.888	.817	.417	.700	.647	.884

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	18	298	2	318	**6**	**10**	7	**23**	10	298	**40**	348	11	9	4	24
+15 mins.	32	689	2	723	4	7	3	14	11	292	27	330	8	7	**5**	20
+30 mins.	**34**	**801**	3	**838**	6	10	2	18	1	268	36	305	**15**	**15**	4	**34**
+45 mins.	32	697	**7**	736	1	9	**8**	18	**14**	**346**	25	**385**	15	5	5	25
Total Volume	116	2485	14	2615	17	36	20	73	36	1204	128	1368	49	36	18	103
% App. Total	4.4	95	0.5		23.3	49.3	27.4		2.6	88	9.4		47.6	35	17.5	
PHF	.853	.776	.500	.780	.708	.900	.625	.793	.643	.870	.800	.888	.817	.600	.900	.757

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MCGAW AVENUE

File Name : H1405104
Site Code : 00000000
Start Date : 6/10/2014
Page No : 3

	JAMBOREE ROAD Southbound				MCGAW AVENUE Westbound				JAMBOREE ROAD Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	**454**	3	**470**	**12**	**15**	**18**	**45**	6	754	20	780	**61**	63	**84**	**208**	**1503**
05:15 PM	11	383	1	395	1	6	10	17	5	735	16	756	55	**68**	83	206	1374
05:30 PM	13	412	2	427	4	4	8	16	**8**	**811**	27	**846**	40	60	65	165	1454
05:45 PM	**15**	398	**5**	418	2	5	9	16	6	795	**31**	832	23	58	63	144	1410
Total Volume	52	1647	11	1710	19	30	45	94	25	3095	94	3214	179	249	295	723	5741
% App. Total	3	96.3	0.6		20.2	31.9	47.9		0.8	96.3	2.9		24.8	34.4	40.8		
PHF	.867	.907	.550	.910	.396	.500	.625	.522	.781	.954	.758	.950	.734	.915	.878	.869	.955

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				05:00 PM				05:00 PM			
+0 mins.	13	**454**	3	**470**	6	7	12	25	6	754	20	780	**61**	63	**84**	**208**
+15 mins.	11	383	1	395	8	**17**	6	31	5	735	16	756	55	**68**	83	206
+30 mins.	13	412	2	427	**13**	15	**26**	**54**	**8**	**811**	27	**846**	40	60	65	165
+45 mins.	**15**	398	**5**	418	12	15	18	45	6	795	**31**	832	23	58	63	144
Total Volume	52	1647	11	1710	39	54	62	155	25	3095	94	3214	179	249	295	723
% App. Total	3	96.3	0.6		25.2	34.8	40		0.8	96.3	2.9		24.8	34.4	40.8	
PHF	.867	.907	.550	.910	.750	.794	.596	.718	.781	.954	.758	.950	.734	.915	.878	.869

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MACARTHUR BOULEVARD

File Name : H1405109
Site Code : 00000000
Start Date : 6/10/2014
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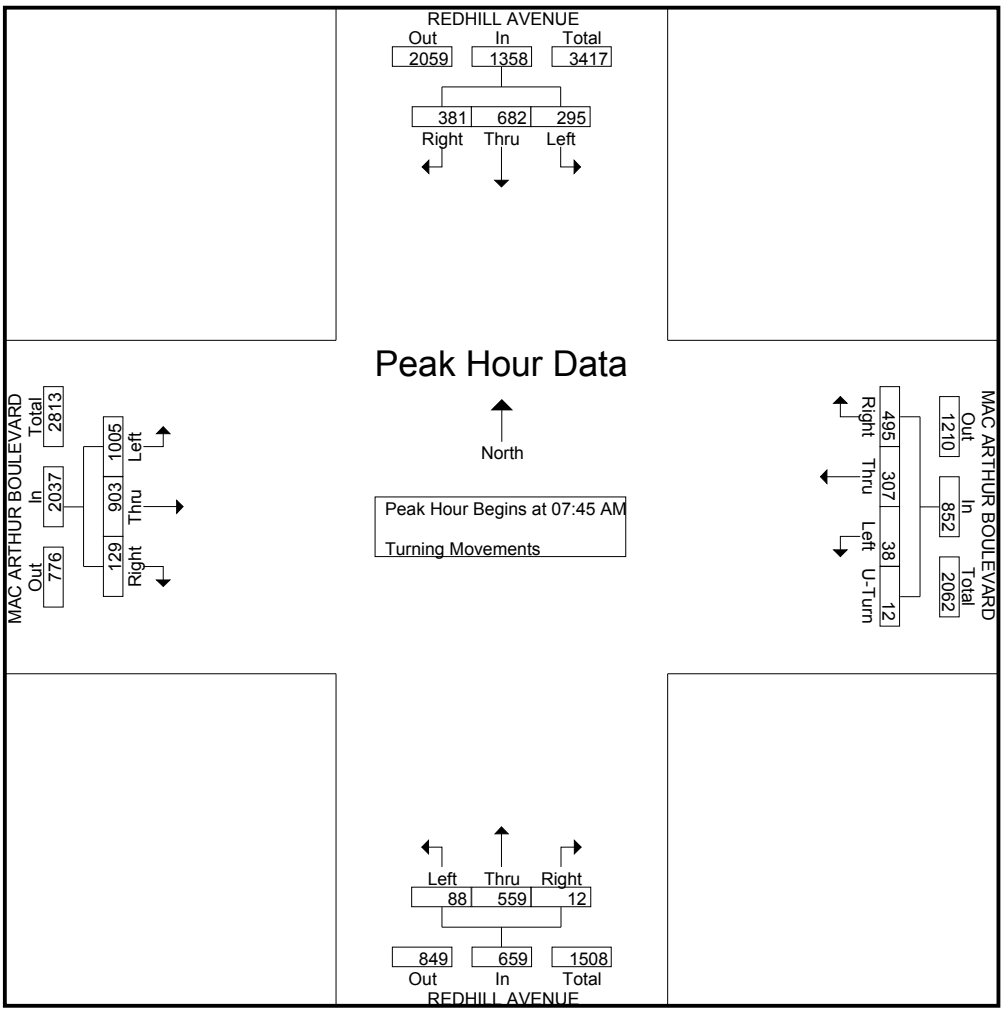
Groups Printed- Turning Movements

	REDHILL AVENUE Southbound			MAC ARTHUR BOULEVARD Westbound				REDHILL AVENUE Northbound			MAC ARTHUR BOULEVARD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	56	62	36	81	34	9	4	5	68	19	23	199	227	823
07:15 AM	67	108	37	110	54	5	0	3	93	13	23	169	239	921
07:30 AM	83	126	48	98	73	5	1	4	110	13	36	209	253	1059
07:45 AM	84	177	65	141	70	8	2	2	215	17	25	206	268	1280
Total	290	473	186	430	231	27	7	14	486	62	107	783	987	4083
08:00 AM	81	162	63	147	88	11	4	1	125	24	42	247	283	1278
08:15 AM	108	191	84	101	64	8	2	5	120	28	32	234	258	1235
08:30 AM	108	152	83	106	85	11	4	4	99	19	30	216	196	1113
08:45 AM	102	161	61	115	69	4	2	1	121	15	40	196	230	1117
Total	399	666	291	469	306	34	12	11	465	86	144	893	967	4743
*** BREAK ***														
04:00 PM	255	130	67	169	238	5	2	4	241	79	22	109	157	1478
04:15 PM	200	148	59	128	228	2	1	11	193	38	17	85	127	1237
04:30 PM	263	155	65	188	240	19	5	7	232	70	20	98	179	1541
04:45 PM	216	162	69	155	218	5	2	10	194	45	17	104	205	1402
Total	934	595	260	640	924	31	10	32	860	232	76	396	668	5658
05:00 PM	320	227	102	218	228	10	4	7	299	50	20	97	168	1750
05:15 PM	233	192	74	225	241	21	2	6	219	35	28	150	198	1624
05:30 PM	217	221	63	227	174	12	2	12	296	52	33	162	217	1688
05:45 PM	171	158	75	191	219	13	3	3	246	35	26	162	191	1493
Total	941	798	314	861	862	56	11	28	1060	172	107	571	774	6555
Grand Total	2564	2532	1051	2400	2323	148	40	85	2871	552	434	2643	3396	21039
Apprch %	41.7	41.2	17.1	48.9	47.3	3	0.8	2.4	81.8	15.7	6.7	40.8	52.5	
Total %	12.2	12	5	11.4	11	0.7	0.2	0.4	13.6	2.6	2.1	12.6	16.1	

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MACARTHUR BOULEVARD

File Name : H1405109
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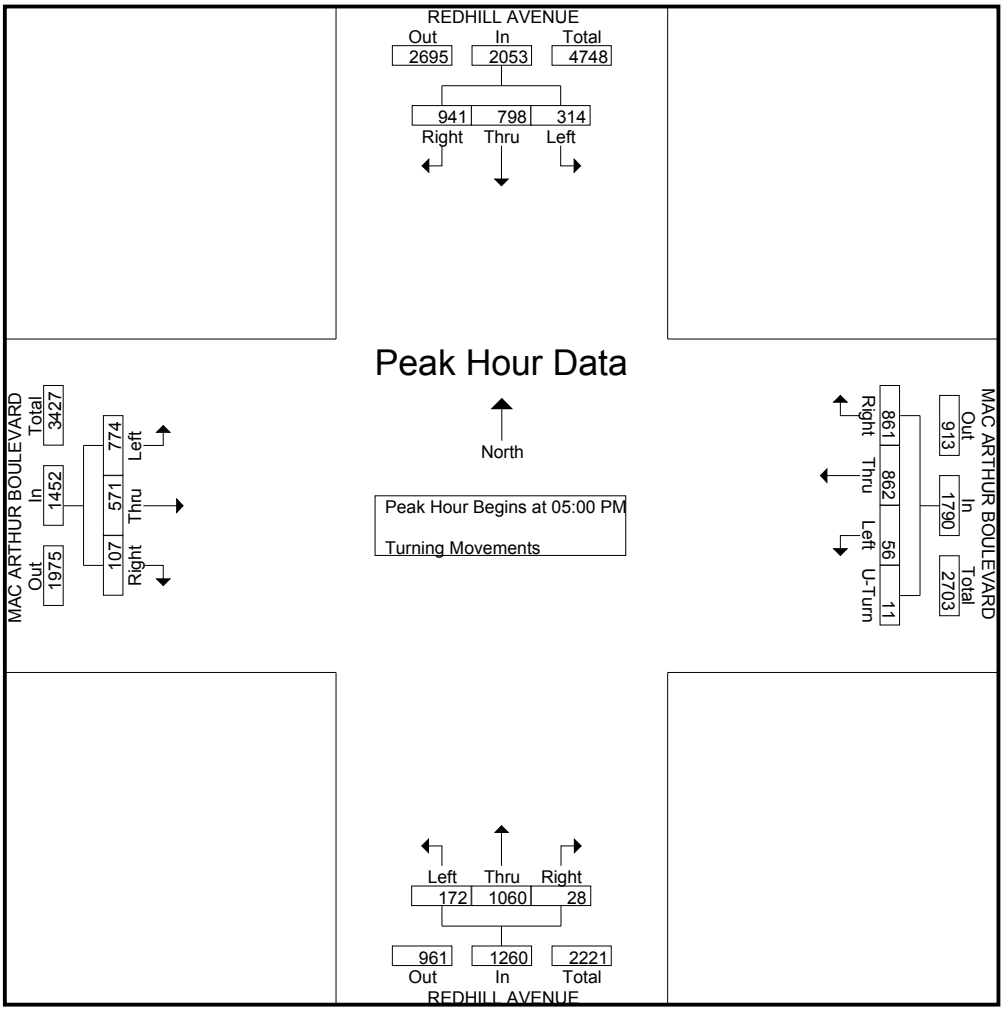
	REDHILL AVENUE Southbound				MAC ARTHUR BOULEVARD Westbound					REDHILL AVENUE Northbound				MAC ARTHUR BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	84	177	65	326	141	70	8	2	221	2	**215**	17	**234**	25	206	268	499	**1280**
08:00 AM	81	162	63	306	**147**	**88**	**11**	**4**	**250**	1	125	24	150	**42**	**247**	**283**	**572**	1278
08:15 AM	**108**	**191**	**84**	**383**	101	64	8	2	175	**5**	120	**28**	153	32	234	258	524	1235
08:30 AM	108	152	83	343	106	85	11	4	206	4	99	19	122	30	216	196	442	1113
Total Volume	381	682	295	1358	495	307	38	12	852	12	559	88	659	129	903	1005	2037	4906
% App. Total	28.1	50.2	21.7		58.1	36	4.5	1.4		1.8	84.8	13.4		6.3	44.3	49.3		
PHF	.882	.893	.878	.886	.842	.872	.864	.750	.852	.600	.650	.786	.704	.768	.914	.888	.890	.958



City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MACARTHUR BOULEVARD

File Name : H1405109
Site Code : 00000000
Start Date : 6/10/2014
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	REDHILL AVENUE Southbound				MAC ARTHUR BOULEVARD Westbound					REDHILL AVENUE Northbound				MAC ARTHUR BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	**320**	**227**	**102**	**649**	218	228	10	**4**	460	7	**299**	50	356	20	97	168	285	**1750**
05:15 PM	233	192	74	499	225	**241**	**21**	2	**489**	6	219	35	260	28	150	198	376	1624
05:30 PM	217	221	63	501	**227**	174	12	2	415	**12**	296	**52**	**360**	**33**	**162**	**217**	**412**	1688
05:45 PM	171	158	75	404	191	219	13	3	426	3	246	35	284	26	162	191	379	1493
Total Volume	941	798	314	2053	861	862	56	11	1790	28	1060	172	1260	107	571	774	1452	6555
% App. Total	45.8	38.9	15.3		48.1	48.2	3.1	0.6		2.2	84.1	13.7		7.4	39.3	53.3		
PHF	.735	.879	.770	.791	.948	.894	.667	.688	.915	.583	.886	.827	.875	.811	.881	.892	.881	.936



City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MAIN STREET

File Name : h1405110
Site Code : 00000000
Start Date : 6/10/2014
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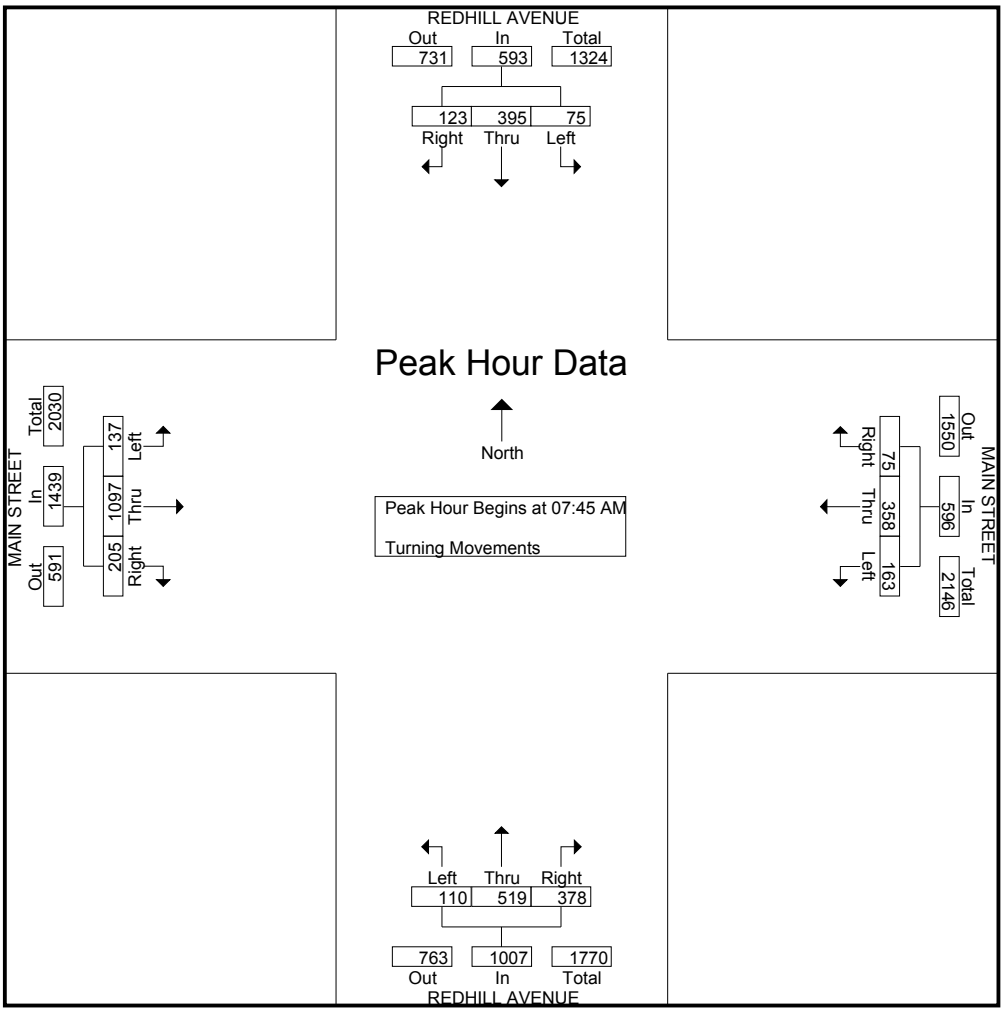
Groups Printed- Turning Movements

	REDHILL AVENUE Southbound			MAIN STREET Westbound			REDHILL AVENUE Northbound			MAIN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	13	36	12	13	54	28	44	65	15	24	149	11	464
07:15 AM	16	60	14	14	59	30	57	72	10	37	198	28	595
07:30 AM	28	81	24	20	67	31	77	112	18	33	238	27	756
07:45 AM	21	92	12	19	85	50	99	177	19	61	331	51	1017
Total	78	269	62	66	265	139	277	426	62	155	916	117	2832
08:00 AM	36	117	17	19	76	42	104	120	37	40	270	31	909
08:15 AM	31	92	24	18	99	38	103	120	30	64	278	28	925
08:30 AM	35	94	22	19	98	33	72	102	24	40	218	27	784
08:45 AM	34	80	12	20	105	41	75	82	42	40	231	57	819
Total	136	383	75	76	378	154	354	424	133	184	997	143	3437
*** BREAK ***													
04:00 PM	26	104	11	28	292	63	43	198	48	24	136	29	1002
04:15 PM	24	103	7	14	206	57	36	165	53	27	123	32	847
04:30 PM	45	119	16	9	343	67	54	183	57	23	116	39	1071
04:45 PM	42	130	19	14	298	67	50	180	57	36	145	31	1069
Total	137	456	53	65	1139	254	183	726	215	110	520	131	3989
05:00 PM	74	188	14	27	392	79	99	223	88	35	162	41	1422
05:15 PM	70	181	24	20	410	87	54	197	76	42	203	45	1409
05:30 PM	69	153	20	24	414	97	69	231	47	30	188	48	1390
05:45 PM	40	142	13	24	320	65	58	178	57	44	204	44	1189
Total	253	664	71	95	1536	328	280	829	268	151	757	178	5410
Grand Total	604	1772	261	302	3318	875	1094	2405	678	600	3190	569	15668
Apprch %	22.9	67.2	9.9	6.7	73.8	19.5	26.2	57.6	16.2	13.8	73.2	13.1	
Total %	3.9	11.3	1.7	1.9	21.2	5.6	7	15.3	4.3	3.8	20.4	3.6	

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MAIN STREET

File Name : h1405110
Site Code : 00000000
Start Date : 6/10/2014
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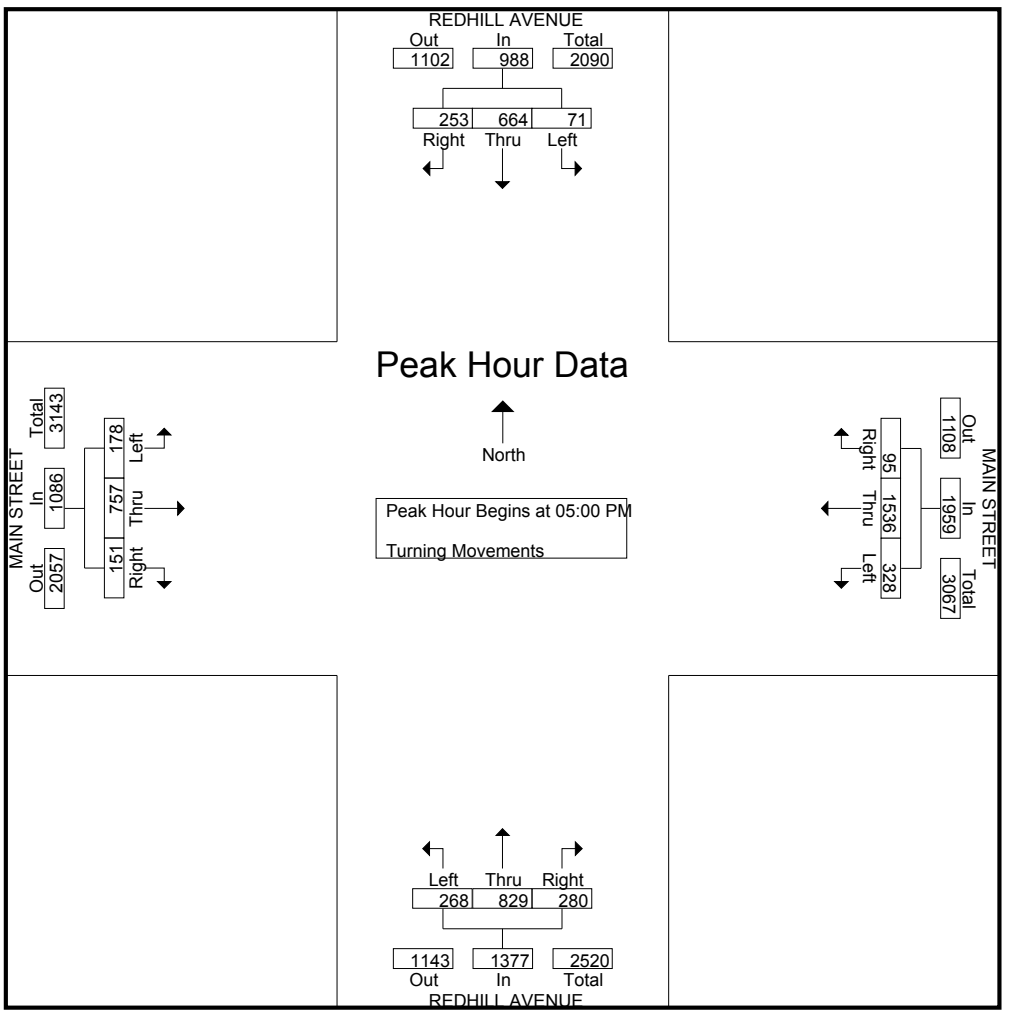
	REDHILL AVENUE Southbound				MAIN STREET Westbound				REDHILL AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	21	92	12	125	**19**	85	**50**	154	99	**177**	19	**295**	61	**331**	**51**	**443**	**1017**
08:00 AM	**36**	**117**	17	**170**	19	76	42	137	**104**	120	**37**	261	40	270	31	341	909
08:15 AM	31	92	**24**	147	18	**99**	38	**155**	103	120	30	253	**64**	278	28	370	925
08:30 AM	35	94	22	151	19	98	33	150	72	102	24	198	40	218	27	285	784
Total Volume	123	395	75	593	75	358	163	596	378	519	110	1007	205	1097	137	1439	3635
% App. Total	20.7	66.6	12.6		12.6	60.1	27.3		37.5	51.5	10.9		14.2	76.2	9.5		
PHF	.854	.844	.781	.872	.987	.904	.815	.961	.909	.733	.743	.853	.801	.829	.672	.812	.894



City: IRVINE
N-S Direction: REDHILL AVENUE
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File Name : h1405110
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	REDHILL AVENUE Southbound				MAIN STREET Westbound				REDHILL AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**74**	**188**	14	**276**	**27**	392	79	498	**99**	223	**88**	**410**	35	162	41	238	**1422**
05:15 PM	70	181	**24**	275	20	410	87	517	54	197	76	327	42	203	45	290	1409
05:30 PM	69	153	20	242	24	**414**	**97**	**535**	69	**231**	47	347	30	188	**48**	266	1390
05:45 PM	40	142	13	195	24	320	65	409	58	178	57	293	**44**	**204**	44	**292**	1189
Total Volume	253	664	71	988	95	1536	328	1959	280	829	268	1377	151	757	178	1086	5410
% App. Total	25.6	67.2	7.2		4.8	78.4	16.7		20.3	60.2	19.5		13.9	69.7	16.4		
PHF	.855	.883	.740	.895	.880	.928	.845	.915	.707	.897	.761	.840	.858	.928	.927	.930	.951



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: MACARTHUR BOULEVARD
E-W Direction: MAIN STREET

File Name : h1405111
Site Code : 00005701
Start Date : 6/10/2014
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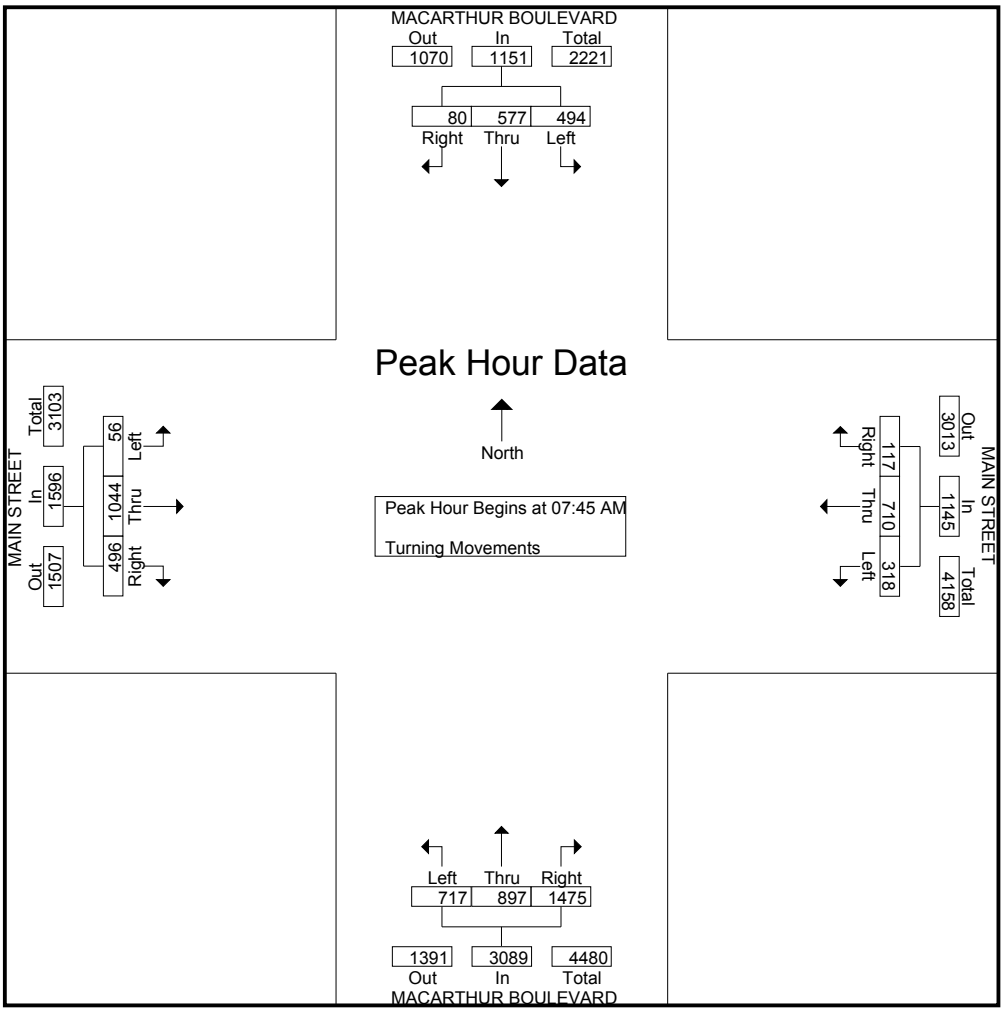
Groups Printed- Turning Movements

	MACARTHUR BOULEVARD Southbound			MAIN STREET Westbound			MACARTHUR BOULEVARD Northbound			MAIN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	17	89	104	29	59	33	181	159	99	87	114	7	978
07:15 AM	17	95	108	22	56	34	238	199	122	83	181	14	1169
07:30 AM	21	127	84	20	99	47	275	164	140	103	186	12	1278
07:45 AM	15	145	112	29	159	57	341	229	122	144	253	25	1631
Total	70	456	408	100	373	171	1035	751	483	417	734	58	5056
08:00 AM	25	150	139	29	200	97	388	258	191	132	262	13	1884
08:15 AM	20	150	120	30	180	74	397	164	225	110	288	9	1767
08:30 AM	20	132	123	29	171	90	349	246	179	110	241	9	1699
08:45 AM	24	121	113	14	190	74	330	277	165	111	185	13	1617
Total	89	553	495	102	741	335	1464	945	760	463	976	44	6967
*** BREAK ***													
04:00 PM	11	141	35	85	145	142	78	200	122	122	143	14	1238
04:15 PM	14	157	56	89	157	123	108	243	140	112	141	19	1359
04:30 PM	15	150	45	78	151	132	128	249	108	115	174	12	1357
04:45 PM	14	157	60	78	158	124	156	294	122	131	153	17	1464
Total	54	605	196	330	611	521	470	986	492	480	611	62	5418
05:00 PM	15	169	48	100	165	105	168	351	151	148	223	6	1649
05:15 PM	13	200	76	122	216	155	128	405	137	152	267	11	1882
05:30 PM	14	202	59	89	178	165	66	319	144	140	253	16	1645
05:45 PM	10	193	106	81	189	144	73	329	171	120	236	11	1663
Total	52	764	289	392	748	569	435	1404	603	560	979	44	6839
Grand Total	265	2378	1388	924	2473	1596	3404	4086	2338	1920	3300	208	24280
Apprch %	6.6	59	34.4	18.5	49.5	32	34.6	41.6	23.8	35.4	60.8	3.8	
Total %	1.1	9.8	5.7	3.8	10.2	6.6	14	16.8	9.6	7.9	13.6	0.9	

City: IRVINE
N-S Direction: MACARTHUR BOULEVARD
E-W Direction: MAIN STREET

File Name : h1405111
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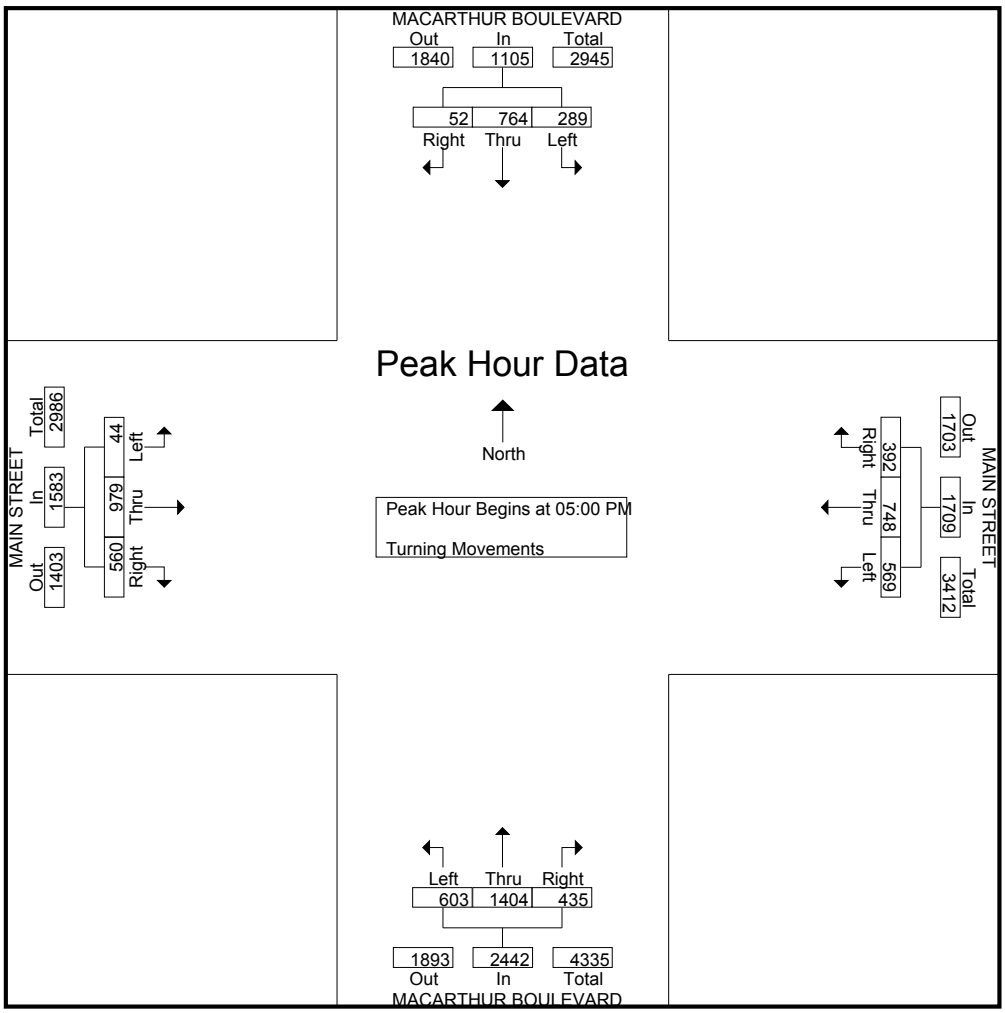
	MACARTHUR BOULEVARD Southbound				MAIN STREET Westbound				MACARTHUR BOULEVARD Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	15	145	112	272	29	159	57	245	341	229	122	692	**144**	253	**25**	**422**	1631
08:00 AM	**25**	**150**	**139**	**314**	29	**200**	**97**	**326**	388	**258**	191	**837**	132	262	13	407	**1884**
08:15 AM	20	150	120	290	**30**	180	74	284	**397**	164	**225**	786	110	**288**	9	407	1767
08:30 AM	20	132	123	275	29	171	90	290	349	246	179	774	110	241	9	360	1699
Total Volume	80	577	494	1151	117	710	318	1145	1475	897	717	3089	496	1044	56	1596	6981
% App. Total	7	50.1	42.9		10.2	62	27.8		47.8	29	23.2		31.1	65.4	3.5		
PHF	.800	.962	.888	.916	.975	.888	.820	.878	.929	.869	.797	.923	.861	.906	.560	.945	.926



City: IRVINE
N-S Direction: MACARTHUR BOULEVARD
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File Name : h1405111
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	MACARTHUR BOULEVARD Southbound				MAIN STREET Westbound				MACARTHUR BOULEVARD Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**15**	169	48	232	100	165	105	370	**168**	351	151	**670**	148	223	6	377	1649
05:15 PM	13	200	76	289	**122**	**216**	155	**493**	128	**405**	137	670	**152**	**267**	11	**430**	**1882**
05:30 PM	14	**202**	59	275	89	178	**165**	432	66	319	144	529	140	253	**16**	409	1645
05:45 PM	10	193	**106**	**309**	81	189	144	414	73	329	**171**	573	120	236	11	367	1663
Total Volume	52	764	289	1105	392	748	569	1709	435	1404	603	2442	560	979	44	1583	6839
% App. Total	4.7	69.1	26.2		22.9	43.8	33.3		17.8	57.5	24.7		35.4	61.8	2.8		
PHF	.867	.946	.682	.894	.803	.866	.862	.867	.647	.867	.882	.911	.921	.917	.688	.920	.908



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MAIN STREET

File Name : H1405113
Site Code : 00001944
Start Date : 6/12/2014
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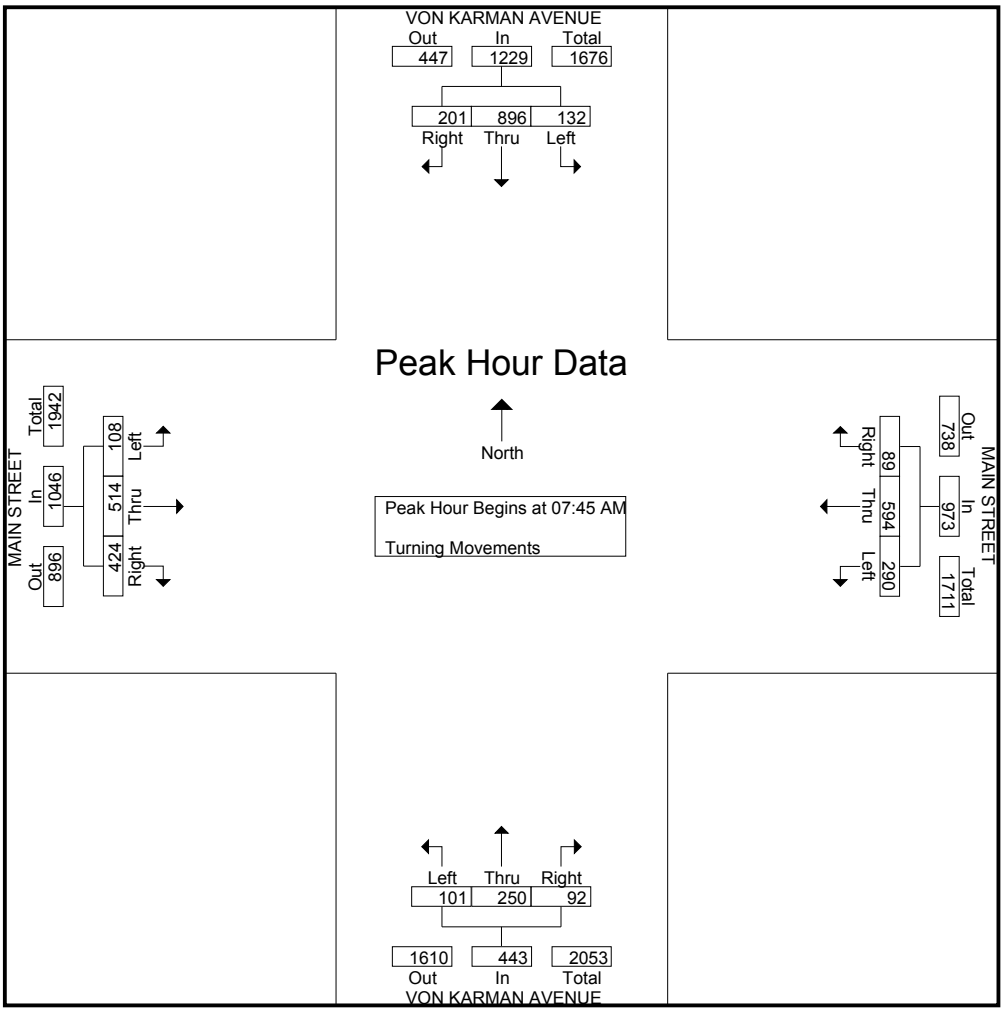
Groups Printed- Turning Movements

	VON KARMAN AVENUE Southbound			MAIN STREET Westbound			VON KARMAN AVENUE Northbound			MAIN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	44	101	15	21	90	24	4	22	12	91	121	36	581
07:15 AM	39	180	38	20	98	23	8	45	11	102	83	35	682
07:30 AM	47	167	18	18	97	30	11	34	15	104	110	33	684
07:45 AM	47	213	29	16	131	65	25	71	26	91	123	29	866
Total	177	661	100	75	416	142	48	172	64	388	437	133	2813
08:00 AM	64	261	34	27	135	65	19	59	26	122	142	35	989
08:15 AM	42	212	33	20	148	80	24	66	15	98	128	22	888
08:30 AM	48	210	36	26	180	80	24	54	34	113	121	22	948
08:45 AM	32	240	25	19	87	68	25	53	21	89	104	18	781
Total	186	923	128	92	550	293	92	232	96	422	495	97	3606
*** BREAK ***													
04:00 PM	44	66	35	15	90	26	31	157	98	38	129	53	782
04:15 PM	26	62	15	16	99	15	62	221	99	21	182	79	897
04:30 PM	39	75	41	19	148	35	64	185	83	40	213	92	1034
04:45 PM	24	75	27	17	97	38	69	211	75	30	161	79	903
Total	133	278	118	67	434	114	226	774	355	129	685	303	3616
05:00 PM	29	104	27	24	120	23	79	203	74	31	211	74	999
05:15 PM	16	139	41	22	145	30	127	229	87	34	246	61	1177
05:30 PM	23	101	31	19	173	33	73	163	52	25	235	68	996
05:45 PM	14	99	31	20	126	39	83	190	61	24	176	58	921
Total	82	443	130	85	564	125	362	785	274	114	868	261	4093
Grand Total	578	2305	476	319	1964	674	728	1963	789	1053	2485	794	14128
Apprch %	17.2	68.6	14.2	10.8	66.4	22.8	20.9	56.4	22.7	24.3	57.4	18.3	
Total %	4.1	16.3	3.4	2.3	13.9	4.8	5.2	13.9	5.6	7.5	17.6	5.6	

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MAIN STREET

File Name : H1405113
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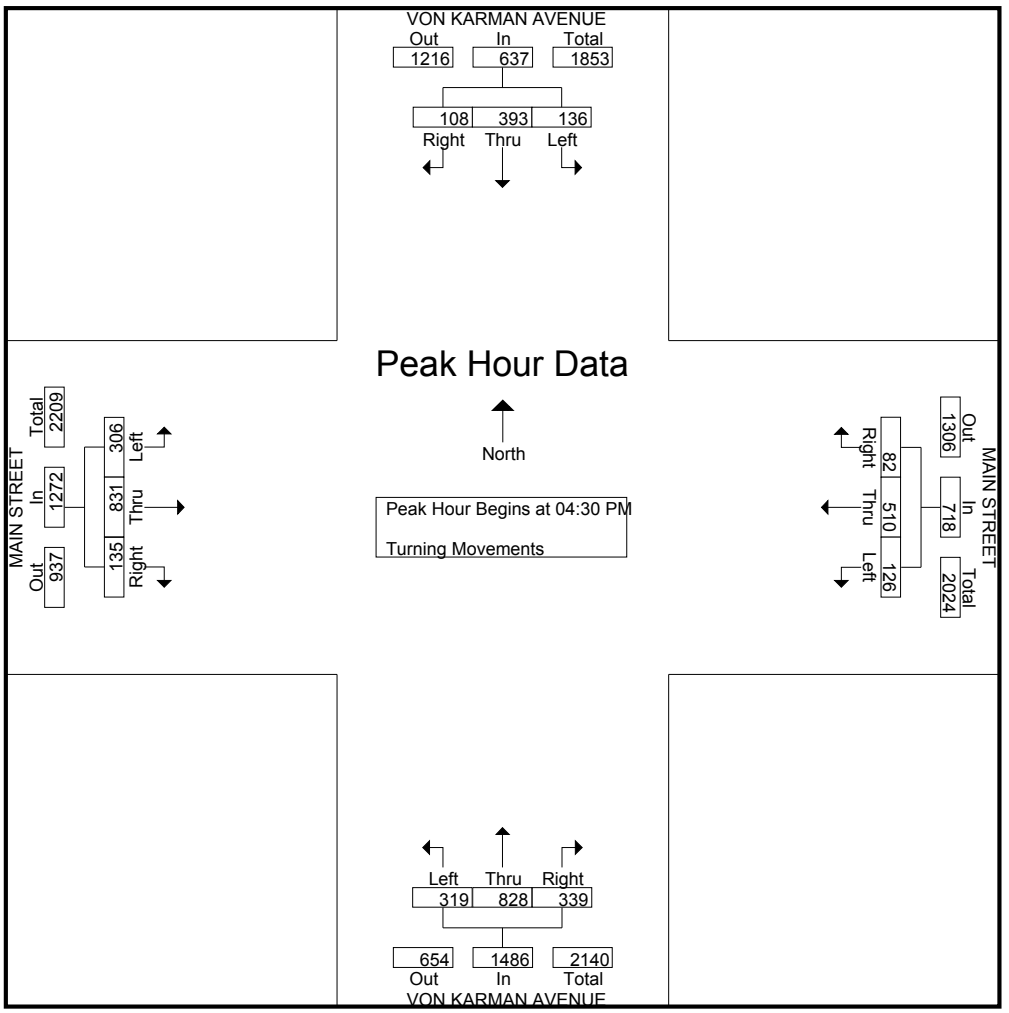
	VON KARMAN AVENUE Southbound				MAIN STREET Westbound				VON KARMAN AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	47	213	29	289	16	131	65	212	**25**	**71**	26	**122**	91	123	29	243	866
08:00 AM	**64**	**261**	34	**359**	**27**	135	65	227	19	59	26	104	**122**	**142**	**35**	**299**	**989**
08:15 AM	42	212	33	287	20	148	**80**	248	24	66	15	105	98	128	22	248	888
08:30 AM	48	210	**36**	294	26	**180**	80	**286**	24	54	**34**	112	113	121	22	256	948
Total Volume	201	896	132	1229	89	594	290	973	92	250	101	443	424	514	108	1046	3691
% App. Total	16.4	72.9	10.7		9.1	61	29.8		20.8	56.4	22.8		40.5	49.1	10.3		
PHF	.785	.858	.917	.856	.824	.825	.906	.851	.920	.880	.743	.908	.869	.905	.771	.875	.933



City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MAIN STREET

File Name : H1405113
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	VON KARMAN AVENUE Southbound				MAIN STREET Westbound				VON KARMAN AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**39**	75	**41**	155	19	**148**	35	**202**	64	185	83	332	**40**	213	**92**	**345**	1034
04:45 PM	24	75	27	126	17	97	**38**	152	69	211	75	355	30	161	79	270	903
05:00 PM	29	104	27	160	**24**	120	23	167	79	203	74	356	31	211	74	316	999
05:15 PM	16	**139**	41	**196**	22	145	30	197	**127**	**229**	**87**	**443**	34	**246**	61	341	**1177**
Total Volume	108	393	136	637	82	510	126	718	339	828	319	1486	135	831	306	1272	4113
% App. Total	17	61.7	21.4		11.4	71	17.5		22.8	55.7	21.5		10.6	65.3	24.1		
PHF	.692	.707	.829	.813	.854	.861	.829	.889	.667	.904	.917	.839	.844	.845	.832	.922	.874



City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MAIN STREET

File Name : h1405105
Site Code : 00000000
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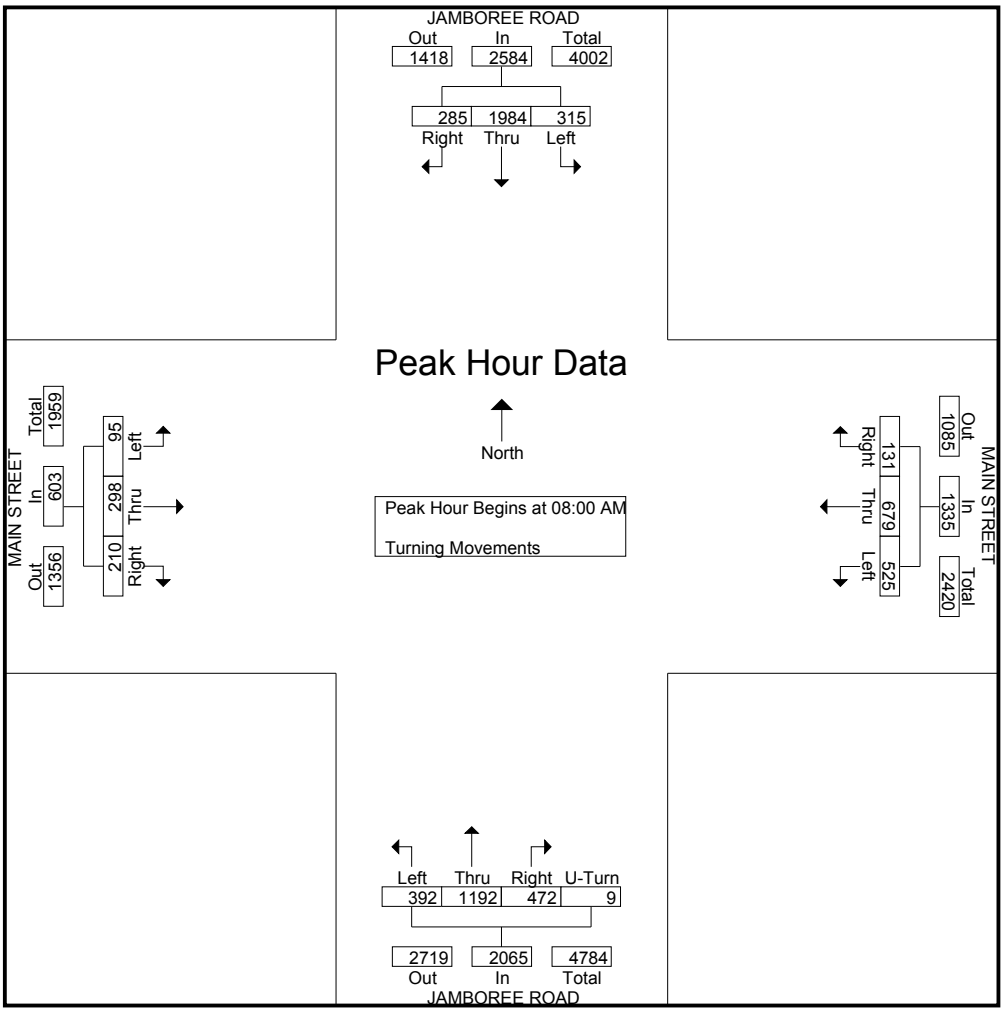
Groups Printed- Turning Movements

	JAMBOREE ROAD Southbound			MAIN STREET Westbound			JAMBOREE ROAD Northbound				MAIN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Int. Total
07:00 AM	48	424	36	19	62	75	67	251	88	2	45	41	14	1172
07:15 AM	62	533	72	28	85	109	71	257	75	1	45	38	18	1394
07:30 AM	86	585	57	28	135	125	71	275	93	2	59	64	19	1599
07:45 AM	45	373	68	36	157	142	84	276	94	2	54	78	27	1436
Total	241	1915	233	111	439	451	293	1059	350	7	203	221	78	5601
08:00 AM	43	308	42	34	139	129	108	342	101	4	61	70	22	1403
08:15 AM	74	486	91	26	211	152	111	271	101	2	57	67	17	1666
08:30 AM	93	630	91	37	138	121	128	290	96	2	43	81	28	1778
08:45 AM	75	560	91	34	191	123	125	289	94	1	49	80	28	1740
Total	285	1984	315	131	679	525	472	1192	392	9	210	298	95	6587
*** BREAK ***														
04:00 PM	29	349	32	60	66	96	85	571	49	4	151	110	58	1660
04:15 PM	32	323	47	50	66	98	107	542	54	5	90	104	90	1608
04:30 PM	40	394	36	53	78	101	87	605	24	2	186	159	96	1861
04:45 PM	45	350	33	74	80	125	133	608	65	5	148	169	117	1952
Total	146	1416	148	237	290	420	412	2326	192	16	575	542	361	7081
05:00 PM	50	467	55	70	118	141	137	593	46	3	205	290	137	2312
05:15 PM	62	411	46	72	97	129	162	630	87	2	181	304	132	2315
05:30 PM	42	342	55	69	104	128	173	554	83	1	157	334	151	2193
05:45 PM	46	344	54	63	98	119	171	622	85	3	143	284	132	2164
Total	200	1564	210	274	417	517	643	2399	301	9	686	1212	552	8984
Grand Total	872	6879	906	753	1825	1913	1820	6976	1235	41	1674	2273	1086	28253
Apprch %	10.1	79.5	10.5	16.8	40.6	42.6	18.1	69.3	12.3	0.4	33.3	45.2	21.6	
Total %	3.1	24.3	3.2	2.7	6.5	6.8	6.4	24.7	4.4	0.1	5.9	8	3.8	

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MAIN STREET

File Name : h1405105
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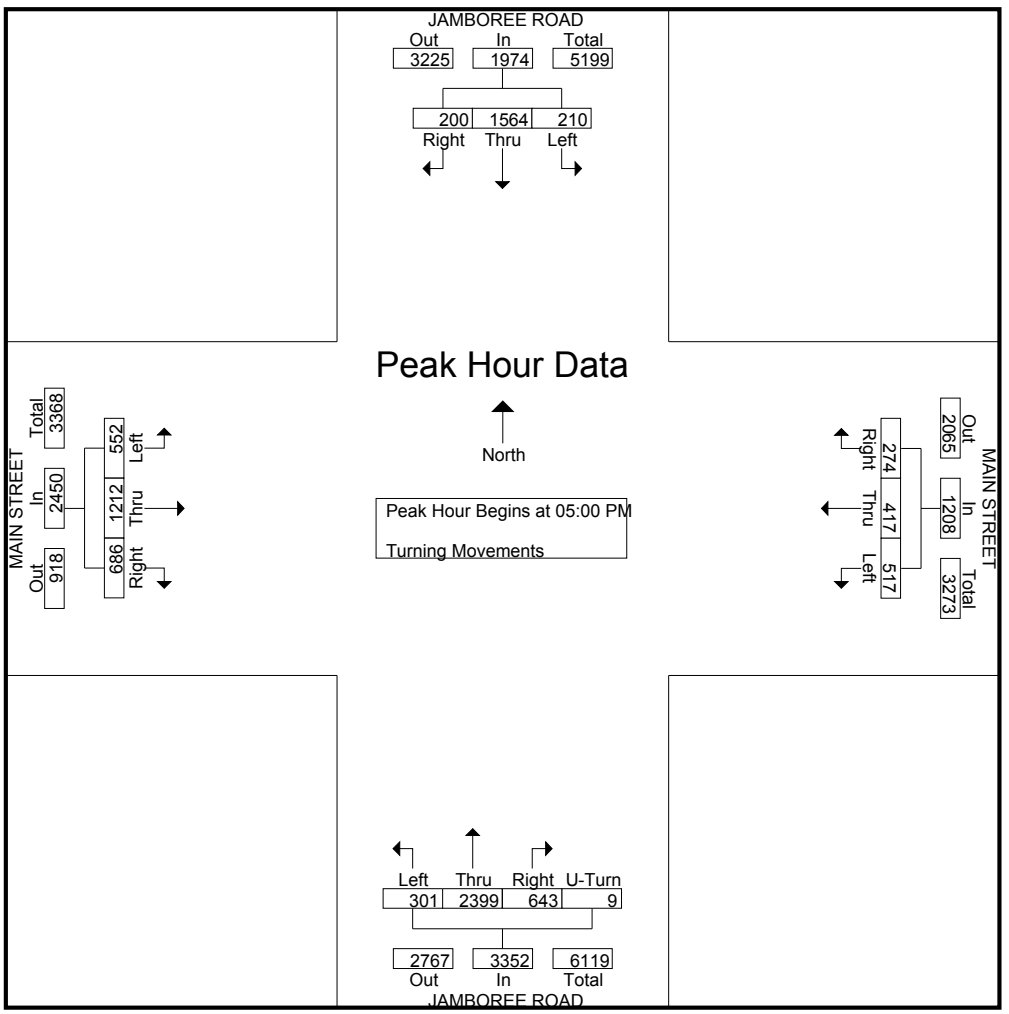
	JAMBOREE ROAD Southbound				MAIN STREET Westbound				JAMBOREE ROAD Northbound					MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	43	308	42	393	34	139	129	302	108	**342**	**101**	**4**	**555**	**61**	70	22	153	1403
08:15 AM	74	486	**91**	651	26	**211**	**152**	**389**	111	271	101	2	485	57	67	17	141	1666
08:30 AM	**93**	**630**	91	**814**	**37**	138	121	296	**128**	290	96	2	516	43	**81**	**28**	152	**1778**
08:45 AM	75	560	91	726	34	191	123	348	125	289	94	1	509	49	80	28	**157**	1740
Total Volume	285	1984	315	2584	131	679	525	1335	472	1192	392	9	2065	210	298	95	603	6587
% App. Total	11	76.8	12.2		9.8	50.9	39.3		22.9	57.7	19	0.4		34.8	49.4	15.8		
PHF	.766	.787	.865	.794	.885	.805	.863	.858	.922	.871	.970	.563	.930	.861	.920	.848	.960	.926



City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MAIN STREET

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	JAMBOREE ROAD Southbound				MAIN STREET Westbound				JAMBOREE ROAD Northbound					MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	50	**467**	**55**	**572**	70	**118**	**141**	**329**	137	593	46	**3**	779	**205**	290	137	632	2312
05:15 PM	**62**	411	46	519	**72**	97	129	298	162	**630**	**87**	2	**881**	181	304	132	617	**2315**
05:30 PM	42	342	55	439	69	104	128	301	**173**	554	83	1	811	157	**334**	**151**	**642**	2193
05:45 PM	46	344	54	444	63	98	119	280	171	622	85	3	881	143	284	132	559	2164
Total Volume	200	1564	210	1974	274	417	517	1208	643	2399	301	9	3352	686	1212	552	2450	8984
% App. Total	10.1	79.2	10.6		22.7	34.5	42.8		19.2	71.6	9	0.3		28	49.5	22.5		
PHF	.806	.837	.955	.863	.951	.883	.917	.918	.929	.952	.865	.750	.951	.837	.907	.914	.954	.970



City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: MAIN STREET

File Name : H1405106
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

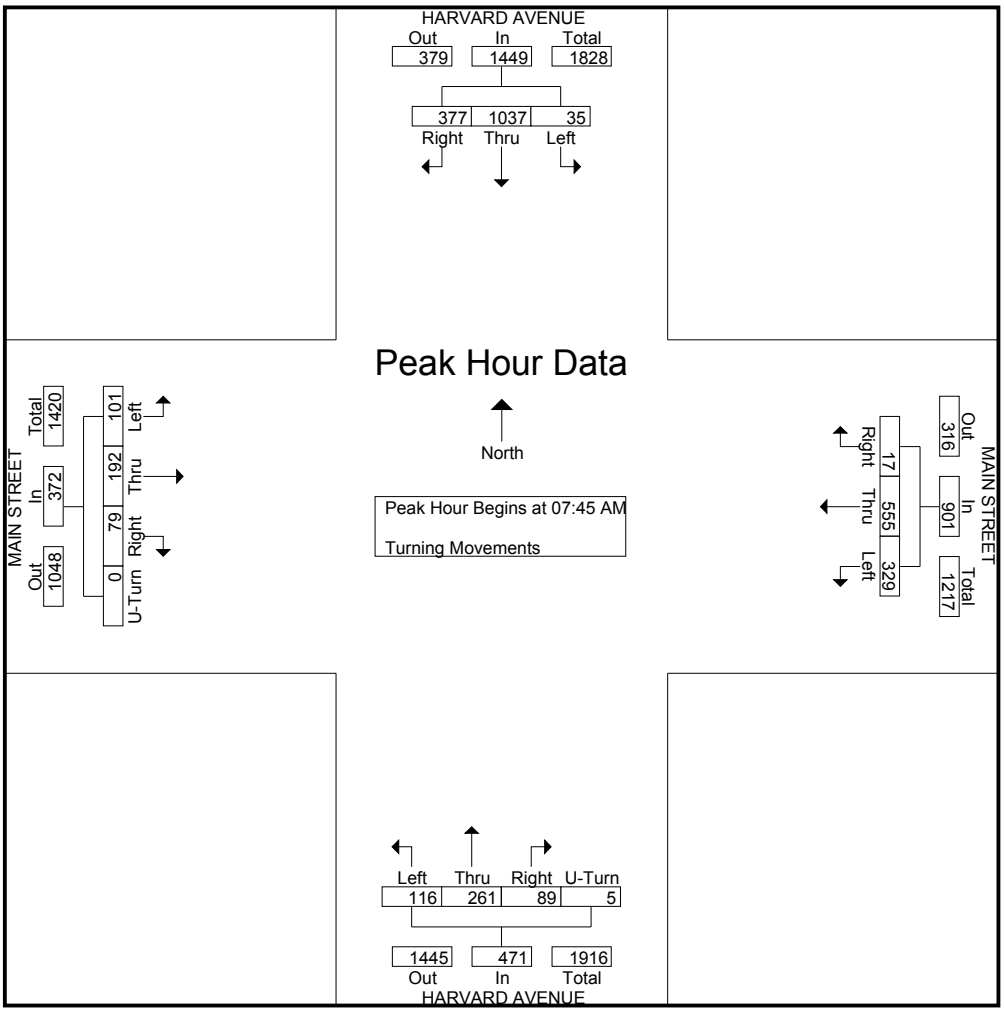
Groups Printed- Turning Movements

	HARVARD AVENUE Southbound			MAIN STREET Westbound			HARVARD AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	36	133	3	4	54	30	4	40	13	1	20	24	19	1	382
07:15 AM	57	124	1	2	64	39	8	65	27	1	25	32	16	0	461
07:30 AM	75	160	10	2	100	54	21	68	20	1	23	50	18	0	602
07:45 AM	80	228	13	3	105	64	52	74	32	1	22	56	28	0	758
Total	248	645	27	11	323	187	85	247	92	4	90	162	81	1	2203
08:00 AM	106	267	7	7	148	101	22	60	34	1	12	44	28	0	837
08:15 AM	102	282	6	6	162	80	6	71	27	2	21	48	19	0	832
08:30 AM	89	260	9	1	140	84	9	56	23	1	24	44	26	0	766
08:45 AM	74	213	9	4	120	62	16	70	20	4	32	54	20	2	700
Total	371	1022	31	18	570	327	53	257	104	8	89	190	93	2	3135
*** BREAK ***															
04:00 PM	25	98	4	4	22	13	28	182	19	2	31	106	68	2	604
04:15 PM	22	110	4	2	33	23	34	139	22	1	33	152	76	0	651
04:30 PM	26	105	12	1	28	25	29	191	27	4	37	160	78	0	723
04:45 PM	18	109	9	3	40	34	47	203	24	1	29	169	80	0	766
Total	91	422	29	10	123	95	138	715	92	8	130	587	302	2	2744
05:00 PM	27	152	12	2	29	19	53	291	26	0	55	275	126	2	1069
05:15 PM	33	141	3	1	45	25	59	337	23	3	50	336	131	3	1190
05:30 PM	34	136	9	7	41	32	73	301	26	2	47	342	148	1	1199
05:45 PM	30	139	2	5	59	26	60	269	15	1	52	309	122	4	1093
Total	124	568	26	15	174	102	245	1198	90	6	204	1262	527	10	4551
Grand Total	834	2657	113	54	1190	711	521	2417	378	26	513	2201	1003	15	12633
Apprch %	23.1	73.7	3.1	2.8	60.9	36.4	15.6	72.3	11.3	0.8	13.7	59	26.9	0.4	
Total %	6.6	21	0.9	0.4	9.4	5.6	4.1	19.1	3	0.2	4.1	17.4	7.9	0.1	

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: MAIN STREET

File Name : H1405106
Site Code : 00000000
Start Date : 6/10/2014
Page No : 2

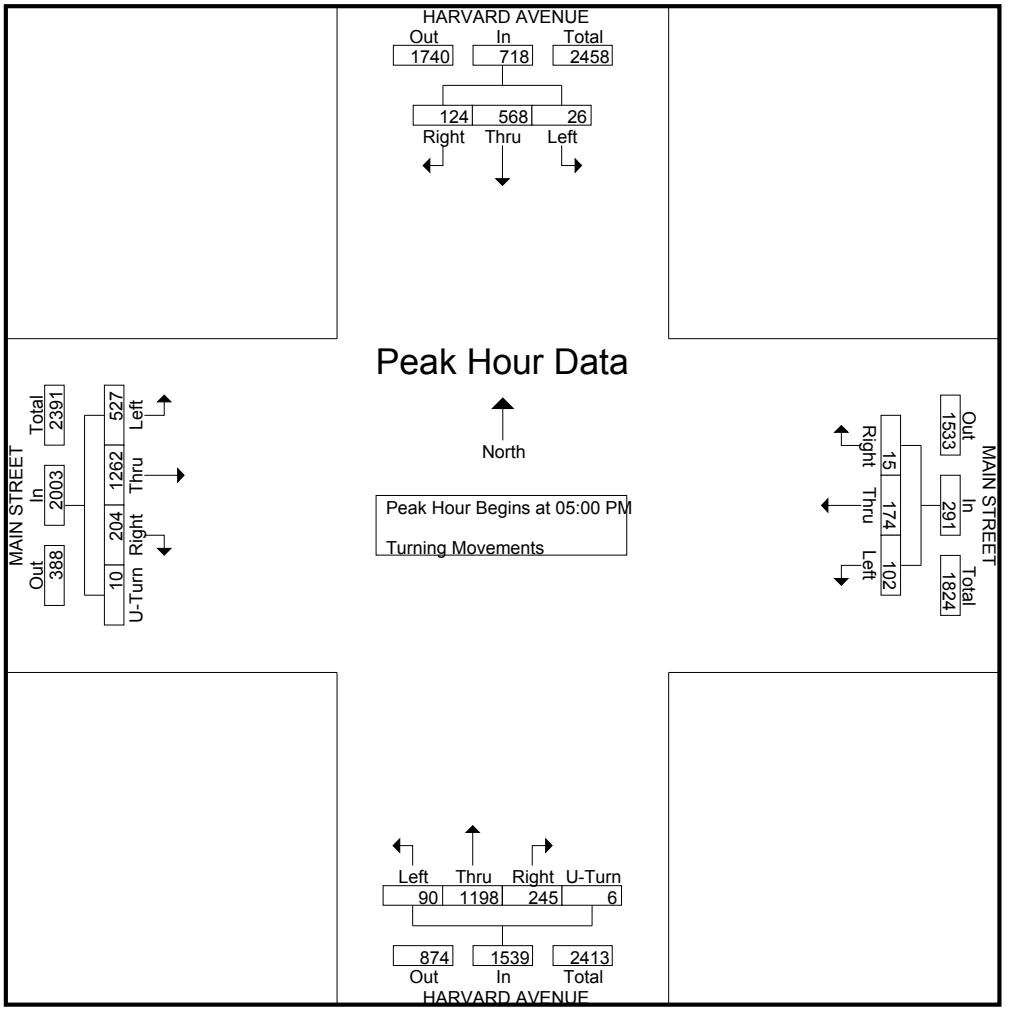
	HARVARD AVENUE Southbound				MAIN STREET Westbound				HARVARD AVENUE Northbound					MAIN STREET Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:45 AM																			
07:45 AM	80	228	**13**	321	3	105	64	172	**52**	**74**	32	1	**159**	22	**56**	**28**	0	**106**	758
08:00 AM	**106**	267	7	380	**7**	148	**101**	**256**	22	60	**34**	1	117	12	44	28	0	84	**837**
08:15 AM	102	**282**	6	**390**	6	**162**	80	248	6	71	27	**2**	106	21	48	19	0	88	832
08:30 AM	89	260	9	358	1	140	84	225	9	56	23	1	89	**24**	44	26	0	94	766
Total Volume	377	1037	35	1449	17	555	329	901	89	261	116	5	471	79	192	101	0	372	3193
% App. Total	26	71.6	2.4		1.9	61.6	36.5		18.9	55.4	24.6	1.1		21.2	51.6	27.2	0		
PHF	.889	.919	.673	.929	.607	.856	.814	.880	.428	.882	.853	.625	.741	.823	.857	.902	.000	.877	.954



City: IRVINE
N-S Direction: HARVARD AVENUE
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File Name : H1405106
Site Code : 00000000
Start Date : 6/10/2014
Page No : 3

	HARVARD AVENUE Southbound				MAIN STREET Westbound				HARVARD AVENUE Northbound					MAIN STREET Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	27	**152**	**12**	**191**	2	29	19	50	53	291	**26**	0	370	**55**	275	126	2	458	1069
05:15 PM	33	141	3	177	1	45	25	71	59	**337**	23	**3**	**422**	50	336	131	3	520	1190
05:30 PM	**34**	136	9	179	**7**	41	**32**	80	**73**	301	26	2	402	47	**342**	**148**	1	**538**	**1199**
05:45 PM	30	139	2	171	5	**59**	26	**90**	60	269	15	1	345	52	309	122	**4**	487	1093
Total Volume	124	568	26	718	15	174	102	291	245	1198	90	6	1539	204	1262	527	10	2003	4551
% App. Total	17.3	79.1	3.6		5.2	59.8	35.1		15.9	77.8	5.8	0.4		10.2	63	26.3	0.5		
PHF	.912	.934	.542	.940	.536	.737	.797	.808	.839	.889	.865	.500	.912	.927	.923	.890	.625	.931	.949



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: MAIN STREET

File Name : H1405107
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

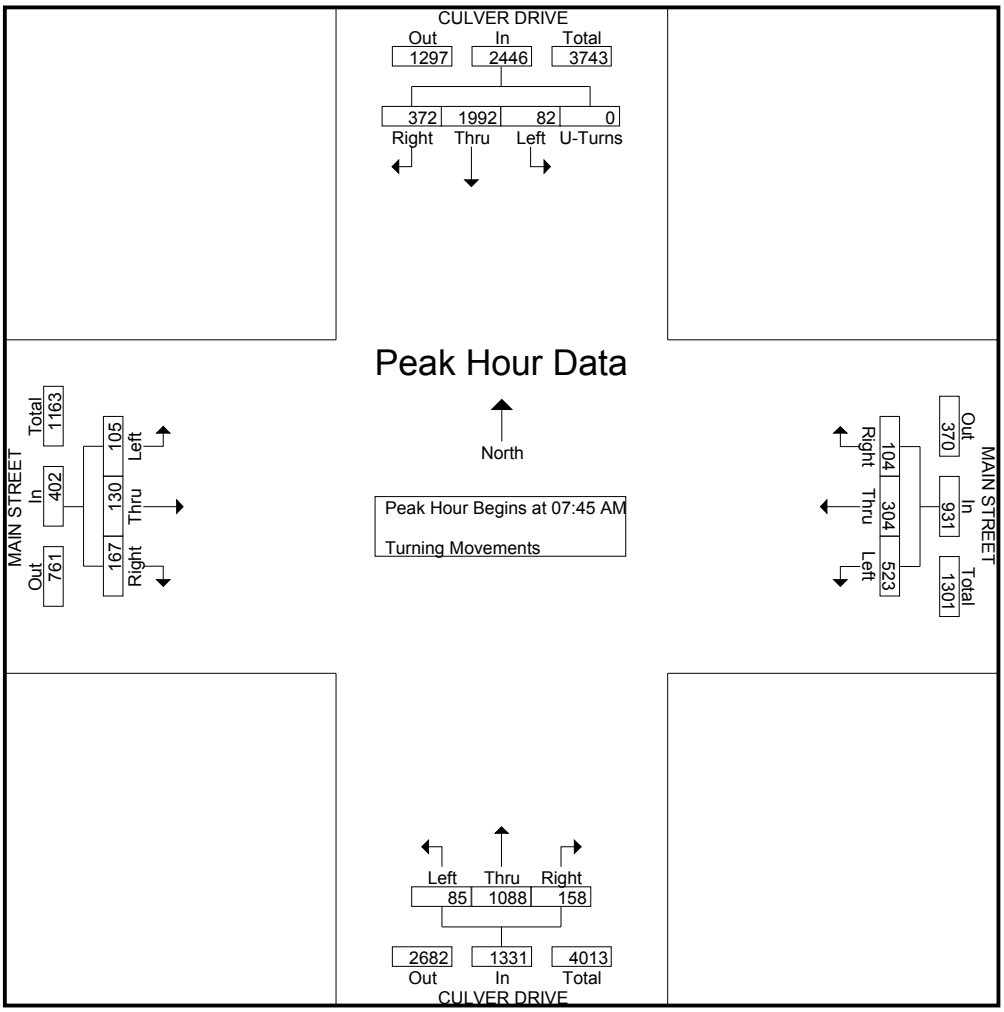
Groups Printed- Turning Movements

	CULVER DRIVE Southbound				MAIN STREET Westbound			CULVER DRIVE Northbound			MAIN STREET Eastbound			
Start Time	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	340	9	0	17	32	77	19	146	14	45	8	10	739
07:15 AM	40	327	9	0	13	43	101	35	197	30	33	8	11	847
07:30 AM	68	420	20	0	25	58	133	39	226	31	50	20	18	1108
07:45 AM	76	519	24	0	24	79	149	50	245	29	46	29	31	1301
Total	206	1606	62	0	79	212	460	143	814	104	174	65	70	3995
08:00 AM	106	525	15	0	28	73	126	40	261	19	42	28	28	1291
08:15 AM	102	501	17	0	30	96	139	31	289	21	43	42	24	1335
08:30 AM	88	447	26	0	22	56	109	37	293	16	36	31	22	1183
08:45 AM	67	399	32	1	25	71	111	40	303	20	38	54	29	1190
Total	363	1872	90	1	105	296	485	148	1146	76	159	155	103	4999
*** BREAK ***														
04:00 PM	18	281	19	1	17	14	34	65	428	24	39	47	28	1015
04:15 PM	29	284	30	0	22	12	40	58	417	22	32	49	61	1056
04:30 PM	25	282	23	2	20	15	53	80	420	19	57	63	62	1121
04:45 PM	30	288	30	3	19	23	53	85	404	20	46	70	63	1134
Total	102	1135	102	6	78	64	180	288	1669	85	174	229	214	4326
05:00 PM	19	278	37	0	21	13	46	83	461	35	83	82	76	1234
05:15 PM	31	318	37	3	13	15	49	87	501	25	73	127	129	1408
05:30 PM	38	281	28	1	18	17	54	111	496	54	71	124	138	1431
05:45 PM	36	277	41	0	17	17	37	97	458	36	61	129	132	1338
Total	124	1154	143	4	69	62	186	378	1916	150	288	462	475	5411
Grand Total	795	5767	397	11	331	634	1311	957	5545	415	795	911	862	18731
Apprch %	11.4	82.7	5.7	0.2	14.5	27.9	57.6	13.8	80.2	6	31	35.5	33.6	
Total %	4.2	30.8	2.1	0.1	1.8	3.4	7	5.1	29.6	2.2	4.2	4.9	4.6	

City: IRVINE
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File Name : H1405107
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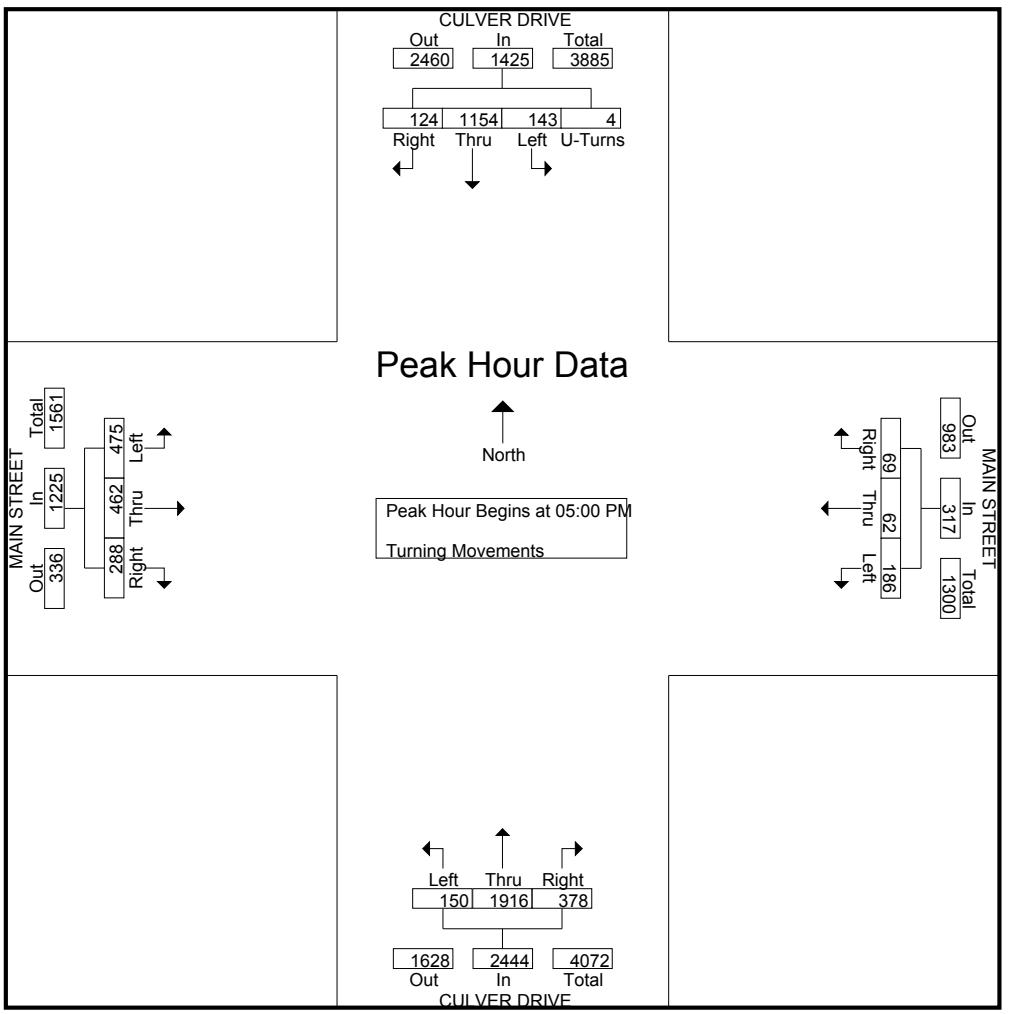
	CULVER DRIVE Southbound					MAIN STREET Westbound				CULVER DRIVE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	76	519	24	0	619	24	79	**149**	252	**50**	245	**29**	324	**46**	29	**31**	106	1301
08:00 AM	**106**	**525**	15	0	**646**	28	73	126	227	40	261	19	320	42	28	28	98	1291
08:15 AM	102	501	17	0	620	**30**	**96**	139	**265**	31	289	21	341	43	**42**	24	**109**	**1335**
08:30 AM	88	447	**26**	0	561	22	56	109	187	37	**293**	16	**346**	36	31	22	89	1183
Total Volume	372	1992	82	0	2446	104	304	523	931	158	1088	85	1331	167	130	105	402	5110
% App. Total	15.2	81.4	3.4	0		11.2	32.7	56.2		11.9	81.7	6.4		41.5	32.3	26.1		
PHF	.877	.949	.788	.000	.947	.867	.792	.878	.878	.790	.928	.733	.962	.908	.774	.847	.922	.957



City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: MAIN STREET

File Name : H1405107
Site Code : 00000000
Start Date : 6/10/2014
Page No : 3

	CULVER DRIVE Southbound					MAIN STREET Westbound				CULVER DRIVE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	19	278	37	0	334	**21**	13	46	80	83	461	35	579	**83**	82	76	241	1234
05:15 PM	31	**318**	37	**3**	**389**	13	15	49	77	87	**501**	25	613	73	127	129	329	1408
05:30 PM	**38**	281	28	1	348	18	**17**	**54**	**89**	**111**	496	**54**	**661**	71	124	**138**	**333**	**1431**
05:45 PM	36	277	**41**	0	354	17	17	37	71	97	458	36	591	61	**129**	132	322	1338
Total Volume	124	1154	143	4	1425	69	62	186	317	378	1916	150	2444	288	462	475	1225	5411
% App. Total	8.7	81	10	0.3		21.8	19.6	58.7		15.5	78.4	6.1		23.5	37.7	38.8		
PHF	.816	.907	.872	.333	.916	.821	.912	.861	.890	.851	.956	.694	.924	.867	.895	.861	.920	.945



Appendix B NOP Comments

Appendices

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AIRPORT LAND USE COMMISSION
FOR ORANGE COUNTY
3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

April 29, 2015

Justina Willkom
Assistant Director of Planning
City of Tustin
300 Centennial Way
Tustin, CA 92780

Subject: Tustin Legacy Specific Plan Amendment Draft Supplemental EIR

Dear Ms. Wilkom:

Thank you for the opportunity to review the initial study for the Draft Supplemental Environmental Impact Report (DSEIR) for the proposed Tustin Legacy Specific Plan Amendment in the context of the Commission's *Airport Environs Land Use Plan for John Wayne Airport (AELUP for JWA)*. The Specific Plan Amendment would change the mix and layout of land uses to be constructed in the project area. The Amendment would allow 2,212 additional homes and 1,755,306 fewer square feet of nonresidential building space.

Portions of the proposed project area fall within the Federal Aviation Regulation (FAR) Part 77 Obstruction Imaginary surfaces for JWA, specifically the conical and transitional surfaces for JWA. The initial study does state that any structures in the Specific Plan that exceed the height restrictions in the *AELUP for JWA* would also be subject to an obstruction evaluation by the Federal Aviation Administration (FAA) and Airport Land Use Commission (ALUC) for Orange County to determine whether safety hazards would result. We also recommend language be added to the proposed specific plan amendment and the DSEIR stating buildings and structures within the Tustin Legacy Specific Plan Area shall not penetrate FAR Part 77 Imaginary Obstruction Surfaces for JWA.

We also suggest that the DSEIR identify if the project allows for heliports as defined in the *AELUP for Heliports*. Should the development of heliports occur within your jurisdiction, proposals to develop new heliports must be submitted through the City to the ALUC for review and action pursuant to Public Utilities Code Section 21661.5. Proposed heliport projects must comply fully with the state permit procedure provided by law and with all conditions of approval imposed or recommended by FAA, by the ALUC for Orange County and by Caltrans/Division of Aeronautics.

Thank you for the opportunity to comment on this DSEIR. Please contact Lea Choum at (949) 252-5123 or via email at lchoum@ocair.com if you need any additional details or information regarding the ALUC for Orange County.

Sincerely,

Kari A. Rigoni
Executive Officer

DEPARTMENT OF TRANSPORTATION
DISTRICT 12
3347 MICHELSON DRIVE, SUITE 100
IRVINE, CA 92612-8894
PHONE (949) 724-2086
FAX (949) 724-2592
TTY 711
www.dot.ca.gov

Serious drought.
Help save water!

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COMMUNITY DEVELOPMENT DEPT

April 28, 2015

Ms. Justina Wilkom
Assistant Director of Planning
City of Tustin
300 Centennial Way
Tustin, CA. 92780

File: IGR/CEQA
SCH#: 1994071005
Log #: 1299C
I-5, SR-55, SR-261,SR-241

Dear Ms. Wilkom:

Thank you for the opportunity to review and comment on **Notice of Preparation of a Draft Supplemental Environmental Impact Report for the Tustin Legacy Specific Plan Amendment 2015-001 (formerly called the MCAS Tustin Specific Plan).** The proposed project, the Tustin Legacy Specific Plan (former MCAS Tustin), is in an urbanized area in the southern portion of the City of Tustin and the northwest portion of the City of Irvine in Orange County, California. The 1,606-acre project area includes 1,511 acres in Tustin and approximately 95 acres in Irvine. The major roadways that border the site are Red Hill Avenue on the west, Edinger Avenue on the north, Harvard Avenue on the east, and Barranca Parkway on the south. Jamboree Road transects the site and provides access to the State Route 261 (SR-261) which is a Toll Road. Regional access to the project area is also provided by State Route 55 (SR-55) via Edinger Avenue/Newport Avenue and Barranca Parkway/Dyer Road to the northwest, and by Interstate 5 (I-5) via Red Hill Avenue, Tustin Ranch Road and Jamboree Road to the northeast.

The Tustin Legacy Specific Plan Amendment will guide development of the remaining undeveloped area in the City of Tustin. These remaining parcels would be sold, leased, or developed by the City of Tustin. Eventually these parcels would be developed by a number of landowners within the framework established by the Tustin Legacy Specific Plan. Which calls for a range of residential product types and education, commercial, commercial/business, entertainment/recreation, and park land uses.

Caltrans Local Development-Intergovernmental Review program reviews impacts of local development to the transportation system, including the State Highway System. The Department works to ensure that local land use planning and development decisions include the provision of transportation choices, including transit, intercity rail passenger service, air service, walking and biking, when appropriate. The Department advocates community design (e.g. urban infill, mixed

use, transit oriented development) that promotes an efficient transportation system and healthy communities.

The Department of Transportation (Department) is a commenting agency on this project and has the following comments for your consideration.

1. Please conduct a traffic analysis that will evaluate the potential effect that the traffic generated from the proposed development will have on State facilities; including any mitigation measures that may be needed to accommodate that traffic. The study should be prepared by following the Caltrans "Guide for the Preparation of Traffic Impact Studies" which can be found at : http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

2. Analysis for facilities within Caltrans' right of way to be completed using the methodologies of the 2010 Highway Capacity Manual (HCM).

3. Along with the analysis of intersections please include the following: freeway segments, weaving areas, ramps, and ramp junctions. the analysis should also address the biking and pedestrian traffic.

4. This project amendment is adding 320,874 square feet of Commercial/Business, and 591,790 square feet of mixed-use (1600DU), to the previously reviewed project. Please demonstrate the traffic impacts associated with this modified project.

5. How will the generated traffic (by this 1606-acre project) impact the ramp intersections:

    - I-5 at Newport Avenue
    - I-5 at Red Hill Avenue
    - I-5 at Tustin Ranch Road
    - I-5 at Jamboree Road
    - I-5 at Culver Drive
    - I-405 at McArthur Avenue
    - I-405 at Jamboree Road
    - I-405 at Culver Drive
    - SR-55 Ramps at Grand Avenue
    - SR-55 Ramps with Edinger Avenue, Barranca/Dyer and MacArthur Boulevards

6. In this report "Appendix .A Tustin Legacy Specific Plan Amendment: Existing Traffic Conditions Memo", only the existing traffic is reported; however we need forecast analysis, and a comparison of Existing LOS versus Forecast LOS numbers.

7. Please show existing/future Ramp volumes on the LOS tables for the affected intersections in the SEIR.

8. Please note that the proposed project will need to be compatible with the various adjoining improvement projects.

Please continue to keep us informed of this project and any future developments that could potentially impact State transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Aileen Kennedy at (949) 724-2239.

Sincerely,

MAUREEN EL HARAKE
Branch Chief, Regional-Community-Transit Planning
District 12

c: Adam Siddiqui, Traffic Operations South
Scott Morgan, Office of Planning and Research

Community Development
cityofirvine.org
City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575
(949) 724-6000

May 4, 2015

Ms. Justina Willkom
Assistant Director-Planning
Community Development Department
City of Tustin
300 Centennial Way
Tustin, CA 92780
Sent via USPS and email to: jwillkom@tustinca.org

Subject: Tustin Legacy Specific Plan Amendment 2015 Notice of Preparation (NOP)/Initial Study (IS)

Dear Ms. Willkom:

Thank you for the opportunity to comment on the Tustin Legacy Specific Plan Amendment 2015. The City of Irvine has reviewed the project and has the following comments.

1. In light of the 2010 and 2013 Settlement Agreements between the City of Irvine and the City of Tustin, the City appreciates receiving the NOP for Tustin's Draft Supplemental Environmental Impact Report (SEIR) for the Tustin Legacy Specific Plan Amendment and we look forward to working with you in accordance with Item #5 of the 2013 Agreement.

2. Extend the study area for the traffic study to the west to include the MacArthur Boulevard and the SR-55 freeway on/off-ramps, to the south to include the MacArthur Boulevard and the I-405 freeway on/off-ramps and the Jamboree Road and I-405 on/off-ramps, and to the north to include Jamboree Road and I-5 freeway on/off-ramps, Tustin Ranch Road and I-5 on/off-ramps, and Red Hill Avenue and I-5 on/off-ramps. This study area is more consistent with the study area identified for the City of Irvine's IBC Vision Plan study area and will identify how the proposed conversion of non-residential to residential within Tustin Legacy will affect these key entry points from the regional freeway network to the local roadway system.

3. The Specific Plan Amendment Initial Study Section 5.16.3 states that the total trip generation will not change because the increase in residential units is offset by a decrease in non-residential uses. As part of the traffic study to be

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prepared, provide a comparison of the proposed project trip generation against the build-out baseline trip generation. This comparison of trip generation should be by planning area and include AM peak-hour, PM peak-hour and average daily trips (ADT) generated based on number and type of residential units and based on the various types of non-residential square footage uses.

4. Page 16 of the Initial Study (Section 3.2.2.2 Nonresidential Land Use/Trip Budget) references requirements for a tracking system, reallocation of trips and conversion factors. Clarify if these requirements will be identified and described in the Specific Plan Amendment approval and Draft SEIR. Also, clarify if these requirements will be codified in the Zoning Code.

5. Page 14 of the Tustin Legacy Specific Plan Amendment Initial Study (Section 3.2.2.1 Land Use Plan) discusses an existing 1,016,000 square feet (SF) of commercial retail and entertainment uses, and 40,846 SF of military/government uses within Planning Areas 16-19. With the relocation of the 40,846 SF of military uses to another planning area, and the total 1,483,553 SF maximum commercial use within PA16-19 (as indicated in Table 2), please confirm that the remaining commercial retail square footage yet to be built within PA 16-19 is 467,553 SF. Will the project analyze the feasibility and potential impacts of implementing the 467,553 SF of retail uses in PA16-19 as part of the General Plan build-out (Post-2035) analysis? Note that the 467,553 SF of retail uses have not been assumed within PA16-19 in the General Plan build-out Irvine Transportation Analysis Model (ITAM) assumptions, and as recently as the 2013 Specific Plan Amendment (ATEP), it does not appear that this intensity has ever been analyzed and identified within PA16-19.

6. The traffic study should include both interim-year (Year 2020) and General Plan build-out (Post-2035) analyses to identify potential impacts that may result with phased development of the project in the near-term, as well as build-out of the proposed project. Note that Irvine staff is aware of an Initial Study for Tustin Unified School District's (TUSD) Tustin Legacy School Facilities Project which is phased to be constructed by Year 2020. The interim-year (Year 2020) analysis should analyze TUSD's project as well as all other phased Tustin Legacy development expected to be constructed by Year 2020.

7. The Initial Study states that Moffett Drive will be extended to Tustin Ranch Road and Carnegie Avenue as part of this project. Furthermore this street may be extended to Bell Avenue to provide access to Red Hill Avenue if future traffic demand requires this connection. Alternative scenarios should be analyzed in the traffic study for both interim-year (year 2020) and General

Plan build-out (Post-2035) scenarios to determine potential impacts on nearby roadways/intersections that may result from the change in traffic distribution associated with the various Moffett Drive extension options being considered.

8. In accordance with the 2013 Settlement Agreement, Irvine staff will provide Tustin with a list of cumulative projects (probable future projects) currently under review by the City. These projects should be included in both the interim-year (Year 2020) and General Plan build-out (Post-2035) cumulative analyses. Upon commencement of the traffic analysis, please contact the City of Irvine so that we may provide you with the list of cumulative projects currently on-file with the City, as well as a current version of the ITAM to be used for the traffic analysis. Please contact Sun-Sun Murillo, Supervising Transportation Analyst, at 949-724-6262 or smurillo@ci.irvine.ca.us. for this information.

9. Provide an updated Planning Area Trip Budget for the proposed Tustin Specific Plan Amendment so that we may correctly reflect the proposed land use assumptions in the ITAM cumulative baselines. Similarly, provide the alternative scenarios for the Moffett Drive extension options being considered so that we may correctly reflect the alternative network assumptions in the ITAM. Again, contact Sun-Sun Murillo, Supervising Transportation Analyst, at 949-724-6262 or smurillo@ci.irvine.ca.us. for coordination of traffic study data. It is unclear from the project description if the proposed intensification of uses within the area bounded by Valencia Avenue, Red Hill Avenue, Warner Avenue and Armstrong Avenue will result in a net increase of intensity and AM, PM and ADT trips above and beyond the 2010 approval of the Specific Plan Amendment. For instance, Scenario 1 results in an increase of 1,064 AM, 972 PM and 6,241 ADT, while Scenario 2 results in 905 AM, 578 PM and 6,239 ADT. Alternatively, clarify if intensity would be reduced in other areas covered within the Specific Plan such that the total intensity and trips remain consistent with the 2010 Specific Plan approval.

We are interested in reviewing all additional documentation associated with this project; therefore, please forward copies of the pertinent documents for our review.

If you have any questions, please contact me at 949-724-6314 or via e-mail at dlaw@cityofirvine.org

Sincerely,

David R. Law, AICP
Senior Planner

cc: (via email)
Tim Gehrich, Acting Director of Community Development
Barry Curtis, Manager of Planning Services
Bill Jacobs, Principal Planner
Kerwin Lau, Project Development Administrator
Sun-Sun Murillo, Supervising Transportation Analyst

OC Public Works
Integrity, Accountability, Service, Trust
Shane L. Silsby, Director

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COMMUNITY DEVELOPMENT DEPT

NCL 15-011

May 04, 2015

Ms. Justina Willkom, Assistant Director of Planning
City of Tustin, Community Development Dept.
300 Centennial Way
Tustin, California 92780

SUBJECT: Notice of Preparation of a Draft Supplemental Environmental Impact Report in Compliance with Title 14, Section 15082(a) of the Code of Regulations for the Tustin Legacy Specific Plan Amendment 2015-001:

Dear Ms. Willkom:

The County of Orange has reviewed the Notice of Preparation of a Draft Supplemental Environmental Impact Report in Compliance with Title 14; Section 15082(a) of the California code of Regulations for the Tustin Legacy Specific Plan Amendment 2015-001, Plan located in City of Tustin and has no comments at this time. We would like to be advised of any further developments on the project. Please continue to keep us on the distribution list for future notifications related to this project.

Sincerely,

Laree Brommer, Manager, Planning Division
OC Public Works Service Area/OC Development Services
300 North Flower Street
Santa Ana, California 92702-4048
Laree.brommer@ocpw.ocgov.com

LB/yj

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IRVINE RANCH WATER DISTRICT 15600 Sand Canyon Ave., P.O. Box 57000, Irvine, CA 92619-7000 (949) 453-5300

May 1, 2015

Justina Willkom
Assistant Director of Planning
City of Tustin
Community Development Department
300 Centennial Way
Tustin, CA 92780

Re: Notice of Preparation – Draft Supplemental Environmental Impact Report for Tustin Legacy Specific Plan Amendment

Dear Ms. Willkom:

Irvine Ranch Water District (IRWD) has received the City of Tustin's (Tustin) Notice of Preparation/Initial Study (NOP/IS) for an amendment to the Tustin Legacy Specific Plan. IRWD understands that Tustin intends to prepare a Program Supplemental Environmental Impact Report pursuant to the requirements of the California Environmental Quality Act. Following review of the NOP/IS, IRWD offers the following comments.

Within Section 5.17 Utilities and Service Systems, the NOP/IS assumes that all wastewater from the project area is treated at IRWD's Michelson Water Recycling Plant. Wastewater treatment for the project area east of the Peter's Canyon Channel is provided by IRWD's Michelson Water Recycling Plan, while wastewater west of Peter's Canyon Channel is diverted to Orange County Sanitation District for treatment. As indicated in Section 5.17.3 of the NOP/IS, the Tustin Legacy Specific Plan Amendment has the potential to increase water demand at the site. Depending upon the mix of land uses, the Specific Plan Amendment also has the potential to increase impacts to IRWD's sewer collection and wastewater treatment capacities.

Since the Tustin Legacy Specific Plan Amendment will present potential impacts, IRWD will require that Tustin prepare an update to the MCAS Tustin/ Legacy Park Sub-Area Master Plan (SAMP) prior to Project approval. The MCAS Tustin/Legacy SAMP update should address any impacts to IRWD's potable, non-potable and sewer systems associated with the increase in 2,212 homes and 1,255,306 fewer square feet of non-residential building space at this site. Please contact either Michael Hoolihan or Eric Akiyoshi in IRWD's Planning Division at (949) 453-5300 if you have any questions about the required update.

IRWD appreciates the opportunity to comment on the NOP/IS for the Tustin Legacy Specific Plan Amendment. If you have any questions, please contact Jo Ann Corey, Engineering Technician III at (949) 453-5326.

Sincerely,

Fiona M. Sanchez
Director of Water Resources

cc: Mike Hoolihan, IRWD
Eric Akiyoshi, IRWD
Jo Ann Corey, IRWD

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

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APR 13 2015
COMMUNITY DEVELOPMENT DEPT

April 8, 2015

Justina Willkom, Assistant Director of Planning
City of Tustin, Community Development Department
300 Centennial Way
Tustin, CA 92780

Notice of Preparation of a CEQA Document for the
Tustin Legacy Specific Plan Amendment 2015-001

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the CEQA document upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). SCAQMD staff also recommends that the lead agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the lead agency quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. In addition to analyzing regional air quality impacts, the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts

when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Perspective*, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate these impacts. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying possible mitigation measures for the project, including:

- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies.
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions
- Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's webpage (http://www.aqmd.gov).

The SCAQMD staff is available to work with the Lead Agency to ensure that project emissions are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at Jwong1@aqmd.gov or call me at (909) 396-3176.

Sincerely,

Jillian Wong

Jillian Wong, Ph.D.
Program Supervisor
Planning, Rule Development & Area Sources

ORC150401-01
Control Number

28000 MARGUERITE PARKWAY, MISSION VIEJO, CA 92692-3635 • 949.582.4999 • FAX 949.364.2726 • WWW.SOCCCD.EDU
SADDLEBACK COLLEGE • IRVINE VALLEY COLLEGE • ADVANCED TECHNOLOGY & EDUCATION PARK

VIA EMAIL

May 4, 2015

City of Tustin
Community Development Department
Attention: Justina Willkom, Assistant Director of Planning
300 Centennial Way
Tustin, CA 92780

Re: Tustin Legacy Specific Plan Amendment Initial Study and Notice of Preparation

Dear Ms. Willkom,

The South Orange County Community College District ("SOCCCD") appreciates the opportunity to review and comment on the Initial Study ("IS") and Notice of Preparation ("NOP") prepared by the City of Tustin ("City") for the Tustin Legacy Specific Plan Amendment 2015-001 ("Project"). SOCCCD's Advanced Technology Education Park ("ATEP") property is located in Tustin Legacy; therefore, we have particular interest in changes to land use plans and regulations within the Tustin Legacy Specific Plan.

The proposed Project would change the mix and layout of land uses to be constructed in the project area. Land uses in Planning Areas 1-7 and 20-22 would remain the same, but the mix and layout of land uses Planning Areas 8-19 would change under the proposed Project. Compared to the Adopted Specific Plan, the Specific Plan Amendment would allow 2,212 additional homes and 1,755,306 fewer square feet of nonresidential building space. The City intends to prepare a Supplemental Environmental Impact Report ("SEIR"), pursuant to the requirements of the California Environmental Quality Act ("CEQA") for the proposed Specific Plan Amendment.

The SOCCCD's comments are recommendations regarding the analysis of potential transportation and traffic from the proposed project that should be included in the draft SEIR. Please send SOCCCD a copy of the draft SEIR upon its completion.

Traffic and Transportation

According to the IS, the Specific Plan Amendment would not change the total trip generation, since the increase in residential units is offset by a decrease in nonresidential uses. However, the project would change the land use mix, resulting in a change in AM and PM peak hour trips. Also, the internal circulation plan would be revised in Planning Area 15 to extend Moffett Drive to Tustin Ranch Road and Carnegie Avenue in Planning Areas 13-14 and 9-12.

The IS also states that if future traffic demand requires an additional connection, that Moffett Drive may be extended through Planning Area 8 to Bell Avenue.

As you are aware, based on SOCCCD's existing entitlements, the number of average daily trips ("ADT") assigned to the SOCCCD property is 10,470, which could be accommodated in the existing and planned circulation system without additional environmental impacts or mitigation measures. Although the overall trip generation would be the same, the revised land use mix and internal circulation plan could result in changes in the distribution of traffic, potentially affecting some of the current or planned road segments and intersections surrounding the ATEP property.

We understand that in order to account for land use and traffic distribution changes, the traffic analysis that will be prepared for the SEIR will model build-out of both the current Specific Plan and the proposed Specific Plan Amendment. We respectfully ask that the SEIR consider SOCCCD's entitlements in its analysis, model each of the intersections surrounding the ATEP site and that if the Project allocates any additional trips on Bell Avenue that those trips have no effect on the existing ATEP entitlements.

SOCCCD appreciates the opportunity to comment on this Project and is very willing to work with City to ensure that project-related impacts are properly identified and evaluated in the SEIR. We look forward to future communications about this Project. Please do not hesitate to contact me if you have any questions about this letter.

Respectfully submitted,

Debra L. Fitzsimons

Dr. Debra L. Fitzsimons
Vice Chancellor, Business Services

BOARD OF TRUSTEES: BARBARA J. JAY, TIMOTHY JEMAL, DAVID B. LANG, MARCIA MILCHIKER, NANCY M. PADBERG,
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Transportation
Alan Wapner, San Bernardino Associated Governments

May 4, 2015

Ms. Justina Willkom, Assistant Director of Planning
City of Tustin
Community Development Department
300 Centennial Way
Tustin, California 92780
Phone: (714) 573-3115
Email: jwillkom@tustinca.org

RE: SCAG Comment on the Notice of Preparation of a Draft Environmental Impact Report for the Tustin Legacy Specific Plan Amendment [SCAG NO. IGR8425]

Dear Ms. Willkom,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the Tustin Legacy Specific Plan Amendment ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review (IGR) of programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12372. Additionally, SCAG reviews the Environmental Impact Reports of projects of regional significance for consistency with regional plans pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

SCAG is also the designated Regional Transportation Planning Agency under state law, and is responsible for preparation of the Regional Transportation Plan (RTP) including its Sustainable Communities Strategy (SCS) component pursuant to SB 375. As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans.[1] Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of the regional goals and policies in the RTP/SCS.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Tustin Legacy Specific Plan Amendment in Orange County. The proposed project is an Amendment of the previously approved Tustin Legacy Specific Plan to guide development of the remaining undeveloped area in the City of Tustin to residential product types and education, commercial, commercial/business, entertainment/recreation, and park land uses.

When available, please send environmental documentation to SCAG's *office in Los Angeles or by email to sunl@scag.ca.gov* providing, at a minimum, the full public comment period for review. If you have any questions regarding the attached comments, please contact Lijin Sun, Esq., Senior Regional Planner, at (213) 236-1882 or sunl@scag.ca.gov. Thank you.

Sincerely,

Ping Chang

Ping Chang,
Program Manager II, Land Use and Environmental Planning

[1] SB 375 amends CEQA to add Chapter 4.2 Implementation of the Sustainable Communities Strategy, which allows for certain CEQA streamlining for projects consistent with the RTP/SCS. Lead agencies (including local jurisdictions) maintain the discretion and will be solely responsible for determining "consistency" of any future project with the SCS. Any "consistency" finding by SCAG pursuant to the IGR process should not be construed as a finding of consistency under SB 375 for purposes of CEQA streamlining.

**COMMENTS ON THE NOTICE OF PREPARATION OF
A DRAFT ENVIRONMENTAL IMPACT REPORT FOR
THE TUSTIN LEGACY SPECIFIC PLAN AMENDMENT [SCAG NO. IGR8425]**

CONSISTENCY WITH RTP/SCS

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted RTP/SCS.

2012 RTP/SCS Goals

The SCAG Regional Council adopted the 2012 RTP/SCS in April 2012. The 2012 RTP/SCS links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations (see http://rtpscs.scag.ca.gov). The goals included in the 2012 RTP/SCS may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project within the context of regional goals and policies. Among the relevant goals of the 2012 RTP/SCS are the following:

SCAG 2012 RTP/SCS GOALS	
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*
RTP/SCS G3:	*Ensure travel safety and reliability for all people and goods in the region*
RTP/SCS G4:	*Preserve and ensure a sustainable regional transportation system*
RTP/SCS G5:	*Maximize the productivity of our transportation system*
RTP/SCS G6:	*Protect the environment and health for our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking)*
RTP/SCS G7:	*Actively encourage and create incentives for energy efficiency, where possible*
RTP/SCS G8:	*Encourage land use and growth patterns that facilitate transit and non-motorized transportation*
RTP/SCS G9:	*Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the policy and supportive analysis in a table format. Suggested format is as follows:

SCAG 2012 RTP/SCS GOALS		
	Goal	Analysis
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*	*Consistent: Statement as to why; Not-Consistent: Statement as to why; Or Not Applicable: Statement as to why; DEIR page number reference*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*	*Consistent: Statement as to why; Not-Consistent: Statement as to why; Or Not Applicable: Statement as to why; DEIR page number reference*
etc.		etc.

RTP/SCS Strategies

To achieve the goals of the 2012 RTP/SCS, a wide range of strategies are included in SCS Chapter (starting on page 152) of the RTP/SCS focusing on four key areas: 1) Land Use Actions and Strategies; 2) Transportation Network Actions and Strategies; 3) Transportation Demand Management (TDM) Actions and Strategies and; 4) Transportation System Management (TSM) Actions and Strategies. If applicable to the proposed project, please refer to these strategies as guidance for considering the proposed project within the context of regional goals and policies. To access a listing of the strategies, please visit http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf (Tables 4.3 – 4.7, beginning on page 152).

Regional Growth Forecasts

At the time of this letter, the most recently adopted SCAG forecasts consists of the 2020 and 2035 RTP/SCS population, household and employment forecasts. To view them, please visit http://scag.ca.gov/Documents/2012AdoptedGrowthForecastPDF.pdf. The forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts		Adopted City of Tustin Forecasts	
	Year 2020	Year 2035	Year 2020	Year 2035
Population	19,663,000	22,091,000	81,300	82,900
Households	6,458,000	7,325,000	26,600	27,800
Employment	8,414,000	9,441,000	51,900	66,800

MITIGATION

SCAG staff recommends that you review the SCAG 2012 RTP/SCS Final Program EIR Mitigation Measures for guidance, as appropriate. See Chapter 6 (beginning on page 143) at: http://rtpscs.scag.ca.gov/Documents/peir/2012/final/Final2012PEIR.pdf

As referenced in Chapter 6, a comprehensive list of example mitigation measures that may be considered as appropriate is included in Appendix G: *Examples of Measures that Could Reduce Impacts from Planning, Development and Transportation Projects.* Appendix G can be accessed at: http://rtpscs.scag.ca.gov/Documents/peir/2012/final/2012fPEIR_AppendixG_ExampleMeasures.pdf

SOUTHERN CALIFORNIA EDISON
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Patricia Buttress, Regional Manager
Local Public Affairs
1325 S. Grand Avenue, Bldg B
Santa Ana, CA 92705

May 4, 2015

Justina Willkom, Assistant Director of Planning
City of Tustin, Community Development Department
300 Centennial Way
Tustin, CA 92780
JWillkom@tustinca.org

RE: Tustin Legacy Specific Plan (NOP)

Dear Ms. Willkom:

Southern California Edison (SCE) appreciates the opportunity to review and provide comments on the Notice of Preparation of a Draft Environmental Impact Report (DEIR) for the Tustin Legacy Specific Plan. The Specific Plan is proposing to change the mix and layout of land uses in Planning Areas (PA) 8-19. Compared to the Adopted Specific Plan, the Specific Plan Amendment would allow 2,212 additional homes and 1,755,306 fewer square feet of nonresidential building space.

SCE's Electrical System
SCE is the electric service provider for the City of Tustin and maintains electrical transmission and distribution facilities, as well as a substation and supporting appurtenances in the City. SCE has a number of existing electrical facilities in the project area, which are described below, as well as illustrated in the attached map. SCE's existing 66 kilovolt (kV) subtransmission lines are illustrated as dashed green lines and 220 kV transmission line is illustrated as a dashed blue line.

- 66 kV subtransmission line is a mostly underground line along Barranca Pkwy and would be on the southwest side of PA 16-19, PA 13-14 and PA 9-12.
- 66 kV line along the west side of PA 22 and between PA 21 and PA 22.
- 66 kV line is also along the west side of PA22 and between PA 21 and PA 22 and east side of PA 21 and PA 20.
- 220 kV transmission lines along Barranca Parkway (south side of PA 16-19, PA 13-14 and PA 9-12), west of PA 22, between PA 21 and PA 22, and east side of PA 21 and PA 20.

Encroachment of SCE's Right-of-Way and Access Roads
The Tustin Legacy Specific Plan has the potential to encroach and impact SCE's existing rights-of-way. The proposed project shall impose constraints on SCE's ability to access, maintain, and operate its current and future facilities. In addition, the proposed regional riding and hiking trails, as well as landscaping, planned within SCE's right-of-way will require an agreement between the developer and SCE.

SCE's rights-of-way and fee-owned properties are purchased for the exclusive use of SCE to operate and maintain its present and future facilities. SCE requests that the project developer submit five (5) sets of the project plans for the Tustin Legacy Specific Plan depicting SCE's facilities and associated land rights to the location below. SCE will review any proposed use of SCE's right-of-way (including regional riding and hiking trails) on a case-by-case basis. Approvals or denials will be in writing, based upon review of the maps provided by the developer and compatibility with SCE right-of-way constraints and rights.

Real Properties Department
Southern California Edison Company
2131 Walnut Grove Avenue, G.O.3 – Second Floor
Rosemead, CA 91770

Electrical Service Evaluation
Based on the size and scope of the proposed Tustin Legacy Specific Plan, SCE anticipates that new electrical infrastructure that operates above 50 kV may be necessary to service the proposed project, which may include one or more substations and one or more new subtransmission lines. The developer for the Tustin Legacy Specific Plan should contact Andrew Garcia from SCE's Field Engineering

Department at (714) 973-5479 to initiate an electrical service evaluation, which will begin the process for identification of on- and off-site electrical facilities required to service the proposed Project.

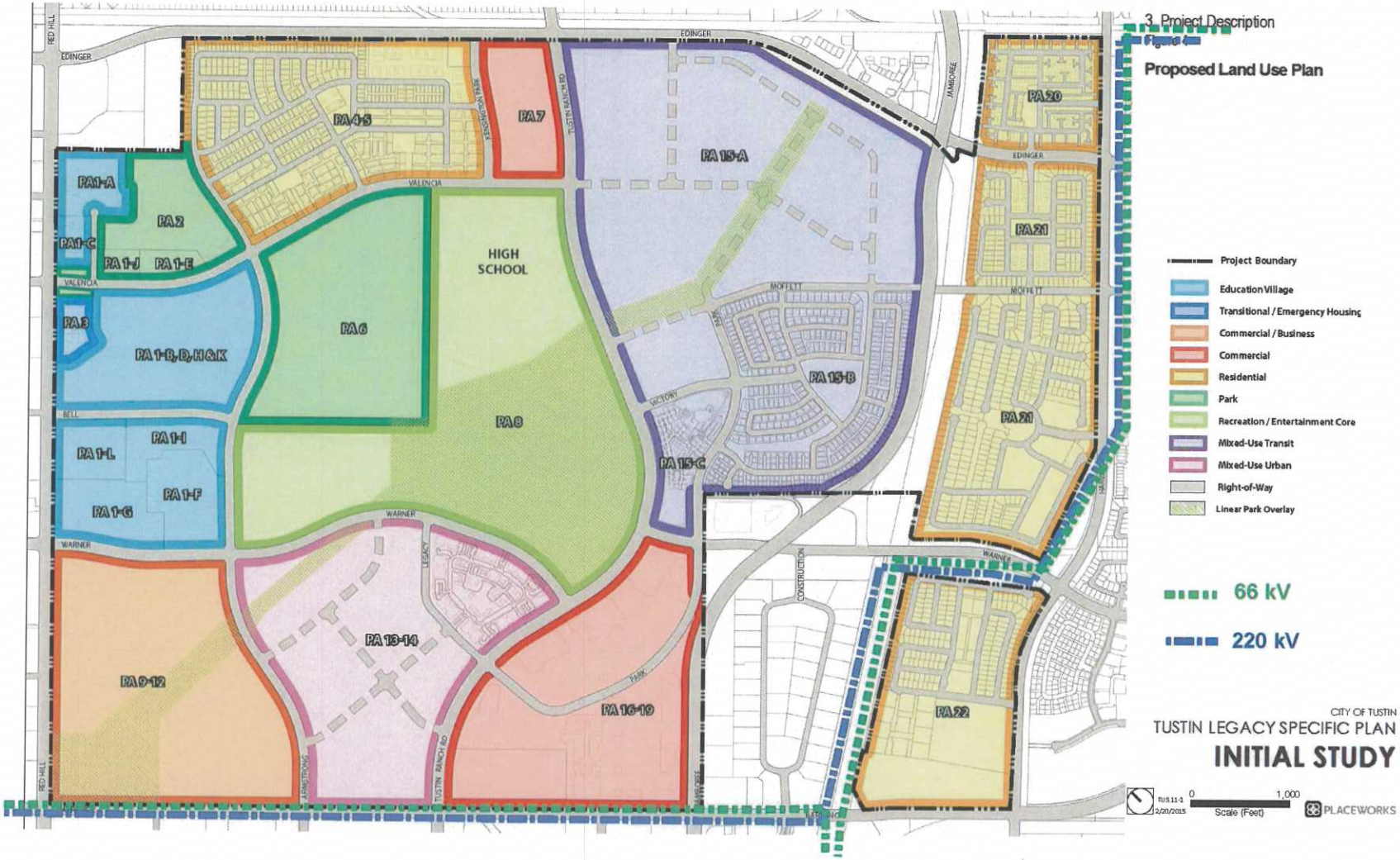
General Order 131-D
Please be advised that the construction, modification, and relocation of transmission lines, or electrical facilities that are designed to operate at or above 50 kV may be subject to the California Public Utilities Commission's (CPUC) General Order 131-D[1], which contains rules relating to the planning and construction of electric generation, transmission/power/distribution line facilities and substations. If the construction, modification, or relocation of transmission lines results in significant environmental impacts, they should be identified and discussed in the DEIR. If significant impacts resulting from the construction, modification, and relocation of transmission lines are not adequately addressed in the DEIR, SCE may be required to pursue a separate, mandatory CEQA review through the CPUC, which could delay approval of the SCE transmission line portion of the project for two years or longer.

If you have any questions regarding this letter, please do not hesitate to contact me at Pat.Buttress@sce.com or (714) 973-5701.

Regards,

Patricia Buttress
Local Public Affairs Region Manager
Southern California Edison Company

[1] http://docs.cpuc.ca.gov/PUBLISHED/Graphics/589.PDF


Proposed Land Use Plan
EDINGER
RED HILL
JAMBOREE
VALENCIA
MOFFETT
BELL
WARNER
LEGACY
PARK
CONSTRUCTION
VICTORY
ARMSTRONG
TUSTIN RANCH RD
PA 1-A
PA 1-C
PA 1-J
PA 1-E
PA 2
PA 3
PA 1-B, D, H & K
PA 1-L
PA 1-I
PA 1-F
PA 1-G
PA 4-5
PA 7
PA 6
HIGH SCHOOL
PA 8
PA 9-12
PA 13-14
PA 16-19
PA 15-A
PA 15-B
PA 15-C
PA 20
PA 21
PA 22
Project Boundary
Education Village
Transitional / Emergency Housing
Commercial / Business
Commercial
Residential
Park
Recreation / Entertainment Core
Mixed-Use Transit
Mixed-Use Urban
Right-of-Way
Linear Park Overlay
66 kV
220 kV
CITY OF TUSTIN
TUSTIN LEGACY SPECIFIC PLAN
INITIAL STUDY
TUS 11-1
2/20/2015
0
1,000
Scale (Feet)
PLACEWORKS

1919 S. State College Blvd.
Anaheim, CA 92806-6114

June 2, 2015

City of Tustin
300 Centennial Way
Tuatin, CA 92780

Attn: Justina Willkom

Subject: Environmental Impact Report for Tustin Legacy Specific Plan Amendment 2015-001

Thank you for providing the opportunity to respond to this Environmental Document. This letter is not to be interpreted as a contractual commitment to serve the proposed project but only as an information service. Its intent is to notify you that the Southern California Gas Company has facilities in the area where the above named project is proposed. Gas facilities within the service area of the project could be installed, altered or abandoned as necessary without any significant impact on the environment.

The availability of natural gas service is based upon conditions of gas supply and regulatory agencies. As a Public Utility, Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. Our ability to serve can also be affected by actions of federal regulatory agencies. Should these agencies take any action, which affect gas supply or the conditions under which service is available, gas service will be provided in accordance with the revised conditions.

This letter is also provided without considering any conditions or non-utility laws and regulations (such as environmental regulations), which could affect construction of a main and/or service line extension (i.e., if hazardous wastes were encountered in the process of installing the line). The regulations can only be determined around the time contractual arrangements are made and construction has begun.

Information regarding construction particulars and any costs associated with initiating service may be obtained by contacting our area Service Center at 800-427-2200.

Sincerely,

Katrina Regan
Technical Services Supervisor
Southeast Region - Anaheim Planning & Engineering

KR/rl
EIR.doc

Nicole Morse

From: Willkom, Justina <JWillkom@tustinca.org>
Sent: Friday, April 17, 2015 8:33 AM
To: Nicole Morse; Karen Gulley
Cc: Binsack, Elizabeth
Subject: FW: comment re Tustin Legacy expansion

Categories: TUS-11.1 Tustin Legacy SP

-----Original Message-----
From: Andreole [mailto:andreole@yahoo.com]
Sent: Thursday, April 16, 2015 7:32 PM
To: Willkom, Justina
Subject: comment re Tustin Legacy expansion

Ms. Willkom, I am writing to express my opposition to the expansion of the number of residences to be constructed within the Tustin Legacy complex. To be honest, I'm astonished that Tustin officials would even remotely contemplate such a move given, among other factors, the already ridiculous level of traffic congestion in Irvine/Tustin and the dwindling supply of water. I invite you on any given weeknight to drive Von Karman. Traffic is backed up from Barranca to Alton Parkway. And at the same time that government officials are forcing water conservation upon us, how can you willingly be increasing the population of your City? I've been a resident of Irvine since 1978. I've watched while the quality of life for those living here has deteriorated. Don't further compound a bad decision to grow the community by making a decision to grow it even faster and larger.

Sincerely,

Jerry Dworkin
Irvine, CA
949-733-3053

Nicole Morse

From: Willkom, Justina <JWillkom@tustinca.org>
Sent: Friday, April 17, 2015 3:13 PM
To: Nicole Morse; Karen Gulley
Cc: Binsack, Elizabeth
Subject: FW: Building houses in Tustin

Categories: TUS-11.1 Tustin Legacy SP

From: mcctriumph@aol.com [mailto:mcctriumph@aol.com]
Sent: Friday, April 17, 2015 2:45 PM
To: Willkom, Justina
Subject: Building houses in Tustin

Why are you building all those new houses in "Tustin Legacy" when we have such a water problem in the state, and everyone is forced to cut back.
We don't appreciate having all these new people coming in and using even more water.
You need to stop only thinking of making money, and think of the future of our wonderful state.

Nicole Morse

From: Willkom, Justina <JWillkom@tustinca.org>
Sent: Thursday, April 16, 2015 1:31 PM
To: Nicole Morse; Karen Gulley
Cc: Binsack, Elizabeth
Subject: FW: Water for new houses???

Categories: TUS-11.1 Tustin Legacy SP

From: moorekedee@aol.com [mailto:moorekedee@aol.com]
Sent: Thursday, April 16, 2015 1:29 PM
To: Willkom, Justina
Subject: Water for new houses???

We would like to complain about all the houses you
are planning to build at Tustin Legacy.
Where are you planning to get all the water needed for
all these houses?
We're being put on water rations, and you're saying
"The heck with it, we're going to build, no matter what"
Very irresponsible!!!!!

13032 Weckshire Ln.
Tustin, CA 92782
April 20, 2015

To Whom It May Concern,

In regard to the plans for developing Tustin Legacy — I vote NO to any more residential building. We don't have enough water for the people that are here now. My suggestion is to develop a facility to store needed water for the citizens who are already here.

Thank you for your consideration.

Susan Wise

Appendix C Air Quality and GHG Modeling Data

Appendices

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Criteria Air Pollutant and GHG Emissions Worksheets

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Regional Construction Emissions Worksheet: Proposed

Demolition							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Off-Road		4.0482	42.6971	33.8934	0.0399	2.1252	1.9797
Total		**4.0482**	**42.6971**	**33.8934**	**0.0399**	**2.1252**	**1.9797**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0498	0.0671	0.7054	0.00193	0.1557	0.0423
Total		**0.0498**	**0.0671**	**0.7054**	**0.00193**	**0.1557**	**0.0423**
TOTAL		***4.0980***	***42.7642***	***34.5988***	***0.0418***	***2.2809***	***2.0220***

Site Preparation							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Fugitive Dust						7.7233	4.2454
Off-Road		4.8382	51.7535	39.397	0.0391	2.7542	2.5339
Total		**4.8382**	**51.7535**	**39.397**	**0.0391**	**10.4776**	**6.7793**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0598	0.0806	0.8465	0.00231	0.1868	0.0508
Total		**0.0598**	**0.0806**	**0.8465**	**0.00231**	**0.1868**	**0.0508**
TOTAL		***4.8980***	***51.8341***	***40.2435***	***0.0414***	***10.6644***	***6.8301***

Grading							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Fugitive Dust						52.3417	6.7888
Off-Road		6.0991	69.592	46.805	0.0617	3.3172	3.0518
Total		**6.0991**	**69.592**	**46.805**	**0.0617**	**55.6589**	**9.8406**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0664	0.0895	0.9406	0.00257	0.2076	0.0564
Total		**0.0664**	**0.0895**	**0.9406**	**0.00257**	**0.2076**	**0.0564**
TOTAL		***6.1655***	***69.6815***	***47.7456***	***0.0643***	***55.8665***	***9.8970***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2018**						
	Fugitive Dust						52.3417	6.7888
	Off-Road		5.2895	59.5338	42.3068	0.0617	2.788	2.565
	Total		**5.2895**	**59.5338**	**42.3068**	**0.0617**	**55.1298**	**9.3538**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0605	0.0817	0.8587	0.00257	0.2076	0.0564
	Total		**0.0605**	**0.0817**	**0.8587**	**0.00257**	**0.2076**	**0.0564**
TOTAL			***5.3500***	***59.6155***	***43.1655***	***0.0643***	***55.3374***	***9.4102***

Building Construction

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2017**						
	Off-Road		3.1024	26.4057	18.1291	0.0268	1.7812	1.673
	Total		**3.1024**	**26.4057**	**18.1291**	**0.0268**	**1.7812**	**1.673**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.1054	9.9828	14.4513	0.0266	0.8775	0.3492
	Worker		1.5273	2.0589	21.6333	0.0591	4.7745	1.2973
	Total		**2.6327**	**12.0417**	**36.0845**	**0.0857**	**5.652**	**1.6465**
TOTAL			***5.7351***	***38.4474***	***54.2136***	***0.1125***	***7.4332***	***3.3195***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2018**						
	Off-Road		2.6687	23.2608	17.5327	0.0268	1.4943	1.4048
	Total		**2.6687**	**23.2608**	**17.5327**	**0.0268**	**1.4943**	**1.4048**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.0309	9.1594	13.8275	0.0266	0.8685	0.341
	Worker		1.392	1.8786	19.75	0.0591	4.7741	1.297
	Total		**2.4229**	**11.038**	**33.5775**	**0.0856**	**5.6426**	**1.638**
TOTAL			***5.0916***	***34.2988***	***51.1102***	***0.1124***	***7.1369***	***3.0428***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2019**						
	Off-Road		2.3516	20.965	17.1204	0.0268	1.285	1.2083
	Total		**2.3516**	**20.965**	**17.1204**	**0.0268**	**1.285**	**1.2083**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.9618	8.4914	13.2134	0.0266	0.8589	0.3321
	Worker		1.3011	1.7409	18.3892	0.0593	4.7744	1.2973
	Total		**2.2628**	**10.2323**	**31.6026**	**0.0859**	**5.6333**	**1.6294**
TOTAL			***4.6144***	***31.1973***	***48.7230***	***0.1127***	***6.9183***	***2.8377***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020**						
	Off-Road		2.1113	19.0839	16.8084	0.0268	1.1128	1.0465
	Total		**2.1113**	**19.0839**	**16.8084**	**0.0268**	**1.1128**	**1.0465**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.8854	7.4089	12.6293	0.0266	0.8472	0.3214
	Worker		1.2308	1.6252	17.2413	0.0593	4.7746	1.2975
	Total		**2.1162**	**9.0341**	**29.8706**	**0.0859**	**5.6218**	**1.6189**
TOTAL			***4.2275***	***28.1180***	***46.6790***	***0.1127***	***6.7346***	***2.6654***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2021**						
	Off-Road		1.8931	17.3403	16.5376	0.0268	0.9549	0.8979
	Total		**1.8931**	**17.3403**	**16.5376**	**0.0268**	**0.9549**	**0.8979**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.8547	6.2886	12.3336	0.0265	0.836	0.311
	Worker		1.1707	1.5264	16.2668	0.0594	4.7749	1.2978
	Total		**2.0254**	**7.815**	**28.6004**	**0.0859**	**5.6109**	**1.6088**
TOTAL			***3.9185***	***25.1553***	***45.1380***	***0.1127***	***6.5658***	***2.5067***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022**						
	Off-Road		1.6992	15.5364	16.3276	0.0268	0.8057	0.7581
	Total		**1.6992**	**15.5364**	**16.3276**	**0.0268**	**0.8057**	**0.7581**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.8369	5.7082	12.0564	0.0265	0.8348	0.3099
	Worker		1.1157	1.4397	15.382	0.0594	4.7752	1.298
	Total		**1.9526**	**7.1478**	**27.4383**	**0.0859**	**5.61**	**1.608**
TOTAL			***3.6518***	***22.6842***	***43.7659***	***0.1127***	***6.4157***	***2.3661***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2023**						
	Off-Road		1.5661	14.3126	16.2093	0.0268	0.6967	0.6557
	Total		**1.5661**	**14.3126**	**16.2093**	**0.0268**	**0.6967**	**0.6557**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7754	4.5321	11.5999	0.0264	0.8334	0.3086
	Worker		1.0642	1.3633	14.5821	0.0594	4.7755	1.2983
	Total		**1.8396**	**5.8954**	**26.182**	**0.0858**	**5.6089**	**1.6069**
TOTAL			***3.4057***	***20.2080***	***42.3913***	***0.1126***	***6.3056***	***2.2626***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2024**						
	Off-Road		1.4653	13.3774	16.1332	0.0268	0.6106	0.5744
	Total		**1.4653**	**13.3774**	**16.1332**	**0.0268**	**0.6106**	**0.5744**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7602	4.4932	11.4099	0.0264	0.836	0.3109
	Worker		1.0149	1.2941	13.8063	0.0594	4.7757	1.2985
	Total		**1.7751**	**5.7873**	**25.2162**	**0.0857**	**5.6117**	**1.6094**
TOTAL			***3.2404***	***19.1647***	***41.3494***	***0.1125***	***6.2223***	***2.1838***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2025**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7408	4.4597	11.1413	0.0264	0.8366	0.3115
	Worker		0.9744	1.2378	13.2367	0.0594	4.7761	1.2989
	Total		**1.7152**	**5.6975**	**24.378**	**0.0857**	**5.6127**	**1.6103**
TOTAL			***3.0767***	***18.1072***	***40.4298***	***0.1126***	***6.1377***	***2.1042***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2026**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7154	4.3249	10.9204	0.0264	0.8321	0.3073
	Worker		0.9371	1.1894	12.7446	0.0594	4.7765	1.2992
	Total		**1.6525**	**5.5143**	**23.665**	**0.0857**	**5.6086**	**1.6065**
TOTAL			***3.0140***	***17.9240***	***39.7168***	***0.1126***	***6.1336***	***2.1004***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7084	4.2916	10.8233	0.0264	0.8325	0.3076
	Worker		0.9025	1.1468	12.316	0.0594	4.7768	1.2995
	Total		**1.6109**	**5.4384**	**23.1392**	**0.0857**	**5.6093**	**1.6071**
TOTAL			***2.9724***	***17.8481***	***39.1910***	***0.1126***	***6.1343***	***2.1010***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2028**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7	4.2509	10.7403	0.0264	0.832	0.307
	Worker		0.8708	1.1088	11.9437	0.0594	4.7771	1.2998
	Total		**1.5708**	**5.3597**	**22.684**	**0.0857**	**5.6091**	**1.6068**
TOTAL			***2.9323***	***17.7694***	***38.7358***	***0.1126***	***6.1341***	***2.1007***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2029**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.6946	4.2318	10.6713	0.0264	0.8323	0.3072
	Worker		0.8393	1.0723	11.5864	0.0594	4.7773	1.3
	Total		**1.5339**	**5.3041**	**22.2576**	**0.0857**	**5.6096**	**1.6073**
TOTAL			***2.8954***	***17.7138***	***38.3094***	***0.1126***	***6.1346***	***2.1012***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030**						
	Off-Road		1.3041	7.9179	16.1313	0.0308	0.1476	0.1476
	Total		**1.3041**	**7.9179**	**16.1313**	**0.0308**	**0.1476**	**0.1476**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.6845	4.2126	10.5798	0.0264	0.8325	0.3074
	Worker		0.8089	1.0381	11.2687	0.0594	4.7775	1.3002
	Total		**1.4935**	**5.2507**	**21.8484**	**0.0857**	**5.61**	**1.6076**
TOTAL			***2.7976***	***13.1686***	***37.9797***	***0.1165***	***5.7576***	***1.7552***

Paving

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2017**						
	Off-Road		1.9074	20.2964	14.727	0.0223	1.1384	1.0473
	Paving		0.3107				0	0
	Total		**2.2181**	**20.2964**	**14.727**	**0.0223**	**1.1384**	**1.0473**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0498	0.0671	0.7054	0.00193	0.1557	0.0423
	Total		**0.0498**	**0.0671**	**0.7054**	**0.00193**	**0.1557**	**0.0423**
TOTAL			***2.2679***	***20.3635***	***15.4324***	***0.0242***	***1.2941***	***1.0896***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2018**						
	Off-Road		1.6114	17.1628	14.4944	0.0223	0.9386	0.8635
	Paving		0.3054				0	0
	Total		**1.9169**	**17.1628**	**14.4944**	**0.0223**	**0.9386**	**0.8635**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0454	0.0613	0.644	0.00193	0.1557	0.0423
	Total		**0.0454**	**0.0613**	**0.644**	**0.00193**	**0.1557**	**0.0423**
TOTAL			***1.9623***	***17.2241***	***15.1384***	***0.0242***	***1.0943***	***0.9058***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2019**						
	Off-Road		1.4259	14.9353	14.3652	0.0223	0.8094	0.7447
	Paving		0.3054				0	0
	Total		**1.7313**	**14.9353**	**14.3652**	**0.0223**	**0.8094**	**0.7447**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0424	0.0568	0.5997	0.00193	0.1557	0.0423
	Total		**0.0424**	**0.0568**	**0.5997**	**0.00193**	**0.1557**	**0.0423**
TOTAL			***1.7737***	***14.9921***	***14.9649***	***0.0242***	***0.9651***	***0.7870***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020**						
	Off-Road		1.3301	13.7845	14.3523	0.0223	0.739	0.6799
	Paving		0.3054				0	0
	Total		**1.6355**	**13.7845**	**14.3523**	**0.0223**	**0.739**	**0.6799**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0401	0.053	0.5622	0.00193	0.1557	0.0423
	Total		**0.0401**	**0.053**	**0.5622**	**0.00193**	**0.1557**	**0.0423**
TOTAL			***1.6756***	***13.8375***	***14.9145***	***0.0242***	***0.8947***	***0.7222***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2021**						
	Off-Road		1.2308	12.6607	14.3528	0.0223	0.6652	0.612
	Paving		0.3054				0	0
	Total		**1.5362**	**12.6607**	**14.3528**	**0.0223**	**0.6652**	**0.612**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0382	0.0498	0.5304	0.00194	0.1557	0.0423
	Total		**0.0382**	**0.0498**	**0.5304**	**0.00194**	**0.1557**	**0.0423**
TOTAL			***1.5744***	***12.7105***	***14.8832***	***0.0242***	***0.8209***	***0.6543***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022**						
	Off-Road		1.0815	10.9108	14.2815	0.0223	0.5577	0.5131
	Paving		0.3054				0	0
	Total		**1.3869**	**10.9108**	**14.2815**	**0.0223**	**0.5577**	**0.5131**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0364	0.047	0.5016	0.00194	0.1557	0.0423
	Total		**0.0364**	**0.047**	**0.5016**	**0.00194**	**0.1557**	**0.0423**
TOTAL			***1.4233***	***10.9578***	***14.7831***	***0.0242***	***0.7134***	***0.5554***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2023**						
	Off-Road		1.0128	9.9983	14.285	0.0223	0.501	0.4609
	Paving		0.3054				0	0
	Total		**1.3182**	**9.9983**	**14.285**	**0.0223**	**0.501**	**0.4609**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0347	0.0445	0.4755	0.00194	0.1557	0.0423
	Total		**0.0347**	**0.0445**	**0.4755**	**0.00194**	**0.1557**	**0.0423**
TOTAL			***1.3529***	***10.0428***	***14.7605***	***0.0242***	***0.6567***	***0.5032***

Architectural Coating

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2017**						
	Archit. Coating		586.8809				0	0
	Off-Road		0.3323	2.185	1.8681	0.00297	0.1733	0.1733
	Total		**587.2132**	**2.185**	**1.8681**	**0.00297**	**0.1733**	**0.1733**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.3055	0.4118	4.3267	0.0118	0.9549	0.2595
	Total		**0.3055**	**0.4118**	**4.3267**	**0.0118**	**0.9549**	**0.2595**
TOTAL			***587.5187***	***2.5968***	***6.1948***	***0.0148***	***1.1282***	***0.4328***

2017 BC + Coating + Finish/Landscape	***610.6832***	***225.6875***	***198.4287***	***0.2990***	***78.6673***	***23.5910***

MAX DAILY	**610.68**	**225.69**	**198.43**	**0.30**	**78.67**	**23.59**

Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	Yes	Yes	No	No	No	No

Regional Construction Emissions Worksheet: Current Plan

Demolition							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Off-Road		4.0482	42.6971	33.8934	0.0399	2.1252	1.9797
Total		**4.0482**	**42.6971**	**33.8934**	**0.0399**	**2.1252**	**1.9797**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0498	0.0671	0.7054	0.00193	0.1557	0.0423
Total		**0.0498**	**0.0671**	**0.7054**	**0.00193**	**0.1557**	**0.0423**
TOTAL		***4.0980***	***42.7642***	***34.5988***	***0.0418***	***2.2809***	***2.0220***

Site Preparation							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Fugitive Dust						7.7233	4.2454
Off-Road		4.8382	51.7535	39.397	0.0391	2.7542	2.5339
Total		**4.8382**	**51.7535**	**39.397**	**0.0391**	**10.4776**	**6.7793**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0598	0.0806	0.8465	0.00231	0.1868	0.0508
Total		**0.0598**	**0.0806**	**0.8465**	**0.00231**	**0.1868**	**0.0508**
TOTAL		***4.8980***	***51.8341***	***40.2435***	***0.0414***	***10.6644***	***6.8301***

Grading							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2017**						
Fugitive Dust						3.7079	1.5375
Off-Road		6.0991	69.592	46.805	0.0617	3.3172	3.0518
Total		**6.0991**	**69.592**	**46.805**	**0.0617**	**7.025**	**4.5893**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0664	0.0895	0.9406	0.00257	0.2076	0.0564
Total		**0.0664**	**0.0895**	**0.9406**	**0.00257**	**0.2076**	**0.0564**
TOTAL		***6.1655***	***69.6815***	***47.7456***	***0.0643***	***7.2326***	***4.6457***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2018**						
	Fugitive Dust						3.7079	1.5375
	Off-Road		5.2895	59.5338	42.3068	0.0617	2.788	2.565
	Total		**5.2895**	**59.5338**	**42.3068**	**0.0617**	**6.4959**	**4.1025**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0605	0.0817	0.8587	0.00257	0.2076	0.0564
	Total		**0.0605**	**0.0817**	**0.8587**	**0.00257**	**0.2076**	**0.0564**
TOTAL			***5.3500***	***59.6155***	***43.1655***	***0.0643***	***6.7035***	***4.1589***

Building Construction

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2017**						
	Off-Road		3.1024	26.4057	18.1291	0.0268	1.7812	1.673
	Total		**3.1024**	**26.4057**	**18.1291**	**0.0268**	**1.7812**	**1.673**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.15	10.3854	15.034	0.0277	0.9129	0.3633
	Worker		1.3945	1.8799	19.7521	0.0539	4.3594	1.1845
	Total		**2.5445**	**12.2652**	**34.7861**	**0.0816**	**5.2722**	**1.5478**
TOTAL			***5.6469***	***38.6709***	***52.9152***	***0.1084***	***7.0534***	***3.2208***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2018**						
	Off-Road		2.6687	23.2608	17.5327	0.0268	1.4943	1.4048
	Total		**2.6687**	**23.2608**	**17.5327**	**0.0268**	**1.4943**	**1.4048**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.0725	9.5288	14.3851	0.0276	0.9035	0.3548
	Worker		1.271	1.7152	18.0326	0.0539	4.359	1.1842
	Total		**2.3435**	**11.244**	**32.4177**	**0.0816**	**5.2625**	**1.539**
TOTAL			***5.0122***	***34.5048***	***49.9504***	***0.1084***	***6.7568***	***2.9438***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2019**						
	Off-Road		2.3516	20.965	17.1204	0.0268	1.285	1.2083
	Total		**2.3516**	**20.965**	**17.1204**	**0.0268**	**1.285**	**1.2083**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.0005	8.8338	13.7462	0.0277	0.8935	0.3455
	Worker		1.1879	1.5895	16.7901	0.0542	4.3593	1.1845
	Total		**2.1885**	**10.4233**	**30.5363**	**0.0819**	**5.2527**	**1.53**
TOTAL			***4.5401***	***31.3883***	***47.6567***	***0.1087***	***6.5377***	***2.7383***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020**						
	Off-Road		2.1113	19.0839	16.8084	0.0268	1.1128	1.0465
	Total		**2.1113**	**19.0839**	**16.8084**	**0.0268**	**1.1128**	**1.0465**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.9211	7.7077	13.1385	0.0276	0.8814	0.3343
	Worker		1.1237	1.4839	15.7421	0.0542	4.3594	1.1847
	Total		**2.0448**	**9.1915**	**28.8806**	**0.0818**	**5.2408**	**1.519**
TOTAL			***4.1561***	***28.2754***	***45.6890***	***0.1086***	***6.3536***	***2.5655***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2021**						
	Off-Road		1.8931	17.3403	16.5376	0.0268	0.9549	0.8979
	Total		**1.8931**	**17.3403**	**16.5376**	**0.0268**	**0.9549**	**0.8979**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.8892	6.5422	12.8309	0.0276	0.8697	0.3236
	Worker		1.0689	1.3937	14.8523	0.0542	4.3597	1.1849
	Total		**1.9581**	**7.9359**	**27.6832**	**0.0818**	**5.2294**	**1.5085**
TOTAL			***3.8512***	***25.2762***	***44.2208***	***0.1086***	***6.1843***	***2.4064***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022**						
	Off-Road		1.6992	15.5364	16.3276	0.0268	0.8057	0.7581
	Total		**1.6992**	**15.5364**	**16.3276**	**0.0268**	**0.8057**	**0.7581**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.8706	5.9383	12.5425	0.0276	0.8685	0.3224
	Worker		1.0187	1.3145	14.0444	0.0542	4.3599	1.1852
	Total		**1.8893**	**7.2528**	**26.5869**	**0.0818**	**5.2284**	**1.5076**
TOTAL			***3.5885***	***22.7892***	***42.9145***	***0.1086***	***6.0341***	***2.2657***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2023**						
	Off-Road		1.5661	14.3126	16.2093	0.0268	0.6967	0.6557
	Total		**1.5661**	**14.3126**	**16.2093**	**0.0268**	**0.6967**	**0.6557**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.8066	4.7149	12.0677	0.0274	0.867	0.3211
	Worker		0.9717	1.2447	13.3141	0.0542	4.3602	1.1854
	Total		**1.7783**	**5.9596**	**25.3818**	**0.0817**	**5.2272**	**1.5065**
TOTAL			***3.3444***	***20.2722***	***41.5911***	***0.1085***	***5.9239***	***2.1622***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2024**						
	Off-Road		1.4653	13.3774	16.1332	0.0268	0.6106	0.5744
	Total		**1.4653**	**13.3774**	**16.1332**	**0.0268**	**0.6106**	**0.5744**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7908	4.6744	11.87	0.0274	0.8697	0.3234
	Worker		0.9267	1.1815	12.6058	0.0542	4.3604	1.1856
	Total		**1.7175**	**5.8559**	**24.4758**	**0.0816**	**5.2301**	**1.509**
TOTAL			***3.1828***	***19.2333***	***40.6090***	***0.1084***	***5.8407***	***2.0834***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2025**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7707	4.6395	11.5905	0.0274	0.8703	0.324
	Worker		0.8897	1.1302	12.0857	0.0542	4.3607	1.1859
	Total		**1.6603**	**5.7697**	**23.6762**	**0.0816**	**5.2311**	**1.5099**
TOTAL			***3.0218***	***18.1794***	***39.7280***	***0.1085***	***5.7561***	***2.0038***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2026**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7442	4.4993	11.3608	0.0274	0.8657	0.3197
	Worker		0.8556	1.0859	11.6364	0.0542	4.3611	1.1863
	Total		**1.5999**	**5.5852**	**22.9971**	**0.0816**	**5.2268**	**1.5059**
TOTAL			***2.9614***	***17.9949***	***39.0489***	***0.1085***	***5.7518***	***1.9998***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.737	4.4646	11.2597	0.0274	0.8661	0.32
	Worker		0.8241	1.0471	11.245	0.0542	4.3614	1.1865
	Total		**1.561**	**5.5117**	**22.5047**	**0.0816**	**5.2275**	**1.5065**
TOTAL			***2.9225***	***17.9214***	***38.5565***	***0.1085***	***5.7525***	***2.0004***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2028**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7282	4.4223	11.1733	0.0274	0.8655	0.3194
	Worker		0.7951	1.0124	10.9051	0.0542	4.3617	1.1868
	Total		**1.5233**	**5.4347**	**22.0785**	**0.0816**	**5.2272**	**1.5062**
TOTAL			***2.8848***	***17.8444***	***38.1303***	***0.1085***	***5.7522***	***2.0001***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2029**						
	Off-Road		1.3615	12.4097	16.0518	0.0269	0.525	0.4939
	Total		**1.3615**	**12.4097**	**16.0518**	**0.0269**	**0.525**	**0.4939**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7226	4.4024	11.1015	0.0274	0.8658	0.3196
	Worker		0.7663	0.9791	10.5789	0.0542	4.3619	1.187
	Total		**1.4889**	**5.3815**	**21.6804**	**0.0816**	**5.2277**	**1.5066**
TOTAL			***2.8504***	***17.7912***	***37.7322***	***0.1085***	***5.7527***	***2.0005***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030**						
	Off-Road		1.3041	7.9179	16.1313	0.0308	0.1476	0.1476
	Total		**1.3041**	**7.9179**	**16.1313**	**0.0308**	**0.1476**	**0.1476**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.7121	4.3825	11.0064	0.0274	0.8661	0.3198
	Worker		0.7386	0.9479	10.2888	0.0542	4.362	1.1871
	Total		**1.4507**	**5.3303**	**21.2952**	**0.0816**	**5.2281**	**1.507**
TOTAL			***2.7548***	***13.2482***	***37.4265***	***0.1124***	***5.3757***	***1.6546***

Paving

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2017**						
	Off-Road		1.9074	20.2964	14.727	0.0223	1.1384	1.0473
	Paving		0.3054				0	0
	Total		**2.2128**	**20.2964**	**14.727**	**0.0223**	**1.1384**	**1.0473**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0498	0.0671	0.7054	0.00193	0.1557	0.0423
	Total		**0.0498**	**0.0671**	**0.7054**	**0.00193**	**0.1557**	**0.0423**
TOTAL			***2.2626***	***20.3635***	***15.4324***	***0.0242***	***1.2941***	***1.0896***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2018**						
	Off-Road		1.6114	17.1628	14.4944	0.0223	0.9386	0.8635
	Paving		0.3054				0	0
	Total		**1.9169**	**17.1628**	**14.4944**	**0.0223**	**0.9386**	**0.8635**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0454	0.0613	0.644	0.00193	0.1557	0.0423
	Total		**0.0454**	**0.0613**	**0.644**	**0.00193**	**0.1557**	**0.0423**
TOTAL			***1.9623***	***17.2241***	***15.1384***	***0.0242***	***1.0943***	***0.9058***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2019**						
	Off-Road		1.4259	14.9353	14.3652	0.0223	0.8094	0.7447
	Paving		0.3054				0	0
	Total		**1.7313**	**14.9353**	**14.3652**	**0.0223**	**0.8094**	**0.7447**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0424	0.0568	0.5997	0.00193	0.1557	0.0423
	Total		**0.0424**	**0.0568**	**0.5997**	**0.00193**	**0.1557**	**0.0423**
TOTAL			***1.7737***	***14.9921***	***14.9649***	***0.0242***	***0.9651***	***0.7870***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020**						
	Off-Road		1.3301	13.7845	14.3523	0.0223	0.739	0.6799
	Paving		0.3054				0	0
	Total		**1.6355**	**13.7845**	**14.3523**	**0.0223**	**0.739**	**0.6799**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0401	0.053	0.5622	0.00193	0.1557	0.0423
	Total		**0.0401**	**0.053**	**0.5622**	**0.00193**	**0.1557**	**0.0423**
TOTAL			***1.6756***	***13.8375***	***14.9145***	***0.0242***	***0.8947***	***0.7222***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2021**						
	Off-Road		1.2308	12.6607	14.3528	0.0223	0.6652	0.612
	Paving		0.3054				0	0
	Total		**1.5362**	**12.6607**	**14.3528**	**0.0223**	**0.6652**	**0.612**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0382	0.0498	0.5304	0.00194	0.1557	0.0423
	Total		**0.0382**	**0.0498**	**0.5304**	**0.00194**	**0.1557**	**0.0423**
TOTAL			***1.5744***	***12.7105***	***14.8832***	***0.0242***	***0.8209***	***0.6543***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022**						
	Off-Road		1.0815	10.9108	14.2815	0.0223	0.5577	0.5131
	Paving		0.3054				0	0
	Total		**1.3869**	**10.9108**	**14.2815**	**0.0223**	**0.5577**	**0.5131**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0364	0.047	0.5016	0.00194	0.1557	0.0423
	Total		**0.0364**	**0.047**	**0.5016**	**0.00194**	**0.1557**	**0.0423**
TOTAL			***1.4233***	***10.9578***	***14.7831***	***0.0242***	***0.7134***	***0.5554***

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2023**						
	Off-Road		1.0128	9.9983	14.285	0.0223	0.501	0.4609
	Paving		0.3054				0	0
	Total		**1.3182**	**9.9983**	**14.285**	**0.0223**	**0.501**	**0.4609**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.0347	0.0445	0.4755	0.00194	0.1557	0.0423
	Total		**0.0347**	**0.0445**	**0.4755**	**0.00194**	**0.1557**	**0.0423**
TOTAL			***1.3529***	***10.0428***	***14.7605***	***0.0242***	***0.6567***	***0.5032***

Architectural Coating

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2017**						
	Archit. Coating		558.3043				0	0
	Off-Road		0.3323	2.185	1.8681	0.00297	0.1733	0.1733
	Total		**558.6367**	**2.185**	**1.8681**	**0.00297**	**0.1733**	**0.1733**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0	0	0	0	0	0
	Worker		0.2789	0.376	3.9504	0.0108	0.8719	0.2369
	Total		**0.2789**	**0.376**	**3.9504**	**0.0108**	**0.8719**	**0.2369**
TOTAL			***558.9156***	***2.5610***	***5.8185***	***0.0138***	***1.0452***	***0.4102***

2017 BC + Coating + Finish/Landscape	***581.9866***	***225.8752***	***196.7540***	***0.2939***	***29.5706***	***18.2184***

MAX DAILY	**581.99**	**225.88**	**196.75**	**0.29**	**29.57**	**18.22**

Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	Yes	Yes	No	No	No	No

Localized Construction Emissions Worksheet: Proposed

Demolition						
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2017**				
	Off-Road		42.6971	33.8934	2.1252	1.9797
	Total		**42.6971**	**33.8934**	**2.1252**	**1.9797**
TOTAL			***42.6971***	***33.8934***	***2.1252***	***1.9797***

Site Preparation						
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2017**				
	Fugitive Dust				7.7233	4.2454
	Off-Road		51.7535	39.397	2.7542	2.5339
	Total		**51.7535**	**39.397**	**10.4776**	**6.7793**
TOTAL			***51.7535***	***39.3970***	***10.4776***	***6.7793***

Grading						
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2017**				
	Fugitive Dust				52.3417	6.7888
	Off-Road		69.592	46.805	3.3172	3.0518
	Total		**69.592**	**46.805**	**55.6589**	**9.8406**
TOTAL			***69.5920***	***46.8050***	***55.6589***	***9.8406***
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2018**				
	Fugitive Dust				52.3417	6.7888
	Off-Road		59.5338	42.3068	2.788	2.565
	Total		**59.5338**	**42.3068**	**55.1298**	**9.3538**
TOTAL			***59.5338***	***42.3068***	***55.1298***	***9.3538***

Building Construction						
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2017**				
	Off-Road		26.4057	18.1291	1.7812	1.673
	Total		**26.4057**	**18.1291**	**1.7812**	**1.673**
TOTAL			***26.4057***	***18.1291***	***1.7812***	***1.6730***
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2018**				
	Off-Road		23.2608	17.5327	1.4943	1.4048
	Total		**23.2608**	**17.5327**	**1.4943**	**1.4048**
TOTAL			***23.2608***	***17.5327***	***1.4943***	***1.4048***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2019**				
	Off-Road		20.965	17.1204	1.285	1.2083
	Total		**20.965**	**17.1204**	**1.285**	**1.2083**
TOTAL			***20.9650***	***17.1204***	***1.2850***	***1.2083***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2020**				
	Off-Road		19.0839	16.8084	1.1128	1.0465
	Total		**19.0839**	**16.8084**	**1.1128**	**1.0465**
TOTAL			***19.0839***	***16.8084***	***1.1128***	***1.0465***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2021**				
	Off-Road		17.3403	16.5376	0.9549	0.8979
	Total		**17.3403**	**16.5376**	**0.9549**	**0.8979**
TOTAL			***17.3403***	***16.5376***	***0.9549***	***0.8979***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Off-Road		15.5364	16.3276	0.8057	0.7581
	Total		**15.5364**	**16.3276**	**0.8057**	**0.7581**
TOTAL			***15.5364***	***16.3276***	***0.8057***	***0.7581***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2023**				
	Off-Road		14.3126	16.2093	0.6967	0.6557
	Total		**14.3126**	**16.2093**	**0.6967**	**0.6557**
TOTAL			***14.3126***	***16.2093***	***0.6967***	***0.6557***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2024**				
	Off-Road		13.3774	16.1332	0.6106	0.5744
	Total		**13.3774**	**16.1332**	**0.6106**	**0.5744**
TOTAL			***13.3774***	***16.1332***	***0.6106***	***0.5744***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road		12.4097	16.0518	0.525	0.4939
	Total		**12.4097**	**16.0518**	**0.525**	**0.4939**
TOTAL			***12.4097***	***16.0518***	***0.5250***	***0.4939***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2026**				

	Off-Road		12.4097	16.0518	0.525	0.4939
	Total		**12.4097**	**16.0518**	**0.525**	**0.4939**
TOTAL			***12.4097***	***16.0518***	***0.5250***	***0.4939***
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2027**				
	Off-Road		12.4097	16.0518	0.525	0.4939
	Total		**12.4097**	**16.0518**	**0.525**	**0.4939**
TOTAL			***12.4097***	***16.0518***	***0.5250***	***0.4939***
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2028**				
	Off-Road		12.4097	16.0518	0.525	0.4939
	Total		**12.4097**	**16.0518**	**0.525**	**0.4939**
TOTAL			***12.4097***	***16.0518***	***0.5250***	***0.4939***
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2029**				
	Off-Road		12.4097	16.0518	0.525	0.4939
	Total		**12.4097**	**16.0518**	**0.525**	**0.4939**
TOTAL			***12.4097***	***16.0518***	***0.5250***	***0.4939***
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2030**				
	Off-Road		7.9179	16.1313	0.1476	0.1476
	Total		**7.9179**	**16.1313**	**0.1476**	**0.1476**
TOTAL			***7.9179***	***16.1313***	***0.1476***	***0.1476***

Paving

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2017**				
	Off-Road		20.2964	14.727	1.1384	1.0473
	Paving				0	0
	Total		**20.2964**	**14.727**	**1.1384**	**1.0473**
TOTAL			***20.2964***	***14.7270***	***1.1384***	***1.0473***
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2018**				
	Off-Road		17.1628	14.4944	0.9386	0.8635
	Paving				0	0
	Total		**17.1628**	**14.4944**	**0.9386**	**0.8635**
TOTAL			***17.1628***	***14.4944***	***0.9386***	***0.8635***
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2019**				

	Off-Road		14.9353	14.3652	0.8094	0.7447
	Paving				0	0
	Total		**14.9353**	**14.3652**	**0.8094**	**0.7447**
TOTAL			***14.9353***	***14.3652***	***0.8094***	***0.7447***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2020**				
	Off-Road		13.7845	14.3523	0.739	0.6799
	Paving				0	0
	Total		**13.7845**	**14.3523**	**0.739**	**0.6799**
TOTAL			***13.7845***	***14.3523***	***0.7390***	***0.6799***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2021**				
	Off-Road		12.6607	14.3528	0.6652	0.612
	Paving				0	0
	Total		**12.6607**	**14.3528**	**0.6652**	**0.612**
TOTAL			***12.6607***	***14.3528***	***0.6652***	***0.6120***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Off-Road		10.9108	14.2815	0.5577	0.5131
	Paving				0	0
	Total		**10.9108**	**14.2815**	**0.5577**	**0.5131**
TOTAL			***10.9108***	***14.2815***	***0.5577***	***0.5131***

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2023**				
	Off-Road		9.9983	14.285	0.501	0.4609
	Paving				0	0
	Total		**9.9983**	**14.285**	**0.501**	**0.4609**
TOTAL			***9.9983***	***14.2850***	***0.5010***	***0.4609***

Architectural Coating

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2017**				
	Archit. Coating				0	0
	Off-Road		2.185	1.8681	0.1733	0.1733
	Total		**2.185**	**1.8681**	**0.1733**	**0.1733**
TOTAL			***2.1850***	***1.8681***	***0.1733***	***0.1733***

2017 BC + Coating + Finish/Landscape	***212.9297***	***154.8196***	***71.3546***	***21.4932***
<=1-Acre LSTs	***91***	***664***	***105***	***52***
Exceeds LSTs?	***Yes***	***No***	***No***	***No***

Regional Operational Emissions Worksheet

Current SP

Non-Residential

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	241.25	0.02	1.95	0.00	0.01	0.01
Energy	3.20	29.13	24.47	0.17	2.21	2.21
Mobile	358.90	659.67	3,587.27	17.62	1,237.63	342.84
Total	**603.36**	**688.82**	**3,613.70**	**17.79**	**1,239.85**	**345.07**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	241.25	0.02	1.95	0.00	0.01	0.01
Energy	3.20	29.13	24.47	0.17	2.21	2.21
Mobile	379.04	691.67	3,622.78	16.84	1,237.69	342.90
Total	**623.50**	**720.81**	**3,649.20**	**17.02**	**1,239.91**	**345.12**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	241.25	0.02	1.95	0.00	0.01	0.01
Energy	3.20	29.13	24.47	0.17	2.21	2.21
Mobile	379.04	691.67	3,622.78	17.62	1,237.69	342.90
Total	**623.50**	**720.81**	**3,649.20**	**17.79**	**1,239.91**	**345.12**

Residentual

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	135.06	4.86	422.04	0.02	9.22	9.15
Energy	1.07	9.15	3.89	0.06	0.74	0.74
Mobile	66.42	122.07	663.83	3.26	229.03	63.44
Total	**202.54**	**136.09**	**1,089.77**	**3.34**	**238.99**	**73.33**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	135.06	4.86	422.04	0.02	9.22	9.15
Energy	1.07	9.15	3.89	0.06	0.74	0.74
Mobile	70.14	127.99	670.40	3.12	229.04	63.45
Total	**206.27**	**142.01**	**1,096.34**	**3.20**	**239.00**	**73.34**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	135.06	4.86	422.04	0.02	9.22	9.15
Energy	1.07	9.15	3.89	0.06	0.74	0.74
Mobile	70.14	127.99	670.40	3.26	229.04	63.45
Total	**206.27**	**142.01**	**1,096.34**	**3.34**	**239.00**	**73.34**

Combined

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	376.30	4.88	423.99	0.02	9.23	9.16
Energy	4.28	38.28	28.36	0.23	2.95	2.95
Mobile	425.32	781.74	4,251.10	20.88	1,466.66	406.29
Total	**805.90**	**824.91**	**4,703.46**	**21.13**	**1,478.84**	**418.40**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	376.30	4.88	423.99	0.02	9.23	9.16
Energy	4.28	38.28	28.36	0.23	2.95	2.95
Mobile	449.19	819.66	4,293.18	19.96	1,466.73	406.35
Total	**829.77**	**862.82**	**4,745.54**	**20.21**	**1,478.91**	**418.46**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	376.30	4.88	423.99	0.02	9.23	9.16
Energy	4.28	38.28	28.36	0.23	2.95	2.95
Mobile	449.19	819.66	4,293.18	20.88	1,466.73	406.35
Total	**829.77**	**862.82**	**4,745.54**	**21.13**	**1,478.91**	**418.46**

Proposed

Non-Residential

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	191.62	0.01	1.54	0.00	0.01	0.01
Energy	2.13	19.34	16.24	0.12	1.47	1.47
Mobile	346.63	600.06	3,271.35	15.63	1,093.96	303.21
Total	**540.38**	**619.41**	**3,289.14**	**15.75**	**1,095.43**	**304.69**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	191.62	0.01	1.54	0.00	0.01	0.01
Energy	2.13	19.34	16.24	0.12	1.47	1.47
Mobile	366.87	628.42	3,333.76	14.94	1,094.02	303.27
Total	**560.62**	**647.77**	**3,351.54**	**15.06**	**1,095.49**	**304.74**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	191.62	0.01	1.54	0.00	0.01	0.01
Energy	2.13	19.34	16.24	0.12	1.47	1.47
Mobile	366.87	628.42	3,333.76	15.63	1,094.02	303.27
Total	**560.62**	**647.77**	**3,351.54**	**15.75**	**1,095.49**	**304.74**

Residentual

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	224.60	7.39	640.92	0.03	14.00	13.89
Energy	1.76	15.06	6.41	0.10	1.22	1.22
Mobile	90.24	156.22	851.69	4.07	284.81	78.94
Total	**316.61**	**178.68**	**1,499.02**	**4.20**	**300.03**	**94.05**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	224.60	7.39	640.92	0.03	14.00	13.89
Energy	1.76	15.06	6.41	0.10	1.22	1.22
Mobile	95.51	163.61	867.93	3.89	284.82	78.95
Total	**321.88**	**186.06**	**1,515.27**	**4.02**	**300.05**	**94.07**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	224.60	7.39	640.92	0.03	14.00	13.89
Energy	1.76	15.06	6.41	0.10	1.22	1.22
Mobile	95.51	163.61	867.93	4.07	284.82	78.95
Total	**321.88**	**186.06**	**1,515.27**	**4.20**	**300.05**	**94.07**

Combined

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	416.23	7.40	642.46	0.03	14.01	13.90
Energy	3.89	34.40	22.65	0.21	2.69	2.69
Mobile	436.87	756.29	4,123.04	19.70	1,378.76	382.15
Total	**856.99**	**798.09**	**4,788.16**	**19.94**	**1,395.46**	**398.74**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	416.23	7.40	642.46	0.03	14.01	13.90
Energy	3.89	34.40	22.65	0.21	2.69	2.69
Mobile	462.38	792.03	4,201.69	18.83	1,378.84	382.22
Total	**882.50**	**833.83**	**4,866.81**	**19.08**	**1,395.54**	**398.81**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	416.23	7.40	642.46	0.03	14.01	13.90
Energy	3.89	34.40	22.65	0.21	2.69	2.69
Mobile	462.38	792.03	4,201.69	19.70	1,378.84	382.22
Total	**882.50**	**833.83**	**4,866.81**	**19.94**	**1,395.54**	**398.81**

Net Change

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	39.92	2.52	218.47	0.01	4.78	4.74
Energy	-0.39	-3.88	-5.71	-0.02	-0.27	-0.27
Mobile	13.20	-27.63	-91.49	-1.18	-87.89	-24.13
Total	**52.73**	**-28.99**	**121.27**	**-1.19**	**-83.37**	**-19.66**

SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

GHG Emissions Worksheet

Based on the IPCC Second Assessment Report Global Warming Potentials (GWPs)

Current SP Buildout

	MTons Total
Total Construction	18,216

The construction emissions are conservative because modeling does not account for sharing of construction equipment between overlapping construction phases that would use the same pieces of equipment.

Source	**Buildout MTons/Year**			**Percent of Project Total**
	NonResidential	**Residential**	**Total**	
Area	0.5036	1,327	1,327	1%
Energy	45,715	7,316	53,031	21%
Mobile	154,704	34,042	188,746	74%
Waste	5,235	2,013	7,248	3%
Water	3,112	1,824	4,936	2%
Amortized Construction Emissions*			607	0%
Total All Sectors	**208,767**	**46,521**	**255,896**	**100%**
SCAQMD Proposed GHG Bright-Line Threshold	3,000			
Exceeds Threshold?	**Yes**			

Total Service Population (Employment)**	32,995	people
Employees:	*23,621*	
Residents:	*9,374*	
Per Capita GHG Emissions	7.8	MTCO2e/service population
SCAQMD Per Capita Threshold	4.8	MTCO2e/service population
Exceed Threshold?	Yes	

*Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2010, September 28. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 15. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-%28ghg%29-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf?sfvrsn=2 .

**See Tables 5.6-9 and 5.6-10 of Section 5.6, Population and Housing, of the DSEIR.

Proposed Project Buildout

	MTons Total
Total Construction	18,647

The construction emissions are conservative because modeling does not account for sharing of construction equipment between overlapping construction phases that would use the same pieces of equipment.

Source	**Buildout MTons/Year**			**Percent of Project Total**
	NonResidential	**Residential**	**Total**	
Area	0.3974	2,014.8679	2,015	1%
Energy	33,442	12,082	45,524	19%
Mobile	142,088	42,190	184,278	76%
Waste	4,983	2,215	7,198	3%
Water	2,046	1,974	4,020	2%
Amortized Construction Emissions*			622	0%
Total All Sectors	**182,560**	**60,475**	**243,657**	**100%**
SCAQMD Proposed GHG Bright-Line Threshold	3,000			
Exceeds Threshold?	**Yes**			

Total Service Population (Employment)**	34,702	people
Employees:	*18,802*	
Residents:	*15,900*	
Per Capita GHG Emissions	7.0	MTCO2e/service population
SCAQMD Per Capita Threshold	4.8	MTCO2e/service population
Exceed Threshold?	Yes	

*Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2010, September 28. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 15. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-%28ghg%29-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf?sfvrsn=2 .

**See Tables 5.6-8 and 5.6-9 of Section 5.6, Population and Housing, of the DSEIR.

Net Change

Source	Buildout MTons/Year			Percent Change
	NonResidential	Residential	Total	
Area	-0.1062	688	688	52%
Energy	-12,273	4,766	-7,507	-14%
Mobile	-12,617	8,148	-4,468	-2%
Waste	-252	201	-50	-1%
Water	-1,066	150	-916	-19%
Amortized Construction Emissions*			14	2%
Total All Sectors	**-26,208**	**13,954**	**-12,239**	**-5%**
SCAQMD Proposed GHG Bright-Line Threshold	3,000			
Exceeds Threshold?	**No**			

Adopted Specific Plan Per Capita Emissions	*7.756*	MTCO2e/service population
Proposed Amended Specific Plan Per Capita Emissions	*7.021*	MTCO2e/service population
Net Change in Capita GHG Emissions	-0.7	MTCO2e/service population
SCAQMD Per Capita Threshold	4.8	MTCO2e/service population
Exceed Threshold?	No	

STATEWIDE TRAJECTORY FOR INTERIM GHG TARGET

2035 CALIFORNIA SERVICE POPULATION (ESTIMATE)

Employment	
	Total Employment
2020	17,588,090
2030	19,234,600
2035	20,062,090
2040	20,895,900
2050	22,563,520

California Department of Transportation. Long-Term Socio-Economic Forecasts by County. http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html

Population	
2020	40,619,346
2030	44,085,600
2035	45,747,645
2040	47,233,240
2050	49,779,362

California Department of Finance. 2014, December. Report P-1 (County): State and County Total Population Projections, 2010-2060 (5 -year increments). http://www.dof.ca.gov/research/demographic/reports/projections/P-1/

Service Population (SP)	
2020 SP	58,207,436
2030 SP	63,320,200
2035 SP	65,809,735
2040 SP	68,129,140
2050 SP	72,342,882

FORECASTING THE POST-2020 GHG REDUCTION TARGETS - EFFICIENCY METRIC

	Source	MTCO2e (SAR)	MTCO2e/SP	
	BAAQMD & SCAQMD: Land Use Sector			
2020	Inventory 2008 Scoping Plan	295,530,000	5.1	
2030	40% Below 1990 Levels	177,318,000	2.8	
2050	80% Below 1990 Levels	59,106,000	0.8	
2035	Forecast (2030-2050)	147,765,000	2.2	50%
2040	Forecast (2030-2050)	118,212,000	1.7	60%

1990 Inventory - Land Use Only

Sector	Notes	MTCOe2
Electricity	Removed Industrial	96,100,000
Transportation	On-Road Only	137,990,000
Landfills	Landfill Extracted from Industrial	6,260,000
Wastewater	Wastewater Treatment Extracted from Industrial	3,170,000
Commercial	Removed National Security	13,860,000
Residential	Includes all	29,660,000
TOTAL LAND USE		**287,040,000**

	Source	MTCO2e (SAR)	MTCO2e/SP
2020	1990 Land Use Sector Inventory	287,040,000	4.9
2030	40% Below 1990 Levels	172,224,000	2.7
2050	80% Below 1990 Levels	57,408,000	0.8
2035	Forecast (2030-2050)	143,520,000	2.2
2040	Forecast (2030-2050)	114,816,000	1.7

California Air Resources Board. 2007, November. California Greenhouse Gas Inventory (millions of metric tonnes of CO2 equivalent) — Summary by Economic Sector.

Criteria Air Pollutant and GHG Modeling Inputs and Assumptions

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CalEEMod Land Use Inputs: Current Plan

Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Apartments Lowrise	1,641	DU	138.80	1,641,000
Apartments Midrise	2,054	DU	122.76	2,054,000
Condo/Townhouse	1,033	DU	93.61	1,033,000
Congregate Care	159.00	DU	54.75	158,990
Junior College	2,151.60	1000BSF	107.93	2,151,600
Elementary School	2,400	Student	38.10	200,648.09
General Office	2,731.19	1000BSF	185.44	2,731,190
Government Office	40.85	1000BSF	2.05	40,850
Health Club	30.00	1000BSF	1.15	30,000
High School	1,850	Student	9.39	245,422.81
High Turnover Restaurant	18.00	1000bsf	0.69	18,000
Hotel	500	Room	27.77	726,000
Light Industrial	627.05	1000BSF	33.77	627,050
Movie Theater	4,500	Seat	8.76	101,250
Office Park	2,343.75	1000BSF	102.79	2,343,750
Park	276.61	Acre	276.61	12,049,132
Regional Shopping Center	1,368.08	1000BSF	154.26	1,368,080
Retirement Community	240	DU	23.67	240,000
Supermarket	207.24	1000BSF	17.71	207,240
Right-of-Way	206.00	Acre	206.00	0
		Total Acres	**1,606.00**	

Project Location:	Orange County	
Climate Zone:	8	
Operation Year	2035	
Land Use Setting	Urban	
Utility Company	SCE	
Source Receptor Area:	19	Saddleback Valley

Trip Generation:*

Land Use	Amount	Unit	Average Daily Trip	Trip Generation/Unit	Adjusted Saturday Trip Rate		Adjusted Sunday Trip Rate		
Apartments Lowrise	1,641	DU	12,533	7.637	8.298	13,617	7.035	11,544	
Apartments Midrise	2,054	DU	13,617	6.630	7.203	14,795	6.106	12,543	
Condo/Townhouse	1,033	DU	9,888	9.572	9.341	9,650	7.974	8,237	
Congregate Care	159	DU	970	6.101	4.898	779	5.433	864	
Junior College	2,151.600	1000BSF	13,170	6.121	2.501	5,380	0.269	580	
Elementary School	2,400	Student	2,448	1.020	0.000	0	0.000	0	
General Office	2,731	1000BSF	39,715	14.541	3.243	8,858	1.384	3,781	
Government Office	41	1000BSF	542	13.268	0.000	0	0.000	0	
Health Club	30	1000BSF	988	32.933	20.872	626	26.733	802	
High School	1,850	Student	3,312	1.790	0.639	1,181	0.262	484	
High Turnover Restaurant	18	1000bsf	2,289	127.167	158.391	2,851	131.857	2,373	
Hotel	500	Room	4,115	8.230	8.250	4,125	5.994	2,997	
Light Industrial	627	1000BSF	8,416	13.422	2.542	1,594	1.309	821	
Movie Theater	4,500	Seat	7,550	1.678	1.678	7,550	1.678	7,550	
Office Park	2,344	1000BSF	20,869	8.904	1.279	2,997	0.593	1,389	
Park	277	Acre	5,866	21.207	21.207	5,866	21.207	5,866	
Regional Shopping Center	1,368	1000BSF	57,771	42.228	49.417	67,607	24.961	34,148	
Retirement Community	240	DU	833	3.471	2.936	705	2.820	677	
Supermarket	207	1000BSF	22,583	108.970	189.280	39,226	177.396	36,764	
		Total Weekday ADTs:	**227,475**			187,407		131,419	
			1,660,568			1,368,068		959,360	
			261			52		52	
			433,408,118			**71,139,553**		**49,886,725**	554,434,396

Land Use	ITE Land Use Code	Calculated Weekday Trip Generation Rate	ITE Weekday Trip Rate*	ITE Saturday Trip Rate*	Saturday Percent Adjustment to Weekday	Adjusted Saturday Trip Rate	ITE Sunday Trip Rate*	Sunday Percent Adjustment to Weekday	Adjusted Sunday Trip Rate
Apartments Lowrise	221	7.637	6.59	7.160	109%	8.298	6.07	92%	7.035
*Apartments Midrise**	*223*	*6.630*	*6.59*	*7.160*	*109%*	*7.203*	*6.07*	*92%*	*6.106*
Condo/Townhouse	230	9.572	5.81	5.670	98%	9.341	4.84	83%	7.974
*Congregate Care**	*253*	*6.101*	*2.74*	*2.200*	*80%*	*4.898*	*2.44*	*89%*	*5.433*
Junior College	540	6.121	27.49	11.230	41%	2.501	1.21	4%	0.269
Elementary School	520	1.020	1.29	0.000	0%	0.000	0	0%	0.000
General Office	710	14.541	11.03	2.460	22%	3.243	1.05	10%	1.384
*Government Office**	*730*	*13.268*	*13.27*	*0.000*	*0%*	*0.000*	*0*	*0%*	*0.000*
*Health Club**	*492*	*32.933*	*32.93*	*20.870*	*63%*	*20.872*	*26.73*	*81%*	*26.733*
High School	530	1.790	1.71	0.610	36%	0.639	0.25	15%	0.262
High Turnover Restaurant	932	127.167	127.15	158.370	125%	158.391	131.84	104%	131.857
Hotel	310	8.230	8.17	8.190	100%	8.250	5.95	73%	5.994
Light Industrial	110	13.422	6.97	1.320	19%	2.542	0.68	10%	1.309
*Movie Theater**	*443*	*1.678*	*1.80*	*1.800*	*100%*	*1.678*	*1.8*	*100%*	*1.678*
Office Park	750	8.904	11.42	1.640	14%	1.279	0.76	7%	0.593
Park	411	21.207	1.89	1.890	100%	21.207	1.89	100%	21.207
Regional Shopping Center	820	42.228	42.70	49.970	117%	49.417	25.24	59%	24.961
Retirement Community	255	3.471	2.40	2.030	85%	2.936	1.95	81%	2.820
Supermarket	850	108.970	102.24	177.590	174%	189.280	166.44	163%	177.396

**9th Edition, ITE Handbook*
**Based on CalEEMod default trip generation rates.

Average Trip Length: 7.30 miles per trip*

Total Annual VMT:

Non-Residential:	453,079,260	miles per year
Residential:	99,696,865	miles per year
Total	**552,776,125**	**miles per year**

**Provided by Stantec and based on the Irvine Traffic Analysis Model 12.4.*

Water Demand

Indoor Water

	Daily Potable Water Use (gpd)	Total Annual Potable Water (gpy)	Percent of Overall (%)
Residential/Non-Commercial	*926,165*	*338,050,225*	41%
Commercial	1,326,266	484,087,090	59%
Total	**2,252,431**	**822,137,315**	**100%**

Wastewater Generation **621,577,845** **gpy**

Indoor Residential Potable Water for Outdoor Use:* **200,559,470** **gpy**

**Represents water from indoor source used for outdoor purposes. Water usage of this type would not drain into sewer.*

Adjusted Indoor Water

	Total Annual Potable Water Demand (gpy)	Percent of Overall (%)
Residential/Non-Commercial	*137,490,755*	22%
Commercial	484,087,090	78%
Total	**621,577,845**	**100%**

Outdoor Water	**Total Annual Demand (gpy)**	**% of Overall**
Irrigation Non-Potable Water:	617,715,050	75%
Indoor Residential Potable Water for Outdoor:	200,559,470	25%
Total	**818,274,520**	**100%**

CalEEMod Inputs*

Land Use	Indoor Potable	Adjusted Indoor Potable**	NPW-Irrigation	PW-Outdoor***	Total Outdoor
Apartments Lowrise	*67,610,045*	*756,888*	*32,511,318*	*66,853,157*	99,364,475
Apartments Midrise	*67,610,045*	*756,888*	*32,511,318*	*66,853,157*	99,364,475
Condo/Townhouse	*67,610,045*	*756,888*	*32,511,318*	*66,853,157*	99,364,475
Congregate Care	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Junior College	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Elementary School	*67,610,045*	*67,610,045*	*32,511,318*		32,511,318
General Office	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Government Office	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Health Club	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
High School	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
High Turnover Restaurant	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Hotel	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Light Industrial	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Movie Theater	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Office Park	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Park	*67,610,045*	*67,610,045*	*32,511,318*		32,511,318
Regional Shopping Center	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Retirement Community	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Supermarket	*34,577,649*	*34,577,649*	*32,511,318*		32,511,318
Right-of-Way	*0*	*0*	*0*		0
Totals	**822,137,315**	***621,577,845***	***617,715,050***	***200,559,470***	**818,274,520**

**For purposes of this analysis, water demand and wastewater generation are proportioned evenly for the applicable land uses.*
***Represents the total Indoor potable water use for residential use subtracted by residential water use that would be utilized for outdoor purposes and not drain into the sewer.*
****Per the City Public Works/Engineering Department, potable indoor water used for outdoor purposes are assumed for residential uses only.*

CalEEMod Water Mitigation Inputs

Model Run	Total Adjusted Indoor (gpy)	Total Non-Potable Indoor (gpy)	Percent Non-Potable Water Indoor (%)	Total Outdoor (gpy)	Total Non-Potable Outdoor (gpy)	Percent Non-Potable Water Outdoor (%)
Non-Residential Model Run	550,151,881.43	0	0%	455,158,457.89	455,158,458	100%
Residential Model Run	71,425,963.57	0	0%	363,116,062.11	162,556,592	45%
	621,577,845	***0***		***818,274,520***	***617,715,050***	

Solid Waste*

Residential Solid Waste Rate	5.31	lbs per dwelling unit
Non-Residential Average Waste Rate	6	lbs per 1000 building square feet

Land Use Type	Land Use Amount	Land Use Measurement	Solid Waste (lbs/day)	Solid Waste (tons/day)	Solid Waste (tons/yr)
Residential (DU)	4,601	DU	24,431	12	4,459
Non-Residential (BSF)	11,287,725	BSF	67,726	34	12,360
				Total	**16,818.77**

Land Uses	Solid Waste (tons/yr)
Apartments Lowrise	885.20
Apartments Midrise	885.20
Condo/Townhouse	885.20
Congregate Care	885.20
Junior College	885.20
Elementary School	885.20
General Office	885.20
Government Office	885.20
Health Club	885.20
High School	885.20
High Turnover Restaurant	885.20
Hotel	885.20
Light Industrial	885.20
Movie Theater	885.20
Office Park	885.20
Park	885.20
Regional Shopping Center	885.20
Retirement Community	885.20
Supermarket	885.20
Right-of-Way	n/a
TOTALs	**16,818.77**

*Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study.

Energy Use

Buildings constructed after January 1, 2017 are required to meet the 2016 Building and Energy Efficiency Standards. The 2016 Standards are 5% more energy efficient for non-residential buildings and 28% more energy efficient for residential buildings than the 2013 Building and Energy Efficiency Standards. The 2013 Standards are 30% more efficient for non-residential buildings and 25% more efficient for residential buildings than the 2008 Standards.

Non-Residential Energy Efficiency:	34%
Residential Energy Efficiency:	46%

Architectural Coating

Modeling also assumes a VOC of 100 g/L for interior paints used for non-residential buildings pursuant to SCAQMD Rule 1113

CalEEMod Land Use Inputs - Buildout

Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Apartments Lowrise	192	DU	5.00	192,000
Apartments Midrise	5,839	DU	473.20	5,839,000
Junior College	2,151.60	1000BSF	110.66	2,151,600
Elementary School	1,550	Student	5.12	129,585
General Office	2,167.52	1000BSF	120.26	2,167,520
Government Office	40.85	1000BSF	2.10	40,850
High School	1,784	Student	10.28	236,667
Hotel	550	Room	34.70	798,600
Movie Theater	3,500	Seat	7.90	78,750
Park	274.11	Acre	274.11	
Regional Shopping Center	2,872.60	1000BSF	176.64	2,872,600
Retirement Community	644	DU	60.83	644,000
Single Family	1,111	DU	117.01	1,999,800
Supermarket	95.20	1000BSF	2.19	95,200
Right-of-Way	206.00	Acre	206.00	
		Total Acres	**1,606.00**	

Project Location:	Orange County
Climate Zone:	8
Operation Year	2035
Land Use Setting	Urban
Utility Company	SCE
Source Receptor Area:	19

Trip Generation:

Land Use	Amount	Unit	Average Daily Trip*	Trip Generation/Unit
Apartments Lowrise	192	DU	941	4.901
Apartments Midrise	5,839	DU	38,830	6.650
Junior College	2,152	1000BSF	13,170	6.121
Elementary School	1,550	Student	1,824	1.177
General Office	2,168	1000BSF	24,213	11.171
Government Office	41	1000BSF	542	13.268
High School	1,784	Student	3,051	1.710
Hotel	550	Room	4,494	8.171
Movie Theater	3,500	Seat	6,300	1.800
Park	274	Acre	5,110	18.642
Regional Shopping Center	2,873	1000BSF	119,217	41.501
Retirement Community	644	DU	1,796	2.789
Single Family	1,111	DU	10,576	9.519
Supermarket	95	1000BSF	9,733	102.237
		Total Weekday ADTs:	**239,797**	
			1,558,681	
			261	
			406,815,611	

**Stantec. 2016, March 18. Draft Tustin Legacy Specific Plan Update Traffic Impact Study.*

Land Use	ITE Land Use Code	Calculated Weekday Trip Generation Rate	ITE Weekday Trip Rate*	ITE Saturday Trip Rate*	Saturday Percent Adjustment to Weekday	Adjusted Saturday Trip Rate	ITE Sunday Trip Rate*	Sunday Percent Adjustment to Weekday	Adjusted Sunday Trip Rate
Apartments Lowrise	221	4.901	6.59	7.160	109%	5.325	6.07	92%	4.514
Apartments Midrise**	223	6.650	6.59	7.160	109%	7.225	6.07	92%	6.125
Junior College	540	6.121	27.49	11.230	41%	2.501	1.21	4%	0.269
Elementary School	520	1.177	1.29	0.000	0%	0.000	0	0%	0.000
General Office	710	11.171	11.03	2.460	22%	2.491	1.05	10%	1.063
Government Office**	730	13.268	13.27	0.000	0%	0.000	0	0%	0.000
High School	530	1.710	1.71	0.610	36%	0.610	0.25	15%	0.250
Hotel	310	8.171	8.17	8.190	100%	8.191	5.95	73%	5.951
Movie Theater**	443	1.800	1.80	1.800	100%	1.800	1.8	100%	1.800
Park	411	18.642	1.89	1.890	100%	18.642	1.89	100%	18.642
Regional Shopping Center	820	41.501	42.70	49.970	117%	48.567	25.24	59%	24.532
Retirement Community	255	2.789	2.40	2.030	85%	2.359	1.95	81%	2.266
Single Family	210	9.519	9.52	9.91	104%	9.909	8.62	91%	8.619
Supermarket	850	102.237	102.24	177.590	174%	177.585	166.44	163%	166.436

**9th Edition, ITE Handbook*
***Based on CalEEMod default trip generation rates*

Average Trip Length: 6.50 miles per trip*

Total Annual VMT:

Non-Residential:	414,491,849	miles per year
Residential:	123,074,801	miles per year
Total	**537,566,650**	**miles per year**
Adopted Specific Plan Annual VMT:	**552,776,125**	miles per year
Net Change	**-15,209,475**	**miles per year**

**Provided by Stantec and based on the Irvine Traffic Analysis Model 12.4.*

Water Demand

Indoor Water

	Residential/Non-Commercial (gpy)	Commercial (gpy)	Residential/Non-Commercial (% of overall)	Commercial (% of overall)
Potable Water	*645,072,968*	73,539,397	69%	8%
Non-Potable Water	0	220,639,945	0%	23%
Total	**645,072,968**	**294,179,342**	**69%**	**31%**

939,252,310

Wastewater Generation **728,771,410** **gpy**

Indoor Residential/Non-Commercial Potable Water for Outdoor Use:* **210,480,900** **gpy**

**Represents water from indoor source used for outdoor purposes. Water usage of this type would not drain into sewer.*

Adjusted Indoor Water

	Residential/Non-Commercial (gpy)	Commercial (gpy)	Residential/Non-Commercial (% of overall)	Commercial (% of overall)
Potable Water	*434,592,068*	73,539,397	60%	10%
Non-Potable Water	0	220,639,945	0%	30%
Total	**434,592,068**	**294,179,342**	**60%**	**40%**

Outdoor Water	**Total Annual Demand (gpy)**	**% of Overall**
Irrigation Non-Potable Water:	396,783,835	65%
Indoor Potable Water for Outdoor:*	210,480,900	35%
Total	**607,264,735**	**100%**

CalEEMod Inputs*

Land Use	Indoor Potable	Adjusted Indoor Potable**	Indoor Non-Potable	Total Indoor Water	NPW-Irrigation	PW-Outdoor***	Total Outdoor
Apartments Lowrise	*161,268,242*	*91,107,942*	*0*	91,107,942	*28,341,703*	*70,160,300*	98,502,003
Apartments Midrise	*161,268,242*	*91,107,942*	*0*	91,107,942	*28,341,703*	*70,160,300*	98,502,003
Junior College	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
Elementary School	*161,268,242*	*161,268,242*	*0*	161,268,242	*28,341,703*		28,341,703
General Office	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
Government Office	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
High School	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
Hotel	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
Movie Theater	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
Park	*0*	*0*	*0*	0	*28,341,703*		28,341,703
Regional Shopping Center	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
Retirement Community	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
Single Family	*161,268,242*	*91,107,942*	*0*	91,107,942	*28,341,703*	*70,160,300*	98,502,003
Supermarket	*8,171,044*	*8,171,044*	*24,515,549*	32,686,594	*28,341,703*		28,341,703
Totals	**718,612,365**	***508,131,465***	***220,639,945***	**728,771,410**	***396,783,835***	***210,480,900***	**607,264,735**

**For purposes of this analysis, water demand and wastewater generation are proportioned evenly for the applicable land uses.*
***Represents the total Indoor potable water use for residential use subtracted by residential water use that would be utilized for outdoor purposes and not drain into the sewer.*
****Per the City Public Works/Engineering Department, potable indoor water used for outdoor purposes are assumed for residential uses only.*

CalEEMod Water Mitigation Inputs

Model Run	Total Adjusted Indoor (gpy)	Total Non-Potable Indoor (gpy)	Percent Non-Potable Water Indoor (%)	Total Outdoor (gpy)	Total Non-Potable Outdoor (gpy)	Percent Non-Potable Water Outdoor (%)
Non-Residential Model Run	422,760,990.44	196,124,395.56	46%	283,417,025.00	283,417,025	100%
Residential Model Run	306,010,419.555556	24,515,549.44	8%	323,847,710.00	113,366,810	35%
	728,771,410	***220,639,945***		***607,264,735***	***396,783,835***	

Solid Waste*

Residential Solid Waste Rate	5.31	lbs per dwelling unit
Non-Residential Average Waste Rate	6	lbs per 1000 building square feet

Land Use Type	Land Use Amount	Land Use Measurement	Solid Waste (lbs/day)	Solid Waste (tons/day)	Solid Waste (tons/yr)
Residential (DU)	6,813	DU	36,177	18	6,602
Non-Residential (BSF)	9,532,419	BSF	57,195	29	10,438
				Total	**17,040.31**

Land Uses	Solid Waste (tons/yr)
Apartments Lowrise	1,217.16
Apartments Midrise	1,217.16
Junior College	1,217.16
Elementary School	1,217.16
General Office	1,217.16
Government Office	1,217.16
High School	1,217.16
Hotel	1,217.16
Movie Theater	1,217.16
Park	1,217.16
Regional Shopping Center	1,217.16
Retirement Community	1,217.16
Single Family	1,217.16
Supermarket	1,217.16
Right-of-Way	n/a
TOTALs	17,040.31

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*Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study.

Energy Use

Buildings constructed after January 1, 2017 are required to meet the 2016 Building and Energy Efficiency Standards. The 2016 Standards are 5% more energy efficient for non-residential buildings and 28% more energy efficient for residential buildings than the 2013 Building and Energy Efficiency Standards. The 2013 Standards are 30% more efficient for non-residential buildings and 25% more efficient for residential buildings than the 2008 Standards.

Non-Residential Energy Efficiency:	34%
Residential Energy Efficiency:	46%

Architectural Coating

Modeling also assumes a VOC of 100 g/L for interior paints used for non-residential buildings pursuant to SCAQMD Rule 1113

CalEEMod Construction Run Land Use Inputs - Buildout

Type	LandUseUnitAmount	LandUseSizeMetric	LotAcreage	LandUseSquareFeet
Apartments Lowrise	192	DU	5.00	192,000
Apartments Midrise	5,839	DU	473.20	5,839,000
Day Care Center	2,151.60	1000BSF	110.66	2,151,600
Elementary School	1,550	Student	5.12	129,585
General Office	2,167.52	1000BSF	120.26	2,167,520
Government Office	40.85	1000BSF	2.10	40,850
High School	1,784	Student	10.28	236,667
Hotel	550	Room	34.70	798,600
Movie Theater	3,500	Seat	7.90	78,750
Park	274	Acre	274.11	
Regional Shopping Center	2,872.60	1000BSF	176.64	2,872,600
Retirement Community	644	DU	60.83	644,000
Single Family	1,111	DU	117.01	1,999,800
Supermarket	95.20	1000BSF	2.19	95,200
Right-of-Way	206	acre	206.00	
			1,606.00	**17,246,172**
Project Location:	Orange County			
Climate Zone:	8			
Operation Year	2035			
Land Use Setting	Urban			
Utility Company	SCE			
Source Receptor Area:	19			

Building Construction and Architectural Coating Phases Worker and Vendor Trips

Because of the programmatic nature of the Current Specific Plan, CalEEMod defaults are assumed except as noted.

CalEEMod Default Daily Trips			Proportion to Bldg Const. Vendor	
Phase	Worker	Vendor	Worker	Vendor
Building Construction	8,288	2,237	100%	27%
Architectural Coating	1,658	0	20%	

Adjusted Daily Trips*			Proportion to Bldg Const. Vendor	
Phase	Worker	Vendor	Worker	Vendor
Building Construction	460	124	100%	27%
Architectural Coating	92	0	20%	

**Default CalEEMod default daily trips divided by 18-year buildout duration.*

Architectural Coating

Modeling also assumes a VOC of 100 g/L for interior paints used for non-residential buildings pursuant to SCAQMD Rule 1113

CalEEMod Construction Run Land Use Inputs - Current SP Buildout

Type	LandUseUnitAmount	LandUseSizeMetric	LotAcreage	LandUseSquareFeet
Apartments Lowrise	1,641	DU	138.80	1,641,000
Apartments Midrise	2,054	DU	122.76	2,054,000
Condo/Townhouse	1,033	DU	93.61	1,033,000
Congregate Care	159.00	1000BSF	54.75	158,990
Junior College	2,151.60	1000BSF	107.93	2,151,600
Elementary School	2,400	Student	38.10	200,648.09
General Office	2,731.19	1000BSF	185.44	2,731,190
Government Office	40.85	1000BSF	2.05	40,850
Health Club	30.00	1000BSF	1.15	30,000
High School	1,850	Student	9.39	245,422.81
High Turnover Restaurant	18.00	1000bsf	0.69	18,000
Hotel	500	Room	27.77	726,000
Light Industrial	627.05	1000BSF	33.77	627,050
Movie Theater	4,500	Seat	8.76	101,250
Office Park	2,343.75	1000BSF	102.79	2,343,750
Park	276.61	Acre	276.61	12,049,132
Regional Shopping Center	1,368.08	1000BSF	154.26	1,368,080
Retirement Community	240	DU	23.67	240,000
Supermarket	207.24	1000BSF	17.71	207,240
Right-of-Way	206.00	Acre	206.00	0
		Total Acres	**1,606.00**	

Project Location:	Orange County
Climate Zone:	8
Operation Year	2035
Land Use Setting	Urban
Utility Company	SCE
Source Receptor Area:	19

Building Construction and Architectural Coating Phases Worker and Vendor Trips

CalEEMod Default Daily Trips			Proportion to Bldg Const. Vendor	
Phase	Worker	Vendor	Worker	Vendor
Building Construction	7,555	2,317	100%	31%
Architectural Coating	1,511	0	20%	

Adjusted Daily Trips*			Proportion to Bldg Const. Vendor	
Phase	Worker	Vendor	Worker	Vendor
Building Construction	420	129	100%	31%
Architectural Coating	84	0	20%	

**Default CalEEMod default daily trips divided by 18-year buildout duration.*

Construction Phasing and Equipment

Because of the programmatic nature of the Anaheim Canyon Specific Plan, CalEEMod defaults are assumed except as noted.

Assumed number of Building Construction phase daily number of worker trips: 1,000 daily worker trips

	CalEEMod Default Daily Trips		Proportion to Bldg Const. Vendor Trips		Adjusted Daily Trips	
Phase	Worker	Vendor	Worker	Vendor	Worker	Vendor
Building Construction	14,219	5,739	100%	40%	1,000	404
Architectural Coating	2,844	0	20%		200	

Architectural Coating

Modeling also assumes a VOC of 100 g/L for interior paints used for non-residential buildings pursuant to SCAQMD Rule 1113

Construction Phasing

5-Day Work Week

CalEEMod Default Schedule

Phase Name*	Start Date	End Date	CalEEMod Days
Demolition	1/1/2017	4/30/2055	10,000
Site Preparation	5/1/2055	4/29/2078	6,000
Grading	4/30/2078	9/27/2137	15,500
Building Construction	9/28/2137	11/13/2731	155,000
Paving	11/14/2731	1/11/2774	11,000
Architectural Coating	1/12/2774	3/11/2816	11,000

Adjusted for 18 Year Construction Schedule*

Phase Name	Start Date	End Date	CalEEMod Days*	Duration (Mos)
Demolition	1/1/2017	11/15/2017	228	10.4
Site Preparation	1/1/2017	7/11/2017	137	6.2
Grading	1/1/2017	5/9/2018	353	16.0
Building Construction	1/1/2017	7/17/2030	3,533	160.6
Paving	1/1/2017	10/9/2023	1,767	80.3
Architectural Coating*	1/1/2017	12/18/2017	251	11.4

*Based on CalEEMod default construction schedule and adjusted for assumed 18-year full buildout.

Construction Equipment Mix

Type of Equipment	Pieces of Equipment	Hrs Op	HP*	LF*	Worker Trips/ Day	CalEEMod Vendor Trips	Total Haul Trips	1-way Haul Trip
Demolition	**Default**	**Default**			**Default**	**Default**	**Default**	**Default**
Concrete/Industrial Saws	**1**	8	**81**	**0.73**				
Excavators	**3**	8	**162**	**0.38**				
Rubber Tired Dozers	**2**	8	**255**	**0.40**				
Site Preparation	**Default**	**Default**			**Default**	**Default**	**Default**	**Default**
Rubber Tired Dozers	**3**	8	**255**	**0.40**				
Tractors/Loaders/Backhoes	**4**	8	**97**	**0.37**				
Grading	**Default**	**Default**			**Default**	**Default**	**Default**	**Default**
Excavators	**2**	8	**162**	**0.38**				
Graders	**1**	8	**174**	**0.41**				
Rubber Tired Dozers	**1**	8	**255**	**0.40**				
Scrapers	**2**	8	**361**	**0.48**				
Tractors/Loaders/Backhoes	**2**	8	**97**	**0.37**				
Building Construction	**Default**	**Default**			**Default**	**Default**	**Default**	**Default**
Cranes	**1**	7	**226**	**0.29**				
Forklifts	**3**	8	**89**	**0.20**				
Generator Sets	**1**	8	**84**	**0.74**				
Tractors/Loaders/Backhoes	**3**	7	**97**	**0.37**				
Welders	**1**	8	**46**	**0.45**				
Paving	**Default**	**Default**			**Default**	**Default**	**Default**	**Default**
Pavers	**2**	8	**125**	**0.42**				
Paving Equipment	**2**	8	**130**	**0.36**				
Rollers	**2**	8	**80**	**0.38**				
Architectural Coating	**Default**	**Default**			**Default**	**Default**	**Default**	**Default**
Air Compressors	**1**	6	**78**	**0.48**				

CalEEMod Output: Construction – Proposed Plan

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Construction

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,167.52	1000sqft	120.26	2,167,520.00	0
Government Office Building	40.85	1000sqft	2.10	40,850.00	0
Day-Care Center	2,151.60	1000sqft	110.66	2,151,600.00	0
Elementary School	1,550.00	Student	5.12	129,585.22	0
High School	1,784.00	Student	10.28	236,667.18	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	274.11	Acre	274.11	0.00	0
Hotel	550.00	Room	34.70	798,600.00	0
Movie Theater (No Matinee)	3,500.00	Seat	7.90	78,750.00	0
Apartments Low Rise	192.00	Dwelling Unit	5.00	192,000.00	549
Apartments Mid Rise	5,839.00	Dwelling Unit	473.20	5,839,000.00	16700
Retirement Community	644.00	Dwelling Unit	60.83	644,000.00	1842
Single Family Housing	1,111.00	Dwelling Unit	117.01	1,999,800.00	3177
Regional Shopping Center	2,872.60	1000sqft	176.64	2,872,600.00	0
Supermarket	95.20	1000sqft	2.19	95,200.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 30

Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the proposed land land use buildout.

Construction Phase - Based on a CalEEMod default schedule normalized to an 18.5-year buildout shedule (2035).

Architectural Coating - Based on SCAQMD Rule 1113.

Trips and VMT - Default CalEEMod default daily trips divided by 18-year buildout duration.

Construction Off-road Equipment Mitigation - Per Mitigation Measure AQ-1 which requires conformance with SCAQMD Rules 403. SCAQMD Rule 1186 also applies.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	11,000.00	251.00
tblConstructionPhase	NumDays	155,000.00	3,533.00
tblConstructionPhase	NumDays	10,000.00	228.00
tblConstructionPhase	NumDays	15,500.00	353.00
tblConstructionPhase	NumDays	11,000.00	1,767.00
tblConstructionPhase	NumDays	6,000.00	137.00
tblConstructionPhase	PhaseEndDate	9/25/2024	12/18/2017
tblConstructionPhase	PhaseEndDate	11/24/2031	7/17/2030
tblConstructionPhase	PhaseEndDate	11/16/2018	5/9/2018
tblConstructionPhase	PhaseEndDate	4/24/2037	10/10/2023

tblConstructionPhase	PhaseEndDate	5/25/2018	7/11/2017
tblConstructionPhase	PhaseStartDate	10/11/2023	1/1/2017
tblConstructionPhase	PhaseStartDate	5/10/2018	1/1/2017
tblConstructionPhase	PhaseStartDate	7/12/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	7/18/2030	1/1/2017
tblConstructionPhase	PhaseStartDate	11/16/2017	1/1/2017
tblGrading	AcresOfGrading	882.50	38,750.00
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	11,940,231.60	0.00
tblLandUse	LotAcreage	49.76	120.26
tblLandUse	LotAcreage	0.94	2.10
tblLandUse	LotAcreage	49.39	110.66
tblLandUse	LotAcreage	2.97	5.12
tblLandUse	LotAcreage	5.43	10.28
tblLandUse	LotAcreage	18.33	34.70
tblLandUse	LotAcreage	1.81	7.90
tblLandUse	LotAcreage	12.00	5.00
tblLandUse	LotAcreage	153.66	473.20
tblLandUse	LotAcreage	128.80	60.83
tblLandUse	LotAcreage	360.71	117.01
tblLandUse	LotAcreage	65.95	176.64
tblProjectCharacteristics	OperationalYear	2014	2035
tblTripsAndVMT	VendorTripNumber	2,237.00	124.00
tblTripsAndVMT	WorkerTripNumber	8,288.00	460.00
tblTripsAndVMT	WorkerTripNumber	1,658.00	92.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	610.6780	225.6875	198.4288	0.2990	148.2083	11.4902	159.6985	27.8696	10.6437	38.5134	0.0000	28,582.5721	28,582.5721	5.9726	0.0000	28,707.9976
2018	12.4039	111.1383	109.4141	0.2010	128.7448	5.4027	134.1474	17.5684	5.0007	22.5690	0.0000	18,567.7684	18,567.7684	3.5195	0.0000	18,641.6787
2019	6.3882	46.1894	63.6877	0.1370	6.0845	2.2653	8.3498	1.6288	2.1103	3.7391	0.0000	11,907.2910	11,907.2910	1.5555	0.0000	11,939.9555
2020	5.9030	41.9555	61.5936	0.1370	6.0845	2.0111	8.0957	1.6289	1.8732	3.5020	0.0000	11,579.7998	11,579.7998	1.5367	0.0000	11,612.0695
2021	5.4929	37.8657	60.0213	0.1370	6.0846	1.7684	7.8530	1.6289	1.6465	3.2754	0.0000	11,505.1123	11,505.1123	1.5217	0.0000	11,537.0672
2022	5.0751	33.6419	58.5490	0.1370	6.0847	1.5107	7.5954	1.6289	1.4070	3.0359	0.0000	11,434.0169	11,434.0169	1.5108	0.0000	11,465.7426
2023	4.7586	30.2507	57.1518	0.1369	6.0847	1.3440	7.4287	1.6289	1.2514	2.8803	0.0000	11,359.0969	11,359.0969	1.4982	0.0000	11,390.5596
2024	3.2404	19.1647	41.3494	0.1126	5.9171	0.7583	6.6754	1.5845	0.7105	2.2950	0.0000	9,009.5535	9,009.5535	0.7845	0.0000	9,026.0284
2025	3.0766	18.1072	40.4298	0.1126	5.9172	0.6736	6.5909	1.5845	0.6309	2.2155	0.0000	8,961.5967	8,961.5967	0.7765	0.0000	8,977.9031
2026	3.0140	17.9239	39.7168	0.1126	5.9173	0.6694	6.5868	1.5846	0.6271	2.2116	0.0000	8,918.9025	8,918.9025	0.7719	0.0000	8,935.1124
2027	2.9724	17.8481	39.1910	0.1126	5.9175	0.6701	6.5875	1.5846	0.6277	2.2123	0.0000	8,882.6912	8,882.6912	0.7684	0.0000	8,898.8267
2028	2.9322	17.7694	38.7358	0.1126	5.9176	0.6697	6.5873	1.5847	0.6273	2.2120	0.0000	8,851.6342	8,851.6342	0.7651	0.0000	8,867.7020
2029	2.8953	17.7138	38.3094	0.1126	5.9177	0.6701	6.5878	1.5847	0.6277	2.2124	0.0000	8,825.1928	8,825.1928	0.7622	0.0000	8,841.1980
2030	2.7976	13.1686	37.9798	0.1166	5.9178	0.2931	6.2108	1.5847	0.2817	1.8665	0.0000	9,141.5430	9,141.5430	0.2776	0.0000	9,147.3734

Total	**671.6283**	**648.4248**	**884.5581**	**1.9767**	**348.7982**	**30.1966**	**378.9948**	**64.6747**	**28.0658**	**92.7404**	**0.0000**	**167,526.7713**	**167,526.7713**	**22.0211**	**0.0000**	**167,989.2147**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	610.6780	225.6875	198.4288	0.2990	67.1772	11.4902	78.6673	12.9473	10.6437	23.5910	0.0000	28,582.5721	28,582.5721	5.9726	0.0000	28,707.9976
2018	12.4039	111.1383	109.4141	0.2010	58.1659	5.4027	63.5686	8.3582	5.0007	13.3588	0.0000	18,567.7684	18,567.7684	3.5195	0.0000	18,641.6786
2019	6.3882	46.1894	63.6877	0.1370	5.6182	2.2653	7.8834	1.5144	2.1103	3.6247	0.0000	11,907.2910	11,907.2910	1.5555	0.0000	11,939.9555
2020	5.9030	41.9555	61.5936	0.1370	5.6182	2.0111	7.6293	1.5144	1.8732	3.3875	0.0000	11,579.7998	11,579.7998	1.5367	0.0000	11,612.0695
2021	5.4929	37.8657	60.0213	0.1370	5.6183	1.7684	7.3866	1.5144	1.6465	3.1609	0.0000	11,505.1123	11,505.1123	1.5217	0.0000	11,537.0672
2022	5.0751	33.6419	58.5490	0.1370	5.6183	1.5107	7.1291	1.5144	1.4070	2.9215	0.0000	11,434.0169	11,434.0169	1.5108	0.0000	11,465.7426
2023	4.7586	30.2507	57.1518	0.1369	5.6184	1.3440	6.9624	1.5145	1.2514	2.7659	0.0000	11,359.0969	11,359.0969	1.4982	0.0000	11,390.5596
2024	3.2404	19.1647	41.3494	0.1126	5.4639	0.7583	6.2222	1.4732	0.7105	2.1838	0.0000	9,009.5535	9,009.5535	0.7845	0.0000	9,026.0284
2025	3.0766	18.1072	40.4298	0.1126	5.4640	0.6736	6.1377	1.4733	0.6309	2.1042	0.0000	8,961.5967	8,961.5967	0.7765	0.0000	8,977.9031
2026	3.0140	17.9239	39.7168	0.1126	5.4641	0.6694	6.1336	1.4733	0.6271	2.1004	0.0000	8,918.9025	8,918.9025	0.7719	0.0000	8,935.1124
2027	2.9724	17.8481	39.1910	0.1126	5.4643	0.6701	6.1343	1.4734	0.6277	2.1010	0.0000	8,882.6912	8,882.6912	0.7684	0.0000	8,898.8267
2028	2.9322	17.7694	38.7358	0.1126	5.4644	0.6697	6.1341	1.4734	0.6273	2.1007	0.0000	8,851.6342	8,851.6342	0.7651	0.0000	8,867.7020
2029	2.8953	17.7138	38.3094	0.1126	5.4645	0.6701	6.1346	1.4735	0.6277	2.1012	0.0000	8,825.1928	8,825.1928	0.7622	0.0000	8,841.1980

2030	2.7976	13.1686	37.9798	0.1166	5.4646	0.2931	5.7576	1.4735	0.2817	1.7552	0.0000	9,141.5430	9,141.5430	0.2776	0.0000	9,147.3734
Total	**671.6283**	**648.4248**	**884.5581**	**1.9767**	**191.6841**	**30.1966**	**221.8807**	**39.1911**	**28.0658**	**67.2568**	**0.0000**	**167,526.7712**	**167,526.7712**	**22.0211**	**0.0000**	**167,989.2147**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**45.04**	**0.00**	**41.46**	**39.40**	**0.00**	**27.48**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	11/15/2017	5	228	
2	Site Preparation	Site Preparation	1/1/2017	7/11/2017	5	137	
3	Grading	Grading	1/1/2017	5/9/2018	5	353	
4	Building Construction	Building Construction	1/1/2017	7/17/2030	5	3533	
5	Paving	Paving	1/1/2017	10/10/2023	5	1767	
6	Architectural Coating	Architectural Coating	1/1/2017	12/18/2017	5	251	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38750

Acres of Paving: 0

Residential Indoor: 17,566,470; Residential Outdoor: 5,855,490; Non-Residential Indoor: 12,857,059; Non-Residential Outdoor: 4,285,686

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73

Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	460.00	124.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Architectural Coating	1	92.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797		4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**		**2.1252**	**2.1252**		**1.9797**	**1.9797**		**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0671	0.7054	1.9300e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797	0.0000	4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**		**2.1252**	**2.1252**		**1.9797**	**1.9797**	**0.0000**	**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0671	0.7054	1.9300e-003	0.1546	1.1500e-003	0.1557	0.0413	1.0600e-003	0.0423		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1546**	**1.1500e-003**	**0.1557**	**0.0413**	**1.0600e-003**	**0.0423**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0598	0.0806	0.8465	2.3100e-003	0.2012	1.3700e-003	0.2026	0.0534	1.2700e-003	0.0546		185.9347	185.9347	8.9100e-003		186.1218
Total	**0.0598**	**0.0806**	**0.8465**	**2.3100e-003**	**0.2012**	**1.3700e-003**	**0.2026**	**0.0534**	**1.2700e-003**	**0.0546**		**185.9347**	**185.9347**	**8.9100e-003**		**186.1218**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.7233	0.0000	7.7233	4.2454	0.0000	4.2454			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339	0.0000	4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**7.7233**	**2.7542**	**10.4776**	**4.2454**	**2.5339**	**6.7793**	**0.0000**	**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0598	0.0806	0.8465	2.3100e-003	0.1855	1.3700e-003	0.1868	0.0495	1.2700e-003	0.0508		185.9347	185.9347	8.9100e-003		186.1218

Total	**0.0598**	**0.0806**	**0.8465**	**2.3100e-003**	**0.1855**	**1.3700e-003**	**0.1868**	**0.0495**	**1.2700e-003**	**0.0508**		**185.9347**	**185.9347**	**8.9100e-003**		**186.1218**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					122.4368	0.0000	122.4368	15.8803	0.0000	15.8803			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518		6,313.3690	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**122.4368**	**3.3172**	**125.7540**	**15.8803**	**3.0518**	**18.9321**		**6,313.3690**	**6,313.3690**	**1.9344**		**6,353.9915**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0664	0.0895	0.9406	2.5700e-003	0.2236	1.5300e-003	0.2251	0.0593	1.4100e-003	0.0607		206.5941	206.5941	9.9000e-003		206.8020
Total	**0.0664**	**0.0895**	**0.9406**	**2.5700e-003**	**0.2236**	**1.5300e-003**	**0.2251**	**0.0593**	**1.4100e-003**	**0.0607**		**206.5941**	**206.5941**	**9.9000e-003**		**206.8020**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					52.3417	0.0000	52.3417	6.7888	0.0000	6.7888			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518	0.0000	6,313.3690	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**52.3417**	**3.3172**	**55.6589**	**6.7888**	**3.0518**	**9.8406**	**0.0000**	**6,313.3690**	**6,313.3690**	**1.9344**		**6,353.9915**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0664	0.0895	0.9406	2.5700e-003	0.2061	1.5300e-003	0.2076	0.0550	1.4100e-003	0.0564		206.5941	206.5941	9.9000e-003		206.8020
Total	**0.0664**	**0.0895**	**0.9406**	**2.5700e-003**	**0.2061**	**1.5300e-003**	**0.2076**	**0.0550**	**1.4100e-003**	**0.0564**		**206.5941**	**206.5941**	**9.9000e-003**		**206.8020**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					122.4368	0.0000	122.4368	15.8803	0.0000	15.8803			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650		6,212.8042	6,212.8042	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**122.4368**	**2.7880**	**125.2248**	**15.8803**	**2.5650**	**18.4453**		**6,212.8042**	**6,212.8042**	**1.9341**		**6,253.4209**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0605	0.0817	0.8587	2.5700e-003	0.2236	1.5100e-003	0.2251	0.0593	1.4000e-003	0.0607		198.8451	198.8451	9.2400e-003		199.0392
Total	**0.0605**	**0.0817**	**0.8587**	**2.5700e-003**	**0.2236**	**1.5100e-003**	**0.2251**	**0.0593**	**1.4000e-003**	**0.0607**		**198.8451**	**198.8451**	**9.2400e-003**		**199.0392**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					52.3417	0.0000	52.3417	6.7888	0.0000	6.7888			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650	0.0000	6,212.8041	6,212.8041	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**52.3417**	**2.7880**	**55.1298**	**6.7888**	**2.5650**	**9.3538**	**0.0000**	**6,212.8041**	**6,212.8041**	**1.9341**		**6,253.4209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0605	0.0817	0.8587	2.5700e-003	0.2061	1.5100e-003	0.2076	0.0550	1.4000e-003	0.0564		198.8451	198.8451	9.2400e-003		199.0392
Total	**0.0605**	**0.0817**	**0.8587**	**2.5700e-003**	**0.2061**	**1.5100e-003**	**0.2076**	**0.0550**	**1.4000e-003**	**0.0564**		**198.8451**	**198.8451**	**9.2400e-003**		**199.0392**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1054	9.9828	14.4513	0.0266	0.7751	0.1533	0.9284	0.2208	0.1409	0.3617		2,622.9214	2,622.9214	0.0191		2,623.3220
Worker	1.5273	2.0589	21.6333	0.0591	5.1417	0.0351	5.1768	1.3636	0.0324	1.3961		4,751.6637	4,751.6637	0.2278		4,756.4467
Total	**2.6327**	**12.0417**	**36.0845**	**0.0857**	**5.9168**	**0.1884**	**6.1052**	**1.5844**	**0.1734**	**1.7578**		**7,374.5851**	**7,374.5851**	**0.2468**		**7,379.7686**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1054	9.9828	14.4513	0.0266	0.7242	0.1533	0.8775	0.2083	0.1409	0.3492		2,622.9214	2,622.9214	0.0191		2,623.3220
Worker	1.5273	2.0589	21.6333	0.0591	4.7394	0.0351	4.7745	1.2649	0.0324	1.2973		4,751.6637	4,751.6637	0.2278		4,756.4467
Total	**2.6327**	**12.0417**	**36.0845**	**0.0857**	**5.4636**	**0.1884**	**5.6520**	**1.4731**	**0.1734**	**1.6465**		**7,374.5851**	**7,374.5851**	**0.2468**		**7,379.7686**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517

Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0309	9.1594	13.8275	0.0266	0.7751	0.1444	0.9194	0.2207	0.1328	0.3535		2,578.3392	2,578.3392	0.0190		2,578.7380
Worker	1.3920	1.8786	19.7500	0.0591	5.1417	0.0347	5.1764	1.3636	0.0321	1.3958		4,573.4377	4,573.4377	0.2126		4,577.9013
Total	**2.4229**	**11.0380**	**33.5775**	**0.0856**	**5.9168**	**0.1791**	**6.0959**	**1.5843**	**0.1649**	**1.7493**		**7,151.7769**	**7,151.7769**	**0.2315**		**7,156.6393**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0309	9.1594	13.8275	0.0266	0.7242	0.1444	0.8685	0.2082	0.1328	0.3410		2,578.3392	2,578.3392	0.0190		2,578.7380
Worker	1.3920	1.8786	19.7500	0.0591	4.7394	0.0347	4.7741	1.2649	0.0321	1.2970		4,573.4377	4,573.4377	0.2126		4,577.9013
Total	**2.4229**	**11.0380**	**33.5775**	**0.0856**	**5.4636**	**0.1791**	**5.6426**	**1.4731**	**0.1649**	**1.6380**		**7,151.7769**	**7,151.7769**	**0.2315**		**7,156.6393**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083		2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**		**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9618	8.4914	13.2134	0.0266	0.7751	0.1346	0.9098	0.2208	0.1238	0.3446		2,542.5189	2,542.5189	0.0191		2,542.9205
Worker	1.3011	1.7409	18.3892	0.0593	5.1417	0.0350	5.1767	1.3636	0.0325	1.3961		4,430.5624	4,430.5624	0.2029		4,434.8233
Total	**2.2628**	**10.2323**	**31.6026**	**0.0859**	**5.9168**	**0.1697**	**6.0865**	**1.5844**	**0.1563**	**1.7407**		**6,973.0813**	**6,973.0813**	**0.2220**		**6,977.7438**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083	0.0000	2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**	**0.0000**	**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9618	8.4914	13.2134	0.0266	0.7242	0.1346	0.8589	0.2083	0.1238	0.3321		2,542.5189	2,542.5189	0.0191		2,542.9205
Worker	1.3011	1.7409	18.3892	0.0593	4.7394	0.0350	4.7744	1.2649	0.0325	1.2973		4,430.5624	4,430.5624	0.2029		4,434.8233
Total	**2.2628**	**10.2323**	**31.6026**	**0.0859**	**5.4636**	**0.1697**	**5.6333**	**1.4731**	**0.1563**	**1.6294**		**6,973.0813**	**6,973.0813**	**0.2220**		**6,977.7438**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465		2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**		**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8854	7.4089	12.6293	0.0266	0.7752	0.1229	0.8981	0.2208	0.1131	0.3339		2,484.7711	2,484.7711	0.0188		2,485.1655
Worker	1.2308	1.6252	17.2413	0.0593	5.1417	0.0352	5.1769	1.3636	0.0326	1.3962		4,253.1034	4,253.1034	0.1933		4,257.1629
Total	**2.1162**	**9.0341**	**29.8706**	**0.0859**	**5.9169**	**0.1581**	**6.0750**	**1.5844**	**0.1457**	**1.7301**		**6,737.8746**	**6,737.8746**	**0.2121**		**6,742.3283**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465	0.0000	2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**	**0.0000**	**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8854	7.4089	12.6293	0.0266	0.7243	0.1229	0.8472	0.2083	0.1131	0.3214		2,484.7711	2,484.7711	0.0188		2,485.1655
Worker	1.2308	1.6252	17.2413	0.0593	4.7394	0.0352	4.7746	1.2649	0.0326	1.2975		4,253.1034	4,253.1034	0.1933		4,257.1629
Total	**2.1162**	**9.0341**	**29.8706**	**0.0859**	**5.4637**	**0.1581**	**5.6218**	**1.4731**	**0.1457**	**1.6189**		**6,737.8746**	**6,737.8746**	**0.2121**		**6,742.3283**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979		2,542.7817	2,542.7817	0.6126		2,555.6462
Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**		**2,542.7817**	**2,542.7817**	**0.6126**		**2,555.6462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8547	6.2886	12.3336	0.0265	0.7752	0.1117	0.8869	0.2208	0.1027	0.3235		2,482.6777	2,482.6777	0.0189		2,483.0749
Worker	1.1707	1.5264	16.2668	0.0594	5.1417	0.0355	5.1772	1.3636	0.0329	1.3965		4,182.9978	4,182.9978	0.1854		4,186.8920
Total	**2.0254**	**7.8150**	**28.6004**	**0.0859**	**5.9169**	**0.1471**	**6.0641**	**1.5844**	**0.1356**	**1.7200**		**6,665.6755**	**6,665.6755**	**0.2044**		**6,669.9669**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979	0.0000	2,542.7817	2,542.7817	0.6126		2,555.6462
Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**	**0.0000**	**2,542.7817**	**2,542.7817**	**0.6126**		**2,555.6462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.8547	6.2886	12.3336	0.0265	0.7243	0.1117	0.8360	0.2083	0.1027	0.3110		2,482.6777	2,482.6777	0.0189		2,483.0749
Worker	1.1707	1.5264	16.2668	0.0594	4.7394	0.0355	4.7749	1.2649	0.0329	1.2978		4,182.9978	4,182.9978	0.1854		4,186.8920
Total	**2.0254**	**7.8150**	**28.6004**	**0.0859**	**5.4637**	**0.1471**	**5.6109**	**1.4732**	**0.1356**	**1.6088**		**6,665.6755**	**6,665.6755**	**0.2044**		**6,669.9669**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581		2,543.7497	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**		**2,543.7497**	**2,543.7497**	**0.6085**		**2,556.5286**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8369	5.7082	12.0564	0.0265	0.7753	0.1104	0.8857	0.2208	0.1016	0.3224		2,480.5891	2,480.5891	0.0193		2,480.9951

Worker	1.1157	1.4397	15.3820	0.0594	5.1417	0.0358	5.1775	1.3636	0.0332	1.3968		4,114.8126	4,114.8126	0.1783		4,118.5563
Total	**1.9526**	**7.1478**	**27.4383**	**0.0859**	**5.9170**	**0.1462**	**6.0632**	**1.5844**	**0.1348**	**1.7192**		**6,595.4017**	**6,595.4017**	**0.1976**		**6,599.5514**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581	0.0000	2,543.7497	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**	**0.0000**	**2,543.7497**	**2,543.7497**	**0.6085**		**2,556.5286**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8369	5.7082	12.0564	0.0265	0.7244	0.1104	0.8348	0.2083	0.1016	0.3099		2,480.5891	2,480.5891	0.0193		2,480.9951
Worker	1.1157	1.4397	15.3820	0.0594	4.7394	0.0358	4.7752	1.2649	0.0332	1.2980		4,114.8126	4,114.8126	0.1783		4,118.5563

Total	**1.9526**	**7.1478**	**27.4383**	**0.0859**	**5.4638**	**0.1462**	**5.6100**	**1.4732**	**0.1348**	**1.6080**		**6,595.4017**	**6,595.4017**	**0.1976**		**6,599.5514**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557		2,544.6262	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**		**2,544.6262**	**2,544.6262**	**0.6044**		**2,557.3191**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7754	4.5321	11.5999	0.0264	0.7753	0.1090	0.8843	0.2208	0.1003	0.3211		2,468.6638	2,468.6638	0.0174		2,469.0300
Worker	1.0642	1.3633	14.5821	0.0594	5.1417	0.0361	5.1778	1.3636	0.0334	1.3971		4,053.0290	4,053.0290	0.1720		4,056.6404
Total	**1.8396**	**5.8954**	**26.1820**	**0.0858**	**5.9171**	**0.1451**	**6.0621**	**1.5845**	**0.1337**	**1.7182**		**6,521.6928**	**6,521.6928**	**0.1894**		**6,525.6704**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557	0.0000	2,544.6262	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**	**0.0000**	**2,544.6262**	**2,544.6262**	**0.6044**		**2,557.3191**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7754	4.5321	11.5999	0.0264	0.7244	0.1090	0.8334	0.2084	0.1003	0.3086		2,468.6638	2,468.6638	0.0174		2,469.0300
Worker	1.0642	1.3633	14.5821	0.0594	4.7394	0.0361	4.7755	1.2649	0.0334	1.2983		4,053.0290	4,053.0290	0.1720		4,056.6404
Total	**1.8396**	**5.8954**	**26.1820**	**0.0858**	**5.4638**	**0.1451**	**5.6089**	**1.4732**	**0.1337**	**1.6069**		**6,521.6928**	**6,521.6928**	**0.1894**		**6,525.6704**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744		2,545.1154	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**		**2,545.1154**	**2,545.1154**	**0.6009**		**2,557.7349**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7602	4.4932	11.4099	0.0264	0.7754	0.1114	0.8869	0.2209	0.1025	0.3234		2,468.1527	2,468.1527	0.0175		2,468.5206
Worker	1.0149	1.2941	13.8063	0.0594	5.1417	0.0363	5.1780	1.3636	0.0337	1.3973		3,996.2854	3,996.2854	0.1661		3,999.7729
Total	**1.7751**	**5.7873**	**25.2162**	**0.0857**	**5.9171**	**0.1477**	**6.0649**	**1.5845**	**0.1362**	**1.7207**		**6,464.4381**	**6,464.4381**	**0.1836**		**6,468.2935**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744	0.0000	2,545.1154	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**	**0.0000**	**2,545.1154**	**2,545.1154**	**0.6009**		**2,557.7349**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7602	4.4932	11.4099	0.0264	0.7245	0.1114	0.8360	0.2084	0.1025	0.3109		2,468.1527	2,468.1527	0.0175		2,468.5206
Worker	1.0149	1.2941	13.8063	0.0594	4.7394	0.0363	4.7757	1.2649	0.0337	1.2985		3,996.2854	3,996.2854	0.1661		3,999.7729
Total	**1.7751**	**5.7873**	**25.2162**	**0.0857**	**5.4639**	**0.1477**	**5.6117**	**1.4732**	**0.1362**	**1.6094**		**6,464.4381**	**6,464.4381**	**0.1836**		**6,468.2935**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7408	4.4597	11.1413	0.0264	0.7755	0.1120	0.8875	0.2209	0.1030	0.3240		2,468.3721	2,468.3721	0.0176		2,468.7414
Worker	0.9744	1.2378	13.2367	0.0594	5.1417	0.0366	5.1784	1.3636	0.0340	1.3976		3,947.3340	3,947.3340	0.1614		3,950.7232
Total	**1.7152**	**5.6975**	**24.3780**	**0.0857**	**5.9172**	**0.1486**	**6.0659**	**1.5845**	**0.1370**	**1.7216**		**6,415.7062**	**6,415.7062**	**0.1790**		**6,419.4646**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7408	4.4597	11.1413	0.0264	0.7246	0.1120	0.8366	0.2084	0.1030	0.3115		2,468.3721	2,468.3721	0.0176		2,468.7414
Worker	0.9744	1.2378	13.2367	0.0594	4.7394	0.0366	4.7761	1.2649	0.0340	1.2989		3,947.3340	3,947.3340	0.1614		3,950.7232
Total	**1.7152**	**5.6975**	**24.3780**	**0.0857**	**5.4640**	**0.1486**	**5.6127**	**1.4733**	**0.1370**	**1.6103**		**6,415.7062**	**6,415.7062**	**0.1790**		**6,419.4646**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386

Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7154	4.3249	10.9204	0.0264	0.7756	0.1074	0.8830	0.2210	0.0988	0.3198		2,468.1299	2,468.1299	0.0171		2,468.4883
Worker	0.9371	1.1894	12.7446	0.0594	5.1417	0.0370	5.1788	1.3636	0.0344	1.3980		3,904.8820	3,904.8820	0.1573		3,908.1856
Total	**1.6525**	**5.5143**	**23.6650**	**0.0857**	**5.9173**	**0.1444**	**6.0618**	**1.5846**	**0.1332**	**1.7177**		**6,373.0119**	**6,373.0119**	**0.1744**		**6,376.6738**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7154	4.3249	10.9204	0.0264	0.7247	0.1074	0.8321	0.2085	0.0988	0.3073		2,468.1299	2,468.1299	0.0171		2,468.4883
Worker	0.9371	1.1894	12.7446	0.0594	4.7394	0.0370	4.7765	1.2649	0.0344	1.2992		3,904.8820	3,904.8820	0.1573		3,908.1856
Total	**1.6525**	**5.5143**	**23.6650**	**0.0857**	**5.4641**	**0.1444**	**5.6086**	**1.4733**	**0.1332**	**1.6065**		**6,373.0119**	**6,373.0119**	**0.1744**		**6,376.6738**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7084	4.2916	10.8233	0.0264	0.7757	0.1077	0.8834	0.2210	0.0991	0.3201		2,468.6285	2,468.6285	0.0171		2,468.9877
Worker	0.9025	1.1468	12.3160	0.0594	5.1417	0.0374	5.1791	1.3636	0.0347	1.3983		3,868.1721	3,868.1721	0.1537		3,871.4005
Total	**1.6109**	**5.4384**	**23.1392**	**0.0857**	**5.9175**	**0.1451**	**6.0625**	**1.5846**	**0.1338**	**1.7184**		**6,336.8007**	**6,336.8007**	**0.1708**		**6,340.3882**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7084	4.2916	10.8233	0.0264	0.7248	0.1077	0.8325	0.2085	0.0991	0.3076		2,468.6285	2,468.6285	0.0171		2,468.9877
Worker	0.9025	1.1468	12.3160	0.0594	4.7394	0.0374	4.7768	1.2649	0.0347	1.2995		3,868.1721	3,868.1721	0.1537		3,871.4005
Total	**1.6109**	**5.4384**	**23.1392**	**0.0857**	**5.4643**	**0.1451**	**5.6093**	**1.4734**	**0.1338**	**1.6071**		**6,336.8007**	**6,336.8007**	**0.1708**		**6,340.3882**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7000	4.2509	10.7403	0.0264	0.7759	0.1070	0.8829	0.2211	0.0985	0.3195		2,468.9234	2,468.9234	0.0170		2,469.2811
Worker	0.8708	1.1088	11.9437	0.0594	5.1417	0.0377	5.1794	1.3636	0.0350	1.3986		3,836.8202	3,836.8202	0.1506		3,839.9824
Total	**1.5708**	**5.3597**	**22.6840**	**0.0857**	**5.9176**	**0.1447**	**6.0623**	**1.5847**	**0.1334**	**1.7181**		**6,305.7436**	**6,305.7436**	**0.1676**		**6,309.2635**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7000	4.2509	10.7403	0.0264	0.7249	0.1070	0.8320	0.2086	0.0985	0.3070		2,468.9234	2,468.9234	0.0170		2,469.2811
Worker	0.8708	1.1088	11.9437	0.0594	4.7394	0.0377	4.7771	1.2649	0.0350	1.2998		3,836.8202	3,836.8202	0.1506		3,839.9824
Total	**1.5708**	**5.3597**	**22.6840**	**0.0857**	**5.4644**	**0.1447**	**5.6091**	**1.4734**	**0.1334**	**1.6068**		**6,305.7436**	**6,305.7436**	**0.1676**		**6,309.2635**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6946	4.2318	10.6713	0.0264	0.7760	0.1072	0.8832	0.2211	0.0986	0.3197		2,469.3317	2,469.3317	0.0171		2,469.6898
Worker	0.8393	1.0723	11.5864	0.0594	5.1417	0.0379	5.1796	1.3636	0.0352	1.3988		3,809.9706	3,809.9706	0.1476		3,813.0696
Total	**1.5339**	**5.3041**	**22.2576**	**0.0857**	**5.9177**	**0.1451**	**6.0628**	**1.5847**	**0.1338**	**1.7185**		**6,279.3023**	**6,279.3023**	**0.1646**		**6,282.7594**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.6946	4.2318	10.6713	0.0264	0.7251	0.1072	0.8323	0.2086	0.0986	0.3072		2,469.3317	2,469.3317	0.0171		2,469.6898
Worker	0.8393	1.0723	11.5864	0.0594	4.7394	0.0379	4.7773	1.2649	0.0352	1.3000		3,809.9706	3,809.9706	0.1476		3,813.0696
Total	**1.5339**	**5.3041**	**22.2576**	**0.0857**	**5.4645**	**0.1451**	**5.6096**	**1.4735**	**0.1338**	**1.6073**		**6,279.3023**	**6,279.3023**	**0.1646**		**6,282.7594**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476		2,884.8300	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**		**2,884.8300**	**2,884.8300**	**0.1158**		**2,887.2617**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6845	4.2126	10.5798	0.0264	0.7760	0.1074	0.8834	0.2211	0.0988	0.3199		2,469.6048	2,469.6048	0.0171		2,469.9634

Worker	0.8089	1.0381	11.2687	0.0594	5.1417	0.0381	5.1798	1.3636	0.0353	1.3989		3,787.1083	3,787.1083	0.1448		3,790.1483
Total	**1.4935**	**5.2507**	**21.8484**	**0.0857**	**5.9178**	**0.1455**	**6.0632**	**1.5847**	**0.1341**	**1.7189**		**6,256.7131**	**6,256.7131**	**0.1618**		**6,260.1116**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476	0.0000	2,884.8300	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**	**0.0000**	**2,884.8300**	**2,884.8300**	**0.1158**		**2,887.2617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6845	4.2126	10.5798	0.0264	0.7251	0.1074	0.8325	0.2086	0.0988	0.3074		2,469.6048	2,469.6048	0.0171		2,469.9634
Worker	0.8089	1.0381	11.2687	0.0594	4.7394	0.0381	4.7775	1.2649	0.0353	1.3002		3,787.1083	3,787.1083	0.1448		3,790.1483

Total	**1.4935**	**5.2507**	**21.8484**	**0.0857**	**5.4646**	**0.1455**	**5.6100**	**1.4735**	**0.1341**	**1.6076**		**6,256.7131**	**6,256.7131**	**0.1618**		**6,260.1116**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2128**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0671	0.7054	1.9300e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	0.0000	2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2128**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**	**0.0000**	**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0671	0.7054	1.9300e-003	0.1546	1.1500e-003	0.1557	0.0413	1.0600e-003	0.0423		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1546**	**1.1500e-003**	**0.1557**	**0.0413**	**1.0600e-003**	**0.0423**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9169**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0454	0.0613	0.6440	1.9300e-003	0.1677	1.1300e-003	0.1688	0.0445	1.0500e-003	0.0455		149.1338	149.1338	6.9300e-003		149.2794
Total	**0.0454**	**0.0613**	**0.6440**	**1.9300e-003**	**0.1677**	**1.1300e-003**	**0.1688**	**0.0445**	**1.0500e-003**	**0.0455**		**149.1338**	**149.1338**	**6.9300e-003**		**149.2794**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9169**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0454	0.0613	0.6440	1.9300e-003	0.1546	1.1300e-003	0.1557	0.0413	1.0500e-003	0.0423		149.1338	149.1338	6.9300e-003		149.2794
Total	**0.0454**	**0.0613**	**0.6440**	**1.9300e-003**	**0.1546**	**1.1300e-003**	**0.1557**	**0.0413**	**1.0500e-003**	**0.0423**		**149.1338**	**149.1338**	**6.9300e-003**		**149.2794**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447		2,208.9731	2,208.9731	0.6989		2,223.6499
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7313**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**		**2,208.9731**	**2,208.9731**	**0.6989**		**2,223.6499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0424	0.0568	0.5997	1.9300e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0600e-003	0.0455		144.4749	144.4749	6.6200e-003		144.6138
Total	**0.0424**	**0.0568**	**0.5997**	**1.9300e-003**	**0.1677**	**1.1400e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**144.4749**	**144.4749**	**6.6200e-003**		**144.6138**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447	0.0000	2,208.9731	2,208.9731	0.6989		2,223.6499
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7313**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**	**0.0000**	**2,208.9731**	**2,208.9731**	**0.6989**		**2,223.6499**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0424	0.0568	0.5997	1.9300e-003	0.1546	1.1400e-003	0.1557	0.0413	1.0600e-003	0.0423		144.4749	144.4749	6.6200e-003		144.6138
Total	**0.0424**	**0.0568**	**0.5997**	**1.9300e-003**	**0.1546**	**1.1400e-003**	**0.1557**	**0.0413**	**1.0600e-003**	**0.0423**		**144.4749**	**144.4749**	**6.6200e-003**		**144.6138**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3301	13.7845	14.3523	0.0223		0.7390	0.7390		0.6799	0.6799		2,160.7571	2,160.7571	0.6988		2,175.4326

Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6355**	**13.7845**	**14.3523**	**0.0223**		**0.7390**	**0.7390**		**0.6799**	**0.6799**		**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0401	0.0530	0.5622	1.9300e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		138.6882	138.6882	6.3000e-003		138.8205
Total	**0.0401**	**0.0530**	**0.5622**	**1.9300e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**138.6882**	**138.6882**	**6.3000e-003**		**138.8205**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3301	13.7845	14.3523	0.0223		0.7390	0.7390		0.6799	0.6799	0.0000	2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Total	**1.6355**	**13.7845**	**14.3523**	**0.0223**		**0.7390**	**0.7390**		**0.6799**	**0.6799**	**0.0000**	**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0401	0.0530	0.5622	1.9300e-003	0.1546	1.1500e-003	0.1557	0.0413	1.0600e-003	0.0423		138.6882	138.6882	6.3000e-003		138.8205
Total	**0.0401**	**0.0530**	**0.5622**	**1.9300e-003**	**0.1546**	**1.1500e-003**	**0.1557**	**0.0413**	**1.0600e-003**	**0.0423**		**138.6882**	**138.6882**	**6.3000e-003**		**138.8205**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2308	12.6607	14.3528	0.0223		0.6652	0.6652		0.6120	0.6120		2,160.2530	2,160.2530	0.6987		2,174.9250
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5362**	**12.6607**	**14.3528**	**0.0223**		**0.6652**	**0.6652**		**0.6120**	**0.6120**		**2,160.2530**	**2,160.2530**	**0.6987**		**2,174.9250**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0498	0.5304	1.9400e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		136.4021	136.4021	6.0500e-003		136.5291
Total	**0.0382**	**0.0498**	**0.5304**	**1.9400e-003**	**0.1677**	**1.1600e-003**	**0.1688**	**0.0445**	**1.0700e-003**	**0.0455**		**136.4021**	**136.4021**	**6.0500e-003**		**136.5291**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2308	12.6607	14.3528	0.0223		0.6652	0.6652		0.6120	0.6120	0.0000	2,160.2530	2,160.2530	0.6987		2,174.9250
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5362**	**12.6607**	**14.3528**	**0.0223**		**0.6652**	**0.6652**		**0.6120**	**0.6120**	**0.0000**	**2,160.2530**	**2,160.2530**	**0.6987**		**2,174.9250**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0498	0.5304	1.9400e-003	0.1546	1.1600e-003	0.1557	0.0413	1.0700e-003	0.0423		136.4021	136.4021	6.0500e-003		136.5291
Total	**0.0382**	**0.0498**	**0.5304**	**1.9400e-003**	**0.1546**	**1.1600e-003**	**0.1557**	**0.0413**	**1.0700e-003**	**0.0423**		**136.4021**	**136.4021**	**6.0500e-003**		**136.5291**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0815	10.9108	14.2815	0.0223		0.5577	0.5577		0.5131	0.5131		2,160.6869	2,160.6869	0.6988		2,175.3619
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3869**	**10.9108**	**14.2815**	**0.0223**		**0.5577**	**0.5577**		**0.5131**	**0.5131**		**2,160.6869**	**2,160.6869**	**0.6988**		**2,175.3619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0364	0.0470	0.5016	1.9400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		134.1787	134.1787	5.8100e-003		134.3008
Total	**0.0364**	**0.0470**	**0.5016**	**1.9400e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0456**		**134.1787**	**134.1787**	**5.8100e-003**		**134.3008**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0815	10.9108	14.2815	0.0223		0.5577	0.5577		0.5131	0.5131	0.0000	2,160.6869	2,160.6869	0.6988		2,175.3619
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3869**	**10.9108**	**14.2815**	**0.0223**		**0.5577**	**0.5577**		**0.5131**	**0.5131**	**0.0000**	**2,160.6869**	**2,160.6869**	**0.6988**		**2,175.3619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0364	0.0470	0.5016	1.9400e-003	0.1546	1.1700e-003	0.1557	0.0413	1.0800e-003	0.0423		134.1787	134.1787	5.8100e-003		134.3008
Total	**0.0364**	**0.0470**	**0.5016**	**1.9400e-003**	**0.1546**	**1.1700e-003**	**0.1557**	**0.0413**	**1.0800e-003**	**0.0423**		**134.1787**	**134.1787**	**5.8100e-003**		**134.3008**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	1.0128	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609		2,160.6139	2,160.6139	0.6988		2,175.2884
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3182**	**9.9983**	**14.2850**	**0.0223**		**0.5010**	**0.5010**		**0.4609**	**0.4609**		**2,160.6139**	**2,160.6139**	**0.6988**		**2,175.2884**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0445	0.4755	1.9400e-003	0.1677	1.1800e-003	0.1688	0.0445	1.0900e-003	0.0456		132.1640	132.1640	5.6100e-003		132.2818
Total	**0.0347**	**0.0445**	**0.4755**	**1.9400e-003**	**0.1677**	**1.1800e-003**	**0.1688**	**0.0445**	**1.0900e-003**	**0.0456**		**132.1640**	**132.1640**	**5.6100e-003**		**132.2818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0128	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609	0.0000	2,160.6139	2,160.6139	0.6988		2,175.2884
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3182**	**9.9983**	**14.2850**	**0.0223**		**0.5010**	**0.5010**		**0.4609**	**0.4609**	**0.0000**	**2,160.6139**	**2,160.6139**	**0.6988**		**2,175.2884**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0445	0.4755	1.9400e-003	0.1546	1.1800e-003	0.1557	0.0413	1.0900e-003	0.0423		132.1640	132.1640	5.6100e-003		132.2818
Total	**0.0347**	**0.0445**	**0.4755**	**1.9400e-003**	**0.1546**	**1.1800e-003**	**0.1557**	**0.0413**	**1.0900e-003**	**0.0423**		**132.1640**	**132.1640**	**5.6100e-003**		**132.2818**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	586.8809					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**587.2132**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.3055	0.4118	4.3267	0.0118	1.0283	7.0200e-003	1.0354	0.2727	6.4900e-003	0.2792		950.3327	950.3327	0.0456		951.2893
Total	**0.3055**	**0.4118**	**4.3267**	**0.0118**	**1.0283**	**7.0200e-003**	**1.0354**	**0.2727**	**6.4900e-003**	**0.2792**		**950.3327**	**950.3327**	**0.0456**		**951.2893**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	586.8809					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**587.2132**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3055	0.4118	4.3267	0.0118	0.9479	7.0200e-003	0.9549	0.2530	6.4900e-003	0.2595		950.3327	950.3327	0.0456		951.2893

Total	**0.3055**	**0.4118**	**4.3267**	**0.0118**	**0.9479**	**7.0200e-003**	**0.9549**	**0.2530**	**6.4900e-003**	**0.2595**		**950.3327**	**950.3327**	**0.0456**		**951.2893**

Construction

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,167.52	1000sqft	120.26	2,167,520.00	0
Government Office Building	40.85	1000sqft	2.10	40,850.00	0
Day-Care Center	2,151.60	1000sqft	110.66	2,151,600.00	0
Elementary School	1,550.00	Student	5.12	129,585.22	0
High School	1,784.00	Student	10.28	236,667.18	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	274.11	Acre	274.11	0.00	0
Hotel	550.00	Room	34.70	798,600.00	0
Movie Theater (No Matinee)	3,500.00	Seat	7.90	78,750.00	0
Apartments Low Rise	192.00	Dwelling Unit	5.00	192,000.00	549
Apartments Mid Rise	5,839.00	Dwelling Unit	473.20	5,839,000.00	16700
Retirement Community	644.00	Dwelling Unit	60.83	644,000.00	1842
Single Family Housing	1,111.00	Dwelling Unit	117.01	1,999,800.00	3177
Regional Shopping Center	2,872.60	1000sqft	176.64	2,872,600.00	0
Supermarket	95.20	1000sqft	2.19	95,200.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 30

Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the proposed land land use buildout.

Construction Phase - Based on a CalEEMod default schedule normalized to an 18.5-year buildout shedule (2035).

Architectural Coating - Based on SCAQMD Rule 1113.

Trips and VMT - Default CalEEMod default daily trips divided by 18-year buildout duration.

Construction Off-road Equipment Mitigation - Per Mitigation Measure AQ-1 which requires conformance with SCAQMD Rules 403. SCAQMD Rule 1186 also applies.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	11,000.00	251.00
tblConstructionPhase	NumDays	155,000.00	3,533.00
tblConstructionPhase	NumDays	10,000.00	228.00
tblConstructionPhase	NumDays	15,500.00	353.00
tblConstructionPhase	NumDays	11,000.00	1,767.00
tblConstructionPhase	NumDays	6,000.00	137.00
tblConstructionPhase	PhaseEndDate	9/25/2024	12/18/2017
tblConstructionPhase	PhaseEndDate	11/24/2031	7/17/2030
tblConstructionPhase	PhaseEndDate	11/16/2018	5/9/2018
tblConstructionPhase	PhaseEndDate	4/24/2037	10/10/2023

tblConstructionPhase	PhaseEndDate	5/25/2018	7/11/2017

tblConstructionPhase	PhaseStartDate	10/11/2023	1/1/2017
tblConstructionPhase	PhaseStartDate	5/10/2018	1/1/2017
tblConstructionPhase	PhaseStartDate	7/12/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	7/18/2030	1/1/2017
tblConstructionPhase	PhaseStartDate	11/16/2017	1/1/2017
tblGrading	AcresOfGrading	882.50	38,750.00
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	11,940,231.60	0.00
tblLandUse	LotAcreage	49.76	120.26
tblLandUse	LotAcreage	0.94	2.10
tblLandUse	LotAcreage	49.39	110.66
tblLandUse	LotAcreage	2.97	5.12
tblLandUse	LotAcreage	5.43	10.28
tblLandUse	LotAcreage	18.33	34.70
tblLandUse	LotAcreage	1.81	7.90
tblLandUse	LotAcreage	12.00	5.00
tblLandUse	LotAcreage	153.66	473.20
tblLandUse	LotAcreage	128.80	60.83
tblLandUse	LotAcreage	360.71	117.01
tblLandUse	LotAcreage	65.95	176.64
tblProjectCharacteristics	OperationalYear	2014	2035
tblTripsAndVMT	VendorTripNumber	2,237.00	124.00
tblTripsAndVMT	WorkerTripNumber	8,288.00	460.00
tblTripsAndVMT	WorkerTripNumber	1,658.00	92.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	76.3554	25.4906	22.7392	0.0358	23.8124	1.2893	25.1017	3.7413	1.1952	4.9365	0.0000	3,083.9439	3,083.9439	0.6189	0.0000	3,096.9413
2018	1.1522	9.5262	10.6324	0.0210	22.4004	0.4706	22.8711	3.0147	0.4369	3.4516	0.0000	1,719.6781	1,719.6781	0.2685	0.0000	1,725.3174
2019	0.8180	6.0558	8.2873	0.0180	0.7801	0.2955	1.0757	0.2092	0.2753	0.4845	0.0000	1,419.3564	1,419.3564	0.1841	0.0000	1,423.2226
2020	0.7586	5.5211	8.0414	0.0181	0.7831	0.2634	1.0465	0.2100	0.2453	0.4553	0.0000	1,385.5214	1,385.5214	0.1826	0.0000	1,389.3555
2021	0.7028	4.9629	7.8028	0.0180	0.7802	0.2307	1.0109	0.2092	0.2148	0.4240	0.0000	1,371.2690	1,371.2690	0.1801	0.0000	1,375.0511
2022	0.6463	4.3929	7.5797	0.0180	0.7772	0.1963	0.9735	0.2084	0.1829	0.3912	0.0000	1,357.5105	1,357.5105	0.1781	0.0000	1,361.2510
2023	0.5665	3.6579	6.9690	0.0172	0.7724	0.1601	0.9325	0.2071	0.1492	0.3563	0.0000	1,288.1963	1,288.1963	0.1581	0.0000	1,291.5167
2024	0.4122	2.5269	5.3816	0.0149	0.7616	0.0993	0.8609	0.2042	0.0930	0.2973	0.0000	1,079.3923	1,079.3923	0.0932	0.0000	1,081.3492
2025	0.3897	2.3790	5.2412	0.0148	0.7587	0.0879	0.8465	0.2035	0.0823	0.2857	0.0000	1,069.5141	1,069.5141	0.0919	0.0000	1,071.4436
2026	0.3819	2.3546	5.1478	0.0148	0.7587	0.0873	0.8460	0.2035	0.0818	0.2852	0.0000	1,064.3898	1,064.3898	0.0913	0.0000	1,066.3079
2027	0.3768	2.3445	5.0786	0.0148	0.7587	0.0874	0.8461	0.2035	0.0819	0.2853	0.0000	1,060.0429	1,060.0429	0.0909	0.0000	1,061.9522
2028	0.3705	2.3251	4.9994	0.0148	0.7558	0.0870	0.8428	0.2027	0.0815	0.2842	0.0000	1,052.2683	1,052.2683	0.0902	0.0000	1,054.1623
2029	0.3674	2.3266	4.9624	0.0148	0.7588	0.0874	0.8461	0.2035	0.0819	0.2854	0.0000	1,053.1428	1,053.1428	0.0902	0.0000	1,055.0366
2030	0.1931	0.9431	2.6763	8.3500e-003	0.4128	0.0208	0.4336	0.1107	0.0200	0.1307	0.0000	593.3311	593.3311	0.0179	0.0000	593.7061
Total	**83.4914**	**74.8071**	**105.5391**	**0.2433**	**55.0709**	**3.4629**	**58.5338**	**9.1313**	**3.2218**	**12.3531**	**0.0000**	**18,597.5570**	**18,597.5570**	**2.3360**	**0.0000**	**18,646.6135**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	76.3554	25.4906	22.7391	0.0358	10.6581	1.2893	11.9474	1.7290	1.1952	2.9242	0.0000	3,083.9415	3,083.9415	0.6189	0.0000	3,096.9389
2018	1.1522	9.5262	10.6324	0.0210	9.9683	0.4706	10.4389	1.3953	0.4369	1.8322	0.0000	1,719.6771	1,719.6771	0.2685	0.0000	1,725.3164
2019	0.8180	6.0558	8.2873	0.0180	0.7205	0.2955	1.0161	0.1945	0.2753	0.4698	0.0000	1,419.3558	1,419.3558	0.1841	0.0000	1,423.2219
2020	0.7586	5.5211	8.0414	0.0181	0.7233	0.2634	0.9867	0.1953	0.2453	0.4406	0.0000	1,385.5208	1,385.5208	0.1826	0.0000	1,389.3548
2021	0.7028	4.9629	7.8028	0.0180	0.7205	0.2307	0.9512	0.1945	0.2148	0.4093	0.0000	1,371.2684	1,371.2684	0.1801	0.0000	1,375.0505
2022	0.6463	4.3929	7.5797	0.0180	0.7178	0.1963	0.9141	0.1938	0.1829	0.3766	0.0000	1,357.5098	1,357.5098	0.1781	0.0000	1,361.2504
2023	0.5665	3.6579	6.9690	0.0172	0.7134	0.1601	0.8735	0.1926	0.1492	0.3418	0.0000	1,288.1957	1,288.1957	0.1581	0.0000	1,291.5161
2024	0.4122	2.5269	5.3816	0.0149	0.7034	0.0993	0.8027	0.1900	0.0930	0.2830	0.0000	1,079.3919	1,079.3919	0.0932	0.0000	1,081.3488
2025	0.3897	2.3790	5.2412	0.0148	0.7008	0.0879	0.7886	0.1893	0.0823	0.2715	0.0000	1,069.5138	1,069.5138	0.0919	0.0000	1,071.4433
2026	0.3819	2.3546	5.1478	0.0148	0.7008	0.0873	0.7881	0.1893	0.0818	0.2710	0.0000	1,064.3894	1,064.3894	0.0913	0.0000	1,066.3075
2027	0.3768	2.3445	5.0786	0.0148	0.7008	0.0874	0.7882	0.1893	0.0819	0.2711	0.0000	1,060.0426	1,060.0426	0.0909	0.0000	1,061.9518
2028	0.3705	2.3251	4.9994	0.0148	0.6981	0.0870	0.7851	0.1885	0.0815	0.2700	0.0000	1,052.2680	1,052.2680	0.0902	0.0000	1,054.1619
2029	0.3674	2.3266	4.9624	0.0148	0.7008	0.0874	0.7882	0.1893	0.0819	0.2711	0.0000	1,053.1424	1,053.1424	0.0902	0.0000	1,055.0363
2030	0.1931	0.9431	2.6763	8.3500e-003	0.3813	0.0208	0.4021	0.1030	0.0200	0.1230	0.0000	593.3309	593.3309	0.0179	0.0000	593.7059
Total	**83.4914**	**74.8071**	**105.5390**	**0.2433**	**28.8079**	**3.4629**	**32.2708**	**5.3335**	**3.2218**	**8.5553**	**0.0000**	**18,597.5480**	**18,597.5480**	**2.3360**	**0.0000**	**18,646.6044**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**47.69**	**0.00**	**44.87**	**41.59**	**0.00**	**30.74**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	11/15/2017	5	228	
2	Site Preparation	Site Preparation	1/1/2017	7/11/2017	5	137	
3	Grading	Grading	1/1/2017	5/9/2018	5	353	
4	Building Construction	Building Construction	1/1/2017	7/17/2030	5	3533	
5	Paving	Paving	1/1/2017	10/10/2023	5	1767	
6	Architectural Coating	Architectural Coating	1/1/2017	12/18/2017	5	251	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38750

Acres of Paving: 0

Residential Indoor: 17,566,470; Residential Outdoor: 5,855,490; Non-Residential Indoor: 12,857,059; Non-Residential Outdoor: 4,285,686

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38

Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	460.00	124.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	92.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4615	4.8675	3.8639	4.5500e-003		0.2423	0.2423		0.2257	0.2257	0.0000	417.4477	417.4477	0.1145	0.0000	419.8525
Total	**0.4615**	**4.8675**	**3.8639**	**4.5500e-003**		**0.2423**	**0.2423**		**0.2257**	**0.2257**	**0.0000**	**417.4477**	**417.4477**	**0.1145**	**0.0000**	**419.8525**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3100e-003	7.8600e-003	0.0821	2.2000e-004	0.0188	1.3000e-004	0.0189	4.9900e-003	1.2000e-004	5.1100e-003	0.0000	16.2659	16.2659	7.7000e-004	0.0000	16.2820
Total	**5.3100e-003**	**7.8600e-003**	**0.0821**	**2.2000e-004**	**0.0188**	**1.3000e-004**	**0.0189**	**4.9900e-003**	**1.2000e-004**	**5.1100e-003**	**0.0000**	**16.2659**	**16.2659**	**7.7000e-004**	**0.0000**	**16.2820**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4615	4.8675	3.8638	4.5500e-003		0.2423	0.2423		0.2257	0.2257	0.0000	417.4472	417.4472	0.1145	0.0000	419.8520
Total	**0.4615**	**4.8675**	**3.8638**	**4.5500e-003**		**0.2423**	**0.2423**		**0.2257**	**0.2257**	**0.0000**	**417.4472**	**417.4472**	**0.1145**	**0.0000**	**419.8520**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3100e-003	7.8600e-003	0.0821	2.2000e-004	0.0173	1.3000e-004	0.0174	4.6300e-003	1.2000e-004	4.7500e-003	0.0000	16.2659	16.2659	7.7000e-004	0.0000	16.2820
Total	**5.3100e-003**	**7.8600e-003**	**0.0821**	**2.2000e-004**	**0.0173**	**1.3000e-004**	**0.0174**	**4.6300e-003**	**1.2000e-004**	**4.7500e-003**	**0.0000**	**16.2659**	**16.2659**	**7.7000e-004**	**0.0000**	**16.2820**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2375	0.0000	1.2375	0.6803	0.0000	0.6803	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3314	3.5451	2.6987	2.6800e-003		0.1887	0.1887		0.1736	0.1736	0.0000	248.7604	248.7604	0.0762	0.0000	250.3610
Total	**0.3314**	**3.5451**	**2.6987**	**2.6800e-003**	**1.2375**	**0.1887**	**1.4262**	**0.6803**	**0.1736**	**0.8538**	**0.0000**	**248.7604**	**248.7604**	**0.0762**	**0.0000**	**250.3610**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	5.6700e-003	0.0592	1.6000e-004	0.0135	9.0000e-005	0.0136	3.5900e-003	9.0000e-005	3.6800e-003	0.0000	11.7286	11.7286	5.5000e-004	0.0000	11.7402
Total	**3.8300e-003**	**5.6700e-003**	**0.0592**	**1.6000e-004**	**0.0135**	**9.0000e-005**	**0.0136**	**3.5900e-003**	**9.0000e-005**	**3.6800e-003**	**0.0000**	**11.7286**	**11.7286**	**5.5000e-004**	**0.0000**	**11.7402**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5291	0.0000	0.5291	0.2908	0.0000	0.2908	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3314	3.5451	2.6987	2.6800e-003		0.1887	0.1887		0.1736	0.1736	0.0000	248.7601	248.7601	0.0762	0.0000	250.3607
Total	**0.3314**	**3.5451**	**2.6987**	**2.6800e-003**	**0.5291**	**0.1887**	**0.7177**	**0.2908**	**0.1736**	**0.4644**	**0.0000**	**248.7601**	**248.7601**	**0.0762**	**0.0000**	**250.3607**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	5.6700e-003	0.0592	1.6000e-004	0.0125	9.0000e-005	0.0126	3.3400e-003	9.0000e-005	3.4200e-003	0.0000	11.7286	11.7286	5.5000e-004	0.0000	11.7402
Total	**3.8300e-003**	**5.6700e-003**	**0.0592**	**1.6000e-004**	**0.0125**	**9.0000e-005**	**0.0126**	**3.3400e-003**	**9.0000e-005**	**3.4200e-003**	**0.0000**	**11.7286**	**11.7286**	**5.5000e-004**	**0.0000**	**11.7402**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					21.6101	0.0000	21.6101	2.8029	0.0000	2.8029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7929	9.0470	6.0847	8.0200e-003		0.4312	0.4312		0.3967	0.3967	0.0000	744.5610	744.5610	0.2281	0.0000	749.3517
Total	**0.7929**	**9.0470**	**6.0847**	**8.0200e-003**	**21.6101**	**0.4312**	**22.0413**	**2.8029**	**0.3967**	**3.1996**	**0.0000**	**744.5610**	**744.5610**	**0.2281**	**0.0000**	**749.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0700e-003	0.0120	0.1249	3.4000e-004	0.0285	2.0000e-004	0.0287	7.5800e-003	1.8000e-004	7.7600e-003	0.0000	24.7318	24.7318	1.1700e-003	0.0000	24.7563
Total	**8.0700e-003**	**0.0120**	**0.1249**	**3.4000e-004**	**0.0285**	**2.0000e-004**	**0.0287**	**7.5800e-003**	**1.8000e-004**	**7.7600e-003**	**0.0000**	**24.7318**	**24.7318**	**1.1700e-003**	**0.0000**	**24.7563**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.2383	0.0000	9.2383	1.1982	0.0000	1.1982	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7929	9.0470	6.0847	8.0200e-003		0.4312	0.4312		0.3967	0.3967	0.0000	744.5601	744.5601	0.2281	0.0000	749.3509
Total	**0.7929**	**9.0470**	**6.0847**	**8.0200e-003**	**9.2383**	**0.4312**	**9.6695**	**1.1982**	**0.3967**	**1.5950**	**0.0000**	**744.5601**	**744.5601**	**0.2281**	**0.0000**	**749.3509**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0700e-003	0.0120	0.1249	3.4000e-004	0.0263	2.0000e-004	0.0265	7.0300e-003	1.8000e-004	7.2200e-003	0.0000	24.7318	24.7318	1.1700e-003	0.0000	24.7563
Total	**8.0700e-003**	**0.0120**	**0.1249**	**3.4000e-004**	**0.0263**	**2.0000e-004**	**0.0265**	**7.0300e-003**	**1.8000e-004**	**7.2200e-003**	**0.0000**	**24.7318**	**24.7318**	**1.1700e-003**	**0.0000**	**24.7563**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					21.6101	0.0000	21.6101	2.8029	0.0000	2.8029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2460	2.7683	1.9673	2.8700e-003		0.1296	0.1296		0.1193	0.1193	0.0000	262.0815	262.0815	0.0816	0.0000	263.7949
Total	**0.2460**	**2.7683**	**1.9673**	**2.8700e-003**	**21.6101**	**0.1296**	**21.7397**	**2.8029**	**0.1193**	**2.9221**	**0.0000**	**262.0815**	**262.0815**	**0.0816**	**0.0000**	**263.7949**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6300e-003	3.9000e-003	0.0408	1.2000e-004	0.0102	7.0000e-005	0.0103	2.7100e-003	6.0000e-005	2.7800e-003	0.0000	8.5147	8.5147	3.9000e-004	0.0000	8.5228
Total	**2.6300e-003**	**3.9000e-003**	**0.0408**	**1.2000e-004**	**0.0102**	**7.0000e-005**	**0.0103**	**2.7100e-003**	**6.0000e-005**	**2.7800e-003**	**0.0000**	**8.5147**	**8.5147**	**3.9000e-004**	**0.0000**	**8.5228**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.2383	0.0000	9.2383	1.1982	0.0000	1.1982	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2460	2.7683	1.9673	2.8700e-003		0.1296	0.1296		0.1193	0.1193	0.0000	262.0812	262.0812	0.0816	0.0000	263.7946
Total	**0.2460**	**2.7683**	**1.9673**	**2.8700e-003**	**9.2383**	**0.1296**	**9.3680**	**1.1982**	**0.1193**	**1.3175**	**0.0000**	**262.0812**	**262.0812**	**0.0816**	**0.0000**	**263.7946**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6300e-003	3.9000e-003	0.0408	1.2000e-004	9.4100e-003	7.0000e-005	9.4800e-003	2.5200e-003	6.0000e-005	2.5800e-003	0.0000	8.5147	8.5147	3.9000e-004	0.0000	8.5228
Total	**2.6300e-003**	**3.9000e-003**	**0.0408**	**1.2000e-004**	**9.4100e-003**	**7.0000e-005**	**9.4800e-003**	**2.5200e-003**	**6.0000e-005**	**2.5800e-003**	**0.0000**	**8.5147**	**8.5147**	**3.9000e-004**	**0.0000**	**8.5228**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3228**	**311.3228**	**0.0766**	**0.0000**	**312.9319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1386	1.3232	1.7993	3.4700e-003	0.0993	0.0198	0.1191	0.0283	0.0182	0.0465	0.0000	310.8612	310.8612	2.2100e-003	0.0000	310.9076
Worker	0.1856	0.2748	2.8724	7.8000e-003	0.6565	4.5700e-003	0.6611	0.1743	4.2200e-003	0.1786	0.0000	568.8302	568.8302	0.0269	0.0000	569.3943
Total	**0.3243**	**1.5981**	**4.6717**	**0.0113**	**0.7557**	**0.0244**	**0.7801**	**0.2027**	**0.0224**	**0.2251**	**0.0000**	**879.6914**	**879.6914**	**0.0291**	**0.0000**	**880.3018**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3225	311.3225	0.0766	0.0000	312.9315
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3225**	**311.3225**	**0.0766**	**0.0000**	**312.9315**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1386	1.3232	1.7993	3.4700e-003	0.0928	0.0198	0.1126	0.0267	0.0182	0.0450	0.0000	310.8612	310.8612	2.2100e-003	0.0000	310.9076
Worker	0.1856	0.2748	2.8724	7.8000e-003	0.6053	4.5700e-003	0.6098	0.1618	4.2200e-003	0.1660	0.0000	568.8302	568.8302	0.0269	0.0000	569.3943
Total	**0.3243**	**1.5981**	**4.6717**	**0.0113**	**0.6980**	**0.0244**	**0.7224**	**0.1885**	**0.0224**	**0.2109**	**0.0000**	**879.6914**	**879.6914**	**0.0291**	**0.0000**	**880.3018**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9844	308.9844	0.0756	0.0000	310.5723
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9844**	**308.9844**	**0.0756**	**0.0000**	**310.5723**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1300	1.2188	1.7245	3.4800e-003	0.0996	0.0187	0.1184	0.0284	0.0172	0.0457	0.0000	306.7563	306.7563	2.2100e-003	0.0000	306.8026
Worker	0.1697	0.2518	2.6343	7.8300e-003	0.6590	4.5300e-003	0.6635	0.1750	4.1900e-003	0.1792	0.0000	549.6072	549.6072	0.0252	0.0000	550.1357
Total	**0.2997**	**1.4705**	**4.3589**	**0.0113**	**0.7586**	**0.0233**	**0.7819**	**0.2034**	**0.0214**	**0.2249**	**0.0000**	**856.3635**	**856.3635**	**0.0274**	**0.0000**	**856.9383**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9841	308.9841	0.0756	0.0000	310.5720
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9841**	**308.9841**	**0.0756**	**0.0000**	**310.5720**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1300	1.2188	1.7245	3.4800e-003	0.0931	0.0187	0.1119	0.0268	0.0172	0.0441	0.0000	306.7563	306.7563	2.2100e-003	0.0000	306.8026
Worker	0.1697	0.2518	2.6343	7.8300e-003	0.6076	4.5300e-003	0.6121	0.1624	4.1900e-003	0.1666	0.0000	549.6072	549.6072	0.0252	0.0000	550.1357
Total	**0.2997**	**1.4705**	**4.3589**	**0.0113**	**0.7007**	**0.0233**	**0.7240**	**0.1892**	**0.0214**	**0.2107**	**0.0000**	**856.3635**	**856.3635**	**0.0274**	**0.0000**	**856.9383**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5302	305.5302	0.0743	0.0000	307.0913
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5302**	**305.5302**	**0.0743**	**0.0000**	**307.0913**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1215	1.1299	1.6441	3.4900e-003	0.0996	0.0175	0.1171	0.0284	0.0161	0.0445	0.0000	302.4929	302.4929	2.2200e-003	0.0000	302.5396
Worker	0.1585	0.2333	2.4543	7.8600e-003	0.6590	4.5700e-003	0.6636	0.1750	4.2400e-003	0.1792	0.0000	532.4555	532.4555	0.0240	0.0000	532.9600
Total	**0.2800**	**1.3632**	**4.0984**	**0.0114**	**0.7587**	**0.0220**	**0.7807**	**0.2035**	**0.0203**	**0.2238**	**0.0000**	**834.9485**	**834.9485**	**0.0262**	**0.0000**	**835.4996**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5299	305.5299	0.0743	0.0000	307.0909
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5299**	**305.5299**	**0.0743**	**0.0000**	**307.0909**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1215	1.1299	1.6441	3.4900e-003	0.0931	0.0175	0.1106	0.0268	0.0161	0.0429	0.0000	302.4929	302.4929	2.2200e-003	0.0000	302.5396
Worker	0.1585	0.2333	2.4543	7.8600e-003	0.6076	4.5700e-003	0.6122	0.1624	4.2400e-003	0.1666	0.0000	532.4555	532.4555	0.0240	0.0000	532.9600
Total	**0.2800**	**1.3632**	**4.0984**	**0.0114**	**0.7007**	**0.0220**	**0.7228**	**0.1892**	**0.0203**	**0.2095**	**0.0000**	**834.9485**	**834.9485**	**0.0262**	**0.0000**	**835.4996**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2766	2.5000	2.2019	3.5100e-003		0.1458	0.1458		0.1371	0.1371	0.0000	302.1514	302.1514	0.0736	0.0000	303.6973
Total	**0.2766**	**2.5000**	**2.2019**	**3.5100e-003**		**0.1458**	**0.1458**		**0.1371**	**0.1371**	**0.0000**	**302.1514**	**302.1514**	**0.0736**	**0.0000**	**303.6973**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1124	0.9895	1.5733	3.5000e-003	0.1000	0.0160	0.1161	0.0286	0.0147	0.0433	0.0000	296.7595	296.7595	2.1900e-003	0.0000	296.8055
Worker	0.1505	0.2187	2.3108	7.8900e-003	0.6615	4.6100e-003	0.6661	0.1757	4.2700e-003	0.1800	0.0000	513.0923	513.0923	0.0230	0.0000	513.5747
Total	**0.2629**	**1.2082**	**3.8840**	**0.0114**	**0.7616**	**0.0206**	**0.7822**	**0.2042**	**0.0190**	**0.2232**	**0.0000**	**809.8518**	**809.8518**	**0.0252**	**0.0000**	**810.3802**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2766	2.5000	2.2019	3.5100e-003		0.1458	0.1458		0.1371	0.1371	0.0000	302.1510	302.1510	0.0736	0.0000	303.6969
Total	**0.2766**	**2.5000**	**2.2019**	**3.5100e-003**		**0.1458**	**0.1458**		**0.1371**	**0.1371**	**0.0000**	**302.1510**	**302.1510**	**0.0736**	**0.0000**	**303.6969**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1124	0.9895	1.5733	3.5000e-003	0.0935	0.0160	0.1095	0.0269	0.0147	0.0417	0.0000	296.7595	296.7595	2.1900e-003	0.0000	296.8055
Worker	0.1505	0.2187	2.3108	7.8900e-003	0.6099	4.6100e-003	0.6145	0.1630	4.2700e-003	0.1673	0.0000	513.0923	513.0923	0.0230	0.0000	513.5747
Total	**0.2629**	**1.2082**	**3.8840**	**0.0114**	**0.7034**	**0.0206**	**0.7240**	**0.1900**	**0.0190**	**0.2090**	**0.0000**	**809.8518**	**809.8518**	**0.0252**	**0.0000**	**810.3802**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2471	2.2629	2.1582	3.5000e-003		0.1246	0.1246		0.1172	0.1172	0.0000	301.0339	301.0339	0.0725	0.0000	302.5568
Total	**0.2471**	**2.2629**	**2.1582**	**3.5000e-003**		**0.1246**	**0.1246**		**0.1172**	**0.1172**	**0.0000**	**301.0339**	**301.0339**	**0.0725**	**0.0000**	**302.5568**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1081	0.8364	1.5282	3.4800e-003	0.0997	0.0145	0.1142	0.0284	0.0133	0.0418	0.0000	295.3792	295.3792	2.1900e-003	0.0000	295.4252
Worker	0.1426	0.2047	2.1726	7.8700e-003	0.6590	4.6300e-003	0.6636	0.1750	4.2900e-003	0.1793	0.0000	502.7159	502.7159	0.0220	0.0000	503.1769
Total	**0.2506**	**1.0411**	**3.7008**	**0.0114**	**0.7587**	**0.0191**	**0.7778**	**0.2035**	**0.0176**	**0.2211**	**0.0000**	**798.0951**	**798.0951**	**0.0241**	**0.0000**	**798.6022**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2471	2.2629	2.1582	3.5000e-003		0.1246	0.1246		0.1172	0.1172	0.0000	301.0335	301.0335	0.0725	0.0000	302.5565
Total	**0.2471**	**2.2629**	**2.1582**	**3.5000e-003**		**0.1246**	**0.1246**		**0.1172**	**0.1172**	**0.0000**	**301.0335**	**301.0335**	**0.0725**	**0.0000**	**302.5565**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1081	0.8364	1.5282	3.4800e-003	0.0931	0.0145	0.1077	0.0268	0.0133	0.0402	0.0000	295.3792	295.3792	2.1900e-003	0.0000	295.4252
Worker	0.1426	0.2047	2.1726	7.8700e-003	0.6076	4.6300e-003	0.6122	0.1624	4.2900e-003	0.1667	0.0000	502.7159	502.7159	0.0220	0.0000	503.1769
Total	**0.2506**	**1.0411**	**3.7008**	**0.0114**	**0.7007**	**0.0191**	**0.7199**	**0.1892**	**0.0176**	**0.2069**	**0.0000**	**798.0951**	**798.0951**	**0.0241**	**0.0000**	**798.6022**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2209	2.0197	2.1226	3.4900e-003		0.1047	0.1047		0.0986	0.0986	0.0000	299.9946	299.9946	0.0718	0.0000	301.5017
Total	**0.2209**	**2.0197**	**2.1226**	**3.4900e-003**		**0.1047**	**0.1047**		**0.0986**	**0.0986**	**0.0000**	**299.9946**	**299.9946**	**0.0718**	**0.0000**	**301.5017**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1054	0.7562	1.4865	3.4600e-003	0.0993	0.0143	0.1136	0.0283	0.0132	0.0415	0.0000	294.0002	294.0002	2.2300e-003	0.0000	294.0471
Worker	0.1353	0.1923	2.0473	7.8400e-003	0.6565	4.6500e-003	0.6611	0.1743	4.3100e-003	0.1787	0.0000	492.6331	492.6331	0.0210	0.0000	493.0746
Total	**0.2407**	**0.9485**	**3.5338**	**0.0113**	**0.7558**	**0.0189**	**0.7747**	**0.2027**	**0.0175**	**0.2201**	**0.0000**	**786.6332**	**786.6332**	**0.0233**	**0.0000**	**787.1216**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2209	2.0197	2.1226	3.4900e-003		0.1047	0.1047		0.0986	0.0986	0.0000	299.9943	299.9943	0.0718	0.0000	301.5013
Total	**0.2209**	**2.0197**	**2.1226**	**3.4900e-003**		**0.1047**	**0.1047**		**0.0986**	**0.0986**	**0.0000**	**299.9943**	**299.9943**	**0.0718**	**0.0000**	**301.5013**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1054	0.7562	1.4865	3.4600e-003	0.0928	0.0143	0.1071	0.0267	0.0132	0.0399	0.0000	294.0002	294.0002	2.2300e-003	0.0000	294.0471
Worker	0.1353	0.1923	2.0473	7.8400e-003	0.6053	4.6500e-003	0.6099	0.1618	4.3100e-003	0.1661	0.0000	492.6331	492.6331	0.0210	0.0000	493.0746
Total	**0.2407**	**0.9485**	**3.5338**	**0.0113**	**0.6981**	**0.0189**	**0.7170**	**0.1885**	**0.0175**	**0.2060**	**0.0000**	**786.6332**	**786.6332**	**0.0233**	**0.0000**	**787.1216**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0980	300.0980	0.0713	0.0000	301.5949
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0980**	**300.0980**	**0.0713**	**0.0000**	**301.5949**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0975	0.6007	1.4283	3.4500e-003	0.0993	0.0141	0.1134	0.0283	0.0130	0.0413	0.0000	292.5940	292.5940	2.0100e-003	0.0000	292.6362
Worker	0.1290	0.1821	1.9415	7.8400e-003	0.6565	4.6900e-003	0.6612	0.1743	4.3500e-003	0.1787	0.0000	485.2433	485.2433	0.0203	0.0000	485.6692
Total	**0.2265**	**0.7828**	**3.3698**	**0.0113**	**0.7558**	**0.0188**	**0.7746**	**0.2027**	**0.0173**	**0.2200**	**0.0000**	**777.8373**	**777.8373**	**0.0223**	**0.0000**	**778.3054**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0976	300.0976	0.0713	0.0000	301.5946
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0976**	**300.0976**	**0.0713**	**0.0000**	**301.5946**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0975	0.6007	1.4283	3.4500e-003	0.0928	0.0141	0.1069	0.0268	0.0130	0.0397	0.0000	292.5940	292.5940	2.0100e-003	0.0000	292.6362
Worker	0.1290	0.1821	1.9415	7.8400e-003	0.6053	4.6900e-003	0.6099	0.1618	4.3500e-003	0.1661	0.0000	485.2433	485.2433	0.0203	0.0000	485.6692
Total	**0.2265**	**0.7828**	**3.3698**	**0.0113**	**0.6981**	**0.0188**	**0.7169**	**0.1885**	**0.0173**	**0.2058**	**0.0000**	**777.8373**	**777.8373**	**0.0223**	**0.0000**	**778.3054**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1920	1.7524	2.1135	3.5200e-003		0.0800	0.0800		0.0752	0.0752	0.0000	302.4646	302.4646	0.0714	0.0000	303.9643
Total	**0.1920**	**1.7524**	**2.1135**	**3.5200e-003**		**0.0800**	**0.0800**		**0.0752**	**0.0752**	**0.0000**	**302.4646**	**302.4646**	**0.0714**	**0.0000**	**303.9643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0963	0.6002	1.4153	3.4700e-003	0.1001	0.0145	0.1146	0.0286	0.0134	0.0419	0.0000	294.7842	294.7842	2.0300e-003	0.0000	294.8269
Worker	0.1239	0.1743	1.8529	7.9000e-003	0.6615	4.7500e-003	0.6663	0.1757	4.4100e-003	0.1801	0.0000	482.1435	482.1435	0.0197	0.0000	482.5580
Total	**0.2202**	**0.7744**	**3.2682**	**0.0114**	**0.7616**	**0.0193**	**0.7809**	**0.2042**	**0.0178**	**0.2220**	**0.0000**	**776.9277**	**776.9277**	**0.0218**	**0.0000**	**777.3849**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1920	1.7524	2.1135	3.5200e-003		0.0800	0.0800		0.0752	0.0752	0.0000	302.4642	302.4642	0.0714	0.0000	303.9639
Total	**0.1920**	**1.7524**	**2.1135**	**3.5200e-003**		**0.0800**	**0.0800**		**0.0752**	**0.0752**	**0.0000**	**302.4642**	**302.4642**	**0.0714**	**0.0000**	**303.9639**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0963	0.6002	1.4153	3.4700e-003	0.0935	0.0145	0.1081	0.0270	0.0134	0.0403	0.0000	294.7842	294.7842	2.0300e-003	0.0000	294.8269
Worker	0.1239	0.1743	1.8529	7.9000e-003	0.6099	4.7500e-003	0.6147	0.1630	4.4100e-003	0.1674	0.0000	482.1435	482.1435	0.0197	0.0000	482.5580
Total	**0.2202**	**0.7744**	**3.2682**	**0.0114**	**0.7034**	**0.0193**	**0.7227**	**0.1900**	**0.0178**	**0.2078**	**0.0000**	**776.9277**	**776.9277**	**0.0218**	**0.0000**	**777.3849**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0935	0.5935	1.3763	3.4600e-003	0.0997	0.0146	0.1142	0.0285	0.0134	0.0418	0.0000	293.6851	293.6851	2.0300e-003	0.0000	293.7279
Worker	0.1185	0.1661	1.7702	7.8700e-003	0.6590	4.7800e-003	0.6638	0.1750	4.4400e-003	0.1794	0.0000	474.4271	474.4271	0.0191	0.0000	474.8283
Total	**0.2120**	**0.7595**	**3.1464**	**0.0113**	**0.7587**	**0.0193**	**0.7780**	**0.2035**	**0.0178**	**0.2213**	**0.0000**	**768.1122**	**768.1122**	**0.0211**	**0.0000**	**768.5562**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0935	0.5935	1.3763	3.4600e-003	0.0932	0.0146	0.1077	0.0269	0.0134	0.0403	0.0000	293.6851	293.6851	2.0300e-003	0.0000	293.7279
Worker	0.1185	0.1661	1.7702	7.8700e-003	0.6076	4.7800e-003	0.6124	0.1624	4.4400e-003	0.1668	0.0000	474.4271	474.4271	0.0191	0.0000	474.8283
Total	**0.2120**	**0.7595**	**3.1464**	**0.0113**	**0.7008**	**0.0193**	**0.7201**	**0.1893**	**0.0178**	**0.2071**	**0.0000**	**768.1122**	**768.1122**	**0.0211**	**0.0000**	**768.5562**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0903	0.5756	1.3482	3.4600e-003	0.0997	0.0140	0.1137	0.0285	0.0128	0.0413	0.0000	293.6566	293.6566	1.9700e-003	0.0000	293.6980
Worker	0.1140	0.1596	1.7048	7.8600e-003	0.6590	4.8300e-003	0.6638	0.1750	4.4800e-003	0.1795	0.0000	469.3313	469.3313	0.0186	0.0000	469.7224
Total	**0.2042**	**0.7352**	**3.0530**	**0.0113**	**0.7587**	**0.0188**	**0.7775**	**0.2035**	**0.0173**	**0.2208**	**0.0000**	**762.9879**	**762.9879**	**0.0206**	**0.0000**	**763.4204**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0903	0.5756	1.3482	3.4600e-003	0.0932	0.0140	0.1071	0.0269	0.0128	0.0397	0.0000	293.6566	293.6566	1.9700e-003	0.0000	293.6980
Worker	0.1140	0.1596	1.7048	7.8600e-003	0.6076	4.8300e-003	0.6124	0.1624	4.4800e-003	0.1669	0.0000	469.3313	469.3313	0.0186	0.0000	469.7224
Total	**0.2042**	**0.7352**	**3.0530**	**0.0113**	**0.7008**	**0.0188**	**0.7196**	**0.1893**	**0.0173**	**0.2066**	**0.0000**	**762.9879**	**762.9879**	**0.0206**	**0.0000**	**763.4204**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0894	0.5712	1.3359	3.4600e-003	0.0997	0.0140	0.1137	0.0285	0.0129	0.0413	0.0000	293.7157	293.7157	1.9800e-003	0.0000	293.7572
Worker	0.1098	0.1539	1.6479	7.8600e-003	0.6590	4.8800e-003	0.6639	0.1750	4.5300e-003	0.1795	0.0000	464.9253	464.9253	0.0182	0.0000	465.3075
Total	**0.1992**	**0.7251**	**2.9839**	**0.0113**	**0.7587**	**0.0189**	**0.7776**	**0.2035**	**0.0174**	**0.2209**	**0.0000**	**758.6410**	**758.6410**	**0.0202**	**0.0000**	**759.0648**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0894	0.5712	1.3359	3.4600e-003	0.0932	0.0140	0.1072	0.0269	0.0129	0.0397	0.0000	293.7157	293.7157	1.9800e-003	0.0000	293.7572
Worker	0.1098	0.1539	1.6479	7.8600e-003	0.6076	4.8800e-003	0.6125	0.1624	4.5300e-003	0.1669	0.0000	464.9253	464.9253	0.0182	0.0000	465.3075
Total	**0.1992**	**0.7251**	**2.9839**	**0.0113**	**0.7008**	**0.0189**	**0.7197**	**0.1893**	**0.0174**	**0.2067**	**0.0000**	**758.6410**	**758.6410**	**0.0202**	**0.0000**	**759.0648**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1770	1.6133	2.0867	3.4900e-003		0.0683	0.0683		0.0642	0.0642	0.0000	300.2471	300.2471	0.0705	0.0000	301.7269
Total	**0.1770**	**1.6133**	**2.0867**	**3.4900e-003**		**0.0683**	**0.0683**		**0.0642**	**0.0642**	**0.0000**	**300.2471**	**300.2471**	**0.0705**	**0.0000**	**301.7269**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0880	0.5636	1.3203	3.4400e-003	0.0994	0.0139	0.1132	0.0284	0.0127	0.0411	0.0000	292.6252	292.6252	1.9600e-003	0.0000	292.6664
Worker	0.1055	0.1482	1.5924	7.8300e-003	0.6565	4.9000e-003	0.6614	0.1743	4.5400e-003	0.1789	0.0000	459.3960	459.3960	0.0178	0.0000	459.7689
Total	**0.1935**	**0.7119**	**2.9127**	**0.0113**	**0.7558**	**0.0188**	**0.7746**	**0.2027**	**0.0173**	**0.2200**	**0.0000**	**752.0212**	**752.0212**	**0.0197**	**0.0000**	**752.4353**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1770	1.6133	2.0867	3.4900e-003		0.0683	0.0683		0.0642	0.0642	0.0000	300.2467	300.2467	0.0705	0.0000	301.7266
Total	**0.1770**	**1.6133**	**2.0867**	**3.4900e-003**		**0.0683**	**0.0683**		**0.0642**	**0.0642**	**0.0000**	**300.2467**	**300.2467**	**0.0705**	**0.0000**	**301.7266**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0880	0.5636	1.3203	3.4400e-003	0.0929	0.0139	0.1067	0.0268	0.0127	0.0395	0.0000	292.6252	292.6252	1.9600e-003	0.0000	292.6664
Worker	0.1055	0.1482	1.5924	7.8300e-003	0.6053	4.9000e-003	0.6102	0.1618	4.5400e-003	0.1663	0.0000	459.3960	459.3960	0.0178	0.0000	459.7689
Total	**0.1935**	**0.7119**	**2.9127**	**0.0113**	**0.6981**	**0.0188**	**0.7169**	**0.1885**	**0.0173**	**0.2058**	**0.0000**	**752.0212**	**752.0212**	**0.0197**	**0.0000**	**752.4353**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0876	0.5633	1.3166	3.4600e-003	0.0998	0.0139	0.1137	0.0285	0.0128	0.0413	0.0000	293.7991	293.7991	1.9700e-003	0.0000	293.8405
Worker	0.1021	0.1439	1.5511	7.8600e-003	0.6590	4.9500e-003	0.6640	0.1750	4.5900e-003	0.1796	0.0000	457.9418	457.9418	0.0175	0.0000	458.3087
Total	**0.1897**	**0.7072**	**2.8677**	**0.0113**	**0.7588**	**0.0189**	**0.7776**	**0.2035**	**0.0174**	**0.2209**	**0.0000**	**751.7409**	**751.7409**	**0.0194**	**0.0000**	**752.1492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0876	0.5633	1.3166	3.4600e-003	0.0932	0.0139	0.1072	0.0269	0.0128	0.0397	0.0000	293.7991	293.7991	1.9700e-003	0.0000	293.8405
Worker	0.1021	0.1439	1.5511	7.8600e-003	0.6076	4.9500e-003	0.6125	0.1624	4.5900e-003	0.1670	0.0000	457.9418	457.9418	0.0175	0.0000	458.3087
Total	**0.1897**	**0.7072**	**2.8677**	**0.0113**	**0.7008**	**0.0189**	**0.7197**	**0.1893**	**0.0174**	**0.2067**	**0.0000**	**751.7409**	**751.7409**	**0.0194**	**0.0000**	**752.1492**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0926	0.5622	1.1453	2.1900e-003		0.0105	0.0105		0.0105	0.0105	0.0000	185.8122	185.8122	7.4600e-003	0.0000	185.9689
Total	**0.0926**	**0.5622**	**1.1453**	**2.1900e-003**		**0.0105**	**0.0105**		**0.0105**	**0.0105**	**0.0000**	**185.8122**	**185.8122**	**7.4600e-003**	**0.0000**	**185.9689**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0470	0.3051	0.7100	1.8800e-003	0.0543	7.5900e-003	0.0619	0.0155	6.9800e-003	0.0225	0.0000	159.8624	159.8624	1.0700e-003	0.0000	159.8849
Worker	0.0536	0.0758	0.8209	4.2800e-003	0.3585	2.7000e-003	0.3612	0.0952	2.5100e-003	0.0977	0.0000	247.6565	247.6565	9.3200e-003	0.0000	247.8523
Total	**0.1005**	**0.3809**	**1.5309**	**6.1600e-003**	**0.4128**	**0.0103**	**0.4231**	**0.1107**	**9.4900e-003**	**0.1202**	**0.0000**	**407.5189**	**407.5189**	**0.0104**	**0.0000**	**407.7373**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0926	0.5622	1.1453	2.1900e-003		0.0105	0.0105		0.0105	0.0105	0.0000	185.8120	185.8120	7.4600e-003	0.0000	185.9686
Total	**0.0926**	**0.5622**	**1.1453**	**2.1900e-003**		**0.0105**	**0.0105**		**0.0105**	**0.0105**	**0.0000**	**185.8120**	**185.8120**	**7.4600e-003**	**0.0000**	**185.9686**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0470	0.3051	0.7100	1.8800e-003	0.0507	7.5900e-003	0.0583	0.0146	6.9800e-003	0.0216	0.0000	159.8624	159.8624	1.0700e-003	0.0000	159.8849
Worker	0.0536	0.0758	0.8209	4.2800e-003	0.3306	2.7000e-003	0.3333	0.0884	2.5100e-003	0.0909	0.0000	247.6565	247.6565	9.3200e-003	0.0000	247.8523
Total	**0.1005**	**0.3809**	**1.5309**	**6.1600e-003**	**0.3813**	**0.0103**	**0.3916**	**0.1030**	**9.4900e-003**	**0.1125**	**0.0000**	**407.5189**	**407.5189**	**0.0104**	**0.0000**	**407.7373**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2480	2.6385	1.9145	2.9000e-003		0.1480	0.1480		0.1362	0.1362	0.0000	269.0144	269.0144	0.0824	0.0000	270.7454
Paving	0.0397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2877**	**2.6385**	**1.9145**	**2.9000e-003**		**0.1480**	**0.1480**		**0.1362**	**0.1362**	**0.0000**	**269.0144**	**269.0144**	**0.0824**	**0.0000**	**270.7454**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0500e-003	8.9600e-003	0.0937	2.5000e-004	0.0214	1.5000e-004	0.0216	5.6800e-003	1.4000e-004	5.8200e-003	0.0000	18.5488	18.5488	8.8000e-004	0.0000	18.5672
Total	**6.0500e-003**	**8.9600e-003**	**0.0937**	**2.5000e-004**	**0.0214**	**1.5000e-004**	**0.0216**	**5.6800e-003**	**1.4000e-004**	**5.8200e-003**	**0.0000**	**18.5488**	**18.5488**	**8.8000e-004**	**0.0000**	**18.5672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2480	2.6385	1.9145	2.9000e-003		0.1480	0.1480		0.1362	0.1362	0.0000	269.0141	269.0141	0.0824	0.0000	270.7450
Paving	0.0397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2877**	**2.6385**	**1.9145**	**2.9000e-003**		**0.1480**	**0.1480**		**0.1362**	**0.1362**	**0.0000**	**269.0141**	**269.0141**	**0.0824**	**0.0000**	**270.7450**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0500e-003	8.9600e-003	0.0937	2.5000e-004	0.0197	1.5000e-004	0.0199	5.2700e-003	1.4000e-004	5.4100e-003	0.0000	18.5488	18.5488	8.8000e-004	0.0000	18.5672
Total	**6.0500e-003**	**8.9600e-003**	**0.0937**	**2.5000e-004**	**0.0197**	**1.5000e-004**	**0.0199**	**5.2700e-003**	**1.4000e-004**	**5.4100e-003**	**0.0000**	**18.5488**	**18.5488**	**8.8000e-004**	**0.0000**	**18.5672**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2103	2.2397	1.8915	2.9100e-003		0.1225	0.1225		0.1127	0.1127	0.0000	265.8121	265.8121	0.0828	0.0000	267.5499
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2502**	**2.2397**	**1.8915**	**2.9100e-003**		**0.1225**	**0.1225**		**0.1127**	**0.1127**	**0.0000**	**265.8121**	**265.8121**	**0.0828**	**0.0000**	**267.5499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	8.2100e-003	0.0859	2.6000e-004	0.0215	1.5000e-004	0.0216	5.7100e-003	1.4000e-004	5.8400e-003	0.0000	17.9220	17.9220	8.2000e-004	0.0000	17.9392
Total	**5.5300e-003**	**8.2100e-003**	**0.0859**	**2.6000e-004**	**0.0215**	**1.5000e-004**	**0.0216**	**5.7100e-003**	**1.4000e-004**	**5.8400e-003**	**0.0000**	**17.9220**	**17.9220**	**8.2000e-004**	**0.0000**	**17.9392**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2103	2.2397	1.8915	2.9100e-003		0.1225	0.1225		0.1127	0.1127	0.0000	265.8118	265.8118	0.0828	0.0000	267.5495
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2502**	**2.2397**	**1.8915**	**2.9100e-003**		**0.1225**	**0.1225**		**0.1127**	**0.1127**	**0.0000**	**265.8118**	**265.8118**	**0.0828**	**0.0000**	**267.5495**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	8.2100e-003	0.0859	2.6000e-004	0.0198	1.5000e-004	0.0200	5.3000e-003	1.4000e-004	5.4300e-003	0.0000	17.9220	17.9220	8.2000e-004	0.0000	17.9392
Total	**5.5300e-003**	**8.2100e-003**	**0.0859**	**2.6000e-004**	**0.0198**	**1.5000e-004**	**0.0200**	**5.3000e-003**	**1.4000e-004**	**5.4300e-003**	**0.0000**	**17.9220**	**17.9220**	**8.2000e-004**	**0.0000**	**17.9392**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1861	1.9491	1.8747	2.9100e-003		0.1056	0.1056		0.0972	0.0972	0.0000	261.5151	261.5151	0.0827	0.0000	263.2526
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2259**	**1.9491**	**1.8747**	**2.9100e-003**		**0.1056**	**0.1056**		**0.0972**	**0.0972**	**0.0000**	**261.5151**	**261.5151**	**0.0827**	**0.0000**	**263.2526**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1700e-003	7.6100e-003	0.0800	2.6000e-004	0.0215	1.5000e-004	0.0216	5.7100e-003	1.4000e-004	5.8400e-003	0.0000	17.3627	17.3627	7.8000e-004	0.0000	17.3791
Total	**5.1700e-003**	**7.6100e-003**	**0.0800**	**2.6000e-004**	**0.0215**	**1.5000e-004**	**0.0216**	**5.7100e-003**	**1.4000e-004**	**5.8400e-003**	**0.0000**	**17.3627**	**17.3627**	**7.8000e-004**	**0.0000**	**17.3791**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1861	1.9491	1.8747	2.9100e-003		0.1056	0.1056		0.0972	0.0972	0.0000	261.5147	261.5147	0.0827	0.0000	263.2523
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2259**	**1.9491**	**1.8747**	**2.9100e-003**		**0.1056**	**0.1056**		**0.0972**	**0.0972**	**0.0000**	**261.5147**	**261.5147**	**0.0827**	**0.0000**	**263.2523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1700e-003	7.6100e-003	0.0800	2.6000e-004	0.0198	1.5000e-004	0.0200	5.3000e-003	1.4000e-004	5.4300e-003	0.0000	17.3627	17.3627	7.8000e-004	0.0000	17.3791
Total	**5.1700e-003**	**7.6100e-003**	**0.0800**	**2.6000e-004**	**0.0198**	**1.5000e-004**	**0.0200**	**5.3000e-003**	**1.4000e-004**	**5.4300e-003**	**0.0000**	**17.3627**	**17.3627**	**7.8000e-004**	**0.0000**	**17.3791**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1742	1.8058	1.8802	2.9200e-003		0.0968	0.0968		0.0891	0.0891	0.0000	256.7870	256.7870	0.0831	0.0000	258.5310
Paving	0.0400					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2143**	**1.8058**	**1.8802**	**2.9200e-003**		**0.0968**	**0.0968**		**0.0891**	**0.0891**	**0.0000**	**256.7870**	**256.7870**	**0.0831**	**0.0000**	**258.5310**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9100e-003	7.1300e-003	0.0754	2.6000e-004	0.0216	1.5000e-004	0.0217	5.7300e-003	1.4000e-004	5.8700e-003	0.0000	16.7313	16.7313	7.5000e-004	0.0000	16.7470
Total	**4.9100e-003**	**7.1300e-003**	**0.0754**	**2.6000e-004**	**0.0216**	**1.5000e-004**	**0.0217**	**5.7300e-003**	**1.4000e-004**	**5.8700e-003**	**0.0000**	**16.7313**	**16.7313**	**7.5000e-004**	**0.0000**	**16.7470**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1742	1.8058	1.8802	2.9200e-003		0.0968	0.0968		0.0891	0.0891	0.0000	256.7867	256.7867	0.0831	0.0000	258.5307
Paving	0.0400					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2143**	**1.8058**	**1.8802**	**2.9200e-003**		**0.0968**	**0.0968**		**0.0891**	**0.0891**	**0.0000**	**256.7867**	**256.7867**	**0.0831**	**0.0000**	**258.5307**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9100e-003	7.1300e-003	0.0754	2.6000e-004	0.0199	1.5000e-004	0.0200	5.3200e-003	1.4000e-004	5.4500e-003	0.0000	16.7313	16.7313	7.5000e-004	0.0000	16.7470
Total	**4.9100e-003**	**7.1300e-003**	**0.0754**	**2.6000e-004**	**0.0199**	**1.5000e-004**	**0.0200**	**5.3200e-003**	**1.4000e-004**	**5.4500e-003**	**0.0000**	**16.7313**	**16.7313**	**7.5000e-004**	**0.0000**	**16.7470**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1606	1.6522	1.8730	2.9100e-003		0.0868	0.0868		0.0799	0.0799	0.0000	255.7472	255.7472	0.0827	0.0000	257.4842
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2005**	**1.6522**	**1.8730**	**2.9100e-003**		**0.0868**	**0.0868**		**0.0799**	**0.0799**	**0.0000**	**255.7472**	**255.7472**	**0.0827**	**0.0000**	**257.4842**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6500e-003	6.6700e-003	0.0709	2.6000e-004	0.0215	1.5000e-004	0.0216	5.7100e-003	1.4000e-004	5.8500e-003	0.0000	16.3929	16.3929	7.2000e-004	0.0000	16.4079
Total	**4.6500e-003**	**6.6700e-003**	**0.0709**	**2.6000e-004**	**0.0215**	**1.5000e-004**	**0.0216**	**5.7100e-003**	**1.4000e-004**	**5.8500e-003**	**0.0000**	**16.3929**	**16.3929**	**7.2000e-004**	**0.0000**	**16.4079**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1606	1.6522	1.8730	2.9100e-003		0.0868	0.0868		0.0799	0.0799	0.0000	255.7469	255.7469	0.0827	0.0000	257.4839
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2005**	**1.6522**	**1.8730**	**2.9100e-003**		**0.0868**	**0.0868**		**0.0799**	**0.0799**	**0.0000**	**255.7469**	**255.7469**	**0.0827**	**0.0000**	**257.4839**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6500e-003	6.6700e-003	0.0709	2.6000e-004	0.0198	1.5000e-004	0.0200	5.3000e-003	1.4000e-004	5.4400e-003	0.0000	16.3929	16.3929	7.2000e-004	0.0000	16.4079
Total	**4.6500e-003**	**6.6700e-003**	**0.0709**	**2.6000e-004**	**0.0198**	**1.5000e-004**	**0.0200**	**5.3000e-003**	**1.4000e-004**	**5.4400e-003**	**0.0000**	**16.3929**	**16.3929**	**7.2000e-004**	**0.0000**	**16.4079**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1406	1.4184	1.8566	2.9000e-003		0.0725	0.0725		0.0667	0.0667	0.0000	254.8185	254.8185	0.0824	0.0000	256.5492
Paving	0.0397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1803**	**1.4184**	**1.8566**	**2.9000e-003**		**0.0725**	**0.0725**		**0.0667**	**0.0667**	**0.0000**	**254.8185**	**254.8185**	**0.0824**	**0.0000**	**256.5492**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4100e-003	6.2700e-003	0.0668	2.6000e-004	0.0214	1.5000e-004	0.0216	5.6800e-003	1.4000e-004	5.8300e-003	0.0000	16.0641	16.0641	6.9000e-004	0.0000	16.0785
Total	**4.4100e-003**	**6.2700e-003**	**0.0668**	**2.6000e-004**	**0.0214**	**1.5000e-004**	**0.0216**	**5.6800e-003**	**1.4000e-004**	**5.8300e-003**	**0.0000**	**16.0641**	**16.0641**	**6.9000e-004**	**0.0000**	**16.0785**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1406	1.4184	1.8566	2.9000e-003		0.0725	0.0725		0.0667	0.0667	0.0000	254.8182	254.8182	0.0824	0.0000	256.5489
Paving	0.0397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1803**	**1.4184**	**1.8566**	**2.9000e-003**		**0.0725**	**0.0725**		**0.0667**	**0.0667**	**0.0000**	**254.8182**	**254.8182**	**0.0824**	**0.0000**	**256.5489**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4100e-003	6.2700e-003	0.0668	2.6000e-004	0.0197	1.5000e-004	0.0199	5.2700e-003	1.4000e-004	5.4200e-003	0.0000	16.0641	16.0641	6.9000e-004	0.0000	16.0785
Total	**4.4100e-003**	**6.2700e-003**	**0.0668**	**2.6000e-004**	**0.0197**	**1.5000e-004**	**0.0199**	**5.2700e-003**	**1.4000e-004**	**5.4200e-003**	**0.0000**	**16.0641**	**16.0641**	**6.9000e-004**	**0.0000**	**16.0785**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1023	1.0098	1.4428	2.2500e-003		0.0506	0.0506		0.0466	0.0466	0.0000	197.9677	197.9677	0.0640	0.0000	199.3122
Paving	0.0309					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1331**	**1.0098**	**1.4428**	**2.2500e-003**		**0.0506**	**0.0506**		**0.0466**	**0.0466**	**0.0000**	**197.9677**	**197.9677**	**0.0640**	**0.0000**	**199.3122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2700e-003	4.6100e-003	0.0492	2.0000e-004	0.0166	1.2000e-004	0.0168	4.4200e-003	1.1000e-004	4.5300e-003	0.0000	12.2934	12.2934	5.1000e-004	0.0000	12.3042
Total	**3.2700e-003**	**4.6100e-003**	**0.0492**	**2.0000e-004**	**0.0166**	**1.2000e-004**	**0.0168**	**4.4200e-003**	**1.1000e-004**	**4.5300e-003**	**0.0000**	**12.2934**	**12.2934**	**5.1000e-004**	**0.0000**	**12.3042**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1023	1.0098	1.4428	2.2500e-003		0.0506	0.0506		0.0466	0.0466	0.0000	197.9674	197.9674	0.0640	0.0000	199.3120
Paving	0.0309					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1331**	**1.0098**	**1.4428**	**2.2500e-003**		**0.0506**	**0.0506**		**0.0466**	**0.0466**	**0.0000**	**197.9674**	**197.9674**	**0.0640**	**0.0000**	**199.3120**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2700e-003	4.6100e-003	0.0492	2.0000e-004	0.0153	1.2000e-004	0.0155	4.1000e-003	1.1000e-004	4.2100e-003	0.0000	12.2934	12.2934	5.1000e-004	0.0000	12.3042
Total	**3.2700e-003**	**4.6100e-003**	**0.0492**	**2.0000e-004**	**0.0153**	**1.2000e-004**	**0.0155**	**4.1000e-003**	**1.1000e-004**	**4.2100e-003**	**0.0000**	**12.2934**	**12.2934**	**5.1000e-004**	**0.0000**	**12.3042**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	73.6536					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.2742	0.2344	3.7000e-004		0.0218	0.0218		0.0218	0.0218	0.0000	32.0433	32.0433	3.3800e-003	0.0000	32.1144
Total	**73.6953**	**0.2742**	**0.2344**	**3.7000e-004**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**32.0433**	**32.0433**	**3.3800e-003**	**0.0000**	**32.1144**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0358	0.0531	0.5546	1.5100e-003	0.1268	8.8000e-004	0.1276	0.0337	8.1000e-004	0.0345	0.0000	109.8280	109.8280	5.1900e-003	0.0000	109.9369
Total	**0.0358**	**0.0531**	**0.5546**	**1.5100e-003**	**0.1268**	**8.8000e-004**	**0.1276**	**0.0337**	**8.1000e-004**	**0.0345**	**0.0000**	**109.8280**	**109.8280**	**5.1900e-003**	**0.0000**	**109.9369**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	73.6536					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.2742	0.2344	3.7000e-004		0.0218	0.0218		0.0218	0.0218	0.0000	32.0433	32.0433	3.3800e-003	0.0000	32.1143
Total	**73.6953**	**0.2742**	**0.2344**	**3.7000e-004**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**32.0433**	**32.0433**	**3.3800e-003**	**0.0000**	**32.1143**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0358	0.0531	0.5546	1.5100e-003	0.1169	8.8000e-004	0.1177	0.0312	8.1000e-004	0.0321	0.0000	109.8280	109.8280	5.1900e-003	0.0000	109.9369
Total	**0.0358**	**0.0531**	**0.5546**	**1.5100e-003**	**0.1169**	**8.8000e-004**	**0.1177**	**0.0312**	**8.1000e-004**	**0.0321**	**0.0000**	**109.8280**	**109.8280**	**5.1900e-003**	**0.0000**	**109.9369**

Construction

Orange County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	5	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00

Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	6	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	9	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	4.17000E-002	2.74220E-001	2.34440E-001	3.70000E-004	2.17500E-002	2.17500E-002	0.00000E+000	3.20433E+001	3.20433E+001	3.38000E-003	0.00000E+000	3.21144E+001
Concrete/Industrial Saws	6.62200E-002	4.85780E-001	4.27400E-001	7.10000E-004	3.49500E-002	3.49500E-002	0.00000E+000	6.12928E+001	6.12928E+001	5.39000E-003	0.00000E+000	6.14061E+001
Cranes	5.99250E-001	6.55969E+000	2.97551E+000	8.80000E-003	2.77660E-001	2.55590E-001	0.00000E+000	7.79443E+002	7.79443E+002	2.39280E-001	0.00000E+000	7.84468E+002
Excavators	2.45630E-001	2.71335E+000	2.37182E+000	3.68000E-003	1.33290E-001	1.22630E-001	0.00000E+000	3.40543E+002	3.40543E+002	1.04560E-001	0.00000E+000	3.42739E+002
Forklifts	6.32050E-001	5.69739E+000	6.16576E+000	8.17000E-003	3.79580E-001	3.49330E-001	0.00000E+000	7.23670E+002	7.23670E+002	2.22440E-001	0.00000E+000	7.28341E+002
Generator Sets	6.04480E-001	5.23595E+000	6.51068E+000	1.16200E-002	2.65430E-001	2.65430E-001	0.00000E+000	9.98439E+002	9.98439E+002	4.83400E-002	0.00000E+000	9.99454E+002
Graders	1.62530E-001	1.63979E+000	8.45990E-001	1.10000E-003	9.21300E-002	8.47600E-002	0.00000E+000	1.01594E+002	1.01594E+002	3.12600E-002	0.00000E+000	1.02251E+002
Pavers	4.64670E-001	4.98739E+000	4.94014E+000	7.99000E-003	2.42240E-001	2.22860E-001	0.00000E+000	7.13784E+002	7.13784E+002	2.26950E-001	0.00000E+000	7.18550E+002
Paving Equipment	3.71840E-001	3.91468E+000	4.42784E+000	7.09000E-003	1.93480E-001	1.78000E-001	0.00000E+000	6.33604E+002	6.33604E+002	2.01450E-001	0.00000E+000	6.37834E+002
Rollers	3.85560E-001	3.81148E+000	3.36528E+000	4.63000E-003	2.47110E-001	2.27340E-001	0.00000E+000	4.14274E+002	4.14274E+002	1.31720E-001	0.00000E+000	4.17040E+002
Rubber Tired Dozers	7.20790E-001	7.97796E+000	6.01826E+000	5.42000E-003	3.70450E-001	3.40820E-001	0.00000E+000	5.03002E+002	5.03002E+002	1.54300E-001	0.00000E+000	5.06242E+002
Scrapers	4.42680E-001	5.54099E+000	3.45536E+000	5.26000E-003	2.21420E-001	2.03710E-001	0.00000E+000	4.85852E+002	4.85852E+002	1.49490E-001	0.00000E+000	4.88991E+002
Tractors/Loaders/Backhoes	1.02470E+000	1.00541E+001	1.20071E+001	1.65200E-002	5.94630E-001	5.47340E-001	0.00000E+000	1.46977E+003	1.46977E+003	4.51780E-001	0.00000E+000	1.47926E+003
Welders	5.12230E-001	2.57610E+000	3.02999E+000	4.51000E-003	1.15010E-001	1.15010E-001	0.00000E+000	3.32492E+002	3.32492E+002	4.16700E-002	0.00000E+000	3.33367E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	4.17000E-002	2.74220E-001	2.34440E-001	3.70000E-004	2.17500E-002	2.17500E-002	0.00000E+000	3.20433E+001	3.20433E+001	3.38000E-003	0.00000E+000	3.21143E+001

Concrete/Industrial Saws	6.62200E-002	4.85770E-001	4.27400E-001	7.10000E-004	3.49500E-002	3.49500E-002	0.00000E+000	6.12928E+001	6.12928E+001	5.39000E-003	0.00000E+000	6.14060E+001
Cranes	5.99250E-001	6.55968E+000	2.97551E+000	8.80000E-003	2.77660E-001	2.55590E-001	0.00000E+000	7.79442E+002	7.79442E+002	2.39280E-001	0.00000E+000	7.84467E+002
Excavators	2.45630E-001	2.71335E+000	2.37182E+000	3.68000E-003	1.33290E-001	1.22630E-001	0.00000E+000	3.40543E+002	3.40543E+002	1.04560E-001	0.00000E+000	3.42738E+002
Forklifts	6.32050E-001	5.69739E+000	6.16575E+000	8.17000E-003	3.79580E-001	3.49330E-001	0.00000E+000	7.23669E+002	7.23669E+002	2.22440E-001	0.00000E+000	7.28340E+002
Generator Sets	6.04480E-001	5.23594E+000	6.51067E+000	1.16200E-002	2.65430E-001	2.65430E-001	0.00000E+000	9.98438E+002	9.98438E+002	4.83400E-002	0.00000E+000	9.99453E+002
Graders	1.62530E-001	1.63979E+000	8.45990E-001	1.10000E-003	9.21300E-002	8.47600E-002	0.00000E+000	1.01594E+002	1.01594E+002	3.12600E-002	0.00000E+000	1.02250E+002
Pavers	4.64660E-001	4.98738E+000	4.94014E+000	7.99000E-003	2.42240E-001	2.22860E-001	0.00000E+000	7.13783E+002	7.13783E+002	2.26950E-001	0.00000E+000	7.18549E+002
Paving Equipment	3.71840E-001	3.91467E+000	4.42784E+000	7.09000E-003	1.93480E-001	1.78000E-001	0.00000E+000	6.33603E+002	6.33603E+002	2.01450E-001	0.00000E+000	6.37834E+002
Rollers	3.85560E-001	3.81148E+000	3.36527E+000	4.63000E-003	2.47110E-001	2.27340E-001	0.00000E+000	4.14274E+002	4.14274E+002	1.31720E-001	0.00000E+000	4.17040E+002
Rubber Tired Dozers	7.20790E-001	7.97795E+000	6.01825E+000	5.42000E-003	3.70450E-001	3.40820E-001	0.00000E+000	5.03001E+002	5.03001E+002	1.54300E-001	0.00000E+000	5.06241E+002
Scrapers	4.42680E-001	5.54098E+000	3.45536E+000	5.26000E-003	2.21420E-001	2.03710E-001	0.00000E+000	4.85851E+002	4.85851E+002	1.49490E-001	0.00000E+000	4.88990E+002
Tractors/Loaders/Backhoes	1.02470E+000	1.00541E+001	1.20071E+001	1.65200E-002	5.94630E-001	5.47340E-001	0.00000E+000	1.46977E+003	1.46977E+003	4.51780E-001	0.00000E+000	1.47926E+003
Welders	5.12230E-001	2.57609E+000	3.02999E+000	4.51000E-003	1.15010E-001	1.15010E-001	0.00000E+000	3.32491E+002	3.32491E+002	4.16700E-002	0.00000E+000	3.33366E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.36232E-007	9.36232E-007	0.00000E+000	0.00000E+000	1.24555E-006
Concrete/Industrial Saws	0.00000E+000	2.05855E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.14206E-006	1.14206E-006	0.00000E+000	0.00000E+000	1.30280E-006
Cranes	0.00000E+000	1.52446E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19316E-006	1.19316E-006	0.00000E+000	0.00000E+000	1.19826E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20396E-006	1.20396E-006	0.00000E+000	0.00000E+000	1.16707E-006
Forklifts	0.00000E+000	0.00000E+000	1.62186E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18839E-006	1.18839E-006	0.00000E+000	0.00000E+000	1.19450E-006
Generator Sets	0.00000E+000	1.90987E-006	1.53594E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19186E-006	1.19186E-006	0.00000E+000	0.00000E+000	1.19065E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18117E-006	1.18117E-006	0.00000E+000	0.00000E+000	1.17359E-006
Pavers	2.15206E-005	2.00506E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17683E-006	1.17683E-006	0.00000E+000	0.00000E+000	1.18294E-006
Paving Equipment	0.00000E+000	2.55449E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18370E-006	1.18370E-006	0.00000E+000	0.00000E+000	1.19153E-006
Rollers	0.00000E+000	0.00000E+000	2.97152E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20693E-006	1.20693E-006	0.00000E+000	0.00000E+000	1.19893E-006
Rubber Tired Dozers	0.00000E+000	1.25345E-006	1.66161E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19284E-006	1.19284E-006	0.00000E+000	0.00000E+000	1.18520E-006
Scrapers	0.00000E+000	1.80473E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17320E-006	1.17320E-006	0.00000E+000	0.00000E+000	1.18612E-006

Tractors/Loaders/Backhoes	0.00000E+000	9.94622E-007	1.66568E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19066E-006	1.19066E-006	0.00000E+000	0.00000E+000	1.18979E-006
Welders	0.00000E+000	3.88184E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17296E-006	1.17296E-006	0.00000E+000	0.00000E+000	1.19988E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Replace Ground Cover of Area Disturbed	PM10 Reduction	5.00	PM2.5 Reduction	5.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	9.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.13	0.03	0.12	0.03	0.08	0.07
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	10.27	2.75	9.49	2.56	0.08	0.07
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Roads	0.02	0.00	0.02	0.00	0.08	0.07
Grading	Fugitive Dust	43.22	5.61	18.48	2.40	0.57	0.57
Grading	Roads	0.04	0.01	0.04	0.01	0.08	0.07
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.15	0.04	0.13	0.04	0.08	0.07
Site Preparation	Fugitive Dust	1.24	0.68	0.53	0.29	0.57	0.57
Site Preparation	Roads	0.01	0.00	0.01	0.00	0.08	0.07

CalEEMod Output: Construction – Current Plan

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Construction_Current SP

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,731.19	1000sqft	185.44	2,731,190.00	0
Government Office Building	40.85	1000sqft	2.05	40,850.00	0
Office Park	2,343.75	1000sqft	102.79	2,343,750.00	0
Elementary School	2,400.00	Student	38.10	200,648.09	0
High School	1,850.00	Student	9.39	245,422.81	0
Junior College (2Yr)	2,151.60	1000sqft	107.93	2,151,600.00	0
General Light Industry	627.05	1000sqft	33.77	627,050.00	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	276.61	Acre	276.61	0.00	0
Health Club	30.00	1000sqft	1.15	30,000.00	0
High Turnover (Sit Down Restaurant)	18.00	1000sqft	0.69	18,000.00	0
Hotel	500.00	Room	27.77	726,000.00	0
Movie Theater (No Matinee)	4,500.00	Seat	8.76	101,250.00	0
Apartments Low Rise	1,641.00	Dwelling Unit	138.80	1,641,000.00	0
Apartments Mid Rise	2,054.00	Dwelling Unit	122.76	2,054,000.00	0
Condo/Townhouse	1,033.00	Dwelling Unit	93.61	1,033,000.00	0
Congregate Care (Assisted Living)	159.00	Dwelling Unit	54.75	158,990.00	0
Retirement Community	240.00	Dwelling Unit	23.67	240,000.00	0

Regional Shopping Center	1,368.08	1000sqft	154.26	1,368,080.00	0
Supermarket	207.24	1000sqft	17.71	207,240.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the proposed land land use buildout.

Construction Phase - Based on a CalEEMod default schedule normalized to an 18.5-year buildout shedule (2035).

Trips and VMT - Default CalEEMod default daily trips divided by 18-year buildout duration.

Architectural Coating - Based on SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Per Mitigation Measure AQ-1 which requires conformance with SCAQMD Rules 403. SCAQMD Rule 1186 also applies.

Grading -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaCoating	Area_Nonresidential_Interior	16186622	12857058
tblAreaCoating	Area_Residential_Exterior	3460718	5855490
tblAreaCoating	Area_Residential_Interior	10382155	17566470
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	11,000.00	251.00

tblConstructionPhase	NumDays	155,000.00	3,533.00
tblConstructionPhase	NumDays	10,000.00	228.00
tblConstructionPhase	NumDays	15,500.00	353.00
tblConstructionPhase	NumDays	11,000.00	1,767.00
tblConstructionPhase	NumDays	6,000.00	137.00
tblConstructionPhase	PhaseEndDate	9/25/2024	12/18/2017
tblConstructionPhase	PhaseEndDate	11/24/2031	7/17/2030
tblConstructionPhase	PhaseEndDate	11/16/2018	5/9/2018
tblConstructionPhase	PhaseEndDate	4/24/2037	10/10/2023
tblConstructionPhase	PhaseEndDate	5/25/2018	7/11/2017
tblConstructionPhase	PhaseStartDate	10/11/2023	1/1/2017
tblConstructionPhase	PhaseStartDate	5/10/2018	1/1/2017
tblConstructionPhase	PhaseStartDate	7/12/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	7/18/2030	1/1/2017
tblConstructionPhase	PhaseStartDate	11/16/2017	1/1/2017
tblFireplaces	NumberGas	1,394.85	163.20
tblFireplaces	NumberGas	1,745.90	4,963.15
tblFireplaces	NumberGas	204.00	547.40
tblFireplaces	NumberNoFireplace	164.10	19.20
tblFireplaces	NumberNoFireplace	205.40	583.90
tblFireplaces	NumberNoFireplace	24.00	64.40
tblFireplaces	NumberWood	82.05	9.60
tblFireplaces	NumberWood	102.70	291.95
tblFireplaces	NumberWood	12.00	32.20
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	12,049,131.60	0.00
tblLandUse	LandUseSquareFeet	159,000.00	158,990.00

tblLandUse	LotAcreage	62.70	185.44
tblLandUse	LotAcreage	0.94	2.05
tblLandUse	LotAcreage	53.81	102.79
tblLandUse	LotAcreage	4.61	38.10
tblLandUse	LotAcreage	5.63	9.39
tblLandUse	LotAcreage	49.39	107.93
tblLandUse	LotAcreage	14.40	33.77
tblLandUse	LotAcreage	0.69	1.15
tblLandUse	LotAcreage	0.41	0.69
tblLandUse	LotAcreage	16.67	27.77
tblLandUse	LotAcreage	2.32	8.76
tblLandUse	LotAcreage	102.56	138.80
tblLandUse	LotAcreage	54.05	122.76
tblLandUse	LotAcreage	64.56	93.61
tblLandUse	LotAcreage	9.94	54.75
tblLandUse	LotAcreage	48.00	23.67
tblLandUse	LotAcreage	31.41	154.26
tblLandUse	LotAcreage	4.76	17.71
tblLandUse	Population	4,693.00	0.00
tblLandUse	Population	5,874.00	0.00
tblLandUse	Population	2,954.00	0.00
tblLandUse	Population	455.00	0.00
tblLandUse	Population	686.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	754.86	88.32
tblSolidWaste	SolidWasteGenerationRate	944.84	2,685.94
tblSolidWaste	SolidWasteGenerationRate	23.79	23.57

tblSolidWaste	SolidWasteGenerationRate	438.00	282.88
tblSolidWaste	SolidWasteGenerationRate	2,540.01	2,015.79
tblSolidWaste	SolidWasteGenerationRate	337.63	325.58
tblSolidWaste	SolidWasteGenerationRate	273.75	301.13
tblSolidWaste	SolidWasteGenerationRate	1,436.48	3,016.23
tblSolidWaste	SolidWasteGenerationRate	110.40	296.24
tblSolidWaste	SolidWasteGenerationRate	1,168.83	536.93
tblTripsAndVMT	VendorTripNumber	2,317.00	129.00
tblTripsAndVMT	WorkerTripNumber	7,555.00	420.00
tblTripsAndVMT	WorkerTripNumber	1,511.00	84.00
tblWater	IndoorWaterUseRate	106,917,756.04	12,509,572.92
tblWater	IndoorWaterUseRate	133,826,368.63	380,434,355.60
tblWater	IndoorWaterUseRate	5,818,176.00	3,757,572.00
tblWater	IndoorWaterUseRate	485,424,635.18	385,241,453.45
tblWater	IndoorWaterUseRate	8,149,176.00	7,858,448.64
tblWater	IndoorWaterUseRate	12,683,385.00	13,951,723.50
tblWater	IndoorWaterUseRate	40,662,148.00	31,626,115.11
tblWater	IndoorWaterUseRate	101,337,135.19	212,780,725.21
tblWater	IndoorWaterUseRate	15,636,966.15	41,959,192.50
tblWater	IndoorWaterUseRate	25,546,104.85	11,735,134.06
tblWater	OutdoorWaterUseRate	67,404,672.29	7,886,469.88
tblWater	OutdoorWaterUseRate	84,368,797.61	239,839,050.27
tblWater	OutdoorWaterUseRate	329,575,656.13	326,596,952.76
tblWater	OutdoorWaterUseRate	14,961,024.00	9,662,328.00
tblWater	OutdoorWaterUseRate	297,518,324.79	236,115,729.53
tblWater	OutdoorWaterUseRate	20,955,024.00	20,207,439.36
tblWater	OutdoorWaterUseRate	1,409,265.00	1,550,191.50

tblWater	OutdoorWaterUseRate	2,595,456.26	2,018,688.20
tblWater	OutdoorWaterUseRate	62,109,857.05	130,413,992.87
tblWater	OutdoorWaterUseRate	9,858,087.35	26,452,534.40
tblWater	OutdoorWaterUseRate	790,085.72	362,942.29
tblWoodstoves	NumberCatalytic	82.05	9.60
tblWoodstoves	NumberCatalytic	102.70	291.95
tblWoodstoves	NumberCatalytic	12.00	32.20
tblWoodstoves	NumberNoncatalytic	82.05	9.60
tblWoodstoves	NumberNoncatalytic	102.70	291.95
tblWoodstoves	NumberNoncatalytic	12.00	32.20

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	581.9866	225.8752	196.7541	0.2939	33.9396	11.4927	45.4323	15.4525	10.6460	26.0985	0.0000	28,192.5093	28,192.5093	5.9497	0.0000	28,317.4519
2018	12.3245	111.3443	108.2543	0.1969	14.5655	5.4055	19.9709	5.1749	5.0032	10.1781	0.0000	18,274.0435	18,274.0435	3.5018	0.0000	18,347.5816
2019	6.3138	46.3805	62.6215	0.1329	5.6687	2.2676	7.9363	1.5192	2.1125	3.6316	0.0000	11,624.5457	11,624.5457	1.5386	0.0000	11,656.8558
2020	5.8317	42.1129	60.6036	0.1329	5.6687	2.0130	7.6817	1.5192	1.8749	3.3941	0.0000	11,310.1571	11,310.1571	1.5206	0.0000	11,342.0897
2021	5.4256	37.9866	59.1041	0.1329	5.6688	1.7698	7.4385	1.5192	1.6478	3.1670	0.0000	11,241.4813	11,241.4813	1.5063	0.0000	11,273.1136

2022	5.0118	33.7469	57.6975	0.1329	5.6688	1.5121	7.1809	1.5192	1.4082	2.9275	0.0000	11,176.2309	11,176.2309	1.4960	0.0000	11,207.6474
2023	4.6974	30.3149	56.3515	0.1328	5.6689	1.3452	7.0141	1.5192	1.2526	2.7718	0.0000	11,106.2025	11,106.2025	1.4840	0.0000	11,137.3659
2024	3.1828	19.2334	40.6090	0.1085	5.5013	0.7596	6.2609	1.4748	0.7118	2.1866	0.0000	8,761.5727	8,761.5727	0.7708	0.0000	8,777.7592
2025	3.0218	18.1794	39.7280	0.1085	5.5014	0.6750	6.1764	1.4749	0.6321	2.1070	0.0000	8,717.8814	8,717.8814	0.7632	0.0000	8,733.9080
2026	2.9613	17.9949	39.0489	0.1085	5.5015	0.6706	6.1721	1.4749	0.6281	2.1030	0.0000	8,678.8689	8,678.8689	0.7589	0.0000	8,694.8060
2027	2.9225	17.9214	38.5565	0.1085	5.5016	0.6712	6.1728	1.4750	0.6286	2.1036	0.0000	8,645.8699	8,645.8699	0.7557	0.0000	8,661.7392
2028	2.8847	17.8444	38.1303	0.1085	5.5017	0.6707	6.1725	1.4750	0.6283	2.1033	0.0000	8,617.5510	8,617.5510	0.7527	0.0000	8,633.3583
2029	2.8504	17.7912	37.7322	0.1085	5.5019	0.6711	6.1730	1.4750	0.6286	2.1037	0.0000	8,593.4608	8,593.4608	0.7500	0.0000	8,609.2110
2030	2.7548	13.2482	37.4265	0.1125	5.5019	0.2941	5.7960	1.4751	0.2826	1.7577	0.0000	8,911.8101	8,911.8101	0.2657	0.0000	8,917.3905
Total	**642.1696**	**649.9740**	**872.6178**	**1.9184**	**115.3602**	**30.2181**	**145.5783**	**38.5480**	**28.0853**	**66.6333**	**0.0000**	**163,852.1850**	**163,852.1850**	**21.8140**	**0.0000**	**164,310.2782**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	581.9866	225.8752	196.7541	0.2939	18.0780	11.4927	29.5706	7.5724	10.6460	18.2184	0.0000	28,192.5093	28,192.5093	5.9497	0.0000	28,317.4519
2018	12.3245	111.3443	108.2543	0.1969	9.1491	5.4055	14.5546	3.0053	5.0032	8.0085	0.0000	18,274.0435	18,274.0435	3.5018	0.0000	18,347.5816
2019	6.3138	46.3805	62.6215	0.1329	5.2353	2.2676	7.5029	1.4128	2.1125	3.5253	0.0000	11,624.5457	11,624.5457	1.5386	0.0000	11,656.8558
2020	5.8317	42.1129	60.6036	0.1329	5.2353	2.0130	7.2483	1.4128	1.8749	3.2877	0.0000	11,310.1571	11,310.1571	1.5206	0.0000	11,342.0897

2021	5.4256	37.9866	59.1041	0.1329	5.2354	1.7698	7.0051	1.4128	1.6478	3.0606	0.0000	11,241.4813	11,241.4813	1.5063	0.0000	11,273.1136
2022	5.0118	33.7469	57.6975	0.1329	5.2354	1.5121	6.7475	1.4128	1.4082	2.8211	0.0000	11,176.2309	11,176.2309	1.4960	0.0000	11,207.6474
2023	4.6974	30.3149	56.3515	0.1328	5.2355	1.3452	6.5807	1.4129	1.2526	2.6654	0.0000	11,106.2024	11,106.2024	1.4840	0.0000	11,137.3659
2024	3.1828	19.2334	40.6090	0.1085	5.0810	0.7596	5.8406	1.3717	0.7118	2.0834	0.0000	8,761.5727	8,761.5727	0.7708	0.0000	8,777.7592
2025	3.0218	18.1794	39.7280	0.1085	5.0811	0.6750	5.7561	1.3717	0.6321	2.0038	0.0000	8,717.8814	8,717.8814	0.7632	0.0000	8,733.9080
2026	2.9613	17.9949	39.0489	0.1085	5.0812	0.6706	5.7518	1.3717	0.6281	1.9998	0.0000	8,678.8689	8,678.8689	0.7589	0.0000	8,694.8060
2027	2.9225	17.9214	38.5565	0.1085	5.0814	0.6712	5.7525	1.3718	0.6286	2.0004	0.0000	8,645.8699	8,645.8699	0.7557	0.0000	8,661.7392
2028	2.8847	17.8444	38.1303	0.1085	5.0815	0.6707	5.7522	1.3718	0.6283	2.0001	0.0000	8,617.5510	8,617.5510	0.7527	0.0000	8,633.3583
2029	2.8504	17.7912	37.7322	0.1085	5.0816	0.6711	5.7527	1.3719	0.6286	2.0005	0.0000	8,593.4608	8,593.4608	0.7500	0.0000	8,609.2110
2030	2.7548	13.2482	37.4265	0.1125	5.0817	0.2941	5.3757	1.3719	0.2826	1.6546	0.0000	8,911.8101	8,911.8101	0.2657	0.0000	8,917.3905
Total	**642.1696**	**649.9740**	**872.6178**	**1.9184**	**88.9732**	**30.2181**	**119.1914**	**27.2442**	**28.0853**	**55.3295**	**0.0000**	**163,852.1849**	**163,852.1849**	**21.8140**	**0.0000**	**164,310.2781**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**22.87**	**0.00**	**18.13**	**29.32**	**0.00**	**16.96**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	11/15/2017	5	228	
2	Site Preparation	Site Preparation	1/1/2017	7/11/2017	5	137	
3	Grading	Grading	1/1/2017	5/9/2018	5	353	

4	Building Construction	Building Construction	1/1/2017	7/17/2030	5	3533	
5	Paving	Paving	1/1/2017	10/10/2023	5	1767	
6	Architectural Coating	Architectural Coating	1/1/2017	12/18/2017	5	251	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 882.5

Acres of Paving: 0

Residential Indoor: 10,382,155; Residential Outdoor: 3,460,718; Non-Residential Indoor: 16,186,621; Non-Residential Outdoor: 5,395,540

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42

Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	420.00	129.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	84.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797		4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**		**2.1252**	**2.1252**		**1.9797**	**1.9797**		**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0671	0.7054	1.9300e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797	0.0000	4,036.4674	4,036.4674	1.1073		4,059.7211

Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**		**2.1252**	**2.1252**		**1.9797**	**1.9797**	**0.0000**	**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0671	0.7054	1.9300e-003	0.1546	1.1500e-003	0.1557	0.0413	1.0600e-003	0.0423		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1546**	**1.1500e-003**	**0.1557**	**0.0413**	**1.0600e-003**	**0.0423**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.0859	4,003.0859	1.2265		4,028.8432

Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0598	0.0806	0.8465	2.3100e-003	0.2012	1.3700e-003	0.2026	0.0534	1.2700e-003	0.0546		185.9347	185.9347	8.9100e-003		186.1218
Total	**0.0598**	**0.0806**	**0.8465**	**2.3100e-003**	**0.2012**	**1.3700e-003**	**0.2026**	**0.0534**	**1.2700e-003**	**0.0546**		**185.9347**	**185.9347**	**8.9100e-003**		**186.1218**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.7233	0.0000	7.7233	4.2454	0.0000	4.2454			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339	0.0000	4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**7.7233**	**2.7542**	**10.4776**	**4.2454**	**2.5339**	**6.7793**	**0.0000**	**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0598	0.0806	0.8465	2.3100e-003	0.1855	1.3700e-003	0.1868	0.0495	1.2700e-003	0.0508		185.9347	185.9347	8.9100e-003		186.1218
Total	**0.0598**	**0.0806**	**0.8465**	**2.3100e-003**	**0.1855**	**1.3700e-003**	**0.1868**	**0.0495**	**1.2700e-003**	**0.0508**		**185.9347**	**185.9347**	**8.9100e-003**		**186.1218**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518		6,313.3690	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**8.6733**	**3.3172**	**11.9905**	**3.5965**	**3.0518**	**6.6483**		**6,313.3690**	**6,313.3690**	**1.9344**		**6,353.9915**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0664	0.0895	0.9406	2.5700e-003	0.2236	1.5300e-003	0.2251	0.0593	1.4100e-003	0.0607		206.5941	206.5941	9.9000e-003		206.8020
Total	**0.0664**	**0.0895**	**0.9406**	**2.5700e-003**	**0.2236**	**1.5300e-003**	**0.2251**	**0.0593**	**1.4100e-003**	**0.0607**		**206.5941**	**206.5941**	**9.9000e-003**		**206.8020**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.7079	0.0000	3.7079	1.5375	0.0000	1.5375			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518	0.0000	6,313.3690	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**3.7079**	**3.3172**	**7.0250**	**1.5375**	**3.0518**	**4.5893**	**0.0000**	**6,313.3690**	**6,313.3690**	**1.9344**		**6,353.9915**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0664	0.0895	0.9406	2.5700e-003	0.2061	1.5300e-003	0.2076	0.0550	1.4100e-003	0.0564		206.5941	206.5941	9.9000e-003		206.8020
Total	**0.0664**	**0.0895**	**0.9406**	**2.5700e-003**	**0.2061**	**1.5300e-003**	**0.2076**	**0.0550**	**1.4100e-003**	**0.0564**		**206.5941**	**206.5941**	**9.9000e-003**		**206.8020**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650		6,212.8042	6,212.8042	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**8.6733**	**2.7880**	**11.4614**	**3.5965**	**2.5650**	**6.1615**		**6,212.8042**	**6,212.8042**	**1.9341**		**6,253.4209**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0605	0.0817	0.8587	2.5700e-003	0.2236	1.5100e-003	0.2251	0.0593	1.4000e-003	0.0607		198.8451	198.8451	9.2400e-003		199.0392
Total	**0.0605**	**0.0817**	**0.8587**	**2.5700e-003**	**0.2236**	**1.5100e-003**	**0.2251**	**0.0593**	**1.4000e-003**	**0.0607**		**198.8451**	**198.8451**	**9.2400e-003**		**199.0392**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.7079	0.0000	3.7079	1.5375	0.0000	1.5375			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650	0.0000	6,212.8041	6,212.8041	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**3.7079**	**2.7880**	**6.4959**	**1.5375**	**2.5650**	**4.1025**	**0.0000**	**6,212.8041**	**6,212.8041**	**1.9341**		**6,253.4209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0605	0.0817	0.8587	2.5700e-003	0.2061	1.5100e-003	0.2076	0.0550	1.4000e-003	0.0564		198.8451	198.8451	9.2400e-003		199.0392
Total	**0.0605**	**0.0817**	**0.8587**	**2.5700e-003**	**0.2061**	**1.5100e-003**	**0.2076**	**0.0550**	**1.4000e-003**	**0.0564**		**198.8451**	**198.8451**	**9.2400e-003**		**199.0392**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	1.1500	10.3854	15.0340	0.0277	0.8064	0.1595	0.9658	0.2297	0.1466	0.3763		2,728.6844	2,728.6844	0.0198		2,729.1011
Worker	1.3945	1.8799	19.7521	0.0539	4.6946	0.0321	4.7267	1.2450	0.0296	1.2747		4,338.4755	4,338.4755	0.2080		4,342.8426
Total	**2.5445**	**12.2652**	**34.7861**	**0.0816**	**5.5010**	**0.1915**	**5.6925**	**1.4747**	**0.1763**	**1.6510**		**7,067.1599**	**7,067.1599**	**0.2278**		**7,071.9437**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1500	10.3854	15.0340	0.0277	0.7534	0.1595	0.9129	0.2167	0.1466	0.3633		2,728.6844	2,728.6844	0.0198		2,729.1011

Worker	1.3945	1.8799	19.7521	0.0539	4.3273	0.0321	4.3594	1.1549	0.0296	1.1845		4,338.4755	4,338.4755	0.2080		4,342.8426
Total	**2.5445**	**12.2652**	**34.7861**	**0.0816**	**5.0807**	**0.1915**	**5.2722**	**1.3715**	**0.1763**	**1.5478**		**7,067.1599**	**7,067.1599**	**0.2278**		**7,071.9437**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0725	9.5288	14.3851	0.0276	0.8063	0.1502	0.9565	0.2296	0.1381	0.3678		2,682.3045	2,682.3045	0.0198		2,682.7194
Worker	1.2710	1.7152	18.0326	0.0539	4.6946	0.0317	4.7263	1.2450	0.0294	1.2744		4,175.7474	4,175.7474	0.1941		4,179.8229

Total	**2.3435**	**11.2440**	**32.4177**	**0.0816**	**5.5009**	**0.1819**	**5.6828**	**1.4747**	**0.1675**	**1.6421**		**6,858.0520**	**6,858.0520**	**0.2138**		**6,862.5423**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0725	9.5288	14.3851	0.0276	0.7534	0.1502	0.9035	0.2166	0.1381	0.3548		2,682.3045	2,682.3045	0.0198		2,682.7194
Worker	1.2710	1.7152	18.0326	0.0539	4.3273	0.0317	4.3590	1.1549	0.0294	1.1842		4,175.7474	4,175.7474	0.1941		4,179.8229
Total	**2.3435**	**11.2440**	**32.4177**	**0.0816**	**5.0806**	**0.1819**	**5.2625**	**1.3715**	**0.1675**	**1.5390**		**6,858.0520**	**6,858.0520**	**0.2138**		**6,862.5423**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083		2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**		**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0005	8.8338	13.7462	0.0277	0.8064	0.1401	0.9464	0.2297	0.1288	0.3585		2,645.0398	2,645.0398	0.0199		2,645.4576
Worker	1.1879	1.5895	16.7901	0.0542	4.6946	0.0320	4.7266	1.2450	0.0296	1.2747		4,045.2961	4,045.2961	0.1853		4,049.1865
Total	**2.1885**	**10.4233**	**30.5363**	**0.0819**	**5.5010**	**0.1720**	**5.6730**	**1.4747**	**0.1585**	**1.6332**		**6,690.3359**	**6,690.3359**	**0.2052**		**6,694.6441**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083	0.0000	2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**	**0.0000**	**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0005	8.8338	13.7462	0.0277	0.7534	0.1401	0.8935	0.2167	0.1288	0.3455		2,645.0398	2,645.0398	0.0199		2,645.4576
Worker	1.1879	1.5895	16.7901	0.0542	4.3273	0.0320	4.3593	1.1549	0.0296	1.1845		4,045.2961	4,045.2961	0.1853		4,049.1865
Total	**2.1885**	**10.4233**	**30.5363**	**0.0819**	**5.0807**	**0.1720**	**5.2527**	**1.3715**	**0.1585**	**1.5300**		**6,690.3359**	**6,690.3359**	**0.2052**		**6,694.6441**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465		2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**		**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9211	7.7077	13.1385	0.0276	0.8064	0.1279	0.9343	0.2297	0.1177	0.3473		2,584.9635	2,584.9635	0.0195		2,585.3738
Worker	1.1237	1.4839	15.7421	0.0542	4.6946	0.0321	4.7267	1.2450	0.0298	1.2748		3,883.2684	3,883.2684	0.1765		3,886.9748
Total	**2.0448**	**9.1915**	**28.8806**	**0.0818**	**5.5010**	**0.1600**	**5.6610**	**1.4747**	**0.1474**	**1.6222**		**6,468.2319**	**6,468.2319**	**0.1960**		**6,472.3485**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465	0.0000	2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**	**0.0000**	**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9211	7.7077	13.1385	0.0276	0.7535	0.1279	0.8814	0.2167	0.1177	0.3343		2,584.9635	2,584.9635	0.0195		2,585.3738
Worker	1.1237	1.4839	15.7421	0.0542	4.3273	0.0321	4.3594	1.1549	0.0298	1.1847		3,883.2684	3,883.2684	0.1765		3,886.9748
Total	**2.0448**	**9.1915**	**28.8806**	**0.0818**	**5.0808**	**0.1600**	**5.2408**	**1.3716**	**0.1474**	**1.5190**		**6,468.2319**	**6,468.2319**	**0.1960**		**6,472.3485**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979		2,542.7817	2,542.7817	0.6126		2,555.6462
Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**		**2,542.7817**	**2,542.7817**	**0.6126**		**2,555.6462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8892	6.5422	12.8309	0.0276	0.8065	0.1162	0.9226	0.2297	0.1069	0.3366		2,582.7857	2,582.7857	0.0197		2,583.1988
Worker	1.0689	1.3937	14.8523	0.0542	4.6946	0.0324	4.7270	1.2450	0.0300	1.2751		3,819.2588	3,819.2588	0.1693		3,822.8145
Total	**1.9581**	**7.9359**	**27.6832**	**0.0818**	**5.5011**	**0.1486**	**5.6496**	**1.4747**	**0.1369**	**1.6117**		**6,402.0445**	**6,402.0445**	**0.1890**		**6,406.0133**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979	0.0000	2,542.7817	2,542.7817	0.6126		2,555.6462

Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**	**0.0000**	**2,542.7817**	**2,542.7817**	**0.6126**		**2,555.6462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8892	6.5422	12.8309	0.0276	0.7535	0.1162	0.8697	0.2167	0.1069	0.3236		2,582.7857	2,582.7857	0.0197		2,583.1988
Worker	1.0689	1.3937	14.8523	0.0542	4.3273	0.0324	4.3597	1.1549	0.0300	1.1849		3,819.2588	3,819.2588	0.1693		3,822.8145
Total	**1.9581**	**7.9359**	**27.6832**	**0.0818**	**5.0808**	**0.1486**	**5.2294**	**1.3716**	**0.1369**	**1.5085**		**6,402.0445**	**6,402.0445**	**0.1890**		**6,406.0133**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581		2,543.7497	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**		**2,543.7497**	**2,543.7497**	**0.6085**		**2,556.5286**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8706	5.9383	12.5425	0.0276	0.8065	0.1149	0.9214	0.2297	0.1057	0.3354		2,580.6129	2,580.6129	0.0201		2,581.0352
Worker	1.0187	1.3145	14.0444	0.0542	4.6946	0.0327	4.7273	1.2450	0.0303	1.2753		3,757.0028	3,757.0028	0.1628		3,760.4210
Total	**1.8893**	**7.2528**	**26.5869**	**0.0818**	**5.5012**	**0.1475**	**5.6487**	**1.4748**	**0.1360**	**1.6107**		**6,337.6157**	**6,337.6157**	**0.1829**		**6,341.4562**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581	0.0000	2,543.7497	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**	**0.0000**	**2,543.7497**	**2,543.7497**	**0.6085**		**2,556.5286**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8706	5.9383	12.5425	0.0276	0.7536	0.1149	0.8685	0.2167	0.1057	0.3224		2,580.6129	2,580.6129	0.0201		2,581.0352
Worker	1.0187	1.3145	14.0444	0.0542	4.3273	0.0327	4.3599	1.1549	0.0303	1.1852		3,757.0028	3,757.0028	0.1628		3,760.4210
Total	**1.8893**	**7.2528**	**26.5869**	**0.0818**	**5.0809**	**0.1475**	**5.2284**	**1.3716**	**0.1360**	**1.5076**		**6,337.6157**	**6,337.6157**	**0.1829**		**6,341.4562**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557		2,544.6262	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**		**2,544.6262**	**2,544.6262**	**0.6044**		**2,557.3191**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8066	4.7149	12.0677	0.0274	0.8066	0.1134	0.9200	0.2297	0.1043	0.3341		2,568.2067	2,568.2067	0.0181		2,568.5876
Worker	0.9717	1.2447	13.3141	0.0542	4.6946	0.0329	4.7275	1.2450	0.0305	1.2756		3,700.5917	3,700.5917	0.1570		3,703.8890
Total	**1.7783**	**5.9596**	**25.3818**	**0.0817**	**5.5012**	**0.1463**	**5.6475**	**1.4748**	**0.1349**	**1.6097**		**6,268.7984**	**6,268.7984**	**0.1752**		**6,272.4767**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557	0.0000	2,544.6262	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**	**0.0000**	**2,544.6262**	**2,544.6262**	**0.6044**		**2,557.3191**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8066	4.7149	12.0677	0.0274	0.7536	0.1134	0.8670	0.2168	0.1043	0.3211		2,568.2067	2,568.2067	0.0181		2,568.5876
Worker	0.9717	1.2447	13.3141	0.0542	4.3273	0.0329	4.3602	1.1549	0.0305	1.1854		3,700.5917	3,700.5917	0.1570		3,703.8890
Total	**1.7783**	**5.9596**	**25.3818**	**0.0817**	**5.0809**	**0.1463**	**5.2272**	**1.3716**	**0.1349**	**1.5065**		**6,268.7984**	**6,268.7984**	**0.1752**		**6,272.4767**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744		2,545.1154	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**		**2,545.1154**	**2,545.1154**	**0.6009**		**2,557.7349**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7908	4.6744	11.8700	0.0274	0.8067	0.1159	0.9226	0.2298	0.1067	0.3364		2,567.6750	2,567.6750	0.0182		2,568.0577
Worker	0.9267	1.1815	12.6058	0.0542	4.6946	0.0331	4.7277	1.2450	0.0307	1.2758		3,648.7823	3,648.7823	0.1516		3,651.9666
Total	**1.7175**	**5.8559**	**24.4758**	**0.0816**	**5.5013**	**0.1491**	**5.6504**	**1.4748**	**0.1374**	**1.6122**		**6,216.4573**	**6,216.4573**	**0.1699**		**6,220.0243**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744	0.0000	2,545.1154	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**	**0.0000**	**2,545.1154**	**2,545.1154**	**0.6009**		**2,557.7349**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7908	4.6744	11.8700	0.0274	0.7537	0.1159	0.8697	0.2168	0.1067	0.3234		2,567.6750	2,567.6750	0.0182		2,568.0577
Worker	0.9267	1.1815	12.6058	0.0542	4.3273	0.0331	4.3604	1.1549	0.0307	1.1856		3,648.7823	3,648.7823	0.1516		3,651.9666
Total	**1.7175**	**5.8559**	**24.4758**	**0.0816**	**5.0810**	**0.1491**	**5.2301**	**1.3717**	**0.1374**	**1.5090**		**6,216.4573**	**6,216.4573**	**0.1699**		**6,220.0243**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.7707	4.6395	11.5905	0.0274	0.8068	0.1165	0.9233	0.2298	0.1072	0.3370		2,567.9033	2,567.9033	0.0183		2,568.2874
Worker	0.8897	1.1302	12.0857	0.0542	4.6946	0.0335	4.7281	1.2450	0.0310	1.2761		3,604.0876	3,604.0876	0.1474		3,607.1820
Total	**1.6603**	**5.7697**	**23.6762**	**0.0816**	**5.5014**	**0.1500**	**5.6514**	**1.4749**	**0.1382**	**1.6131**		**6,171.9909**	**6,171.9909**	**0.1656**		**6,175.4695**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7707	4.6395	11.5905	0.0274	0.7538	0.1165	0.8703	0.2168	0.1072	0.3240		2,567.9033	2,567.9033	0.0183		2,568.2874

Worker	0.8897	1.1302	12.0857	0.0542	4.3273	0.0335	4.3607	1.1549	0.0310	1.1859		3,604.0876	3,604.0876	0.1474		3,607.1820
Total	**1.6603**	**5.7697**	**23.6762**	**0.0816**	**5.0811**	**0.1500**	**5.2311**	**1.3717**	**0.1382**	**1.5099**		**6,171.9909**	**6,171.9909**	**0.1656**		**6,175.4695**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7442	4.4993	11.3608	0.0274	0.8069	0.1117	0.9186	0.2299	0.1028	0.3327		2,567.6513	2,567.6513	0.0178		2,568.0241
Worker	0.8556	1.0859	11.6364	0.0542	4.6946	0.0338	4.7284	1.2450	0.0314	1.2764		3,565.3271	3,565.3271	0.1436		3,568.3434

Total	**1.5999**	**5.5852**	**22.9971**	**0.0816**	**5.5015**	**0.1455**	**5.6470**	**1.4749**	**0.1342**	**1.6091**		**6,132.9783**	**6,132.9783**	**0.1614**		**6,136.3674**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7442	4.4993	11.3608	0.0274	0.7539	0.1117	0.8657	0.2169	0.1028	0.3197		2,567.6513	2,567.6513	0.0178		2,568.0241
Worker	0.8556	1.0859	11.6364	0.0542	4.3273	0.0338	4.3611	1.1549	0.0314	1.1863		3,565.3271	3,565.3271	0.1436		3,568.3434
Total	**1.5999**	**5.5852**	**22.9971**	**0.0816**	**5.0812**	**0.1455**	**5.2268**	**1.3717**	**0.1342**	**1.5059**		**6,132.9783**	**6,132.9783**	**0.1614**		**6,136.3674**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7370	4.4646	11.2597	0.0274	0.8070	0.1120	0.9191	0.2299	0.1031	0.3330		2,568.1700	2,568.1700	0.0178		2,568.5437
Worker	0.8241	1.0471	11.2450	0.0542	4.6946	0.0341	4.7287	1.2450	0.0317	1.2767		3,531.8093	3,531.8093	0.1404		3,534.7570
Total	**1.5610**	**5.5117**	**22.5047**	**0.0816**	**5.5016**	**0.1462**	**5.6478**	**1.4750**	**0.1347**	**1.6097**		**6,099.9793**	**6,099.9793**	**0.1582**		**6,103.3006**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7370	4.4646	11.2597	0.0274	0.7541	0.1120	0.8661	0.2169	0.1031	0.3200		2,568.1700	2,568.1700	0.0178		2,568.5437
Worker	0.8241	1.0471	11.2450	0.0542	4.3273	0.0341	4.3614	1.1549	0.0317	1.1865		3,531.8093	3,531.8093	0.1404		3,534.7570
Total	**1.5610**	**5.5117**	**22.5047**	**0.0816**	**5.0814**	**0.1462**	**5.2275**	**1.3718**	**0.1347**	**1.5065**		**6,099.9793**	**6,099.9793**	**0.1582**		**6,103.3006**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7282	4.4223	11.1733	0.0274	0.8071	0.1113	0.9185	0.2300	0.1024	0.3324		2,568.4768	2,568.4768	0.0177		2,568.8488
Worker	0.7951	1.0124	10.9051	0.0542	4.6946	0.0344	4.7290	1.2450	0.0319	1.2770		3,503.1837	3,503.1837	0.1375		3,506.0709
Total	**1.5233**	**5.4347**	**22.0785**	**0.0816**	**5.5017**	**0.1457**	**5.6475**	**1.4750**	**0.1343**	**1.6094**		**6,071.6605**	**6,071.6605**	**0.1552**		**6,074.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7282	4.4223	11.1733	0.0274	0.7542	0.1113	0.8655	0.2170	0.1024	0.3194		2,568.4768	2,568.4768	0.0177		2,568.8488
Worker	0.7951	1.0124	10.9051	0.0542	4.3273	0.0344	4.3617	1.1549	0.0319	1.1868		3,503.1837	3,503.1837	0.1375		3,506.0709
Total	**1.5233**	**5.4347**	**22.0785**	**0.0816**	**5.0815**	**0.1457**	**5.2272**	**1.3718**	**0.1343**	**1.5062**		**6,071.6605**	**6,071.6605**	**0.1552**		**6,074.9197**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7226	4.4024	11.1015	0.0274	0.8072	0.1115	0.9188	0.2300	0.1026	0.3326		2,568.9015	2,568.9015	0.0177		2,569.2741
Worker	0.7663	0.9791	10.5789	0.0542	4.6946	0.0346	4.7292	1.2450	0.0321	1.2771		3,478.6688	3,478.6688	0.1347		3,481.4983
Total	**1.4889**	**5.3815**	**21.6804**	**0.0816**	**5.5019**	**0.1461**	**5.6480**	**1.4750**	**0.1347**	**1.6098**		**6,047.5703**	**6,047.5703**	**0.1525**		**6,050.7724**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386

Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7226	4.4024	11.1015	0.0274	0.7543	0.1115	0.8658	0.2170	0.1026	0.3196		2,568.9015	2,568.9015	0.0177		2,569.2741
Worker	0.7663	0.9791	10.5789	0.0542	4.3273	0.0346	4.3619	1.1549	0.0321	1.1870		3,478.6688	3,478.6688	0.1347		3,481.4983
Total	**1.4889**	**5.3815**	**21.6804**	**0.0816**	**5.0816**	**0.1461**	**5.2277**	**1.3719**	**0.1347**	**1.5066**		**6,047.5703**	**6,047.5703**	**0.1525**		**6,050.7724**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476		2,884.8300	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**		**2,884.8300**	**2,884.8300**	**0.1158**		**2,887.2617**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7121	4.3825	11.0064	0.0274	0.8073	0.1117	0.9191	0.2301	0.1028	0.3328		2,569.1856	2,569.1856	0.0178		2,569.5587
Worker	0.7386	0.9479	10.2888	0.0542	4.6946	0.0348	4.7294	1.2450	0.0322	1.2773		3,457.7945	3,457.7945	0.1322		3,460.5702
Total	**1.4507**	**5.3303**	**21.2952**	**0.0816**	**5.5020**	**0.1465**	**5.6484**	**1.4751**	**0.1350**	**1.6101**		**6,026.9801**	**6,026.9801**	**0.1499**		**6,030.1288**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476	0.0000	2,884.8300	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**	**0.0000**	**2,884.8300**	**2,884.8300**	**0.1158**		**2,887.2617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7121	4.3825	11.0064	0.0274	0.7544	0.1117	0.8661	0.2171	0.1028	0.3198		2,569.1856	2,569.1856	0.0178		2,569.5587
Worker	0.7386	0.9479	10.2888	0.0542	4.3273	0.0348	4.3620	1.1549	0.0322	1.1871		3,457.7945	3,457.7945	0.1322		3,460.5702
Total	**1.4507**	**5.3303**	**21.2952**	**0.0816**	**5.0817**	**0.1465**	**5.2281**	**1.3719**	**0.1350**	**1.5070**		**6,026.9801**	**6,026.9801**	**0.1499**		**6,030.1288**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2128**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0671	0.7054	1.9300e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	0.0000	2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2128**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**	**0.0000**	**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0671	0.7054	1.9300e-003	0.1546	1.1500e-003	0.1557	0.0413	1.0600e-003	0.0423		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1546**	**1.1500e-003**	**0.1557**	**0.0413**	**1.0600e-003**	**0.0423**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9169**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0454	0.0613	0.6440	1.9300e-003	0.1677	1.1300e-003	0.1688	0.0445	1.0500e-003	0.0455		149.1338	149.1338	6.9300e-003		149.2794
Total	**0.0454**	**0.0613**	**0.6440**	**1.9300e-003**	**0.1677**	**1.1300e-003**	**0.1688**	**0.0445**	**1.0500e-003**	**0.0455**		**149.1338**	**149.1338**	**6.9300e-003**		**149.2794**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9169**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0454	0.0613	0.6440	1.9300e-003	0.1546	1.1300e-003	0.1557	0.0413	1.0500e-003	0.0423		149.1338	149.1338	6.9300e-003		149.2794
Total	**0.0454**	**0.0613**	**0.6440**	**1.9300e-003**	**0.1546**	**1.1300e-003**	**0.1557**	**0.0413**	**1.0500e-003**	**0.0423**		**149.1338**	**149.1338**	**6.9300e-003**		**149.2794**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447		2,208.9731	2,208.9731	0.6989		2,223.6499
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7313**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**		**2,208.9731**	**2,208.9731**	**0.6989**		**2,223.6499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0424	0.0568	0.5997	1.9300e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0600e-003	0.0455		144.4749	144.4749	6.6200e-003		144.6138
Total	**0.0424**	**0.0568**	**0.5997**	**1.9300e-003**	**0.1677**	**1.1400e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**144.4749**	**144.4749**	**6.6200e-003**		**144.6138**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447	0.0000	2,208.9731	2,208.9731	0.6989		2,223.6499
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7313**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**	**0.0000**	**2,208.9731**	**2,208.9731**	**0.6989**		**2,223.6499**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0424	0.0568	0.5997	1.9300e-003	0.1546	1.1400e-003	0.1557	0.0413	1.0600e-003	0.0423		144.4749	144.4749	6.6200e-003		144.6138
Total	**0.0424**	**0.0568**	**0.5997**	**1.9300e-003**	**0.1546**	**1.1400e-003**	**0.1557**	**0.0413**	**1.0600e-003**	**0.0423**		**144.4749**	**144.4749**	**6.6200e-003**		**144.6138**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3301	13.7845	14.3523	0.0223		0.7390	0.7390		0.6799	0.6799		2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6355**	**13.7845**	**14.3523**	**0.0223**		**0.7390**	**0.7390**		**0.6799**	**0.6799**		**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0401	0.0530	0.5622	1.9300e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		138.6882	138.6882	6.3000e-003		138.8205

Total	**0.0401**	**0.0530**	**0.5622**	**1.9300e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**138.6882**	**138.6882**	**6.3000e-003**		**138.8205**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3301	13.7845	14.3523	0.0223		0.7390	0.7390		0.6799	0.6799	0.0000	2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6355**	**13.7845**	**14.3523**	**0.0223**		**0.7390**	**0.7390**		**0.6799**	**0.6799**	**0.0000**	**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0401	0.0530	0.5622	1.9300e-003	0.1546	1.1500e-003	0.1557	0.0413	1.0600e-003	0.0423		138.6882	138.6882	6.3000e-003		138.8205
Total	**0.0401**	**0.0530**	**0.5622**	**1.9300e-003**	**0.1546**	**1.1500e-003**	**0.1557**	**0.0413**	**1.0600e-003**	**0.0423**		**138.6882**	**138.6882**	**6.3000e-003**		**138.8205**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2308	12.6607	14.3528	0.0223		0.6652	0.6652		0.6120	0.6120		2,160.2530	2,160.2530	0.6987		2,174.9250
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5362**	**12.6607**	**14.3528**	**0.0223**		**0.6652**	**0.6652**		**0.6120**	**0.6120**		**2,160.2530**	**2,160.2530**	**0.6987**		**2,174.9250**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0498	0.5304	1.9400e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		136.4021	136.4021	6.0500e-003		136.5291
Total	**0.0382**	**0.0498**	**0.5304**	**1.9400e-003**	**0.1677**	**1.1600e-003**	**0.1688**	**0.0445**	**1.0700e-003**	**0.0455**		**136.4021**	**136.4021**	**6.0500e-003**		**136.5291**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2308	12.6607	14.3528	0.0223		0.6652	0.6652		0.6120	0.6120	0.0000	2,160.2530	2,160.2530	0.6987		2,174.9250
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5362**	**12.6607**	**14.3528**	**0.0223**		**0.6652**	**0.6652**		**0.6120**	**0.6120**	**0.0000**	**2,160.2530**	**2,160.2530**	**0.6987**		**2,174.9250**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0498	0.5304	1.9400e-003	0.1546	1.1600e-003	0.1557	0.0413	1.0700e-003	0.0423		136.4021	136.4021	6.0500e-003		136.5291
Total	**0.0382**	**0.0498**	**0.5304**	**1.9400e-003**	**0.1546**	**1.1600e-003**	**0.1557**	**0.0413**	**1.0700e-003**	**0.0423**		**136.4021**	**136.4021**	**6.0500e-003**		**136.5291**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0815	10.9108	14.2815	0.0223		0.5577	0.5577		0.5131	0.5131		2,160.6869	2,160.6869	0.6988		2,175.3619
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3869**	**10.9108**	**14.2815**	**0.0223**		**0.5577**	**0.5577**		**0.5131**	**0.5131**		**2,160.6869**	**2,160.6869**	**0.6988**		**2,175.3619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0364	0.0470	0.5016	1.9400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		134.1787	134.1787	5.8100e-003		134.3008
Total	**0.0364**	**0.0470**	**0.5016**	**1.9400e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0456**		**134.1787**	**134.1787**	**5.8100e-003**		**134.3008**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	1.0815	10.9108	14.2815	0.0223		0.5577	0.5577		0.5131	0.5131	0.0000	2,160.6869	2,160.6869	0.6988		2,175.3619
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3869**	**10.9108**	**14.2815**	**0.0223**		**0.5577**	**0.5577**		**0.5131**	**0.5131**	**0.0000**	**2,160.6869**	**2,160.6869**	**0.6988**		**2,175.3619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0364	0.0470	0.5016	1.9400e-003	0.1546	1.1700e-003	0.1557	0.0413	1.0800e-003	0.0423		134.1787	134.1787	5.8100e-003		134.3008
Total	**0.0364**	**0.0470**	**0.5016**	**1.9400e-003**	**0.1546**	**1.1700e-003**	**0.1557**	**0.0413**	**1.0800e-003**	**0.0423**		**134.1787**	**134.1787**	**5.8100e-003**		**134.3008**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.0128	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609		2,160.6139	2,160.6139	0.6988		2,175.2884
Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3182**	**9.9983**	**14.2850**	**0.0223**		**0.5010**	**0.5010**		**0.4609**	**0.4609**		**2,160.6139**	**2,160.6139**	**0.6988**		**2,175.2884**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0445	0.4755	1.9400e-003	0.1677	1.1800e-003	0.1688	0.0445	1.0900e-003	0.0456		132.1640	132.1640	5.6100e-003		132.2818
Total	**0.0347**	**0.0445**	**0.4755**	**1.9400e-003**	**0.1677**	**1.1800e-003**	**0.1688**	**0.0445**	**1.0900e-003**	**0.0456**		**132.1640**	**132.1640**	**5.6100e-003**		**132.2818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0128	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609	0.0000	2,160.6139	2,160.6139	0.6988		2,175.2884

Paving	0.3054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3182**	**9.9983**	**14.2850**	**0.0223**		**0.5010**	**0.5010**		**0.4609**	**0.4609**	**0.0000**	**2,160.6139**	**2,160.6139**	**0.6988**		**2,175.2884**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0445	0.4755	1.9400e-003	0.1546	1.1800e-003	0.1557	0.0413	1.0900e-003	0.0423		132.1640	132.1640	5.6100e-003		132.2818
Total	**0.0347**	**0.0445**	**0.4755**	**1.9400e-003**	**0.1546**	**1.1800e-003**	**0.1557**	**0.0413**	**1.0900e-003**	**0.0423**		**132.1640**	**132.1640**	**5.6100e-003**		**132.2818**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	558.3043					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721

Total	**558.6367**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2789	0.3760	3.9504	0.0108	0.9389	6.4100e-003	0.9453	0.2490	5.9200e-003	0.2549		867.6951	867.6951	0.0416		868.5685
Total	**0.2789**	**0.3760**	**3.9504**	**0.0108**	**0.9389**	**6.4100e-003**	**0.9453**	**0.2490**	**5.9200e-003**	**0.2549**		**867.6951**	**867.6951**	**0.0416**		**868.5685**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	558.3043					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**558.6367**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2789	0.3760	3.9504	0.0108	0.8655	6.4100e-003	0.8719	0.2310	5.9200e-003	0.2369		867.6951	867.6951	0.0416		868.5685
Total	**0.2789**	**0.3760**	**3.9504**	**0.0108**	**0.8655**	**6.4100e-003**	**0.8719**	**0.2310**	**5.9200e-003**	**0.2369**		**867.6951**	**867.6951**	**0.0416**		**868.5685**

Construction_Current SP

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,731.19	1000sqft	185.44	2,731,190.00	0
Government Office Building	40.85	1000sqft	2.05	40,850.00	0
Office Park	2,343.75	1000sqft	102.79	2,343,750.00	0
Elementary School	2,400.00	Student	38.10	200,648.09	0
High School	1,850.00	Student	9.39	245,422.81	0
Junior College (2Yr)	2,151.60	1000sqft	107.93	2,151,600.00	0
General Light Industry	627.05	1000sqft	33.77	627,050.00	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	276.61	Acre	276.61	0.00	0
Health Club	30.00	1000sqft	1.15	30,000.00	0
High Turnover (Sit Down Restaurant)	18.00	1000sqft	0.69	18,000.00	0
Hotel	500.00	Room	27.77	726,000.00	0
Movie Theater (No Matinee)	4,500.00	Seat	8.76	101,250.00	0
Apartments Low Rise	1,641.00	Dwelling Unit	138.80	1,641,000.00	0
Apartments Mid Rise	2,054.00	Dwelling Unit	122.76	2,054,000.00	0
Condo/Townhouse	1,033.00	Dwelling Unit	93.61	1,033,000.00	0
Congregate Care (Assisted Living)	159.00	Dwelling Unit	54.75	158,990.00	0
Retirement Community	240.00	Dwelling Unit	23.67	240,000.00	0

Regional Shopping Center	1,368.08	1000sqft	154.26	1,368,080.00	0
Supermarket	207.24	1000sqft	17.71	207,240.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the proposed land land use buildout.

Construction Phase - Based on a CalEEMod default schedule normalized to an 18.5-year buildout shedule (2035).

Trips and VMT - Default CalEEMod default daily trips divided by 18-year buildout duration.

Architectural Coating - Based on SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Per Mitigation Measure AQ-1 which requires conformance with SCAQMD Rules 403. SCAQMD Rule 1186 also applies.

Grading -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaCoating	Area_Nonresidential_Interior	16186622	12857058
tblAreaCoating	Area_Residential_Exterior	3460718	5855490
tblAreaCoating	Area_Residential_Interior	10382155	17566470
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstructionPhase	NumDays	11,000.00	251.00

tblConstructionPhase	NumDays	155,000.00	3,533.00
tblConstructionPhase	NumDays	10,000.00	228.00
tblConstructionPhase	NumDays	15,500.00	353.00
tblConstructionPhase	NumDays	11,000.00	1,767.00
tblConstructionPhase	NumDays	6,000.00	137.00
tblConstructionPhase	PhaseEndDate	9/25/2024	12/18/2017
tblConstructionPhase	PhaseEndDate	11/24/2031	7/17/2030
tblConstructionPhase	PhaseEndDate	11/16/2018	5/9/2018
tblConstructionPhase	PhaseEndDate	4/24/2037	10/10/2023
tblConstructionPhase	PhaseEndDate	5/25/2018	7/11/2017
tblConstructionPhase	PhaseStartDate	10/11/2023	1/1/2017
tblConstructionPhase	PhaseStartDate	5/10/2018	1/1/2017
tblConstructionPhase	PhaseStartDate	7/12/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	7/18/2030	1/1/2017
tblConstructionPhase	PhaseStartDate	11/16/2017	1/1/2017
tblFireplaces	NumberGas	1,394.85	163.20
tblFireplaces	NumberGas	1,745.90	4,963.15
tblFireplaces	NumberGas	204.00	547.40
tblFireplaces	NumberNoFireplace	164.10	19.20
tblFireplaces	NumberNoFireplace	205.40	583.90
tblFireplaces	NumberNoFireplace	24.00	64.40
tblFireplaces	NumberWood	82.05	9.60
tblFireplaces	NumberWood	102.70	291.95
tblFireplaces	NumberWood	12.00	32.20
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	12,049,131.60	0.00
tblLandUse	LandUseSquareFeet	159,000.00	158,990.00

tblLandUse	LotAcreage	62.70	185.44
tblLandUse	LotAcreage	0.94	2.05
tblLandUse	LotAcreage	53.81	102.79
tblLandUse	LotAcreage	4.61	38.10
tblLandUse	LotAcreage	5.63	9.39
tblLandUse	LotAcreage	49.39	107.93
tblLandUse	LotAcreage	14.40	33.77
tblLandUse	LotAcreage	0.69	1.15
tblLandUse	LotAcreage	0.41	0.69
tblLandUse	LotAcreage	16.67	27.77
tblLandUse	LotAcreage	2.32	8.76
tblLandUse	LotAcreage	102.56	138.80
tblLandUse	LotAcreage	54.05	122.76
tblLandUse	LotAcreage	64.56	93.61
tblLandUse	LotAcreage	9.94	54.75
tblLandUse	LotAcreage	48.00	23.67
tblLandUse	LotAcreage	31.41	154.26
tblLandUse	LotAcreage	4.76	17.71
tblLandUse	Population	4,693.00	0.00
tblLandUse	Population	5,874.00	0.00
tblLandUse	Population	2,954.00	0.00
tblLandUse	Population	455.00	0.00
tblLandUse	Population	686.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	754.86	88.32
tblSolidWaste	SolidWasteGenerationRate	944.84	2,685.94
tblSolidWaste	SolidWasteGenerationRate	23.79	23.57

tblSolidWaste	SolidWasteGenerationRate	438.00	282.88
tblSolidWaste	SolidWasteGenerationRate	2,540.01	2,015.79
tblSolidWaste	SolidWasteGenerationRate	337.63	325.58
tblSolidWaste	SolidWasteGenerationRate	273.75	301.13
tblSolidWaste	SolidWasteGenerationRate	1,436.48	3,016.23
tblSolidWaste	SolidWasteGenerationRate	110.40	296.24
tblSolidWaste	SolidWasteGenerationRate	1,168.83	536.93
tblTripsAndVMT	VendorTripNumber	2,317.00	129.00
tblTripsAndVMT	WorkerTripNumber	7,555.00	420.00
tblTripsAndVMT	WorkerTripNumber	1,511.00	84.00
tblWater	IndoorWaterUseRate	106,917,756.04	12,509,572.92
tblWater	IndoorWaterUseRate	133,826,368.63	380,434,355.60
tblWater	IndoorWaterUseRate	5,818,176.00	3,757,572.00
tblWater	IndoorWaterUseRate	485,424,635.18	385,241,453.45
tblWater	IndoorWaterUseRate	8,149,176.00	7,858,448.64
tblWater	IndoorWaterUseRate	12,683,385.00	13,951,723.50
tblWater	IndoorWaterUseRate	40,662,148.00	31,626,115.11
tblWater	IndoorWaterUseRate	101,337,135.19	212,780,725.21
tblWater	IndoorWaterUseRate	15,636,966.15	41,959,192.50
tblWater	IndoorWaterUseRate	25,546,104.85	11,735,134.06
tblWater	OutdoorWaterUseRate	67,404,672.29	7,886,469.88
tblWater	OutdoorWaterUseRate	84,368,797.61	239,839,050.27
tblWater	OutdoorWaterUseRate	329,575,656.13	326,596,952.76
tblWater	OutdoorWaterUseRate	14,961,024.00	9,662,328.00
tblWater	OutdoorWaterUseRate	297,518,324.79	236,115,729.53
tblWater	OutdoorWaterUseRate	20,955,024.00	20,207,439.36
tblWater	OutdoorWaterUseRate	1,409,265.00	1,550,191.50

tblWater	OutdoorWaterUseRate	2,595,456.26	2,018,688.20
tblWater	OutdoorWaterUseRate	62,109,857.05	130,413,992.87
tblWater	OutdoorWaterUseRate	9,858,087.35	26,452,534.40
tblWater	OutdoorWaterUseRate	790,085.72	362,942.29
tblWoodstoves	NumberCatalytic	82.05	9.60
tblWoodstoves	NumberCatalytic	102.70	291.95
tblWoodstoves	NumberCatalytic	12.00	32.20
tblWoodstoves	NumberNoncatalytic	82.05	9.60
tblWoodstoves	NumberNoncatalytic	102.70	291.95
tblWoodstoves	NumberNoncatalytic	12.00	32.20

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	72.7554	25.5154	22.5137	0.0351	3.6690	1.2896	4.9587	1.5563	1.1955	2.7517	0.0000	3,037.4649	3,037.4649	0.6162	0.0000	3,050.4056
2018	1.1427	9.5535	10.4728	0.0204	2.2679	0.4710	2.7389	0.8326	0.4372	1.2698	0.0000	1,684.2554	1,684.2554	0.2664	0.0000	1,689.8506
2019	0.8091	6.0811	8.1402	0.0175	0.7269	0.2958	1.0227	0.1951	0.2756	0.4707	0.0000	1,385.2532	1,385.2532	0.1821	0.0000	1,389.0774
2020	0.7501	5.5420	7.9039	0.0175	0.7296	0.2636	0.9933	0.1958	0.2455	0.4414	0.0000	1,352.8708	1,352.8708	0.1807	0.0000	1,356.6648
2021	0.6948	4.9788	7.6755	0.0175	0.7269	0.2309	0.9577	0.1951	0.2150	0.4101	0.0000	1,339.4650	1,339.4650	0.1783	0.0000	1,343.2089

2022	0.6388	4.4067	7.4616	0.0174	0.7241	0.1965	0.9206	0.1943	0.1830	0.3774	0.0000	1,326.5276	1,326.5276	0.1764	0.0000	1,330.2317
2023	0.5592	3.6663	6.8577	0.0167	0.7193	0.1603	0.8796	0.1931	0.1494	0.3425	0.0000	1,257.7994	1,257.7994	0.1564	0.0000	1,261.0845
2024	0.4053	2.5359	5.2776	0.0143	0.7081	0.0994	0.8075	0.1901	0.0932	0.2833	0.0000	1,049.3532	1,049.3532	0.0916	0.0000	1,051.2758
2025	0.3832	2.3885	5.1428	0.0143	0.7054	0.0880	0.7934	0.1894	0.0824	0.2718	0.0000	1,040.1017	1,040.1017	0.0903	0.0000	1,041.9981
2026	0.3756	2.3640	5.0539	0.0143	0.7054	0.0874	0.7929	0.1894	0.0819	0.2713	0.0000	1,035.4194	1,035.4194	0.0898	0.0000	1,037.3051
2027	0.3709	2.3542	4.9892	0.0143	0.7054	0.0875	0.7930	0.1894	0.0820	0.2714	0.0000	1,031.4580	1,031.4580	0.0894	0.0000	1,033.3357
2028	0.3649	2.3349	4.9142	0.0142	0.7028	0.0871	0.7899	0.1887	0.0816	0.2703	0.0000	1,024.1202	1,024.1202	0.0887	0.0000	1,025.9834
2029	0.3621	2.3368	4.8806	0.0143	0.7055	0.0875	0.7930	0.1894	0.0820	0.2714	0.0000	1,025.1685	1,025.1685	0.0887	0.0000	1,027.0321
2030	0.1904	0.9488	2.6335	8.0500e-003	0.3838	0.0208	0.4047	0.1031	0.0200	0.1231	0.0000	578.2418	578.2418	0.0171	0.0000	578.6007
Total	**79.8023**	**75.0067**	**103.9173**	**0.2358**	**14.1801**	**3.4656**	**17.6457**	**4.6018**	**3.2243**	**7.8260**	**0.0000**	**18,167.4993**	**18,167.4993**	**2.3121**	**0.0000**	**18,216.0544**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	72.7554	25.5154	22.5137	0.0351	2.0152	1.2896	3.3048	0.7865	1.1955	1.9819	0.0000	3,037.4625	3,037.4625	0.6162	0.0000	3,050.4032
2018	1.1427	9.5535	10.4728	0.0204	1.3353	0.4710	1.8063	0.4554	0.4372	0.8926	0.0000	1,684.2544	1,684.2544	0.2664	0.0000	1,689.8496
2019	0.8091	6.0811	8.1402	0.0175	0.6715	0.2958	0.9673	0.1815	0.2756	0.4571	0.0000	1,385.2526	1,385.2526	0.1821	0.0000	1,389.0768
2020	0.7501	5.5420	7.9039	0.0175	0.6740	0.2636	0.9377	0.1822	0.2455	0.4277	0.0000	1,352.8701	1,352.8701	0.1807	0.0000	1,356.6641

2021	0.6948	4.9788	7.6755	0.0175	0.6715	0.2309	0.9024	0.1815	0.2150	0.3965	0.0000	1,339.4644	1,339.4644	0.1783	0.0000	1,343.2083
2022	0.6388	4.4067	7.4616	0.0174	0.6689	0.1965	0.8654	0.1808	0.1830	0.3638	0.0000	1,326.5270	1,326.5270	0.1764	0.0000	1,330.2310
2023	0.5592	3.6663	6.8577	0.0167	0.6645	0.1603	0.8248	0.1796	0.1494	0.3290	0.0000	1,257.7988	1,257.7988	0.1564	0.0000	1,261.0839
2024	0.4053	2.5359	5.2776	0.0143	0.6542	0.0994	0.7536	0.1769	0.0932	0.2701	0.0000	1,049.3529	1,049.3529	0.0916	0.0000	1,051.2754
2025	0.3832	2.3885	5.1428	0.0143	0.6517	0.0880	0.7397	0.1762	0.0824	0.2586	0.0000	1,040.1014	1,040.1014	0.0903	0.0000	1,041.9977
2026	0.3756	2.3640	5.0539	0.0143	0.6517	0.0874	0.7391	0.1762	0.0819	0.2581	0.0000	1,035.4190	1,035.4190	0.0898	0.0000	1,037.3047
2027	0.3709	2.3542	4.9892	0.0143	0.6517	0.0875	0.7392	0.1762	0.0820	0.2582	0.0000	1,031.4577	1,031.4577	0.0894	0.0000	1,033.3354
2028	0.3649	2.3349	4.9142	0.0142	0.6492	0.0871	0.7364	0.1756	0.0816	0.2572	0.0000	1,024.1199	1,024.1199	0.0887	0.0000	1,025.9831
2029	0.3621	2.3368	4.8806	0.0143	0.6518	0.0875	0.7393	0.1762	0.0820	0.2582	0.0000	1,025.1681	1,025.1681	0.0887	0.0000	1,027.0317
2030	0.1904	0.9488	2.6335	8.0500e-003	0.3546	0.0208	0.3754	0.0959	0.0200	0.1159	0.0000	578.2416	578.2416	0.0171	0.0000	578.6005
Total	**79.8023**	**75.0066**	**103.9172**	**0.2358**	**10.9657**	**3.4656**	**14.4313**	**3.3006**	**3.2243**	**6.5249**	**0.0000**	**18,167.4903**	**18,167.4903**	**2.3121**	**0.0000**	**18,216.0453**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**22.67**	**0.00**	**18.22**	**28.27**	**0.00**	**16.63**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	11/15/2017	5	228	
2	Site Preparation	Site Preparation	1/1/2017	7/11/2017	5	137	
3	Grading	Grading	1/1/2017	5/9/2018	5	353	

4	Building Construction	Building Construction	1/1/2017	7/17/2030	5	3533	
5	Paving	Paving	1/1/2017	10/10/2023	5	1767	
6	Architectural Coating	Architectural Coating	1/1/2017	12/18/2017	5	251	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 882.5

Acres of Paving: 0

Residential Indoor: 10,382,155; Residential Outdoor: 3,460,718; Non-Residential Indoor: 16,186,621; Non-Residential Outdoor: 5,395,540

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42

Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	420.00	129.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	84.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.4615	4.8675	3.8639	4.5500e-003		0.2423	0.2423		0.2257	0.2257	0.0000	417.4477	417.4477	0.1145	0.0000	419.8525
Total	**0.4615**	**4.8675**	**3.8639**	**4.5500e-003**		**0.2423**	**0.2423**		**0.2257**	**0.2257**	**0.0000**	**417.4477**	**417.4477**	**0.1145**	**0.0000**	**419.8525**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3100e-003	7.8600e-003	0.0821	2.2000e-004	0.0188	1.3000e-004	0.0189	4.9900e-003	1.2000e-004	5.1100e-003	0.0000	16.2659	16.2659	7.7000e-004	0.0000	16.2820
Total	**5.3100e-003**	**7.8600e-003**	**0.0821**	**2.2000e-004**	**0.0188**	**1.3000e-004**	**0.0189**	**4.9900e-003**	**1.2000e-004**	**5.1100e-003**	**0.0000**	**16.2659**	**16.2659**	**7.7000e-004**	**0.0000**	**16.2820**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4615	4.8675	3.8638	4.5500e-003		0.2423	0.2423		0.2257	0.2257	0.0000	417.4472	417.4472	0.1145	0.0000	419.8520

Total	**0.4615**	**4.8675**	**3.8638**	**4.5500e-003**		**0.2423**	**0.2423**		**0.2257**	**0.2257**	**0.0000**	**417.4472**	**417.4472**	**0.1145**	**0.0000**	**419.8520**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3100e-003	7.8600e-003	0.0821	2.2000e-004	0.0173	1.3000e-004	0.0174	4.6300e-003	1.2000e-004	4.7500e-003	0.0000	16.2659	16.2659	7.7000e-004	0.0000	16.2820
Total	**5.3100e-003**	**7.8600e-003**	**0.0821**	**2.2000e-004**	**0.0173**	**1.3000e-004**	**0.0174**	**4.6300e-003**	**1.2000e-004**	**4.7500e-003**	**0.0000**	**16.2659**	**16.2659**	**7.7000e-004**	**0.0000**	**16.2820**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2375	0.0000	1.2375	0.6803	0.0000	0.6803	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3314	3.5451	2.6987	2.6800e-003		0.1887	0.1887		0.1736	0.1736	0.0000	248.7604	248.7604	0.0762	0.0000	250.3610

Total	**0.3314**	**3.5451**	**2.6987**	**2.6800e-003**	**1.2375**	**0.1887**	**1.4262**	**0.6803**	**0.1736**	**0.8538**	**0.0000**	**248.7604**	**248.7604**	**0.0762**	**0.0000**	**250.3610**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	5.6700e-003	0.0592	1.6000e-004	0.0135	9.0000e-005	0.0136	3.5900e-003	9.0000e-005	3.6800e-003	0.0000	11.7286	11.7286	5.5000e-004	0.0000	11.7402
Total	**3.8300e-003**	**5.6700e-003**	**0.0592**	**1.6000e-004**	**0.0135**	**9.0000e-005**	**0.0136**	**3.5900e-003**	**9.0000e-005**	**3.6800e-003**	**0.0000**	**11.7286**	**11.7286**	**5.5000e-004**	**0.0000**	**11.7402**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5291	0.0000	0.5291	0.2908	0.0000	0.2908	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3314	3.5451	2.6987	2.6800e-003		0.1887	0.1887		0.1736	0.1736	0.0000	248.7601	248.7601	0.0762	0.0000	250.3607
Total	**0.3314**	**3.5451**	**2.6987**	**2.6800e-003**	**0.5291**	**0.1887**	**0.7177**	**0.2908**	**0.1736**	**0.4644**	**0.0000**	**248.7601**	**248.7601**	**0.0762**	**0.0000**	**250.3607**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	5.6700e-003	0.0592	1.6000e-004	0.0125	9.0000e-005	0.0126	3.3400e-003	9.0000e-005	3.4200e-003	0.0000	11.7286	11.7286	5.5000e-004	0.0000	11.7402
Total	**3.8300e-003**	**5.6700e-003**	**0.0592**	**1.6000e-004**	**0.0125**	**9.0000e-005**	**0.0126**	**3.3400e-003**	**9.0000e-005**	**3.4200e-003**	**0.0000**	**11.7286**	**11.7286**	**5.5000e-004**	**0.0000**	**11.7402**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5308	0.0000	1.5308	0.6348	0.0000	0.6348	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7929	9.0470	6.0847	8.0200e-003		0.4312	0.4312		0.3967	0.3967	0.0000	744.5610	744.5610	0.2281	0.0000	749.3517
Total	**0.7929**	**9.0470**	**6.0847**	**8.0200e-003**	**1.5308**	**0.4312**	**1.9621**	**0.6348**	**0.3967**	**1.0315**	**0.0000**	**744.5610**	**744.5610**	**0.2281**	**0.0000**	**749.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0700e-003	0.0120	0.1249	3.4000e-004	0.0285	2.0000e-004	0.0287	7.5800e-003	1.8000e-004	7.7600e-003	0.0000	24.7318	24.7318	1.1700e-003	0.0000	24.7563
Total	**8.0700e-003**	**0.0120**	**0.1249**	**3.4000e-004**	**0.0285**	**2.0000e-004**	**0.0287**	**7.5800e-003**	**1.8000e-004**	**7.7600e-003**	**0.0000**	**24.7318**	**24.7318**	**1.1700e-003**	**0.0000**	**24.7563**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6544	0.0000	0.6544	0.2714	0.0000	0.2714	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7929	9.0470	6.0847	8.0200e-003		0.4312	0.4312		0.3967	0.3967	0.0000	744.5601	744.5601	0.2281	0.0000	749.3509
Total	**0.7929**	**9.0470**	**6.0847**	**8.0200e-003**	**0.6544**	**0.4312**	**1.0857**	**0.2714**	**0.3967**	**0.6681**	**0.0000**	**744.5601**	**744.5601**	**0.2281**	**0.0000**	**749.3509**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0700e-003	0.0120	0.1249	3.4000e-004	0.0263	2.0000e-004	0.0265	7.0300e-003	1.8000e-004	7.2200e-003	0.0000	24.7318	24.7318	1.1700e-003	0.0000	24.7563
Total	**8.0700e-003**	**0.0120**	**0.1249**	**3.4000e-004**	**0.0263**	**2.0000e-004**	**0.0265**	**7.0300e-003**	**1.8000e-004**	**7.2200e-003**	**0.0000**	**24.7318**	**24.7318**	**1.1700e-003**	**0.0000**	**24.7563**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5308	0.0000	1.5308	0.6348	0.0000	0.6348	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2460	2.7683	1.9673	2.8700e-003		0.1296	0.1296		0.1193	0.1193	0.0000	262.0815	262.0815	0.0816	0.0000	263.7949
Total	**0.2460**	**2.7683**	**1.9673**	**2.8700e-003**	**1.5308**	**0.1296**	**1.6605**	**0.6348**	**0.1193**	**0.7541**	**0.0000**	**262.0815**	**262.0815**	**0.0816**	**0.0000**	**263.7949**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6300e-003	3.9000e-003	0.0408	1.2000e-004	0.0102	7.0000e-005	0.0103	2.7100e-003	6.0000e-005	2.7800e-003	0.0000	8.5147	8.5147	3.9000e-004	0.0000	8.5228
Total	**2.6300e-003**	**3.9000e-003**	**0.0408**	**1.2000e-004**	**0.0102**	**7.0000e-005**	**0.0103**	**2.7100e-003**	**6.0000e-005**	**2.7800e-003**	**0.0000**	**8.5147**	**8.5147**	**3.9000e-004**	**0.0000**	**8.5228**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6544	0.0000	0.6544	0.2714	0.0000	0.2714	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2460	2.7683	1.9673	2.8700e-003		0.1296	0.1296		0.1193	0.1193	0.0000	262.0812	262.0812	0.0816	0.0000	263.7946
Total	**0.2460**	**2.7683**	**1.9673**	**2.8700e-003**	**0.6544**	**0.1296**	**0.7841**	**0.2714**	**0.1193**	**0.3906**	**0.0000**	**262.0812**	**262.0812**	**0.0816**	**0.0000**	**263.7946**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6300e-003	3.9000e-003	0.0408	1.2000e-004	9.4100e-003	7.0000e-005	9.4800e-003	2.5200e-003	6.0000e-005	2.5800e-003	0.0000	8.5147	8.5147	3.9000e-004	0.0000	8.5228
Total	**2.6300e-003**	**3.9000e-003**	**0.0408**	**1.2000e-004**	**9.4100e-003**	**7.0000e-005**	**9.4800e-003**	**2.5200e-003**	**6.0000e-005**	**2.5800e-003**	**0.0000**	**8.5147**	**8.5147**	**3.9000e-004**	**0.0000**	**8.5228**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3228**	**311.3228**	**0.0766**	**0.0000**	**312.9319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.1442	1.3766	1.8718	3.6100e-003	0.1033	0.0206	0.1239	0.0295	0.0190	0.0484	0.0000	323.3959	323.3959	2.3000e-003	0.0000	323.4442
Worker	0.1695	0.2509	2.6226	7.1200e-003	0.5994	4.1700e-003	0.6036	0.1592	3.8500e-003	0.1630	0.0000	519.3667	519.3667	0.0245	0.0000	519.8817
Total	**0.3137**	**1.6275**	**4.4945**	**0.0107**	**0.7027**	**0.0248**	**0.7274**	**0.1887**	**0.0228**	**0.2115**	**0.0000**	**842.7626**	**842.7626**	**0.0268**	**0.0000**	**843.3259**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3225	311.3225	0.0766	0.0000	312.9315
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3225**	**311.3225**	**0.0766**	**0.0000**	**312.9315**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1442	1.3766	1.8718	3.6100e-003	0.0965	0.0206	0.1171	0.0278	0.0190	0.0468	0.0000	323.3959	323.3959	2.3000e-003	0.0000	323.4442

Worker	0.1695	0.2509	2.6226	7.1200e-003	0.5526	4.1700e-003	0.5568	0.1477	3.8500e-003	0.1516	0.0000	519.3667	519.3667	0.0245	0.0000	519.8817
Total	**0.3137**	**1.6275**	**4.4945**	**0.0107**	**0.6491**	**0.0248**	**0.6739**	**0.1755**	**0.0228**	**0.1983**	**0.0000**	**842.7626**	**842.7626**	**0.0268**	**0.0000**	**843.3259**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9844	308.9844	0.0756	0.0000	310.5723
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9844**	**308.9844**	**0.0756**	**0.0000**	**310.5723**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1352	1.2679	1.7941	3.6200e-003	0.1037	0.0195	0.1231	0.0296	0.0179	0.0475	0.0000	319.1255	319.1255	2.3000e-003	0.0000	319.1737
Worker	0.1549	0.2299	2.4053	7.1500e-003	0.6017	4.1400e-003	0.6058	0.1598	3.8300e-003	0.1636	0.0000	501.8153	501.8153	0.0230	0.0000	502.2978

Total	**0.2901**	**1.4978**	**4.1993**	**0.0108**	**0.7054**	**0.0236**	**0.7290**	**0.1894**	**0.0218**	**0.2111**	**0.0000**	**820.9408**	**820.9408**	**0.0253**	**0.0000**	**821.4715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9841	308.9841	0.0756	0.0000	310.5720
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9841**	**308.9841**	**0.0756**	**0.0000**	**310.5720**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1352	1.2679	1.7941	3.6200e-003	0.0969	0.0195	0.1164	0.0279	0.0179	0.0458	0.0000	319.1255	319.1255	2.3000e-003	0.0000	319.1737
Worker	0.1549	0.2299	2.4053	7.1500e-003	0.5548	4.1400e-003	0.5589	0.1483	3.8300e-003	0.1521	0.0000	501.8153	501.8153	0.0230	0.0000	502.2978
Total	**0.2901**	**1.4978**	**4.1993**	**0.0108**	**0.6516**	**0.0236**	**0.6753**	**0.1762**	**0.0218**	**0.1979**	**0.0000**	**820.9408**	**820.9408**	**0.0253**	**0.0000**	**821.4715**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5302	305.5302	0.0743	0.0000	307.0913
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5302**	**305.5302**	**0.0743**	**0.0000**	**307.0913**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1264	1.1754	1.7104	3.6300e-003	0.1037	0.0182	0.1218	0.0296	0.0167	0.0463	0.0000	314.6902	314.6902	2.3100e-003	0.0000	314.7388
Worker	0.1448	0.2131	2.2409	7.1800e-003	0.6017	4.1700e-003	0.6059	0.1598	3.8700e-003	0.1637	0.0000	486.1551	486.1551	0.0219	0.0000	486.6156
Total	**0.2711**	**1.3885**	**3.9513**	**0.0108**	**0.7054**	**0.0224**	**0.7277**	**0.1894**	**0.0206**	**0.2100**	**0.0000**	**800.8453**	**800.8453**	**0.0242**	**0.0000**	**801.3544**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5299	305.5299	0.0743	0.0000	307.0909
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5299**	**305.5299**	**0.0743**	**0.0000**	**307.0909**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1264	1.1754	1.7104	3.6300e-003	0.0969	0.0182	0.1151	0.0279	0.0167	0.0446	0.0000	314.6902	314.6902	2.3100e-003	0.0000	314.7388
Worker	0.1448	0.2131	2.2409	7.1800e-003	0.5548	4.1700e-003	0.5589	0.1483	3.8700e-003	0.1521	0.0000	486.1551	486.1551	0.0219	0.0000	486.6156
Total	**0.2711**	**1.3885**	**3.9513**	**0.0108**	**0.6516**	**0.0224**	**0.6740**	**0.1762**	**0.0206**	**0.1968**	**0.0000**	**800.8453**	**800.8453**	**0.0242**	**0.0000**	**801.3544**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2766	2.5000	2.2019	3.5100e-003		0.1458	0.1458		0.1371	0.1371	0.0000	302.1514	302.1514	0.0736	0.0000	303.6973
Total	**0.2766**	**2.5000**	**2.2019**	**3.5100e-003**		**0.1458**	**0.1458**		**0.1371**	**0.1371**	**0.0000**	**302.1514**	**302.1514**	**0.0736**	**0.0000**	**303.6973**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1169	1.0294	1.6367	3.6400e-003	0.1041	0.0167	0.1207	0.0297	0.0153	0.0450	0.0000	308.7256	308.7256	2.2800e-003	0.0000	308.7734
Worker	0.1374	0.1997	2.1098	7.2000e-003	0.6040	4.2100e-003	0.6082	0.1604	3.9000e-003	0.1643	0.0000	468.4756	468.4756	0.0210	0.0000	468.9161
Total	**0.2543**	**1.2291**	**3.7465**	**0.0108**	**0.7081**	**0.0209**	**0.7289**	**0.1901**	**0.0192**	**0.2093**	**0.0000**	**777.2012**	**777.2012**	**0.0233**	**0.0000**	**777.6895**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.2766	2.5000	2.2019	3.5100e-003		0.1458	0.1458		0.1371	0.1371	0.0000	302.1510	302.1510	0.0736	0.0000	303.6969
Total	**0.2766**	**2.5000**	**2.2019**	**3.5100e-003**		**0.1458**	**0.1458**		**0.1371**	**0.1371**	**0.0000**	**302.1510**	**302.1510**	**0.0736**	**0.0000**	**303.6969**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1169	1.0294	1.6367	3.6400e-003	0.0973	0.0167	0.1139	0.0280	0.0153	0.0434	0.0000	308.7256	308.7256	2.2800e-003	0.0000	308.7734
Worker	0.1374	0.1997	2.1098	7.2000e-003	0.5569	4.2100e-003	0.5611	0.1488	3.9000e-003	0.1527	0.0000	468.4756	468.4756	0.0210	0.0000	468.9161
Total	**0.2543**	**1.2291**	**3.7465**	**0.0108**	**0.6541**	**0.0209**	**0.6750**	**0.1769**	**0.0192**	**0.1961**	**0.0000**	**777.2012**	**777.2012**	**0.0233**	**0.0000**	**777.6895**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.2471	2.2629	2.1582	3.5000e-003		0.1246	0.1246		0.1172	0.1172	0.0000	301.0339	301.0339	0.0725	0.0000	302.5568
Total	**0.2471**	**2.2629**	**2.1582**	**3.5000e-003**		**0.1246**	**0.1246**		**0.1172**	**0.1172**	**0.0000**	**301.0339**	**301.0339**	**0.0725**	**0.0000**	**302.5568**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1124	0.8702	1.5898	3.6200e-003	0.1037	0.0151	0.1188	0.0296	0.0139	0.0435	0.0000	307.2896	307.2896	2.2800e-003	0.0000	307.3375
Worker	0.1302	0.1869	1.9837	7.1800e-003	0.6017	4.2300e-003	0.6059	0.1598	3.9200e-003	0.1637	0.0000	459.0015	459.0015	0.0200	0.0000	459.4224
Total	**0.2426**	**1.0570**	**3.5735**	**0.0108**	**0.7054**	**0.0193**	**0.7247**	**0.1894**	**0.0178**	**0.2072**	**0.0000**	**766.2911**	**766.2911**	**0.0223**	**0.0000**	**766.7600**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2471	2.2629	2.1582	3.5000e-003		0.1246	0.1246		0.1172	0.1172	0.0000	301.0335	301.0335	0.0725	0.0000	302.5565

Total	**0.2471**	**2.2629**	**2.1582**	**3.5000e-003**		**0.1246**	**0.1246**		**0.1172**	**0.1172**	**0.0000**	**301.0335**	**301.0335**	**0.0725**	**0.0000**	**302.5565**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1124	0.8702	1.5898	3.6200e-003	0.0969	0.0151	0.1120	0.0279	0.0139	0.0418	0.0000	307.2896	307.2896	2.2800e-003	0.0000	307.3375
Worker	0.1302	0.1869	1.9837	7.1800e-003	0.5548	4.2300e-003	0.5590	0.1483	3.9200e-003	0.1522	0.0000	459.0015	459.0015	0.0200	0.0000	459.4224
Total	**0.2426**	**1.0570**	**3.5735**	**0.0108**	**0.6517**	**0.0193**	**0.6710**	**0.1762**	**0.0178**	**0.1940**	**0.0000**	**766.2911**	**766.2911**	**0.0223**	**0.0000**	**766.7600**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2209	2.0197	2.1226	3.4900e-003		0.1047	0.1047		0.0986	0.0986	0.0000	299.9946	299.9946	0.0718	0.0000	301.5017
Total	**0.2209**	**2.0197**	**2.1226**	**3.4900e-003**		**0.1047**	**0.1047**		**0.0986**	**0.0986**	**0.0000**	**299.9946**	**299.9946**	**0.0718**	**0.0000**	**301.5017**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1097	0.7867	1.5464	3.6000e-003	0.1033	0.0149	0.1181	0.0295	0.0137	0.0432	0.0000	305.8550	305.8550	2.3200e-003	0.0000	305.9038
Worker	0.1235	0.1756	1.8692	7.1600e-003	0.5994	4.2500e-003	0.6036	0.1592	3.9400e-003	0.1631	0.0000	449.7954	449.7954	0.0192	0.0000	450.1985
Total	**0.2332**	**0.9623**	**3.4157**	**0.0108**	**0.7027**	**0.0191**	**0.7218**	**0.1887**	**0.0176**	**0.2063**	**0.0000**	**755.6504**	**755.6504**	**0.0215**	**0.0000**	**756.1023**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2209	2.0197	2.1226	3.4900e-003		0.1047	0.1047		0.0986	0.0986	0.0000	299.9943	299.9943	0.0718	0.0000	301.5013
Total	**0.2209**	**2.0197**	**2.1226**	**3.4900e-003**		**0.1047**	**0.1047**		**0.0986**	**0.0986**	**0.0000**	**299.9943**	**299.9943**	**0.0718**	**0.0000**	**301.5013**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1097	0.7867	1.5464	3.6000e-003	0.0965	0.0149	0.1114	0.0278	0.0137	0.0415	0.0000	305.8550	305.8550	2.3200e-003	0.0000	305.9038
Worker	0.1235	0.1756	1.8692	7.1600e-003	0.5526	4.2500e-003	0.5569	0.1477	3.9400e-003	0.1516	0.0000	449.7954	449.7954	0.0192	0.0000	450.1985
Total	**0.2332**	**0.9623**	**3.4157**	**0.0108**	**0.6492**	**0.0191**	**0.6683**	**0.1755**	**0.0176**	**0.1931**	**0.0000**	**755.6504**	**755.6504**	**0.0215**	**0.0000**	**756.1023**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0980	300.0980	0.0713	0.0000	301.5949
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0980**	**300.0980**	**0.0713**	**0.0000**	**301.5949**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1014	0.6249	1.4859	3.5800e-003	0.1033	0.0147	0.1180	0.0295	0.0135	0.0430	0.0000	304.3922	304.3922	2.0900e-003	0.0000	304.4361
Worker	0.1178	0.1663	1.7727	7.1600e-003	0.5994	4.2800e-003	0.6037	0.1592	3.9700e-003	0.1632	0.0000	443.0482	443.0482	0.0185	0.0000	443.4371
Total	**0.2192**	**0.7912**	**3.2586**	**0.0107**	**0.7027**	**0.0190**	**0.7216**	**0.1887**	**0.0175**	**0.2061**	**0.0000**	**747.4404**	**747.4404**	**0.0206**	**0.0000**	**747.8732**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0976	300.0976	0.0713	0.0000	301.5946
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0976**	**300.0976**	**0.0713**	**0.0000**	**301.5946**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1014	0.6249	1.4859	3.5800e-003	0.0965	0.0147	0.1112	0.0278	0.0135	0.0413	0.0000	304.3922	304.3922	2.0900e-003	0.0000	304.4361
Worker	0.1178	0.1663	1.7727	7.1600e-003	0.5526	4.2800e-003	0.5569	0.1477	3.9700e-003	0.1517	0.0000	443.0482	443.0482	0.0185	0.0000	443.4371
Total	**0.2192**	**0.7912**	**3.2586**	**0.0107**	**0.6492**	**0.0190**	**0.6681**	**0.1755**	**0.0175**	**0.1930**	**0.0000**	**747.4404**	**747.4404**	**0.0206**	**0.0000**	**747.8732**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1920	1.7524	2.1135	3.5200e-003		0.0800	0.0800		0.0752	0.0752	0.0000	302.4646	302.4646	0.0714	0.0000	303.9643
Total	**0.1920**	**1.7524**	**2.1135**	**3.5200e-003**		**0.0800**	**0.0800**		**0.0752**	**0.0752**	**0.0000**	**302.4646**	**302.4646**	**0.0714**	**0.0000**	**303.9643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	0.6244	1.4724	3.6100e-003	0.1041	0.0151	0.1192	0.0297	0.0139	0.0436	0.0000	306.6706	306.6706	2.1200e-003	0.0000	306.7151
Worker	0.1131	0.1591	1.6918	7.2100e-003	0.6040	4.3400e-003	0.6084	0.1604	4.0300e-003	0.1644	0.0000	440.2180	440.2180	0.0180	0.0000	440.5964
Total	**0.2133**	**0.7835**	**3.1641**	**0.0108**	**0.7081**	**0.0195**	**0.7276**	**0.1901**	**0.0179**	**0.2081**	**0.0000**	**746.8886**	**746.8886**	**0.0201**	**0.0000**	**747.3115**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1920	1.7524	2.1135	3.5200e-003		0.0800	0.0800		0.0752	0.0752	0.0000	302.4642	302.4642	0.0714	0.0000	303.9639
Total	**0.1920**	**1.7524**	**2.1135**	**3.5200e-003**		**0.0800**	**0.0800**		**0.0752**	**0.0752**	**0.0000**	**302.4642**	**302.4642**	**0.0714**	**0.0000**	**303.9639**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	0.6244	1.4724	3.6100e-003	0.0973	0.0151	0.1124	0.0280	0.0139	0.0420	0.0000	306.6706	306.6706	2.1200e-003	0.0000	306.7151
Worker	0.1131	0.1591	1.6918	7.2100e-003	0.5569	4.3400e-003	0.5612	0.1488	4.0300e-003	0.1529	0.0000	440.2180	440.2180	0.0180	0.0000	440.5964
Total	**0.2133**	**0.7835**	**3.1641**	**0.0108**	**0.6542**	**0.0195**	**0.6736**	**0.1769**	**0.0179**	**0.1948**	**0.0000**	**746.8886**	**746.8886**	**0.0201**	**0.0000**	**747.3115**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0973	0.6174	1.4318	3.6000e-003	0.1037	0.0151	0.1188	0.0296	0.0139	0.0435	0.0000	305.5273	305.5273	2.1200e-003	0.0000	305.5717
Worker	0.1082	0.1516	1.6163	7.1800e-003	0.6017	4.3700e-003	0.6061	0.1598	4.0500e-003	0.1638	0.0000	433.1726	433.1726	0.0174	0.0000	433.5389
Total	**0.2055**	**0.7690**	**3.0480**	**0.0108**	**0.7054**	**0.0195**	**0.7249**	**0.1894**	**0.0180**	**0.2074**	**0.0000**	**738.6999**	**738.6999**	**0.0196**	**0.0000**	**739.1106**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0973	0.6174	1.4318	3.6000e-003	0.0969	0.0151	0.1121	0.0279	0.0139	0.0419	0.0000	305.5273	305.5273	2.1200e-003	0.0000	305.5717

Worker	0.1082	0.1516	1.6163	7.1800e-003	0.5548	4.3700e-003	0.5591	0.1483	4.0500e-003	0.1523	0.0000	433.1726	433.1726	0.0174	0.0000	433.5389
Total	**0.2055**	**0.7690**	**3.0480**	**0.0108**	**0.6517**	**0.0195**	**0.6712**	**0.1762**	**0.0180**	**0.1942**	**0.0000**	**738.6999**	**738.6999**	**0.0196**	**0.0000**	**739.1106**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0939	0.5988	1.4026	3.6000e-003	0.1037	0.0145	0.1182	0.0296	0.0134	0.0430	0.0000	305.4976	305.4976	2.0500e-003	0.0000	305.5407
Worker	0.1041	0.1457	1.5566	7.1800e-003	0.6017	4.4100e-003	0.6061	0.1598	4.0900e-003	0.1639	0.0000	428.5199	428.5199	0.0170	0.0000	428.8770

Total	**0.1980**	**0.7445**	**2.9592**	**0.0108**	**0.7054**	**0.0189**	**0.7244**	**0.1894**	**0.0174**	**0.2069**	**0.0000**	**734.0175**	**734.0175**	**0.0191**	**0.0000**	**734.4177**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0939	0.5988	1.4026	3.6000e-003	0.0970	0.0145	0.1115	0.0280	0.0134	0.0413	0.0000	305.4976	305.4976	2.0500e-003	0.0000	305.5407
Worker	0.1041	0.1457	1.5566	7.1800e-003	0.5548	4.4100e-003	0.5592	0.1483	4.0900e-003	0.1524	0.0000	428.5199	428.5199	0.0170	0.0000	428.8770
Total	**0.1980**	**0.7445**	**2.9592**	**0.0108**	**0.6517**	**0.0189**	**0.6706**	**0.1762**	**0.0174**	**0.1937**	**0.0000**	**734.0175**	**734.0175**	**0.0191**	**0.0000**	**734.4177**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0930	0.5942	1.3898	3.6000e-003	0.1037	0.0146	0.1183	0.0296	0.0134	0.0430	0.0000	305.5591	305.5591	2.0600e-003	0.0000	305.6023
Worker	0.1002	0.1405	1.5046	7.1800e-003	0.6017	4.4500e-003	0.6062	0.1598	4.1300e-003	0.1639	0.0000	424.4970	424.4970	0.0166	0.0000	424.8460
Total	**0.1932**	**0.7347**	**2.8944**	**0.0108**	**0.7054**	**0.0190**	**0.7245**	**0.1894**	**0.0175**	**0.2069**	**0.0000**	**730.0561**	**730.0561**	**0.0187**	**0.0000**	**730.4483**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0930	0.5942	1.3898	3.6000e-003	0.0970	0.0146	0.1115	0.0280	0.0134	0.0413	0.0000	305.5591	305.5591	2.0600e-003	0.0000	305.6023
Worker	0.1002	0.1405	1.5046	7.1800e-003	0.5548	4.4500e-003	0.5592	0.1483	4.1300e-003	0.1524	0.0000	424.4970	424.4970	0.0166	0.0000	424.8460
Total	**0.1932**	**0.7347**	**2.8944**	**0.0108**	**0.6517**	**0.0190**	**0.6707**	**0.1762**	**0.0175**	**0.1937**	**0.0000**	**730.0561**	**730.0561**	**0.0187**	**0.0000**	**730.4483**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1770	1.6133	2.0867	3.4900e-003		0.0683	0.0683		0.0642	0.0642	0.0000	300.2471	300.2471	0.0705	0.0000	301.7269
Total	**0.1770**	**1.6133**	**2.0867**	**3.4900e-003**		**0.0683**	**0.0683**		**0.0642**	**0.0642**	**0.0000**	**300.2471**	**300.2471**	**0.0705**	**0.0000**	**301.7269**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0915	0.5863	1.3735	3.5800e-003	0.1034	0.0144	0.1178	0.0295	0.0133	0.0428	0.0000	304.4246	304.4246	2.0400e-003	0.0000	304.4675
Worker	0.0963	0.1354	1.4539	7.1500e-003	0.5994	4.4700e-003	0.6039	0.1592	4.1500e-003	0.1633	0.0000	419.4485	419.4485	0.0162	0.0000	419.7890
Total	**0.1879**	**0.7217**	**2.8274**	**0.0107**	**0.7028**	**0.0189**	**0.7216**	**0.1887**	**0.0174**	**0.2061**	**0.0000**	**723.8731**	**723.8731**	**0.0183**	**0.0000**	**724.2565**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.1770	1.6133	2.0867	3.4900e-003		0.0683	0.0683		0.0642	0.0642	0.0000	300.2467	300.2467	0.0705	0.0000	301.7266
Total	**0.1770**	**1.6133**	**2.0867**	**3.4900e-003**		**0.0683**	**0.0683**		**0.0642**	**0.0642**	**0.0000**	**300.2467**	**300.2467**	**0.0705**	**0.0000**	**301.7266**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0915	0.5863	1.3735	3.5800e-003	0.0966	0.0144	0.1110	0.0279	0.0133	0.0411	0.0000	304.4246	304.4246	2.0400e-003	0.0000	304.4675
Worker	0.0963	0.1354	1.4539	7.1500e-003	0.5526	4.4700e-003	0.5571	0.1477	4.1500e-003	0.1519	0.0000	419.4485	419.4485	0.0162	0.0000	419.7890
Total	**0.1879**	**0.7217**	**2.8274**	**0.0107**	**0.6492**	**0.0189**	**0.6681**	**0.1756**	**0.0174**	**0.1930**	**0.0000**	**723.8731**	**723.8731**	**0.0183**	**0.0000**	**724.2565**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0912	0.5860	1.3697	3.6000e-003	0.1038	0.0145	0.1183	0.0296	0.0133	0.0430	0.0000	305.6459	305.6459	2.0500e-003	0.0000	305.6889
Worker	0.0932	0.1314	1.4162	7.1800e-003	0.6017	4.5200e-003	0.6062	0.1598	4.1900e-003	0.1640	0.0000	418.1207	418.1207	0.0160	0.0000	418.4557
Total	**0.1844**	**0.7174**	**2.7859**	**0.0108**	**0.7055**	**0.0190**	**0.7245**	**0.1894**	**0.0175**	**0.2069**	**0.0000**	**723.7666**	**723.7666**	**0.0180**	**0.0000**	**724.1447**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871

Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0912	0.5860	1.3697	3.6000e-003	0.0970	0.0145	0.1115	0.0280	0.0133	0.0413	0.0000	305.6459	305.6459	2.0500e-003	0.0000	305.6889
Worker	0.0932	0.1314	1.4162	7.1800e-003	0.5548	4.5200e-003	0.5593	0.1483	4.1900e-003	0.1525	0.0000	418.1207	418.1207	0.0160	0.0000	418.4557
Total	**0.1844**	**0.7174**	**2.7859**	**0.0108**	**0.6518**	**0.0190**	**0.6708**	**0.1762**	**0.0175**	**0.1938**	**0.0000**	**723.7666**	**723.7666**	**0.0180**	**0.0000**	**724.1447**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0926	0.5622	1.1453	2.1900e-003		0.0105	0.0105		0.0105	0.0105	0.0000	185.8122	185.8122	7.4600e-003	0.0000	185.9689
Total	**0.0926**	**0.5622**	**1.1453**	**2.1900e-003**		**0.0105**	**0.0105**		**0.0105**	**0.0105**	**0.0000**	**185.8122**	**185.8122**	**7.4600e-003**	**0.0000**	**185.9689**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0489	0.3174	0.7386	1.9600e-003	0.0565	7.9000e-003	0.0644	0.0161	7.2600e-003	0.0234	0.0000	166.3084	166.3084	1.1200e-003	0.0000	166.3319
Worker	0.0489	0.0692	0.7496	3.9100e-003	0.3274	2.4700e-003	0.3298	0.0869	2.2900e-003	0.0892	0.0000	226.1212	226.1212	8.5100e-003	0.0000	226.3000
Total	**0.0978**	**0.3866**	**1.4882**	**5.8700e-003**	**0.3838**	**0.0104**	**0.3942**	**0.1031**	**9.5500e-003**	**0.1126**	**0.0000**	**392.4296**	**392.4296**	**9.6300e-003**	**0.0000**	**392.6319**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0926	0.5622	1.1453	2.1900e-003		0.0105	0.0105		0.0105	0.0105	0.0000	185.8120	185.8120	7.4600e-003	0.0000	185.9686
Total	**0.0926**	**0.5622**	**1.1453**	**2.1900e-003**		**0.0105**	**0.0105**		**0.0105**	**0.0105**	**0.0000**	**185.8120**	**185.8120**	**7.4600e-003**	**0.0000**	**185.9686**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0489	0.3174	0.7386	1.9600e-003	0.0528	7.9000e-003	0.0607	0.0152	7.2600e-003	0.0225	0.0000	166.3084	166.3084	1.1200e-003	0.0000	166.3319
Worker	0.0489	0.0692	0.7496	3.9100e-003	0.3018	2.4700e-003	0.3043	0.0807	2.2900e-003	0.0830	0.0000	226.1212	226.1212	8.5100e-003	0.0000	226.3000
Total	**0.0978**	**0.3866**	**1.4882**	**5.8700e-003**	**0.3546**	**0.0104**	**0.3650**	**0.0959**	**9.5500e-003**	**0.1054**	**0.0000**	**392.4296**	**392.4296**	**9.6300e-003**	**0.0000**	**392.6319**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2480	2.6385	1.9145	2.9000e-003		0.1480	0.1480		0.1362	0.1362	0.0000	269.0144	269.0144	0.0824	0.0000	270.7454
Paving	0.0397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2877**	**2.6385**	**1.9145**	**2.9000e-003**		**0.1480**	**0.1480**		**0.1362**	**0.1362**	**0.0000**	**269.0144**	**269.0144**	**0.0824**	**0.0000**	**270.7454**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0500e-003	8.9600e-003	0.0937	2.5000e-004	0.0214	1.5000e-004	0.0216	5.6800e-003	1.4000e-004	5.8200e-003	0.0000	18.5488	18.5488	8.8000e-004	0.0000	18.5672
Total	**6.0500e-003**	**8.9600e-003**	**0.0937**	**2.5000e-004**	**0.0214**	**1.5000e-004**	**0.0216**	**5.6800e-003**	**1.4000e-004**	**5.8200e-003**	**0.0000**	**18.5488**	**18.5488**	**8.8000e-004**	**0.0000**	**18.5672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2480	2.6385	1.9145	2.9000e-003		0.1480	0.1480		0.1362	0.1362	0.0000	269.0141	269.0141	0.0824	0.0000	270.7450
Paving	0.0397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2877**	**2.6385**	**1.9145**	**2.9000e-003**		**0.1480**	**0.1480**		**0.1362**	**0.1362**	**0.0000**	**269.0141**	**269.0141**	**0.0824**	**0.0000**	**270.7450**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0500e-003	8.9600e-003	0.0937	2.5000e-004	0.0197	1.5000e-004	0.0199	5.2700e-003	1.4000e-004	5.4100e-003	0.0000	18.5488	18.5488	8.8000e-004	0.0000	18.5672
Total	**6.0500e-003**	**8.9600e-003**	**0.0937**	**2.5000e-004**	**0.0197**	**1.5000e-004**	**0.0199**	**5.2700e-003**	**1.4000e-004**	**5.4100e-003**	**0.0000**	**18.5488**	**18.5488**	**8.8000e-004**	**0.0000**	**18.5672**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2103	2.2397	1.8915	2.9100e-003		0.1225	0.1225		0.1127	0.1127	0.0000	265.8121	265.8121	0.0828	0.0000	267.5499
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2502**	**2.2397**	**1.8915**	**2.9100e-003**		**0.1225**	**0.1225**		**0.1127**	**0.1127**	**0.0000**	**265.8121**	**265.8121**	**0.0828**	**0.0000**	**267.5499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	8.2100e-003	0.0859	2.6000e-004	0.0215	1.5000e-004	0.0216	5.7100e-003	1.4000e-004	5.8400e-003	0.0000	17.9220	17.9220	8.2000e-004	0.0000	17.9392
Total	**5.5300e-003**	**8.2100e-003**	**0.0859**	**2.6000e-004**	**0.0215**	**1.5000e-004**	**0.0216**	**5.7100e-003**	**1.4000e-004**	**5.8400e-003**	**0.0000**	**17.9220**	**17.9220**	**8.2000e-004**	**0.0000**	**17.9392**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2103	2.2397	1.8915	2.9100e-003		0.1225	0.1225		0.1127	0.1127	0.0000	265.8118	265.8118	0.0828	0.0000	267.5495
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2502**	**2.2397**	**1.8915**	**2.9100e-003**		**0.1225**	**0.1225**		**0.1127**	**0.1127**	**0.0000**	**265.8118**	**265.8118**	**0.0828**	**0.0000**	**267.5495**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	8.2100e-003	0.0859	2.6000e-004	0.0198	1.5000e-004	0.0200	5.3000e-003	1.4000e-004	5.4300e-003	0.0000	17.9220	17.9220	8.2000e-004	0.0000	17.9392
Total	**5.5300e-003**	**8.2100e-003**	**0.0859**	**2.6000e-004**	**0.0198**	**1.5000e-004**	**0.0200**	**5.3000e-003**	**1.4000e-004**	**5.4300e-003**	**0.0000**	**17.9220**	**17.9220**	**8.2000e-004**	**0.0000**	**17.9392**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1861	1.9491	1.8747	2.9100e-003		0.1056	0.1056		0.0972	0.0972	0.0000	261.5151	261.5151	0.0827	0.0000	263.2526
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2259**	**1.9491**	**1.8747**	**2.9100e-003**		**0.1056**	**0.1056**		**0.0972**	**0.0972**	**0.0000**	**261.5151**	**261.5151**	**0.0827**	**0.0000**	**263.2526**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1700e-003	7.6100e-003	0.0800	2.6000e-004	0.0215	1.5000e-004	0.0216	5.7100e-003	1.4000e-004	5.8400e-003	0.0000	17.3627	17.3627	7.8000e-004	0.0000	17.3791
Total	**5.1700e-003**	**7.6100e-003**	**0.0800**	**2.6000e-004**	**0.0215**	**1.5000e-004**	**0.0216**	**5.7100e-003**	**1.4000e-004**	**5.8400e-003**	**0.0000**	**17.3627**	**17.3627**	**7.8000e-004**	**0.0000**	**17.3791**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1861	1.9491	1.8747	2.9100e-003		0.1056	0.1056		0.0972	0.0972	0.0000	261.5147	261.5147	0.0827	0.0000	263.2523
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2259**	**1.9491**	**1.8747**	**2.9100e-003**		**0.1056**	**0.1056**		**0.0972**	**0.0972**	**0.0000**	**261.5147**	**261.5147**	**0.0827**	**0.0000**	**263.2523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	5.1700e-003	7.6100e-003	0.0800	2.6000e-004	0.0198	1.5000e-004	0.0200	5.3000e-003	1.4000e-004	5.4300e-003	0.0000	17.3627	17.3627	7.8000e-004	0.0000	17.3791
Total	**5.1700e-003**	**7.6100e-003**	**0.0800**	**2.6000e-004**	**0.0198**	**1.5000e-004**	**0.0200**	**5.3000e-003**	**1.4000e-004**	**5.4300e-003**	**0.0000**	**17.3627**	**17.3627**	**7.8000e-004**	**0.0000**	**17.3791**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1742	1.8058	1.8802	2.9200e-003		0.0968	0.0968		0.0891	0.0891	0.0000	256.7870	256.7870	0.0831	0.0000	258.5310
Paving	0.0400					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2143**	**1.8058**	**1.8802**	**2.9200e-003**		**0.0968**	**0.0968**		**0.0891**	**0.0891**	**0.0000**	**256.7870**	**256.7870**	**0.0831**	**0.0000**	**258.5310**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9100e-003	7.1300e-003	0.0754	2.6000e-004	0.0216	1.5000e-004	0.0217	5.7300e-003	1.4000e-004	5.8700e-003	0.0000	16.7313	16.7313	7.5000e-004	0.0000	16.7470

Total	**4.9100e-003**	**7.1300e-003**	**0.0754**	**2.6000e-004**	**0.0216**	**1.5000e-004**	**0.0217**	**5.7300e-003**	**1.4000e-004**	**5.8700e-003**	**0.0000**	**16.7313**	**16.7313**	**7.5000e-004**	**0.0000**	**16.7470**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1742	1.8058	1.8802	2.9200e-003		0.0968	0.0968		0.0891	0.0891	0.0000	256.7867	256.7867	0.0831	0.0000	258.5307
Paving	0.0400					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2143**	**1.8058**	**1.8802**	**2.9200e-003**		**0.0968**	**0.0968**		**0.0891**	**0.0891**	**0.0000**	**256.7867**	**256.7867**	**0.0831**	**0.0000**	**258.5307**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9100e-003	7.1300e-003	0.0754	2.6000e-004	0.0199	1.5000e-004	0.0200	5.3200e-003	1.4000e-004	5.4500e-003	0.0000	16.7313	16.7313	7.5000e-004	0.0000	16.7470
Total	**4.9100e-003**	**7.1300e-003**	**0.0754**	**2.6000e-004**	**0.0199**	**1.5000e-004**	**0.0200**	**5.3200e-003**	**1.4000e-004**	**5.4500e-003**	**0.0000**	**16.7313**	**16.7313**	**7.5000e-004**	**0.0000**	**16.7470**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1606	1.6522	1.8730	2.9100e-003		0.0868	0.0868		0.0799	0.0799	0.0000	255.7472	255.7472	0.0827	0.0000	257.4842
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2005**	**1.6522**	**1.8730**	**2.9100e-003**		**0.0868**	**0.0868**		**0.0799**	**0.0799**	**0.0000**	**255.7472**	**255.7472**	**0.0827**	**0.0000**	**257.4842**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6500e-003	6.6700e-003	0.0709	2.6000e-004	0.0215	1.5000e-004	0.0216	5.7100e-003	1.4000e-004	5.8500e-003	0.0000	16.3929	16.3929	7.2000e-004	0.0000	16.4079
Total	**4.6500e-003**	**6.6700e-003**	**0.0709**	**2.6000e-004**	**0.0215**	**1.5000e-004**	**0.0216**	**5.7100e-003**	**1.4000e-004**	**5.8500e-003**	**0.0000**	**16.3929**	**16.3929**	**7.2000e-004**	**0.0000**	**16.4079**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1606	1.6522	1.8730	2.9100e-003		0.0868	0.0868		0.0799	0.0799	0.0000	255.7469	255.7469	0.0827	0.0000	257.4839
Paving	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2005**	**1.6522**	**1.8730**	**2.9100e-003**		**0.0868**	**0.0868**		**0.0799**	**0.0799**	**0.0000**	**255.7469**	**255.7469**	**0.0827**	**0.0000**	**257.4839**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6500e-003	6.6700e-003	0.0709	2.6000e-004	0.0198	1.5000e-004	0.0200	5.3000e-003	1.4000e-004	5.4400e-003	0.0000	16.3929	16.3929	7.2000e-004	0.0000	16.4079
Total	**4.6500e-003**	**6.6700e-003**	**0.0709**	**2.6000e-004**	**0.0198**	**1.5000e-004**	**0.0200**	**5.3000e-003**	**1.4000e-004**	**5.4400e-003**	**0.0000**	**16.3929**	**16.3929**	**7.2000e-004**	**0.0000**	**16.4079**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1406	1.4184	1.8566	2.9000e-003		0.0725	0.0725		0.0667	0.0667	0.0000	254.8185	254.8185	0.0824	0.0000	256.5492
Paving	0.0397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1803**	**1.4184**	**1.8566**	**2.9000e-003**		**0.0725**	**0.0725**		**0.0667**	**0.0667**	**0.0000**	**254.8185**	**254.8185**	**0.0824**	**0.0000**	**256.5492**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4100e-003	6.2700e-003	0.0668	2.6000e-004	0.0214	1.5000e-004	0.0216	5.6800e-003	1.4000e-004	5.8300e-003	0.0000	16.0641	16.0641	6.9000e-004	0.0000	16.0785
Total	**4.4100e-003**	**6.2700e-003**	**0.0668**	**2.6000e-004**	**0.0214**	**1.5000e-004**	**0.0216**	**5.6800e-003**	**1.4000e-004**	**5.8300e-003**	**0.0000**	**16.0641**	**16.0641**	**6.9000e-004**	**0.0000**	**16.0785**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.1406	1.4184	1.8566	2.9000e-003		0.0725	0.0725		0.0667	0.0667	0.0000	254.8182	254.8182	0.0824	0.0000	256.5489
Paving	0.0397					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1803**	**1.4184**	**1.8566**	**2.9000e-003**		**0.0725**	**0.0725**		**0.0667**	**0.0667**	**0.0000**	**254.8182**	**254.8182**	**0.0824**	**0.0000**	**256.5489**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4100e-003	6.2700e-003	0.0668	2.6000e-004	0.0197	1.5000e-004	0.0199	5.2700e-003	1.4000e-004	5.4200e-003	0.0000	16.0641	16.0641	6.9000e-004	0.0000	16.0785
Total	**4.4100e-003**	**6.2700e-003**	**0.0668**	**2.6000e-004**	**0.0197**	**1.5000e-004**	**0.0199**	**5.2700e-003**	**1.4000e-004**	**5.4200e-003**	**0.0000**	**16.0641**	**16.0641**	**6.9000e-004**	**0.0000**	**16.0785**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.1023	1.0098	1.4428	2.2500e-003		0.0506	0.0506		0.0466	0.0466	0.0000	197.9677	197.9677	0.0640	0.0000	199.3122
Paving	0.0309					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1331**	**1.0098**	**1.4428**	**2.2500e-003**		**0.0506**	**0.0506**		**0.0466**	**0.0466**	**0.0000**	**197.9677**	**197.9677**	**0.0640**	**0.0000**	**199.3122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2700e-003	4.6100e-003	0.0492	2.0000e-004	0.0166	1.2000e-004	0.0168	4.4200e-003	1.1000e-004	4.5300e-003	0.0000	12.2934	12.2934	5.1000e-004	0.0000	12.3042
Total	**3.2700e-003**	**4.6100e-003**	**0.0492**	**2.0000e-004**	**0.0166**	**1.2000e-004**	**0.0168**	**4.4200e-003**	**1.1000e-004**	**4.5300e-003**	**0.0000**	**12.2934**	**12.2934**	**5.1000e-004**	**0.0000**	**12.3042**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1023	1.0098	1.4428	2.2500e-003		0.0506	0.0506		0.0466	0.0466	0.0000	197.9674	197.9674	0.0640	0.0000	199.3120

Paving	0.0309					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1331**	**1.0098**	**1.4428**	**2.2500e-003**		**0.0506**	**0.0506**		**0.0466**	**0.0466**	**0.0000**	**197.9674**	**197.9674**	**0.0640**	**0.0000**	**199.3120**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2700e-003	4.6100e-003	0.0492	2.0000e-004	0.0153	1.2000e-004	0.0155	4.1000e-003	1.1000e-004	4.2100e-003	0.0000	12.2934	12.2934	5.1000e-004	0.0000	12.3042
Total	**3.2700e-003**	**4.6100e-003**	**0.0492**	**2.0000e-004**	**0.0153**	**1.2000e-004**	**0.0155**	**4.1000e-003**	**1.1000e-004**	**4.2100e-003**	**0.0000**	**12.2934**	**12.2934**	**5.1000e-004**	**0.0000**	**12.3042**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	70.0672					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.2742	0.2344	3.7000e-004		0.0218	0.0218		0.0218	0.0218	0.0000	32.0433	32.0433	3.3800e-003	0.0000	32.1144

Total	**70.1089**	**0.2742**	**0.2344**	**3.7000e-004**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**32.0433**	**32.0433**	**3.3800e-003**	**0.0000**	**32.1144**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0327	0.0485	0.5064	1.3700e-003	0.1157	8.0000e-004	0.1165	0.0307	7.4000e-004	0.0315	0.0000	100.2777	100.2777	4.7400e-003	0.0000	100.3772
Total	**0.0327**	**0.0485**	**0.5064**	**1.3700e-003**	**0.1157**	**8.0000e-004**	**0.1165**	**0.0307**	**7.4000e-004**	**0.0315**	**0.0000**	**100.2777**	**100.2777**	**4.7400e-003**	**0.0000**	**100.3772**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	70.0672					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.2742	0.2344	3.7000e-004		0.0218	0.0218		0.0218	0.0218	0.0000	32.0433	32.0433	3.3800e-003	0.0000	32.1143
Total	**70.1089**	**0.2742**	**0.2344**	**3.7000e-004**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**32.0433**	**32.0433**	**3.3800e-003**	**0.0000**	**32.1143**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0327	0.0485	0.5064	1.3700e-003	0.1067	8.0000e-004	0.1075	0.0285	7.4000e-004	0.0293	0.0000	100.2777	100.2777	4.7400e-003	0.0000	100.3772
Total	**0.0327**	**0.0485**	**0.5064**	**1.3700e-003**	**0.1067**	**8.0000e-004**	**0.1075**	**0.0285**	**7.4000e-004**	**0.0293**	**0.0000**	**100.2777**	**100.2777**	**4.7400e-003**	**0.0000**	**100.3772**

Construction_Current SP

Orange County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	5	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00

Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	6	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	9	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	4.17000E-002	2.74220E-001	2.34440E-001	3.70000E-004	2.17500E-002	2.17500E-002	0.00000E+000	3.20433E+001	3.20433E+001	3.38000E-003	0.00000E+000	3.21144E+001
Concrete/Industrial Saws	6.62200E-002	4.85780E-001	4.27400E-001	7.10000E-004	3.49500E-002	3.49500E-002	0.00000E+000	6.12928E+001	6.12928E+001	5.39000E-003	0.00000E+000	6.14061E+001
Cranes	5.99250E-001	6.55969E+000	2.97551E+000	8.80000E-003	2.77660E-001	2.55590E-001	0.00000E+000	7.79443E+002	7.79443E+002	2.39280E-001	0.00000E+000	7.84468E+002
Excavators	2.45630E-001	2.71335E+000	2.37182E+000	3.68000E-003	1.33290E-001	1.22630E-001	0.00000E+000	3.40543E+002	3.40543E+002	1.04560E-001	0.00000E+000	3.42739E+002
Forklifts	6.32050E-001	5.69739E+000	6.16576E+000	8.17000E-003	3.79580E-001	3.49330E-001	0.00000E+000	7.23670E+002	7.23670E+002	2.22440E-001	0.00000E+000	7.28341E+002
Generator Sets	6.04480E-001	5.23595E+000	6.51068E+000	1.16200E-002	2.65430E-001	2.65430E-001	0.00000E+000	9.98439E+002	9.98439E+002	4.83400E-002	0.00000E+000	9.99454E+002
Graders	1.62530E-001	1.63979E+000	8.45990E-001	1.10000E-003	9.21300E-002	8.47600E-002	0.00000E+000	1.01594E+002	1.01594E+002	3.12600E-002	0.00000E+000	1.02251E+002
Pavers	4.64670E-001	4.98739E+000	4.94014E+000	7.99000E-003	2.42240E-001	2.22860E-001	0.00000E+000	7.13784E+002	7.13784E+002	2.26950E-001	0.00000E+000	7.18550E+002
Paving Equipment	3.71840E-001	3.91468E+000	4.42784E+000	7.09000E-003	1.93480E-001	1.78000E-001	0.00000E+000	6.33604E+002	6.33604E+002	2.01450E-001	0.00000E+000	6.37834E+002
Rollers	3.85560E-001	3.81148E+000	3.36528E+000	4.63000E-003	2.47110E-001	2.27340E-001	0.00000E+000	4.14274E+002	4.14274E+002	1.31720E-001	0.00000E+000	4.17040E+002
Rubber Tired Dozers	7.20790E-001	7.97796E+000	6.01826E+000	5.42000E-003	3.70450E-001	3.40820E-001	0.00000E+000	5.03002E+002	5.03002E+002	1.54300E-001	0.00000E+000	5.06242E+002
Scrapers	4.42680E-001	5.54099E+000	3.45536E+000	5.26000E-003	2.21420E-001	2.03710E-001	0.00000E+000	4.85852E+002	4.85852E+002	1.49490E-001	0.00000E+000	4.88991E+002
Tractors/Loaders/Backhoes	1.02470E+000	1.00541E+001	1.20071E+001	1.65200E-002	5.94630E-001	5.47340E-001	0.00000E+000	1.46977E+003	1.46977E+003	4.51780E-001	0.00000E+000	1.47926E+003
Welders	5.12230E-001	2.57610E+000	3.02999E+000	4.51000E-003	1.15010E-001	1.15010E-001	0.00000E+000	3.32492E+002	3.32492E+002	4.16700E-002	0.00000E+000	3.33367E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	4.17000E-002	2.74220E-001	2.34440E-001	3.70000E-004	2.17500E-002	2.17500E-002	0.00000E+000	3.20433E+001	3.20433E+001	3.38000E-003	0.00000E+000	3.21143E+001

Concrete/Industrial Saws	6.62200E-002	4.85770E-001	4.27400E-001	7.10000E-004	3.49500E-002	3.49500E-002	0.00000E+000	6.12928E+001	6.12928E+001	5.39000E-003	0.00000E+000	6.14060E+001
Cranes	5.99250E-001	6.55968E+000	2.97551E+000	8.80000E-003	2.77660E-001	2.55590E-001	0.00000E+000	7.79442E+002	7.79442E+002	2.39280E-001	0.00000E+000	7.84467E+002
Excavators	2.45630E-001	2.71335E+000	2.37182E+000	3.68000E-003	1.33290E-001	1.22630E-001	0.00000E+000	3.40543E+002	3.40543E+002	1.04560E-001	0.00000E+000	3.42738E+002
Forklifts	6.32050E-001	5.69739E+000	6.16575E+000	8.17000E-003	3.79580E-001	3.49330E-001	0.00000E+000	7.23669E+002	7.23669E+002	2.22440E-001	0.00000E+000	7.28340E+002
Generator Sets	6.04480E-001	5.23594E+000	6.51067E+000	1.16200E-002	2.65430E-001	2.65430E-001	0.00000E+000	9.98438E+002	9.98438E+002	4.83400E-002	0.00000E+000	9.99453E+002
Graders	1.62530E-001	1.63979E+000	8.45990E-001	1.10000E-003	9.21300E-002	8.47600E-002	0.00000E+000	1.01594E+002	1.01594E+002	3.12600E-002	0.00000E+000	1.02250E+002
Pavers	4.64660E-001	4.98738E+000	4.94014E+000	7.99000E-003	2.42240E-001	2.22860E-001	0.00000E+000	7.13783E+002	7.13783E+002	2.26950E-001	0.00000E+000	7.18549E+002
Paving Equipment	3.71840E-001	3.91467E+000	4.42784E+000	7.09000E-003	1.93480E-001	1.78000E-001	0.00000E+000	6.33603E+002	6.33603E+002	2.01450E-001	0.00000E+000	6.37834E+002
Rollers	3.85560E-001	3.81148E+000	3.36527E+000	4.63000E-003	2.47110E-001	2.27340E-001	0.00000E+000	4.14274E+002	4.14274E+002	1.31720E-001	0.00000E+000	4.17040E+002
Rubber Tired Dozers	7.20790E-001	7.97795E+000	6.01825E+000	5.42000E-003	3.70450E-001	3.40820E-001	0.00000E+000	5.03001E+002	5.03001E+002	1.54300E-001	0.00000E+000	5.06241E+002
Scrapers	4.42680E-001	5.54098E+000	3.45536E+000	5.26000E-003	2.21420E-001	2.03710E-001	0.00000E+000	4.85851E+002	4.85851E+002	1.49490E-001	0.00000E+000	4.88990E+002
Tractors/Loaders/Backhoes	1.02470E+000	1.00541E+001	1.20071E+001	1.65200E-002	5.94630E-001	5.47340E-001	0.00000E+000	1.46977E+003	1.46977E+003	4.51780E-001	0.00000E+000	1.47926E+003
Welders	5.12230E-001	2.57609E+000	3.02999E+000	4.51000E-003	1.15010E-001	1.15010E-001	0.00000E+000	3.32491E+002	3.32491E+002	4.16700E-002	0.00000E+000	3.33366E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.36232E-007	9.36232E-007	0.00000E+000	0.00000E+000	1.24555E-006
Concrete/Industrial Saws	0.00000E+000	2.05855E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.14206E-006	1.14206E-006	0.00000E+000	0.00000E+000	1.30280E-006
Cranes	0.00000E+000	1.52446E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19316E-006	1.19316E-006	0.00000E+000	0.00000E+000	1.19826E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20396E-006	1.20396E-006	0.00000E+000	0.00000E+000	1.16707E-006
Forklifts	0.00000E+000	0.00000E+000	1.62186E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18839E-006	1.18839E-006	0.00000E+000	0.00000E+000	1.19450E-006
Generator Sets	0.00000E+000	1.90987E-006	1.53594E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19186E-006	1.19186E-006	0.00000E+000	0.00000E+000	1.19065E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18117E-006	1.18117E-006	0.00000E+000	0.00000E+000	1.17359E-006
Pavers	2.15206E-005	2.00506E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17683E-006	1.17683E-006	0.00000E+000	0.00000E+000	1.18294E-006
Paving Equipment	0.00000E+000	2.55449E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18370E-006	1.18370E-006	0.00000E+000	0.00000E+000	1.19153E-006
Rollers	0.00000E+000	0.00000E+000	2.97152E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20693E-006	1.20693E-006	0.00000E+000	0.00000E+000	1.19893E-006
Rubber Tired Dozers	0.00000E+000	1.25345E-006	1.66161E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19284E-006	1.19284E-006	0.00000E+000	0.00000E+000	1.18520E-006
Scrapers	0.00000E+000	1.80473E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17320E-006	1.17320E-006	0.00000E+000	0.00000E+000	1.18612E-006

Tractors/Loaders/Backhoes	0.00000E+000	9.94622E-007	1.66568E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19066E-006	1.19066E-006	0.00000E+000	0.00000E+000	1.18979E-006
Welders	0.00000E+000	3.88184E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17296E-006	1.17296E-006	0.00000E+000	0.00000E+000	1.19988E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Replace Ground Cover of Area Disturbed	PM10 Reduction	5.00	PM2.5 Reduction	5.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	9.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.12	0.03	0.11	0.03	0.08	0.07
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	9.55	2.56	8.82	2.39	0.08	0.07
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Roads	0.02	0.00	0.02	0.00	0.08	0.07
Grading	Fugitive Dust	3.06	1.27	1.31	0.54	0.57	0.57
Grading	Roads	0.04	0.01	0.04	0.01	0.08	0.07
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.15	0.04	0.13	0.04	0.08	0.07
Site Preparation	Fugitive Dust	1.24	0.68	0.53	0.29	0.57	0.57
Site Preparation	Roads	0.01	0.00	0.01	0.00	0.08	0.07

CalEEMod Output: Operation – Proposed Plan

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Proposed SP_Non-Residential

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,167.52	1000sqft	120.26	2,167,520.00	0
Government Office Building	40.85	1000sqft	2.10	40,850.00	0
Elementary School	1,550.00	Student	5.12	129,585.22	0
High School	1,784.00	Student	10.28	236,667.18	0
Junior College (2Yr)	2,151.60	1000sqft	110.66	2,151,600.00	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	274.11	Acre	274.11	0.00	0
Hotel	550.00	Room	34.70	798,600.00	0
Movie Theater (No Matinee)	3,500.00	Seat	7.90	78,750.00	0
Regional Shopping Center	2,872.60	1000sqft	176.64	2,872,600.00	0
Supermarket	95.20	1000sqft	2.19	95,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				

CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and proposed land use mix.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Area Coating - Modeling assumes a VOC of 100 g/L for exterior/interior paints used for non-residential buildings pursuant to SCAQMD Rule 1113

Water And Wastewater - Based on the Tustin Legacy Specific Plan Amendment Sub Area Master Plan (90%).

Solid Waste - *Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study. Waste generation proportioned evenly.

Area Mitigation - Per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	11,940,231.60	0.00
tblLandUse	LotAcreage	49.76	120.26
tblLandUse	LotAcreage	0.94	2.10
tblLandUse	LotAcreage	2.97	5.12
tblLandUse	LotAcreage	5.43	10.28
tblLandUse	LotAcreage	49.39	110.66
tblLandUse	LotAcreage	18.33	34.70
tblLandUse	LotAcreage	1.81	7.90

tblLandUse	LotAcreage	65.95	176.64
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	23.57	1,217.16
tblSolidWaste	SolidWasteGenerationRate	282.88	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,015.79	1,217.16
tblSolidWaste	SolidWasteGenerationRate	37.99	1,217.16
tblSolidWaste	SolidWasteGenerationRate	325.58	1,217.16
tblSolidWaste	SolidWasteGenerationRate	301.13	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,797.08	1,217.16
tblSolidWaste	SolidWasteGenerationRate	3,016.23	1,217.16
tblSolidWaste	SolidWasteGenerationRate	536.93	1,217.16
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tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
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tblVehicleTrips	CC_TTP	88.60	0.00
tblVehicleTrips	CC_TTP	79.20	0.00
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tblVehicleTrips	CC_TTP	74.50	0.00
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tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
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tblVehicleTrips	CW_TL	16.60	6.50

tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
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tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
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tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen †	2.21	0.00

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tblWater	IndoorWaterUseRate	13,951,723.50	32,686,594.00
tblWater	IndoorWaterUseRate	105,533,898.33	32,686,594.00
tblWater	IndoorWaterUseRate	31,626,115.11	32,686,594.00
tblWater	IndoorWaterUseRate	212,780,725.21	32,686,594.00
tblWater	IndoorWaterUseRate	11,735,134.06	32,686,594.00
tblWater	OutdoorWaterUseRate	326,596,952.76	28,341,703.00
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tblWater	OutdoorWaterUseRate	236,115,729.53	28,341,703.00
tblWater	OutdoorWaterUseRate	4,973,861.78	28,341,703.00
tblWater	OutdoorWaterUseRate	20,207,439.36	28,341,703.00
tblWater	OutdoorWaterUseRate	1,550,191.50	28,341,703.00
tblWater	OutdoorWaterUseRate	165,065,840.97	28,341,703.00
tblWater	OutdoorWaterUseRate	2,018,688.20	28,341,703.00
tblWater	OutdoorWaterUseRate	130,413,992.87	28,341,703.00
tblWater	OutdoorWaterUseRate	362,942.29	28,341,703.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	216.1132	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Energy	2.8959	26.3262	22.1140	0.1580		2.0008	2.0008		2.0008	2.0008		31,591.4916	31,591.4916	0.6055	0.5792	31,783.7521
Mobile	346.6284	600.0629	3,271.3517	15.6288	1,077.0652	16.8909	1,093.9561	287.6080	15.6037	303.2117		1,089,325.9668	1,089,325.9668	29.3428		1,089,942.1650
Total	**565.6376**	**626.4030**	**3,295.0080**	**15.7869**	**1,077.0652**	**18.8972**	**1,095.9624**	**287.6080**	**17.6099**	**305.2180**		**1,120,920.7832**	**1,120,920.7832**	**29.9568**	**0.5792**	**1,121,729.4218**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	191.6232	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047

Energy	2.1271	19.3370	16.2431	0.1160		1.4696	1.4696		1.4696	1.4696		23,204.3619	23,204.3619	0.4448	0.4254	23,345.5798
Mobile	346.6284	600.0629	3,271.3517	15.6288	1,077.0652	16.8909	1,093.9561	287.6080	15.6037	303.2117		1,089,325.9668	1,089,325.9668	29.3428		1,089,942.1650
Total	**540.3787**	**619.4137**	**3,289.1371**	**15.7450**	**1,077.0652**	**18.3660**	**1,095.4312**	**287.6080**	**17.0787**	**304.6868**		**1,112,533.6535**	**1,112,533.6535**	**29.7961**	**0.4254**	**1,113,291.2495**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.47**	**1.12**	**0.18**	**0.27**	**0.00**	**2.81**	**0.05**	**0.00**	**3.02**	**0.17**	**0.00**	**0.75**	**0.75**	**0.54**	**26.55**	**0.75**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	346.6284	600.0629	3,271.3517	15.6288	1,077.0652	16.8909	1,093.9561	287.6080	15.6037	303.2117		1,089,325.9668	1,089,325.9668	29.3428		1,089,942.1650
Mitigated	346.6284	600.0629	3,271.3517	15.6288	1,077.0652	16.8909	1,093.9561	287.6080	15.6037	303.2117		1,089,325.9668	1,089,325.9668	29.3428		1,089,942.1650

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

City Park	5,109.41	5,109.41	5109.41	12,088,865	12,088,865
Elementary School	1,736.00	0.00	0.00	2,933,840	2,933,840
General Office Building	24,211.20	5,397.12	2297.57	43,517,733	43,517,733
Government Office Building	542.08	0.00	0.00	916,114	916,114
High School	3,050.64	1,088.24	446.00	5,674,155	5,674,155
Hotel	4,493.50	4,504.50	3272.50	10,222,641	10,222,641
Junior College (2Yr)	13,167.79	5,379.00	580.93	24,268,025	24,268,025
Movie Theater (No Matinee)	6,300.00	6,300.00	6300.00	14,905,800	14,905,800
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	119,212.90	139,522.18	70464.88	272,445,427	272,445,427
Supermarket	9,733.25	16,906.57	15845.09	27,519,249	27,519,249
Total	187,556.77	184,207.03	104,316.38	414,491,849	414,491,849

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Elementary School	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
General Office Building	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Government Office Building	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
High School	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Hotel	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Junior College (2Yr)	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Movie Theater (No Matinee)	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Supermarket	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Unmitigated	2.8959	26.3262	22.1140	0.1580		2.0008	2.0008		2.0008	2.0008		31,591.4916	31,591.4916	0.6055	0.5792	31,783.7521
NaturalGas Mitigated	2.1271	19.3370	16.2431	0.1160		1.4696	1.4696		1.4696	1.4696		23,204.3619	23,204.3619	0.4448	0.4254	23,345.5798

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	4405.9	0.0475	0.4320	0.3628	2.5900e-003		0.0328	0.0328		0.0328	0.0328		518.3409	518.3409	9.9300e-003	9.5000e-003	521.4954
General Office Building	56949.4	0.6142	5.5833	4.6900	0.0335		0.4243	0.4243		0.4243	0.4243		6,699.9248	6,699.9248	0.1284	0.1228	6,740.6995
Government Office Building	1073.29	0.0116	0.1052	0.0884	6.3000e-004		8.0000e-003	8.0000e-003		8.0000e-003	8.0000e-003		126.2696	126.2696	2.4200e-003	2.3100e-003	127.0381

High School	8046.68	0.0868	0.7889	0.6627	4.7300e-003		0.0600	0.0600		0.0600	0.0600		946.6687	946.6687	0.0181	0.0174	952.4300
Hotel	78262.8	0.8440	7.6728	6.4452	0.0460		0.5831	0.5831		0.5831	0.5831		9,207.3882	9,207.3882	0.1765	0.1688	9,263.4229
Junior College (2Yr)	93491.4	1.0082	9.1658	7.6993	0.0550		0.6966	0.6966		0.6966	0.6966		10,998.9931	10,998.9931	0.2108	0.2017	11,065.9311
Movie Theater (No Matinee)	4668.9	0.0504	0.4577	0.3845	2.7500e-003		0.0348	0.0348		0.0348	0.0348		549.2828	549.2828	0.0105	0.0101	552.6257
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	16133.8	0.1740	1.5817	1.3287	9.4900e-003		0.1202	0.1202		0.1202	0.1202		1,898.0919	1,898.0919	0.0364	0.0348	1,909.6433
Supermarket	5495.52	0.0593	0.5388	0.4526	3.2300e-003		0.0410	0.0410		0.0410	0.0410		646.5315	646.5315	0.0124	0.0119	650.4662
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.8959**	**26.3262**	**22.1141**	**0.1580**		**2.0008**	**2.0008**		**2.0008**	**2.0008**		**31,591.4916**	**31,591.4916**	**0.6055**	**0.5792**	**31,783.7521**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	3.03222	0.0327	0.2973	0.2497	1.7800e-003		0.0226	0.0226		0.0226	0.0226		356.7321	356.7321	6.8400e-003	6.5400e-003	358.9032
General Office Building	38.6971	0.4173	3.7938	3.1868	0.0228		0.2883	0.2883		0.2883	0.2883		4,552.5954	4,552.5954	0.0873	0.0835	4,580.3018
Government Office Building	0.729301	7.8700e-003	0.0715	0.0601	4.3000e-004		5.4300e-003	5.4300e-003		5.4300e-003	5.4300e-003		85.8001	85.8001	1.6400e-003	1.5700e-003	86.3223
High School	5.53788	0.0597	0.5429	0.4561	3.2600e-003		0.0413	0.0413		0.0413	0.0413		651.5156	651.5156	0.0125	0.0119	655.4806
Hotel	55.4845	0.5984	5.4397	4.5693	0.0326		0.4134	0.4134		0.4134	0.4134		6,527.5930	6,527.5930	0.1251	0.1197	6,567.3188

Junior College (2Yr)	72.1464	0.7781	7.0732	5.9415	0.0424		0.5376	0.5376		0.5376	0.5376		8,487.8106	8,487.8106	0.1627	0.1556	8,539.4660
Movie Theater (No Matinee)	3.5847	0.0387	0.3514	0.2952	2.1100e-003		0.0267	0.0267		0.0267	0.0267		421.7294	421.7294	8.0800e-003	7.7300e-003	424.2960
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	13.4579	0.1451	1.3194	1.1083	7.9200e-003		0.1003	0.1003		0.1003	0.1003		1,583.2864	1,583.2864	0.0304	0.0290	1,592.9220
Supermarket	4.56704	0.0493	0.4478	0.3761	2.6900e-003		0.0340	0.0340		0.0340	0.0340		537.2993	537.2993	0.0103	9.8500e-003	540.5692
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.1271**	**19.3370**	**16.2431**	**0.1160**		**1.4696**	**1.4696**		**1.4696**	**1.4696**		**23,204.3619**	**23,204.3619**	**0.4448**	**0.4254**	**23,345.5798**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	216.1132	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Mitigated	191.6232	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	46.2590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	169.7132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.1411	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Total	**216.1132**	**0.0139**	**1.5423**	**1.2000e-004**		**5.4700e-003**	**5.4700e-003**		**5.4700e-003**	**5.4700e-003**		**3.3248**	**3.3248**	**8.5700e-003**		**3.5047**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	21.7689					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	169.7132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.1411	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Total	**191.6232**	**0.0139**	**1.5423**	**1.2000e-004**		**5.4700e-003**	**5.4700e-003**		**5.4700e-003**	**5.4700e-003**		**3.3248**	**3.3248**	**8.5700e-003**		**3.5047**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Proposed SP_Non-Residential

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,167.52	1000sqft	120.26	2,167,520.00	0
Government Office Building	40.85	1000sqft	2.10	40,850.00	0
Elementary School	1,550.00	Student	5.12	129,585.22	0
High School	1,784.00	Student	10.28	236,667.18	0
Junior College (2Yr)	2,151.60	1000sqft	110.66	2,151,600.00	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	274.11	Acre	274.11	0.00	0
Hotel	550.00	Room	34.70	798,600.00	0
Movie Theater (No Matinee)	3,500.00	Seat	7.90	78,750.00	0
Regional Shopping Center	2,872.60	1000sqft	176.64	2,872,600.00	0
Supermarket	95.20	1000sqft	2.19	95,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and proposed land use mix.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Area Coating - Modeling assumes a VOC of 100 g/L for exterior/interior paints used for non-residential buildings pursuant to SCAQMD Rule 1113

Water And Wastewater - Based on the Tustin Legacy Specific Plan Amendment Sub Area Master Plan (90%).

Solid Waste - *Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study. Waste generation proportioned evenly.

Area Mitigation - Per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	11,940,231.60	0.00
tblLandUse	LotAcreage	49.76	120.26
tblLandUse	LotAcreage	0.94	2.10
tblLandUse	LotAcreage	2.97	5.12
tblLandUse	LotAcreage	5.43	10.28
tblLandUse	LotAcreage	49.39	110.66
tblLandUse	LotAcreage	18.33	34.70
tblLandUse	LotAcreage	1.81	7.90
tblLandUse	LotAcreage	65.95	176.64
tblProjectCharacteristics	OperationalYear	2014	2035

tblSolidWaste	SolidWasteGenerationRate	23.57	1,217.16
tblSolidWaste	SolidWasteGenerationRate	282.88	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,015.79	1,217.16
tblSolidWaste	SolidWasteGenerationRate	37.99	1,217.16
tblSolidWaste	SolidWasteGenerationRate	325.58	1,217.16
tblSolidWaste	SolidWasteGenerationRate	301.13	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,797.08	1,217.16
tblSolidWaste	SolidWasteGenerationRate	3,016.23	1,217.16
tblSolidWaste	SolidWasteGenerationRate	536.93	1,217.16
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	30.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	62.00	0.00
tblVehicleTrips	CC_TTP	17.20	0.00
tblVehicleTrips	CC_TTP	61.60	0.00
tblVehicleTrips	CC_TTP	88.60	0.00
tblVehicleTrips	CC_TTP	79.20	0.00

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CC_TTP	74.50	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50

tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	65.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	77.80	100.00
tblVehicleTrips	CW_TTP	19.40	100.00
tblVehicleTrips	CW_TTP	6.40	100.00
tblVehicleTrips	CW_TTP	1.80	100.00
tblVehicleTrips	CW_TTP	16.30	100.00
tblVehicleTrips	CW_TTP	6.50	100.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	34.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	7.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00

tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	16.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	1.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	PR_TP	50.00	100.00
tblVehicleTrips	PR_TP	75.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	34.00	100.00
tblVehicleTrips	ST_TR	1.59	18.64
tblVehicleTrips	ST_TR	2.37	2.49
tblVehicleTrips	ST_TR	11.23	2.50
tblVehicleTrips	ST_TR	49.97	48.57
tblVehicleTrips	SU_TR	1.59	18.64
tblVehicleTrips	SU_TR	0.98	1.06
tblVehicleTrips	SU_TR	1.21	0.27
tblVehicleTrips	SU_TR	25.24	24.53
tblVehicleTrips	WD_TR	1.59	18.64

tblVehicleTrips	WD_TR	1.29	1.12
tblVehicleTrips	WD_TR	11.01	11.17
tblVehicleTrips	WD_TR	68.93	13.27
tblVehicleTrips	WD_TR	27.49	6.12
tblVehicleTrips	WD_TR	42.94	41.50
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	3,757,572.00	161,268,242.00
tblWater	IndoorWaterUseRate	385,241,453.45	32,686,594.00

tblWater	IndoorWaterUseRate	8,115,248.17	32,686,594.00
tblWater	IndoorWaterUseRate	7,858,448.64	32,686,594.00
tblWater	IndoorWaterUseRate	13,951,723.50	32,686,594.00
tblWater	IndoorWaterUseRate	105,533,898.33	32,686,594.00
tblWater	IndoorWaterUseRate	31,626,115.11	32,686,594.00
tblWater	IndoorWaterUseRate	212,780,725.21	32,686,594.00
tblWater	IndoorWaterUseRate	11,735,134.06	32,686,594.00
tblWater	OutdoorWaterUseRate	326,596,952.76	28,341,703.00
tblWater	OutdoorWaterUseRate	9,662,328.00	28,341,703.00
tblWater	OutdoorWaterUseRate	236,115,729.53	28,341,703.00
tblWater	OutdoorWaterUseRate	4,973,861.78	28,341,703.00
tblWater	OutdoorWaterUseRate	20,207,439.36	28,341,703.00
tblWater	OutdoorWaterUseRate	1,550,191.50	28,341,703.00
tblWater	OutdoorWaterUseRate	165,065,840.97	28,341,703.00
tblWater	OutdoorWaterUseRate	2,018,688.20	28,341,703.00
tblWater	OutdoorWaterUseRate	130,413,992.87	28,341,703.00
tblWater	OutdoorWaterUseRate	362,942.29	28,341,703.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	216.1132	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Energy	2.8959	26.3262	22.1140	0.1580		2.0008	2.0008		2.0008	2.0008		31,591.4916	31,591.4916	0.6055	0.5792	31,783.7521
Mobile	366.8691	628.4214	3,333.7574	14.9414	1,077.0652	16.9512	1,094.0164	287.6080	15.6591	303.2671		1,044,490.4230	1,044,490.4230	29.3945		1,045,107.7078
Total	**585.8782**	**654.7615**	**3,357.4137**	**15.0995**	**1,077.0652**	**18.9574**	**1,096.0226**	**287.6080**	**17.6653**	**305.2734**		**1,076,085.2393**	**1,076,085.2393**	**30.0086**	**0.5792**	**1,076,894.9645**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	191.6232	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Energy	2.1271	19.3370	16.2431	0.1160		1.4696	1.4696		1.4696	1.4696		23,204.3619	23,204.3619	0.4448	0.4254	23,345.5798
Mobile	366.8691	628.4214	3,333.7574	14.9414	1,077.0652	16.9512	1,094.0164	287.6080	15.6591	303.2671		1,044,490.4230	1,044,490.4230	29.3945		1,045,107.7078

Total	**560.6193**	**647.7722**	**3,351.5427**	**15.0576**	**1,077.0652**	**18.4263**	**1,095.4914**	**287.6080**	**17.1342**	**304.7422**		**1,067,698.1097**	**1,067,698.1097**	**29.8478**	**0.4254**	**1,068,456.7922**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.31**	**1.07**	**0.17**	**0.28**	**0.00**	**2.80**	**0.05**	**0.00**	**3.01**	**0.17**	**0.00**	**0.78**	**0.78**	**0.54**	**26.55**	**0.78**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	366.8691	628.4214	3,333.7574	14.9414	1,077.0652	16.9512	1,094.0164	287.6080	15.6591	303.2671		1,044,490.4230	1,044,490.4230	29.3945		1,045,107.7078
Mitigated	366.8691	628.4214	3,333.7574	14.9414	1,077.0652	16.9512	1,094.0164	287.6080	15.6591	303.2671		1,044,490.4230	1,044,490.4230	29.3945		1,045,107.7078

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	5,109.41	5,109.41	5109.41	12,088,865	12,088,865
Elementary School	1,736.00	0.00	0.00	2,933,840	2,933,840
General Office Building	24,211.20	5,397.12	2297.57	43,517,733	43,517,733
Government Office Building	542.08	0.00	0.00	916,114	916,114
High School	3,050.64	1,088.24	446.00	5,674,155	5,674,155

Hotel	4,493.50	4,504.50	3272.50	10,222,641	10,222,641
Junior College (2Yr)	13,167.79	5,379.00	580.93	24,268,025	24,268,025
Movie Theater (No Matinee)	6,300.00	6,300.00	6300.00	14,905,800	14,905,800
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	119,212.90	139,522.18	70464.88	272,445,427	272,445,427
Supermarket	9,733.25	16,906.57	15845.09	27,519,249	27,519,249
Total	187,556.77	184,207.03	104,316.38	414,491,849	414,491,849

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Elementary School	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
General Office Building	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Government Office Building	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
High School	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Hotel	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Junior College (2Yr)	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Movie Theater (No Matinee)	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Supermarket	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Unmitigated	2.8959	26.3262	22.1140	0.1580		2.0008	2.0008		2.0008	2.0008		31,591.4916	31,591.4916	0.6055	0.5792	31,783.7521
NaturalGas Mitigated	2.1271	19.3370	16.2431	0.1160		1.4696	1.4696		1.4696	1.4696		23,204.3619	23,204.3619	0.4448	0.4254	23,345.5798

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	4405.9	0.0475	0.4320	0.3628	2.5900e-003		0.0328	0.0328		0.0328	0.0328		518.3409	518.3409	9.9300e-003	9.5000e-003	521.4954
General Office Building	56949.4	0.6142	5.5833	4.6900	0.0335		0.4243	0.4243		0.4243	0.4243		6,699.9248	6,699.9248	0.1284	0.1228	6,740.6995
Government Office Building	1073.29	0.0116	0.1052	0.0884	6.3000e-004		8.0000e-003	8.0000e-003		8.0000e-003	8.0000e-003		126.2696	126.2696	2.4200e-003	2.3100e-003	127.0381
High School	8046.68	0.0868	0.7889	0.6627	4.7300e-003		0.0600	0.0600		0.0600	0.0600		946.6687	946.6687	0.0181	0.0174	952.4300
Hotel	78262.8	0.8440	7.6728	6.4452	0.0460		0.5831	0.5831		0.5831	0.5831		9,207.3882	9,207.3882	0.1765	0.1688	9,263.4229
Junior College (2Yr)	93491.4	1.0082	9.1658	7.6993	0.0550		0.6966	0.6966		0.6966	0.6966		10,998.9931	10,998.9931	0.2108	0.2017	11,065.9311

Movie Theater (No Matinee)	4668.9	0.0504	0.4577	0.3845	2.7500e-003		0.0348	0.0348		0.0348	0.0348		549.2828	549.2828	0.0105	0.0101	552.6257
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	16133.8	0.1740	1.5817	1.3287	9.4900e-003		0.1202	0.1202		0.1202	0.1202		1,898.0919	1,898.0919	0.0364	0.0348	1,909.6433
Supermarket	5495.52	0.0593	0.5388	0.4526	3.2300e-003		0.0410	0.0410		0.0410	0.0410		646.5315	646.5315	0.0124	0.0119	650.4662
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.8959**	**26.3262**	**22.1141**	**0.1580**		**2.0008**	**2.0008**		**2.0008**	**2.0008**		**31,591.4916**	**31,591.4916**	**0.6055**	**0.5792**	**31,783.7521**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	3.03222	0.0327	0.2973	0.2497	1.7800e-003		0.0226	0.0226		0.0226	0.0226		356.7321	356.7321	6.8400e-003	6.5400e-003	358.9032
General Office Building	38.6971	0.4173	3.7938	3.1868	0.0228		0.2883	0.2883		0.2883	0.2883		4,552.5954	4,552.5954	0.0873	0.0835	4,580.3018
Government Office Building	0.729301	7.8700e-003	0.0715	0.0601	4.3000e-004		5.4300e-003	5.4300e-003		5.4300e-003	5.4300e-003		85.8001	85.8001	1.6400e-003	1.5700e-003	86.3223
High School	5.53788	0.0597	0.5429	0.4561	3.2600e-003		0.0413	0.0413		0.0413	0.0413		651.5156	651.5156	0.0125	0.0119	655.4806
Hotel	55.4845	0.5984	5.4397	4.5693	0.0326		0.4134	0.4134		0.4134	0.4134		6,527.5930	6,527.5930	0.1251	0.1197	6,567.3188
Junior College (2Yr)	72.1464	0.7781	7.0732	5.9415	0.0424		0.5376	0.5376		0.5376	0.5376		8,487.8106	8,487.8106	0.1627	0.1556	8,539.4660
Movie Theater (No Matinee)	3.5847	0.0387	0.3514	0.2952	2.1100e-003		0.0267	0.0267		0.0267	0.0267		421.7294	421.7294	8.0800e-003	7.7300e-003	424.2960
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Regional Shopping Center	13.4579	0.1451	1.3194	1.1083	7.9200e-003		0.1003	0.1003		0.1003	0.1003		1,583.2864	1,583.2864	0.0304	0.0290	1,592.9220
Supermarket	4.56704	0.0493	0.4478	0.3761	2.6900e-003		0.0340	0.0340		0.0340	0.0340		537.2993	537.2993	0.0103	9.8500e-003	540.5692
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.1271**	**19.3370**	**16.2431**	**0.1160**		**1.4696**	**1.4696**		**1.4696**	**1.4696**		**23,204.3619**	**23,204.3619**	**0.4448**	**0.4254**	**23,345.5798**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	216.1132	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Mitigated	191.6232	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

SubCategory	lb/day										lb/day					
Architectural Coating	46.2590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	169.7132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.1411	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Total	**216.1132**	**0.0139**	**1.5423**	**1.2000e-004**		**5.4700e-003**	**5.4700e-003**		**5.4700e-003**	**5.4700e-003**		**3.3248**	**3.3248**	**8.5700e-003**		**3.5047**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	21.7689					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	169.7132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.1411	0.0139	1.5423	1.2000e-004		5.4700e-003	5.4700e-003		5.4700e-003	5.4700e-003		3.3248	3.3248	8.5700e-003		3.5047
Total	**191.6232**	**0.0139**	**1.5423**	**1.2000e-004**		**5.4700e-003**	**5.4700e-003**		**5.4700e-003**	**5.4700e-003**		**3.3248**	**3.3248**	**8.5700e-003**		**3.5047**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Proposed SP_Non-Residential

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,167.52	1000sqft	120.26	2,167,520.00	0
Government Office Building	40.85	1000sqft	2.10	40,850.00	0
Elementary School	1,550.00	Student	5.12	129,585.22	0
High School	1,784.00	Student	10.28	236,667.18	0
Junior College (2Yr)	2,151.60	1000sqft	110.66	2,151,600.00	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	274.11	Acre	274.11	0.00	0
Hotel	550.00	Room	34.70	798,600.00	0
Movie Theater (No Matinee)	3,500.00	Seat	7.90	78,750.00	0
Regional Shopping Center	2,872.60	1000sqft	176.64	2,872,600.00	0
Supermarket	95.20	1000sqft	2.19	95,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and proposed land use mix.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Area Coating - Modeling assumes a VOC of 100 g/L for exterior/interior paints used for non-residential buildings pursuant to SCAQMD Rule 1113

Water And Wastewater - Based on the Tustin Legacy Specific Plan Amendment Sub Area Master Plan (90%).

Solid Waste - *Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study. Waste generation proportioned evenly.

Area Mitigation - Per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	11,940,231.60	0.00
tblLandUse	LotAcreage	49.76	120.26
tblLandUse	LotAcreage	0.94	2.10
tblLandUse	LotAcreage	2.97	5.12
tblLandUse	LotAcreage	5.43	10.28
tblLandUse	LotAcreage	49.39	110.66
tblLandUse	LotAcreage	18.33	34.70
tblLandUse	LotAcreage	1.81	7.90
tblLandUse	LotAcreage	65.95	176.64
tblProjectCharacteristics	OperationalYear	2014	2035

tblSolidWaste	SolidWasteGenerationRate	23.57	1,217.16
tblSolidWaste	SolidWasteGenerationRate	282.88	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,015.79	1,217.16
tblSolidWaste	SolidWasteGenerationRate	37.99	1,217.16
tblSolidWaste	SolidWasteGenerationRate	325.58	1,217.16
tblSolidWaste	SolidWasteGenerationRate	301.13	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,797.08	1,217.16
tblSolidWaste	SolidWasteGenerationRate	3,016.23	1,217.16
tblSolidWaste	SolidWasteGenerationRate	536.93	1,217.16
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	30.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	62.00	0.00
tblVehicleTrips	CC_TTP	17.20	0.00
tblVehicleTrips	CC_TTP	61.60	0.00
tblVehicleTrips	CC_TTP	88.60	0.00
tblVehicleTrips	CC_TTP	79.20	0.00

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CC_TTP	74.50	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50

tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TL	16.60	6.50
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	65.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	77.80	100.00
tblVehicleTrips	CW_TTP	19.40	100.00
tblVehicleTrips	CW_TTP	6.40	100.00
tblVehicleTrips	CW_TTP	1.80	100.00
tblVehicleTrips	CW_TTP	16.30	100.00
tblVehicleTrips	CW_TTP	6.50	100.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	34.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	7.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00

tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	16.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	1.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	PR_TP	50.00	100.00
tblVehicleTrips	PR_TP	75.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	34.00	100.00
tblVehicleTrips	ST_TR	1.59	18.64
tblVehicleTrips	ST_TR	2.37	2.49
tblVehicleTrips	ST_TR	11.23	2.50
tblVehicleTrips	ST_TR	49.97	48.57
tblVehicleTrips	SU_TR	1.59	18.64
tblVehicleTrips	SU_TR	0.98	1.06
tblVehicleTrips	SU_TR	1.21	0.27
tblVehicleTrips	SU_TR	25.24	24.53
tblVehicleTrips	WD_TR	1.59	18.64

tblVehicleTrips	WD_TR	1.29	1.12
tblVehicleTrips	WD_TR	11.01	11.17
tblVehicleTrips	WD_TR	68.93	13.27
tblVehicleTrips	WD_TR	27.49	6.12
tblVehicleTrips	WD_TR	42.94	41.50
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	3,757,572.00	161,268,242.00
tblWater	IndoorWaterUseRate	385,241,453.45	32,686,594.00

tblWater	IndoorWaterUseRate	8,115,248.17	32,686,594.00
tblWater	IndoorWaterUseRate	7,858,448.64	32,686,594.00
tblWater	IndoorWaterUseRate	13,951,723.50	32,686,594.00
tblWater	IndoorWaterUseRate	105,533,898.33	32,686,594.00
tblWater	IndoorWaterUseRate	31,626,115.11	32,686,594.00
tblWater	IndoorWaterUseRate	212,780,725.21	32,686,594.00
tblWater	IndoorWaterUseRate	11,735,134.06	32,686,594.00
tblWater	OutdoorWaterUseRate	326,596,952.76	28,341,703.00
tblWater	OutdoorWaterUseRate	9,662,328.00	28,341,703.00
tblWater	OutdoorWaterUseRate	236,115,729.53	28,341,703.00
tblWater	OutdoorWaterUseRate	4,973,861.78	28,341,703.00
tblWater	OutdoorWaterUseRate	20,207,439.36	28,341,703.00
tblWater	OutdoorWaterUseRate	1,550,191.50	28,341,703.00
tblWater	OutdoorWaterUseRate	165,065,840.97	28,341,703.00
tblWater	OutdoorWaterUseRate	2,018,688.20	28,341,703.00
tblWater	OutdoorWaterUseRate	130,413,992.87	28,341,703.00
tblWater	OutdoorWaterUseRate	362,942.29	28,341,703.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	39.4326	1.7300e-003	0.1928	1.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	0.3770	0.3770	9.7000e-004	0.0000	0.3974
Energy	0.5285	4.8045	4.0358	0.0288		0.3651	0.3651		0.3651	0.3651	0.0000	38,621.4276	38,621.4276	1.6351	0.4135	38,783.9352
Mobile	51.0579	94.9574	493.2030	2.2410	156.8737	2.5051	159.3788	41.9506	2.3141	44.2648	0.0000	142,004.9581	142,004.9581	3.9449	0.0000	142,087.8006
Waste						0.0000	0.0000		0.0000	0.0000	2,223.6523	0.0000	2,223.6523	131.4141	0.0000	4,983.3482
Water						0.0000	0.0000		0.0000	0.0000	149.5735	2,476.3550	2,625.9285	0.6287	0.3488	2,747.2656
Total	**91.0190**	**99.7637**	**497.4316**	**2.2699**	**156.8737**	**2.8709**	**159.7446**	**41.9506**	**2.6800**	**44.6306**	**2,373.2258**	**183,103.1177**	**185,476.3435**	**137.6237**	**0.7623**	**188,602.7470**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	34.9631	1.7300e-003	0.1928	1.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	0.3770	0.3770	9.7000e-004	0.0000	0.3974

Energy	0.3882	3.5290	2.9644	0.0212		0.2682	0.2682		0.2682	0.2682	0.0000	33,303.2972	33,303.2972	1.4279	0.3506	33,441.9758
Mobile	51.0579	94.9574	493.2030	2.2410	156.8737	2.5051	159.3788	41.9506	2.3141	44.2648	0.0000	142,004.9581	142,004.9581	3.9449	0.0000	142,087.8006
Waste						0.0000	0.0000		0.0000	0.0000	2,223.6523	0.0000	2,223.6523	131.4141	0.0000	4,983.3482
Water						0.0000	0.0000		0.0000	0.0000	105.7342	1,854.3563	1,960.0905	0.4472	0.2472	2,046.1020
Total	**86.4092**	**98.4882**	**496.3601**	**2.2622**	**156.8737**	**2.7739**	**159.6476**	**41.9506**	**2.5830**	**44.5336**	**2,329.3866**	**177,162.9887**	**179,492.3753**	**137.2350**	**0.5978**	**182,559.6240**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.06**	**1.28**	**0.22**	**0.34**	**0.00**	**3.38**	**0.06**	**0.00**	**3.62**	**0.22**	**1.85**	**3.24**	**3.23**	**0.28**	**21.58**	**3.20**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	51.0579	94.9574	493.2030	2.2410	156.8737	2.5051	159.3788	41.9506	2.3141	44.2648	0.0000	142,004.9581	142,004.9581	3.9449	0.0000	142,087.8006
Mitigated	51.0579	94.9574	493.2030	2.2410	156.8737	2.5051	159.3788	41.9506	2.3141	44.2648	0.0000	142,004.9581	142,004.9581	3.9449	0.0000	142,087.8006

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	5,109.41	5,109.41	5109.41	12,088,865	12,088,865
Elementary School	1,736.00	0.00	0.00	2,933,840	2,933,840
General Office Building	24,211.20	5,397.12	2297.57	43,517,733	43,517,733
Government Office Building	542.08	0.00	0.00	916,114	916,114
High School	3,050.64	1,088.24	446.00	5,674,155	5,674,155
Hotel	4,493.50	4,504.50	3272.50	10,222,641	10,222,641
Junior College (2Yr)	13,167.79	5,379.00	580.93	24,268,025	24,268,025
Movie Theater (No Matinee)	6,300.00	6,300.00	6300.00	14,905,800	14,905,800
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	119,212.90	139,522.18	70464.88	272,445,427	272,445,427
Supermarket	9,733.25	16,906.57	15845.09	27,519,249	27,519,249
Total	187,556.77	184,207.03	104,316.38	414,491,849	414,491,849

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Elementary School	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
General Office Building	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Government Office Building	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
High School	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Hotel	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Junior College (2Yr)	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Movie Theater (No Matinee)	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Supermarket	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	0.3882	3.5290	2.9644	0.0212		0.2682	0.2682		0.2682	0.2682	0.0000	3,841.7424	3,841.7424	0.0736	0.0704	3,865.1226
NaturalGas Unmitigated	0.5285	4.8045	4.0358	0.0288		0.3651	0.3651		0.3651	0.3651	0.0000	5,230.3257	5,230.3257	0.1003	0.0959	5,262.1566
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	29,461.5549	29,461.5549	1.3543	0.2802	29,576.8532
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	33,391.1019	33,391.1019	1.5349	0.3176	33,521.7786

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	1.60815e+006	8.6700e-003	0.0788	0.0662	4.7000e-004		5.9900e-003	5.9900e-003		5.9900e-003	5.9900e-003	0.0000	85.8172	85.8172	1.6400e-003	1.5700e-003	86.3394

General Office Building	2.07865e+007	0.1121	1.0190	0.8559	6.1100e-003		0.0774	0.0774		0.0774	0.0774	0.0000	1,109.2477	1,109.2477	0.0213	0.0203	1,115.9984
Government Office Building	391752	2.1100e-003	0.0192	0.0161	1.2000e-004		1.4600e-003	1.4600e-003		1.4600e-003	1.4600e-003	0.0000	20.9054	20.9054	4.0000e-004	3.8000e-004	21.0326
High School	2.93704e+006	0.0158	0.1440	0.1209	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.7316	156.7316	3.0000e-003	2.8700e-003	157.6855
Hotel	2.85659e+007	0.1540	1.4003	1.1762	8.4000e-003		0.1064	0.1064		0.1064	0.1064	0.0000	1,524.3864	1,524.3864	0.0292	0.0280	1,533.6636
Junior College (2Yr)	3.41244e+007	0.1840	1.6728	1.4051	0.0100		0.1271	0.1271		0.1271	0.1271	0.0000	1,821.0067	1,821.0067	0.0349	0.0334	1,832.0890
Movie Theater (No Matinee)	1.70415e+006	9.1900e-003	0.0835	0.0702	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	90.9399	90.9399	1.7400e-003	1.6700e-003	91.4934
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	5.88883e+006	0.0318	0.2887	0.2425	1.7300e-003		0.0219	0.0219		0.0219	0.0219	0.0000	314.2504	314.2504	6.0200e-003	5.7600e-003	316.1629
Supermarket	2.00586e+006	0.0108	0.0983	0.0826	5.9000e-004		7.4700e-003	7.4700e-003		7.4700e-003	7.4700e-003	0.0000	107.0405	107.0405	2.0500e-003	1.9600e-003	107.6920
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.5285**	**4.8045**	**4.0358**	**0.0288**		**0.3651**	**0.3651**		**0.3651**	**0.3651**	**0.0000**	**5,230.3257**	**5,230.3257**	**0.1002**	**0.0959**	**5,262.1566**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	1.41244e+007	0.0762	0.6924	0.5816	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	753.7332	753.7332	0.0145	0.0138	758.3203
Government Office Building	266195	1.4400e-003	0.0131	0.0110	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.2052	14.2052	2.7000e-004	2.6000e-004	14.2916
High School	2.02133e+006	0.0109	0.0991	0.0832	5.9000e-004		7.5300e-003	7.5300e-003		7.5300e-003	7.5300e-003	0.0000	107.8657	107.8657	2.0700e-003	1.9800e-003	108.5222

Hotel	2.02519e+007	0.1092	0.9927	0.8339	5.9600e-003		0.0755	0.0755		0.0755	0.0755	0.0000	1,080.7162	1,080.7162	0.0207	0.0198	1,087.2933
Junior College (2Yr)	2.63334e+007	0.1420	1.2909	1.0843	7.7500e-003		0.0981	0.0981		0.0981	0.0981	0.0000	1,405.2522	1,405.2522	0.0269	0.0258	1,413.8044
Movie Theater (No Matinee)	1.30842e+006	7.0600e-003	0.0641	0.0539	3.8000e-004		4.8700e-003	4.8700e-003		4.8700e-003	4.8700e-003	0.0000	69.8220	69.8220	1.3400e-003	1.2800e-003	70.2470
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	4.91215e+006	0.0265	0.2408	0.2023	1.4400e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.1308	262.1308	5.0200e-003	4.8100e-003	263.7261
Supermarket	1.66697e+006	8.9900e-003	0.0817	0.0686	4.9000e-004		6.2100e-003	6.2100e-003		6.2100e-003	6.2100e-003	0.0000	88.9559	88.9559	1.7000e-003	1.6300e-003	89.4973
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	1.10676e+006	5.9700e-003	0.0543	0.0456	3.3000e-004		4.1200e-003	4.1200e-003		4.1200e-003	4.1200e-003	0.0000	59.0610	59.0610	1.1300e-003	1.0800e-003	59.4204
Total		**0.3882**	**3.5290**	**2.9644**	**0.0212**		**0.2682**	**0.2682**		**0.2682**	**0.2682**	**0.0000**	**3,841.7424**	**3,841.7424**	**0.0736**	**0.0704**	**3,865.1226**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	895434	256.2435	0.0118	2.4400e-003	257.2463
General Office Building	3.38567e+007	9,688.6558	0.4454	0.0921	9,726.5725
Government Office Building	638077	182.5965	8.3900e-003	1.7400e-003	183.3111
High School	1.63537e+006	467.9888	0.0215	4.4500e-003	469.8203

Hotel	8.05787e+006	2,305.8968	0.1060	0.0219	2,314.9209
Junior College (2Yr)	3.023e+007	8,650.8194	0.3977	0.0823	8,684.6745
Movie Theater (No Matinee)	727650	208.2293	9.5700e-003	1.9800e-003	209.0443
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.67693e+007	10,522.1505	0.4837	0.1001	10,563.3292
Supermarket	3.87369e+006	1,108.5213	0.0510	0.0105	1,112.8595
Total		**33,391.1019**	**1.5349**	**0.3176**	**33,521.7786**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	793658	227.1185	0.0104	2.1600e-003	228.0074
General Office Building	2.96118e+007	8,473.9142	0.3895	0.0806	8,507.0770
Government Office Building	558076	159.7030	7.3400e-003	1.5200e-003	160.3280
High School	1.44949e+006	414.7966	0.0191	3.9400e-003	416.4199
Hotel	7.13741e+006	2,042.4898	0.0939	0.0194	2,050.4831
Junior College (2Yr)	2.57676e+007	7,373.8230	0.3390	0.0701	7,402.6806

Movie Theater (No Matinee)	674368	192.9817	8.8700e-003	1.8400e-003	193.7370
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.32728e+007	9,521.5598	0.4377	0.0906	9,558.8226
Supermarket	3.68725e+006	1,055.1684	0.0485	0.0100	1,059.2978
Total		**29,461.5549**	**1.3543**	**0.2802**	**29,576.8533**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	39.4326	1.7300e-003	0.1928	1.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	0.3770	0.3770	9.7000e-004	0.0000	0.3974
Mitigated	34.9631	1.7300e-003	0.1928	1.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	0.3770	0.3770	9.7000e-004	0.0000	0.3974

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.4423					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	30.9727					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0176	1.7300e-003	0.1928	1.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	0.3770	0.3770	9.7000e-004	0.0000	0.3974
Total	**39.4326**	**1.7300e-003**	**0.1928**	**1.0000e-005**		**6.8000e-004**	**6.8000e-004**		**6.8000e-004**	**6.8000e-004**	**0.0000**	**0.3770**	**0.3770**	**9.7000e-004**	**0.0000**	**0.3974**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.9728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	30.9727					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0176	1.7300e-003	0.1928	1.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	0.3770	0.3770	9.7000e-004	0.0000	0.3974
Total	**34.9631**	**1.7300e-003**	**0.1928**	**1.0000e-005**		**6.8000e-004**	**6.8000e-004**		**6.8000e-004**	**6.8000e-004**	**0.0000**	**0.3770**	**0.3770**	**9.7000e-004**	**0.0000**	**0.3974**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	2,625.9285	0.6287	0.3488	2,747.2656
Mitigated	1,960.0905	0.4472	0.2472	2,046.1020

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 28.3417	90.1072	4.1400e-003	8.6000e-004	90.4598
Elementary School	161.268 / 28.3417	748.0785	0.2282	0.1307	793.3718
General Office Building	32.6866 / 28.3417	223.4679	0.0495	0.0272	232.9293
Government Office Building	32.6866 / 28.3417	223.4679	0.0495	0.0272	232.9293

High School	32.6866 / 28.3417	223.4679	0.0495	0.0272	232.9293
Hotel	32.6866 / 28.3417	223.4679	0.0495	0.0272	232.9293
Junior College (2Yr)	32.6866 / 28.3417	223.4679	0.0495	0.0272	232.9293
Movie Theater (No Matinee)	32.6866 / 28.3417	223.4679	0.0495	0.0272	232.9293
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	32.6866 / 28.3417	223.4679	0.0495	0.0272	232.9293
Supermarket	32.6866 / 28.3417	223.4679	0.0495	0.0272	232.9293
Total		**2,625.9285**	**0.6286**	**0.3488**	**2,747.2656**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 23.3	74.0781	3.4100e-003	7.0000e-004	74.3680
Elementary School	114.001 / 23.3	539.2012	0.1610	0.0923	571.1955
General Office Building	23.1063 / 23.3	168.3514	0.0354	0.0193	175.0673
Government Office Building	23.1063 / 23.3	168.3514	0.0354	0.0193	175.0673
High School	23.1063 / 23.3	168.3514	0.0354	0.0193	175.0673
Hotel	23.1063 / 23.3	168.3514	0.0354	0.0193	175.0673

Junior College (2Yr)	23.1063 / 23.3	168.3514	0.0354	0.0193	175.0673
Movie Theater (No Matinee)	23.1063 / 23.3	168.3514	0.0354	0.0193	175.0673
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	23.1063 / 23.3	168.3514	0.0354	0.0193	175.0673
Supermarket	23.1063 / 23.3	168.3514	0.0354	0.0193	175.0673
Total		**1,960.0905**	**0.4472**	**0.2472**	**2,046.1020**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2,223.6523	131.4141	0.0000	4,983.3482
Unmitigated	2,223.6523	131.4141	0.0000	4,983.3482

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1217.16	247.0725	14.6016	0.0000	553.7054
Elementary School	1217.16	247.0725	14.6016	0.0000	553.7054
General Office Building	1217.16	247.0725	14.6016	0.0000	553.7054
Government Office Building	1217.16	247.0725	14.6016	0.0000	553.7054
High School	1217.16	247.0725	14.6016	0.0000	553.7054
Hotel	1217.16	247.0725	14.6016	0.0000	553.7054
Junior College (2Yr)	1217.16	247.0725	14.6016	0.0000	553.7054
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1217.16	247.0725	14.6016	0.0000	553.7054
Supermarket	1217.16	247.0725	14.6016	0.0000	553.7054
Total		**2,223.6523**	**131.4141**	**0.0000**	**4,983.3482**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1217.16	247.0725	14.6016	0.0000	553.7054

Elementary School	1217.16	247.0725	14.6016	0.0000	553.7054
General Office Building	1217.16	247.0725	14.6016	0.0000	553.7054
Government Office Building	1217.16	247.0725	14.6016	0.0000	553.7054
High School	1217.16	247.0725	14.6016	0.0000	553.7054
Hotel	1217.16	247.0725	14.6016	0.0000	553.7054
Junior College (2Yr)	1217.16	247.0725	14.6016	0.0000	553.7054
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1217.16	247.0725	14.6016	0.0000	553.7054
Supermarket	1217.16	247.0725	14.6016	0.0000	553.7054
Total		**2,223.6523**	**131.4141**	**0.0000**	**4,983.3482**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Proposed SP_Non-Residential

Orange County, Mitigation Report

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	52.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.77	11.77	11.77	11.77	11.77
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	26.55	26.55	26.55	26.54	26.55	26.55	0.00	26.55	26.55	26.55	26.55	26.55
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.31	25.12	25.36	28.87	29.15	25.52
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.26	0.58		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			

	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	100.00
Yes	Use Low VOC Paint (Non-residential Interior)	100.00
Yes	Use Low VOC Paint (Non-residential Exterior)	100.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	34.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	46.00	100.00

No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Proposed SP_Residential

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	192.00	Dwelling Unit	5.00	192,000.00	0
Apartments Mid Rise	5,839.00	Dwelling Unit	473.20	5,839,000.00	0
Retirement Community	644.00	Dwelling Unit	60.83	644,000.00	0
Single Family Housing	1,111.00	Dwelling Unit	117.01	1,999,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the total acreage and the anticipated land use mix.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices)

Water And Wastewater - Based on information provided in: Michael Baker International. 2016, August 17. Tustin Legacy Specific Plan Amendment Sub Area Master Plan (00%)

Solid Waste - Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study. Total waste proportioned evenly.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	9/6/2019	10/30/2020
tblFireplaces	NumberGas	163.20	192.00
tblFireplaces	NumberGas	4,963.15	5,839.00
tblFireplaces	NumberGas	547.40	644.00
tblFireplaces	NumberGas	944.35	1,111.00
tblFireplaces	NumberNoFireplace	19.20	0.00
tblFireplaces	NumberNoFireplace	583.90	0.00
tblFireplaces	NumberNoFireplace	64.40	0.00
tblFireplaces	NumberNoFireplace	111.10	0.00
tblFireplaces	NumberWood	9.60	0.00
tblFireplaces	NumberWood	291.95	0.00
tblFireplaces	NumberWood	32.20	0.00
tblFireplaces	NumberWood	55.55	0.00
tblLandUse	LotAcreage	12.00	5.00
tblLandUse	LotAcreage	153.66	473.20
tblLandUse	LotAcreage	128.80	60.83
tblLandUse	LotAcreage	360.71	117.01
tblLandUse	Population	549.00	0.00
tblLandUse	Population	16,700.00	0.00
tblLandUse	Population	1,842.00	0.00
tblLandUse	Population	3,177.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2035

tblSolidWaste	SolidWasteGenerationRate	88.32	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,685.94	1,217.16
tblSolidWaste	SolidWasteGenerationRate	296.24	1,217.16
tblSolidWaste	SolidWasteGenerationRate	0.00	1,217.16
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TL	14.70	6.50

tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	5.33
tblVehicleTrips	ST_TR	7.16	7.22
tblVehicleTrips	ST_TR	2.81	2.36
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	6.07	4.51
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	2.81	2.27
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	6.59	4.90
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	2.81	2.79
tblVehicleTrips	WD_TR	9.57	9.52
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	12,509,572.92	91,107,942.00
tblWater	IndoorWaterUseRate	380,434,355.60	91,107,942.00
tblWater	IndoorWaterUseRate	41,959,192.50	32,686,593.56
tblWater	IndoorWaterUseRate	72,386,122.47	91,107,942.00
tblWater	OutdoorWaterUseRate	7,886,469.88	98,502,002.50
tblWater	OutdoorWaterUseRate	239,839,050.27	98,502,002.50
tblWater	OutdoorWaterUseRate	26,452,534.40	28,341,702.50
tblWater	OutdoorWaterUseRate	45,634,729.38	98,502,002.50
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	9.60	0.00
tblWoodstoves	NumberCatalytic	291.95	0.00
tblWoodstoves	NumberCatalytic	32.20	0.00
tblWoodstoves	NumberCatalytic	55.55	0.00
tblWoodstoves	NumberNoncatalytic	9.60	0.00
tblWoodstoves	NumberNoncatalytic	291.95	0.00
tblWoodstoves	NumberNoncatalytic	32.20	0.00
tblWoodstoves	NumberNoncatalytic	55.55	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	224.6029	7.3856	640.9214	0.0339		14.0046	14.0046		13.8947	13.8947	0.0000	166,036.6282	166,036.6282	4.2612	3.0228	167,063.1823
Energy	2.7978	23.9083	10.1737	0.1526		1.9330	1.9330		1.9330	1.9330		30,521.2240	30,521.2240	0.5850	0.5596	30,706.9710
Mobile	90.2437	156.2245	851.6865	4.0689	280.4106	4.3975	284.8081	74.8779	4.0624	78.9402		283,602.7031	283,602.7031	7.6393		283,763.1285
Total	**317.6443**	**187.5184**	**1,502.7816**	**4.2554**	**280.4106**	**20.3351**	**300.7458**	**74.8779**	**19.8901**	**94.7679**	**0.0000**	**480,160.5553**	**480,160.5553**	**12.4855**	**3.5824**	**481,533.2818**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	224.6029	7.3856	640.9214	0.0339		14.0046	14.0046		13.8947	13.8947	0.0000	166,036.6282	166,036.6282	4.2612	3.0228	167,063.1823
Energy	1.7629	15.0649	6.4106	0.0962		1.2180	1.2180		1.2180	1.2180		19,231.7327	19,231.7327	0.3686	0.3526	19,348.7738
Mobile	90.2437	156.2245	851.6865	4.0689	280.4106	4.3975	284.8081	74.8779	4.0624	78.9402		283,602.7031	283,602.7031	7.6393		283,763.1285

Total	**316.6094**	**178.6750**	**1,499.0185**	**4.1990**	**280.4106**	**19.6201**	**300.0308**	**74.8779**	**19.1751**	**94.0529**	**0.0000**	**468,871.0640**	**468,871.0640**	**12.2692**	**3.3754**	**470,175.0845**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.33**	**4.72**	**0.25**	**1.33**	**0.00**	**3.52**	**0.24**	**0.00**	**3.59**	**0.75**	**0.00**	**2.35**	**2.35**	**1.73**	**5.78**	**2.36**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	90.2437	156.2245	851.6865	4.0689	280.4106	4.3975	284.8081	74.8779	4.0624	78.9402		283,602.7031	283,602.7031	7.6393		283,763.1285
Mitigated	90.2437	156.2245	851.6865	4.0689	280.4106	4.3975	284.8081	74.8779	4.0624	78.9402		283,602.7031	283,602.7031	7.6393		283,763.1285

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	940.80	1,023.36	865.92	2,228,529	2,228,529
Apartments Mid Rise	38,829.35	42,157.58	35793.07	91,968,921	91,968,921
Retirement Community	1,796.76	1,519.84	1461.88	4,044,346	4,044,346
Single Family Housing	10,576.72	11,010.01	9576.82	24,833,005	24,833,005
Total	52,143.63	55,710.79	47,697.69	123,074,801	123,074,801

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Retirement Community	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Single Family Housing	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Unmitigated	2.7978	23.9083	10.1737	0.1526		1.9330	1.9330		1.9330	1.9330		30,521.2240	30,521.2240	0.5850	0.5596	30,706.9710
NaturalGas Mitigated	1.7629	15.0649	6.4106	0.0962		1.2180	1.2180		1.2180	1.2180		19,231.7327	19,231.7327	0.3686	0.3526	19,348.7738

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	137797	1.4861	12.6990	5.4038	0.0811		1.0267	1.0267		1.0267	1.0267		16,211.4354	16,211.4354	0.3107	0.2972	16,310.0955
Retirement Community	27921.7	0.3011	2.5732	1.0950	0.0164		0.2080	0.2080		0.2080	0.2080		3,284.9023	3,284.9023	0.0630	0.0602	3,304.8937
Single Family Housing	87916.6	0.9481	8.1021	3.4477	0.0517		0.6551	0.6551		0.6551	0.6551		10,343.1325	10,343.1325	0.1982	0.1896	10,406.0791
Apartments Low Rise	5794.91	0.0625	0.5340	0.2273	3.4100e-003		0.0432	0.0432		0.0432	0.0432		681.7538	681.7538	0.0131	0.0125	685.9028
Total		**2.7978**	**23.9083**	**10.1737**	**0.1526**		**1.9330**	**1.9330**		**1.9330**	**1.9330**		**30,521.2240**	**30,521.2240**	**0.5850**	**0.5596**	**30,706.9710**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	86.6407	0.9344	7.9845	3.3977	0.0510		0.6456	0.6456		0.6456	0.6456		10,193.0251	10,193.0251	0.1954	0.1869	10,255.0582
Retirement Community	17.4728	0.1884	1.6102	0.6852	0.0103		0.1302	0.1302		0.1302	0.1302		2,055.6214	2,055.6214	0.0394	0.0377	2,068.1316
Single Family Housing	55.6225	0.5999	5.1260	2.1813	0.0327		0.4144	0.4144		0.4144	0.4144		6,543.8276	6,543.8276	0.1254	0.1200	6,583.6522
Apartments Low Rise	3.7337	0.0403	0.3441	0.1464	2.2000e-003		0.0278	0.0278		0.0278	0.0278		439.2585	439.2585	8.4200e-003	8.0500e-003	441.9318

Total		**1.7629**	**15.0649**	**6.4106**	**0.0962**		**1.2180**	**1.2180**		**1.2180**	**1.2180**		**19,231.7327**	**19,231.7327**	**0.3686**	**0.3526**	**19,348.7738**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	224.6029	7.3856	640.9214	0.0339		14.0046	14.0046		13.8947	13.8947	0.0000	166,036.6282	166,036.6282	4.2612	3.0228	167,063.1823
Mitigated	224.6029	7.3856	640.9214	0.0339		14.0046	14.0046		13.8947	13.8947	0.0000	166,036.6282	166,036.6282	4.2612	3.0228	167,063.1823

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	18.5892					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	171.7610					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.1140	6.9000e-004	0.8244	0.0000		10.4424	10.4424		10.3325	10.3325	0.0000	164,880.0000	164,880.0000	3.1602	3.0228	165,883.4322

Landscaping	19.1387	7.3849	640.0970	0.0339		3.5622	3.5622		3.5622	3.5622		1,156.6282	1,156.6282	1.1010		1,179.7501
Total	**224.6029**	**7.3856**	**640.9214**	**0.0339**		**14.0046**	**14.0046**		**13.8947**	**13.8947**	**0.0000**	**166,036.6282**	**166,036.6282**	**4.2612**	**3.0228**	**167,063.1823**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	18.5892					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	171.7610					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.1140	6.9000e-004	0.8244	0.0000		10.4424	10.4424		10.3325	10.3325	0.0000	164,880.0000	164,880.0000	3.1602	3.0228	165,883.4322
Landscaping	19.1387	7.3849	640.0970	0.0339		3.5622	3.5622		3.5622	3.5622		1,156.6282	1,156.6282	1.1010		1,179.7501
Total	**224.6029**	**7.3856**	**640.9214**	**0.0339**		**14.0046**	**14.0046**		**13.8947**	**13.8947**	**0.0000**	**166,036.6282**	**166,036.6282**	**4.2612**	**3.0228**	**167,063.1823**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Proposed SP_Residential

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	192.00	Dwelling Unit	5.00	192,000.00	0
Apartments Mid Rise	5,839.00	Dwelling Unit	473.20	5,839,000.00	0
Retirement Community	644.00	Dwelling Unit	60.83	644,000.00	0
Single Family Housing	1,111.00	Dwelling Unit	117.01	1,999,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the total acreage and the anticipated land use mix.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices)

Water And Wastewater - Based on information provided in: Michael Baker International. 2016, August 17. Tustin Legacy Specific Plan Amendment Sub Area Master Plan (00%)

Solid Waste - Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study. Total waste proportioned evenly.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	9/6/2019	10/30/2020
tblFireplaces	NumberGas	163.20	192.00
tblFireplaces	NumberGas	4,963.15	5,839.00
tblFireplaces	NumberGas	547.40	644.00
tblFireplaces	NumberGas	944.35	1,111.00
tblFireplaces	NumberNoFireplace	19.20	0.00
tblFireplaces	NumberNoFireplace	583.90	0.00
tblFireplaces	NumberNoFireplace	64.40	0.00
tblFireplaces	NumberNoFireplace	111.10	0.00
tblFireplaces	NumberWood	9.60	0.00
tblFireplaces	NumberWood	291.95	0.00
tblFireplaces	NumberWood	32.20	0.00
tblFireplaces	NumberWood	55.55	0.00
tblLandUse	LotAcreage	12.00	5.00
tblLandUse	LotAcreage	153.66	473.20
tblLandUse	LotAcreage	128.80	60.83
tblLandUse	LotAcreage	360.71	117.01
tblLandUse	Population	549.00	0.00
tblLandUse	Population	16,700.00	0.00
tblLandUse	Population	1,842.00	0.00
tblLandUse	Population	3,177.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2035

tblSolidWaste	SolidWasteGenerationRate	88.32	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,685.94	1,217.16
tblSolidWaste	SolidWasteGenerationRate	296.24	1,217.16
tblSolidWaste	SolidWasteGenerationRate	0.00	1,217.16
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TL	14.70	6.50

tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	5.33
tblVehicleTrips	ST_TR	7.16	7.22
tblVehicleTrips	ST_TR	2.81	2.36
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	6.07	4.51
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	2.81	2.27
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	6.59	4.90
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	2.81	2.79
tblVehicleTrips	WD_TR	9.57	9.52
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	12,509,572.92	91,107,942.00
tblWater	IndoorWaterUseRate	380,434,355.60	91,107,942.00
tblWater	IndoorWaterUseRate	41,959,192.50	32,686,593.56
tblWater	IndoorWaterUseRate	72,386,122.47	91,107,942.00
tblWater	OutdoorWaterUseRate	7,886,469.88	98,502,002.50
tblWater	OutdoorWaterUseRate	239,839,050.27	98,502,002.50
tblWater	OutdoorWaterUseRate	26,452,534.40	28,341,702.50
tblWater	OutdoorWaterUseRate	45,634,729.38	98,502,002.50
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	9.60	0.00
tblWoodstoves	NumberCatalytic	291.95	0.00
tblWoodstoves	NumberCatalytic	32.20	0.00
tblWoodstoves	NumberCatalytic	55.55	0.00
tblWoodstoves	NumberNoncatalytic	9.60	0.00
tblWoodstoves	NumberNoncatalytic	291.95	0.00
tblWoodstoves	NumberNoncatalytic	32.20	0.00
tblWoodstoves	NumberNoncatalytic	55.55	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	224.6029	7.3856	640.9214	0.0339		14.0046	14.0046		13.8947	13.8947	0.0000	166,036.6282	166,036.6282	4.2612	3.0228	167,063.1823
Energy	2.7978	23.9083	10.1737	0.1526		1.9330	1.9330		1.9330	1.9330		30,521.2240	30,521.2240	0.5850	0.5596	30,706.9710
Mobile	95.5133	163.6076	867.9336	3.8900	280.4106	4.4132	284.8238	74.8779	4.0768	78.9547		271,929.9056	271,929.9056	7.6528		272,090.6138
Total	**322.9139**	**194.9014**	**1,519.0288**	**4.0765**	**280.4106**	**20.3508**	**300.7614**	**74.8779**	**19.9045**	**94.7824**	**0.0000**	**468,487.7578**	**468,487.7578**	**12.4990**	**3.5824**	**469,860.7672**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	224.6029	7.3856	640.9214	0.0339		14.0046	14.0046		13.8947	13.8947	0.0000	166,036.6282	166,036.6282	4.2612	3.0228	167,063.1823
Energy	1.7629	15.0649	6.4106	0.0962		1.2180	1.2180		1.2180	1.2180		19,231.7327	19,231.7327	0.3686	0.3526	19,348.7738
Mobile	95.5133	163.6076	867.9336	3.8900	280.4106	4.4132	284.8238	74.8779	4.0768	78.9547		271,929.9056	271,929.9056	7.6528		272,090.6138

Total	**321.8790**	**186.0580**	**1,515.2656**	**4.0200**	**280.4106**	**19.6358**	**300.0464**	**74.8779**	**19.1895**	**94.0674**	**0.0000**	**457,198.2665**	**457,198.2665**	**12.2826**	**3.3754**	**458,502.5699**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.32**	**4.54**	**0.25**	**1.38**	**0.00**	**3.51**	**0.24**	**0.00**	**3.59**	**0.75**	**0.00**	**2.41**	**2.41**	**1.73**	**5.78**	**2.42**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	95.5133	163.6076	867.9336	3.8900	280.4106	4.4132	284.8238	74.8779	4.0768	78.9547		271,929.9056	271,929.9056	7.6528		272,090.6138
Mitigated	95.5133	163.6076	867.9336	3.8900	280.4106	4.4132	284.8238	74.8779	4.0768	78.9547		271,929.9056	271,929.9056	7.6528		272,090.6138

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	940.80	1,023.36	865.92	2,228,529	2,228,529
Apartments Mid Rise	38,829.35	42,157.58	35793.07	91,968,921	91,968,921
Retirement Community	1,796.76	1,519.84	1461.88	4,044,346	4,044,346
Single Family Housing	10,576.72	11,010.01	9576.82	24,833,005	24,833,005
Total	52,143.63	55,710.79	47,697.69	123,074,801	123,074,801

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Retirement Community	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Single Family Housing	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Unmitigated	2.7978	23.9083	10.1737	0.1526		1.9330	1.9330		1.9330	1.9330		30,521.2240	30,521.2240	0.5850	0.5596	30,706.9710
NaturalGas Mitigated	1.7629	15.0649	6.4106	0.0962		1.2180	1.2180		1.2180	1.2180		19,231.7327	19,231.7327	0.3686	0.3526	19,348.7738

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	137797	1.4861	12.6990	5.4038	0.0811		1.0267	1.0267		1.0267	1.0267		16,211.4354	16,211.4354	0.3107	0.2972	16,310.0955
Retirement Community	27921.7	0.3011	2.5732	1.0950	0.0164		0.2080	0.2080		0.2080	0.2080		3,284.9023	3,284.9023	0.0630	0.0602	3,304.8937
Single Family Housing	87916.6	0.9481	8.1021	3.4477	0.0517		0.6551	0.6551		0.6551	0.6551		10,343.1325	10,343.1325	0.1982	0.1896	10,406.0791
Apartments Low Rise	5794.91	0.0625	0.5340	0.2273	3.4100e-003		0.0432	0.0432		0.0432	0.0432		681.7538	681.7538	0.0131	0.0125	685.9028
Total		**2.7978**	**23.9083**	**10.1737**	**0.1526**		**1.9330**	**1.9330**		**1.9330**	**1.9330**		**30,521.2240**	**30,521.2240**	**0.5850**	**0.5596**	**30,706.9710**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	86.6407	0.9344	7.9845	3.3977	0.0510		0.6456	0.6456		0.6456	0.6456		10,193.0251	10,193.0251	0.1954	0.1869	10,255.0582
Retirement Community	17.4728	0.1884	1.6102	0.6852	0.0103		0.1302	0.1302		0.1302	0.1302		2,055.6214	2,055.6214	0.0394	0.0377	2,068.1316
Single Family Housing	55.6225	0.5999	5.1260	2.1813	0.0327		0.4144	0.4144		0.4144	0.4144		6,543.8276	6,543.8276	0.1254	0.1200	6,583.6522
Apartments Low Rise	3.7337	0.0403	0.3441	0.1464	2.2000e-003		0.0278	0.0278		0.0278	0.0278		439.2585	439.2585	8.4200e-003	8.0500e-003	441.9318

Total		**1.7629**	**15.0649**	**6.4106**	**0.0962**		**1.2180**	**1.2180**		**1.2180**	**1.2180**		**19,231.7327**	**19,231.7327**	**0.3686**	**0.3526**	**19,348.7738**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	224.6029	7.3856	640.9214	0.0339		14.0046	14.0046		13.8947	13.8947	0.0000	166,036.6282	166,036.6282	4.2612	3.0228	167,063.1823
Mitigated	224.6029	7.3856	640.9214	0.0339		14.0046	14.0046		13.8947	13.8947	0.0000	166,036.6282	166,036.6282	4.2612	3.0228	167,063.1823

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	18.5892					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	171.7610					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.1140	6.9000e-004	0.8244	0.0000		10.4424	10.4424		10.3325	10.3325	0.0000	164,880.0000	164,880.0000	3.1602	3.0228	165,883.4322

Landscaping	19.1387	7.3849	640.0970	0.0339		3.5622	3.5622		3.5622	3.5622		1,156.6282	1,156.6282	1.1010		1,179.7501
Total	**224.6029**	**7.3856**	**640.9214**	**0.0339**		**14.0046**	**14.0046**		**13.8947**	**13.8947**	**0.0000**	**166,036.6282**	**166,036.6282**	**4.2612**	**3.0228**	**167,063.1823**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	18.5892					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	171.7610					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.1140	6.9000e-004	0.8244	0.0000		10.4424	10.4424		10.3325	10.3325	0.0000	164,880.0000	164,880.0000	3.1602	3.0228	165,883.4322
Landscaping	19.1387	7.3849	640.0970	0.0339		3.5622	3.5622		3.5622	3.5622		1,156.6282	1,156.6282	1.1010		1,179.7501
Total	**224.6029**	**7.3856**	**640.9214**	**0.0339**		**14.0046**	**14.0046**		**13.8947**	**13.8947**	**0.0000**	**166,036.6282**	**166,036.6282**	**4.2612**	**3.0228**	**167,063.1823**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Proposed SP_Residential

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	192.00	Dwelling Unit	5.00	192,000.00	0
Apartments Mid Rise	5,839.00	Dwelling Unit	473.20	5,839,000.00	0
Retirement Community	644.00	Dwelling Unit	60.83	644,000.00	0
Single Family Housing	1,111.00	Dwelling Unit	117.01	1,999,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the total acreage and the anticipated land use mix.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices)

Water And Wastewater - Based on information provided in: Michael Baker International. 2016, August 17. Tustin Legacy Specific Plan Amendment Sub Area Master Plan (00%)

Solid Waste - Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study. Total waste proportioned evenly.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	9/6/2019	10/30/2020
tblFireplaces	NumberGas	163.20	192.00
tblFireplaces	NumberGas	4,963.15	5,839.00
tblFireplaces	NumberGas	547.40	644.00
tblFireplaces	NumberGas	944.35	1,111.00
tblFireplaces	NumberNoFireplace	19.20	0.00
tblFireplaces	NumberNoFireplace	583.90	0.00
tblFireplaces	NumberNoFireplace	64.40	0.00
tblFireplaces	NumberNoFireplace	111.10	0.00
tblFireplaces	NumberWood	9.60	0.00
tblFireplaces	NumberWood	291.95	0.00
tblFireplaces	NumberWood	32.20	0.00
tblFireplaces	NumberWood	55.55	0.00
tblLandUse	LotAcreage	12.00	5.00
tblLandUse	LotAcreage	153.66	473.20
tblLandUse	LotAcreage	128.80	60.83
tblLandUse	LotAcreage	360.71	117.01
tblLandUse	Population	549.00	0.00
tblLandUse	Population	16,700.00	0.00
tblLandUse	Population	1,842.00	0.00
tblLandUse	Population	3,177.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2035

tblSolidWaste	SolidWasteGenerationRate	88.32	1,217.16
tblSolidWaste	SolidWasteGenerationRate	2,685.94	1,217.16
tblSolidWaste	SolidWasteGenerationRate	296.24	1,217.16
tblSolidWaste	SolidWasteGenerationRate	0.00	1,217.16
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TL	14.70	6.50

tblVehicleTrips	HW_TL	14.70	6.50
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	5.33
tblVehicleTrips	ST_TR	7.16	7.22
tblVehicleTrips	ST_TR	2.81	2.36
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	6.07	4.51
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	2.81	2.27
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	6.59	4.90
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	2.81	2.79
tblVehicleTrips	WD_TR	9.57	9.52
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	12,509,572.92	91,107,942.00
tblWater	IndoorWaterUseRate	380,434,355.60	91,107,942.00
tblWater	IndoorWaterUseRate	41,959,192.50	32,686,593.56
tblWater	IndoorWaterUseRate	72,386,122.47	91,107,942.00
tblWater	OutdoorWaterUseRate	7,886,469.88	98,502,002.50
tblWater	OutdoorWaterUseRate	239,839,050.27	98,502,002.50
tblWater	OutdoorWaterUseRate	26,452,534.40	28,341,702.50
tblWater	OutdoorWaterUseRate	45,634,729.38	98,502,002.50
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	9.60	0.00
tblWoodstoves	NumberCatalytic	291.95	0.00
tblWoodstoves	NumberCatalytic	32.20	0.00
tblWoodstoves	NumberCatalytic	55.55	0.00
tblWoodstoves	NumberNoncatalytic	9.60	0.00
tblWoodstoves	NumberNoncatalytic	291.95	0.00
tblWoodstoves	NumberNoncatalytic	32.20	0.00
tblWoodstoves	NumberNoncatalytic	55.55	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	37.3202	0.9231	80.0224	4.2400e-003		0.5758	0.5758		0.5744	0.5744	0.0000	2,000.8672	2,000.8672	0.1607	0.0343	2,014.8679
Energy	0.5106	4.3633	1.8567	0.0279		0.3528	0.3528		0.3528	0.3528	0.0000	14,114.8936	14,114.8936	0.5134	0.1788	14,181.1094
Mobile	15.1606	28.1957	146.4465	0.6654	46.5804	0.7438	47.3242	12.4564	0.6871	13.1435	0.0000	42,165.4418	42,165.4418	1.1714	0.0000	42,190.0402
Waste						0.0000	0.0000		0.0000	0.0000	988.2899	0.0000	988.2899	58.4063	0.0000	2,214.8214
Water						0.0000	0.0000		0.0000	0.0000	108.2670	2,169.8632	2,278.1302	0.4724	0.2561	2,367.4356
Total	**52.9914**	**33.4820**	**228.3256**	**0.6975**	**46.5804**	**1.6724**	**48.2528**	**12.4564**	**1.6143**	**14.0707**	**1,096.5569**	**60,451.0658**	**61,547.6227**	**60.7241**	**0.4692**	**62,968.2745**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	37.3202	0.9231	80.0224	4.2400e-003		0.5758	0.5758		0.5744	0.5744	0.0000	2,000.8672	2,000.8672	0.1607	0.0343	2,014.8679
Energy	0.3217	2.7493	1.1699	0.0176		0.2223	0.2223		0.2223	0.2223	0.0000	12,028.1280	12,028.1280	0.4676	0.1425	12,082.1170

Mobile	15.1606	28.1957	146.4465	0.6654	46.5804	0.7438	47.3242	12.4564	0.6871	13.1435	0.0000	42,165.4418	42,165.4418	1.1714	0.0000	42,190.0402
Waste						0.0000	0.0000		0.0000	0.0000	988.2899	0.0000	988.2899	58.4063	0.0000	2,214.8214
Water						0.0000	0.0000		0.0000	0.0000	84.8607	1,818.4230	1,903.2837	0.3741	0.2015	1,973.6072
Total	**52.8025**	**31.8681**	**227.6388**	**0.6872**	**46.5804**	**1.5419**	**48.1223**	**12.4564**	**1.4839**	**13.9402**	**1,073.1506**	**58,012.8600**	**59,086.0107**	**60.5799**	**0.3783**	**60,475.4537**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.36**	**4.82**	**0.30**	**1.48**	**0.00**	**7.80**	**0.27**	**0.00**	**8.08**	**0.93**	**2.13**	**4.03**	**4.00**	**0.24**	**19.38**	**3.96**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	15.1606	28.1957	146.4465	0.6654	46.5804	0.7438	47.3242	12.4564	0.6871	13.1435	0.0000	42,165.4418	42,165.4418	1.1714	0.0000	42,190.0402
Mitigated	15.1606	28.1957	146.4465	0.6654	46.5804	0.7438	47.3242	12.4564	0.6871	13.1435	0.0000	42,165.4418	42,165.4418	1.1714	0.0000	42,190.0402

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	940.80	1,023.36	865.92	2,228,529	2,228,529
Apartments Mid Rise	38,829.35	42,157.58	35793.07	91,968,921	91,968,921
Retirement Community	1,796.76	1,519.84	1461.88	4,044,346	4,044,346
Single Family Housing	10,576.72	11,010.01	9576.82	24,833,005	24,833,005
Total	52,143.63	55,710.79	47,697.69	123,074,801	123,074,801

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Retirement Community	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0
Single Family Housing	6.50	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
NaturalGas Mitigated	0.3217	2.7493	1.1699	0.0176		0.2223	0.2223		0.2223	0.2223	0.0000	3,184.0290	3,184.0290	0.0610	0.0584	3,203.4065
NaturalGas Unmitigated	0.5106	4.3633	1.8567	0.0279		0.3528	0.3528		0.3528	0.3528	0.0000	5,053.1309	5,053.1309	0.0969	0.0926	5,083.8834
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8,844.0990	8,844.0990	0.4065	0.0841	8,878.7106
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9,061.7626	9,061.7626	0.4165	0.0862	9,097.2260

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	5.0296e+007	0.2712	2.3176	0.9862	0.0148		0.1874	0.1874		0.1874	0.1874	0.0000	2,683.9849	2,683.9849	0.0514	0.0492	2,700.3192
Retirement Community	1.01914e+007	0.0550	0.4696	0.1998	3.0000e-003		0.0380	0.0380		0.0380	0.0380	0.0000	543.8524	543.8524	0.0104	9.9700e-003	547.1622
Single Family Housing	3.20896e+007	0.1730	1.4786	0.6292	9.4400e-003		0.1196	0.1196		0.1196	0.1196	0.0000	1,712.4216	1,712.4216	0.0328	0.0314	1,722.8431
Apartments Low Rise	2.11514e+006	0.0114	0.0975	0.0415	6.2000e-004		7.8800e-003	7.8800e-003		7.8800e-003	7.8800e-003	0.0000	112.8720	112.8720	2.1600e-003	2.0700e-003	113.5589
Total		**0.5106**	**4.3633**	**1.8567**	**0.0279**		**0.3528**	**0.3528**		**0.3528**	**0.3528**	**0.0000**	**5,053.1309**	**5,053.1309**	**0.0968**	**0.0926**	**5,083.8834**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	3.16239e+007	0.1705	1.4572	0.6201	9.3000e-003		0.1178	0.1178		0.1178	0.1178	0.0000	1,687.5696	1,687.5696	0.0324	0.0309	1,697.8399
Retirement Community	6.37757e+006	0.0344	0.2939	0.1251	1.8800e-003		0.0238	0.0238		0.0238	0.0238	0.0000	340.3312	340.3312	6.5200e-003	6.2400e-003	342.4024
Single Family Housing	2.03022e+007	0.1095	0.9355	0.3981	5.9700e-003		0.0756	0.0756		0.0756	0.0756	0.0000	1,083.4041	1,083.4041	0.0208	0.0199	1,089.9975
Apartments Low Rise	1.3628e+006	7.3500e-003	0.0628	0.0267	4.0000e-004		5.0800e-003	5.0800e-003		5.0800e-003	5.0800e-003	0.0000	72.7242	72.7242	1.3900e-003	1.3300e-003	73.1668
Total		**0.3217**	**2.7493**	**1.1699**	**0.0176**		**0.2223**	**0.2223**		**0.2223**	**0.2223**	**0.0000**	**3,184.0290**	**3,184.0290**	**0.0610**	**0.0584**	**3,203.4065**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	691375	197.8486	9.0900e-003	1.8800e-003	198.6228
Apartments Mid Rise	2.03129e+007	5,812.8928	0.2672	0.0553	5,835.6417
Retirement Community	2.78506e+006	796.9925	0.0366	7.5800e-003	800.1115
Single Family Housing	7.87662e+006	2,254.0288	0.1036	0.0214	2,262.8500
Total		**9,061.7626**	**0.4165**	**0.0862**	**9,097.2260**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	677371	193.8411	8.9100e-003	1.8400e-003	194.5997
Apartments Mid Rise	1.98246e+007	5,673.1410	0.2608	0.0540	5,695.3430
Retirement Community	2.72664e+006	780.2742	0.0359	7.4200e-003	783.3278
Single Family Housing	7.67679e+006	2,196.8428	0.1010	0.0209	2,205.4401
Total		**8,844.0990**	**0.4065**	**0.0841**	**8,878.7105**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	37.3202	0.9231	80.0224	4.2400e-003		0.5758	0.5758		0.5744	0.5744	0.0000	2,000.8672	2,000.8672	0.1607	0.0343	2,014.8679
Mitigated	37.3202	0.9231	80.0224	4.2400e-003		0.5758	0.5758		0.5744	0.5744	0.0000	2,000.8672	2,000.8672	0.1607	0.0343	2,014.8679

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.3925					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	31.3464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1889	1.0000e-005	0.0103	0.0000		0.1305	0.1305		0.1292	0.1292	0.0000	1,869.7078	1,869.7078	0.0358	0.0343	1,881.0865
Landscaping	2.3923	0.9231	80.0121	4.2400e-003		0.4453	0.4453		0.4453	0.4453	0.0000	131.1594	131.1594	0.1249	0.0000	133.7814
Total	**37.3202**	**0.9231**	**80.0224**	**4.2400e-003**		**0.5758**	**0.5758**		**0.5744**	**0.5744**	**0.0000**	**2,000.8672**	**2,000.8672**	**0.1607**	**0.0343**	**2,014.8679**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.3925					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	31.3464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1889	1.0000e-005	0.0103	0.0000		0.1305	0.1305		0.1292	0.1292	0.0000	1,869.7078	1,869.7078	0.0358	0.0343	1,881.0865
Landscaping	2.3923	0.9231	80.0121	4.2400e-003		0.4453	0.4453		0.4453	0.4453	0.0000	131.1594	131.1594	0.1249	0.0000	133.7814
Total	**37.3202**	**0.9231**	**80.0224**	**4.2400e-003**		**0.5758**	**0.5758**		**0.5744**	**0.5744**	**0.0000**	**2,000.8672**	**2,000.8672**	**0.1607**	**0.0343**	**2,014.8679**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	2,278.1302	0.4724	0.2561	2,367.4356
Mitigated	1,903.2837	0.3741	0.2015	1,973.6072

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Apartments Low Rise	91.1079 / 98.502	684.8875	0.1410	0.0763	711.5021
Apartments Mid Rise	91.1079 / 98.502	684.8875	0.1410	0.0763	711.5021
Retirement Community	32.6866 / 28.3417	223.4678	0.0495	0.0272	232.9293
Single Family Housing	91.1079 / 98.502	684.8875	0.1410	0.0763	711.5021
Total		**2,278.1302**	**0.4724**	**0.2561**	**2,367.4356**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	71.4113 / 88.4635	572.6100	0.1117	0.0601	593.5706
Apartments Mid Rise	71.4113 / 88.4635	572.6100	0.1117	0.0601	593.5706
Retirement Community	25.6201 / 25.4534	185.4536	0.0391	0.0214	192.8954
Single Family Housing	71.4113 / 88.4635	572.6100	0.1117	0.0601	593.5706
Total		**1,903.2837**	**0.3741**	**0.2015**	**1,973.6072**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	988.2899	58.4063	0.0000	2,214.8214
Unmitigated	988.2899	58.4063	0.0000	2,214.8214

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	1217.16	247.0725	14.6016	0.0000	553.7054
Apartments Mid Rise	1217.16	247.0725	14.6016	0.0000	553.7054
Retirement Community	1217.16	247.0725	14.6016	0.0000	553.7054
Single Family Housing	1217.16	247.0725	14.6016	0.0000	553.7054
Total		**988.2899**	**58.4063**	**0.0000**	**2,214.8214**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	1217.16	247.0725	14.6016	0.0000	553.7054
Apartments Mid Rise	1217.16	247.0725	14.6016	0.0000	553.7054
Retirement Community	1217.16	247.0725	14.6016	0.0000	553.7054
Single Family Housing	1217.16	247.0725	14.6016	0.0000	553.7054
Total		**988.2899**	**58.4063**	**0.0000**	**2,214.8214**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Proposed SP_Residential

Orange County, Mitigation Report

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40	2.40	2.40	2.41	2.40
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	36.99	36.99	36.99	36.98	36.99	36.99	0.00	36.99	36.99	36.98	36.99	36.99
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	21.62	16.20	16.45	20.81	21.31	16.64
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.15	0.40		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			

	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	100.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	46.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	8.00	35.00

No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

CalEEMod Output: Operation – Current Plan

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Current SP Non-Residential

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,731.19	1000sqft	185.44	2,731,190.00	0
Government Office Building	40.85	1000sqft	2.05	40,850.00	0
Office Park	2,343.75	1000sqft	102.79	2,343,750.00	0
Elementary School	2,400.00	Student	38.10	200,648.09	0
High School	1,850.00	Student	9.39	245,422.81	0
Junior College (2Yr)	2,151.60	1000sqft	107.93	2,151,600.00	0
General Light Industry	627.05	1000sqft	33.77	627,050.00	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	276.61	Acre	276.61	0.00	0
Health Club	30.00	1000sqft	1.15	30,000.00	0
High Turnover (Sit Down Restaurant)	18.00	1000sqft	0.69	18,000.00	0
Hotel	500.00	Room	27.77	726,000.00	0
Movie Theater (No Matinee)	4,500.00	Seat	8.76	101,250.00	0
Regional Shopping Center	1,368.08	1000sqft	154.26	1,368,080.00	0
Supermarket	207.24	1000sqft	17.71	207,240.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 30

Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and the land use amounts.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Area Coating - Assumes park land uses not painted.

Water And Wastewater - Based on the the Marine Corps Air Station (MCAS) Tustin/Legacy Park Revised Sub-Area Master Plan (April 2008) prepared by RBF Consulting

Area Mitigation - Per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstructionPhase	PhaseEndDate	4/30/2055	1/2/2017
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	12,049,131.60	0.00
tblLandUse	LotAcreage	62.70	185.44
tblLandUse	LotAcreage	0.94	2.05
tblLandUse	LotAcreage	53.81	102.79
tblLandUse	LotAcreage	4.61	38.10
tblLandUse	LotAcreage	5.63	9.39

tblLandUse	LotAcreage	49.39	107.93
tblLandUse	LotAcreage	14.40	33.77
tblLandUse	LotAcreage	0.69	1.15
tblLandUse	LotAcreage	0.41	0.69
tblLandUse	LotAcreage	16.67	27.77
tblLandUse	LotAcreage	2.32	8.76
tblLandUse	LotAcreage	31.41	154.26
tblLandUse	LotAcreage	4.76	17.71
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	23.79	885.20
tblSolidWaste	SolidWasteGenerationRate	438.00	885.20
tblSolidWaste	SolidWasteGenerationRate	777.54	885.20
tblSolidWaste	SolidWasteGenerationRate	2,540.01	885.20
tblSolidWaste	SolidWasteGenerationRate	37.99	885.20
tblSolidWaste	SolidWasteGenerationRate	171.00	885.20
tblSolidWaste	SolidWasteGenerationRate	337.63	885.20
tblSolidWaste	SolidWasteGenerationRate	214.20	885.20
tblSolidWaste	SolidWasteGenerationRate	273.75	885.20
tblSolidWaste	SolidWasteGenerationRate	2,797.08	885.20
tblSolidWaste	SolidWasteGenerationRate	2,179.69	885.20
tblSolidWaste	SolidWasteGenerationRate	1,436.48	885.20
tblSolidWaste	SolidWasteGenerationRate	1,168.83	885.20
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tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
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tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
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tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	62.00	0.00
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tblVehicleTrips	CNW_TL	6.90	0.00

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tblVehicleTrips	ST_TR	1.64	1.28
tblVehicleTrips	ST_TR	49.97	49.42
tblVehicleTrips	ST_TR	177.59	189.28

tblVehicleTrips	SU_TR	1.59	21.21
tblVehicleTrips	SU_TR	0.68	1.31
tblVehicleTrips	SU_TR	0.98	1.38
tblVehicleTrips	SU_TR	0.25	0.26
tblVehicleTrips	SU_TR	131.84	131.86
tblVehicleTrips	SU_TR	5.95	5.99
tblVehicleTrips	SU_TR	1.21	0.27
tblVehicleTrips	SU_TR	1.80	1.68
tblVehicleTrips	SU_TR	0.76	0.59
tblVehicleTrips	SU_TR	25.24	24.96
tblVehicleTrips	SU_TR	166.44	177.40
tblVehicleTrips	WD_TR	1.59	21.21
tblVehicleTrips	WD_TR	1.29	1.02
tblVehicleTrips	WD_TR	6.97	13.42
tblVehicleTrips	WD_TR	11.01	14.54
tblVehicleTrips	WD_TR	68.93	13.27
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tblVehicleTrips	WD_TR	1.80	1.68
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tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

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tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
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tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
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tblWater	AerobicPercent	87.46	100.00
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tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	IndoorWaterUseRate	0.00	67,610,045.00
tblWater	IndoorWaterUseRate	5,818,176.00	67,610,045.00
tblWater	IndoorWaterUseRate	145,005,312.50	34,577,649.29
tblWater	IndoorWaterUseRate	485,424,635.18	34,577,649.29
tblWater	IndoorWaterUseRate	8,115,248.17	34,577,649.29
tblWater	IndoorWaterUseRate	1,774,294.32	34,577,649.29
tblWater	IndoorWaterUseRate	8,149,176.00	34,577,649.29
tblWater	IndoorWaterUseRate	5,463,606.82	34,577,649.29
tblWater	IndoorWaterUseRate	12,683,385.00	34,577,649.29
tblWater	IndoorWaterUseRate	105,533,898.33	34,577,649.29
tblWater	IndoorWaterUseRate	40,662,148.00	34,577,649.29
tblWater	IndoorWaterUseRate	416,563,471.86	34,577,649.29
tblWater	IndoorWaterUseRate	101,337,135.19	34,577,649.29
tblWater	IndoorWaterUseRate	25,546,104.85	34,577,649.29
tblWater	OutdoorWaterUseRate	329,575,656.13	32,511,318.00
tblWater	OutdoorWaterUseRate	14,961,024.00	32,511,318.00
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tblWater	OutdoorWaterUseRate	4,973,861.78	32,511,318.00
tblWater	OutdoorWaterUseRate	1,087,470.71	32,511,318.00
tblWater	OutdoorWaterUseRate	20,955,024.00	32,511,318.00
tblWater	OutdoorWaterUseRate	348,740.86	32,511,318.00
tblWater	OutdoorWaterUseRate	1,409,265.00	32,511,318.00
tblWater	OutdoorWaterUseRate	165,065,840.97	32,511,318.00
tblWater	OutdoorWaterUseRate	2,595,456.26	32,511,318.00
tblWater	OutdoorWaterUseRate	255,313,095.66	32,511,318.00
tblWater	OutdoorWaterUseRate	62,109,857.05	32,511,318.00

tblWater	OutdoorWaterUseRate	790,085.72	32,511,318.00
tblWater	SepticTankPercent	10.33	0.00
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tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	272.0807	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409

Energy	4.3875	39.8862	33.5044	0.2393		3.0314	3.0314		3.0314	3.0314		47,863.4649	47,863.4649	0.9174	0.8775	48,154.7539
Mobile	358.9041	659.6708	3,587.2715	17.6180	1,218.8102	18.8218	1,237.6320	325.4581	17.3863	342.8445		1,227,902.6889	1,227,902.6889	32.9220		1,228,594.0500
Total	**635.3723**	**699.5745**	**3,622.7302**	**17.8575**	**1,218.8102**	**21.8601**	**1,240.6703**	**325.4581**	**20.4246**	**345.8827**		**1,275,770.3668**	**1,275,770.3668**	**33.8502**	**0.8775**	**1,276,753.2448**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	241.2485	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409
Energy	3.2045	29.1315	24.4705	0.1748		2.2140	2.2140		2.2140	2.2140		34,957.8424	34,957.8424	0.6700	0.6409	35,170.5900
Mobile	358.9041	659.6708	3,587.2715	17.6180	1,218.8102	18.8218	1,237.6320	325.4581	17.3863	342.8445		1,227,902.6889	1,227,902.6889	32.9220		1,228,594.0500
Total	**603.3571**	**688.8199**	**3,613.6963**	**17.7930**	**1,218.8102**	**21.0427**	**1,239.8529**	**325.4581**	**19.6073**	**345.0654**		**1,262,864.7443**	**1,262,864.7443**	**33.6028**	**0.6409**	**1,263,769.0809**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.04**	**1.54**	**0.25**	**0.36**	**0.00**	**3.74**	**0.07**	**0.00**	**4.00**	**0.24**	**0.00**	**1.01**	**1.01**	**0.73**	**26.96**	**1.02**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	358.9041	659.6708	3,587.2715	17.6180	1,218.8102	18.8218	1,237.6320	325.4581	17.3863	342.8445		1,227,902.6889	1,227,902.6889	32.9220		1,228,594.0500
Unmitigated	358.9041	659.6708	3,587.2715	17.6180	1,218.8102	18.8218	1,237.6320	325.4581	17.3863	342.8445		1,227,902.6889	1,227,902.6889	32.9220		1,228,594.0500

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	5,866.90	5,866.90	5866.90	15,589,522	15,589,522
Elementary School	2,448.00	0.00	0.00	4,646,304	4,646,304
General Light Industry	8,415.01	1,592.71	821.44	16,888,099	16,888,099
General Office Building	39,711.50	8,849.06	3769.04	80,162,262	80,162,262
Government Office Building	542.08	0.00	0.00	1,028,867	1,028,867
Health Club	987.90	626.10	801.90	2,417,103	2,417,103
High School	3,311.50	1,184.00	481.00	6,917,261	6,917,261
High Turnover (Sit Down Restaurant)	2,289.06	2,851.02	2373.48	6,327,856	6,327,856
Hotel	4,115.00	4,125.00	2995.00	10,513,022	10,513,022
Junior College (2Yr)	13,167.79	5,379.00	580.93	27,254,859	27,254,859
Movie Theater (No Matinee)	7,560.00	7,560.00	7560.00	20,088,432	20,088,432
Office Park	20,859.38	3,000.00	1382.81	41,254,809	41,254,809
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	57,774.02	67,610.51	34147.28	148,282,344	148,282,344
Supermarket	22,582.94	39,226.39	36764.38	71,708,519	71,708,519
Total	189,631.08	147,870.68	97,544.15	453,079,260	453,079,260

4.3 Trip Type Information

	Miles	Trip %	Trip Purpose %

Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Elementary School	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
General Light Industry	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
General Office Building	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Government Office Building	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Health Club	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
High School	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
High Turnover (Sit Down	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Hotel	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Junior College (2Yr)	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Movie Theater (No Matinee)	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Office Park	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Supermarket	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.2045	29.1315	24.4705	0.1748		2.2140	2.2140		2.2140	2.2140		34,957.8424	34,957.8424	0.6700	0.6409	35,170.5900
NaturalGas Unmitigated	4.3875	39.8862	33.5044	0.2393		3.0314	3.0314		3.0314	3.0314		47,863.4649	47,863.4649	0.9174	0.8775	48,154.7539

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	37176.3	0.4009	3.6447	3.0616	0.0219		0.2770	0.2770		0.2770	0.2770		4,373.6864	4,373.6864	0.0838	0.0802	4,400.3039
General Office Building	71759.2	0.7739	7.0352	5.9096	0.0422		0.5347	0.5347		0.5347	0.5347		8,442.2602	8,442.2602	0.1618	0.1548	8,493.6383
Government Office Building	1073.29	0.0116	0.1052	0.0884	6.3000e-004		8.0000e-003	8.0000e-003		8.0000e-003	8.0000e-003		126.2696	126.2696	2.4200e-003	2.3100e-003	127.0381
Health Club	1778.63	0.0192	0.1744	0.1465	1.0500e-003		0.0133	0.0133		0.0133	0.0133		209.2506	209.2506	4.0100e-003	3.8400e-003	210.5241
High School	8344.38	0.0900	0.8181	0.6872	4.9100e-003		0.0622	0.0622		0.0622	0.0622		981.6912	981.6912	0.0188	0.0180	987.6657
High Turnover (Sit Down Restaurant)	12991.1	0.1401	1.2736	1.0699	7.6400e-003		0.0968	0.0968		0.0968	0.0968		1,528.3610	1,528.3610	0.0293	0.0280	1,537.6624
Hotel	71148	0.7673	6.9753	5.8593	0.0419		0.5301	0.5301		0.5301	0.5301		8,370.3529	8,370.3529	0.1604	0.1535	8,421.2935
Junior College (2Yr)	93491.4	1.0082	9.1658	7.6993	0.0550		0.6966	0.6966		0.6966	0.6966		10,998.9931	10,998.9931	0.2108	0.2017	11,065.9311
Movie Theater (No Matinee)	6002.88	0.0647	0.5885	0.4944	3.5300e-003		0.0447	0.0447		0.0447	0.0447		706.2208	706.2208	0.0135	0.0130	710.5187

Office Park	76605.3	0.8261	7.5103	6.3087	0.0451		0.5708	0.5708		0.5708	0.5708		9,012.3892	9,012.3892	0.1727	0.1652	9,067.2371
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7683.74	0.0829	0.7533	0.6328	4.5200e-003		0.0573	0.0573		0.0573	0.0573		903.9691	903.9691	0.0173	0.0166	909.4705
Supermarket	11963.1	0.1290	1.1729	0.9852	7.0400e-003		0.0891	0.0891		0.0891	0.0891		1,407.4285	1,407.4285	0.0270	0.0258	1,415.9938
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	6822.04	0.0736	0.6688	0.5618	4.0100e-003		0.0508	0.0508		0.0508	0.0508		802.5924	802.5924	0.0154	0.0147	807.4768
Total		**4.3875**	**39.8862**	**33.5044**	**0.2393**		**3.0314**	**3.0314**		**3.0314**	**3.0314**		**47,863.4649**	**47,863.4649**	**0.9174**	**0.8775**	**48,154.7539**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	28.5433	0.3078	2.7984	2.3506	0.0168		0.2127	0.2127		0.2127	0.2127		3,358.0372	3,358.0372	0.0644	0.0616	3,378.4736
General Office Building	48.7603	0.5259	4.7804	4.0156	0.0287		0.3633	0.3633		0.3633	0.3633		5,736.5114	5,736.5114	0.1100	0.1052	5,771.4228
Government Office Building	0.729301	7.8700e-003	0.0715	0.0601	4.3000e-004		5.4300e-003	5.4300e-003		5.4300e-003	5.4300e-003		85.8001	85.8001	1.6400e-003	1.5700e-003	86.3223
Health Club	1.3656	0.0147	0.1339	0.1125	8.0000e-004		0.0102	0.0102		0.0102	0.0102		160.6588	160.6588	3.0800e-003	2.9500e-003	161.6366
High School	5.74276	0.0619	0.5630	0.4729	3.3800e-003		0.0428	0.0428		0.0428	0.0428		675.6187	675.6187	0.0130	0.0124	679.7304
High Turnover (Sit Down Restaurant)	11.6049	0.1252	1.1377	0.9557	6.8300e-003		0.0865	0.0865		0.0865	0.0865		1,365.2859	1,365.2859	0.0262	0.0250	1,373.5948
Hotel	50.4405	0.5440	4.9452	4.1539	0.0297		0.3758	0.3758		0.3758	0.3758		5,934.1754	5,934.1754	0.1137	0.1088	5,970.2898

Junior College (2Yr)	72.1464	0.7781	7.0732	5.9415	0.0424		0.5376	0.5376		0.5376	0.5376		8,487.8106	8,487.8106	0.1627	0.1556	8,539.4660
Movie Theater (No Matinee)	4.6089	0.0497	0.4519	0.3796	2.7100e-003		0.0343	0.0343		0.0343	0.0343		542.2235	542.2235	0.0104	9.9400e-003	545.5234
Office Park	52.1533	0.5624	5.1131	4.2950	0.0307		0.3886	0.3886		0.3886	0.3886		6,135.6769	6,135.6769	0.1176	0.1125	6,173.0176
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	6.40936	0.0691	0.6284	0.5278	3.7700e-003		0.0478	0.0478		0.0478	0.0478		754.0425	754.0425	0.0145	0.0138	758.6315
Supermarket	9.94196	0.1072	0.9747	0.8188	5.8500e-003		0.0741	0.0741		0.0741	0.0741		1,169.6419	1,169.6419	0.0224	0.0214	1,176.7601
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	4.69506	0.0506	0.4603	0.3867	2.7600e-003		0.0350	0.0350		0.0350	0.0350		552.3595	552.3595	0.0106	0.0101	555.7210
Total		**3.2045**	**29.1315**	**24.4705**	**0.1748**		**2.2140**	**2.2140**		**2.2140**	**2.2140**		**34,957.8424**	**34,957.8424**	**0.6700**	**0.6409**	**35,170.5900**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	241.2485	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409
Unmitigated	272.0807	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	58.2386					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	213.6634					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.1788	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409
Total	**272.0807**	**0.0176**	**1.9543**	**1.5000e-004**		**6.9300e-003**	**6.9300e-003**		**6.9300e-003**	**6.9300e-003**		**4.2130**	**4.2130**	**0.0109**		**4.4409**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	27.4064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	213.6634					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.1788	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409

Total	**241.2485**	**0.0176**	**1.9543**	**1.5000e-004**		**6.9300e-003**	**6.9300e-003**		**6.9300e-003**	**6.9300e-003**		**4.2130**	**4.2130**	**0.0109**		**4.4409**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Current SP Non-Residential

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,731.19	1000sqft	185.44	2,731,190.00	0
Government Office Building	40.85	1000sqft	2.05	40,850.00	0
Office Park	2,343.75	1000sqft	102.79	2,343,750.00	0
Elementary School	2,400.00	Student	38.10	200,648.09	0
High School	1,850.00	Student	9.39	245,422.81	0
Junior College (2Yr)	2,151.60	1000sqft	107.93	2,151,600.00	0
General Light Industry	627.05	1000sqft	33.77	627,050.00	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	276.61	Acre	276.61	0.00	0
Health Club	30.00	1000sqft	1.15	30,000.00	0
High Turnover (Sit Down Restaurant)	18.00	1000sqft	0.69	18,000.00	0
Hotel	500.00	Room	27.77	726,000.00	0
Movie Theater (No Matinee)	4,500.00	Seat	8.76	101,250.00	0
Regional Shopping Center	1,368.08	1000sqft	154.26	1,368,080.00	0
Supermarket	207.24	1000sqft	17.71	207,240.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 30

Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and the land use amounts.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Area Coating - Assumes park land uses not painted.

Water And Wastewater - Based on the the Marine Corps Air Station (MCAS) Tustin/Legacy Park Revised Sub-Area Master Plan (April 2008) prepared by RBF Consulting

Area Mitigation - Per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstructionPhase	PhaseEndDate	4/30/2055	1/2/2017
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	12,049,131.60	0.00
tblLandUse	LotAcreage	62.70	185.44
tblLandUse	LotAcreage	0.94	2.05
tblLandUse	LotAcreage	53.81	102.79
tblLandUse	LotAcreage	4.61	38.10
tblLandUse	LotAcreage	5.63	9.39

tblLandUse	LotAcreage	49.39	107.93
tblLandUse	LotAcreage	14.40	33.77
tblLandUse	LotAcreage	0.69	1.15
tblLandUse	LotAcreage	0.41	0.69
tblLandUse	LotAcreage	16.67	27.77
tblLandUse	LotAcreage	2.32	8.76
tblLandUse	LotAcreage	31.41	154.26
tblLandUse	LotAcreage	4.76	17.71
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	23.79	885.20
tblSolidWaste	SolidWasteGenerationRate	438.00	885.20
tblSolidWaste	SolidWasteGenerationRate	777.54	885.20
tblSolidWaste	SolidWasteGenerationRate	2,540.01	885.20
tblSolidWaste	SolidWasteGenerationRate	37.99	885.20
tblSolidWaste	SolidWasteGenerationRate	171.00	885.20
tblSolidWaste	SolidWasteGenerationRate	337.63	885.20
tblSolidWaste	SolidWasteGenerationRate	214.20	885.20
tblSolidWaste	SolidWasteGenerationRate	273.75	885.20
tblSolidWaste	SolidWasteGenerationRate	2,797.08	885.20
tblSolidWaste	SolidWasteGenerationRate	2,179.69	885.20
tblSolidWaste	SolidWasteGenerationRate	1,436.48	885.20
tblSolidWaste	SolidWasteGenerationRate	1,168.83	885.20
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
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tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	30.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	62.00	0.00
tblVehicleTrips	CC_TTP	64.10	0.00
tblVehicleTrips	CC_TTP	17.20	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CC_TTP	61.60	0.00
tblVehicleTrips	CC_TTP	88.60	0.00
tblVehicleTrips	CC_TTP	79.20	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CC_TTP	74.50	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00

tblVehicleTrips	CNW_TL	6.90	0.00
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tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
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tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	5.00	0.00
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tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
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tblVehicleTrips	CW_TL	16.60	7.30

tblVehicleTrips	CW_TL	16.60	7.30
tblVehicleTrips	CW_TL	16.60	7.30
tblVehicleTrips	CW_TL	16.60	7.30
tblVehicleTrips	CW_TL	16.60	7.30
tblVehicleTrips	CW_TL	16.60	7.30
tblVehicleTrips	CW_TL	16.60	7.30
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tblVehicleTrips	CW_TL	16.60	7.30
tblVehicleTrips	CW_TL	16.60	7.30
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	7.30
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tblVehicleTrips	CW_TTP	33.00	100.00
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tblVehicleTrips	CW_TTP	19.40	100.00
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tblVehicleTrips	CW_TTP	6.50	100.00
tblVehicleTrips	DV_TP	28.00	0.00
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tblVehicleTrips	PB_TP	4.00	0.00
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tblVehicleTrips	PB_TP	3.00	0.00

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tblVehicleTrips	ST_TR	11.23	2.50
tblVehicleTrips	ST_TR	1.80	1.68
tblVehicleTrips	ST_TR	1.64	1.28
tblVehicleTrips	ST_TR	49.97	49.42
tblVehicleTrips	ST_TR	177.59	189.28

tblVehicleTrips	SU_TR	1.59	21.21
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tblVehicleTrips	SU_TR	1.80	1.68
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tblVehicleTrips	SU_TR	25.24	24.96
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tblVehicleTrips	WD_TR	1.59	21.21
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tblVehicleTrips	WD_TR	1.80	1.68
tblVehicleTrips	WD_TR	11.42	8.90
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tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
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tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	IndoorWaterUseRate	0.00	67,610,045.00
tblWater	IndoorWaterUseRate	5,818,176.00	67,610,045.00
tblWater	IndoorWaterUseRate	145,005,312.50	34,577,649.29
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tblWater	IndoorWaterUseRate	8,115,248.17	34,577,649.29
tblWater	IndoorWaterUseRate	1,774,294.32	34,577,649.29
tblWater	IndoorWaterUseRate	8,149,176.00	34,577,649.29
tblWater	IndoorWaterUseRate	5,463,606.82	34,577,649.29
tblWater	IndoorWaterUseRate	12,683,385.00	34,577,649.29
tblWater	IndoorWaterUseRate	105,533,898.33	34,577,649.29
tblWater	IndoorWaterUseRate	40,662,148.00	34,577,649.29
tblWater	IndoorWaterUseRate	416,563,471.86	34,577,649.29
tblWater	IndoorWaterUseRate	101,337,135.19	34,577,649.29
tblWater	IndoorWaterUseRate	25,546,104.85	34,577,649.29
tblWater	OutdoorWaterUseRate	329,575,656.13	32,511,318.00
tblWater	OutdoorWaterUseRate	14,961,024.00	32,511,318.00
tblWater	OutdoorWaterUseRate	0.00	32,511,318.00
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tblWater	OutdoorWaterUseRate	4,973,861.78	32,511,318.00
tblWater	OutdoorWaterUseRate	1,087,470.71	32,511,318.00
tblWater	OutdoorWaterUseRate	20,955,024.00	32,511,318.00
tblWater	OutdoorWaterUseRate	348,740.86	32,511,318.00
tblWater	OutdoorWaterUseRate	1,409,265.00	32,511,318.00
tblWater	OutdoorWaterUseRate	165,065,840.97	32,511,318.00
tblWater	OutdoorWaterUseRate	2,595,456.26	32,511,318.00
tblWater	OutdoorWaterUseRate	255,313,095.66	32,511,318.00
tblWater	OutdoorWaterUseRate	62,109,857.05	32,511,318.00

tblWater	OutdoorWaterUseRate	790,085.72	32,511,318.00
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tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	272.0807	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409

Energy	4.3875	39.8862	33.5044	0.2393		3.0314	3.0314		3.0314	3.0314		47,863.4649	47,863.4649	0.9174	0.8775	48,154.7539
Mobile	379.0435	691.6655	3,622.7751	16.8416	1,218.8102	18.8825	1,237.6927	325.4581	17.4422	342.9003		1,177,351.9326	1,177,351.9326	32.9741		1,178,044.3885
Total	**655.5117**	**731.5693**	**3,658.2338**	**17.0811**	**1,218.8102**	**21.9208**	**1,240.7310**	**325.4581**	**20.4805**	**345.9386**		**1,225,219.6105**	**1,225,219.6105**	**33.9023**	**0.8775**	**1,226,203.5834**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	241.2485	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409
Energy	3.2045	29.1315	24.4705	0.1748		2.2140	2.2140		2.2140	2.2140		34,957.8424	34,957.8424	0.6700	0.6409	35,170.5900
Mobile	379.0435	691.6655	3,622.7751	16.8416	1,218.8102	18.8825	1,237.6927	325.4581	17.4422	342.9003		1,177,351.9326	1,177,351.9326	32.9741		1,178,044.3885
Total	**623.4965**	**720.8146**	**3,649.1998**	**17.0166**	**1,218.8102**	**21.1034**	**1,239.9137**	**325.4581**	**19.6631**	**345.1212**		**1,212,313.9880**	**1,212,313.9880**	**33.6550**	**0.6409**	**1,213,219.4194**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.88**	**1.47**	**0.25**	**0.38**	**0.00**	**3.73**	**0.07**	**0.00**	**3.99**	**0.24**	**0.00**	**1.05**	**1.05**	**0.73**	**26.96**	**1.06**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	379.0435	691.6655	3,622.7751	16.8416	1,218.8102	18.8825	1,237.6927	325.4581	17.4422	342.9003		1,177,351.9326	1,177,351.9326	32.9741		1,178,044.3885
Unmitigated	379.0435	691.6655	3,622.7751	16.8416	1,218.8102	18.8825	1,237.6927	325.4581	17.4422	342.9003		1,177,351.9326	1,177,351.9326	32.9741		1,178,044.3885

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	5,866.90	5,866.90	5866.90	15,589,522	15,589,522
Elementary School	2,448.00	0.00	0.00	4,646,304	4,646,304
General Light Industry	8,415.01	1,592.71	821.44	16,888,099	16,888,099
General Office Building	39,711.50	8,849.06	3769.04	80,162,262	80,162,262
Government Office Building	542.08	0.00	0.00	1,028,867	1,028,867
Health Club	987.90	626.10	801.90	2,417,103	2,417,103
High School	3,311.50	1,184.00	481.00	6,917,261	6,917,261
High Turnover (Sit Down Restaurant)	2,289.06	2,851.02	2373.48	6,327,856	6,327,856
Hotel	4,115.00	4,125.00	2995.00	10,513,022	10,513,022
Junior College (2Yr)	13,167.79	5,379.00	580.93	27,254,859	27,254,859
Movie Theater (No Matinee)	7,560.00	7,560.00	7560.00	20,088,432	20,088,432
Office Park	20,859.38	3,000.00	1382.81	41,254,809	41,254,809
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	57,774.02	67,610.51	34147.28	148,282,344	148,282,344
Supermarket	22,582.94	39,226.39	36764.38	71,708,519	71,708,519
Total	189,631.08	147,870.68	97,544.15	453,079,260	453,079,260

4.3 Trip Type Information

	Miles	Trip %	Trip Purpose %

Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Elementary School	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
General Light Industry	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
General Office Building	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Government Office Building	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Health Club	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
High School	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
High Turnover (Sit Down	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Hotel	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Junior College (2Yr)	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Movie Theater (No Matinee)	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Office Park	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Supermarket	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.2045	29.1315	24.4705	0.1748		2.2140	2.2140		2.2140	2.2140		34,957.8424	34,957.8424	0.6700	0.6409	35,170.5900
NaturalGas Unmitigated	4.3875	39.8862	33.5044	0.2393		3.0314	3.0314		3.0314	3.0314		47,863.4649	47,863.4649	0.9174	0.8775	48,154.7539

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	37176.3	0.4009	3.6447	3.0616	0.0219		0.2770	0.2770		0.2770	0.2770		4,373.6864	4,373.6864	0.0838	0.0802	4,400.3039
General Office Building	71759.2	0.7739	7.0352	5.9096	0.0422		0.5347	0.5347		0.5347	0.5347		8,442.2602	8,442.2602	0.1618	0.1548	8,493.6383
Government Office Building	1073.29	0.0116	0.1052	0.0884	6.3000e-004		8.0000e-003	8.0000e-003		8.0000e-003	8.0000e-003		126.2696	126.2696	2.4200e-003	2.3100e-003	127.0381
Health Club	1778.63	0.0192	0.1744	0.1465	1.0500e-003		0.0133	0.0133		0.0133	0.0133		209.2506	209.2506	4.0100e-003	3.8400e-003	210.5241
High School	8344.38	0.0900	0.8181	0.6872	4.9100e-003		0.0622	0.0622		0.0622	0.0622		981.6912	981.6912	0.0188	0.0180	987.6657
High Turnover (Sit Down Restaurant)	12991.1	0.1401	1.2736	1.0699	7.6400e-003		0.0968	0.0968		0.0968	0.0968		1,528.3610	1,528.3610	0.0293	0.0280	1,537.6624
Hotel	71148	0.7673	6.9753	5.8593	0.0419		0.5301	0.5301		0.5301	0.5301		8,370.3529	8,370.3529	0.1604	0.1535	8,421.2935
Junior College (2Yr)	93491.4	1.0082	9.1658	7.6993	0.0550		0.6966	0.6966		0.6966	0.6966		10,998.9931	10,998.9931	0.2108	0.2017	11,065.9311
Movie Theater (No Matinee)	6002.88	0.0647	0.5885	0.4944	3.5300e-003		0.0447	0.0447		0.0447	0.0447		706.2208	706.2208	0.0135	0.0130	710.5187

Office Park	76605.3	0.8261	7.5103	6.3087	0.0451		0.5708	0.5708		0.5708	0.5708		9,012.3892	9,012.3892	0.1727	0.1652	9,067.2371
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7683.74	0.0829	0.7533	0.6328	4.5200e-003		0.0573	0.0573		0.0573	0.0573		903.9691	903.9691	0.0173	0.0166	909.4705
Supermarket	11963.1	0.1290	1.1729	0.9852	7.0400e-003		0.0891	0.0891		0.0891	0.0891		1,407.4285	1,407.4285	0.0270	0.0258	1,415.9938
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	6822.04	0.0736	0.6688	0.5618	4.0100e-003		0.0508	0.0508		0.0508	0.0508		802.5924	802.5924	0.0154	0.0147	807.4768
Total		**4.3875**	**39.8862**	**33.5044**	**0.2393**		**3.0314**	**3.0314**		**3.0314**	**3.0314**		**47,863.4649**	**47,863.4649**	**0.9174**	**0.8775**	**48,154.7539**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	28.5433	0.3078	2.7984	2.3506	0.0168		0.2127	0.2127		0.2127	0.2127		3,358.0372	3,358.0372	0.0644	0.0616	3,378.4736
General Office Building	48.7603	0.5259	4.7804	4.0156	0.0287		0.3633	0.3633		0.3633	0.3633		5,736.5114	5,736.5114	0.1100	0.1052	5,771.4228
Government Office Building	0.729301	7.8700e-003	0.0715	0.0601	4.3000e-004		5.4300e-003	5.4300e-003		5.4300e-003	5.4300e-003		85.8001	85.8001	1.6400e-003	1.5700e-003	86.3223
Health Club	1.3656	0.0147	0.1339	0.1125	8.0000e-004		0.0102	0.0102		0.0102	0.0102		160.6588	160.6588	3.0800e-003	2.9500e-003	161.6366
High School	5.74276	0.0619	0.5630	0.4729	3.3800e-003		0.0428	0.0428		0.0428	0.0428		675.6187	675.6187	0.0130	0.0124	679.7304
High Turnover (Sit Down Restaurant)	11.6049	0.1252	1.1377	0.9557	6.8300e-003		0.0865	0.0865		0.0865	0.0865		1,365.2859	1,365.2859	0.0262	0.0250	1,373.5948
Hotel	50.4405	0.5440	4.9452	4.1539	0.0297		0.3758	0.3758		0.3758	0.3758		5,934.1754	5,934.1754	0.1137	0.1088	5,970.2898

Junior College (2Yr)	72.1464	0.7781	7.0732	5.9415	0.0424		0.5376	0.5376		0.5376	0.5376		8,487.8106	8,487.8106	0.1627	0.1556	8,539.4660
Movie Theater (No Matinee)	4.6089	0.0497	0.4519	0.3796	2.7100e-003		0.0343	0.0343		0.0343	0.0343		542.2235	542.2235	0.0104	9.9400e-003	545.5234
Office Park	52.1533	0.5624	5.1131	4.2950	0.0307		0.3886	0.3886		0.3886	0.3886		6,135.6769	6,135.6769	0.1176	0.1125	6,173.0176
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	6.40936	0.0691	0.6284	0.5278	3.7700e-003		0.0478	0.0478		0.0478	0.0478		754.0425	754.0425	0.0145	0.0138	758.6315
Supermarket	9.94196	0.1072	0.9747	0.8188	5.8500e-003		0.0741	0.0741		0.0741	0.0741		1,169.6419	1,169.6419	0.0224	0.0214	1,176.7601
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	4.69506	0.0506	0.4603	0.3867	2.7600e-003		0.0350	0.0350		0.0350	0.0350		552.3595	552.3595	0.0106	0.0101	555.7210
Total		**3.2045**	**29.1315**	**24.4705**	**0.1748**		**2.2140**	**2.2140**		**2.2140**	**2.2140**		**34,957.8424**	**34,957.8424**	**0.6700**	**0.6409**	**35,170.5900**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	241.2485	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409
Unmitigated	272.0807	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	58.2386					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	213.6634					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.1788	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409
Total	**272.0807**	**0.0176**	**1.9543**	**1.5000e-004**		**6.9300e-003**	**6.9300e-003**		**6.9300e-003**	**6.9300e-003**		**4.2130**	**4.2130**	**0.0109**		**4.4409**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	27.4064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	213.6634					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.1788	0.0176	1.9543	1.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003		4.2130	4.2130	0.0109		4.4409

Total	**241.2485**	**0.0176**	**1.9543**	**1.5000e-004**		**6.9300e-003**	**6.9300e-003**		**6.9300e-003**	**6.9300e-003**		**4.2130**	**4.2130**	**0.0109**		**4.4409**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Current SP Non-Residential

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,731.19	1000sqft	185.44	2,731,190.00	0
Government Office Building	40.85	1000sqft	2.05	40,850.00	0
Office Park	2,343.75	1000sqft	102.79	2,343,750.00	0
Elementary School	2,400.00	Student	38.10	200,648.09	0
High School	1,850.00	Student	9.39	245,422.81	0
Junior College (2Yr)	2,151.60	1000sqft	107.93	2,151,600.00	0
General Light Industry	627.05	1000sqft	33.77	627,050.00	0
Other Asphalt Surfaces	206.00	Acre	206.00	0.00	0
City Park	276.61	Acre	276.61	0.00	0
Health Club	30.00	1000sqft	1.15	30,000.00	0
High Turnover (Sit Down Restaurant)	18.00	1000sqft	0.69	18,000.00	0
Hotel	500.00	Room	27.77	726,000.00	0
Movie Theater (No Matinee)	4,500.00	Seat	8.76	101,250.00	0
Regional Shopping Center	1,368.08	1000sqft	154.26	1,368,080.00	0
Supermarket	207.24	1000sqft	17.71	207,240.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 30

Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and the land use amounts.

Construction Phase -

Vehicle Trips - Based on information provided by Stantec.

Area Coating - Assumes park land uses not painted.

Water And Wastewater - Based on the the Marine Corps Air Station (MCAS) Tustin/Legacy Park Revised Sub-Area Master Plan (April 2008) prepared by PBF Consulting

Area Mitigation - Per SCAQMD Rule 1113.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstructionPhase	PhaseEndDate	4/30/2055	1/2/2017
tblLandUse	LandUseSquareFeet	8,973,360.00	0.00
tblLandUse	LandUseSquareFeet	12,049,131.60	0.00
tblLandUse	LotAcreage	62.70	185.44
tblLandUse	LotAcreage	0.94	2.05
tblLandUse	LotAcreage	53.81	102.79
tblLandUse	LotAcreage	4.61	38.10
tblLandUse	LotAcreage	5.63	9.39

tblLandUse	LotAcreage	49.39	107.93
tblLandUse	LotAcreage	14.40	33.77
tblLandUse	LotAcreage	0.69	1.15
tblLandUse	LotAcreage	0.41	0.69
tblLandUse	LotAcreage	16.67	27.77
tblLandUse	LotAcreage	2.32	8.76
tblLandUse	LotAcreage	31.41	154.26
tblLandUse	LotAcreage	4.76	17.71
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	23.79	885.20
tblSolidWaste	SolidWasteGenerationRate	438.00	885.20
tblSolidWaste	SolidWasteGenerationRate	777.54	885.20
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tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	IndoorWaterUseRate	0.00	67,610,045.00
tblWater	IndoorWaterUseRate	5,818,176.00	67,610,045.00
tblWater	IndoorWaterUseRate	145,005,312.50	34,577,649.29
tblWater	IndoorWaterUseRate	485,424,635.18	34,577,649.29
tblWater	IndoorWaterUseRate	8,115,248.17	34,577,649.29
tblWater	IndoorWaterUseRate	1,774,294.32	34,577,649.29
tblWater	IndoorWaterUseRate	8,149,176.00	34,577,649.29
tblWater	IndoorWaterUseRate	5,463,606.82	34,577,649.29
tblWater	IndoorWaterUseRate	12,683,385.00	34,577,649.29
tblWater	IndoorWaterUseRate	105,533,898.33	34,577,649.29
tblWater	IndoorWaterUseRate	40,662,148.00	34,577,649.29
tblWater	IndoorWaterUseRate	416,563,471.86	34,577,649.29
tblWater	IndoorWaterUseRate	101,337,135.19	34,577,649.29
tblWater	IndoorWaterUseRate	25,546,104.85	34,577,649.29
tblWater	OutdoorWaterUseRate	329,575,656.13	32,511,318.00
tblWater	OutdoorWaterUseRate	14,961,024.00	32,511,318.00
tblWater	OutdoorWaterUseRate	0.00	32,511,318.00
tblWater	OutdoorWaterUseRate	297,518,324.79	32,511,318.00
tblWater	OutdoorWaterUseRate	4,973,861.78	32,511,318.00
tblWater	OutdoorWaterUseRate	1,087,470.71	32,511,318.00
tblWater	OutdoorWaterUseRate	20,955,024.00	32,511,318.00
tblWater	OutdoorWaterUseRate	348,740.86	32,511,318.00
tblWater	OutdoorWaterUseRate	1,409,265.00	32,511,318.00
tblWater	OutdoorWaterUseRate	165,065,840.97	32,511,318.00
tblWater	OutdoorWaterUseRate	2,595,456.26	32,511,318.00
tblWater	OutdoorWaterUseRate	255,313,095.66	32,511,318.00
tblWater	OutdoorWaterUseRate	62,109,857.05	32,511,318.00

tblWater	OutdoorWaterUseRate	790,085.72	32,511,318.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	49.6445	2.1900e-003	0.2443	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	0.4778	0.4778	1.2300e-003	0.0000	0.5036

Energy	0.8007	7.2792	6.1146	0.0437		0.5532	0.5532		0.5532	0.5532	0.0000	53,092.2783	53,092.2783	2.2281	0.5748	53,317.2701
Mobile	51.0511	100.9843	518.8641	2.4401	171.4780	2.6961	174.1740	45.8560	2.4904	48.3465	0.0000	154,614.5610	154,614.5610	4.2751	0.0000	154,704.3388
Waste						0.0000	0.0000		0.0000	0.0000	2,335.9388	0.0000	2,335.9388	138.0500	0.0000	5,234.9894
Water						0.0000	0.0000		0.0000	0.0000	194.6446	3,497.0561	3,691.7007	0.8307	0.4566	3,850.6748
Total	**101.4963**	**108.2658**	**525.2230**	**2.4838**	**171.4780**	**3.2501**	**174.7281**	**45.8560**	**3.0445**	**48.9006**	**2,530.5834**	**211,204.3732**	**213,734.9566**	**145.3852**	**1.0314**	**217,107.7767**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	44.0176	2.1900e-003	0.2443	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	0.4778	0.4778	1.2300e-003	0.0000	0.5036
Energy	0.5848	5.3165	4.4659	0.0319		0.4041	0.4041		0.4041	0.4041	0.0000	45,524.4498	45,524.4498	1.9375	0.4840	45,715.1833
Mobile	51.0511	100.9843	518.8641	2.4401	171.4780	2.6961	174.1740	45.8560	2.4904	48.3465	0.0000	154,614.5610	154,614.5610	4.2751	0.0000	154,704.3388
Waste						0.0000	0.0000		0.0000	0.0000	2,335.9388	0.0000	2,335.9388	138.0500	0.0000	5,234.9894
Water						0.0000	0.0000		0.0000	0.0000	155.7157	2,829.6415	2,985.3572	0.6631	0.3649	3,112.4133
Total	**95.6535**	**106.3030**	**523.5743**	**2.4720**	**171.4780**	**3.1010**	**174.5789**	**45.8560**	**2.8953**	**48.7514**	**2,491.6545**	**202,969.1301**	**205,460.7846**	**144.9270**	**0.8490**	**208,767.4283**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.76**	**1.81**	**0.31**	**0.47**	**0.00**	**4.59**	**0.09**	**0.00**	**4.90**	**0.31**	**1.54**	**3.90**	**3.87**	**0.32**	**17.69**	**3.84**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	51.0511	100.9843	518.8641	2.4401	171.4780	2.6961	174.1740	45.8560	2.4904	48.3465	0.0000	154,614.5610	154,614.5610	4.2751	0.0000	154,704.3388
Unmitigated	51.0511	100.9843	518.8641	2.4401	171.4780	2.6961	174.1740	45.8560	2.4904	48.3465	0.0000	154,614.5610	154,614.5610	4.2751	0.0000	154,704.3388

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	5,866.90	5,866.90	5866.90	15,589,522	15,589,522
Elementary School	2,448.00	0.00	0.00	4,646,304	4,646,304
General Light Industry	8,415.01	1,592.71	821.44	16,888,099	16,888,099
General Office Building	39,711.50	8,849.06	3769.04	80,162,262	80,162,262
Government Office Building	542.08	0.00	0.00	1,028,867	1,028,867
Health Club	987.90	626.10	801.90	2,417,103	2,417,103
High School	3,311.50	1,184.00	481.00	6,917,261	6,917,261
High Turnover (Sit Down Restaurant)	2,289.06	2,851.02	2373.48	6,327,856	6,327,856
Hotel	4,115.00	4,125.00	2995.00	10,513,022	10,513,022
Junior College (2Yr)	13,167.79	5,379.00	580.93	27,254,859	27,254,859
Movie Theater (No Matinee)	7,560.00	7,560.00	7560.00	20,088,432	20,088,432
Office Park	20,859.38	3,000.00	1382.81	41,254,809	41,254,809
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	57,774.02	67,610.51	34147.28	148,282,344	148,282,344
Supermarket	22,582.94	39,226.39	36764.38	71,708,519	71,708,519
Total	189,631.08	147,870.68	97,544.15	453,079,260	453,079,260

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Elementary School	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
General Light Industry	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
General Office Building	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Government Office Building	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Health Club	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
High School	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
High Turnover (Sit Down	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Hotel	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Junior College (2Yr)	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Movie Theater (No Matinee)	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Office Park	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Supermarket	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	39,736.7870	39,736.7870	1.8266	0.3779	39,892.2977
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	45,167.9449	45,167.9449	2.0762	0.4296	45,344.7105
NaturalGas Mitigated	0.5848	5.3165	4.4659	0.0319		0.4041	0.4041		0.4041	0.4041	0.0000	5,787.6629	5,787.6629	0.1109	0.1061	5,822.8856
NaturalGas Unmitigated	0.8007	7.2792	6.1146	0.0437		0.5532	0.5532		0.5532	0.5532	0.0000	7,924.3334	7,924.3334	0.1519	0.1453	7,972.5596

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.35694e+007	0.0732	0.6652	0.5587	3.9900e-003		0.0506	0.0506		0.0506	0.0506	0.0000	724.1128	724.1128	0.0139	0.0133	728.5197
General Office Building	2.61921e+007	0.1412	1.2839	1.0785	7.7000e-003		0.0976	0.0976		0.0976	0.0976	0.0000	1,397.7109	1,397.7109	0.0268	0.0256	1,406.2171
Government Office Building	391752	2.1100e-003	0.0192	0.0161	1.2000e-004		1.4600e-003	1.4600e-003		1.4600e-003	1.4600e-003	0.0000	20.9054	20.9054	4.0000e-004	3.8000e-004	21.0326
Health Club	649200	3.5000e-003	0.0318	0.0267	1.9000e-004		2.4200e-003	2.4200e-003		2.4200e-003	2.4200e-003	0.0000	34.6438	34.6438	6.6000e-004	6.4000e-004	34.8546
High School	3.0457e+006	0.0164	0.1493	0.1254	9.0000e-004		0.0114	0.0114		0.0114	0.0114	0.0000	162.5300	162.5300	3.1200e-003	2.9800e-003	163.5191
High Turnover (Sit Down Restaurant)	4.74174e+006	0.0256	0.2324	0.1953	1.3900e-003		0.0177	0.0177		0.0177	0.0177	0.0000	253.0373	253.0373	4.8500e-003	4.6400e-003	254.5773

Hotel	2.5969e+007	0.1400	1.2730	1.0693	7.6400e-003		0.0968	0.0968		0.0968	0.0968	0.0000	1,385.8058	1,385.8058	0.0266	0.0254	1,394.2396
Junior College (2Yr)	3.41244e+007	0.1840	1.6728	1.4051	0.0100		0.1271	0.1271		0.1271	0.1271	0.0000	1,821.0067	1,821.0067	0.0349	0.0334	1,832.0890
Movie Theater (No Matinee)	2.19105e+006	0.0118	0.1074	0.0902	6.4000e-004		8.1600e-003	8.1600e-003		8.1600e-003	8.1600e-003	0.0000	116.9228	116.9228	2.2400e-003	2.1400e-003	117.6343
Office Park	2.79609e+007	0.1508	1.3706	1.1513	8.2200e-003		0.1042	0.1042		0.1042	0.1042	0.0000	1,492.1021	1,492.1021	0.0286	0.0274	1,501.1828
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	2.80456e+006	0.0151	0.1375	0.1155	8.2000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	149.6622	149.6622	2.8700e-003	2.7400e-003	150.5730
Supermarket	4.36655e+006	0.0236	0.2141	0.1798	1.2800e-003		0.0163	0.0163		0.0163	0.0163	0.0000	233.0156	233.0156	4.4700e-003	4.2700e-003	234.4337
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	2.49004e+006	0.0134	0.1221	0.1025	7.3000e-004		9.2800e-003	9.2800e-003		9.2800e-003	9.2800e-003	0.0000	132.8782	132.8782	2.5500e-003	2.4400e-003	133.6868
Total		**0.8007**	**7.2792**	**6.1146**	**0.0437**		**0.5532**	**0.5532**		**0.5532**	**0.5532**	**0.0000**	**7,924.3334**	**7,924.3334**	**0.1519**	**0.1453**	**7,972.5596**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.04183e+007	0.0562	0.5107	0.4290	3.0600e-003		0.0388	0.0388		0.0388	0.0388	0.0000	555.9607	555.9607	0.0107	0.0102	559.3442
General Office Building	1.77975e+007	0.0960	0.8724	0.7328	5.2300e-003		0.0663	0.0663		0.0663	0.0663	0.0000	949.7438	949.7438	0.0182	0.0174	955.5238
Government Office Building	266195	1.4400e-003	0.0131	0.0110	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.2052	14.2052	2.7000e-004	2.6000e-004	14.2916
Health Club	498444	2.6900e-003	0.0244	0.0205	1.5000e-004		1.8600e-003	1.8600e-003		1.8600e-003	1.8600e-003	0.0000	26.5989	26.5989	5.1000e-004	4.9000e-004	26.7608

High School	2.09611e+006	0.0113	0.1028	0.0863	6.2000e-004		7.8100e-003	7.8100e-003		7.8100e-003	7.8100e-003	0.0000	111.8563	111.8563	2.1400e-003	2.0500e-003	112.5370
High Turnover (Sit Down Restaurant)	4.2358e+006	0.0228	0.2076	0.1744	1.2500e-003		0.0158	0.0158		0.0158	0.0158	0.0000	226.0384	226.0384	4.3300e-003	4.1400e-003	227.4140
Hotel	1.84108e+007	0.0993	0.9025	0.7581	5.4100e-003		0.0686	0.0686		0.0686	0.0686	0.0000	982.4693	982.4693	0.0188	0.0180	988.4484
Junior College (2Yr)	2.63334e+007	0.1420	1.2909	1.0843	7.7500e-003		0.0981	0.0981		0.0981	0.0981	0.0000	1,405.2522	1,405.2522	0.0269	0.0258	1,413.8044
Movie Theater (No Matinee)	1.68225e+006	9.0700e-003	0.0825	0.0693	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7712	89.7712	1.7200e-003	1.6500e-003	90.3175
Office Park	1.90359e+007	0.1026	0.9331	0.7838	5.6000e-003		0.0709	0.0709		0.0709	0.0709	0.0000	1,015.8301	1,015.8301	0.0195	0.0186	1,022.0123
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	2.33942e+006	0.0126	0.1147	0.0963	6.9000e-004		8.7200e-003	8.7200e-003		8.7200e-003	8.7200e-003	0.0000	124.8402	124.8402	2.3900e-003	2.2900e-003	125.6000
Supermarket	3.62881e+006	0.0196	0.1779	0.1494	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.6473	193.6473	3.7100e-003	3.5500e-003	194.8258
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	1.7137e+006	9.2400e-003	0.0840	0.0706	5.0000e-004		6.3800e-003	6.3800e-003		6.3800e-003	6.3800e-003	0.0000	91.4493	91.4493	1.7500e-003	1.6800e-003	92.0059
Total		**0.5848**	**5.3165**	**4.4659**	**0.0319**		**0.4041**	**0.4041**		**0.4041**	**0.4041**	**0.0000**	**5,787.6629**	**5,787.6629**	**0.1109**	**0.1061**	**5,822.8856**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	1.38648e+006	396.7642	0.0182	3.7700e-003	398.3169

General Light Industry	5.79394e+006	1,658.0344	0.0762	0.0158	1,664.5231
General Office Building	4.26612e+007	12,208.2195	0.5612	0.1161	12,255.9966
Government Office Building	638077	182.5965	8.3900e-003	1.7400e-003	183.3111
Health Club	277200	79.3255	3.6500e-003	7.5000e-004	79.6359
High School	1.69587e+006	485.3023	0.0223	4.6200e-003	487.2016
High Turnover (Sit Down Restaurant)	707940	202.5890	9.3100e-003	1.9300e-003	203.3818
Hotel	7.32534e+006	2,096.2698	0.0964	0.0199	2,104.4736
Junior College (2Yr)	3.023e+007	8,650.8194	0.3977	0.0823	8,684.6745
Movie Theater (No Matinee)	935550	267.7234	0.0123	2.5500e-003	268.7712
Office Park	4.02422e+007	11,515.9817	0.5294	0.1095	11,561.0497
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.75114e+007	5,011.1898	0.2304	0.0477	5,030.8011
Supermarket	8.4326e+006	2,413.1297	0.1109	0.0230	2,422.5735
Total		**45,167.9449**	**2.0762**	**0.4296**	**45,344.7105**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	1.22889e+006	351.6674	0.0162	3.3400e-003	353.0437
General Light Industry	5.36968e+006	1,536.6246	0.0706	0.0146	1,542.6382
General Office Building	3.73124e+007	10,677.5807	0.4908	0.1016	10,719.3676
Government Office Building	558076	159.7030	7.3400e-003	1.5200e-003	160.3280
Health Club	256902	73.5169	3.3800e-003	7.0000e-004	73.8046
High School	1.50312e+006	430.1422	0.0198	4.0900e-003	431.8256
High Turnover (Sit Down Restaurant)	642823	183.9547	8.4600e-003	1.7500e-003	184.6746
Hotel	6.48855e+006	1,856.8089	0.0854	0.0177	1,864.0755
Junior College (2Yr)	2.57676e+007	7,373.8230	0.3390	0.0701	7,402.6806
Movie Theater (No Matinee)	867044	248.1194	0.0114	2.3600e-003	249.0904
Office Park	3.49908e+007	10,013.2031	0.4603	0.0952	10,052.3899
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.58462e+007	4,534.6569	0.2084	0.0431	4,552.4034
Supermarket	8.02674e+006	2,296.9863	0.1056	0.0219	2,305.9756
Total		**39,736.7870**	**1.8266**	**0.3779**	**39,892.2977**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	44.0176	2.1900e-003	0.2443	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	0.4778	0.4778	1.2300e-003	0.0000	0.5036
Unmitigated	49.6445	2.1900e-003	0.2443	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	0.4778	0.4778	1.2300e-003	0.0000	0.5036

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	10.6285					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	38.9936					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0223	2.1900e-003	0.2443	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	0.4778	0.4778	1.2300e-003	0.0000	0.5036
Total	**49.6445**	**2.1900e-003**	**0.2443**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**0.4778**	**0.4778**	**1.2300e-003**	**0.0000**	**0.5036**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.0017					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	38.9936					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0223	2.1900e-003	0.2443	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	0.4778	0.4778	1.2300e-003	0.0000	0.5036
Total	**44.0176**	**2.1900e-003**	**0.2443**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**0.4778**	**0.4778**	**1.2300e-003**	**0.0000**	**0.5036**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2,985.3572	0.6631	0.3649	3,112.4133
Unmitigated	3,691.7007	0.8307	0.4566	3,850.6748

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	67.61 / 32.5113	379.2114	0.0987	0.0554	398.4568
Elementary School	67.61 / 32.5113	379.2114	0.0987	0.0554	398.4568
General Light Industry	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
General Office Building	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Government Office Building	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Health Club	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
High School	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
High Turnover (Sit Down Restaurant)	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Hotel	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Junior College (2Yr)	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Movie Theater (No Matinee)	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Office Park	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000

Regional Shopping Center	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Supermarket	34.5776 / 32.5113	244.4398	0.0528	0.0288	254.4801
Total		**3,691.7007**	**0.8307**	**0.4565**	**3,850.6748**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	54.088 / 26.7279	305.6546	0.0787	0.0443	321.0293
Elementary School	54.088 / 26.7279	305.6546	0.0787	0.0443	321.0293
General Light Industry	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
General Office Building	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
Government Office Building	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
Health Club	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
High School	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
High Turnover (Sit Down Restaurant)	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
Hotel	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
Junior College (2Yr)	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
Movie Theater (No Matinee)	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629

Office Park	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
Supermarket	27.6621 / 26.7279	197.8373	0.0422	0.0230	205.8629
Total		**2,985.3572**	**0.6632**	**0.3649**	**3,112.4133**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	2,335.9388	138.0500	0.0000	5,234.9894
Mitigated	2,335.9388	138.0500	0.0000	5,234.9894

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
City Park	885.2	179.6876	10.6192	0.0000	402.6915
Elementary School	885.2	179.6876	10.6192	0.0000	402.6915
General Light Industry	885.2	179.6876	10.6192	0.0000	402.6915
General Office Building	885.2	179.6876	10.6192	0.0000	402.6915
Government Office Building	885.2	179.6876	10.6192	0.0000	402.6915
Health Club	885.2	179.6876	10.6192	0.0000	402.6915
High School	885.2	179.6876	10.6192	0.0000	402.6915
High Turnover (Sit Down Restaurant)	885.2	179.6876	10.6192	0.0000	402.6915
Hotel	885.2	179.6876	10.6192	0.0000	402.6915
Junior College (2Yr)	885.2	179.6876	10.6192	0.0000	402.6915
Office Park	885.2	179.6876	10.6192	0.0000	402.6915
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	885.2	179.6876	10.6192	0.0000	402.6915
Supermarket	885.2	179.6876	10.6192	0.0000	402.6915
Total		**2,335.9388**	**138.0500**	**0.0000**	**5,234.9894**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	885.2	179.6876	10.6192	0.0000	402.6915
Elementary School	885.2	179.6876	10.6192	0.0000	402.6915
General Light Industry	885.2	179.6876	10.6192	0.0000	402.6915
General Office Building	885.2	179.6876	10.6192	0.0000	402.6915
Government Office Building	885.2	179.6876	10.6192	0.0000	402.6915
Health Club	885.2	179.6876	10.6192	0.0000	402.6915
High School	885.2	179.6876	10.6192	0.0000	402.6915
High Turnover (Sit Down Restaurant)	885.2	179.6876	10.6192	0.0000	402.6915
Hotel	885.2	179.6876	10.6192	0.0000	402.6915
Junior College (2Yr)	885.2	179.6876	10.6192	0.0000	402.6915
Office Park	885.2	179.6876	10.6192	0.0000	402.6915
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	885.2	179.6876	10.6192	0.0000	402.6915
Supermarket	885.2	179.6876	10.6192	0.0000	402.6915
Total		**2,335.9388**	**138.0500**	**0.0000**	**5,234.9894**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Current SP Non-Residential

Orange County, Mitigation Report

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	52.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.02	12.02	12.02	12.02	12.02
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	26.96	26.96	26.96	26.94	26.97	26.97	0.00	26.96	26.96	26.98	26.97	26.96
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	19.09	19.13	20.18	20.07	19.17
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.28	0.61		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			

	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	100.00
Yes	Use Low VOC Paint (Non-residential Interior)	100.00
Yes	Use Low VOC Paint (Non-residential Exterior)	100.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	34.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	0.00	100.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services	
Percent Reduction in Waste Disposed	

Current SP_Residential

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	1,641.00	Dwelling Unit	138.80	1,641,000.00	0
Apartments Mid Rise	2,054.00	Dwelling Unit	122.76	2,054,000.00	0
Condo/Townhouse	1,033.00	Dwelling Unit	93.61	1,033,000.00	0
Congregate Care (Assisted Living)	159.00	Dwelling Unit	54.75	158,990.00	0
Retirement Community	240.00	Dwelling Unit	23.67	240,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and land use amounts.

Vehicle Trips - Based on information provided by Stantec.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices)

Energy Mitigation -

Water Mitigation -

Construction Phase -

Water And Wastewater - Based on the Marine Corps Air Station (MCAS) Tustin/Legacy Park Revised Sub-Area Master Plan (April 2008) prepared by RBF Consulting

Solid Waste - *Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	1,394.85	1,641.00
tblFireplaces	NumberGas	1,745.90	2,054.00
tblFireplaces	NumberGas	878.05	1,033.00
tblFireplaces	NumberGas	135.15	159.00
tblFireplaces	NumberGas	204.00	240.00
tblFireplaces	NumberNoFireplace	164.10	0.00
tblFireplaces	NumberNoFireplace	205.40	0.00
tblFireplaces	NumberNoFireplace	103.30	0.00
tblFireplaces	NumberNoFireplace	15.90	0.00
tblFireplaces	NumberNoFireplace	24.00	0.00
tblFireplaces	NumberWood	82.05	0.00
tblFireplaces	NumberWood	102.70	0.00
tblFireplaces	NumberWood	51.65	0.00
tblFireplaces	NumberWood	7.95	0.00
tblFireplaces	NumberWood	12.00	0.00
tblLandUse	LandUseSquareFeet	159,000.00	158,990.00
tblLandUse	LotAcreage	102.56	138.80
tblLandUse	LotAcreage	54.05	122.76
tblLandUse	LotAcreage	64.56	93.61
tblLandUse	LotAcreage	9.94	54.75
tblLandUse	LotAcreage	48.00	23.67

tblLandUse	Population	4,693.00	0.00
tblLandUse	Population	5,874.00	0.00
tblLandUse	Population	2,954.00	0.00
tblLandUse	Population	455.00	0.00
tblLandUse	Population	686.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	754.86	885.20
tblSolidWaste	SolidWasteGenerationRate	944.84	885.20
tblSolidWaste	SolidWasteGenerationRate	475.18	885.20
tblSolidWaste	SolidWasteGenerationRate	145.09	885.20
tblSolidWaste	SolidWasteGenerationRate	110.40	885.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00

tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00

tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	8.30
tblVehicleTrips	ST_TR	7.16	7.20
tblVehicleTrips	ST_TR	7.16	9.34
tblVehicleTrips	ST_TR	2.20	4.90
tblVehicleTrips	ST_TR	2.81	2.94
tblVehicleTrips	SU_TR	6.07	7.04
tblVehicleTrips	SU_TR	6.07	6.11
tblVehicleTrips	SU_TR	6.07	7.97
tblVehicleTrips	SU_TR	2.44	5.43
tblVehicleTrips	SU_TR	2.81	2.82
tblVehicleTrips	WD_TR	6.59	7.64
tblVehicleTrips	WD_TR	6.59	6.63
tblVehicleTrips	WD_TR	6.59	9.57
tblVehicleTrips	WD_TR	2.74	6.10
tblVehicleTrips	WD_TR	2.81	3.47
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	IndoorWaterUseRate	106,917,756.04	67,610,045.00
tblWater	IndoorWaterUseRate	133,826,368.63	67,610,045.00
tblWater	IndoorWaterUseRate	67,304,108.47	67,610,045.00
tblWater	IndoorWaterUseRate	10,359,490.07	32,511,318.42
tblWater	IndoorWaterUseRate	15,636,966.15	32,511,318.42
tblWater	OutdoorWaterUseRate	67,404,672.29	99,364,475.09
tblWater	OutdoorWaterUseRate	84,368,797.61	99,364,475.09
tblWater	OutdoorWaterUseRate	42,430,850.99	99,364,475.09
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	82.05	0.00
tblWoodstoves	NumberCatalytic	102.70	0.00
tblWoodstoves	NumberCatalytic	51.65	0.00
tblWoodstoves	NumberCatalytic	7.95	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	82.05	0.00
tblWoodstoves	NumberNoncatalytic	102.70	0.00
tblWoodstoves	NumberNoncatalytic	51.65	0.00
tblWoodstoves	NumberNoncatalytic	7.95	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	135.0560	4.8633	422.0401	0.0223		9.2219	9.2219		9.1495	9.1495	0.0000	109,333.3924	109,333.3924	2.8060	1.9905	110,009.3676
Energy	1.6926	14.4637	6.1548	0.0923		1.1694	1.1694		1.1694	1.1694		18,464.3441	18,464.3441	0.3539	0.3385	18,576.7150
Mobile	66.4159	122.0734	663.8316	3.2603	225.5432	3.4830	229.0262	60.2267	3.2174	63.4440		227,225.7995	227,225.7995	6.0923		227,353.7372
Total	**203.1645**	**141.4004**	**1,092.0265**	**3.3749**	**225.5432**	**13.8743**	**239.4175**	**60.2267**	**13.5363**	**73.7630**	**0.0000**	**355,023.5359**	**355,023.5359**	**9.2522**	**2.3290**	**355,939.8198**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	135.0560	4.8633	422.0401	0.0223		9.2219	9.2219		9.1495	9.1495	0.0000	109,333.3924	109,333.3924	2.8060	1.9905	110,009.3676
Energy	1.0707	9.1500	3.8936	0.0584		0.7398	0.7398		0.7398	0.7398		11,680.8408	11,680.8408	0.2239	0.2142	11,751.9284
Mobile	66.4159	122.0734	663.8316	3.2603	225.5432	3.4830	229.0262	60.2267	3.2174	63.4440		227,225.7995	227,225.7995	6.0923		227,353.7372
Total	**202.5427**	**136.0867**	**1,089.7653**	**3.3410**	**225.5432**	**13.4447**	**238.9879**	**60.2267**	**13.1067**	**73.3333**	**0.0000**	**348,240.0326**	**348,240.0326**	**9.1221**	**2.2046**	**349,115.0332**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**0.31**	**3.76**	**0.21**	**1.01**	**0.00**	**3.10**	**0.18**	**0.00**	**3.17**	**0.58**	**0.00**	**1.91**	**1.91**	**1.41**	**5.34**	**1.92**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	66.4159	122.0734	663.8316	3.2603	225.5432	3.4830	229.0262	60.2267	3.2174	63.4440		227,225.7995	227,225.7995	6.0923		227,353.7372
Mitigated	66.4159	122.0734	663.8316	3.2603	225.5432	3.4830	229.0262	60.2267	3.2174	63.4440		227,225.7995	227,225.7995	6.0923		227,353.7372

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	12,537.24	13,620.30	11552.64	33,351,330	33,351,330
Apartments Mid Rise	13,618.02	14,788.80	12549.94	36,224,788	36,224,788
Condo/Townhouse	9,885.81	9,648.22	8233.01	25,550,982	25,550,982
Congregate Care (Assisted Living)	969.90	779.10	863.37	2,464,352	2,464,352
Retirement Community	832.80	705.60	676.80	2,105,413	2,105,413
Total	37,843.77	39,542.02	33,875.76	99,696,865	99,696,865

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

Apartments Low Rise	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Condo/Townhouse	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Congregate Care (Assisted [illegible])	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Retirement Community	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0707	9.1500	3.8936	0.0584		0.7398	0.7398		0.7398	0.7398		11,680.8408	11,680.8408	0.2239	0.2142	11,751.9284
NaturalGas Unmitigated	1.6926	14.4637	6.1548	0.0923		1.1694	1.1694		1.1694	1.1694		18,464.3441	18,464.3441	0.3539	0.3385	18,576.7150

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	48473.3	0.5228	4.4671	1.9009	0.0285		0.3612	0.3612		0.3612	0.3612		5,702.7382	5,702.7382	0.1093	0.1046	5,737.4441
Condo/Townhouse	44787.4	0.4830	4.1275	1.7564	0.0264		0.3337	0.3337		0.3337	0.3337		5,269.1058	5,269.1058	0.1010	0.0966	5,301.1727
Congregate Care (Assisted Living)	3752.31	0.0405	0.3458	0.1472	2.2100e-003		0.0280	0.0280		0.0280	0.0280		441.4486	441.4486	8.4600e-003	8.0900e-003	444.1352
Retirement Community	10405.6	0.1122	0.9590	0.4081	6.1200e-003		0.0775	0.0775		0.0775	0.0775		1,224.1872	1,224.1872	0.0235	0.0224	1,231.6374
Apartments Low Rise	49528.3	0.5341	4.5644	1.9423	0.0291		0.3690	0.3690		0.3690	0.3690		5,826.8644	5,826.8644	0.1117	0.1068	5,862.3257
Total		**1.6926**	**14.4637**	**6.1548**	**0.0923**		**1.1694**	**1.1694**		**1.1694**	**1.1694**		**18,464.3441**	**18,464.3441**	**0.3539**	**0.3385**	**18,576.7150**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	28.027	0.3023	2.5829	1.0991	0.0165		0.2088	0.2088		0.2088	0.2088		3,297.2933	3,297.2933	0.0632	0.0605	3,317.3601
Congregate Care (Assisted Living)	2.35929	0.0254	0.2174	0.0925	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.5631	277.5631	5.3200e-003	5.0900e-003	279.2523
Retirement Community	6.5116	0.0702	0.6001	0.2554	3.8300e-003		0.0485	0.0485		0.0485	0.0485		766.0701	766.0701	0.0147	0.0140	770.7323
Apartments Low Rise	31.9114	0.3441	2.9409	1.2514	0.0188		0.2378	0.2378		0.2378	0.2378		3,754.2877	3,754.2877	0.0720	0.0688	3,777.1357
Apartments Mid Rise	30.4778	0.3287	2.8087	1.1952	0.0179		0.2271	0.2271		0.2271	0.2271		3,585.6266	3,585.6266	0.0687	0.0657	3,607.4481

Total		**1.0707**	**9.1500**	**3.8936**	**0.0584**		**0.7398**	**0.7398**		**0.7398**	**0.7398**		**11,680.8408**	**11,680.8408**	**0.2239**	**0.2142**	**11,751.9284**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	135.0560	4.8633	422.0401	0.0223		9.2219	9.2219		9.1495	9.1495	0.0000	109,333.3924	109,333.3924	2.8060	1.9905	110,009.3676
Mitigated	135.0560	4.8633	422.0401	0.0223		9.2219	9.2219		9.1495	9.1495	0.0000	109,333.3924	109,333.3924	2.8060	1.9905	110,009.3676

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	10.9866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	101.5144					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	9.9524	4.5000e-004	0.5429	0.0000		6.8762	6.8762		6.8038	6.8038	0.0000	108,571.7647	108,571.7647	2.0810	1.9905	109,232.5144

Landscaping	12.6026	4.8629	421.4972	0.0223		2.3457	2.3457		2.3457	2.3457		761.6276	761.6276	0.7250		776.8532
Total	**135.0560**	**4.8633**	**422.0401**	**0.0223**		**9.2219**	**9.2219**		**9.1495**	**9.1495**	**0.0000**	**109,333.3924**	**109,333.3924**	**2.8060**	**1.9905**	**110,009.3676**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	10.9866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	101.5144					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	9.9524	4.5000e-004	0.5429	0.0000		6.8762	6.8762		6.8038	6.8038	0.0000	108,571.7647	108,571.7647	2.0810	1.9905	109,232.5144
Landscaping	12.6026	4.8629	421.4972	0.0223		2.3457	2.3457		2.3457	2.3457		761.6276	761.6276	0.7250		776.8532
Total	**135.0560**	**4.8633**	**422.0401**	**0.0223**		**9.2219**	**9.2219**		**9.1495**	**9.1495**	**0.0000**	**109,333.3924**	**109,333.3924**	**2.8060**	**1.9905**	**110,009.3676**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Current SP_Residential

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	1,641.00	Dwelling Unit	138.80	1,641,000.00	0
Apartments Mid Rise	2,054.00	Dwelling Unit	122.76	2,054,000.00	0
Condo/Townhouse	1,033.00	Dwelling Unit	93.61	1,033,000.00	0
Congregate Care (Assisted Living)	159.00	Dwelling Unit	54.75	158,990.00	0
Retirement Community	240.00	Dwelling Unit	23.67	240,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and land use amounts.

Vehicle Trips - Based on information provided by Stantec.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices)

Energy Mitigation -

Water Mitigation -

Construction Phase -

Water And Wastewater - Based on the Marine Corps Air Station (MCAS) Tustin/Legacy Park Revised Sub-Area Master Plan (April 2008) prepared by RBF Consulting

Solid Waste - *Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	1,394.85	1,641.00
tblFireplaces	NumberGas	1,745.90	2,054.00
tblFireplaces	NumberGas	878.05	1,033.00
tblFireplaces	NumberGas	135.15	159.00
tblFireplaces	NumberGas	204.00	240.00
tblFireplaces	NumberNoFireplace	164.10	0.00
tblFireplaces	NumberNoFireplace	205.40	0.00
tblFireplaces	NumberNoFireplace	103.30	0.00
tblFireplaces	NumberNoFireplace	15.90	0.00
tblFireplaces	NumberNoFireplace	24.00	0.00
tblFireplaces	NumberWood	82.05	0.00
tblFireplaces	NumberWood	102.70	0.00
tblFireplaces	NumberWood	51.65	0.00
tblFireplaces	NumberWood	7.95	0.00
tblFireplaces	NumberWood	12.00	0.00
tblLandUse	LandUseSquareFeet	159,000.00	158,990.00
tblLandUse	LotAcreage	102.56	138.80
tblLandUse	LotAcreage	54.05	122.76
tblLandUse	LotAcreage	64.56	93.61
tblLandUse	LotAcreage	9.94	54.75
tblLandUse	LotAcreage	48.00	23.67

tblLandUse	Population	4,693.00	0.00
tblLandUse	Population	5,874.00	0.00
tblLandUse	Population	2,954.00	0.00
tblLandUse	Population	455.00	0.00
tblLandUse	Population	686.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	754.86	885.20
tblSolidWaste	SolidWasteGenerationRate	944.84	885.20
tblSolidWaste	SolidWasteGenerationRate	475.18	885.20
tblSolidWaste	SolidWasteGenerationRate	145.09	885.20
tblSolidWaste	SolidWasteGenerationRate	110.40	885.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00

tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00

tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	8.30
tblVehicleTrips	ST_TR	7.16	7.20
tblVehicleTrips	ST_TR	7.16	9.34
tblVehicleTrips	ST_TR	2.20	4.90
tblVehicleTrips	ST_TR	2.81	2.94
tblVehicleTrips	SU_TR	6.07	7.04
tblVehicleTrips	SU_TR	6.07	6.11
tblVehicleTrips	SU_TR	6.07	7.97
tblVehicleTrips	SU_TR	2.44	5.43
tblVehicleTrips	SU_TR	2.81	2.82
tblVehicleTrips	WD_TR	6.59	7.64
tblVehicleTrips	WD_TR	6.59	6.63
tblVehicleTrips	WD_TR	6.59	9.57
tblVehicleTrips	WD_TR	2.74	6.10
tblVehicleTrips	WD_TR	2.81	3.47
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	IndoorWaterUseRate	106,917,756.04	67,610,045.00
tblWater	IndoorWaterUseRate	133,826,368.63	67,610,045.00
tblWater	IndoorWaterUseRate	67,304,108.47	67,610,045.00
tblWater	IndoorWaterUseRate	10,359,490.07	32,511,318.42
tblWater	IndoorWaterUseRate	15,636,966.15	32,511,318.42
tblWater	OutdoorWaterUseRate	67,404,672.29	99,364,475.09
tblWater	OutdoorWaterUseRate	84,368,797.61	99,364,475.09
tblWater	OutdoorWaterUseRate	42,430,850.99	99,364,475.09
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	82.05	0.00
tblWoodstoves	NumberCatalytic	102.70	0.00
tblWoodstoves	NumberCatalytic	51.65	0.00
tblWoodstoves	NumberCatalytic	7.95	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	82.05	0.00
tblWoodstoves	NumberNoncatalytic	102.70	0.00
tblWoodstoves	NumberNoncatalytic	51.65	0.00
tblWoodstoves	NumberNoncatalytic	7.95	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	135.0560	4.8633	422.0401	0.0223		9.2219	9.2219		9.1495	9.1495	0.0000	109,333.3924	109,333.3924	2.8060	1.9905	110,009.3676
Energy	1.6926	14.4637	6.1548	0.0923		1.1694	1.1694		1.1694	1.1694		18,464.3441	18,464.3441	0.3539	0.3385	18,576.7150
Mobile	70.1427	127.9941	670.4016	3.1166	225.5432	3.4942	229.0375	60.2267	3.2277	63.4544		217,871.2830	217,871.2830	6.1019		217,999.4233
Total	**206.8913**	**147.3211**	**1,098.5965**	**3.2312**	**225.5432**	**13.8855**	**239.4288**	**60.2267**	**13.5466**	**73.7733**	**0.0000**	**345,669.0194**	**345,669.0194**	**9.2618**	**2.3290**	**346,585.5058**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	135.0560	4.8633	422.0401	0.0223		9.2219	9.2219		9.1495	9.1495	0.0000	109,333.3924	109,333.3924	2.8060	1.9905	110,009.3676
Energy	1.0707	9.1500	3.8936	0.0584		0.7398	0.7398		0.7398	0.7398		11,680.8408	11,680.8408	0.2239	0.2142	11,751.9284
Mobile	70.1427	127.9941	670.4016	3.1166	225.5432	3.4942	229.0375	60.2267	3.2277	63.4544		217,871.2830	217,871.2830	6.1019		217,999.4233
Total	**206.2695**	**142.0074**	**1,096.3353**	**3.1973**	**225.5432**	**13.4559**	**238.9991**	**60.2267**	**13.1170**	**73.3437**	**0.0000**	**338,885.5161**	**338,885.5161**	**9.1318**	**2.2046**	**339,760.7193**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**0.30**	**3.61**	**0.21**	**1.05**	**0.00**	**3.09**	**0.18**	**0.00**	**3.17**	**0.58**	**0.00**	**1.96**	**1.96**	**1.40**	**5.34**	**1.97**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	70.1427	127.9941	670.4016	3.1166	225.5432	3.4942	229.0375	60.2267	3.2277	63.4544		217,871.2830	217,871.2830	6.1019		217,999.4233
Mitigated	70.1427	127.9941	670.4016	3.1166	225.5432	3.4942	229.0375	60.2267	3.2277	63.4544		217,871.2830	217,871.2830	6.1019		217,999.4233

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	12,537.24	13,620.30	11552.64	33,351,330	33,351,330
Apartments Mid Rise	13,618.02	14,788.80	12549.94	36,224,788	36,224,788
Condo/Townhouse	9,885.81	9,648.22	8233.01	25,550,982	25,550,982
Congregate Care (Assisted Living)	969.90	779.10	863.37	2,464,352	2,464,352
Retirement Community	832.80	705.60	676.80	2,105,413	2,105,413
Total	37,843.77	39,542.02	33,875.76	99,696,865	99,696,865

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

Apartments Low Rise	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Condo/Townhouse	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Congregate Care (Assisted [illegible])	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Retirement Community	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0707	9.1500	3.8936	0.0584		0.7398	0.7398		0.7398	0.7398		11,680.8408	11,680.8408	0.2239	0.2142	11,751.9284
NaturalGas Unmitigated	1.6926	14.4637	6.1548	0.0923		1.1694	1.1694		1.1694	1.1694		18,464.3441	18,464.3441	0.3539	0.3385	18,576.7150

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	48473.3	0.5228	4.4671	1.9009	0.0285		0.3612	0.3612		0.3612	0.3612		5,702.7382	5,702.7382	0.1093	0.1046	5,737.4441
Condo/Townhouse	44787.4	0.4830	4.1275	1.7564	0.0264		0.3337	0.3337		0.3337	0.3337		5,269.1058	5,269.1058	0.1010	0.0966	5,301.1727
Congregate Care (Assisted Living)	3752.31	0.0405	0.3458	0.1472	2.2100e-003		0.0280	0.0280		0.0280	0.0280		441.4486	441.4486	8.4600e-003	8.0900e-003	444.1352
Retirement Community	10405.6	0.1122	0.9590	0.4081	6.1200e-003		0.0775	0.0775		0.0775	0.0775		1,224.1872	1,224.1872	0.0235	0.0224	1,231.6374
Apartments Low Rise	49528.3	0.5341	4.5644	1.9423	0.0291		0.3690	0.3690		0.3690	0.3690		5,826.8644	5,826.8644	0.1117	0.1068	5,862.3257
Total		**1.6926**	**14.4637**	**6.1548**	**0.0923**		**1.1694**	**1.1694**		**1.1694**	**1.1694**		**18,464.3441**	**18,464.3441**	**0.3539**	**0.3385**	**18,576.7150**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	28.027	0.3023	2.5829	1.0991	0.0165		0.2088	0.2088		0.2088	0.2088		3,297.2933	3,297.2933	0.0632	0.0605	3,317.3601
Congregate Care (Assisted Living)	2.35929	0.0254	0.2174	0.0925	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.5631	277.5631	5.3200e-003	5.0900e-003	279.2523
Retirement Community	6.5116	0.0702	0.6001	0.2554	3.8300e-003		0.0485	0.0485		0.0485	0.0485		766.0701	766.0701	0.0147	0.0140	770.7323
Apartments Low Rise	31.9114	0.3441	2.9409	1.2514	0.0188		0.2378	0.2378		0.2378	0.2378		3,754.2877	3,754.2877	0.0720	0.0688	3,777.1357
Apartments Mid Rise	30.4778	0.3287	2.8087	1.1952	0.0179		0.2271	0.2271		0.2271	0.2271		3,585.6266	3,585.6266	0.0687	0.0657	3,607.4481

Total		**1.0707**	**9.1500**	**3.8936**	**0.0584**		**0.7398**	**0.7398**		**0.7398**	**0.7398**		**11,680.8408**	**11,680.8408**	**0.2239**	**0.2142**	**11,751.9284**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	135.0560	4.8633	422.0401	0.0223		9.2219	9.2219		9.1495	9.1495	0.0000	109,333.3924	109,333.3924	2.8060	1.9905	110,009.3676
Mitigated	135.0560	4.8633	422.0401	0.0223		9.2219	9.2219		9.1495	9.1495	0.0000	109,333.3924	109,333.3924	2.8060	1.9905	110,009.3676

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	10.9866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	101.5144					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	9.9524	4.5000e-004	0.5429	0.0000		6.8762	6.8762		6.8038	6.8038	0.0000	108,571.7647	108,571.7647	2.0810	1.9905	109,232.5144

Landscaping	12.6026	4.8629	421.4972	0.0223		2.3457	2.3457		2.3457	2.3457		761.6276	761.6276	0.7250		776.8532
Total	**135.0560**	**4.8633**	**422.0401**	**0.0223**		**9.2219**	**9.2219**		**9.1495**	**9.1495**	**0.0000**	**109,333.3924**	**109,333.3924**	**2.8060**	**1.9905**	**110,009.3676**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	10.9866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	101.5144					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	9.9524	4.5000e-004	0.5429	0.0000		6.8762	6.8762		6.8038	6.8038	0.0000	108,571.7647	108,571.7647	2.0810	1.9905	109,232.5144
Landscaping	12.6026	4.8629	421.4972	0.0223		2.3457	2.3457		2.3457	2.3457		761.6276	761.6276	0.7250		776.8532
Total	**135.0560**	**4.8633**	**422.0401**	**0.0223**		**9.2219**	**9.2219**		**9.1495**	**9.1495**	**0.0000**	**109,333.3924**	**109,333.3924**	**2.8060**	**1.9905**	**110,009.3676**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Current SP_Residential

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	1,641.00	Dwelling Unit	138.80	1,641,000.00	0
Apartments Mid Rise	2,054.00	Dwelling Unit	122.76	2,054,000.00	0
Condo/Townhouse	1,033.00	Dwelling Unit	93.61	1,033,000.00	0
Congregate Care (Assisted Living)	159.00	Dwelling Unit	54.75	158,990.00	0
Retirement Community	240.00	Dwelling Unit	23.67	240,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on total acreage and land use amounts.

Vehicle Trips - Based on information provided by Stantec.

Woodstoves - No woodstoves; 100% gas fireplaces (Rule 445: Woodburning Devices)

Energy Mitigation -

Water Mitigation -

Construction Phase -

Water And Wastewater - Based on the Marine Corps Air Station (MCAS) Tustin/Legacy Park Revised Sub-Area Master Plan (April 2008) prepared by RBF Consulting

Solid Waste - *Waste generation rates provided in Table 11 of Chapter 5.17, Utilities and Service Systmes, of the Initial Study.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	1,394.85	1,641.00
tblFireplaces	NumberGas	1,745.90	2,054.00
tblFireplaces	NumberGas	878.05	1,033.00
tblFireplaces	NumberGas	135.15	159.00
tblFireplaces	NumberGas	204.00	240.00
tblFireplaces	NumberNoFireplace	164.10	0.00
tblFireplaces	NumberNoFireplace	205.40	0.00
tblFireplaces	NumberNoFireplace	103.30	0.00
tblFireplaces	NumberNoFireplace	15.90	0.00
tblFireplaces	NumberNoFireplace	24.00	0.00
tblFireplaces	NumberWood	82.05	0.00
tblFireplaces	NumberWood	102.70	0.00
tblFireplaces	NumberWood	51.65	0.00
tblFireplaces	NumberWood	7.95	0.00
tblFireplaces	NumberWood	12.00	0.00
tblLandUse	LandUseSquareFeet	159,000.00	158,990.00
tblLandUse	LotAcreage	102.56	138.80
tblLandUse	LotAcreage	54.05	122.76
tblLandUse	LotAcreage	64.56	93.61
tblLandUse	LotAcreage	9.94	54.75
tblLandUse	LotAcreage	48.00	23.67

tblLandUse	Population	4,693.00	0.00
tblLandUse	Population	5,874.00	0.00
tblLandUse	Population	2,954.00	0.00
tblLandUse	Population	455.00	0.00
tblLandUse	Population	686.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSolidWaste	SolidWasteGenerationRate	754.86	885.20
tblSolidWaste	SolidWasteGenerationRate	944.84	885.20
tblSolidWaste	SolidWasteGenerationRate	475.18	885.20
tblSolidWaste	SolidWasteGenerationRate	145.09	885.20
tblSolidWaste	SolidWasteGenerationRate	110.40	885.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00

tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TL	14.70	7.30
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00

tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	8.30
tblVehicleTrips	ST_TR	7.16	7.20
tblVehicleTrips	ST_TR	7.16	9.34
tblVehicleTrips	ST_TR	2.20	4.90
tblVehicleTrips	ST_TR	2.81	2.94
tblVehicleTrips	SU_TR	6.07	7.04
tblVehicleTrips	SU_TR	6.07	6.11
tblVehicleTrips	SU_TR	6.07	7.97
tblVehicleTrips	SU_TR	2.44	5.43
tblVehicleTrips	SU_TR	2.81	2.82
tblVehicleTrips	WD_TR	6.59	7.64
tblVehicleTrips	WD_TR	6.59	6.63
tblVehicleTrips	WD_TR	6.59	9.57
tblVehicleTrips	WD_TR	2.74	6.10
tblVehicleTrips	WD_TR	2.81	3.47
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	IndoorWaterUseRate	106,917,756.04	67,610,045.00
tblWater	IndoorWaterUseRate	133,826,368.63	67,610,045.00
tblWater	IndoorWaterUseRate	67,304,108.47	67,610,045.00
tblWater	IndoorWaterUseRate	10,359,490.07	32,511,318.42
tblWater	IndoorWaterUseRate	15,636,966.15	32,511,318.42
tblWater	OutdoorWaterUseRate	67,404,672.29	99,364,475.09
tblWater	OutdoorWaterUseRate	84,368,797.61	99,364,475.09
tblWater	OutdoorWaterUseRate	42,430,850.99	99,364,475.09
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	82.05	0.00
tblWoodstoves	NumberCatalytic	102.70	0.00
tblWoodstoves	NumberCatalytic	51.65	0.00
tblWoodstoves	NumberCatalytic	7.95	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	82.05	0.00
tblWoodstoves	NumberNoncatalytic	102.70	0.00
tblWoodstoves	NumberNoncatalytic	51.65	0.00
tblWoodstoves	NumberNoncatalytic	7.95	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	22.2312	0.6079	52.6939	2.7900e-003		0.3792	0.3792		0.3783	0.3783	0.0000	1,317.5502	1,317.5502	0.1058	0.0226	1,326.7696
Energy	0.3089	2.6396	1.1233	0.0169		0.2134	0.2134		0.2134	0.2134	0.0000	8,526.4928	8,526.4928	0.3100	0.1081	8,566.5021
Mobile	11.2334	22.2209	114.1724	0.5369	37.7325	0.5933	38.3258	10.0903	0.5480	10.6383	0.0000	34,021.8331	34,021.8331	0.9407	0.0000	34,041.5881
Waste						0.0000	0.0000		0.0000	0.0000	898.4380	0.0000	898.4380	53.0962	0.0000	2,013.4575
Water						0.0000	0.0000		0.0000	0.0000	94.7667	1,997.9060	2,092.6728	0.4180	0.2251	2,171.2282
Total	**33.7735**	**25.4684**	**167.9895**	**0.5566**	**37.7325**	**1.1858**	**38.9183**	**10.0903**	**1.1397**	**11.2300**	**993.2047**	**45,863.7822**	**46,856.9869**	**54.8707**	**0.3557**	**48,119.5454**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	22.2312	0.6079	52.6939	2.7900e-003		0.3792	0.3792		0.3783	0.3783	0.0000	1,317.5502	1,317.5502	0.1058	0.0226	1,326.7696
Energy	0.1954	1.6699	0.7106	0.0107		0.1350	0.1350		0.1350	0.1350	0.0000	7,283.1427	7,283.1427	0.2830	0.0863	7,315.8464
Mobile	11.2334	22.2209	114.1724	0.5369	37.7325	0.5933	38.3258	10.0903	0.5480	10.6383	0.0000	34,021.8331	34,021.8331	0.9407	0.0000	34,041.5881
Waste						0.0000	0.0000		0.0000	0.0000	898.4380	0.0000	898.4380	53.0962	0.0000	2,013.4575

Water						0.0000	0.0000		0.0000	0.0000	75.8134	1,684.7108	1,760.5242	0.3370	0.1806	1,823.5857
Total	**33.6600**	**24.4986**	**167.5769**	**0.5504**	**37.7325**	**1.1074**	**38.8399**	**10.0903**	**1.0613**	**11.1516**	**974.2514**	**44,307.2369**	**45,281.4883**	**54.7626**	**0.2895**	**46,521.2472**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.34**	**3.81**	**0.25**	**1.11**	**0.00**	**6.61**	**0.20**	**0.00**	**6.88**	**0.70**	**1.91**	**3.39**	**3.36**	**0.20**	**18.62**	**3.32**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	11.2334	22.2209	114.1724	0.5369	37.7325	0.5933	38.3258	10.0903	0.5480	10.6383	0.0000	34,021.8331	34,021.8331	0.9407	0.0000	34,041.5881
Mitigated	11.2334	22.2209	114.1724	0.5369	37.7325	0.5933	38.3258	10.0903	0.5480	10.6383	0.0000	34,021.8331	34,021.8331	0.9407	0.0000	34,041.5881

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	12,537.24	13,620.30	11552.64	33,351,330	33,351,330
Apartments Mid Rise	13,618.02	14,788.80	12549.94	36,224,788	36,224,788
Condo/Townhouse	9,885.81	9,648.22	8233.01	25,550,982	25,550,982

Congregate Care (Assisted Living)	969.90	779.10	863.37	2,464,352	2,464,352
Retirement Community	832.80	705.60	676.80	2,105,413	2,105,413
Total	37,843.77	39,542.02	33,875.76	99,696,865	99,696,865

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Condo/Townhouse	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Congregate Care (Assisted	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0
Retirement Community	7.30	0.00	0.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477544	0.059603	0.204041	0.158997	0.043661	0.006299	0.017331	0.021321	0.001547	0.002362	0.003004	0.000478	0.003811

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

NaturalGas Mitigated	0.1954	1.6699	0.7106	0.0107		0.1350	0.1350		0.1350	0.1350	0.0000	1,933.8942	1,933.8942	0.0371	0.0355	1,945.6636
NaturalGas Unmitigated	0.3089	2.6396	1.1233	0.0169		0.2134	0.2134		0.2134	0.2134	0.0000	3,056.9792	3,056.9792	0.0586	0.0560	3,075.5835
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,349.2485	5,349.2485	0.2459	0.0509	5,370.1829
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,469.5136	5,469.5136	0.2514	0.0520	5,490.9186

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.63474e+007	0.0882	0.7533	0.3205	4.8100e-003		0.0609	0.0609		0.0609	0.0609	0.0000	872.3596	872.3596	0.0167	0.0160	877.6686
Congregate Care (Assisted Living)	1.36959e+006	7.3900e-003	0.0631	0.0269	4.0000e-004		5.1000e-003	5.1000e-003		5.1000e-003	5.1000e-003	0.0000	73.0868	73.0868	1.4000e-003	1.3400e-003	73.5316
Retirement Community	3.79804e+006	0.0205	0.1750	0.0745	1.1200e-003		0.0142	0.0142		0.0142	0.0142	0.0000	202.6779	202.6779	3.8800e-003	3.7200e-003	203.9114
Apartments Low Rise	1.80778e+007	0.0975	0.8330	0.3545	5.3200e-003		0.0674	0.0674		0.0674	0.0674	0.0000	964.7028	964.7028	0.0185	0.0177	970.5738
Apartments Mid Rise	1.76927e+007	0.0954	0.8153	0.3469	5.2000e-003		0.0659	0.0659		0.0659	0.0659	0.0000	944.1523	944.1523	0.0181	0.0173	949.8982
Total		**0.3089**	**2.6396**	**1.1233**	**0.0169**		**0.2134**	**0.2134**		**0.2134**	**0.2134**	**0.0000**	**3,056.9792**	**3,056.9792**	**0.0586**	**0.0561**	**3,075.5835**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.02299e+007	0.0552	0.4714	0.2006	3.0100e-003		0.0381	0.0381		0.0381	0.0381	0.0000	545.9039	545.9039	0.0105	0.0100	549.2262
Congregate Care (Assisted Living)	861140	4.6400e-003	0.0397	0.0169	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	45.9537	45.9537	8.8000e-004	8.4000e-004	46.2334
Retirement Community	2.37673e+006	0.0128	0.1095	0.0466	7.0000e-004		8.8500e-003	8.8500e-003		8.8500e-003	8.8500e-003	0.0000	126.8315	126.8315	2.4300e-003	2.3300e-003	127.6034
Apartments Low Rise	1.16477e+007	0.0628	0.5367	0.2284	3.4300e-003		0.0434	0.0434		0.0434	0.0434	0.0000	621.5644	621.5644	0.0119	0.0114	625.3472
Apartments Mid Rise	1.11244e+007	0.0600	0.5126	0.2181	3.2700e-003		0.0414	0.0414		0.0414	0.0414	0.0000	593.6407	593.6407	0.0114	0.0109	597.2535
Total		**0.1954**	**1.6699**	**0.7106**	**0.0107**		**0.1350**	**0.1350**		**0.1350**	**0.1350**	**0.0000**	**1,933.8942**	**1,933.8942**	**0.0371**	**0.0355**	**1,945.6636**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	5.90909e+006	1,690.9869	0.0777	0.0161	1,697.6046
Apartments Mid Rise	7.14554e+006	2,044.8162	0.0940	0.0195	2,052.8186
Condo/Townhouse	4.46734e+006	1,278.4056	0.0588	0.0122	1,283.4087
Congregate Care (Assisted Living)	553136	158.2891	7.2800e-003	1.5100e-003	158.9086
Retirement Community	1.03791e+006	297.0158	0.0137	2.8200e-003	298.1782
Total		**5,469.5136**	**0.2514**	**0.0520**	**5,490.9186**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	5.7894e+006	1,656.7354	0.0762	0.0158	1,663.2190
Apartments Mid Rise	6.97375e+006	1,995.6554	0.0917	0.0190	2,003.4654
Condo/Townhouse	4.37363e+006	1,251.5888	0.0575	0.0119	1,256.4869
Congregate Care (Assisted Living)	539837	154.4836	7.1000e-003	1.4700e-003	155.0881
Retirement Community	1.01614e+006	290.7854	0.0134	2.7700e-003	291.9234
Total		**5,349.2485**	**0.2459**	**0.0509**	**5,370.1829**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Unmitigated	22.2312	0.6079	52.6939	2.7900e-003		0.3792	0.3792		0.3783	0.3783	0.0000	1,317.5502	1,317.5502	0.1058	0.0226	1,326.7696

Mitigated	22.2312	0.6079	52.6939	2.7900e-003		0.3792	0.3792		0.3783	0.3783	0.0000	1,317.5502	1,317.5502	0.1058	0.0226	1,326.7696

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0051					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	18.5264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1244	1.0000e-005	6.7900e-003	0.0000		0.0860	0.0860		0.0851	0.0851	0.0000	1,231.1831	1,231.1831	0.0236	0.0226	1,238.6759
Landscaping	1.5753	0.6079	52.6872	2.7900e-003		0.2932	0.2932		0.2932	0.2932	0.0000	86.3671	86.3671	0.0822	0.0000	88.0937
Total	**22.2312**	**0.6079**	**52.6939**	**2.7900e-003**		**0.3792**	**0.3792**		**0.3783**	**0.3783**	**0.0000**	**1,317.5502**	**1,317.5502**	**0.1058**	**0.0226**	**1,326.7696**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0051					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	18.5264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hearth	0.1244	1.0000e-005	6.7900e-003	0.0000		0.0860	0.0860		0.0851	0.0851	0.0000	1,231.1831	1,231.1831	0.0236	0.0226	1,238.6759
Landscaping	1.5753	0.6079	52.6872	2.7900e-003		0.2932	0.2932		0.2932	0.2932	0.0000	86.3671	86.3671	0.0822	0.0000	88.0937
Total	**22.2312**	**0.6079**	**52.6939**	**2.7900e-003**		**0.3792**	**0.3792**		**0.3783**	**0.3783**	**0.0000**	**1,317.5502**	**1,317.5502**	**0.1058**	**0.0226**	**1,326.7696**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	2,092.6728	0.4180	0.2251	2,171.2282
Mitigated	1,760.5242	0.3370	0.1806	1,823.5857

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	67.61 / 99.3645	591.7586	0.1084	0.0574	611.8358
Apartments Mid Rise	67.61 / 99.3645	591.7586	0.1084	0.0574	611.8358
Condo/Townhouse	67.61 / 99.3645	591.7586	0.1084	0.0574	611.8358
Congregate Care (Assisted Living)	32.5113 / 6.53098	153.4096	0.0461	0.0264	162.5508
Retirement Community	32.5113 / 9.85809	163.9875	0.0466	0.0265	173.1701
Total		**2,092.6728**	**0.4180**	**0.2251**	**2,171.2282**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	54.088 / 88.0767	500.7015	0.0876	0.0461	516.8396
Apartments Mid Rise	54.088 / 88.0767	500.7015	0.0876	0.0461	516.8396
Condo/Townhouse	54.088 / 88.0767	500.7015	0.0876	0.0461	516.8396
Congregate Care (Assisted Living)	26.0091 / 5.78906	124.5217	0.0368	0.0211	131.8270
Retirement Community	26.0091 / 8.73821	133.8980	0.0372	0.0212	141.2399

Total		**1,760.5242**	**0.3370**	**0.1806**	**1,823.5857**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	898.4380	53.0962	0.0000	2,013.4575
Unmitigated	898.4380	53.0962	0.0000	2,013.4575

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	885.2	179.6876	10.6192	0.0000	402.6915
Apartments Mid Rise	885.2	179.6876	10.6192	0.0000	402.6915

Condo/Townhouse	885.2	179.6876	10.6192	0.0000	402.6915
Congregate Care (Assisted Living)	885.2	179.6876	10.6192	0.0000	402.6915
Retirement Community	885.2	179.6876	10.6192	0.0000	402.6915
Total		**898.4380**	**53.0962**	**0.0000**	**2,013.4575**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	885.2	179.6876	10.6192	0.0000	402.6915
Apartments Mid Rise	885.2	179.6876	10.6192	0.0000	402.6915
Condo/Townhouse	885.2	179.6876	10.6192	0.0000	402.6915
Congregate Care (Assisted Living)	885.2	179.6876	10.6192	0.0000	402.6915
Retirement Community	885.2	179.6876	10.6192	0.0000	402.6915
Total		**898.4380**	**53.0962**	**0.0000**	**2,013.4575**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Current SP_Residential

Orange County, Mitigation Report

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.20	2.20	2.20	2.19	2.20
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	36.74	36.74	36.74	36.74	36.74	36.74	0.00	36.74	36.74	36.75	36.74	36.74
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	15.68	15.87	19.39	19.77	16.01
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			

	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	100.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	46.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	0.00	45.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services	
Percent Reduction in Waste Disposed	

Appendix D Noise Modeling Data

Appendices

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Appendix D – Noise Modeling Data

This Appendix contains the following groupings of information:

- Special Discussion: Land Use Compatibility
- City of Tustin General Plan Noise Element
- City of Tustin Municipal Code: Article 4, Chapter 6
- City of Irvine General Plan Noise Element
- City of Irvine Municipal Code: Division 8, Chapter 2
- City of Santa Ana General Plan Noise Element
- City of Santa Ana Municipal Code Chapter 18, Article VI
- Traffic Noise Modeling details and analysis results

Special Discussion: Land Use Compatibility

Special Discussion: Noise Land Use Compatibility

As stated, with the recent *CBIA v. BAAQMD* ruling, it is generally no longer within the purview of the CEQA process to evaluate the impact of existing environmental conditions on any given project. Therefore, this discussion on noise land use compatibility is included for informational purposes only.

The state's Community Noise and Land Use Compatibility standards, summarized in Table 5.4-5, *Community Noise and Land Use Compatibility*, were used to evaluate land use compatibility. In addition, Tustin City Code Article 4, Chapter 6, and Irvine Municipal Code Division 8, Chapter 2, include noise standards based on land use. In both cities, residential uses have an exterior noise level standard of 55 dBA in the daytime and 50 dBA in the nighttime.[1] Future residential uses in the Specific Plan area would be exposed to transportation noise on the roadways within and surrounding the Specific Plan area. The following discusses potential noise impacts from on-road traffic. Impacts from aircraft noise would not change from those identified in the Adopted Specific Plan.

On-Road Traffic

As discussed under Impact 5.4-2, traffic noise contours were calculated for 2035 conditions. Table 5.4-13, *2035 With-Project Traffic Noise Levels*, presents the noise levels on roadways in the vicinity of the Specific Plan for 2035 conditions with buildout of the Modified Project. The noise contours are influenced by vehicular traffic (passenger cars and trucks), speeds, and truck routes. These contours do not account for noise attenuation provided by intervening structures or topographical barriers.

Table 5.4-13 2035 With-Project Traffic Noise Levels

Roadway	Segment	Daily Traffic Volumes	Noise Level (dBA CNEL)	Distance to Noise Contour (ft)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Red Hill Av.	Walnut to Edinger	30,100	76.8	142	307	660
Red Hill Av.	Edinger to Valencia	31,700	77.0	147	317	684
Red Hill Av.	Bell to Warner	35,800	77.6	160	344	741
Red Hill Av.	Warner to Carnegie	33,600	77.3	153	330	711
Red Hill Av.	Carnegie to Barranca	34,700	77.4	156	337	726
Red Hill Av.	Barranca to Alton	35,500	77.5	159	342	737
Edinger Av.	SR-55 ramps to Newport	53,100	79.3	208	448	964
Armstrong Av.	Warner to Barranca	10,400	67.8	36	77	165
Tustin Ranch Rd.	Walnut to Valencia	33,200	78.4	182	391	843
Tustin Ranch Rd.	Barranca to Legacy	33,000	78.4	181	390	840
Von Karman Av.	Barranca to Alton	36,200	75.7	119	256	553
Jamboree Rd.	Walnut to Edinger	87,700	82.6	347	748	1611
Jamboree Rd.	Edinger to Warner	88,500	82.7	349	752	1621
Jamboree Rd.	Warner to Barranca	73,200	81.8	308	663	1429
Jamboree Rd.	Barranca to Alton	68,000	81.5	293	631	1360
Harvard Av.	Poplar to Edinger	12,400	70.3	53	113	244
Harvard Av.	Edinger/Irvine Center to Moffett	11,600	70.7	56	120	259
Harvard Av.	Moffett to Warner	14,900	71.8	66	142	306
Harvard Av.	Warner to Barranca	16,900	72.3	72	154	333

[1] The allowed standards are adjusted for shorter time periods, as discussed in the text associated with Table 5.4-6 and Table 5.4-8.

Harvard Av.	Barranca to Alton	20,300	73.1	81	174	376
Walnut Av.	Tustin Ranch to Myford	19,000	70.4	53	115	247
Walnut Av.	Myford to Jamboree	27,600	75.2	110	238	512
Walnut Av.	Jamboree to Harvard	22,100	74.2	95	205	442
Warner Av.	Armstrong to Legacy	46,100	75.5	117	252	543
Valencia Av.	Armstrong to Kensington Park	12,900	70.0	50	108	232
Edinger Av.	Newport to Del Amo	33,600	78.5	183	395	850
Edinger Av.	Del Amo to Red Hill	32,200	78.3	178	384	826
Edinger Av.	Red Hill to Kensington Park	39,900	79.2	205	442	953
Edinger Av.	Kensington Park to Jamboree	32,700	78.3	180	387	835
Edinger Av.	Jamboree to Harvard	27,700	77.6	161	347	747
Valencia Av.	Red Hill to Armstrong	20,800	72.1	69	148	319
Warner Av.	Red Hill to Armstrong	49,700	79.0	199	428	923
Warner Av.	Tustin Ranch to Park/Loop	36,200	71.8	66	142	306
Jamboree Rd. NB Ramps	n/o Warner Av.	8,900	72.7	76	163	351
Warner Av.	Jamboree NB Ramps to Harvard	17,300	72.4	73	157	338
Dyer Rd.	SR-55 NB Ramps to Red Hill	46,600	77.4	157	337	727
Barranca Pkwy.	Red Hill to Aston	45,900	79.8	225	486	1,047
Barranca Pkwy.	Aston to Armstrong	44,300	79.7	220	474	1,022
Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman Av.	44,500	79.7	221	476	1,025
Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	45,400	79.8	224	482	1,039
Barranca Pkwy.	District to Jamboree	45,500	79.8	224	483	1,040
Barranca Pkwy.	Jamboree to Harvard	36,000	76.3	132	284	612
Alton Pkwy.	Red Hill to Gillette	24,400	72.8	77	165	355
Alton Pkwy.	Von Karman to Jamboree	21,400	72.2	70	151	325
Alton Pkwy.	Jamboree to Harvard	23,900	72.7	75	163	350
Warner Av.	Grand to Red Hill	41,500	78.2	176	380	818
Park Av.	Jamboree SB Ramps to Warner	6,800	65.9	27	58	125
Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	32,600	74.5	99	214	461
Del Amo Av.	Edinger to Newport	4,000	62.2	15	33	70
Warner Av.	Park/Loop to Jamboree NB Ramps	18,500	72.7	76	164	353
Park Av.	Warner to District	10,400	67.8	36	77	165
Park Av.	Victory to Jamboree SB Ramps	5,300	64.9	23	49	105
Jamboree Rd. SB Ramps	e/o Park Av.	7,000	66.7	30	65	140
Tustin Ranch Rd.	Victory to Warner[1]	36,900	78.9	195	420	905
Red Hill Av.	Valencia to Bell	32,700	77.2	150	324	698
Valencia Av.	Newport to Red Hill	13,500	70.2	52	111	239
Valencia Av.	Tustin Ranch to Loop	7,200	67.5	34	73	157
Tustin Ranch Rd.	Valencia to Moffett	39,900	79.2	205	442	953
Park Av.	Valencia to Moffett	3,200	62.7	16	35	75
Park Av.	Moffett to Victory	2,600	61.8	14	30	66
District Dr.	Barranca to Park	14,500	57.4	7	15	33
Tustin Ranch Rd.	Warner to Legacy/Park	30,600	78.1	172	371	799
Park Av.	Tustin Ranch to District	14,600	69.3	45	96	207
Legacy Rd.	Warner to Tustin Ranch	14,800	69.3	45	97	209
Kensington Park Dr.	Edinger to Valencia	10,500	67.8	36	77	166
Valencia Av.	Kensington Park to Tustin Ranch	10,700	69.2	44	95	205
Tustin Ranch Rd.	Moffett to Victory	45,600	79.8	224	484	1042
Victory Rd,	Tustin Ranch to Loop	5,100	64.7	22	48	103
Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	11,200	69.8	49	105	226

Bell Av.	e/o Red Hill Av.	5,700	59.6	10	22	47
Armstrong Av.	Valencia to Bell	8,900	67.1	32	69	149
Armstrong Av.	Bell to Warner	8,900	67.1	32	69	149
Warner Av.	Legacy to Tustin Ranch	12,000	72.8	77	166	358
Moffett Dr.	Tustin Ranch to Loop	7,100	66.1	28	59	128
Moffett Dr.	Loop to Sonora/Meridian	14,700	68.6	41	87	188
Freeway	Segment	ADT Volumes	CNEL (dBA @ 100 ft.)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
SR-55	Edinger to Dyer	306,900	83.2	757	1,631	3,514

Notes: Noise levels for roads are for a distance of 50 feet from the centerline.
Calculations are included in Appendix F.
[1] Segment defined in traffic study as "n/o Warner." The segment defined in the traffic study as "s/o Victory" was not included here, as it would be redundant.

Residential land uses immediately adjacent to most of the roadway segments would be impacted by traffic noise, and noise levels at residential areas adjacent to these roadways could range from 64.7 along Newport Avenue to 82.7 dBA CNEL along Jamboree Road (50 feet from the centerline). Distances to the 65 dBA CNEL contours on these roadways are 22 feet and 752 feet, respectively. Residential common/open space areas such as playgrounds, swimming pools, and picnic areas are noise-sensitive areas that could be affected by elevated noise levels.

Without appropriate measures implemented, sensitive outdoor uses could be developed in areas with an exterior ambient noise environment in excess of 65 dBA CNEL. Typical construction provides an exterior-to-interior noise reduction of approximately 20 to 25 dB (FHWA 2010; USEPA 1978), but interior levels could be greater than 45 dBA CNEL without implementation of measures to reduce interior noise. As with the Adopted Specific Plan, noise-sensitive land uses under the Modified Project would be exposed to noise environments louder than recommended standards due to traffic along the surrounding roadways generated by buildout of the Modified Project. Therefore, the Modified Project would not result in new or substantially greater noise compatibility impacts compared to the Adopted Specific Plan.

City of Tustin General Plan Noise Element

Noise Element

TUSTIN GENERAL PLAN

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INTRODUCTION TO THE ELEMENT

The control of noise is an essential part of preserving the quality of a community. The development of effective strategies to reduce excessive noise in the community resulting from mobile sources such as traffic, aircraft, rail, and stationary sources, such as construction activity, music and air conditioners is essential to creating a safe and compatible living and working environment. Since 1971, the noise element has been mandatory in a California general plan. Due to California's rapid growth, a noise element is required by the state to enable communities to limit exposure to excessive noise levels. The Noise Element Technical Memorandum provides the necessary background information and supporting documentation for this element.

PURPOSE OF THE NOISE ELEMENT

The Noise Element of a General Plan is a comprehensive approach for including noise control in the planning process. It is a tool for achieving and maintaining environmental noise levels compatible with land use. The Noise Element identifies noise sensitive land uses and noise sources, and defines areas of noise impact. The element establishes goals, policies, and programs to ensure that Tustin residents will be protected from excessive noise.

RELATED PLANS AND PROGRAMS

There are several existing plans and programs that are directly applicable to the aims and objectives of this Element. These plans and programs have been enacted through State and local legislation and are administered by agencies that are delegated with powers to enforce State and local laws.

California Environmental Quality Act Law and Guidelines

The State legislature adopted the California Environmental Quality Act (CEQA) in response to a public mandate that called for a thorough environmental analysis of those projects that might adversely affect the environment. The CEQA law and guidelines describe the provisions of the law, the review procedure, and any subsequent analysis that is required. CEQA recognizes that excessive noise

associated with certain types of public and private projects represents an environmental impact that must be avoided or reduced. CEQA will continue to be instrumental in ensuring that City officials and the general public assess the potentially significant noise impacts of development projects.

California Noise Insulation Standards (Title 24)

The California Commission of Housing and Community Development officially adopted the noise insulation standards in 1974 and they became effective on August 22, 1974. On November 14, 1988, the Building Standards Commission approved revisions to these standards (Title 24, Part 2, California Code of Regulations). The revisions state that "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either . . . Ldn or . . . CNEL, consistent with the noise element of the local general plan." Additionally, the commission specifies that residential buildings or structures to be located within exterior CNEL (or Ldn) contours of 60 dB or greater of an existing or adopted freeway, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source shall require an acoustical analysis showing that the building has been designed to limit intruding noise to an interior CNEL (or Ldn) of 45 dB.

City of Tustin Noise Ordinance/Conditions of Approval

The City's noise ordinance, permitted by the State of California Health and Safety Code, provides a basis for controlling excessive and annoying noise from stationary sources such as construction activity, industrial plants, pumps, compressors, refrigeration units, etc. The ordinance provides specific noise standards to be applied for various land uses for both daytime and nighttime hours, prohibits certain noise sources, and describes the manner in which the noise standards are to be enforced.

Where applicable, the City routinely applies several noise-related conditions of approval to a development before issuing building permits. These conditions identify the proposed project as located in a noise impact area and require that mitigation be provided as necessary to ensure compliance with the City's noise exposure standards.

SCOPE AND CONTENT OF THE ELEMENT

The Noise Element follows the State guidelines prepared by the Office of Noise Control, State Department of Health as a result of Senate Bill 860(A) (effective January 1, 1976). The element quantifies the community noise environment in terms of noise exposure contours for both near- and long-term levels of growth and noise-generating activity. The information is a guideline for the development of goals and policies to achieve noise compatible land uses. In addition to the Introduction, the Element is divided into four sections: Summary of Issues, Needs, Opportunities, and Constraints; Goals and Policies; the Noise Plan, and the Implementation Program.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The Tustin General Plan consists of seven different elements. All of the elements – Land Use, Circulation, Housing, Conservation/Open – are related to the Noise Element.

When integrated with the Noise Element, the Land Use Element will show land uses in relation to existing and projected noise contours. In this way, compatible and incompatible land uses may be identified. The Noise Element relates to the Circulation Element since the circulation system is the primary source of noise throughout the planning area. Noise exposure will be a factor in the location and design of new arterials, and the mitigation of noise from existing arterials in relation to existing and planned land uses.

Since residential land use is noise sensitive, the information provided in the Noise Element will need to be considered in the planning of future housing developments, as discussed in the Housing Element. The Noise Element also relates to the Open Space/Conservation/ Recreation Element since excessive noise can have a detrimental impact on the enjoyment of open spaces. Therefore, the information provided in the Noise Element needs to be considered in planning for this type of land use. In addition, open space areas can be used as a buffer to mitigate noise levels at more noise-sensitive residential areas.

Excessive noise can also be detrimental to a person's health or cause hearing loss over long periods of time. Therefore, the Noise Element

will need to be considered in the Public Safety Element when assessing occupational environments, and the noise exposure levels at noise-sensitive areas (residential, parks, schools, libraries, and hospitals).

Finally, growth within the planning area will result in increased housing, increased use of the circulation system and increased noise levels. The Noise Element will need to be considered in the Growth Management Element when planning future developments.

SUMMARY OF ISSUES, NEEDS, OPPORTUNITIES AND CONSTRAINTS

This section summarizes the noise-related issues, needs, opportunities, and constraints for the Tustin Planning Area. These will form the basis for the Noise Element goals and policies.

TRANSPORTATION NOISE CONTROL

- The City of Tustin can exercise little control over flight operations at John Wayne Airport.
- Noise from John Wayne Airport, while generally below accepted CNEL guidelines for residential uses, produces annoyance among Tustin residents due to repetitive occurrence.
- The activities and opportunities at John Wayne Airport should be monitored as needed to protect the planning area from unwanted aircraft noise.
- Citizen involvement in committees that will influence future aircraft operations at John Wayne Airport needs to be encouraged.
- Outside agencies exercise responsibility for noise associated with the freeways and railroads.
- Many residential neighborhoods are located next to heavily traveled arterials, some of which are exposed to "unacceptable" ambient noise levels as defined by the State Office of Noise Control.
- The Tustin Planning Area is bisected by two major freeway corridors - the I-5 and SR-55 - resulting in significant traffic noise levels.
- Increases in traffic volumes will increase noise levels throughout Tustin.

- Noise from train movements and whistles on the Southern California Rail Authority (SCRRA) rail line significantly affects nearby residences.

NOISE AND LAND USE PLANNING INTEGRATION

- Availability of manpower and expertise needed to perform noise measurements and to identify noise control measures in the enforcement of city, state and federal laws is limited.

- Noise control measures and noise-related compatibility considerations need to be included in all new land use developments.

- Enforcement of city, state and federal requirements regarding noise control is necessary, specifically: The City's noise ordinance regarding intrusive noise, the state vehicle code and provisions regarding mufflers and excessively loud radios, the state noise insulation standards for multifamily developments, and the federal and state requirements regarding noise control in work places.

- Many commercial and residential uses in Tustin are located near one another, creating potential noise conflicts between these uses.

- Trucking operations and mechanical equipment associated with commercial/industrial activities impact nearby residences.

- The introduction of mixed-use zones that integrate residences above ground floor commercial uses presents potential noise conflicts from both traffic noise generated from the frontage street and noise generated from ground floor commercial activity.

- The noise impact of construction activity adversely affects residences when carried on for long periods of time, and on the weekends and in the evenings.

- As in most urban settings, Tustin's residents are subject to noise from nuisances such as lawn mowers, leaf blowers, radios, parties and sporting events.

NOISE ELEMENT GOALS AND POLICIES

A substantial portion of the City is affected by various sources of noise. The following goals and policies are intended to address identified noise issues in the community.

TRANSPORTATION NOISE CONTROL

Transportation-related activities are primary sources of noise affecting the quality of life in Tustin. Effective reduction of noise associated with transportation is necessary to ensure protection from the detrimental effects of excessive noise.

GOAL 1: Use noise control measures to reduce the impact from transportation noise sources.

Policy 1.1: Pursue construction of new barriers, or the augmentation of existing barriers, to reduce noise impacts along the Route 5 and Route 55 freeways along segments directly next to residential areas.

Policy 1.2: Intentionally omitted

Policy 1.3: Encourage John Wayne Airport to set up noise control procedures and to consider methods to reduce and minimize noise exposure due to aircraft flyovers within the Tustin Planning Area.

Policy 1.4: Continue to monitor all John Wayne Airport activities to minimize noise impacts within the Tustin Planning Area resulting from airport operations, and oppose legislation promulgated by the FAA that could eliminate local flight restrictions.

Policy 1.5: Work to reduce risks and noise impacts resulting from aircraft operations by (a) participating in and monitoring the planning process for John Wayne Airport and (b)continuing to discourage commercial or general aviation activities which increase noise exposure.

Policy 1.6: Encourage Tustin citizen participation and City involvement on committees that would influence future aircraft operations in Orange County.

Policy 1.7: Encourage construction of noise barriers by the Public Utilities Commission, Southern California Regional Rail Authority, Amtrak, and Orange County Transportation Authority along the Atchison, Topeka and Santa Fe rail line where residences exist next to the tracks.

Policy 1.8: Encourage the Public Utilities Commission, Southern California Regional Rail Authority, Amtrak, and the Orange County Transportation Authority to minimize the level of noise produced by train movements and whistle noise within the Planning Area by reducing speeds, improving vehicle system technology and developing improved procedures for train engineer whistle blowing.

Policy 1.9: Encourage, where feasible, noise mitigation measures, such as noise barriers and realignments, in the design and construction of new roadway projects in the Tustin Planning Area.

Policy 1.10: Enforce the State's Vehicle Code noise standards within the City.

Policy 1.11: Consider noise impacts to residential neighborhoods when designating truck routes and major circulation corridors.

Policy 1.12: Work with the Orange County Transportation Agency to establish bus routes that meet public transportation needs and minimize noise impacts in residential areas.

NOISE AND LAND USE PLANNING INTEGRATION

Consideration of the effects of noise early in the land use planning process can minimize or avoid detrimental impacts.

GOAL 2: Incorporate noise considerations into land use planning decisions.

Policy 2.1: Adopt planning guidelines that establish acceptable noise standards for various land uses throughout the Tustin Planning Area.

Policy 2.2: Apply the state's noise insulation standards to the conversion of existing apartments into condominiums wherever feasible.

Policy 2.3: Use noise/land use compatibility standards as a guide for future planning and development.

Policy 2.4: Review proposed projects in terms of compatibility with nearby noise-sensitive land uses with the intent of reducing noise impacts.

Policy 2.5: Require new residential developments located in proximity to existing commercial/industrial operations to control residential interior noise levels as a condition of approval.

Policy 2.6: Require that commercial uses developed as part of a mixed-use project (with residential) not be noise intensive. Design mixed-use structures to prevent transfer of noise from the commercial to the residential use.

Policy 2.7: Require new commercial/industrial operations located in proximity to existing or proposed residential areas to incorporate noise mitigation into project design.

Policy 2.8: Replace a significant noise source with non-noise generating land uses when plans for future use of areas are developed.

NON-TRANSPORTATION NOISE CONTROL

Sources of noise that are not related to transportation can be controlled to avoid exposure to excessive noise levels.

GOAL 3: Develop measures to control non-transportation noise impacts.

Policy 3.1: Implement a review process of Tustin's noise ordinance, and City policies and regulations affecting noise.

Policy 3.2: Minimize the impacts of construction noise on adjacent land uses through limiting the permitted hours of activity.

Policy 3.3: Require City departments to observe state and federal occupational safety and health noise standards.

Policy 3.4: Require new equipment and vehicles purchased by the City to comply with noise performance standards consistent with available noise reduction technology.

RELATED GOALS AND POLICIES

Goals and policies of the other General Plan Elements also relate to issues addressed in the Noise Element. To ensure internal consistency, Table N-1 lists each element, noise issues, and the goals and policies that relate to both.

TABLE N-1
NOISE RELATED GOALS AND POLICIES BY ELEMENT

Noise Issue Area	Land Use	Housing	Circulation	Noise	Conservation/ Open Space/ Recreation	Public Safety	Growth Manage-ment
Transportation Noise Control			3.2				
Noise and Land Use Planning Integration	13.1		1.13				
Non-Transportation Noise Control							

THE NOISE PLAN

To achieve the goals and objectives of the Noise Element, an effective Noise Plan implementation program developed within the constraints of the City's financial and staffing capabilities is necessary. The purpose is to reduce the number of people exposed to excessive noise and to minimize the future effect of noise in the City.

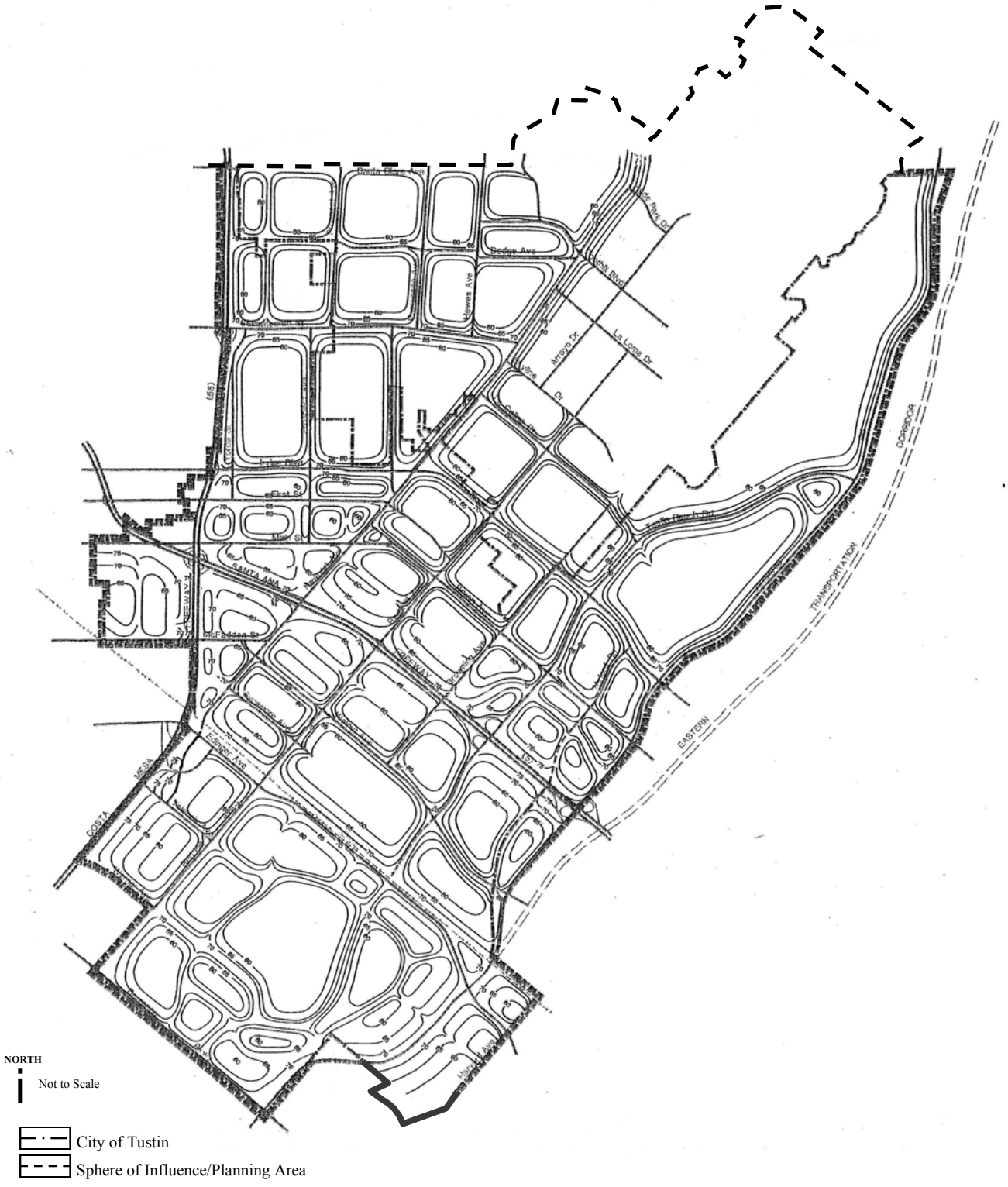
COMMUNITY NOISE CONTOURS

The noise environment for the Tustin Planning Area can be described using noise contours developed for the major noise sources within the area. Noise contours represent lines of equal noise exposure. Figure N-1 presents the noise contours for the Tustin Planning Area for Land Use Policy Map buildout conditions. The contours shown on the maps range from a CNEL of 60 dB to 80 dB for aircraft, train, and traffic noise. Full size exhibits (scale: 1"=800') are available for inspection at the Community Development Department.

The noise contours for the Tustin Planning Area were developed based upon existing and future traffic conditions, train operations and environmental conditions. The assumptions and methods used to develop the contours are explained in detail in the Technical Memorandum.

Noise Impact Areas

The noise contours are used as a guide for planning. The 60 dB CNEL contour defines the noise impact area. Any proposed new noise sensitive land use (i.e., residential, hospitals, schools and churches) within this area shall be evaluated on a project specific basis to meet City or State (Title 24) standards. An acoustical analysis prepared by a qualified acoustical engineer, should be required in these Noise Impact Areas for all noise sensitive land uses verifying that the structure has been designed or mitigation measures proposed to limit intruding noise to the prescribed allowable levels.



SOURCE: J.J. Van Houtan and Associates, July 1993
NOTE: Noise Contours depicted within MCAS Tustin Specific Plan. May change based on final roadway alignment selected.

TUSTIN GENERAL PLAN

Figure N-1
Future (2010) Community Noise Equivalent Level (CNEL) Contours for the Tustin Planning Area

Areas of Special Concern

Areas of special concern within the Noise Impact Area are near the I-5 and SR-55 freeways. At these locations the existing CNEL ranges from 70 to 80dB. Caltrans constructed soundwalls along these freeways as part of the freeway widening projects. These walls reduce the CNEL at the adjacent residences.

Residences next to a number of major and secondary arterials in the Tustin Planning Area are also exposed to a CNEL over 65 dB. These arterials include:

- Bryan Avenue
- Fairhaven Avenue
- Newport Avenue
- Yorba Street
- Browning Avenue
- El Camino Real
- Walnut Avenue
- Edinger Street
- Irvine Boulevard
- Red Hill Avenue
- Prospect Avenue
- 17th Street
- McFadden Street
- Sycamore Avenue

Measurements have shown that residences located next to the Southern California Regional Rail Authority (SCRRA) rail line are were exposed to a CNEL of about 70 dB and maximum noise levels of 78 dB(A). By the year 2010, the CNEL at the adjacent residences will increase by as much as 6 dB due to increased rail activity related to commuter rail activities along the SCRRA/OCTA railway (Metrolink). The primary source of annoyance at these locations will be afternoon and early morning peak hour train passes.

LAND USE COMPATIBILITY GUIDELINES AND STANDARDS

Table N-2 provides guidance for the acceptability of certain development projects within specific CNEL contours and will act as a set of criteria for assessing the compatibility of proposed land uses within the noise environment.

Land Use Compatibility Guidelines are the basis for development of the specific noise standards presented in table N-3 which should be utilized as city policy related to new land uses and acceptable noise levels development.

For the City to achieve noise and land use compatibility it is imperative that mitigation measures be imposed during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses. The submittal of an acoustical analysis report in noise impact levels is one mechanism to evaluate proposed projects. The incorporation of mitigation measures as described in this Noise Plan and other action may enable a project to comply with exterior and interior noise compatibility guidelines and standards.

Construction Standards

The provisions of the State of California Noise Insulation Standards (California Administrative Code, Title 24) specifying that the indoor noise levels for multifamily residential living spaces shall not exceed 45 dB CNEL (or Ldn) due to the combined effect of all noise sources will be enforced. The State requires implementation of this standard when the outdoor noise levels exceed 60 dB CNEL (or Ldn). The noise contour maps can be used to decide when this standard needs to be addressed. The code requires that this standard be applied to all new hotels, motels, apartment houses and dwellings, other than detached single family dwellings. The City will also, as a matter of policy, apply this standard to new single family developments and condominium conversion projects where feasible.

The noise levels presented in Table N-2 represent exterior noise levels. The primary purpose of the noise compatibility matrix is to identify potential conflicts between proposed land uses and the noise environment. The matrix is usually used at the General Plan or zoning level of approvals. If a project falls within Zone A or Zone B the project is considered compatible with the noise environment. Zone A implies that no mitigation will be needed. Zone B implies that minor soundproofing of the structure may be needed and should be engineered before issuance of building permits. Zone C shows that substantial noise mitigation will be necessary, such as construction of noise barriers and substantial building sound insulation. However, projects in Zone C can be successfully mitigated. The project may be approved for land use and then is mitigated as necessary to achieve City standards (Table N-3) before issuance of building permits or other appropriate milestones.

TRANSPORTATION NOISE CONTROL

The most efficient and effective means of controlling noise from transportation systems is to reduce noise at the source.

However, since the City has little direct control over source noise levels because of state and federal preemption (i.e., State motor vehicle noise standards and Federal air regulations), programs should be focused on reducing the impact of the noise on the community. Cooperative efforts with state and federal offices are essential.

Within the Tustin Planning Area are several transportation related noise sources including train tracks, two freeways, major arterials, collector roadways, and a commercial airport. Although MCAS Tustin closed in 1999, blimp flight operations may occur as an interim use. These sources are the major contributors of noise in Tustin. Cost effective strategies to reduce their influence on the community noise environment are an essential part of the Noise Element.

TABLE N-2
LAND USE NOISE COMPATIBILITY MATRIX

LAND USE CATEGORIES		COMMUNITY NOISE EQUIVALENT LEVEL CNEL						
CATEGORIES	USES	<55	60	65	70	75	80>	
RESIDENTIAL	Single Family, Duplex, Multiple Family	A	A	B	C	C	D	D
RESIDENTIAL	Mobile Home	A	A	B	C	C	D	D
COMMERCIAL Regional, District	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
COMMERCIAL Regional, Village District, Special	Commercial Retail, Bank, Restaurant, Movie Theater	A	A	A	A	B	B	C
COMMERCIAL INDUSTRIAL INSTITUTIONAL	Office Building, Research and Development, Professional Offices, City Office Building	A	A	A	B	B	C	D
COMMERCIAL Recreation INSTITUTIONAL Civic Center	Amphitheater, Concert Hall Auditorium, Meeting Hall	B	B	C	C	D	D	D
COMMERCIAL Recreation	Children's Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	A	A	B	B	D	D
COMMERCIAL General, Special INDUSTRIAL, INSTITUTIONAL	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
INSTITUTIONAL General	Hospital, Church, Library, Schools' Classroom	A	A	B	C	C	D	D
OPEN SPACE	Parks	A	A	A	B	C	D	D
OPEN SPACE	Golf Course, Cemeteries, Nature Centers Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C
AGRICULTURE	Agriculture	A	A	A	A	A	A	A

INTERPRETATION	
ZONE A CLEARLY COMPATIBLE	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
ZONE B NORMALLY COMPATIBLE	New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
ZONE C NORMALLY INCOMPATIBLE	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design
ZONE D CLEARLY INCOMPATIBLE	New construction or development should generally not be undertaken.

Source: J.J. Van Houten & Associates

TABLE N-3
INTERIOR AND EXTERIOR NOISE STANDARDS

Land Use	Noise Standards[1]	
	Interior[2,3]	Exterior
Residential - Single family, multifamily, duplex, mobile home	CNEL 45 dB	CNEL 65 dB[4]
Residential - Transient lodging, hotels, motels, nursing homes, hospitals	CNEL 45 dB	CNEL 65 dB[4]
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	Leq(12) 45 dB(A)	-
Schools	Leq(12) 45 dB(A)	Leq(12) 67 dB(A)[5]
General offices, reception, clerical, etc.	Leq(12) 50 dB(A)	-
Bank lobby, retail store, restaurant, typing pool, etc.	Leq(12) 55 dB(A)	-
Manufacturing, kitchen, warehousing, etc.	Leq(12) 65 dB(A)	-
Parks, playgrounds	-	CNEL 65 dB[5]
Golf courses, outdoor spectator sports, amusement parks	-	CNEL 70 dB[5]

NOTES

1. CNEL: Community Noise Equivalent Level.
   Leq(12): The A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation).
2. Noise standard with windows closed. Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment.
3. Indoor environment excluding bathrooms, toilets, closets and corridors.
4. Outdoor environment limited to rear yard of single family homes, multifamily patios and balconies (with a depth of 6' or more) and common recreation areas.
5. Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.

Noise Barriers

The most effective method for mitigating transportation noise is through reducing the impact of the noise onto the community by utilizing the site design review process and the California Environmental Quality Act. Mitigation through site planning, landscaping, as well as topography, and the design and construction of a noise barrier (wall, berms, or combination wall/berms) are the most common ways of alleviating traffic noise impacts in existing urban environments. Setbacks can also be used to provide partial mitigation or full mitigation where a small noise reduction is needed.

Noise attenuating barriers are commonly incorporated into projects and can be extremely effective in reducing noise levels. The effectiveness of the barrier depends on the relative height and materials of the barrier, the noise source, the affected area, the horizontal distance between the source and the barrier, and between the barrier and the affected area. Although noise barriers can be extremely effective, their aesthetic effect on a neighborhood should be considered.

Noise mitigation measures should be included in the design of roadway improvement projects consistent with funding capability. Efforts by the California Department of Transportation, the Orange County Transportation Agency and others to provide for acoustical protection of existing noise sensitive land uses affected by these projects will be supported by the City, and consideration of soundwalls will be requested to mitigate significant adverse impacts as part of any Caltrans and OCTA roadway projects. The Route 5 and 55 freeways, and the proposed Eastern Transportation Corridor are primary candidate projects for the inclusion of barriers to reduce noise impact.

The use of walls and berms in the design of new residential and other noise sensitive land uses that are next to major roads, rail lines, commercial, or industrial areas may be extremely helpful in mitigating noise impacts. The City will also encourage the reduction of train noise by requesting that the Southern California Regional Rail Authority, OCTA and Amtrak reduce speed and use welded track in good repair throughout the Planning Area.

Noise Control At The Source

The California Vehicle Code contains noise limits applicable to new vehicles at the time of manufacture and noise regulations pertaining to the operation of all vehicles on public roads.

The City will provide for continued evaluation and enforcement of truck and bus movements and routes to minimize noise at the source for sensitive land uses. Regulation of traffic flow can also significantly minimize noise impacts. The State Motor Vehicle noise standards for cars, trucks, and motorcycles will be enforced through coordination with the California Highway Patrol and the Tustin Police.

The City and its citizens will also participate in the planning process for John Wayne Airport. Any changes in operations or land uses within the facility that will increase noise exposures in the Planning Area will be opposed. The City will encourage implementation of procedures that will reduce noise levels in the area and will minimize the number of aircraft overflights.

NON-TRANSPORTATOIN NOISE CONTROL

People, and noise sensitive areas, must be protected from excessive noise generated by non-transportation sources including commercial and industrial centers. These impacts are most effectively controlled through the environmental and site plan review process by imposition of mitigation measures and the application of a City Noise Ordinance.

Typical Mitigation for Industrial and Commercial Uses

Consideration should be given to the control of noise in new commercial and industrial developments when noise levels would otherwise be generated that would exceed the noise level for the district in which they are located and that would adversely affect nearby projects. The following mitigation measures could be applied when reviewing these new projects:

- **Furnaces** - Acoustically treat natural draft and/or forced draft units and combustion air intake plena. Insulation of firing walls and damped and lined ducting are but a few of the treatments that could be considered.

- **Fans** - Air cooled heat exchangers can be provided with silencers where effective (i.e., primarily on small, high-speed air fans). For larger coolers, quieter equipment can be installed.

- **Motors** - Quiet-design motors can be employed and located to minimize impacts on nearby properties.

- **Centrifugal Compressors** - Centrifugal compressors can be equipped with inlet and discharge silencers. Acoustical enclosures may also be considered.

- **Centrifugal Pumps** - Centrifugal pumps may be equipped with suction and discharge piping that has been acoustically treated. Acoustical enclosures may be considered.

- **Steam and Gas Generators** - Acoustical enclosures for turbines may be effective in reducing noise. Inlet and discharge piping may be acoustically treated and expansion joints added or comparable attenuative modifications made to minimize structure-borne vibrations.

- **Control Valves** - Quiet valves should be used whenever available. In other circumstances, in-line silencers can be employed.

- **Atmospheric Vents, Exhaust and Intakes** - Noisy vents should be equipped with silencers. Where safety is not an overriding concern, vents should be positioned close to the ground or below grade.

- **Paging Systems** - Loudspeaker paging systems shall be regulated pursuant to the City's noise ordinance. Whenever possible suitable alternatives such as radio or visual paging systems should be utilized.

- **Delivery/Loading Areas** - Limit delivery hours for stores with loading areas or docks fronting, bordering, or gaining access in driveways next to noise sensitive uses.

Noise Ordinance

The City's noise ordinance will be reviewed periodically for adequacy and changes implemented as needed to address the City's current needs. The noise ordinance will continue to be enforced to ensure that adjacent properties are not exposed to excessive noise levels from stationary sources. The ordinance protects people from non-transportation related noise sources such as music, construction activity, machinery and pumps, air conditioners, and truck traffic on private property. The Community Development Department will act as noise control coordinator. This will ensure the continued operation of noise enforcement efforts of the City.

Application of the provisions of the Noise Ordinance will include: (a) requiring that any proposed development projects show compliance with the City's Noise Element and Ordinance; (b) requiring construction activity to comply with limits established in the City's Noise Ordinance; and (c) requiring all City departments to comply with the state and federal OSHA noise standards, and any new equipment or vehicle purchases to comply with city, state, and federal noise standards.

NOISE ELEMENT IMPLEMENTATION PROGRAM

The City's Noise Element provides information that is important for maintaining environmental noise levels that area compatible with existing and planned land uses. The Element addresses three primary areas: noise from transportation services, such as aircraft, freeways and major roadways; integration of information about the existing and forecasted noise environment into land use planning decisions; and noise from non-transportation sources such as commercial, industrial, and construction activities.

The City Council, by incorporating the Implementation Program into the General Plan, recognizes the importance of long-range planning considerations in day-to-day decision-making, subject to funding constraints.

TRANSPORTATION NOISE CONTROL

1. Roadway Improvement Projects: The principal method of protecting sensitive land uses from traffic noise is the construction of noise barriers in concert with road improvement projects. The City will request, where necessary to mitigate identified adverse significant noise impacts, the inclusion of soundwalls, earthern berms, or other acoustical barriers as part of any Caltrans or OCTA roadway project.

Responsible Agency/Department: Community Development, Public Works/Engineering Division

Funding Source: Various Proposition 111, Measure M, Santa Ana/Tustin TSIA

Time Frame: Ongoing

Related Noise Element Policies: 1.1, 1.2, 1.9, 1.12

2. Rail Line Noise Control: The principal methods of protecting sensitive land uses from rail vehicle noise are the construction of noise barriers, reduction of vehicle speed, the use of well-maintained welded track, rubberized crossings and whistle blowing procedures. The City will seek assistance from the Public Utilities Commission, Southern California Regional Rail Authority, OCTA, and Amtrak in

achieving these methods of noise protection for residential and other sensitive uses.

Responsible Agency/Department: Community Development, Public Works/Engineering

Funding Source: Public Utilities Commission, Southern California Regional Rail Authority, OCTA, Amtrak

Time Frame: Ongoing

Related Noise Element Policies: 1.7, 1.8

3. Vehicle Noise Control: To minimize or reduce noise impacts on residential and other sensitive land uses, the City will: 1) enforce and periodically evaluate truck and bus movements and routes to reduce impacts on sensitive areas; and 2) promote coordination between City Police and the California Highway Patrol to enforce the State Motor Vehicle noise standards.

Responsible Agency/Department: Community Development, Public Works/Engineering, Police Dept., CHP

Funding Source: City General Fund

Time Frame: Ongoing

Related Noise Element Policies: 1.1, 1.2, 1.9-1.12

4. Aviation Noise: Work to reduce noise impacts resulting from aircraft operations at John Wayne Airport by: (a) participating and monitoring the planning process for John Wayne Airport; (b) continuing to discourage general and commercial aviation activities which increase noise exposure to sensitive land uses.

Responsible Agency/Department: Community Development

Funding Source: City General Fund

Time Frame: Ongoing

Related Noise Element Policies: 1.3-1.6

5. Aviation Monitoring: The City shall continue to review and report on the noise reports received concerning John Wayne Airport to identify any of the areas of the City where negative impacts exist in order to implement mitigation efforts, which could include lobbying of the FAA and related agencies for tighter restrictions on aircraft types.

Responsible Agency/Department: Community Development

Funding Source: City General Fund

Time Frame: Ongoing

Related Noise Element Policies: 1.3-1.6

NOISE AND LAND USE PLANNING INTEGRATION

6. Compatibility Standards Application: Through the Design Review process Noise Element Standards of compatibility described in Tables N-2 and N-3 of the Element will be applied to new development proposals and methods to mitigate anticipated impacts, such as building orientation and acoustical barriers, shall be applied to meet the standards.

Responsible Agency/Department: Community Development

Funding Source: Development fees

Time Frame: Ongoing

Related Noise Element Policies: 2.1, 2.3-2.8

7. Noise Insulation: Interior and exterior noise levels for proposed new development shall be required to meet the California Noise Insulation Standards (Title 24 of the California Administrative Code). These standards shall also be applied to all single family developments and condominium conversion projects where feasible.

Responsible Agency/Department: Community Development

Funding Source: Development fees

Time Frame: Ongoing

Related Noise Element Policies: 2.1, 2.2, 2.5, 2.6

8. Acoustical Analysis: Acoustical analysis reports prepared by a qualified acoustical engineer will be required for new sensitive land uses within Noise Impact Areas identified in the Noise Plan.

Responsible Agency/Department: Community Development

Funding Source: Developer

Time Frame: Ongoing

Related Noise Element Policies: 2.4, 2.7

NON-TRANSPORTATION NOISE CONTROL

9. Noise Ordinance Enforcement: The City will enforce its Noise Ordinance to reduce excessive noise from site-specific sources, such as construction activity mechanical equipment, landscaping maintenance, loud music, truck traffic, loading and unloading activities, and other sources.

Responsible Agency/Department: Community Development, Police Department

Funding Source: City General Fund

Time Frame: Ongoing

Related Noise Element Policies: 3.1, 3.2, 3.3

10. Noise Ordinance Review: The City shall periodically review its Noise Ordinance, policies and regulations affecting noise sources in order to conform with changes in legislation and/or technologies.

Responsible Agency/Department: Community Development

Funding Source: City General Funds

Time Frame: At least once every five years

Related Noise Element Policies: 3.1

11. Occupational Safety and Health Noise Standards: City departments will comply with all state and federal OSHA noise standards and all new equipment purchases shall comply with state and federal noise standards.

Responsible Agency/Department: City Manager

Funding Source: City General Fund

Time Frame: Ongoing

Related Noise Element Policies: 3.3, 3.4

City of Tustin Municipal Code: Article 4, Chapter 6

City of Tustin Municipal Code

Article 4 – Health and Sanitation

CHAPTER 6 - NOISE CONTROL

EDITOR'S NOTE: Ord. No. 828, Sec. 1, adopted July 21, 1980, amended Ch. 6 of Art. 4 to read as herein set out. Prior to amendment, Ch. 6 pertained to similar subject matter, consisted of Section 4611, derived from Ord. No. 9; Ord. No. 239; Ord. No. 450, Secs. 1—3; and Ord. No. 469.

4611 - DECLARATION OF POLICY

In order to control unnecessary, excessive and annoying sounds emanating from incorporated areas of the city, it is hereby declared to be the policy of the City to prohibit such sounds generated from all sources as specified in this chapter.

It is determined that certain noise levels are detrimental to the public health, welfare and safety and contrary to public interest, therefore, the City Council does ordain and declare that creating, maintaining, causing or allowing to create, maintain or cause any noise in a manner prohibited by or not in conformity with the provisions of this chapter, is a public nuisance and shall be punishable as such.

(Ord. No. 828, Sec. 1, 7-21-80)

4612 - DEFINITIONS

The following words, phrases and terms as used in this chapter shall have the meaning as indicated below:

(1) "Ambient noise level." The all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

(2) "A-weighted sound level" (dB(A)). A quantity in decibels, read from a standard sound-level meter that is switched to the weighting network labeled "A." The A-weighted network discriminates against the lower frequencies according to a relationship approximating the auditory sensitivity of the human ear at moderate sound levels.

(3) "Commercial property." A parcel of real property which is developed and zoned either in part or in whole for commercial purposes, including, but not limited to retail and wholesale businesses, and professional offices, but excluding home occupation uses as authorized by Ordinance No. 330.

(4) "CNEL" (community noise equivalent level). A cumulative measure of community noise exposure for a twenty-four-hour day, using the A-weighting sound level and expressed in logarithmic units. This CNEL scale takes into account the single event sound level, single event duration, single event occurrence frequency, and the time of the occurrence of the noise source. Additionally, it applies weighting factors which place greater significance on noise events occurring in the nighttime (10:00 p.m. to 7:00 a.m.) than on those during the evening (7:00 p.m. to 10:00 p.m.) or daytime (7:00 a.m. to 7:00 p.m.), respectively.

(5) "Cumulative period." An additive period of time composed of individual time segments which may be continuous or interrupted.

(6) "Decibel" (dB). A unit which denotes the ratio between two (2) quantities which are proportional to power: The number of decibels corresponding to the ratio of two (2) amounts of power is ten (10) times the logarithm to the base ten (10) of this ratio.

(7) "Dwelling unit." A single unit providing complete, independent living facilities for one (1) or more persons including permanent provisions for living, sleeping, eating, cooking and sanitation.

(8) "Emergency machinery," "vehicle," or "work." Any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

(9) "Fixed noise source." A stationary device which creates sounds while fixed or motionless including, but not limited to, industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.

(10) "Grading." Any excavating or filling of earth material, or any combination thereof, conducted at a site to prepare said site for construction or other improvements thereon.

(11) "Impact noise." The noise produced by the collision of one (1) mass in motion with a second mass which may be either in motion or at rest.

(12) "Industrial property." A parcel of real property which is developed and zoned either in part or in whole for manufacturing purposes, including research and development uses, but excluding home occupation cases as authorized by Ordinance No. 330.

(13) "Mixed use property." A parcel of real property which is developed or used for residential purposes and/or commercial purposes (including retail and wholesale businesses and professional offices) and/or manufacturing purposes (including research and development uses).

(14) "Mobile noise source." Any noise source other than a fixed noise source.

(15) "Noise level." The "A" weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of twenty (20) micropascals per square meter. The unit of measurement shall be designated as dB(A).

(16) "Noise variance board." An administrative board of five (5) members appointed by the Board of Supervisors of the County of Orange, per Title 4, Division 6, Article 1 of the Codified Ordinances of the County of Orange.

(17) "Person." A person, firm, association, copartnership, joint venture, corporation or any entity, public or private in nature.

(18) "Property maintenance equipment." A mechanical blower, leafblower, lawn vacuum or parking lot sweeper which produces a current of air by mechanical, electrical, or other means to push, propel, or blow dirt, dust, leaves, grass clippings, trimmings, cuttings, refuse, and/or debris or any other appliance intended for the maintenance of landscaping on private property.

(19) "Residential property." A parcel of real property which is developed and zoned either in part or in whole for residential purposes, other than transient uses such as hotels and motels.

(20) "Simple tone noise." A noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

(21) "Sound level meter." An instrument meeting American National Standard Institute's Standard S1.4-1971 for Type 1 or Type 2 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.

(22) "Sound pressure level" of a sound, in decibels, shall mean twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of the sound to a reference pressure, which reference pressure shall be explicitly stated.

(Ord. No. 828, Sec. 1, 7-21-80; Ord. No. 845, Secs. 1—3, 5-18-81; Ord. No. 1156, Sec. 1, 10-16-95; Ord. No. 1277, Sec. 2, 7-7-03)

4613 - DESIGNATED NOISE ZONES

The properties hereinafter described are hereby assigned the following noise zones:

(a) Noise Zone 1: All residential properties.

(b) Noise Zone 2: All commercial properties.

(c) Noise Zone 3: All industrial properties.

(d) Noise Zone 4: All special properties such as hospitals, convalescent homes, public and institutional schools, libraries and churches.

(e) Noise Zone 5: All mixed use properties.

(Ord. No. 828, Sec. 1, 7-21-80; Ord. No. 1277, Sec. 3, 7-7-03)

4614 - EXTERIOR NOISE STANDARDS

(a) The following noise standards, unless otherwise specifically indicated, shall apply to all property within a designated noise zone:

EXTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time period
1	55 dB(A)	7:00 a.m.—10:00 p.m.
	50 dB(A)	10:00 p.m.— 7:00 a.m.
2	60 dB(A)	any time
3	70 dB(A)	any time
4	55 dB(A)	any time
5	60 dB(A)	any time

In the event the alleged offensive noise consists of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dB(A).

(b) It shall be unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other property to exceed:

(1) The noise standard for a cumulative period of more than thirty (30) minutes in any hour; or

(2) The noise standard plus five (5) db(A) for a cumulative period of more than fifteen (15) minutes in any hour; or

(3) The noise standard plus ten (10) dB(A) for a cumulative period of more than five (5) minutes in any hour; or

(4) The noise standard plus fifteen (15) dB(A) for a cumulative period of more than one (1) minute in any hour; or

(5) The noise standard plus twenty (20) dB(A) for any period of time.

(c) In the event the ambient noise level exceeds any of the first four (4) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In

the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

(Ord. No. 828, Sec. 1, 7-21-80; Ord. No. 845, Secs. 4, 5, 5-18-81; Ord. No. 1277, Sec. 4, 7-7-03)

4615 - INTERIOR NOISE STANDARDS

(a) The following interior noise standards, unless otherwise specifically indicated, shall apply to all property within a designated noise zone:

INTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7:00 a.m.—10:00 p.m.
	45 dB(A)	10:00 p.m.— 7:00 a.m.
5 (residential uses only)	55 dB(A)	7:00 a.m.—10:00 p.m.
	45 dB(A)	10:00 p.m.—7:00 a.m.

In the event the alleged offensive noise consists of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dB(A).

(b) It shall be unlawful for any person at any location within the incorporated area of the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured within any other dwelling unit on any residential property or mixed use property, to exceed:

(1) The interior noise standard for a cumulative period of more than five (5) minutes in any hour; or

(2) The interior noise plus five (5) dB(A) for a cumulative period of more than one (1) minute in any hour; or

(3) The interior noise standard plus ten (10) dB(A) for any period of time.

(c) In the event the ambient noise level exceeds either of the first two (2) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

(Ord. No. 828, Sec. 1, 7-21-80; Ord. No. 845, Sec. 6, 5-18-81; Ord. No. 1277, Sec. 5, 7-7-03)

4616 - SPECIFIC DISTURBING NOISES PROHIBITED

It shall be unlawful for any person to make, continue, cause to allow to be made or continued for any amount of time the following acts and things which are hereby declared to be unnecessary, excessive and annoying in violation of this article:

(1) Loudspeakers, amplifiers used for advertising. The using, operating or permitting to be played, used, or operated of any radio receiving set, musical instrument, phonograph, loudspeaker, sound amplifier, or other machine or device for the producing or reproducing of sound in excess of the levels described in sections 4614 and 4615 which sound is cast upon the public streets for the purpose of commercial advertising or attracting the attention of the public to any commercial building or structure.

(2) Construction, repairing, remodeling or demolition and grading. The erection, demolition, alteration, repair, excavation, grading, paving or construction of any building or site is prohibited between the hours of 6:00 p.m. and 7:00 a.m., Monday through Friday and 5:00 p.m. and 9:00 a.m. on Saturdays and during all hours Sundays and city observed federal holidays. Trucks, vehicles and equipment that are making or are involved with material deliveries, loading or transfer of materials, equipment service, maintenance of any devices or appurtenances to any construction project in the City shall not be operated on or adjacent to said sites outside of the approved hours for construction activity.

Exception: Construction activities may be permitted outside of those limitations identified in this subsection in the case of urgent necessity or upon a finding that such approval will not adversely impact adjacent properties and the health, safety and welfare of the community if a temporary exception is granted in writing by the Building Official for private property or by the Director of Public Works for public properties or their authorized representatives. All temporary waiver requests shall be made in writing and shall include the specific times, dates and locations requested and a description of the type of activity that is proposed. In granting a temporary exception, conditions may be imposed on construction activities to protect the health, safety and welfare of the community. Any approval granted may be summarily revoked by the Building Official or Director of Public Works at the sole discretion of each official. Notice of such revocation shall be provided to the requestor, Police Department and project file.

(3) Pile drivers, hammers, etc., the operation of a pile driver, power shovel, pneumatic hammer, grading and excavating machinery, paving equipment, or other appliance, the use of which is attended by loud or unusual noise is prohibited between any and all hours on Sundays and city observed federal holidays, between the hours of 6:00 p.m. and 7:00 a.m., Monday through Friday, and between 5:00 p.m. and 9:00 a.m. on Saturdays.

Exception: In the case of urgent necessity and upon a finding that such approval will not adversely impact adjacent properties and the public health, safety and welfare of the community, the above regulations may be modified in writing by the Public Works Director for public property and by the Building Official for private property or their respective authorized representatives. All temporary waiver

requests shall be made in writing and shall include the specific times, dates and locations requested and a description of the type of activity that is proposed. In granting a temporary exception, conditions may be imposed on construction activities to protect the health, safety and welfare of the community. Any approval granted may be summarily revoked by the Building Official or Director of Public Works at the sole discretion of each official. Notice of such revocation shall be provided to the requestor, Police Department and project file.

(4) Property maintenance equipment. The use and operation of property maintenance equipment, the use of which is attended by loud or unusual noise, is prohibited in residentially zoned areas any and all hours on Sundays and city observed federal holidays, before 7:00 a.m. and after 6:00 p.m. Monday through Friday, and before 9:00 a.m. and after 5:00 p.m. on Saturdays. In commercial and industrially zoned areas, the use of property maintenance equipment is prohibited any and all hours on Sundays and city observed federal holidays, before 7:00 a.m. and after 10:00 p.m. Monday through Friday, and before 9:00 a.m. and after 10:00 p.m. on Saturdays. No property owner, lessee, gardener, property maintenance service, contractor, subcontractor, or employer shall permit or allow any person working at their direction to operate property maintenance equipment in violation of the provisions of this section. All debris generated by the use of property maintenance equipment shall be cleaned up and disposed of in accordance with section 4421 of this Code.

Exceptions:

a. Public property maintenance is exempt from the provisions of this subsection (4).

b. The use of property maintenance equipment may be permitted outside of those limitations identified in subsection 4616 (4) in the case of necessity or upon a finding that such approval will not adversely impact adjacent properties and the health, safety, and welfare of the community if a temporary exception is granted in writing by the Building Official or the Building Official's authorized representatives. All temporary exception requests shall be made in writing and shall include the specific times and dates and locations requested and a description of the activity that is proposed. In granting a temporary exception, conditions may be imposed on the use of property maintenance equipment to protect the public health and safety. Any approval granted may be summarily revoked by the Building Official at the sole discretion of the Building Official. Notice of such revocation shall be provided to the requestor, Police Department and project file.

(Ord. No. 828, Sec. 1, 7-21-80; Ord. No. 845, Sec. 7, 5-18-81; Ord. No. 1083, Sec. 1, 4-21-92; Ord. No. 1143, Sec. 1, 2-21-95; Ord. No. 1156, Sec. 2, 10-16-95; Ord. No. 1197, Sec. 3, 3-16-98)

4617 - EXEMPTIONS

The following activities shall be exempted from the provisions of this chapter:

(a) Activities conducted on the grounds of any public or private nursery, elementary, intermediate or secondary school or college, public agency, and public utility.

(b) Outdoor gatherings, public dances, shows and sporting and entertainment events provided said events are conducted pursuant to a permit (license/permit) issued by the City pursuant to Article 3, Chapter 2 of the Tustin City Code relative to the staging of said events.

(c) Activities conducted on any park or playground provided such park or playground is owned and operated by a public entity.

(d) Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work.

(e) Noise sources associated with construction, repair, remodeling, or grading of any real property between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and the hours of 9:00 a.m. and 5:00 p.m. on Saturdays, excluding city observed federal holidays.

(f) All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

(g) Mobile noise sources associated with agricultural operations provided such operations do not take place between the hours of 6:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or any time on Sunday or a city observed federal holiday.

(h) Mobile noise sources associated with agricultural pest control through pesticide application provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural Commissioner.

(i) Noise sources associated with maintenance of real property provided said activities take place between the hours of 7:00 a.m. and 6:00 p.m. on any day except Sunday or city observed federal holidays, or between the hours of 9:00 a.m. and 6:00 p.m. on Sunday or city observed federal holidays.

(j) Any activity to the extent regulation thereof has been preempted by state or federal law.

(k) Noise sources associated with the maintenance, repair, remodeling, grading and landscaping of residential real property performed by the owner, provided such activity does take place between the hours of 7:00 a.m. and 9:00 p.m. This section does not authorize noise sources performed by independent building trades contractors.

(l) Noise sources associated with the maintenance and repair of personal property performed by the owner on the owner's residential property, provided such activity takes place between the hours of 7:00 a.m. and 9:00 p.m. This section does not authorize noise sources by independent repairmen or technicians.

(Ord. No. 828, Sec. 1, 7-21-80; Ord. No. 1143, Sec. 2, 2-21-95; Ord. No. 1156, Sec. 3, 10-16-95; Ord. No. 1197, Sec. 4, 3-16-98)

4618 - SCHOOLS, HOSPITALS, COURTS AND CHURCHES

It shall be unlawful for any person to create any noise which causes the noise level at any school, hospital, court, or church while the same is in use, to exceed the noise limits as specified in section 4614 prescribed for the assigned noise zone in which the school, hospital, or church is located, or which noise level unreasonably interferes with the use of such institutions or which unreasonably disturbs or annoys patients in the hospital, provided conspicuous signs are displayed in three (3) separate locations within one-tenth of a mile of the institution indicating the presence of a school, church, court, or hospital.

(Ord. No. 828, Sec. 1, 7-21-80)

4619 - AIR CONDITIONING AND REFRIGERATION

During a one-year period following the effective date of Ordinance No. 828 the noise level standards as specified in Sections 4614 and 4615 shall be increased by eight (8) dB(A) where the alleged noise source is an air-conditioning apparatus or refrigeration system, which was installed prior to the effective date of said Ordinance.

(Ord. No. 828, Sec. 1, 7-21-80)

4620 - NOISE LEVEL MEASUREMENT CRITERIA

Any noise level measurements made pursuant to the provisions of this Chapter shall be performed using a sound level meter as defined in Section 4612. The location selected for measuring exterior noise levels shall be at any point on the affected property. Interior noise measurements shall be made within the dwelling unit affected by exterior noise. The measurement shall be made at a point at least four (4) feet from the wall, ceiling, or floor nearest the alleged offensive noise source and may be made with the windows of the affected unit open.

(Ord. No. 828, Sec. 1, 7-21-80)

4621 - RESERVED

Editor's note— Section 11 of Ord. No. 1366, adopted Nov. 11, 2009, repealed Section 4621, which pertained to the manner of enforcement; adoption of Title 4, Division 6, Codified Ordinances of Orange County, and derived from Ord. No. 828, adopted July 21, 1980; and Ord. No. 845, adopted May 18, 1981.

4622 - RESERVED

Editor's note— Section 11 of Ord. No. 1366, adopted Nov. 11, 2009, repealed Section 4622, which pertained to variance procedure, and derived from Ord. No. 828, adopted July 21, 1980.

4623 - RESERVED

Editor's note— Section 11 of Ord. No. 1366, adopted Nov. 11, 2009, repealed Section 4623, which pertained to the noise variance board, and derived from Ord. No. 828, adopted July 21, 1980.

4624 - RESERVED

Editor's note— Section 11 of Ord. No. 1366, adopted Nov. 11, 2009, repealed Section 4624, which pertained to appeals and derived from Ord. No. 828, adopted July 21, 1980.

4625 - VIOLATIONS; MISDEMEANORS

Any person violating any of the provisions of this Chapter shall be deemed guilty of a misdemeanor. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. The provisions of this Chapter shall not be construed as permitting conduct not prescribed herein and shall not affect the enforceability of any other applicable provisions of law.

(Ord. No. 828, Sec. 1, 7-21-80; Ord. No. 845, Sec. 9, 5-18-81)

City of Irvine General Plan Noise Element



Noise

ELEMENT F
NOISE

GOAL: Contribute to a healthy and safe environment by minimizing noise impacts.

Description of Noise Element

Noise, as defined in this element, is generally unwanted sound which is considered unpleasant and bothersome. Unwanted noise can affect people both physically and psychologically. People are usually more sensitive to noise during the evening and nighttime than during the day because of reduced activities, fewer noise emitting sources, and the need for rest. Land uses in which people are especially sensitive to noise include residential, convalescent and rest homes, hospitals, libraries, churches, and schools. This element provides guidelines for minimizing noise impacts from various sources.

The Community Noise Equivalent Level (CNEL), commonly used by California local governments, is used by Irvine to quantify community noise levels and standards. The CNEL is an average of noise levels over a twenty-four hour period. Refer to technical definitions on Page F-3.

The City's interior and exterior noise standards are shown on Table F-1. Table F-2 shows each land use category and the CNEL which is compatible with the uses in the category.

Existing Conditions

The most pervasive noise in Irvine comes from mobile noise sources such as motor vehicles, railroads, and aircraft. Three major freeways, one railroad line, and three airports expose the City to significant noise impacts. Aircraft flight tracks also impact particular areas of the City significantly. The City is also exposed to noise emanating from sources such as industrial, commercial, and construction activities.

Unwanted noise is divided into two major categories of noise sources - mobile and stationary.

1. **Mobile Noise Sources.**

   Mobile sources are transportation-related (non-fixed) including motor vehicles, railroad, and aircraft. Motor vehicle noise is characterized by a high frequency of events, short duration, and proximity to areas sensitive to noise exposure. Rail transit and aircraft operations frequently generate extremely high noise levels which are disruptive to human activity.

   a. Motor Vehicles.

      Sources of vehicular traffic noise are automobiles, buses, trucks, and motorcycles. Noise is generated by engines, exhaust systems, transmissions, fans, tires, and air movement. The noise level is relatively constant on major roads where traffic is heavy and intermittent on neighborhood streets where traffic is lighter.

      Table F-3 describes vehicular noise impacts for both the existing and buildout condition

   b. Railroads.

      Railroad noise is the result of the mechanical processes of the engine, the interaction of the wheels with the track, and use of the whistle. The amount of noise generated is dependent upon the speed of the train and the number of cars.



      Railway lines that pass through the central part of the City in an east/west direction are located on right-of-way that is owned and managed by the Orange County Transportation Authority. The railroad operation includes commuter trains and freight trains. The number of freight trains depends on economic demand. There are also spur lines located IBC (Planning Area 36), and Irvine Industrial Complex-East (Planning Area 35). The noise generated by these spur lines is insufficient to provide CNEL contours in excess of 60 dB outside the right-of-way.

   c. Aircraft.

      Aircraft noise generally affects areas within the airport vicinity during takeoffs and landings, and areas located around the flight tracks. Airborne noise sources in Irvine included aircraft operations at MCAS El Toro and helicopter

Definitions

Community Noise Equivalent Level (CNEL): The CNEL is an average of noise levels over a twenty-four (24) hour period. The measured energy equivalent level (Leq) is weighted for the hours when there is a greater sensitivity to noise. A weighting factor of 5 decibels is applied to the evening period (7 to 10 p.m.) and a weighting factor of 10 decibels is applied to the night time period (10 p.m. to 7 a.m.). The daytime Leqs between 7 a.m. and
7 p.m. are not weighted.

Decibel: dB, a numerical expression of the relative intensity of a sound as it is heard by the human ear.

dBA: The "A-weighted" scale for measuring sound in decibels, it weighs or reduces the effects of low and high frequencies in order to simulate human hearing. Every increase of 10 dBA doubles the perceived loudness although the noise is actually ten times more intense.

Leq: The energy equivalent level, defined as the average sound level on the basis of sound energy. The Leq is a "dosage" type measure and is the basis for the descriptors used in current standards, such as the 24- hour Community Noise Equivalent Level (CNEL) used by the State of California.

Standards

Interior and Exterior Noise Standards: Table F-1 identifies the maximum interior and exterior noise levels for each land uses category. The standards assume the incorporation of California State Law requirements into all projects.

Land Use Noise Compatibility Table F-2 identifies the compatibility of proposed projects and future noise levels. The diagram is used in evaluating new development projects, including General Plan amendments, zone changes, tentative maps, conditional use permits and master plans.

Single Event Noise Standard: The maximum interior noise levels of the loudest 10% of single noise events [Lmax(10)] for noise sensitive land uses within the 60 CNEL of aircraft and railroad noise sources shall not exceed 65 dBA between 7 a.m. and 7 p.m nor 55 dBA between 7 p.m. and 7 a.m. for typical occupancy. (Note: The samples for single event noise measurement must include representative aircraft operation.)

operations at MCAS Tustin; and, currently include civil air operations at John Wayne Airport.

MCAS El Toro: The major aircraft noise source in Irvine was MCAS El Toro, which was located in Planning



Area 51. The most recent noise study for MCAS El Toro was adopted in 1981 by the Marine Corps as part of the Air Installation Compatible Use Zone (AICUZ) Study.

The noise levels were based on noise characteristics of aircraft as measured by the military, and annual operations data (number and type of aircraft movements, and flight tracks), according to the Marine Corps' records. The final position of the computed CNEL contours was verified by several site specific studies outside of Irvine. Field measurements will occur in conjunction with sensitive land uses to assess impacts of aircraft noise together with other noise sources (e.g. vehicular).

MCAS El Toro was closed in July, 1999. In its place, the County of Orange has proposed a commercial airport, which will likely have an impact on aircraft noise as well as vehicular noise. The City of Irvine actively opposes a commercial airport.

The El Toro Reuse Planning Authority which consists of the cities of Irvine, Mission Viejo, Laguna Hills, Lake Forest, Laguna Beach, Dana Point and Laguna Niguel, has prepared the Millennium Plan for the reuse of El Toro. The Millennium Plan consists of a mix of nonaviation land uses which may have different vehicular and stationary noise levels than currently associated with military activities at MCAS El Toro.

MCAS Tustin: The noise from helicopter operations at MCAS Tustin also affected the City. The City formerly used the AICUZ noise contour map as depicted in the 1983 Master Plan, for MCAS Tustin, for the assessment of the helicopter noise impacts.

MCAS Tustin was closed in 1999. This eliminated aircraft noise but the land uses that could be developed in its place may increase vehicular and stationary noise.

John Wayne Airport: The John Wayne Airport noise contour map, prepared annually by the Noise Abatement Center of John Wayne Airport, is used for the assessment of aircraft noise impacts. Annual updates of the original 1980 John Wayne Airport noise contour map, are used for planning analysis.

Figure F- 1 illustrates the former noise contours for the now closed MCAS Tustin and the existing noise contours for John Wayne Airport.

2. Stationary Noise Sources.

Stationary noise sources are the noise sources in the community such as industrial and mechanical equipment, which are often referred to as "fixed sources." Industrial noise generated by processing and operation is usually of long duration at relatively low frequencies.



Construction sources generate high noise levels for extended periods of time. Examples include: rock crushers; mechanical electric equipment such as air conditioners or refrigeration units; various power tools such as lawn mowers or leaf blowers; construction activities; commercial or industrial activities such as car wash facilities; animal noise; and human-related activities such as loud parties, loud music, radio, T.V., or children playing.

The City's Noise Ordinance establishes the maximum permissible noise level which may intrude into a neighbor's property. The Ordinance (adopted in 1975 and revised in 1984) establishes noise level standards for various land use categories being affected by stationary noise sources. The ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses.

Trends

1. Mobile Noise Sources.

a. Motor Vehicles.

Motor vehicle noise will continue to be significant. Irvine will also be impacted by through traffic from yet-to-be-developed areas to the south, east and west. An increased use of convenient mass transit systems may contribute to noise reduction. Future motor vehicle noise is shown in Figure F- 3.

b. Railroads.

It is expected that over the years there will be an increase in railroad traffic especially as commuter trains are added along the Los Angeles-San Diego (LOSSAN) corridor. Future railroad noise is shown in Table F-3.

c. Aircraft.

It is expected that over the years noise impacts to the City from aircraft operations at John Wayne Airport will not increase because of agreements restricting the number of flights, hours of noise, and aggregate noise. Based on the State Airport Noise Regulation (Title 21), John Wayne Airport (as a civil airport) is required to reduce the airport noise impact on existing communities.

2. Stationary Noise Sources.

As the City develops further, it is expected that stationary noise levels will increase. However, noise impacts can be mitigated by use of control measures and enforcement of the Noise Ordinance in the development process.

Identification of Issues

1. **How can the City ensure that residents are not exposed to excess mobile noise levels?**
2. **How can the City ensure that residents are not exposed to excess stationary noise levels?**
3. **How can these regulations be coordinated to provide a healthy noise environment?**
4. **How can public awareness in this area be increased?**

Response to Issues

The following objectives and policies have been formulated as a policy response to the identified noise issues.

OBJECTIVE F-1: MOBILE NOISE

Ensure that City residents are not exposed to mobile noise levels in excess of the CNEL Interior and Exterior Noise Standards (Table F-1), and Single Event Noise Standard.

The following policies support Objective F-1:

Policy (a): Require all plans submitted for development review to show the Noise Element existing noise contours, future noise contours and aircraft noise contours.

Policy (b): Prohibit residential development within the 65 CNEL of aircraft noise contours.

Policy (c): Ensure that all proposed development projects are compatible with the existing and projected noise level by using the Land Use Noise Compatibility Matrix (Table F-2).

Policy (d): Require noise studies to be prepared in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site.

Policy (e): Require noise studies to use the future motor vehicle noise reduction of 1.9 dBA in identifying future noise levels of streets.

Policy (f): Require noise studies to identify all the mitigation measures necessary to reduce noise levels to meet the CNEL standard (Table F-1) and Single Event Noise Standard.

Policy (g): Require compliance with Single Event Noise Standard for noise sensitive land uses within the 60 CNEL of aircraft and railroad noise contours.

Policy (h): Require conditional use permits for noise sensitive land uses such as hospitals, libraries, churches, and schools to mitigate noise-related impacts.

Policy (i): Update highway/railroad noise levels (Table F-3) every five years and/or whenever the City's Irvine Traffic Analysis Model (ITAM) has been significantly changed.

Policy (j): Ensure that any proposal to update aircraft noise contours used by the City of Irvine for planing analysis is submitted, prior to adoption by the City, to the Airport Land Use Commission

Policy (k): Incorporate the following types of noise mitigation measures in the design of new highways and streets: alignment, barriers, lateral separation, and vertical profile.

Policy (l): Examine the existing and projected future noise environment when considering amendments to the City's circulation system.

Policy (m): Reduce noise impacts from mobile sources by encouraging use of alternative modes of transportation

Policy (n): Reduce railroad noise impacts to new development by incorporating measures for mitigating noise levels to meet the City's noise standards.

Policy (o): Participate in cooperative efforts with Orange County Transit Authority to fund and construct grade separations, where feasible, through residential areas of the City, giving consideration to all potential funding sources.



OBJECTIVE F-2: STATIONARY NOISE

Ensure that City residents are not exposed to stationary noise levels in excess of the City Noise Ordinance standards.

The following policies support Objective F-2:

Policy (a): Require any new construction to meet the City Noise Ordinance standards as a condition of building permit approval.

Policy (b): Require developers to depict, on any appropriate development application review (zone change, subdivisions, conditional use permit, site plan, and building plans), any potential noise sources known at the time of submittal and mitigation measures that ensure these noise sources meet the City Noise Ordinance standards. Such sources include, but are not limited to, the following:

- Truck pickup and loading areas.
- Mechanical and electrical equipment such as air conditioning, swimming pool pumps and filters, and spa pumps.
- Exterior nuisances such as speaker boxes and outdoor public address systems.



Policy (c): Condition subdivision approval of the projects adjacent to any developed/occupied uses by requiring the developer to submit a construction-related noise mitigation plan to the Director of Community Development for review and approval prior to issuance of grading permits. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of the project, through the use of such methods as following:

- Temporary noise attenuation fences.
- Preferential location of equipment.
- Use of current technology and noise suppression equipment.

OBJECTIVE F-3: NOISE ABATEMENT

Achieve maximum efficiency in noise abatement efforts through intergovernmental coordination and public information programs.

The following policies support Objective F-3:

Policy (a): Coordinate efforts to reduce noise impacts with appropriate public and government agencies.

Policy (b): Monitor federal and state legislation and programs which will reduce noise in Irvine.

Policy (c): Use police power to enforce the appropriate noise standards in the state's motor vehicle code and other state and federal legislation for mobile noise sources.

Policy (d): Encourage appropriate agencies to maximize the use of noise reducing equipment in the City.

Policy (e): Seek the cooperation of aircraft regulatory agencies in the modification and selection of flight paths which will reduce noise impacts on residential and other noise sensitive areas.

Policy (f): Monitor and update, as needed, the City Noise Ordinance so that it will continue to be effective in restricting noise from stationary sources.

Policy (g): Disseminate public information regarding City noise regulations and programs, the health effects of high noise levels, and means of mitigating such levels.

TABLE F-1

INTERIOR AND EXTERIOR NOISE STANDARDS ENERGY AVERAGE (CNEL)

LAND USE CATEGORIES		ENERGY AVERAGE (CNEL)	
CATEGORIES	**USES**	**INTERIOR[1]**	**EXTERIOR[2]**
RESIDENTIAL	Single-Family Multiple-Family	45[3] 55[4]	65[7]
	Mobile Home	_____	65[5]
COMMERCIAL/ INDUSTRIAL	Hotel, motel, transient lodging	45	65[6]
	Commercial, retail, bank, restaurant	55	_____
	Office building, professional office, research & development	50	_____
	Amphitheater, concert hall, auditorium, meeting hall	45	_____
	Gymnasium (Multipurpose)	50	_____
	Health clubs	55	_____
	Manufacturing, warehousing, wholesale, utilities	65	_____
	Movie theater	45	_____
INSTITUTIONAL	Hospital, school classroom	45	65
	Church, library	45	_____
OPEN SPACE	Parks	_____	65

Interpretation:

1. Interior environment excludes bathrooms, toilets, closets, and corridors.
2. Outdoor environment limited to private yard of single-family or multi-family residences private patio which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.
3. Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of UBC.
4. Noise level requirement with open windows, if they are used to meet natural ventilation requirement.
5. Exterior noise level shall be such that interior noise level will not exceed 45 CNEL.
6. Except those areas affected by aircraft noise.
7. Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

TABLE F-2

LAND USE NOISE COMPATIBILITY

LAND USE CATEGORIES		ENERGY AVERAGE (CNEL)						
Categories	Uses	<	55	60	65	70	75	80>
RESIDENTIAL	Single-Family	A	A	B	B	C	D	D
RESIDENTIAL	Mobile Home	A	A	B	C	C	D	D
COMMERCIAL Regional	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
COMMERCIAL Regional Community	Commercial retail, Bank, Restaurant, Movie theater	A	A	A	A	B	B	C
COMMERCIAL Community INDUSTRIAL & INSTITUTIONAL	Office building, Research & development Professional office, City office building	A	A	A	B	B	C	D
COMMERCIAL Recreation INSTITUTIONAL General	Amphitheater, Concert hall Auditorium, Meeting hall	B	B	C	C	D	D	D
COMMERCIAL Recreation	Children's amusement park, Miniature golf, Go-cart track, Health club, Equestrian center	A	A	A	B	B	D	D
COMMERCIAL Community INDUSTRIAL General	Automobile service station, Auto dealer, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
INSTITUTIONAL General	Hospital, Church, Library, School classrooms	A	A	B	C	C	D	D
OPEN SPACE	Parks	A	A	A	B	C	D	D
OPEN SPACE	Golf courses, Nature centers, Cemeteries, Wildlife reserves, Wildlife habitat	A	A	A	A	B	C	C
AGRICULTURAL	Agriculture	A	A	A	A	A	A	A

Interpretation

Zone A Clearly Compatible	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Zone B Normally Compatible	New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Zone C Normally Incompatible	New construction or development should normally be discouraged. If new construction or development does proceed, a detailed analysis or noise reduction requirements must be made and needed noise insulation features must be included in the design
Zone D Clearly Incompatible	New construction or development should generally not be undertaken.

Noise Mitigation Measure Definitions

Alignment: In the context of highway noise assessment, the three-dimensional position of the road.

Barriers: Any solid material that shields a receiver from a given source of noise. Types of barriers include walls, berms, hills and intervening structures. Most often, the term "noise barrier" refers specifically to sound walls or berms intentionally placed in such a way as to re-direct noise away from receiver locations (e.g., sound walls along a highway).

Lateral separation: The horizontal distance between the road and a receiver. With new roadway construction, there is sometimes the flexibility to position the alignment within the right of way in such a way as to maximize the lateral separation (or buffer) between the road (noise source) and the nearest receivers (e.g., residences).

Vertical Profile: The path of a roadway in the vertical direction. Roadways can be designed to be below-grade (depressed), above-grade (elevated), or at-grade relative to areas adjacent to the road. Generally, traffic noise levels along depressed roadways are substantially lower than those along roadways that are at grade. Elevated roadways also reduce traffic noise (relative to at-grade conditions) but only within the first few hundred feet of the road.

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Noise Element:

Land Use Element - A-6
Circulation Element - B-2, B-7
Housing Element - C-2
Public Facilities and Services Element - G-1
Integrated Waste Management Element – H-2
Conservation and Open Space Element - L-6
Growth Management Element – M-3

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions*		*2020 Buildout Condition*	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
Alton Parkway				
Barranca/Muirlands Blvd. to Jeronimo Rd.	71.4	267	72.0	293
Jeronimo Road/Toledo Way	70.7	240	70.5	233
Toledo Way/Irvine Boulevard	66.9	134	70.0	215
Irvine Boulevard/North City Limits	- -	- -	71.0	251
SR 55/Red Hill Avenue	61.3	57	69.3	193
Red Hill Avenue/Von Karman Avenue	66.8	132	70.2	222
Von Karman Avenue/Jamboree Road	66.3	122	70.7	240
Jamboree Road/Harvard Avenue	67.4	145	71.5	271
Harvard Avenue/Culver Drive	68.9	182	69.6	203
Culver Drive/West Yale Loop	67.7	151	69.0	185
West Yale Loop/Lake Road	68.0	158	68.7	176
Lake Road/Creek Road	69.0	185	69.4	196
Creek Road/East Yale Loop	68.3	166	69.5	200
East Yale Loop/Jeffrey Road	68.2	163	69.6	203
Jeffrey Road/Sand Canyon Avenue	68.9	182	72.3	307
Sand Canyon/Future Laguna Canyon Rd.	69.4	196	71.9	288
Future (Link)/SR 133	69.4	196	71.0	251
SR 133/Irvine Center Drive	68.6	174	70.2	222
I-5/West Technology Drive	69.1	188	72.2	302
Future Rockfield to Barranca/Muirlands	72.8	331	70.9	247
Barranca Parkway/Muirlands Boulevard				
Red Hill Avenue/Von Karman Avenue	69.6	203	72.4	311
Von Karman Avenue/Jamboree Road	69.2	191	73.1	347
Jamboree Road/Harvard Avenue	67.8	154	70.9	247
Harvard Avenue/Culver Drive	68.9	182	69.5	200
Culver Drive/West Yale Loop	67.7	151	68.3	166

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions* CNEL Noise Level (@ 100 ft from ctrline)	*Existing Conditions* Distance to 65 CNEL Noise Contour (in feet)	*2020 Buildout Condition* CNEL Noise Level (@ 100 ft from ctrline)	*2020 Buildout Condition* Distance to 65 CNEL Noise Contour (in feet)
West Yale Loop/Lake Road	67.3	142	68.2	163
Lake Road/Creek Road	67.3	142	68.0	158
Creek Road/East Yale Loop	66.7	130	67.6	149
East Yale Loop/Jeffrey Road	66.5	126	68.8	179
Jeffrey Road/Future	- -	- -	69.5	200
Future/Sand Canyon Avenue	- -	- -	69.2	191
Sand Canyon/Future Laguna Canyon Rd.	61.7	60	71.0	251
Future (Link)/SR 133	61.7	60	69.7	206
SR 133/Irvine Center Drive	66.3	122	69.7	206
Irvine Center Drive/I-5	67.2	140	70.7	240
I-5 Freeway/Alton Parkway	69.4	196	69.8	209
Alton Parkway/Bake Parkway	69.2	191	66.4	124
(Continued on the next page)				
Bison Avenue				
MacArthur Boulevard/Newport Coast Drive	- -	- -	69.1	188
Newport Coast Drive/California Avenue	59.0	40	65.8	113
Bonita Canyon Drive				
Newport Coast Drive/Culver Drive	65.5	108	71.1	255
Culver Drive/Sunnyhill	60.2	48	66.6	128
Bryan Avenue				
Culver Drive/Westwood	65.4	106	66.0	117
Westwood/Yale Avenue	63.0	74	66.0	117
Yale Avenue/Eastwood	62.1	64	65.5	108
Eastwood/Jeffrey Road	62.1	64	65.5	108
California Avenue				
University Drive/Bison Avenue	62.7	70	66.8	132

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions*		*2020 Buildout Condition*	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
Bison Avenue/Palo Verde Road	- -	- -	62.3	66
Palo Verde Road/Campus Drive	- -	- -	65.8	113
Campus Drive/Harvard Avenue	61.1	55	65.7	111
Campus Drive				
MacArthur Blvd./Von Karman Ave.	65.5	108	67.6	149
Von Karman Ave./Jamboree Road	65.1	102	66.6	128
Jamboree Road/University Drive	68.4	169	69.2	191
University Drive/Culver Drive	67.3	142	70.3	226
Culver Drive/Turtle Rock Drive	66.9	134	68.9	182
Creek Road				
Barranca Parkway/Alton Parkway	58.2	35	68.3	166
Culver Drive				
Irvine Boulevard/Bryan Avenue	65.3	105	70.3	226
Bryan Avenue to I-5/Trabuco Road	70.3	226	71.4	267
I-5/Trabuco Road to Walnut Avenue	69.2	191	72.0	293
Walnut Avenue/Irvine Center Drive	71.4	267	71.5	271
Irvine Center Drive/Warner Avenue	71.9	288	72.7	326
Warner Avenue/Barranca Parkway	71.6	275	72.2	302
Barranca Parkway/Alton Parkway	70.9	247	72.1	297
Alton Parkway/Main Street	71.5	271	72.2	302
Main Street/San Diego Freeway (I-405)	71.6	275	71.9	288
San Diego Freeway (I-405)/Michelson Dr.	70.5	233	72.0	293
Michelson Drive/University Drive	70.1	219	71.8	284
University Drive/Harvard Avenue	68.8	179	71.3	263
Harvard Avenue/Campus Drive	67.5	147	70.2	222
Campus Drive/Bonita Canyon Drive	62.9	72	70.3	226

(Continued on the next page)

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions*		*2020 Buildout Condition*	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
East Yale Loop				
Yale Avenue/Barranca Parkway	65.4	106	63.4	78
Barranca Parkway/Alton Parkway	64.6	94	64.2	88
Alton Parkway/West Yale Loop	65.8	113	66.1	118
Ford Road				
MacArthur Boulevard/San Miguel Drive	66.5	126	65.5	108
San Miguel Drive/Newport Coast Drive	- -	- -	68.2	163
Harvard Avenue				
Walnut Avenue/Irvine Center Drive	64.2	88	66.1	118
Irvine Center Drive/Warner Avenue	66.9	134	65.2	103
Warner Avenue/Barranca Parkway	66.8	132	65.9	115
Barranca Parkway/Alton Parkway	66.5	126	64.4	91
Alton Parkway/Main Street	66.7	130	69.7	206
Main Street/Michelson Drive	66.7	130	70.4	229
Michelson Drive/University Drive	67.0	136	67.5	147
University Drive/California Avenue	65.1	102	68.0	158
Irvine Center Drive				
Harvard Avenue/Culver Drive	68.6	174	71.2	259
Culver Drive/Yale Avenue	69.4	196	71.6	275
Yale Avenue/Jeffrey Road	68.1	161	71.4	267
Jeffrey Road/Future	69.6	203	71.2	259
Future/Sand Canyon Avenue	69.8	209	71.1	255
Sand Canyon Avenue/Barranca Parkway	69.1	188	73.5	369
Barranca Parkway/Alton Parkway	67.2	140	71.9	288
Alton Parkway/San Diego Freeway (I-405)	70.7	240	70.6	236

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions* CNEL Noise Level (@ 100 ft from ctrline)	*Existing Conditions* Distance to 65 CNEL Noise Contour (in feet)	*2020 Buildout Condition* CNEL Noise Level (@ 100 ft from ctrline)	*2020 Buildout Condition* Distance to 65 CNEL Noise Contour (in feet)
Future/Bake Parkway	73.3	358	74.4	423
Irvine Boulevard				
Culver Drive/Yale Avenue	70.5	233	72.4	311
Yale Avenue/Jeffrey Road	70.3	226	71.7	280
West of Alton Parkway	70.5	233	71.2	259
Alton Parkway/Bake Parkway	70.1	219	68.8	179
Jamboree Road				
San Diego Freeway (I-405)/Michelson Dr.	72.6	321	73.7	380
Michelson Drive/Campus Drive	72.1	297	72.5	316
Santa Ana Freeway (I-5)/Walnut Avenue	72.0	293	73.4	363
Walnut Avenue/Railroad Tracks	71.9	288	76.8	612
(Continued on the next page)				
Jamboree Road (Continued)				
Warner Avenue/Barranca Parkway	71.5	271	76.9	621
Barranca Parkway/Alton Parkway	69.6	203	73.9	392
Alton Parkway/Main Street	71.4	267	73.2	352
Main Street/San Diego Freeway (I-405)	72.4	311	73.1	347
Jeffrey Road/University Drive				
Irvine Boulevard/Bryan Avenue	68.6	174	69.5	200
Trabuco Road/Santa Ana Freeway (I-5)	69.4	196	69.7	206
Santa Ana Freeway (I-5)/Walnut Avenue	69.4	196	70.1	219
Walnut Avenue/Irvine Center Drive	70.1	219	72.1	297
Irvine Center Drive/Barranca Parkway	70.7	240	71.9	288
Barranca Parkway/Alton Parkway	69.3	193	71.5	271
Alton Parkway/San Diego Freeway (I-405)	71.7	280	73.2	352
San Diego Freeway (I-405)/Michelson Dr.	71.3	263	70.7	240

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions*		*2020 Buildout Condition*	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
Michelson Drive/Ridgeline Drive	69.7	206	71.7	280
Ridgeline Drive/Yale Avenue	68.4	169	68.7	176
Yale Avenue/Culver Drive	70.0	215	70.1	219
Culver Drive/Harvard Avenue	69.0	185	71.3	263
Harvard Avenue/Campus Drive	69.3	193	72.8	331
Campus Drive/MacArthur Boulevard	68.5	171	72.7	326
Jeronimo Road				
Alton Parkway/Bake Parkway	66.1	118	67.7	151
Laguna Canyon Road				
Barranca Parkway/Alton Parkway	62.7	70	69.0	185
Alton Parkway/Laguna Freeway (SR 133)	62.7	70	71.5	271
Laguna Freeway (SR 133)/Lake Forest Dr.	- -	- -	69.0	185
Laguna Freeway (SR 133)/Bake Parkway	- -	- -	74.2	411
Laguna Freeway (SR 133)				
Santa Ana Freeway (I-5)/Barranca Parkway	69.6	203	77.9	724
San Diego Fwy (I-405)/Laguna Canyon Rd.	71.2	259	76.0	541
Lake Forest Drive				
Laguna Canyon Road/Future Bake Parkway	- -	- -	70.6	236
Future Bake Parkway/East City Limits	- -	- -	71.8	284
Lake Road				
Barranca Parkway/Alton Parkway	61.9	62	71.5	271
MacArthur Boulevard				
Costa Mesa Freeway (SR 55)/Red Hill Ave.	70.4	229	72.2	302
Red Hill Avenue/Main Street	68.9	182	73.2	352
(Continued on the next page)				
MacArthur Boulevard (Continued)				

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions* CNEL Noise Level (@ 100 ft from ctrline)	*Existing Conditions* Distance to 65 CNEL Noise Contour (in feet)	*2020 Buildout Condition* CNEL Noise Level (@ 100 ft from ctrline)	*2020 Buildout Condition* Distance to 65 CNEL Noise Contour (in feet)
Main Street/San Diego Freeway (I-405)	71.6	275	74.4	423
San Diego Freeway (I-405)/Michelson Dr.	70.1	219	71.7	280
Michelson Drive/Campus Drive	69.8	209	75.1	471
Jamboree Road/University Drive	68.4	169	75.1	471
University Drive/Newport Coast Drive	73.9	392	72.8	331
Newport Coast Drive/Bison Avenue	74.4	423	73.9	392
Bison Avenue/Ford Road	74.5	430	74.0	398
Main Street				
SR 55/Red Hill Avenue	67.0	136	71.5	271
Red Hill Avenue/MacArthur Boulevard	67.7	151	71.5	271
MacArthur Blvd./Von Karman Avenue	69.2	191	71.6	275
Von Karman Avenue/Jamboree Road	68.1	161	71.7	280
Jamboree Road/Harvard Avenue	67.1	138	69.2	191
Harvard Avenue/Culver Drive	66.1	118	67.5	147
Culver Drive/West Yale Loop	65.0	100	64.4	91
Michelson Drive				
MacArthur Blvd./Von Karman Avenue	66.3	122	65.1	102
Von Karman Avenue/Jamboree Road	65.4	106	68.0	158
Jamboree Road/Harvard Avenue	66.7	130	71.8	284
Harvard Avenue/Culver Drive	66.1	118	69.1	188
Culver Drive/West Yale Loop	63.1	75	63.1	75
Yale Avenue/University Drive	62.3	66	63.2	76
Sand Canyon Ave./Laguna Canyon Road	- -	- -	63.1	75
Red Hill Avenue				
Barranca Parkway/Alton Parkway	69.5	200	72.6	321
Alton Parkway/MacArthur Boulevard	70.7	240	72.8	331
MacArthur Boulevard/Main Street	66.8	132	69.2	191
Main Street/San Diego Freeway (I-405)	67.4	145	72.0	293
Ridgeline Drive				
University Drive/Turtle Rock Drive	66.9	134	66.6	128

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions* CNEL Noise Level (@ 100 ft from ctrline)	*Existing Conditions* Distance to 65 CNEL Noise Contour (in feet)	*2020 Buildout Condition* CNEL Noise Level (@ 100 ft from ctrline)	*2020 Buildout Condition* Distance to 65 CNEL Noise Contour (in feet)
Rockfield Boulevard				
Alton Parkway/Thomas	- -	- -	65.4	106
Thomas/Bake Parkway	60.9	53	65.4	106
Bake Parkway/East City Limits	68.7	176	70.7	240
Sand Canyon Avenue				
North of Marine Way	66.9	134	68.6	174
Prop. Laguna Canyon Fwy/Irvine Center Dr.	65.0	100	68.5	171
Irvine Center Drive/Barranca Parkway	66.4	124	68.6	174
Barranca Parkway/Alton Parkway	66.2	120	68.8	179
Alton Parkway/San Diego Freeway (I-405)	66.8	132	72.0	293
San Diego Fwy (I-405)/Fut. Michelson Dr.	- -	- -	67.4	145
(Continued on the next page)				
Trabuco Road				
Culver Drive/Yale Avenue	67.8	154	68.1	161
Yale East to City Limit	64.0	86	67.9	156
Toledo Way				
Alton Parkway/Bake Parkway	66.1	118	65.0	100
Turtle Rock Drive				
Campus Drive/Ridgeline Drive	63.2	76	62.6	69
Ridgeline Drive/Sunnyhill	63.2	76	61.1	55
Sunnyhill/California Avenue	64.6	94	65.3	105
Von Karman Avenue				
Barranca Parkway/Alton Parkway	66.0	117	72.4	311
Alton Parkway/Main Street	66.9	134	69.0	185
Main Street/Michelson Drive	66.5	126	71.8	284
Michelson Drive/Campus Drive	66.0	117	68.9	182
Walnut Avenue				

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

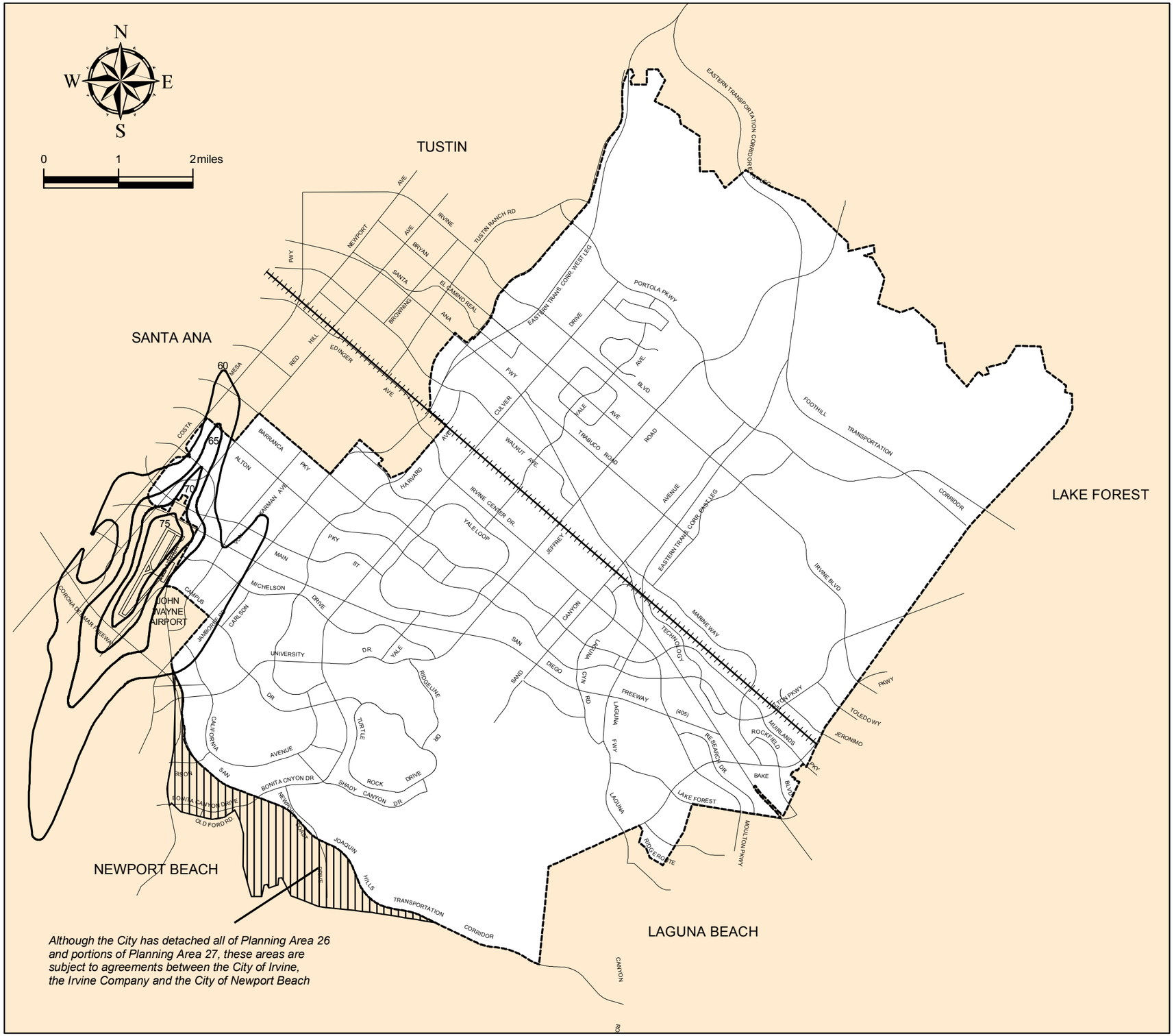
Roadway Segment	*Existing Conditions* CNEL Noise Level (@ 100 ft from ctrline)	*Existing Conditions* Distance to 65 CNEL Noise Contour (in feet)	*2020 Buildout Condition* CNEL Noise Level (@ 100 ft from ctrline)	*2020 Buildout Condition* Distance to 65 CNEL Noise Contour (in feet)
Myford Road/Jamboree Road	66.6	128	71.4	267
Jamboree Road/Harvard Avenue	65.6	110	70.8	244
Harvard Avenue/Culver Drive	66.0	117	68.2	163
Culver Drive/Yale Avenue	66.6	128	68.4	169
Yale Avenue/Jeffrey Road	64.9	98	67.1	138
Warner Avenue				
Jamboree Road/Harvard Avenue	58.2	35	64.3	90
Harvard Avenue/Culver Drive	- -	- -	63.9	84
Culver Drive/Yale Avenue	61.7	60	64.5	93
West Yale Loop				
East Yale Loop/Main Street	66.4	124	66.9	134
Main Street/Alton Parkway	64.4	91	65.8	113
Alton Parkway/Barranca Parkway	62.5	68	63.0	74
Barranca Parkway/Warner Avenue	63.7	82	62.7	70
Warner Avenue/Yale Avenue	64.5	93	62.7	70
Yale Avenue				
North of Irvine Boulevard	64.8	97	65.2	103
Irvine Boulevard/Bryan Avenue	64.0	86	64.0	86
Bryan Avenue to I-5/Trabuco Road	65.1	102	65.1	102
I-5/Trabuco Road to Walnut Avenue	64.1	87	64.1	87
Walnut Avenue/Irvine Center Drive	66.1	118	64.4	91
Irvine Center Drive/Yale Loop	63.4	78	64.1	87
Yale Loop/Michelson Drive	- -	- -	62.9	72
Michelson Drive/University Drive	55.6	24	59.5	43
(Continued on the next page)				
I-405 (San Diego Freeway)				
SR-55/MacArthur Boulevard	74.8	450	76.1	550
MacArthur Boulevard/Jamboree Road	74.8	450	76.3	567

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	*Existing Conditions* CNEL Noise Level (@ 100 ft from ctrline)	*Existing Conditions* Distance to 65 CNEL Noise Contour (in feet)	*2020 Buildout Condition* CNEL Noise Level (@ 100 ft from ctrline)	*2020 Buildout Condition* Distance to 65 CNEL Noise Contour (in feet)
Jamboree Road/Culver Drive	74.8	450	76.0	541
Culver Drive/Jeffrey Road	74.3	417	76.0	541
Jeffrey Road/Sand Canyon Avenue	73.8	386	75.9	533
Sand Canyon Avenue/SR-133	73.8	386	75.6	509
SR-133/Irvine Center Drive	73.2	352	73.7	380
Irvine Center Drive/I-5	72.5	316	72.9	336
I-5 (Santa Ana Freeway)				
Jamboree Road/Culver Drive	72.7	326	77.1	641
Culver Drive/Jeffrey Road	72.7	326	76.8	612
Jeffrey Road/Sand Canyon Avenue	72.8	331	76.9	621
Sand Canyon Avenue/SR-133	72.8	331	76.3	567
SR-133/Alton Parkway	72.6	321	76.1	550
Alton Parkway/I-405	72.1	297	75.8	525
I-405/Lake Forest Drive	75.0	464	76.2	558
SR-55 (Costa Mesa Freeway)				
I-405/MacArthur Boulevard	73.9	392	not available	

Note: (--) denotes undeveloped roadway. Traffic estimates from City of Irvine were used as inputs to the model.

SOURCE: Environmental Science Associates, 1996.



Although the City has detached all of Planning Area 26 and portions of Planning Area 27, these areas are subject to agreements between the City of Irvine, the Irvine Company and the City of Newport Beach

City of Irvine
General Plan

Figure F-1

AIRCRAFT NOISE

LEGEND

City Sphere of Influence

Aircraft Noise Contours expressed as CNEL (Community Noise Equivalent Level)

* This exhibit depicts the former noise contours for the now closed MCAS Tustin for historical purposes; and, the existing noise contours for John Wayne airport

City of Irvine Municipal Code: Division 8, Chapter 2

City of Irvine Municipal Code

Division 8 - POLLUTION

- **CHAPTER 2. - NOISE**

FOOTNOTE(S):

--- (1) ---

Editor's note—Prior to amendment by Ord. No. 84-18, adopted Sept. 11, 1984, the provisions of this chapter derived from Ord. No. 136, §§ 2—13, adopted March 25, 1975.

Sec. 6-8-201. - Declaration of policy.

The City Council has adopted the following regulations in order to control unnecessary, excessive and annoying noise in the City of Irvine. The provisions of this chapter are applicable to nontransportation-related stationary noise sources.

(Code 1976, § VI.K-301; Ord. No. 84-18, 9-11-84)

Sec. 6-8-202. - Definitions.

The following definitions are provided to clarify words, phrases and terms used in this chapter.

Ambient noise level: The all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

Cumulative period: An additive period of time composed of individual time segments which may be continuous or interrupted.

Decibel (dB): A unit of noise measurement indicating the loudness of sound, based on logarithmic (base 10) scale.

Emergency work: Any mechanical device, apparatus or equipment which is used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

Grading: Any excavating or filling of earth material or any combination thereof conducted to prepare a site for construction or the placement of the improvements thereon.

Impact noises: The noise produced by the collision of one mass in motion with a second mass which may be either in motion or at rest.

Noise level: The "A" weighted sound pressure level in decibels obtained by using a sound level meter. The "A" weighted discriminates against the lower and higher frequencies according to a relationship with the sensitivity of the human ear. The unit of measurement is designated as dB(A).

Predominant tone noise: A noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

Stationary noise source: The source which is often referred to as "fixed source" (non-transportation-related) including but not limited to mechanical electric equipment, various power tools construction, commercial, industrial and agricultural activity and animal noise.

(Code 1976, § VI.K-302; Ord. No. 84-18, 9-11-84)

Sec. 6-8-203. - Noise level measurement criteria.

Any noise level measurements made pursuant to the provisions of this chapter shall be performed using a sound level meter. The location selected for measuring exterior noise levels shall be anywhere on the affected property. The interior noise measurement shall be made at a point in the affected unit at least four feet from the wall, ceiling or floor nearest the noise source.

(Code 1976, § VI.K-303; Ord. No. 84-18, 9-11-84)

Sec. 6-8-204. - General provision.

A. Designated noise zones. The properties hereinafter described, whether within or without the City, are hereby assigned to the following noise zones:

1. Noise zone 1: All hospitals, libraries, churches, schools and residential properties.

2. Noise zone 2: All professional office and public institutional properties.

3. Noise zone 3: All commercial properties excluding professional office properties.

4. Noise zone 4: All industrial properties.

B. Exterior and interior noise standards.

1. The following noise standards, unless otherwise specifically indicated, shall apply to all property within a designated noise zone.

NOISE STANDARDS
dB(A)

Noise Levels for a Period Not
Exceeding (minutes/hour)

	Noise Zone	Time Period	30	15	5	1	0 (anytime)
1	Exterior	7:00 a.m.—10:00 p.m.	55	60	65[1]	70	75
		10:00 p.m.—7:00 a.m.	50	55	60	65[1]	70
	Interior	7:00 a.m.—10:00 p.m.	—	—	55	60	65
		10:00 p.m.—7:00 a.m.	—	—	45	50	55
2	Exterior	Any time	55	60	65	70	75
	Interior	Any time	—	—	55	60	65
3	Exterior	Any time	60	65	70	75	80
	Interior	Any time	—	—	55	60	65
4	Exterior	Any time	70	75	80	85	90
	Interior	Any time	—	—	55	60	65

[1] This standard does not apply to multi-family residence private balconies. Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

_____

2. It shall be unlawful for any person at any location within the City to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured on any property within designated noise zones either within or without the City to exceed the applicable noise standard.

3. Each of the noise standards specified above shall be reduced by five dB(A) for impact, or predominant tone noise or for noises consisting of speech or music.

4. In the event that the noise source and the affected property are within different noise zones, the noise standards of the affected property shall apply.

(Code 1976, § VI.K-304; Ord. No. 84-18, 9-11-84; Ord. No. 05-06, § 2, 2-22-05)

Sec. 6-8-205. - Special provisions.

A. Construction activities and agricultural operations may occur between 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are making or are involved with material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take impact upon the community into consideration. No construction activity and agricultural will be permitted outside of these hours except in emergencies including maintenance work on the City rights-of-way that might be required.

Deliveries to or pickups from any commercial property sharing a property line with any residential property may occur between 7:00 a.m. and 10:00 p.m. daily. No deliveries to or pickups from any such properties shall occur outside of these hours.

B. Maintenance of real property operations may exceed the noise standards between 7:00 a.m. and 7:00 p.m. on any day except Sundays, or between 9:00 a.m. and 6:00 p.m. on Sundays or a federal holiday.

C. The use of leaf blowers shall be regulated as follows:

1. Definition of leaf blower. Leaf blowers are defined as portable power equipment that is powered by fuel or electricity and used in any landscape maintenance, construction, property repair, or property maintenance for the purpose of blowing, dispersing or redistributing dust, dirt, leaves, grass clippings, cuttings and trimmings from trees and shrubs or other debris.

2. Limitations on use.

a. All leaf blowers shall be equipped with a permanently installed limiter that restricts the individual equipment motor performance to half throttle speed or less, and will produce not more than 70 decibels db(A) measured at the midpoint of a wall area 20 feet long and ten feet high and at a horizontal distance 50 feet away from the midpoint of the wall, or not more than 76 db(A) at a horizontal distance of 25 feet using a sound level meter set at level A.

b. Each individual leaf blower shall be tested and certified for use by the City of Irvine or its designated representative. Each individual leaf blower shall bear the label of required approval in a visible location on the equipment prior to use and at all times during use.

A fee for the City to recover all costs connected with equipment approvals shall be charged in an amount set by City resolution.

c. The use of leaf blowers is prohibited except between the hours of 8:00 a.m. and 5:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday.

d. Leaf blower operations shall not cause dirt, dust, debris, leaves, grass clippings, cuttings or trimmings from trees or shrubs to be blown or deposited on any adjacent or other parcel of land, lot, or public right-of-way/property other than the parcel, land, or lot upon which the leaf blower is being operated. Deposits of dirt, dust, leaves, grass clippings, debris, cuttings or trimmings from trees or shrubs shall be removed and disposed of in a sanitary manner which will prevent dispersement by wind, vandalism or similar means within six hours of deposit by the user or property occupant.

e. Leaf blowers shall not be operated within a horizontal distance of ten feet of any operable window, door, or mechanical air intake opening or duct.

f. No person using leaf blowers shall exceed noise limitations set by section 6-8-204 of the City Code of Ordinances.

3. Education.

a. Each person operating an individual leaf blower is required to complete not less than one training session of content and time approved by the City of Irvine Administrative Authority prior to operation of leaf blower equipment. Training and qualification shall be required for certification at least every two years for each individual equipment user.

b. The equipment operator shall carry certification of the training and qualification at all times during equipment use and make it available upon demand. Failure to abide by the use requirements contained in this Code and/or the certification training provided will be cause for the City of Irvine to revoke such certification.

c. Exception: An individual residential property occupant operating a single leaf blower himself or herself in a manner confined to his or her own property shall be excepted from the education requirements set forth by this subsection.

4. Fees. A fee for the City to recover all costs connected with training, testing, certification and enforcement shall be charged in an amount set by City Council resolution.

D. The following activities shall be exempted from the provision of this chapter:

1. School bands, school athletic and school entertainment events, provided said events are conducted on school property or authorized by special permit from the City.

2. Activities otherwise lawfully conducted on public parks, public playgrounds and public or private school grounds.

3. Any mechanical device, apparatus or equipment which is utilized for emergency work, pest control, and protection or harvest of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

4. Any activity or equipment to the extent that design regulation thereby has been preempted by State or federal law.

The Chief Building Official or his or her duly authorized representative and City police shall enforce where necessary the provisions of this chapter. No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this chapter which such person is engaged in the performance of his or her duty.

(Code 1976, § VI.K-305; Ord. No. 84-18, 9-11-84; Ord. No. 88-11, §§ 1, 2, 5-24-88; Ord. No. 90-2, § 1, 2-13-90; Ord. No. 90-7, § 1, 4-10-90; Ord. No. 05-16, § 2, 7-12-05)

Sec. 6-8-206. - Reserved.

- Sec. 6-8-207. - Enforcement.

The Chief Building Official or his or her duly authorized representative shall enforce the provisions of this chapter. No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his or her duty.

(Code 1976, § VI.K-306; Ord. No. 84-18, 9-11-84)

Sec. 6-8-208. - Waiver procedure.

A. The owner or operator of a noise source which violates any of the provisions of this chapter may apply for temporary waiver with the Chief Building Official. Any waiver granted shall take impact upon the community into consideration and state why immediate compliance cannot be achieved, a proposed method of achieving compliance, and a proposed time schedule for its accomplishment. Said application shall be accompanied by a fee as listed in the City Council resolution for variances where deemed appropriate and necessary by the City administrative authority.

B. A separate application shall be flled for each noise source; provided, however, that several sources under common ownership or several sources on a single property may be combined into one application.

C. An applicant for a waiver shall remain subject to prosecution under the terms of this chapter until a waiver is granted.

D. Within 60 days of receipt of an appeal, the City Council shall either affirm, modify or reverse the decision of the Chief Building Official at a duly notified public hearing.

(Code 1976, § VI.K-307; Ord. No. 84-18, 9-11-84; Ord. No. 90-7, § 2, 4-10-90)

Sec. 6-8-209. - Appeals.

A. The decision of the Chief Building Official on waiver applications may be appealed to the City Council. Appeals shall be filed with the City Clerk and shall be accompanied by a letter stating the reason for the appeal.

B. An appeal shall be accompanied by a deposit/fee of $150 to be updated on an annual basis by City Council resolution.

C. An appeal shall be filed within 15 days of the decision of the Chief Building Official.

D. Within 60 days of receipt of an appeal, the City Council shall either affirm, modify or reverse the decision of the Chief Building Official at a duly notified public hearing.

(Code 1976, § VI.K-308; Ord. No. 84-18, 9-11-84)

CHAPTER 5-8. - IRVINE BUSINESS COMPLEX RESIDENTIAL MIXED-USE OVERLAY DISTRICT

Sec. 5-8-4. - Special development requirements.

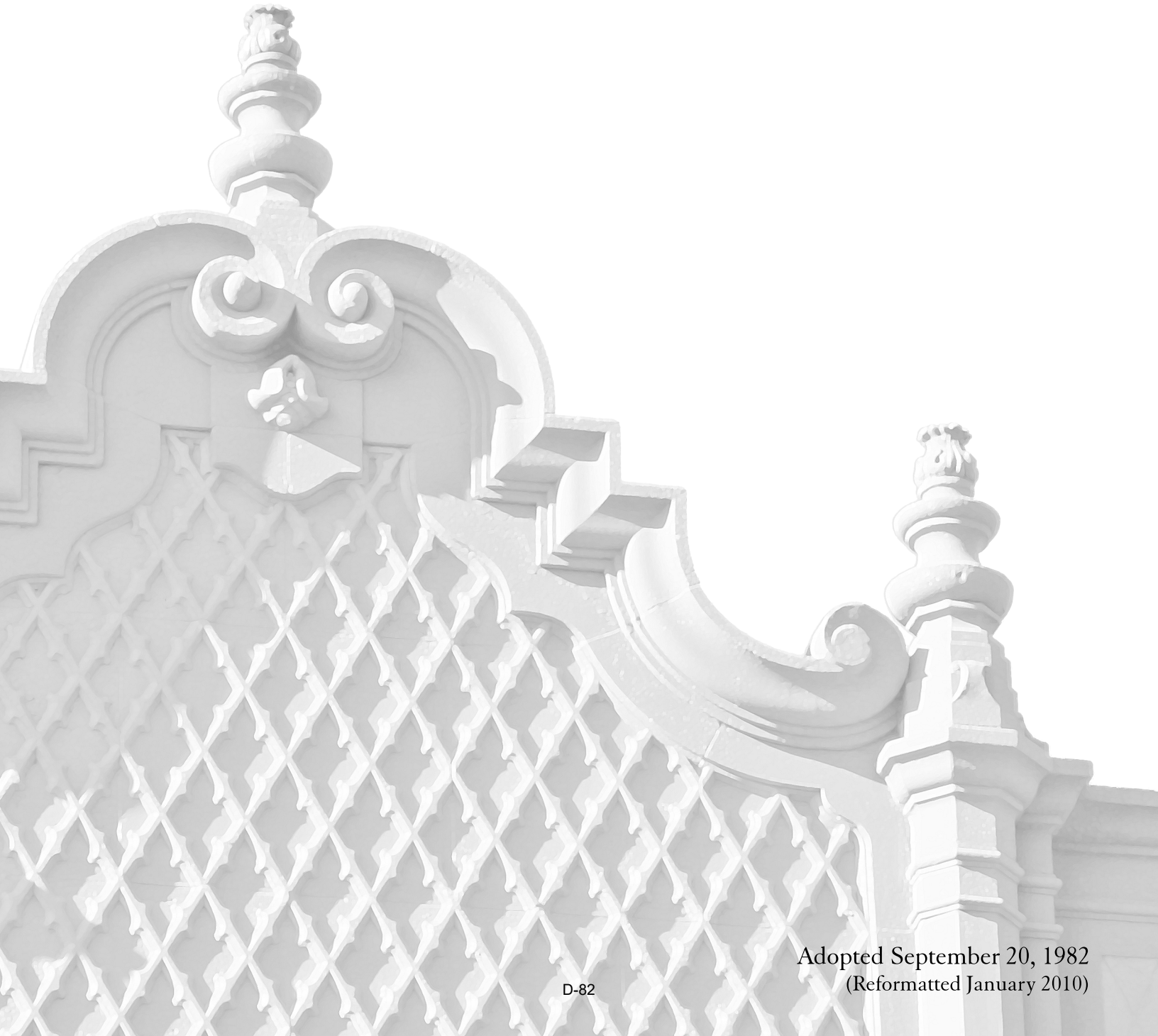
5. *Noise standards.*

b. Individual projects that involve vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, occurring near sensitive-receptors shall be evaluated for potential vibration impacts. If construction-related vibration is determined to exceed the Federal Transit Administration vibration-annoyance criteria of 78 VdB during the daytime, mitigation measures, such as use of less vibration intensive equipment or construction techniques shall be implemented.

City of Santa Ana General Plan Noise Element

City of Santa Ana General Plan

Noise Element



Adopted September 20, 1982
(Reformatted January 2010)

City of Santa Ana General Plan

Noise Element

1982

City of Santa Ana
Planning Division

Adopted

September 20, 1982
(Reformatted January 2010)

This document includes revisions adopted by Santa Ana City Council February 2, 2009 (GPA 2004-03).

REL:adg
8/24/82

RESOLUTION NO. 82-122

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA CERTIFYING THE COMPLETION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR THE REVISION OF THE GENERAL PLAN OF THE CITY OF SANTA ANA AND ADOPTING THE SAID REVISED GENERAL PLAN

WHEREAS, a proposed revision of the General Plan of the City of Santa Ana (hereinafter referred to as the "Revised General Plan") has been approved by the Planning Commission after public hearing in the manner required by law, and is now on file in the office of the Clerk of the Council; and

WHEREAS, the Revised General Plan includes a draft environmental impact report which has been duly noticed for public review and comment; and

WHEREAS, this Council has held a public hearing on the Revised General Plan, including the said draft environmental impact report, after notice in the manner required by law;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS:

1. The City Council has evaluated all comments and recommendations written and oral, received from persons who have reviewed the draft environmental impact report, and all responses thereto, including those made at the public hearing. The Clerk of the Council is hereby directed to attach all such written comments and responses and the minutes of the said public hearing to the draft environmental impact report, together with a list of persons, organizations and public agencies commenting on the draft environmental impact report. The said comments, responses, and list are hereby incorporated herein as part of the record and, together with the draft environmental impact report, are declared to constitute the final environmental impact report for the Revised General Plan.

2. The City Council hereby certifies that the final environmental impact report for the Revised General Plan has been completed in accordance with the California Environmental Quality Act, the State CEQA Guidelines and local procedures, and that the City Council has reviewed and considered the information contained in the final environmental impact report.

3. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that changes or alterations have been incorporated into the Revised General Plan which mitigate or avoid the following significant environmental effects identified in the final environmetal impact report: (1) additional traffic (2) reduced air quality (3) increases in noise levels, and (4) increases in energy consumption, and that such significant environmental effect have thereby been substantially lessened. This finding is supported by the following statement of facts:

(a) Although identified as significant effects of the project in the environmental impact report, such effects are not in fact caused by the adoption of the Revised General Plan, but rather by the expected growth and development of the City of Santa Ana and the surrounding region. Such effects would occur to an equal or greater extent under the previously adopted general plan or in the absence of any general plan.

(b) The Revised General Plan contains "Circulation," "Conservation," "Energy" and "Noise" elements of which the policies and programs are specifically designed to mitigate the said identified significant effects in a rational, coordinated manner so as to achieve minimal adverse effects consistent with reasonable growth and development.

4. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that specific economic, social and other consideration make infeasible the alternatives to the Revised General Plan identified in the final environmental impact report. This finding is supported by the following statement of facts:

(a) The Revised General Plan represents the best balance of competing goals and objectives: preservation of residential community integrity; maintenance of affordable housing; encouragement of economic development; avoidance of unacceptable levels of congestion and disruption.

(b) Greater restriction of residential development would discourage the new development of housing available to persons of low or moderate income. Increasing

population, with its consequent increased demand for housing, would result in increasing the cost of the existing housing supply. Less restriction of residential development would result in the disruption of established residential communities.

(c) Greater restriction of commercial-industrial development would reduce employment opportunities in the City of Santa Ana; would deny to City government a tax revenue base sufficient to meet the demand for governmental services; and would lead to stagnation and blight conditions in established commercial areas. Less restriction of commercial-industrial development would allow the inter-mixture of incompatible land uses and development which is beyond the capacity of streets and other public improvements to serve.

5. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that the changes in planned land use for areas of the City of Santa Ana accomplished by the adoption of the Revised General Plan are acceptable. Such changes are necessary for the general welfare of the people of the City of Santa Ana over the long-term, in order to achieve a balance between competing needs, as referenced in Section 4 herein, and in order to channel new development into areas in which it will be both financially feasible and compatible with existing uses.

6. The City Council hereby approves and adopts the Revised General Plan. Said Revised General Plan, together with the Revised Housing Element of the General Plan, adopted by the City Council by its Resolution No. 82-7 on January 18, 1982, shall constitute the General Plan of the City of Santa Ana required by Section 65300 of the Government Code of the State of California and the master plan required by Chapter 27 of the Santa Ana Municipal Code. All elements of the general or master plan or amendments thereto previously adopted or approved by the City Council, excepting only the aforesaid Revised Housing Element of the General Plan, are hereby repealed.

7. The Clerk of the Council is hereby directed to endorse the Revised General Plan to show that it has been adopted by the City Council and to retain the same on file in her office.

8. The Director of Planning and Development Services is hereby directed to:

(a) Send a copy of the Revised General Plan to the Planning Agency of Orange County.

(b) File a Notice of Determination with the County Clerk of Orange County pursuant to Section 21152 of the Public Resources Code and the State CEQA Guidelines.

ADOPTED this 20th day of September, 1982.

Gordon Bricken
Gordon Bricken, Mayor

ATTEST:

Janice C. Guy, Clerk of the Council

COUNCILMEMBERS:

Bricken	Aye
Luxembourger	Aye
Acosta	Aye
Serrato	Aye
Griset	Aye
Markel	Nay
McGuigan	Aye

Approved as to Form:

Edward J. Cooper by REL
Edward J. Cooper, City Attorney

Acknowledgments

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Robert W. Luxembourger, Vice Mayor
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Alfred C. Serrato
Patricia A. McGuigan
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Noise Element

SUMMARY

The new City of Santa Ana General Plan was developed through an extensive process of public participation involving citizens, elected and appointed City officials and City Staff.

The General Plan has been developed to conform to state law and to meet local planning needs through the year 2000. Periodic updates of the new General Plan are anticipated.

The General Plan builds upon Santa Ana's historical assets including the City's heritage as the governmental and financial center of Orange County and the buildings, districts and streetscapes which reflect this heritage.

The General Plan anticipates two major potentials that can shape Santa Ana over the next several decades. The plan anticipates and maximizes the probability of the Countywide rapid transit system to be located in Santa Ana and encourages mixed use development and preservation m corridors and centers relating to this new access and visibility.

The General Plan has three major sections: the Framework Plan, Policy Plan, and Environmental Impact Report.

1. The Framework Plan describes Santa Ana's overall planning strategy and program. This strategy reorganizes the City's land use and urban design structure to take maximum advantage of:

    - the economic development advantages offered by Santa Ana's historic regional location and functions
    - an improved multi-modal transportation system including:
        - Countywide rapid transit access to Santa Ana
        - improved local transit
        - improved auto access to major activity centers
        - a new Amtrak station
        - a downtown multi-modal transportation and bus center

  - a downtown shuttle system
  - new pedestrian connections within and between land use districts and to public transportation facilities.

The Framework Plan provides an overview of the City's implementation program which includes:

- continuing involvement of the community in developing the detailed implementation plans that will be developed for subareas of the Framework Plan
- efficient processing of development and rehabilitation proposals by means of a Development Review Team
- a carefully coordinated development program to foster and assist private investment through:
  - land assembly
  - coordinated provision of public improvements
  - Specific Plans
  - citizen participation coordination
  - low interest loans and grants
  - project promotion

2. The Policy Plan spells out the:

- goals and objectives which underlie the Framework Plan
- greater detail regarding implementation policies and programs supporting the Framework Plan.

Together, the Framework Plan and Policy Plan envision a new image for Santa Ana consisting of:

- increased economic activity to provide jobs and maintain a solid financial base for city services
- improvement of Santa Ana's housing stock for a full range of income groups and lifestyles
- the finest multi-modal transportation system in Orange County
- a new physical environment consisting of:
  - preserved and enhanced viable Neighborhoods
  - District Centers combining new shopping facilities with recreational, cultural, education, employment and special housing types
  - improvement of Santa Ana's major Industrial Districts
  - Mixed Use Corridors with a range of uses similar to the District Centers but with more facilities related to regional transit and auto access.

Exhibit 1 Framework Concept

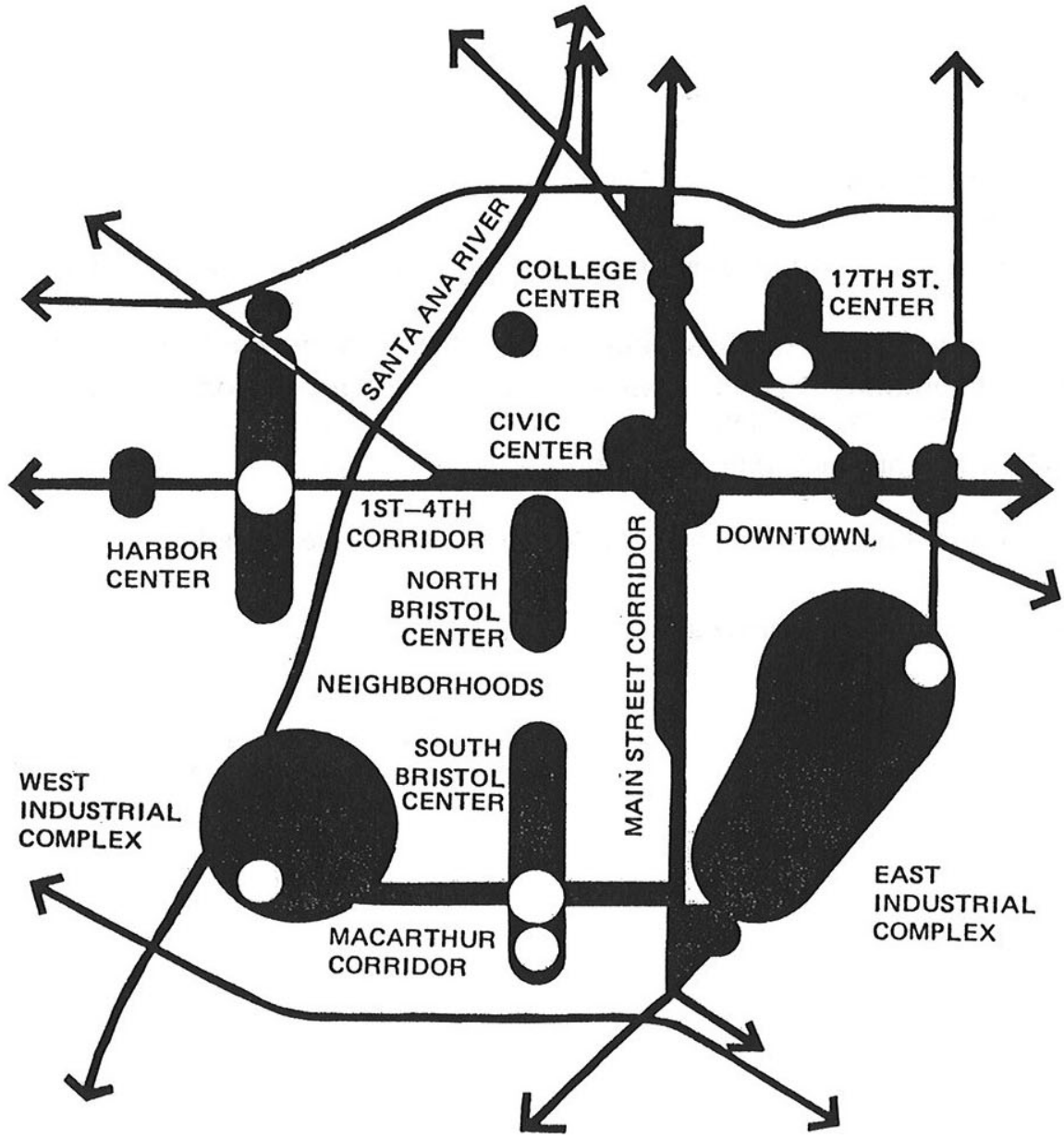
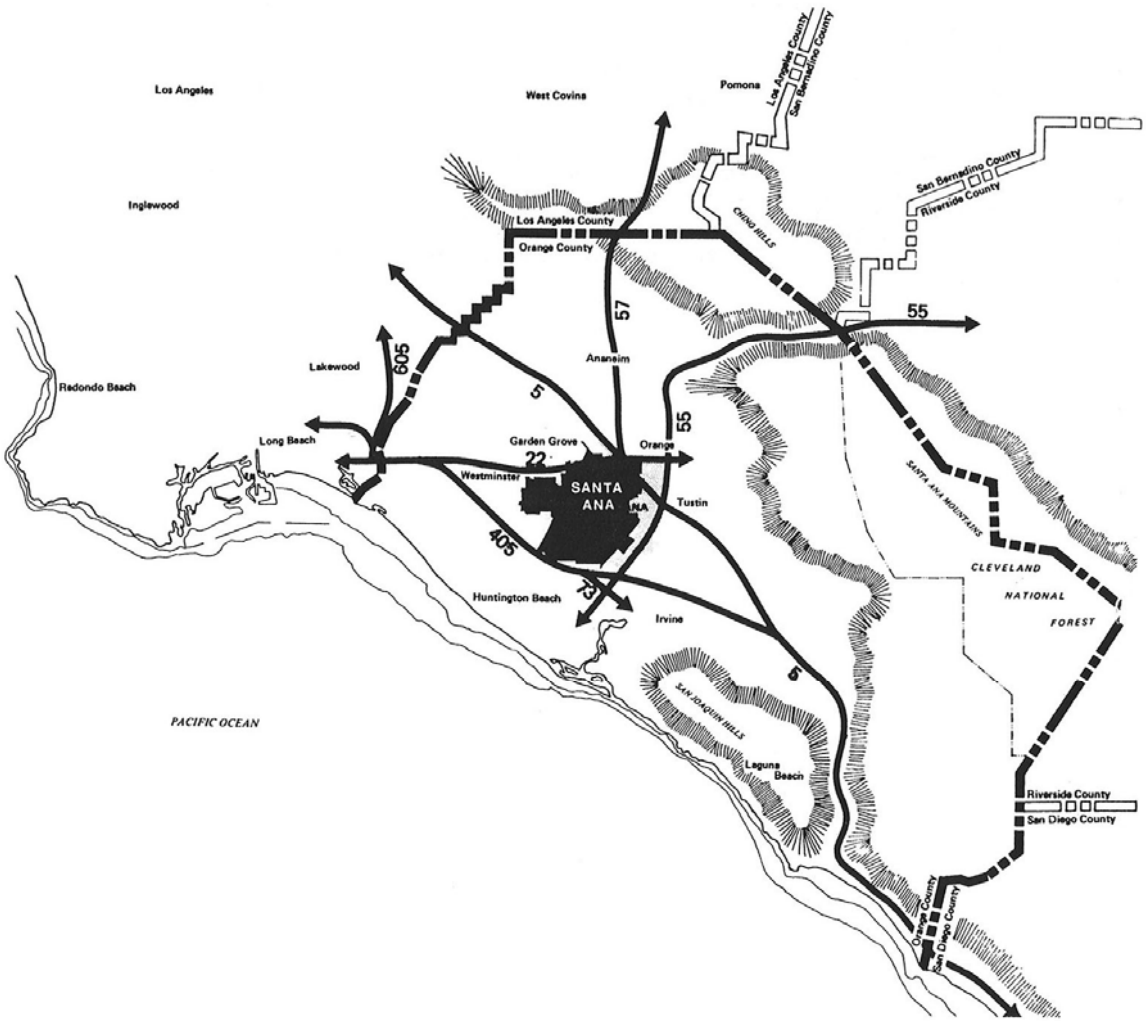


Exhibit 2 Regional Context



3. The Environmental Impact Report contains:

   - an analysis of the impacts of implementation of the General Plan
   - an evaluation of alternative strategies and
   - mitigation means to insure compatibility of the proposed plans and policies.

PLANNING CONTEXT

HISTORICAL

Santa Ana's rich history provides a legacy for community planning and revitalization in the 1980's. Santa Ana was founded in 1869 by William Spurgeon. The original town, laid out by Mr. Spurgeon, consisted of 24 blocks. The town served as a shopping center and post office for surrounding agricultural areas.

In 1878 the Southern Pacific Railroad arrived and the Santa Fe Railroad followed in 1886. This encouraged development of the City. In 1889 the County seat was located in Santa Ana and this further stimulated the development of businesses, stores, financial institutions and hotels serving the metropolitan population. Citrus and walnut farms were still plentiful and buying and selling land became the number one enterprise. The First to 17th Street area was subdivided during the building boom of the 1880's. Many of the structures in downtown and the surrounding bungalow homes were built in the early 1900's and 1920's.

The City is retaining and building upon its important governmental, retailing and employment roles in the County and the rich architectural and streetscapes heritage associated with the City's history.

REGIONAL

Santa Ana is geographically central to the developable land within Orange County. The City has excellent relationships to freeways, rail services via Amtrak and air transportation at the John Wayne Airport. Because of Santa Ana's geographic centrality and functional importance to the County, the Orange County Transit District is planning major fixed rail transit corridors in the Main Street and Pacific Electric right-of-ways. These regional transportation improvements, combined with improvements to freeway access points and local streets, provide Santa Ana with abundant development opportunities for the 1980's.

PLANNING PROCESS

The Planning Process used in creating the Santa Ana General Plan is summarized in Exhibit 3 and related photographs. The process involved:

- a 150-person Citizen Advisory Committee (CAC) to which all citizens applying were appointed by the City Council
- the Planning Commissioners who served as chairpersons of five CAC subcommittees: Land Use and Urban Design, Circulation, Housing, Economic Development and Environmental Factors
- the City Council who participated in goal setting and policy making workshops
- the public-at-large who participated in a series of Town Forums and Public Hearings
- City Staff who worked with The Arroyo Group (TAG) in conducting the planning process and who evaluated the program as it evolved.

The six key steps in the planning process were:

1. **Data Collection and Analysis.** The data base for the previous General Plan was outdated and up-to-date census data was not available. Emphasis was placed on community definition of problems and opportunities through CAC and Staff Steering Committee workshops and mapping. TAG subcontractors also gathered key data in areas such as market demand, traffic, seismic, etc. This data was summarized and analyzed in a separate Problems and Opportunities Report.

2. **Formulation of Goals and Objectives.** Initial goals and objectives were developed through workshops, with the CAC and City staff. Several cycles of refinement were done by TAG based on input from the Planning Commission, City Council, CAC and staff.

3. **Formulation of Subarea Alternatives.** Santa Ana has a large number of fixed elements such as streets and land uses. Therefore, subarea plans were developed to provide alternative land use patterns in different parts of the City. Each subarea plan was related to an urban design framework previously approved by the CAC, Planning Commission and City staff.

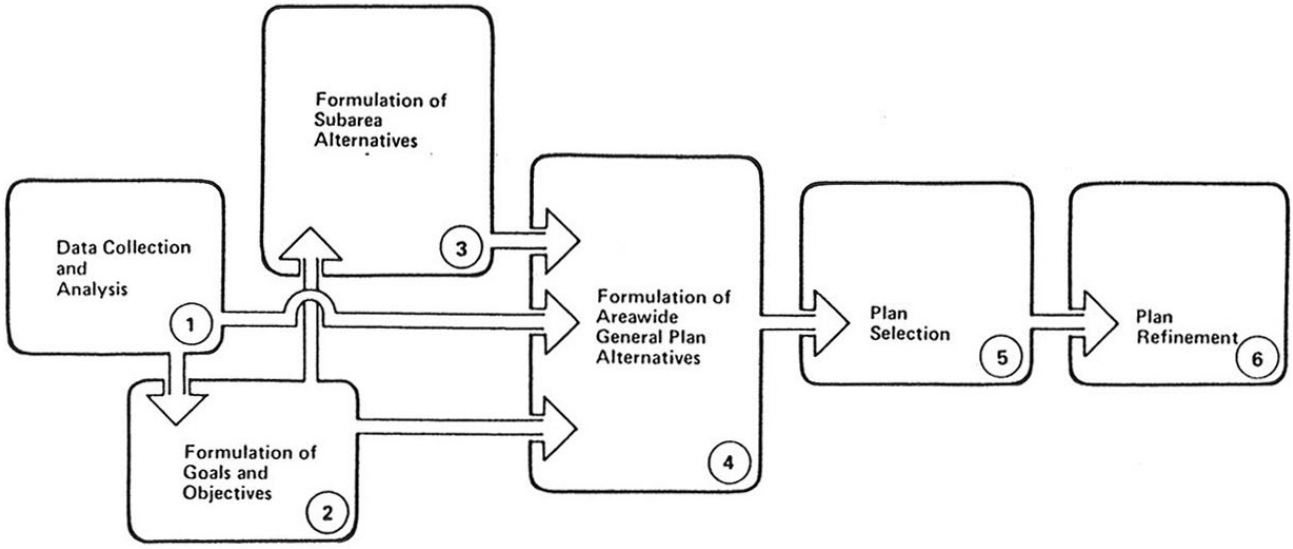
4. **Formulation of Areawide General Plan Alternatives.** Areawide General Plan alternatives focused on different combinations of subarea plans.

5. **Plan Selection Plan.** Selection was done through a series of meetings with the CAC, Planning Commission and City staff.

6. **Plan Refinement.** Plan refinement was accomplished by staff review of a Preliminary Draft, and CAC, Planning Commission and Public-at-Large comments on a Public Hearing Draft.

Exhibit 3 illustrates some of the materials utilized during the planning process.

Exhibit 3 Planning Process



POLICY PLAN

INTRODUCTION

The Policy Plan section of the General Plan sets forth the detailed policies of the City relative to the framework Plan described in Section 1.

Each element of the Policy Plan contains goals, objectives, implementation policies and implementation programs.

Each element also contains a Planning Factors section which reflects the major issues identified through the citizen participation process.

The Plan Components section of each element describes the planning and design concepts illustrated in the maps and provides an overview of implementation considerations.

Noise has many sources, including industrial processes, vehicular transportation, use of amplified sound, construction, and human speech. Through careful land use planning, Santa Ana can ensure that the activities which produce result in minimal interference with the activities which are sensitive to noise.

The City's goal is to minimize noise problems in areas sensitive to noise because Santa Ana is almost fully developed, the main focus of the Noise section is on remedial measures to deal with existing noise problems, prevention of new noise problems through proper arrangement of noise sensitive land uses in relationship to circulation systems and establishment of appropriate noise emission or insulation standards for the various land uses.

PLANNING FACTORS

Definition of undesirable or unhealthful noise levels must precede the goal of minimizing noise problems. The City adopts the following standards and guidelines for noise levels for land uses:

Table 1
Interior and Exterior Noise Standards

Categories	*Land Use Categories*	*Interior*[1]	*Exterior*[2]
Residential	Single-family, duplex, multi-family	45[3]	65
Institutional	Hospital, school classroom/playgrounds	45	65
	Church, library	45	--
Open Space	Parks	--	65

Notes:
[1] Interior areas (to include but are not limited to: bedrooms, bathrooms, kitchens, living rooms, dining rooms, closets, corridors/hallways, private offices, and conference rooms.
[2] Exterior areas shall mean: private yards of single family homes, park picnic areas, school playgrounds, common areas, private open space, such as atriums on balconies, shall be excluded form exterior areas provided sufficient common area is included within the project.
[3] Interior noise level requirements contemplate a closed window condition. Mechanical ventilation system or other means of natural ventilation shall be provided per Chapter 12, Section 1305 of the Uniform Building Code.

All Residential uses should be protected with sounds insulation over and above that provided by normal building construction when constructed in areas exposed to greater than 60 dB CNEL.

The above standards and guidelines represent an appreciation that higher intensity land uses bring with them higher noise levels simply because more people are using these areas. Insuring low noise levels will help to insure that housing is kept will-maintained and keeps value over time, reducing municipal expenditures and maintaining revenues.

NOISE ABATEMENT

Some areas of Santa Ana are exposed to levels of freeway or rail noise that are considered unacceptable for new residential development. Noise conflicts in such cases can be mitigated by providing barriers between the noise source and the residential use, or by providing sound insulation in existing residences. Generally, barriers should be provided to protect residential uses.

Exhibit 4 illustrates transportation noise sources in the City and classifies arterial streets by the expected distance from the arterial where the noise level will exceed 60 dB CNEL or Ldn and sound insulation or barriers should be provided to protect residential uses.

NOISE PREVENTION

Potential noise problems may be prevented by ensuring that planning for residential uses carefully considers proximity to major transportations corridors and other noise generators. Adherence to proper noise-related setbacks for noise sensitive uses can reduce noise to acceptable or desirable levels for those uses. The distance required varies with the expected volume of traffic. The distance may be reduced by providing walls or berms between the noise source and the use.

The graph below indicates the required distance from transportation noise sources to achieve desired noise levels for a range of traffic flows. At the time development takes place, developments proposed in zones that would be incompatible under standards of the noise abatement plan are required to include a report indicating how these standards will be achieved.

GOALS, OBJECTIVES, POLICIES AND PROGRAMS

GOALS

Goal 1

Prevent significant increases in noise levels in the community and minimize the adverse effects of currently-existing noise sources.

OBJECTIVES

1.1 Prevent creation of new and additional sources of noise.

1.2 Reduce current noise levels to acceptable standards.

POLICIES

- Require consideration of noise generation potential and susceptibility to noise impacts in the sitting, design and construction of new developments.
- Require mitigating site and building design features, traffic circulation alternatives, insulation, and other noise prevention

measures of those new developments which generate high noise levels.

- Sound insulate and/or buffer sensitive land uses such as housing from adverse noise impacts in noise-prone areas.
- Minimize noise generation in residential neighborhoods through control or elimination of truck traffic and through-traffic from these areas.

PROGRAMS

- Restrict new zoning in noise impact or abatement areas to non-residential uses.
- Review zoning ordinances and modify as necessary to assure appropriate insulation and/or other noise reduction actions with respect to interior and exterior power and mechanical equipment.
- Utilize the development approval process to assure that buildings are sited and internal and external traffic circulation systems designed so as to minimize the impact of noise-generating activities on nearby neighborhoods and noise-sensitive land uses.
- Work with the California Department of Transportation to develop a freeway noise mitigation program.
- Prohibit truck traffic in residential neighborhoods.
- Alleviate through-vehicular traffic in residential neighborhoods via implementation of recommendations in the Circulation section.

Exhibit 4 Noise Abatement Areas

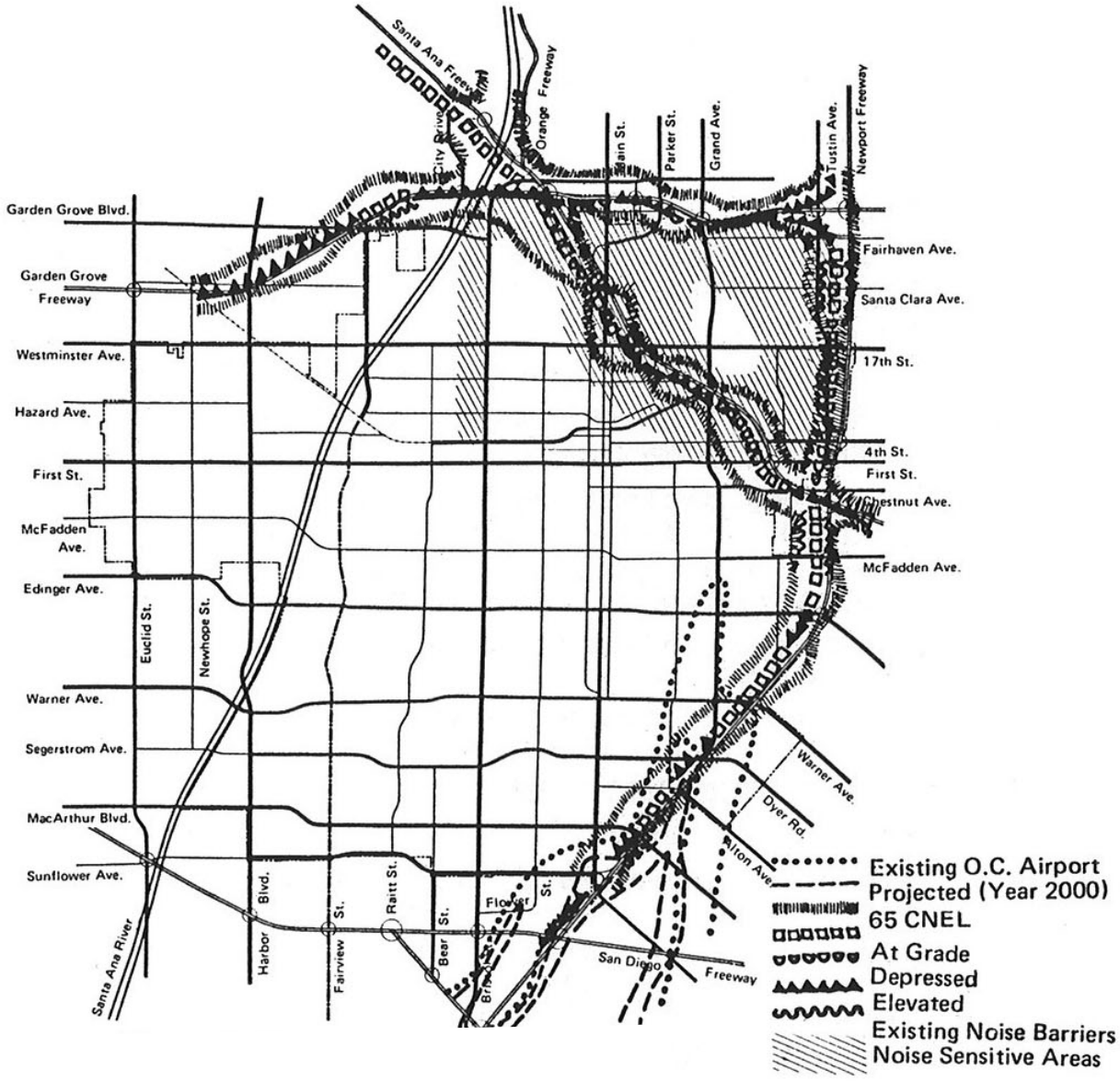


Exhibit 5 Transportation Noise Sources

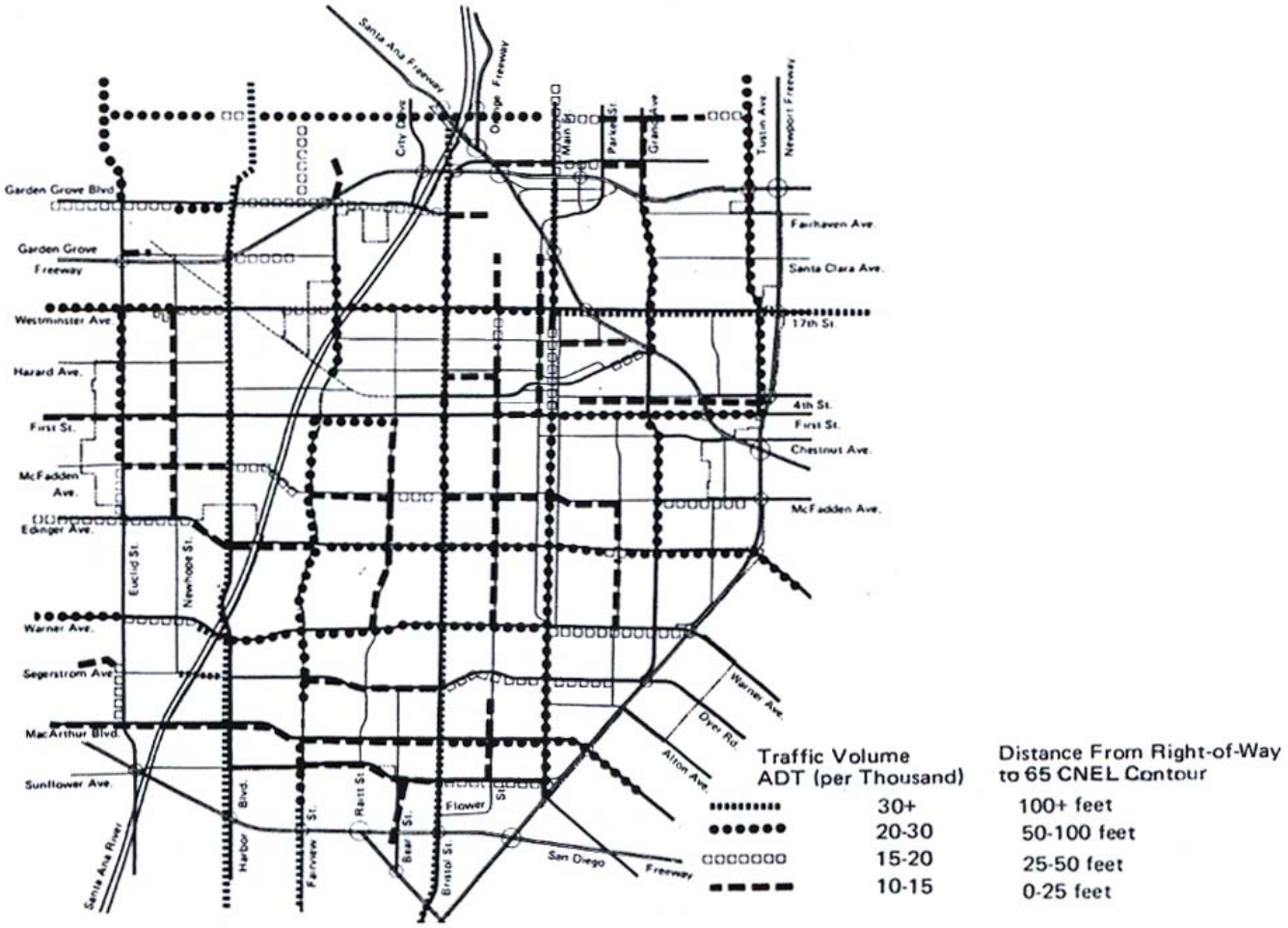
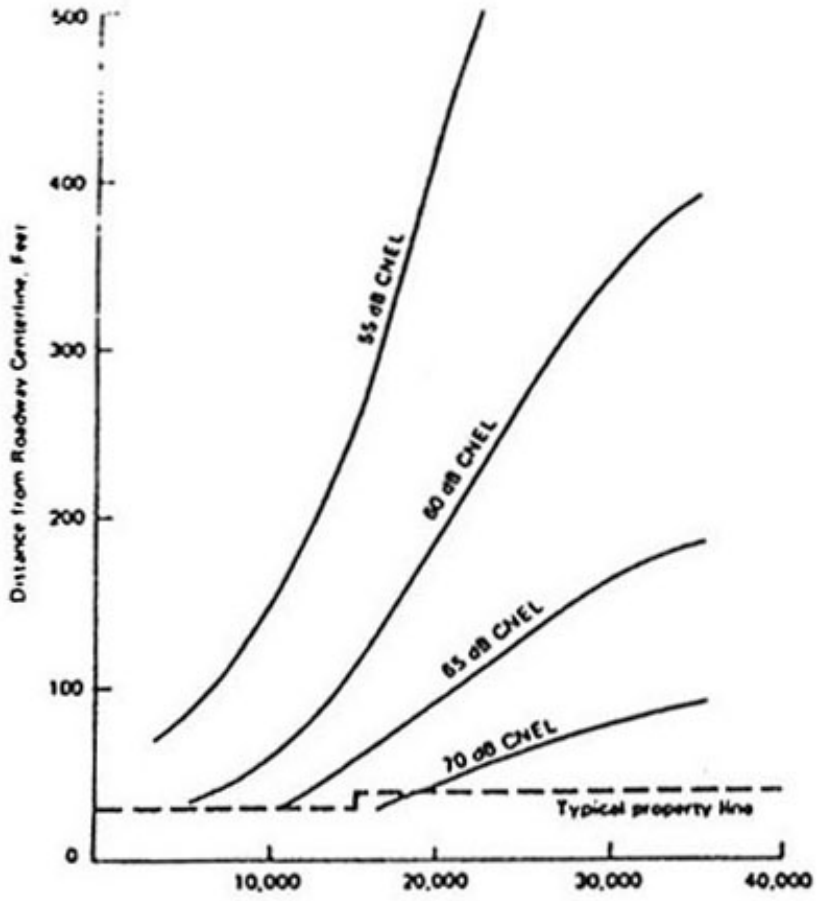


Exhibit 6 Required Distances from Transportation Noise Sources



City of Santa Ana Municipal Code Chapter 18, Article VI

City of Santa Ana Municipal Code

Chapter 18 – Health and Safety

ARTICLE VI. - NOISE CONTROL[6]

Footnotes:

--- (**6**) ---

Editor's note—Ord. No. NS-1441, § 1, enacted Aug. 21, 1978, amended Art. VI to read as set out in §§ 18-308—18-321. Formerly Art. VI, pertaining to noise, was derived from Code 1952, §§ 4270, 4270.1, 6390.9, and Ord. No. 1334, adopted Jan. 19, 1953.

Sec. 18-308. - Declaration of policy.

In order to control unnecessary, excessive and annoying sounds emanating from areas of the city, it is hereby declared to be the policy of the city to prohibit such sounds generated from all sources as specified in this article.

It is determined that certain sound levels are detrimental to the public health, welfare and safety, and contrary to public interest.

(Ord. No. NS-1441, 1, 8-21-78)

Sec. 18-309. - Definitions.

The following words, phrases and terms as used in this article shall have the meaning as indicated below:

Ambient noise level shall mean the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

Cumulative period shall mean an additive period of time composed of individual time segments which may be continuous or interrupted.

Decibel (dB) shall mean a unit which denotes the ratio between two (2) quantities which are proportional to power: The number of decibels corresponding to the ratio of two (2) amounts of power is ten (10) times the logarithm to the base ten (10) of this ratio.

Dwelling unit shall mean a single unit providing complete, independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking and sanitation.

Emergency machinery, vehicle or work shall mean any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

Fixed noise source shall mean a stationary device which creates sounds while fixed or motionless, including, but not limited to, industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.

Grading shall mean any excavating or filling of earth material, or any combination thereof, conducted at a site to prepare said site for construction or other improvements thereon.

Impact noise shall mean the noise produced by the collision of one mass which may be either in motion or at rest.

Mobile noise source shall mean any noise source other than a fixed noise source.

Noise level shall mean the "A" weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of twenty (20) micronewtons per square meter. The unit of measurement shall be designated as dB (A).

Person shall mean a person, firm, association, copartnership, joint venture, corporation or any entity, public or private in nature.

Residential property shall mean a parcel of real property which is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels and motels.

Simple tone noise shall mean a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

Sound level meter shall mean an instrument meeting American National Standard Institute's Standard S1.4-1971 for Type 1 or Type 2 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.

Sound pressure level of a sound, in decibels, shall mean twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of the sound to a reference pressure, which reference pressure shall be explicitly stated.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-310. - Noise level measurement criteria.

Any noise level measurements made pursuant to the provisions of this article shall be performed using a sound level meter as defined in section 18-309.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-311. - Designated noise zone.

The entire City of Santa Ana is hereby designated as "Noise Zone 1."

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-312. - Exterior noise standards.

(a) The following noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7:00 a.m.—10:00 p.m.
	50 dB(A)	10:00 p.m.— 7:00 a.m.

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dB (A).

(b) It shall be unlawful for any person at any location within the City of Santa Ana to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, to exceed:

(1) The noise standard for a cumulative period of more than thirty (30) minutes in any hour; or

(2) The noise standard plus five (5) dB(A) for a cumulative period of more than fifteen (15) minutes in any hour; or

(3) The noise standard plus ten (10) dB(A) for a cumulative period of more than five (5) minutes in any hour; or

(4) The noise standard plus fifteen (15) dB(A) for a cumulative period of more than one minute in any hour; or

(5) The noise standard plus twenty (20) dB(A) for any period of time.

(c) In the event the ambient noise level exceeds any of the first four (4) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-313. - Interior noise standards.

(a) The following interior noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

INTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7:00 a.m.—10:00 p.m.
	45 dB(A)	10:00 p.m.—7:00 a.m.

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dB(A).

(b) It shall be unlawful for any person at any location within the City of Santa Ana to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured within any other dwelling unit on any residential property, to exceed:

(1) The interior noise standard for a cumulative period of more than five (5) minutes in any hour; or

(2) The interior noise standard plus five (5) dB(A) for a cumulative period of more than one minute in any hour; or

(3) The interior noise standard plus ten (10) dB(A) for any period of time.

(c) In the event the ambient noise level exceeds either of the first two (2) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-314. - Special provisions.

The following activities shall be exempted from the provisions of this article:

(a) Activities conducted on the grounds of any public or private nursery, elementary, intermediate or secondary school or college.

(b) Outdoor gatherings, public dances and shows, provided said events are conducted pursuant to a license issued by the City of Santa Ana.

(c) Activities conducted on any park or playground, provided such park or playground is owned and operated by a public entity.

(d) Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work.

(e) Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or any time on Sunday or a federal holiday.

(f) All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

(g) Mobile noise sources associated with agricultural operations, provided such operations do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

(h) Mobile noise sources associated with agricultural pest control through pesticide application, provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the agricultural commissioner.

(i) Noise sources associated with the maintenance of real property, provided said activities take place between 7:00 a.m. and 8:00 p.m. on any day except Sunday or a federal holiday, or between the hours of 9:00 a.m. and 8:00 p.m. on Sunday or a federal holiday.

(j) Any activity to the extent regulation thereof has been preempted by state or federal law.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-315. - Schools, hospitals and churches; special provisions.

It shall be unlawful for any person to create any noise which causes the noise level at any school, hospital or church while the same is in use to exceed the noise limits as specified in section 18-312 prescribed for the assigned noise zone in which the school, hospital or church is located, or which noise level unreasonably interferes with the use of such institutions or which unreasonably disturbs or annoys

patients in the hospital, provided conspicuous signs are displayed in three (3) separate locations within one-tenth (1/10) of a mile of the institution indicating the presence of a school, church or hospital.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-316. - Air conditioning and refrigeration; special provisions.

During the five-year period following the effective date of this article, the noise standards enumerated in sections 18-312 and 18-313 shall be increased eight (8) dB(A) where the alleged offensive noise source is an air conditioning or refrigeration system or associated equipment which was installed prior to the effective date of this article.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-317. - Noise level measurement.

The location selected for measuring exterior noise levels shall be at any point on the affected property. Interior noise measurements shall be made within the affected dwelling unit. The measurement shall be made at a point at least four (4) feet from the wall, ceiling, or floor nearest the alleged offensive noise source and may be made with the windows of the affected unit open.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-318. - Manner of enforcement.

The chief of police, the Orange County health officer and their duly authorized representatives are directed to enforce the provisions of this article. The chief of police, the Orange County health officer and their duly authorized representatives are authorized, pursuant to Penal Code Section 836.5, to arrest any person without a warrant when they have reasonable cause to believe that such person has committed a misdemeanor in their presence.

No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this article while such person is engaged in the performance of his duty.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-319. - Variance procedure.

The owner or operator of a noise source which violates any of the provisions of this article may file an application with the Orange County health officer for a variance from the provisions thereof wherein said owner or operator shall set forth all actions taken to comply with said provisions, the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance, and a proposed time schedule for its accomplishment. Said application shall be accompanied by a fee as established by resolution of the city council. A separate application shall be filed for each noise source; provided however, that several mobile sources under common ownership, or several fixed sources on a single property may be combined into one application. Upon receipt of said application and fee, the health officer shall refer it with his recommendation thereon within thirty (30) days to the Orange County Noise Variance Board for action thereon in accordance with the provisions of applicable law.

An applicant for a variance shall remain subject to prosecution under the terms of this article until a variance is granted.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-320. - Appeals.

Within fifteen (15) days following the decision of the Orange County Variance Board on an application, the applicant, the health officer, or any member of the city council, may appeal the decision to the city council by filing a notice of appeal with the secretary of the Orange County Variance Board. In the case of an appeal by the applicant for a variance, the notice of appeal shall be accompanied by a fee to be computed by the secretary of the Orange County Variance Board on the basis of the estimated cost of preparing the materials required to be forwarded to the city council as discussed hereafter. If the actual cost of such preparation differs from the estimated cost appropriate payments shall be made either to or by the secretary of the Orange County Variance Board.

Within fifteen (15) days following receipt of a notice of appeal and the appeal fee, the secretary of the Variance Board shall forward to the city council copies of the application for variance; the recommendation of the health officer; the notice of appeal; all evidence concerning said application received by the variance board and its decision thereon. In addition, any person may file with the clerk of the city council written arguments supporting or attacking said decision and the city council may in its discretion hear oral arguments thereon. The clerk of the city council shall mail to the applicant a notice of the date set for hearing of the appeal. The notice shall be mailed at least ten (10) days prior to the hearing date.

Within sixty (60) days following its receipt of the notice of appeal, the city council shall either affirm, modify or reverse the decision, of the variance board. Such decision shall be based upon the city council's evaluation of the matters submitted to the city council in light of the powers conferred on the variance board and the factors to be considered, both as enumerated in section 18-319 and Orange County Ordinance section 4-6-13.

As part of its decision, the city council may direct the variance board to conduct further proceedings on said application. Failure of the city council to affirm, modify or reverse the decision of the variance board within said sixty-day period shall constitute an affirmance of the decision.

(Ord. No. NS-1441, § 1, 8-21-78)

Sec. 18-321. - Violations; misdemeanors.

Any person violating any or the provisions of this article shall be deemed guilty of a misdemeanor. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. The provisions of this article shall not be construed as permitting conduct not prescribed herein and shall not affect the enforceability of any other applicable provisions of law.

(Ord. No. NS-1441, § 1, 8-21-78)

Secs. 18-322—18-350. - Reserved.

Traffic Noise Modeling details and analysis results

Tustin Legacy SP

EXISTING NO PROJECT

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Red Hill Av.	Walnut to Edinger	29,000	45	84	Soft	6D	0%	1
2	Red Hill Av.	Edinger to Valencia	25,200	45	84	Soft	6D	0%	2
3	Red Hill Av.	Bell to Warner	26,100	45	84	Soft	6D	0%	3
4	Red Hill Av.	Warner to Carnegie	28,800	45	84	Soft	6D	0%	4
5	Red Hill Av.	Carnegie to Barranca	28,800	45	84	Soft	6D	0%	5
6	Red Hill Av.	Barranca to Alton	28,000	45	84	Soft	6D	0%	6
7	Edinger Av.	SR-55 ramps to Newport	37,400	45	84	Soft	6D	0%	7
8	Armstrong Av.	Warner to Barranca	-	40	48	Soft	4D	0%	8
9	Tustin Ranch Rd.	Walnut to Valencia	17,000	50	84	Soft	6D	0%	9
10	Tustin Ranch Rd.	Barranca to Legacy	20,400	50	84	Soft	6D	0%	10
11	Von Karman Av.	Barranca to Alton	25,800	50	48	Soft	4D	0%	11
12	Jamboree Rd.	Walnut to Edinger	82,400	50	84	Soft	6D	0%	12
13	Jamboree Rd.	Edinger to Warner	65,200	50	84	Soft	6D	0%	13
14	Jamboree Rd.	Warner to Barranca	58,200	50	84	Soft	6D	0%	14
15	Jamboree Rd.	Barranca to Alton	50,900	50	84	Soft	6D	0%	15
16	Harvard Av.	Poplar to Edinger	9,600	50	24	Soft	2D	0%	16
17	Harvard Av.	Edinger/Irvine Center to Moffett	11,400	50	48	Soft	4D	0%	17
18	Harvard Av.	Moffett to Warner	13,300	50	48	Soft	4D	0%	18
19	Harvard Av.	Warner to Barranca	14,500	50	48	Soft	4D	0%	19
20	Harvard Av.	Barranca to Alton	18,000	50	48	Soft	4D	0%	20
21	Walnut Av.	Tustin Ranch to Myford	24,200	40	48	Soft	4D	0%	21
22	Walnut Av.	Myford to Jamboree	18,900	40	84	Soft	6D	0%	22
23	Walnut Av.	Jamboree to Harvard	18,400	40	84	Soft	6D	0%	23
24	Warner Av.	Armstrong to Legacy	-	45	48	Soft	4D	0%	24
25	Valencia Av.	Armstrong to Kensington Park	5,700	45	48	Soft	4D	0%	25
26	Edinger Av.	Newport to Del Amo	24,500	50	84	Soft	6D	0%	26
27	Edinger Av.	Del Amo to Red Hill	26,000	50	84	Soft	6D	0%	27
28	Edinger Av.	Red Hill to Kensington Park	22,000	50	84	Soft	6D	0%	28
29	Edinger Av.	Kensington Park to Jamboree	27,100	50	84	Soft	6D	0%	29
30	Edinger Av.	Jamboree to Harvard	24,000	50	84	Soft	6D	0%	30
31	Valencia Av.	Red Hill to Armstrong	8,400	45	48	Soft	4D	0%	31
32	Warner Av.	Red Hill to Armstrong	-	45	84	Soft	6D	0%	32
33	Warner Av.	Tustin Ranch to Park/Loop	18,900	35	48	Soft	4D	0%	33
34	Jamboree Rd. NB Ramps	n/o Warner Av.	10,100	50	84	Soft	6D	0%	34
35	Warner Av.	Jamboree NB Ramps to Harvard	11,100	50	48	Soft	4D	0%	35
36	Dyer Rd.	SR-55 NB Ramps to Red Hill	30,800	40	84	Soft	6D	0%	36
37	Barranca Pkwy.	Red Hill to Aston	38,100	50	84	Soft	6D	0%	37
38	Barranca Pkwy.	Aston to Armstrong	38,100	50	84	Soft	6D	0%	38
39	Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman Av.	35,700	50	84	Soft	6D	0%	39
40	Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	31,200	50	84	Soft	6D	0%	40
41	Barranca Pkwy.	District to Jamboree	35,100	50	84	Soft	6D	0%	41
42	Barranca Pkwy.	Jamboree to Harvard	27,800	40	84	Soft	6D	0%	42
43	Alton Pkwy.	Red Hill to Gillette	13,800	45	48	Soft	4D	0%	43
44	Alton Pkwy.	Von Karman to Jamboree	16,600	45	48	Soft	4D	0%	44
45	Alton Pkwy.	Jamboree to Harvard	19,000	45	48	Soft	4D	0%	45

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE
2U	40	12
4U	40	36
4D	45	48
6D	45	84
2D	40	24

		73.6	75.55%
		13.6	13.96%
		10.22	10.49%

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Tra

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM tc	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Tustin Legacy SP
EXISTING NO PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTANCE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Red Hill Av.	Walnut to Edinger	29,000	76.7	139	299	644
2	Red Hill Av.	Edinger to Valencia	25,200	76.0	126	272	587
3	Red Hill Av.	Bell to Warner	26,100	76.2	129	279	601
4	Red Hill Av.	Warner to Carnegie	28,800	76.6	138	298	641
5	Red Hill Av.	Carnegie to Barranca	28,800	76.6	138	298	641
6	Red Hill Av.	Barranca to Alton	28,000	76.5	136	292	629
7	Edinger Av.	SR-55 ramps to Newport	37,400	77.8	164	354	763
8	Armstrong Av.	Warner to Barranca	0	#NUM!	#NUM!	#NUM!	#NUM!
9	Tustin Ranch Rd.	Walnut to Valencia	17,000	75.5	116	251	540
10	Tustin Ranch Rd.	Barranca to Legacy	20,400	76.3	131	283	609
11	Von Karman Av.	Barranca to Alton	25,800	74.2	95	205	441
12	Jamboree Rd.	Walnut to Edinger	82,400	82.4	333	718	1546
13	Jamboree Rd.	Edinger to Warner	65,200	81.3	285	614	1322
14	Jamboree Rd.	Warner to Barranca	58,200	80.8	264	569	1226
15	Jamboree Rd.	Barranca to Alton	50,900	80.3	242	520	1121
16	Harvard Av.	Poplar to Edinger	9,600	69.2	44	96	206
17	Harvard Av.	Edinger/Irvine Center to Moffett	11,400	70.6	55	119	256
18	Harvard Av.	Moffett to Warner	13,300	71.3	61	132	283
19	Harvard Av.	Warner to Barranca	14,500	71.7	65	139	300
20	Harvard Av.	Barranca to Alton	18,000	72.6	75	161	347
21	Walnut Av.	Tustin Ranch to Myford	24,200	71.5	63	135	290
22	Walnut Av.	Myford to Jamboree	18,900	73.5	86	185	398
23	Walnut Av.	Jamboree to Harvard	18,400	73.4	84	181	391
24	Warner Av.	Armstrong to Legacy	0	#NUM!	#NUM!	#NUM!	#NUM!
25	Valencia Av.	Armstrong to Kensington Park	5,700	66.5	29	63	135
26	Edinger Av.	Newport to Del Amo	24,500	77.1	148	320	689
27	Edinger Av.	Del Amo to Red Hill	26,000	77.3	154	333	716
28	Edinger Av.	Red Hill to Kensington Park	22,000	76.6	138	298	641
29	Edinger Av.	Kensington Park to Jamboree	27,100	77.5	159	342	737
30	Edinger Av.	Jamboree to Harvard	24,000	77.0	146	315	679
31	Valencia Av.	Red Hill to Armstrong	8,400	68.1	38	81	174
32	Warner Av.	Red Hill to Armstrong	0	#NUM!	#NUM!	#NUM!	#NUM!
33	Warner Av.	Tustin Ranch to Park/Loop	18,900	69.0	43	92	198
34	Jamboree Rd. NB Ramps	n/o Warner Av.	10,100	73.2	82	177	381
35	Warner Av.	Jamboree NB Ramps to Harvard	11,100	70.5	54	117	251
36	Dyer Rd.	SR-55 NB Ramps to Red Hill	30,800	75.6	119	256	551
37	Barranca Pkwy.	Red Hill to Aston	38,100	79.0	199	429	924
38	Barranca Pkwy.	Aston to Armstrong	38,100	79.0	199	429	924
39	Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman A	35,700	78.7	191	411	885
40	Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	31,200	78.1	174	376	809
41	Barranca Pkwy.	District to Jamboree	35,100	78.6	189	406	875
42	Barranca Pkwy.	Jamboree to Harvard	27,800	75.2	111	239	515
43	Alton Pkwy.	Red Hill to Gillette	13,800	70.3	52	113	243
44	Alton Pkwy.	Von Karman to Jamboree	16,600	71.1	59	127	275
45	Alton Pkwy.	Jamboree to Harvard	19,000	71.7	65	140	301

Scenario: EXISTING NO PROJECT
Roadway: Red Hill Av.
Segment: Walnut to Edinger

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	29,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1779	34	14	1315	25	10	329	6	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.7	-16.6	-20.5	-0.6	-17.9	-21.8	-6.7	-23.9	-27.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.9	64.9	65.5	72.6	63.6	64.2	66.6	57.6	58.2
VEHICULAR NOISE	DAY=	74.9	Leq	EVENING=	73.6	Leq	NIGHT=	67.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 76.0**
CNEL= 76.7

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**126**	**272**	**585**
	CNEL:	**139**	**299**	**644**

Scenario: EXISTING NO PROJECT
Roadway: Red Hill Av.
Segment: Edinger to Valencia

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	25,200
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1546	29	12	1142	22	9	286	5	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.1	-17.2	-21.1	-1.3	-18.5	-22.5	-7.3	-24.5	-28.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.3	64.3	64.9	72.0	63.0	63.6	66.0	57.0	57.6
VEHICULAR NOISE	DAY=	74.3	Leq	EVENING=	73.0	Leq	NIGHT=	67.0	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**75.4**
				CNEL=	**76.0**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**115**	**247**	**533**
			CNEL:	**126**	**272**	**587**

Scenario: EXISTING NO PROJECT
Roadway: Red Hill Av.
Segment: Bell to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	26,100
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1601	30	12	1183	22	9	296	6	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.2	-17.0	-21.0	-1.1	-18.3	-22.3	-7.1	-24.4	-28.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.4	64.5	65.0	72.1	63.2	63.7	66.1	57.1	57.7
VEHICULAR NOISE	DAY=	74.5	Leq	EVENING=	73.2	Leq	NIGHT=	67.1	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**75.6**
				CNEL=	**76.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**118**	**253**	**545**
			CNEL:	**129**	**279**	**601**

Scenario: EXISTING NO PROJECT
Roadway: Red Hill Av.
Segment: Warner to Carnegie

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	28,800
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1766	33	13	1306	25	10	327	6	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.6	-16.6	-20.6	-0.7	-17.9	-21.9	-6.7	-23.9	-27.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.9	64.9	65.5	72.5	63.6	64.1	66.5	57.6	58.1
VEHICULAR NOISE	DAY=	74.9	Leq	EVENING=	73.6	Leq	NIGHT=	67.6	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.0**
				CNEL=	**76.6**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**125**	**270**	**582**
			CNEL:	**138**	**298**	**641**

Scenario: EXISTING NO PROJECT
Roadway: Red Hill Av.
Segment: Carnegie to Barranca

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	28,800
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1766	33	13	1306	25	10	327	6	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.6	-16.6	-20.6	-0.7	-17.9	-21.9	-6.7	-23.9	-27.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.9	64.9	65.5	72.5	63.6	64.1	66.5	57.6	58.1
VEHICULAR NOISE	DAY=	74.9	Leq	EVENING=	73.6	Leq	NIGHT=	67.6	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.0**
				CNEL=	**76.6**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**125**	**270**	**582**
			CNEL:	**138**	**298**	**641**

Scenario: EXISTING NO PROJECT
Roadway: Red Hill Av.
Segment: Barranca to Alton

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	28,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1717	32	13	1269	24	10	318	6	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.5	-16.7	-20.7	-0.8	-18.0	-22.0	-6.8	-24.1	-28.0
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.7	64.8	65.3	72.4	63.5	64.0	66.4	57.4	58.0
VEHICULAR NOISE	DAY=	74.8	Leq	EVENING=	73.5	Leq	NIGHT=	67.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 75.9**
CNEL= 76.5

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**123**	**265**	**572**
	CNEL:	**136**	**292**	**629**

Scenario: EXISTING NO PROJECT
Roadway: Edinger Av.
Segment: SR-55 ramps to Newport

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	37,400
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2294	43	17	1695	32	13	425	8	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.8	-15.5	-19.4	0.5	-16.8	-20.7	-5.6	-22.8	-26.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.0	66.0	66.6	73.7	64.7	65.3	67.7	58.7	59.3
VEHICULAR NOISE	DAY=	76.0	Leq	EVENING=	74.7	Leq	NIGHT=	68.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**77.1**
					CNEL=	**77.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**149**	**322**	**693**
			CNEL:	**164**	**354**	**763**

Scenario: EXISTING NO PROJECT
Roadway: Armstrong Av.
Segment: Warner to Barranca

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**#NUM!**
					CNEL=	**#NUM!**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
			CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

Scenario: EXISTING NO PROJECT
Roadway: Tustin Ranch Rd.
Segment: Walnut to Valencia

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	17,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1043	20	8	771	15	6	193	4	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.1	-19.4	-23.3	-3.4	-20.7	-24.6	-9.4	-26.7	-30.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.9	63.3	63.6	71.6	62.0	62.3	65.6	56.0	56.3
VEHICULAR NOISE	DAY=	73.8	Leq	EVENING=	72.5	Leq	NIGHT=	66.5	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**74.9**
				CNEL=	**75.5**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**106**	**228**	**490**
			CNEL:	**116**	**251**	**540**

Scenario: EXISTING NO PROJECT
Roadway: Tustin Ranch Rd.
Segment: Barranca to Legacy

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	20,400
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1251	24	10	925	17	7	232	4	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.3	-18.6	-22.5	-2.6	-19.9	-23.8	-8.6	-25.9	-29.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.7	64.1	64.4	72.4	62.8	63.1	66.4	56.8	57.1
VEHICULAR NOISE	DAY=	74.6	Leq	EVENING=	73.3	Leq	NIGHT=	67.2	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**75.7**
				CNEL=	**76.3**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**119**	**257**	**554**
			CNEL:	**131**	**283**	**609**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Von Karman Av.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	25,800
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1582	30	12	1170	22	9	293	6	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-0.3	-17.5	-21.5	-1.6	-18.9	-22.8	-7.6	-24.9	-28.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.6	62.0	62.3	70.3	60.7	61.0	64.2	54.7	54.9
VEHICULAR NOISE	DAY=	72.5	Leq	EVENING=	71.1	Leq	NIGHT=	65.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 73.6** **CNEL= 74.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**86**	**186**	**400**
	CNEL:	**95**	**205**	**441**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Jamboree Rd.
Segment: Walnut to Edinger
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	82,400
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	5054	95	38	3735	71	28	936	18	7
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	4.7	-12.5	-16.5	3.4	-13.8	-17.8	-2.6	-19.8	-23.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	79.7	70.2	70.4	78.4	68.9	69.1	72.4	62.8	63.1
VEHICULAR NOISE	DAY=	80.6	Leq	EVENING=	79.3	Leq	NIGHT=	73.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**81.7**
			CNEL=	**82.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**302**	**652**	**1404**
	CNEL:	**333**	**718**	**1546**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Jamboree Rd.
Segment: Edinger to Warner
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	65,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3999	76	30	2956	56	22	740	14	6
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	3.7	-13.5	-17.5	2.4	-14.8	-18.8	-3.6	-20.8	-24.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	78.7	69.2	69.4	77.4	67.8	68.1	71.4	61.8	62.1
VEHICULAR NOISE	DAY=	79.6	Leq	EVENING=	78.3	Leq	NIGHT=	72.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 80.7**, **CNEL= 81.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**259**	**558**	**1201**
	CNEL:	**285**	**614**	**1322**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Jamboree Rd.
Segment: Warner to Barranca
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	58,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3570	67	27	2638	50	20	661	12	5
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	3.2	-14.0	-18.0	1.9	-15.3	-19.3	-4.1	-21.3	-25.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	78.2	68.7	68.9	76.9	67.4	67.6	70.9	61.3	61.6
VEHICULAR NOISE	DAY=	79.1	Leq	EVENING=	77.8	Leq	NIGHT=	71.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 80.2** **CNEL= 80.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**240**	**517**	**1114**
	CNEL:	**264**	**569**	**1226**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Jamboree Rd.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	50,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3122	59	24	2307	44	18	578	11	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.6	-14.6	-18.5	1.3	-15.9	-19.9	-4.7	-21.9	-25.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.6	68.1	68.4	76.3	66.8	67.0	70.3	60.8	61.0
VEHICULAR NOISE	DAY=	78.5	Leq	EVENING=	77.2	Leq	NIGHT=	71.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.6**, **CNEL= 80.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**219**	**473**	**1018**
	CNEL:	**242**	**520**	**1121**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Harvard Av.
Segment: Poplar to Edinger

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	9,600
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	589	11	4	435	8	3	109	2	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-4.6	-21.8	-25.8	-5.9	-23.1	-27.1	-11.9	-29.2	-33.1
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.6	57.0	57.3	65.3	55.7	56.0	59.3	49.7	50.0
VEHICULAR NOISE	DAY=	67.5	Leq	EVENING=	66.2	Leq	NIGHT=	60.2	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.6**
			CNEL=	**69.2**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**40**	**87**	**187**
	CNEL:	**44**	**96**	**206**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Harvard Av.
Segment: Edinger/Irvine Center to Moffett
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	11,400
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	699	13	5	517	10	4	129	2	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-3.8	-21.1	-25.0	-5.2	-22.4	-26.4	-11.2	-28.4	-32.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.0	58.5	58.7	66.7	57.1	57.4	60.7	51.1	51.4
VEHICULAR NOISE	DAY=	68.9	Leq	EVENING=	67.6	Leq	NIGHT=	61.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.0**
			CNEL=	**70.6**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**50**	**108**	**232**
	CNEL:	**55**	**119**	**256**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Harvard Av.
Segment: Moffett to Warner
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	13,300
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	816	15	6	603	11	5	151	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-3.2	-20.4	-24.4	-4.5	-21.7	-25.7	-10.5	-27.7	-31.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.7	59.1	59.4	67.4	57.8	58.1	61.4	51.8	52.1
VEHICULAR NOISE	DAY=	69.6	Leq	EVENING=	68.3	Leq	NIGHT=	62.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.7**
			CNEL=	**71.3**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**55**	**119**	**257**
	CNEL:	**61**	**132**	**283**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Harvard Av.
Segment: Warner to Barranca
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	889	17	7	657	12	5	165	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.8	-20.0	-24.0	-4.1	-21.4	-25.3	-10.1	-27.4	-31.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.1	59.5	59.8	67.8	58.2	58.5	61.7	52.2	52.4
VEHICULAR NOISE	DAY=	70.0	Leq	EVENING=	68.6	Leq	NIGHT=	62.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.1**, **CNEL= 71.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**59**	**127**	**273**
	CNEL:	**65**	**139**	**300**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Harvard Av.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1104	21	8	816	15	6	204	4	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.9	-19.1	-23.1	-3.2	-20.4	-24.4	-9.2	-26.4	-30.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.0	60.4	60.7	68.7	59.1	59.4	62.7	53.1	53.4
VEHICULAR NOISE	DAY=	70.9	Leq	EVENING=	69.6	Leq	NIGHT=	63.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**72.0**
			CNEL=	**72.6**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**68**	**146**	**315**
	CNEL:	**75**	**161**	**347**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Walnut Av.
Segment: Tustin Ranch to Myford

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	24,200
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1484	28	11	1097	21	8	275	5	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	0.4	-16.8	-20.8	-0.9	-18.2	-22.1	-6.9	-24.2	-28.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.5	60.2	61.1	67.2	58.9	59.8	61.2	52.9	53.8
VEHICULAR NOISE	DAY=	69.7	Leq	EVENING=	68.4	Leq	NIGHT=	62.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 70.8** **CNEL= 71.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**57**	**122**	**264**
	CNEL:	**63**	**135**	**290**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Walnut Av.
Segment: Myford to Jamboree

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1159	22	9	857	16	7	215	4	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-0.7	-17.9	-21.9	-2.0	-19.2	-23.2	-8.0	-25.2	-29.2
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.6	62.3	63.2	69.2	61.0	61.8	63.2	54.9	55.8
VEHICULAR NOISE	DAY=	71.8	Leq	EVENING=	70.5	Leq	NIGHT=	64.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**72.9**
			CNEL=	**73.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**78**	**168**	**362**
	CNEL:	**86**	**185**	**398**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Walnut Av.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,400
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1129	21	9	834	16	6	209	4	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-0.8	-18.0	-22.0	-2.1	-19.4	-23.3	-8.1	-25.4	-29.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.4	62.2	63.0	69.1	60.8	61.7	63.1	54.8	55.7
VEHICULAR NOISE	DAY=	71.7	Leq	EVENING=	70.4	Leq	NIGHT=	64.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**72.8**
			CNEL=	**73.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**77**	**165**	**355**
	CNEL:	**84**	**181**	**391**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Warner Av.
Segment: Armstrong to Legacy

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Valencia Av.
Segment: Armstrong to Kensington Park
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,700
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	350	7	3	258	5	2	65	1	0
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-6.4	-23.6	-27.6	-7.7	-25.0	-28.9	-13.7	-31.0	-34.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.7	54.7	55.3	62.4	53.4	54.0	56.4	47.4	48.0
VEHICULAR NOISE	DAY=	64.7	Leq	EVENING=	63.4	Leq	NIGHT=	57.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**65.8**
			CNEL=	**66.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**26**	**57**	**122**
	CNEL:	**29**	**63**	**135**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Edinger Av.
Segment: Newport to Del Amo

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	24,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1503	28	11	1111	21	8	278	5	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-0.5	-17.8	-21.7	-1.8	-19.1	-23.0	-7.9	-25.1	-29.0
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.5	64.9	65.2	73.2	63.6	63.9	67.1	57.6	57.9
VEHICULAR NOISE	DAY=	75.4	Leq	EVENING=	74.1	Leq	NIGHT=	68.0	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**76.5**
			CNEL=	**77.1**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**135**	**290**	**625**
	CNEL:	**148**	**320**	**689**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Edinger Av.
Segment: Del Amo to Red Hill

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	26,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1595	30	12	1179	22	9	295	6	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-0.3	-17.5	-21.5	-1.6	-18.8	-22.8	-7.6	-24.8	-28.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.7	65.2	65.4	73.4	63.9	64.1	67.4	57.8	58.1
VEHICULAR NOISE	DAY=	75.6	Leq	EVENING=	74.3	Leq	NIGHT=	68.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**76.7**
			CNEL=	**77.3**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**140**	**302**	**651**
	CNEL:	**154**	**333**	**716**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Edinger Av.
Segment: Red Hill to Kensington Park

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	22,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1349	25	10	997	19	8	250	5	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.0	-18.2	-22.2	-2.3	-19.5	-23.5	-8.3	-25.6	-29.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.0	64.4	64.7	72.7	63.1	63.4	66.7	57.1	57.4
VEHICULAR NOISE	DAY=	74.9	Leq	EVENING=	73.6	Leq	NIGHT=	67.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 76.0** **CNEL= 76.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**125**	**270**	**582**
	CNEL:	**138**	**298**	**641**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Edinger Av.
Segment: Kensington Park to Jamboree
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	27,100
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1662	31	13	1229	23	9	308	6	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-0.1	-17.3	-21.3	-1.4	-18.6	-22.6	-7.4	-24.7	-28.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.9	65.3	65.6	73.6	64.0	64.3	67.6	58.0	58.3
VEHICULAR NOISE	DAY=	75.8	Leq	EVENING=	74.5	Leq	NIGHT=	68.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**76.9**
			CNEL=	**77.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**144**	**311**	**669**
	CNEL:	**159**	**342**	**737**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Edinger Av.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	24,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1472	28	11	1088	21	8	273	5	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-0.6	-17.9	-21.8	-1.9	-19.2	-23.1	-7.9	-25.2	-29.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.4	64.8	65.1	73.1	63.5	63.8	67.1	57.5	57.8
VEHICULAR NOISE	DAY=	75.3	Leq	EVENING=	74.0	Leq	NIGHT=	67.9	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 76.4**, **CNEL= 77.0**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**133**	**286**	**617**
	CNEL:	**146**	**315**	**679**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Valencia Av.
Segment: Red Hill to Armstrong

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	8,400
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	515	10	4	381	7	3	95	2	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-4.7	-22.0	-25.9	-6.0	-23.3	-27.2	-12.0	-29.3	-33.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	65.4	56.4	57.0	64.1	55.1	55.7	58.0	49.1	49.7
VEHICULAR NOISE	DAY=	66.4	Leq	EVENING=	65.1	Leq	NIGHT=	59.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 67.5** **CNEL= 68.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**34**	**74**	**158**
	CNEL:	**38**	**81**	**174**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Warner Av.
Segment: Red Hill to Armstrong

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**#NUM!**
			CNEL=	**#NUM!**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Warner Av.
Segment: Tustin Ranch to Park/Loop
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,900
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1159	22	9	857	16	7	215	4	2
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-0.1	-17.3	-21.3	-1.4	-18.7	-22.6	-7.4	-24.7	-28.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	65.8	58.2	59.5	64.4	56.9	58.2	58.4	50.9	52.2
VEHICULAR NOISE	DAY=	67.3	Leq	EVENING=	65.9	Leq	NIGHT=	59.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.4**
			CNEL=	**69.0**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**39**	**84**	**180**
	CNEL:	**43**	**92**	**198**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Jamboree Rd. NB Ramps
Segment: n/o Warner Av.

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	10,100
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	619	12	5	458	9	3	115	2	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-4.4	-21.6	-25.6	-5.7	-22.9	-26.9	-11.7	-28.9	-32.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.6	61.1	61.3	69.3	59.7	60.0	63.3	53.7	54.0
VEHICULAR NOISE	DAY=	71.5	Leq	EVENING=	70.2	Leq	NIGHT=	64.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 72.6**, **CNEL= 73.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**75**	**161**	**346**
	CNEL:	**82**	**177**	**381**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Warner Av.
Segment: Jamboree NB Ramps to Harvard
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	11,100
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	681	13	5	503	10	4	126	2	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-4.0	-21.2	-25.2	-5.3	-22.5	-26.5	-11.3	-28.5	-32.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.9	58.3	58.6	66.6	57.0	57.3	60.6	51.0	51.3
VEHICULAR NOISE	DAY=	68.8	Leq	EVENING=	67.5	Leq	NIGHT=	61.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.9** **CNEL= 70.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**49**	**106**	**228**
	CNEL:	**54**	**117**	**251**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Dyer Rd.
Segment: SR-55 NB Ramps to Red Hill
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	30,800
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1889	36	14	1396	26	11	350	7	3
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	1.4	-15.8	-19.8	0.1	-17.1	-21.1	-5.9	-23.1	-27.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.7	64.4	65.3	71.4	63.1	64.0	65.3	57.1	58.0
VEHICULAR NOISE	DAY=	73.9	Leq	EVENING=	72.6	Leq	NIGHT=	66.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 75.0** **CNEL= 75.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**108**	**232**	**501**
	CNEL:	**119**	**256**	**551**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Barranca Pkwy.
Segment: Red Hill to Aston
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	38,100
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2337	44	18	1727	33	13	433	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.4	-15.8	-19.8	0.1	-17.2	-21.1	-5.9	-23.2	-27.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.4	66.8	67.1	75.1	65.5	65.8	69.1	59.5	59.8
VEHICULAR NOISE	DAY=	77.3	Leq	EVENING=	76.0	Leq	NIGHT=	70.0	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 78.4**, **CNEL= 79.0**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**181**	**390**	**840**
	CNEL:	**199**	**429**	**924**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Barranca Pkwy.
Segment: Aston to Armstrong
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	38,100
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2337	44	18	1727	33	13	433	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.4	-15.8	-19.8	0.1	-17.2	-21.1	-5.9	-23.2	-27.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.4	66.8	67.1	75.1	65.5	65.8	69.1	59.5	59.8
VEHICULAR NOISE	DAY=	77.3	Leq	EVENING=	76.0	Leq	NIGHT=	70.0	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**78.4**
			CNEL=	**79.0**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**181**	**390**	**840**
	CNEL:	**199**	**429**	**924**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Barranca Pkwy.
Segment: Armstrong to Tustin Ranch Rd./Vor
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	35,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2190	41	17	1618	31	12	405	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.1	-16.1	-20.1	-0.2	-17.4	-21.4	-6.2	-23.5	-27.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.1	66.5	66.8	74.8	65.2	65.5	68.8	59.2	59.5
VEHICULAR NOISE	DAY=	77.0	Leq	EVENING=	75.7	Leq	NIGHT=	69.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 78.1** **CNEL= 78.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**173**	**373**	**804**
	CNEL:	**191**	**411**	**885**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Barranca Pkwy.
Segment: Tustin Ranch Rd./Von Karman Av.
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	31,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1914	36	15	1414	27	11	354	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.5	-16.7	-20.7	-0.8	-18.0	-22.0	-6.8	-24.0	-28.0
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.5	66.0	66.2	74.2	64.6	64.9	68.2	58.6	58.9
VEHICULAR NOISE	DAY=	76.4	Leq	EVENING=	75.1	Leq	NIGHT=	69.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**77.5**
			CNEL=	**78.1**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**158**	**341**	**735**
	CNEL:	**174**	**376**	**809**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Barranca Pkwy.
Segment: District to Jamboree

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	35,100
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2153	41	16	1591	30	12	399	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.0	-16.2	-20.2	-0.3	-17.5	-21.5	-6.3	-23.5	-27.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.0	66.5	66.7	74.7	65.2	65.4	68.7	59.1	59.4
VEHICULAR NOISE	DAY=	76.9	Leq	EVENING=	75.6	Leq	NIGHT=	69.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 78.0** **CNEL= 78.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**171**	**369**	**795**
	CNEL:	**189**	**406**	**875**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Barranca Pkwy.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	27,800
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1705	32	13	1260	24	10	316	6	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	1.0	-16.2	-20.2	-0.3	-17.6	-21.5	-6.3	-23.6	-27.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.2	63.9	64.8	70.9	62.6	63.5	64.9	56.6	57.5
VEHICULAR NOISE	DAY=	73.5	Leq	EVENING=	72.2	Leq	NIGHT=	66.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 74.6**, **CNEL= 75.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**101**	**217**	**468**
	CNEL:	**111**	**239**	**515**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Alton Pkwy.
Segment: Red Hill to Gillette

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	13,800
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	846	16	6	626	12	5	157	3	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-2.6	-19.8	-23.8	-3.9	-21.1	-25.1	-9.9	-27.1	-31.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.5	58.6	59.1	66.2	57.3	57.8	60.2	51.2	51.8
VEHICULAR NOISE	DAY=	68.6	Leq	EVENING=	67.3	Leq	NIGHT=	61.2	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.7**
			CNEL=	**70.3**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**48**	**102**	**221**
	CNEL:	**52**	**113**	**243**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Alton Pkwy.
Segment: Von Karman to Jamboree

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	16,600
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1018	19	8	753	14	6	189	4	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-1.8	-19.0	-23.0	-3.1	-20.3	-24.3	-9.1	-26.3	-30.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.3	59.4	59.9	67.0	58.1	58.6	61.0	52.0	52.6
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	68.1	Leq	NIGHT=	62.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 70.5** **CNEL= 71.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**54**	**116**	**249**
	CNEL:	**59**	**127**	**275**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Alton Pkwy.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	19,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1165	22	9	861	16	7	216	4	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-1.2	-18.4	-22.4	-2.5	-19.7	-23.7	-8.5	-25.7	-29.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.9	60.0	60.5	67.6	58.6	59.2	61.6	52.6	53.2
VEHICULAR NOISE	DAY=	70.0	Leq	EVENING=	68.7	Leq	NIGHT=	62.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**71.1**
			CNEL=	**71.7**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**59**	**127**	**273**
	CNEL:	**65**	**140**	**301**

Tustin Legacy SP

EXISTING NO PROJECT

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Warner Av.	Grand to Red Hill	14,600	45	84	Soft	6D	**0%**	1
2	Park Av.	Jamboree SB Ramps to Warner	11,600	40	48	Soft	4D	**0%**	2
3	Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	18,800	35	84	Soft	6D	**0%**	3
4	Del Amo Av.	Edinger to Newport	5,000	35	48	Soft	4D	**0%**	4
5	Warner Av.	Park/Loop to Jamboree NB Ramps	12,100	50	48	Soft	4D	**0%**	5
6	Park Av.	Warner to District	14,400	40	48	Soft	4D	**0%**	6
7	Park Av.	Victory to Jamboree SB Ramps	-	40	48	Soft	4D	**0%**	7
8	Jamboree Rd. SB Ramps	e/o Park Av.	11,600	45	24	Soft	2D	**0%**	8
9	Tustin Ranch Rd.	Victory to Warner	18,400	50	84	Soft	6D	**0%**	9
10	Red Hill Av.	Valencia to Bell	26,100	45	84	Soft	6D	**0%**	10
11	Valencia Av.	Newport to Red Hill	5,800	45	48	Soft	4D	**0%**	11
12	Valencia Av.	Tustin Ranch to Loop	-	45	48	Soft	4D	**0%**	12
13	Tustin Ranch Rd.	Valencia to Moffett	16,200	50	84	Soft	6D	**0%**	13
14	Park Av.	Valencia to Moffett	-	40	48	Soft	4D	**0%**	14
15	Park Av.	Moffett to Victory	-	40	48	Soft	4D	**0%**	15
16	District Dr.	Barrance to Park	19,300	10	48	Soft	4D	**0%**	16
17	Tustin Ranch Rd.	Warner to Legacy/Park	18,400	50	84	Soft	6D	**0%**	17
18	Park Av.	Tustin Ranch to District	10,400	40	48	Soft	4D	**0%**	18
19	Legacy Rd.	Warner to Tustin Ranch	-	40	48	Soft	4D	**0%**	19
20	Kensington Park Dr.	Edinger to Valencia	4,500	40	48	Soft	4D	**0%**	20
21	Valencia Av.	Kensington Park to Tustin Ranch	5,700	45	48	Soft	4D	**0%**	21
22	Tustin Ranch Rd.	Moffett to Victory	16,200	50	84	Soft	6D	**0%**	22
23	Victory Rd,	Tustin Ranch to Loop	-	40	48	Soft	4D	**0%**	23
24	Tustin Ranch Rd.	Victory to Warner	16,200	50	84	Soft	6D	**0%**	24
25	Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	9,400	35	84	Soft	6D	**0%**	25
26	Bell Av.	e/o Red Hill Av.	-	25	12	Soft	2U	**0%**	26
27	Armstrong Av.	Valencia to Bell	900	40	48	Soft	4D	**0%**	27
28	Armstrong Av.	Bell to Warner	-	40	48	Soft	4D	**0%**	28
29	Warner Av.	Legacy to Tustin Ranch	-	45	84	Soft	6D	**0%**	29
30	Moffett Dr.	Tustin Ranch to Loop	-	40	48	Soft	4D	**0%**	30
31	Moffett Dr.	Loop to Sonora/Meridian	-	40	24	Soft	2D	**0%**	31
32									32
33									33
34									34
35	FREEWAY	SEGMENT							35
36	SR-55	Edinger to Dyer	287,900	65	84	Soft		**0%**	36

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE
2U	40	12
4U	40	36
4D	45	48
6D	45	84
2D	40	24

		73.6	75.55%
		13.6	13.96%
		10.22	10.49%

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Tra

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM tc	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Tustin Legacy SP
EXISTING NO PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTANCE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Warner Av.	Grand to Red Hill	14,600	73.7	88	189	408
2	Park Av.	Jamboree SB Ramps to Warner	11,600	68.3	38	83	178
3	Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	18,800	72.1	69	148	320
4	Del Amo Av.	Edinger to Newport	5,000	63.2	18	38	82
5	Warner Av.	Park/Loop to Jamboree NB Ramps	12,100	70.9	57	124	266
6	Park Av.	Warner to District	14,400	69.2	44	95	205
7	Park Av.	Victory to Jamboree SB Ramps	0	#NUM!	#NUM!	#NUM!	#NUM!
8	Jamboree Rd. SB Ramps	e/o Park Av.	11,600	68.9	42	91	195
9	Tustin Ranch Rd.	Victory to Warner	18,400	75.8	123	264	569
10	Red Hill Av.	Valencia to Bell	26,100	76.2	129	279	601
11	Valencia Av.	Newport to Red Hill	5,800	66.5	29	63	136
12	Valencia Av.	Tustin Ranch to Loop	0	#NUM!	#NUM!	#NUM!	#NUM!
13	Tustin Ranch Rd.	Valencia to Moffett	16,200	75.3	113	243	523
14	Park Av.	Valencia to Moffett	0	#NUM!	#NUM!	#NUM!	#NUM!
15	Park Av.	Moffett to Victory	0	#NUM!	#NUM!	#NUM!	#NUM!
16	District Dr.	Barrance to Park	19,300	58.6	9	19	40
17	Tustin Ranch Rd.	Warner to Legacy/Park	18,400	75.8	123	264	569
18	Park Av.	Tustin Ranch to District	10,400	67.8	36	77	165
19	Legacy Rd.	Warner to Tustin Ranch	0	#NUM!	#NUM!	#NUM!	#NUM!
20	Kensington Park Dr.	Edinger to Valencia	4,500	64.2	20	44	95
21	Valencia Av.	Kensington Park to Tustin Ranch	5,700	66.5	29	63	135
22	Tustin Ranch Rd.	Moffett to Victory	16,200	75.3	113	243	523
23	Victory Rd,	Tustin Ranch to Loop	0	#NUM!	#NUM!	#NUM!	#NUM!
24	Tustin Ranch Rd.	Victory to Warner	16,200	75.3	113	243	523
25	Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	9,400	69.1	43	93	201
26	Bell Av.	e/o Red Hill Av.	0	#NUM!	#NUM!	#NUM!	#NUM!
27	Armstrong Av.	Valencia to Bell	900	57.2	7	15	32
28	Armstrong Av.	Bell to Warner	0	#NUM!	#NUM!	#NUM!	#NUM!
29	Warner Av.	Legacy to Tustin Ranch	0	#NUM!	#NUM!	#NUM!	#NUM!
30	Moffett Dr.	Tustin Ranch to Loop	0	#NUM!	#NUM!	#NUM!	#NUM!
31	Moffett Dr.	Loop to Sonora/Meridian	0	#NUM!	#NUM!	#NUM!	#NUM!
32							
33							
34							
35	FREEWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 100 FT. (dBA CNEL)	70 CNEL	65 CNEL	60 CNEL
36	SR-55	Edinger to Dyer	287,900	82.9	726	1,563	3,368

Scenario: EXISTING NO PROJECT
Roadway: Warner Av.
Segment: Grand to Red Hill

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,600
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	895	17	7	662	13	5	166	3	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-2.3	-19.6	-23.5	-3.6	-20.9	-24.8	-9.6	-26.9	-30.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.9	61.9	62.5	69.6	60.6	61.2	63.6	54.6	55.2
VEHICULAR NOISE	DAY=	71.9	Leq	EVENING=	70.6	Leq	NIGHT=	64.6	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**73.0**
					CNEL=	**73.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**80**	**172**	**370**
			CNEL:	**88**	**189**	**408**

Scenario: EXISTING NO PROJECT
Roadway: Park Av.
Segment: Jamboree SB Ramps to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	11,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	711	13	5	526	10	4	132	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-2.8	-20.0	-24.0	-4.1	-21.4	-25.3	-10.1	-27.4	-31.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	65.3	57.0	57.9	64.0	55.7	56.6	58.0	49.7	50.6
VEHICULAR NOISE	DAY=	66.5	Leq	EVENING=	65.2	Leq	NIGHT=	59.2	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.6**
					CNEL=	**68.3**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**35**	**75**	**162**
			CNEL:	**38**	**83**	**178**

Scenario: EXISTING NO PROJECT
Roadway: Newport Av.
Segment: Edinger to SR-55 NB Ramps/Del Amo

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,800
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1153	22	9	852	16	6	213	4	2
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-0.1	-17.4	-21.3	-1.4	-18.7	-22.6	-7.5	-24.7	-28.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.9	61.3	62.6	67.5	60.0	61.3	61.5	54.0	55.3
VEHICULAR NOISE	DAY=	70.4	Leq	EVENING=	69.1	Leq	NIGHT=	63.0	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**71.5**
					CNEL=	**72.1**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**63**	**135**	**290**
			CNEL:	**69**	**148**	**320**

Scenario: EXISTING NO PROJECT
Roadway: Del Amo Av.
Segment: Edinger to Newport

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,000
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	307	6	2	227	4	2	57	1	0
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-5.9	-23.1	-27.1	-7.2	-24.4	-28.4	-13.2	-30.4	-34.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	60.0	52.5	53.7	58.7	51.1	52.4	52.7	45.1	46.4
VEHICULAR NOISE	DAY=	61.5	Leq	EVENING=	60.2	Leq	NIGHT=	54.2	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**62.6**
					CNEL=	**63.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**16**	**34**	**74**
			CNEL:	**18**	**38**	**82**

Scenario: EXISTING NO PROJECT
Roadway: Warner Av.
Segment: Park/Loop to Jamboree NB Ramps

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	12,100
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	742	14	6	549	10	4	137	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-3.6	-20.8	-24.8	-4.9	-22.1	-26.1	-10.9	-28.2	-32.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.3	58.7	59.0	67.0	57.4	57.7	61.0	51.4	51.7
VEHICULAR NOISE	DAY=	69.2	Leq	EVENING=	67.9	Leq	NIGHT=	61.8	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.3**
					CNEL=	**70.9**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**52**	**112**	**242**
			CNEL:	**57**	**124**	**266**

Scenario: EXISTING NO PROJECT
Roadway: Park Av.
Segment: Warner to District

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,400
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	883	17	7	653	12	5	164	3	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-1.9	-19.1	-23.1	-3.2	-20.4	-24.4	-9.2	-26.4	-30.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.2	58.0	58.8	64.9	56.6	57.5	58.9	50.6	51.5
VEHICULAR NOISE	DAY=	67.5	Leq	EVENING=	66.2	Leq	NIGHT=	60.2	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.6**
					CNEL=	**69.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**40**	**87**	**187**
			CNEL:	**44**	**95**	**205**

Scenario: EXISTING NO PROJECT
Roadway: Park Av.
Segment: Victory to Jamboree SB Ramps

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

Scenario: EXISTING NO PROJECT
Roadway: Jamboree Rd. SB Ramps
Segment: e/o Park Av.

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	11,600
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	711	13	5	526	10	4	132	2	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-3.3	-20.6	-24.5	-4.6	-21.9	-25.8	-10.6	-27.9	-31.8
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.1	57.2	57.7	64.8	55.8	56.4	58.8	49.8	50.4
VEHICULAR NOISE	DAY=	67.2	Leq	EVENING=	65.8	Leq	NIGHT=	59.8	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.3**
					CNEL=	**68.9**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**38**	**82**	**178**
			CNEL:	**42**	**91**	**195**

Scenario: EXISTING NO PROJECT
Roadway: Tustin Ranch Rd.
Segment: Victory to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,400
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1129	21	9	834	16	6	209	4	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.8	-19.0	-23.0	-3.1	-20.3	-24.3	-9.1	-26.3	-30.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.2	63.7	63.9	71.9	62.4	62.6	65.9	56.3	56.6
VEHICULAR NOISE	DAY=	74.1	Leq	EVENING=	72.8	Leq	NIGHT=	66.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 75.2**
CNEL= 75.8

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**111**	**240**	**517**
	CNEL:	**123**	**264**	**569**

Scenario: EXISTING NO PROJECT
Roadway: Red Hill Av.
Segment: Valencia to Bell

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	26,100
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1601	30	12	1183	22	9	296	6	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.2	-17.0	-21.0	-1.1	-18.3	-22.3	-7.1	-24.4	-28.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.4	64.5	65.0	72.1	63.2	63.7	66.1	57.1	57.7
VEHICULAR NOISE	DAY=	74.5	Leq	EVENING=	73.2	Leq	NIGHT=	67.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 75.6**
CNEL= 76.2

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**118**	**253**	**545**
	CNEL:	**129**	**279**	**601**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Valencia Av.
Segment: Newport to Red Hill
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,800
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	356	7	3	263	5	2	66	1	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-6.3	-23.6	-27.5	-7.6	-24.9	-28.8	-13.7	-30.9	-34.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.8	54.8	55.4	62.5	53.5	54.1	56.4	47.5	48.0
VEHICULAR NOISE	DAY=	64.8	Leq	EVENING=	63.5	Leq	NIGHT=	57.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 65.9** **CNEL= 66.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**27**	**57**	**124**
	CNEL:	**29**	**63**	**136**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Valencia Av.
Segment: Tustin Ranch to Loop

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Tustin Ranch Rd.
Segment: Valencia to Moffett

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	16,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	994	19	8	734	14	6	184	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.3	-19.6	-23.5	-3.6	-20.9	-24.8	-9.6	-26.9	-30.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.7	63.1	63.4	71.4	61.8	62.1	65.3	55.8	56.1
VEHICULAR NOISE	DAY=	73.6	Leq	EVENING=	72.3	Leq	NIGHT=	66.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 74.7**, **CNEL= 75.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**102**	**220**	**475**
	CNEL:	**113**	**243**	**523**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Park Av.
Segment: Valencia to Moffett
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**#NUM!**
			CNEL=	**#NUM!**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Park Av.
Segment: Moffett to Victory

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: District Dr.
Segment: Barrance to Park
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	19,300
SPEED (mph)	10
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1184	22	9	875	17	7	219	4	2
Speed in MPH	10	10	10	10	10	10	10	10	10
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	44.0	60.9	69.6	44.0	60.9	69.6	44.0	60.9	69.6
ADJUSTMENTS									
Flow	5.4	-11.8	-15.8	4.1	-13.1	-17.1	-1.9	-19.1	-23.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	50.2	49.8	54.6	48.9	48.5	53.3	42.8	42.5	47.3
VEHICULAR NOISE	DAY=	56.9	Leq	EVENING=	55.6	Leq	NIGHT=	49.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 58.0** **CNEL= 58.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**8**	**17**	**37**
	CNEL:	**9**	**19**	**40**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Tustin Ranch Rd.
Segment: Warner to Legacy/Park

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,400
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1129	21	9	834	16	6	209	4	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.8	-19.0	-23.0	-3.1	-20.3	-24.3	-9.1	-26.3	-30.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.2	63.7	63.9	71.9	62.4	62.6	65.9	56.3	56.6
VEHICULAR NOISE	DAY=	74.1	Leq	EVENING=	72.8	Leq	NIGHT=	66.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 75.2** **CNEL= 75.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**111**	**240**	**517**
	CNEL:	**123**	**264**	**569**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Park Av.
Segment: Tustin Ranch to District
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	10,400
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	638	12	5	471	9	4	118	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-3.3	-20.5	-24.5	-4.6	-21.8	-25.8	-10.6	-27.8	-31.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.8	56.5	57.4	63.5	55.2	56.1	57.5	49.2	50.1
VEHICULAR NOISE	DAY=	66.1	Leq	EVENING=	64.8	Leq	NIGHT=	58.7	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.2**
			CNEL=	**67.8**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**32**	**70**	**150**
	CNEL:	**36**	**77**	**165**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Legacy Rd.
Segment: Warner to Tustin Ranch

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**#NUM!**
			CNEL=	**#NUM!**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Kensington Park Dr.
Segment: Edinger to Valencia
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	4,500
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	276	5	2	204	4	2	51	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-6.9	-24.2	-28.1	-8.2	-25.5	-29.4	-14.2	-31.5	-35.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	61.2	52.9	53.8	59.9	51.6	52.5	53.9	45.6	46.5
VEHICULAR NOISE	DAY=	62.4	Leq	EVENING=	61.1	Leq	NIGHT=	55.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**63.5**
			CNEL=	**64.2**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**19**	**40**	**86**
	CNEL:	**20**	**44**	**95**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Valencia Av.
Segment: Kensington Park to Tustin Ranch
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,700
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	350	7	3	258	5	2	65	1	0
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-6.4	-23.6	-27.6	-7.7	-25.0	-28.9	-13.7	-31.0	-34.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.7	54.7	55.3	62.4	53.4	54.0	56.4	47.4	48.0
VEHICULAR NOISE	DAY=	64.7	Leq	EVENING=	63.4	Leq	NIGHT=	57.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**65.8**
			CNEL=	**66.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**26**	**57**	**122**
	CNEL:	**29**	**63**	**135**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Tustin Ranch Rd.
Segment: Moffett to Victory

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	16,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	994	19	8	734	14	6	184	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.3	-19.6	-23.5	-3.6	-20.9	-24.8	-9.6	-26.9	-30.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.7	63.1	63.4	71.4	61.8	62.1	65.3	55.8	56.1
VEHICULAR NOISE	DAY=	73.6	Leq	EVENING=	72.3	Leq	NIGHT=	66.2	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.7**
			CNEL=	**75.3**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**102**	**220**	**475**
	CNEL:	**113**	**243**	**523**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Victory Rd,
Segment: Tustin Ranch to Loop

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**#NUM!**
			CNEL=	**#NUM!**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Tustin Ranch Rd.
Segment: Victory to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	16,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	994	19	8	734	14	6	184	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.3	-19.6	-23.5	-3.6	-20.9	-24.8	-9.6	-26.9	-30.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.7	63.1	63.4	71.4	61.8	62.1	65.3	55.8	56.1
VEHICULAR NOISE	DAY=	73.6	Leq	EVENING=	72.3	Leq	NIGHT=	66.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 74.7** **CNEL= 75.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**102**	**220**	**475**
	CNEL:	**113**	**243**	**523**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Newport Av.
Segment: SR-55 NB Ramps/Del Amo to Vale
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	9,400
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	577	11	4	426	8	3	107	2	1
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-3.1	-20.4	-24.3	-4.5	-21.7	-25.6	-10.5	-27.7	-31.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	65.8	58.3	59.6	64.5	57.0	58.3	58.5	51.0	52.3
VEHICULAR NOISE	DAY=	67.4	Leq	EVENING=	66.0	Leq	NIGHT=	60.0	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 68.4** **CNEL= 69.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**39**	**85**	**183**
	CNEL:	**43**	**93**	**201**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Bell Av.
Segment: e/o Red Hill Av.
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Armstrong Av.
Segment: Valencia to Bell
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	55	1	0	41	1	0	10	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-13.9	-31.1	-35.1	-15.2	-32.5	-36.4	-21.2	-38.5	-42.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	54.2	45.9	46.8	52.9	44.6	45.5	46.9	38.6	39.5
VEHICULAR NOISE	DAY=	55.4	Leq	EVENING=	54.1	Leq	NIGHT=	48.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 56.5** **CNEL= 57.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**6**	**14**	**29**
	CNEL:	**7**	**15**	**32**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Armstrong Av.
Segment: Bell to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Warner Av.
Segment: Legacy to Tustin Ranch

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**#NUM!**
			CNEL=	**#NUM!**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Moffett Dr.
Segment: Tustin Ranch to Loop
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: Moffett Dr.
Segment: Loop to Sonora/Meridian
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING NO PROJECT
Roadway: SR-55
Segment: Edinger to Dyer
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	######
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	17658	334	134	13051	247	99	3269	62	25
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	9.0	-8.2	-12.2	7.7	-9.5	-13.5	1.7	-15.5	-19.5
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.6	69.5	69.1	79.3	68.2	67.7	73.3	62.2	61.7
VEHICULAR NOISE	DAY=	81.2	Leq	EVENING=	79.9	Leq	NIGHT=	73.9	Leq

RESULTS

NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA): **Ldn= 82.3**, **CNEL= 82.9**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**659**	**1420**	**3059**
	CNEL:	**726**	**1563**	**3368**

Tustin Legacy SP

"2035 NO PROJECT"

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Red Hill Av.	Walnut to Edinger	29,600	45	84	Soft	6D	0%	1
2	Red Hill Av.	Edinger to Valencia	33,200	45	84	Soft	6D	0%	2
3	Red Hill Av.	Bell to Warner	32,000	45	84	Soft	6D	0%	3
4	Red Hill Av.	Warner to Carnegie	32,200	45	84	Soft	6D	0%	4
5	Red Hill Av.	Carnegie to Barranca	30,000	45	84	Soft	6D	0%	5
6	Red Hill Av.	Barranca to Alton	34,100	45	84	Soft	6D	0%	6
7	Edinger Av.	SR-55 ramps to Newport	52,000	45	84	Soft	6D	0%	7
8	Armstrong Av.	Warner to Barranca	10,200	40	48	Soft	4D	0%	8
9	Tustin Ranch Rd.	Walnut to Valencia	28,100	50	84	Soft	6D	0%	9
10	Tustin Ranch Rd.	Barranca to Legacy	35,700	50	84	Soft	6D	0%	10
11	Von Karman Av.	Barranca to Alton	35,800	50	48	Soft	4D	0%	11
12	Jamboree Rd.	Walnut to Edinger	85,800	50	84	Soft	6D	0%	12
13	Jamboree Rd.	Edinger to Warner	87,700	50	84	Soft	6D	0%	13
14	Jamboree Rd.	Warner to Barranca	71,600	50	84	Soft	6D	0%	14
15	Jamboree Rd.	Barranca to Alton	66,500	50	84	Soft	6D	0%	15
16	Harvard Av.	Poplar to Edinger	11,900	50	24	Soft	2D	0%	16
17	Harvard Av.	Edinger/Irvine Center to Moffett	12,300	50	48	Soft	4D	0%	17
18	Harvard Av.	Moffett to Warner	12,900	50	48	Soft	4D	0%	18
19	Harvard Av.	Warner to Barranca	15,200	50	48	Soft	4D	0%	19
20	Harvard Av.	Barranca to Alton	19,200	50	48	Soft	4D	0%	20
21	Walnut Av.	Tustin Ranch to Myford	18,500	40	48	Soft	4D	0%	21
22	Walnut Av.	Myford to Jamboree	26,600	40	84	Soft	6D	0%	22
23	Walnut Av.	Jamboree to Harvard	21,900	40	84	Soft	6D	0%	23
24	Warner Av.	Armstrong to Legacy	27,200	45	48	Soft	4D	0%	24
25	Valencia Av.	Armstrong to Kensington Park	12,700	45	48	Soft	4D	0%	25
26	Edinger Av.	Newport to Del Amo	32,500	50	84	Soft	6D	0%	26
27	Edinger Av.	Del Amo to Red Hill	30,900	50	84	Soft	6D	0%	27
28	Edinger Av.	Red Hill to Kensington Park	36,500	50	84	Soft	6D	0%	28
29	Edinger Av.	Kensington Park to Jamboree	32,400	50	84	Soft	6D	0%	29
30	Edinger Av.	Jamboree to Harvard	29,500	50	84	Soft	6D	0%	30
31	Valencia Av.	Red Hill to Armstrong	16,800	45	48	Soft	4D	0%	31
32	Warner Av.	Red Hill to Armstrong	35,000	45	84	Soft	6D	0%	32
33	Warner Av.	Tustin Ranch to Park/Loop	35,000	35	48	Soft	4D	0%	33
34	Jamboree Rd. NB Ramps	n/o Warner Av.	8,600	50	84	Soft	6D	0%	34
35	Warner Av.	Jamboree NB Ramps to Harvard	16,800	50	48	Soft	4D	0%	35
36	Dyer Rd.	SR-55 NB Ramps to Red Hill	46,400	40	84	Soft	6D	0%	36
37	Barranca Pkwy.	Red Hill to Aston	43,700	50	84	Soft	6D	0%	37
38	Barranca Pkwy.	Aston to Armstrong	42,500	50	84	Soft	6D	0%	38
39	Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman Av.	43,500	50	84	Soft	6D	0%	39
40	Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	45,700	50	84	Soft	6D	0%	40
41	Barranca Pkwy.	District to Jamboree	46,800	50	84	Soft	6D	0%	41
42	Barranca Pkwy.	Jamboree to Harvard	36,800	40	84	Soft	6D	0%	42
43	Alton Pkwy.	Red Hill to Gillette	24,200	45	48	Soft	4D	0%	43
44	Alton Pkwy.	Von Karman to Jamboree	21,900	45	48	Soft	4D	0%	44
45	Alton Pkwy.	Jamboree to Harvard	24,400	45	48	Soft	4D	0%	45

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE
2U	40	12
4U	40	36
4D	45	48
6D	45	84
2D	40	24

73.6	75.55%		
13.6	13.96%		
10.22	10.49%		

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Tra

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM tc	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Tustin Legacy SP
"2035 NO PROJECT" CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTANCE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Red Hill Av.	Walnut to Edinger	29,600	76.7	141	303	653
2	Red Hill Av.	Edinger to Valencia	33,200	77.2	152	327	705
3	Red Hill Av.	Bell to Warner	32,000	77.1	148	319	688
4	Red Hill Av.	Warner to Carnegie	32,200	77.1	149	321	691
5	Red Hill Av.	Carnegie to Barranca	30,000	76.8	142	306	659
6	Red Hill Av.	Barranca to Alton	34,100	77.4	155	333	718
7	Edinger Av.	SR-55 ramps to Newport	52,000	79.2	205	441	951
8	Armstrong Av.	Warner to Barranca	10,200	67.7	35	76	163
9	Tustin Ranch Rd.	Walnut to Valencia	28,100	77.7	163	350	755
10	Tustin Ranch Rd.	Barranca to Legacy	35,700	78.7	191	411	885
11	Von Karman Av.	Barranca to Alton	35,800	75.6	118	255	548
12	Jamboree Rd.	Walnut to Edinger	85,800	82.5	342	737	1588
13	Jamboree Rd.	Edinger to Warner	87,700	82.6	347	748	1611
14	Jamboree Rd.	Warner to Barranca	71,600	81.7	303	653	1408
15	Jamboree Rd.	Barranca to Alton	66,500	81.4	289	622	1340
16	Harvard Av.	Poplar to Edinger	11,900	70.2	51	110	238
17	Harvard Av.	Edinger/Irvine Center to Moffett	12,300	71.0	58	125	269
18	Harvard Av.	Moffett to Warner	12,900	71.2	60	129	278
19	Harvard Av.	Warner to Barranca	15,200	71.9	67	144	310
20	Harvard Av.	Barranca to Alton	19,200	72.9	78	168	362
21	Walnut Av.	Tustin Ranch to Myford	18,500	70.3	52	113	243
22	Walnut Av.	Myford to Jamboree	26,600	75.0	108	232	500
23	Walnut Av.	Jamboree to Harvard	21,900	74.2	95	204	439
24	Warner Av.	Armstrong to Legacy	27,200	73.2	82	177	382
25	Valencia Av.	Armstrong to Kensington Park	12,700	69.9	50	107	230
26	Edinger Av.	Newport to Del Amo	32,500	78.3	179	386	831
27	Edinger Av.	Del Amo to Red Hill	30,900	78.1	173	373	804
28	Edinger Av.	Red Hill to Kensington Park	36,500	78.8	194	417	898
29	Edinger Av.	Kensington Park to Jamboree	32,400	78.3	179	385	830
30	Edinger Av.	Jamboree to Harvard	29,500	77.9	168	362	779
31	Valencia Av.	Red Hill to Armstrong	16,800	71.1	60	129	277
32	Warner Av.	Red Hill to Armstrong	35,000	77.5	157	339	730
33	Warner Av.	Tustin Ranch to Park/Loop	35,000	71.7	64	139	299
34	Jamboree Rd. NB Ramps	n/o Warner Av.	8,600	72.5	74	159	343
35	Warner Av.	Jamboree NB Ramps to Harvard	16,800	72.3	71	154	331
36	Dyer Rd.	SR-55 NB Ramps to Red Hill	46,400	77.4	156	336	724
37	Barranca Pkwy.	Red Hill to Aston	43,700	79.6	218	470	1,013
38	Barranca Pkwy.	Aston to Armstrong	42,500	79.5	214	461	994
39	Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman A	43,500	79.6	218	469	1,010
40	Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	45,700	79.8	225	484	1,043
41	Barranca Pkwy.	District to Jamboree	46,800	79.9	228	492	1,060
42	Barranca Pkwy.	Jamboree to Harvard	36,800	76.4	134	288	621
43	Alton Pkwy.	Red Hill to Gillette	24,200	72.7	76	164	353
44	Alton Pkwy.	Von Karman to Jamboree	21,900	72.3	71	153	330
45	Alton Pkwy.	Jamboree to Harvard	24,400	72.8	77	165	355

Scenario: "2035 NO PROJECT"
Roadway: Red Hill Av.
Segment: Walnut to Edinger

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	29,600
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1815	34	14	1342	25	10	336	6	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.8	-16.5	-20.4	-0.6	-17.8	-21.8	-6.6	-23.8	-27.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.0	65.0	65.6	72.7	63.7	64.3	66.6	57.7	58.3
VEHICULAR NOISE	DAY=	75.0	Leq	EVENING=	73.7	Leq	NIGHT=	67.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 76.1**
CNEL= 76.7

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**128**	**275**	**593**
	CNEL:	**141**	**303**	**653**

Scenario: "2035 NO PROJECT"
Roadway: Red Hill Av.
Segment: Edinger to Valencia

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	33,200
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2036	38	15	1505	28	11	377	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.3	-16.0	-19.9	-0.1	-17.3	-21.3	-6.1	-23.3	-27.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.5	65.5	66.1	73.2	64.2	64.8	67.1	58.2	58.8
VEHICULAR NOISE	DAY=	75.5	Leq	EVENING=	74.2	Leq	NIGHT=	68.2	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.6**
				CNEL=	**77.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**138**	**297**	**640**
			CNEL:	**152**	**327**	**705**

Scenario: "2035 NO PROJECT"
Roadway: Red Hill Av.
Segment: Bell to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1963	37	15	1451	27	11	363	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.1	-16.1	-20.1	-0.2	-17.5	-21.4	-6.2	-23.5	-27.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.3	65.4	65.9	73.0	64.0	64.6	67.0	58.0	58.6
VEHICULAR NOISE	DAY=	75.4	Leq	EVENING=	74.0	Leq	NIGHT=	68.0	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.5**
				CNEL=	**77.1**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**135**	**290**	**625**
			CNEL:	**148**	**319**	**688**

Scenario: "2035 NO PROJECT"
Roadway: Red Hill Av.
Segment: Warner to Carnegie

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,200
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1975	37	15	1460	28	11	366	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.1	-16.1	-20.1	-0.2	-17.4	-21.4	-6.2	-23.4	-27.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.3	65.4	65.9	73.0	64.1	64.6	67.0	58.1	58.6
VEHICULAR NOISE	DAY=	75.4	Leq	EVENING=	74.1	Leq	NIGHT=	68.1	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.5**
				CNEL=	**77.1**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**135**	**291**	**627**
			CNEL:	**149**	**321**	**691**

Scenario: "2035 NO PROJECT"
Roadway: Red Hill Av.
Segment: Carnegie to Barranca

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	30,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1840	35	14	1360	26	10	341	6	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.8	-16.4	-20.4	-0.5	-17.7	-21.7	-6.5	-23.8	-27.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.0	65.1	65.6	72.7	63.8	64.3	66.7	57.7	58.3
VEHICULAR NOISE	DAY=	75.1	Leq	EVENING=	73.8	Leq	NIGHT=	67.8	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.2**
				CNEL=	**76.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**129**	**278**	**598**
			CNEL:	**142**	**306**	**659**

Scenario: "2035 NO PROJECT"
Roadway: Red Hill Av.
Segment: Barranca to Alton

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	34,100
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2091	40	16	1546	29	12	387	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.4	-15.9	-19.8	0.1	-17.2	-21.1	-6.0	-23.2	-27.2
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.6	65.6	66.2	73.3	64.3	64.9	67.3	58.3	58.9
VEHICULAR NOISE	DAY=	75.6	Leq	EVENING=	74.3	Leq	NIGHT=	68.3	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.7**
				CNEL=	**77.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**140**	**303**	**652**
			CNEL:	**155**	**333**	**718**

Scenario: "2035 NO PROJECT"
Roadway: Edinger Av.
Segment: SR-55 ramps to Newport

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	52,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3189	60	24	2357	45	18	590	11	4
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	3.2	-14.0	-18.0	1.9	-15.4	-19.3	-4.1	-21.4	-25.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.4	67.5	68.0	75.1	66.1	66.7	69.1	60.1	60.7
VEHICULAR NOISE	DAY=	77.5	Leq	EVENING=	76.2	Leq	NIGHT=	70.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 78.6**
CNEL= 79.2

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**186**	**401**	**864**
	CNEL:	**205**	**441**	**951**

Scenario: "2035 NO PROJECT"
Roadway: Armstrong Av.
Segment: Warner to Barranca

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	10,200
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	626	12	5	462	9	4	116	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-3.4	-20.6	-24.6	-4.7	-21.9	-25.9	-10.7	-27.9	-31.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.7	56.5	57.3	63.4	55.1	56.0	57.4	49.1	50.0
VEHICULAR NOISE	DAY=	66.0	Leq	EVENING=	64.7	Leq	NIGHT=	58.7	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**67.1**
				CNEL=	**67.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**32**	**69**	**148**
			CNEL:	**35**	**76**	**163**

Scenario: "2035 NO PROJECT"
Roadway: Tustin Ranch Rd.
Segment: Walnut to Valencia

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	28,100
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1723	33	13	1274	24	10	319	6	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.1	-17.2	-21.1	-1.2	-18.5	-22.4	-7.3	-24.5	-28.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.1	65.5	65.8	73.8	64.2	64.5	67.7	58.2	58.4
VEHICULAR NOISE	DAY=	76.0	Leq	EVENING=	74.6	Leq	NIGHT=	68.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.1**
CNEL= 77.7

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**148**	**318**	**685**
	CNEL:	**163**	**350**	**755**

Scenario: "2035 NO PROJECT"
Roadway: Tustin Ranch Rd.
Segment: Barranca to Legacy

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	35,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2190	41	17	1618	31	12	405	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.1	-16.1	-20.1	-0.2	-17.4	-21.4	-6.2	-23.5	-27.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.1	66.5	66.8	74.8	65.2	65.5	68.8	59.2	59.5
VEHICULAR NOISE	DAY=	77.0	Leq	EVENING=	75.7	Leq	NIGHT=	69.7	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**78.1**
				CNEL=	**78.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**173**	**373**	**804**
			CNEL:	**191**	**411**	**885**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Von Karman Av.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	35,800
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2196	41	17	1623	31	12	407	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.1	-16.1	-20.1	-0.2	-17.4	-21.4	-6.2	-23.4	-27.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.0	63.4	63.7	71.7	62.1	62.4	65.7	56.1	56.4
VEHICULAR NOISE	DAY=	73.9	Leq	EVENING=	72.6	Leq	NIGHT=	66.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 75.0** **CNEL= 75.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**107**	**231**	**498**
	CNEL:	**118**	**255**	**548**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Jamboree Rd.
Segment: Walnut to Edinger
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	85,800
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	5262	99	40	3890	73	30	974	18	7
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	4.9	-12.3	-16.3	3.6	-13.6	-17.6	-2.4	-19.6	-23.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	79.9	70.3	70.6	78.6	69.0	69.3	72.6	63.0	63.3
VEHICULAR NOISE	DAY=	80.8	Leq	EVENING=	79.5	Leq	NIGHT=	73.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 81.9**, **CNEL= 82.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**311**	**669**	**1442**
	CNEL:	**342**	**737**	**1588**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Jamboree Rd.
Segment: Edinger to Warner
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	87,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	5379	102	41	3976	75	30	996	19	8
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	5.0	-12.2	-16.2	3.7	-13.5	-17.5	-2.3	-19.6	-23.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.0	70.4	70.7	78.7	69.1	69.4	72.7	63.1	63.4
VEHICULAR NOISE	DAY=	80.9	Leq	EVENING=	79.6	Leq	NIGHT=	73.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**82.0**
			CNEL=	**82.6**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**315**	**679**	**1464**
	CNEL:	**347**	**748**	**1611**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Jamboree Rd.
Segment: Warner to Barranca
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	71,600
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4391	83	33	3246	61	25	813	15	6
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	4.1	-13.1	-17.1	2.8	-14.4	-18.4	-3.2	-20.4	-24.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	79.1	69.6	69.8	77.8	68.3	68.5	71.8	62.2	62.5
VEHICULAR NOISE	DAY=	80.0	Leq	EVENING=	78.7	Leq	NIGHT=	72.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 81.1** **CNEL= 81.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**275**	**593**	**1278**
	CNEL:	**303**	**653**	**1408**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Jamboree Rd.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	66,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4079	77	31	3015	57	23	755	14	6
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	3.8	-13.4	-17.4	2.5	-14.7	-18.7	-3.5	-20.8	-24.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	78.8	69.2	69.5	77.5	67.9	68.2	71.5	61.9	62.2
VEHICULAR NOISE	DAY=	79.7	Leq	EVENING=	78.4	Leq	NIGHT=	72.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 80.8** **CNEL= 81.4**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**262**	**565**	**1217**
	CNEL:	**289**	**622**	**1340**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Harvard Av.
Segment: Poplar to Edinger

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	11,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	730	14	6	539	10	4	135	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-3.7	-20.9	-24.9	-5.0	-22.2	-26.2	-11.0	-28.2	-32.2
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.5	58.0	58.3	66.2	56.7	56.9	60.2	50.7	50.9
VEHICULAR NOISE	DAY=	68.4	Leq	EVENING=	67.1	Leq	NIGHT=	61.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.5** **CNEL= 70.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**47**	**100**	**216**
	CNEL:	**51**	**110**	**238**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Harvard Av. Analyst: NJF
Segment: Edinger/Irvine Center to Moffett Date: 18-Jul-16

ROADWAY INPUTS	
ADT	12,300
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	754	14	6	558	11	4	140	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-3.5	-20.8	-24.7	-4.8	-22.1	-26.0	-10.8	-28.1	-32.0
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.3	58.8	59.1	67.0	57.5	57.7	61.0	51.5	51.7
VEHICULAR NOISE	DAY=	69.2	Leq	EVENING=	67.9	Leq	NIGHT=	61.9	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 70.3**
CNEL= 71.0

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**53**	**113**	**244**
	CNEL:	**58**	**125**	**269**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Harvard Av.
Segment: Moffett to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	12,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	791	15	6	585	11	4	146	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-3.3	-20.6	-24.5	-4.6	-21.9	-25.8	-10.6	-27.9	-31.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.6	59.0	59.3	67.2	57.7	57.9	61.2	51.7	51.9
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	68.1	Leq	NIGHT=	62.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.5**
			CNEL=	**71.2**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**54**	**117**	**252**
	CNEL:	**60**	**129**	**278**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Harvard Av.
Segment: Warner to Barranca
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	15,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	932	18	7	689	13	5	173	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.6	-19.8	-23.8	-3.9	-21.2	-25.1	-9.9	-27.2	-31.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.3	59.7	60.0	68.0	58.4	58.7	61.9	52.4	52.6
VEHICULAR NOISE	DAY=	70.2	Leq	EVENING=	68.8	Leq	NIGHT=	62.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.3**, **CNEL= 71.9**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**61**	**131**	**281**
	CNEL:	**67**	**144**	**310**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Harvard Av.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	19,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1178	22	9	870	16	7	218	4	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.6	-18.8	-22.8	-2.9	-20.1	-24.1	-8.9	-26.1	-30.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.3	60.7	61.0	69.0	59.4	59.7	63.0	53.4	53.7
VEHICULAR NOISE	DAY=	71.2	Leq	EVENING=	69.9	Leq	NIGHT=	63.9	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 72.3**
CNEL= 72.9

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**71**	**153**	**329**
	CNEL:	**78**	**168**	**362**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Walnut Av.
Segment: Tustin Ranch to Myford
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,500
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1135	21	9	839	16	6	210	4	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-0.8	-18.0	-22.0	-2.1	-19.3	-23.3	-8.1	-25.3	-29.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.3	59.0	59.9	66.0	57.7	58.6	60.0	51.7	52.6
VEHICULAR NOISE	DAY=	68.6	Leq	EVENING=	67.3	Leq	NIGHT=	61.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.7** **CNEL= 70.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**47**	**102**	**220**
	CNEL:	**52**	**113**	**243**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Walnut Av.
Segment: Myford to Jamboree

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	26,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1631	31	12	1206	23	9	302	6	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	0.8	-16.4	-20.4	-0.5	-17.8	-21.7	-6.5	-23.8	-27.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.0	63.8	64.6	70.7	62.4	63.3	64.7	56.4	57.3
VEHICULAR NOISE	DAY=	73.3	Leq	EVENING=	72.0	Leq	NIGHT=	66.0	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.4**
			CNEL=	**75.0**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**98**	**211**	**454**
	CNEL:	**108**	**232**	**500**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Walnut Av.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	21,900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1343	25	10	993	19	8	249	5	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	0.0	-17.3	-21.2	-1.4	-18.6	-22.6	-7.4	-24.6	-28.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.2	62.9	63.8	69.9	61.6	62.5	63.9	55.6	56.5
VEHICULAR NOISE	DAY=	72.4	Leq	EVENING=	71.1	Leq	NIGHT=	65.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**73.5**
			CNEL=	**74.2**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**86**	**185**	**399**
	CNEL:	**95**	**204**	**439**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Warner Av.
Segment: Armstrong to Legacy

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	27,200
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1668	32	13	1233	23	9	309	6	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.4	-16.9	-20.8	-0.9	-18.2	-22.1	-6.9	-24.2	-28.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.5	61.5	62.1	69.2	60.2	60.8	63.2	54.2	54.8
VEHICULAR NOISE	DAY=	71.5	Leq	EVENING=	70.2	Leq	NIGHT=	64.2	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**72.6**
			CNEL=	**73.2**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**75**	**161**	**347**
	CNEL:	**82**	**177**	**382**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Valencia Av. Analyst: NJF
Segment: Armstrong to Kensington Park Date: 18-Jul-16

ROADWAY INPUTS	
ADT	12,700
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	779	15	6	576	11	4	144	3	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-2.9	-20.2	-24.1	-4.2	-21.5	-25.4	-10.2	-27.5	-31.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.2	58.2	58.8	65.9	56.9	57.5	59.8	50.9	51.4
VEHICULAR NOISE	DAY=	68.2	Leq	EVENING=	66.9	Leq	NIGHT=	60.9	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.3**
CNEL= 69.9

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**45**	**97**	**209**
	CNEL:	**50**	**107**	**230**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Edinger Av.
Segment: Newport to Del Amo

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1993	38	15	1473	28	11	369	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.7	-16.5	-20.5	-0.6	-17.9	-21.8	-6.6	-23.9	-27.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.7	66.1	66.4	74.4	64.8	65.1	68.4	58.8	59.1
VEHICULAR NOISE	DAY=	76.6	Leq	EVENING=	75.3	Leq	NIGHT=	69.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.7** **CNEL= 78.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**163**	**350**	**755**
	CNEL:	**179**	**386**	**831**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Edinger Av.
Segment: Del Amo to Red Hill
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	30,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1895	36	14	1401	26	11	351	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.5	-16.8	-20.7	-0.8	-18.1	-22.0	-6.8	-24.1	-28.0
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.5	65.9	66.2	74.2	64.6	64.9	68.2	58.6	58.9
VEHICULAR NOISE	DAY=	76.4	Leq	EVENING=	75.1	Leq	NIGHT=	69.0	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**77.5**
			CNEL=	**78.1**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**157**	**339**	**730**
	CNEL:	**173**	**373**	**804**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Edinger Av. Analyst: NJF
Segment: Red Hill to Kensington Park Date: 18-Jul-16

ROADWAY INPUTS	
ADT	36,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2239	42	17	1655	31	13	414	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.2	-16.0	-20.0	-0.1	-17.3	-21.3	-6.1	-23.4	-27.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.2	66.6	66.9	74.9	65.3	65.6	68.9	59.3	59.6
VEHICULAR NOISE	DAY=	77.1	Leq	EVENING=	75.8	Leq	NIGHT=	69.8	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**78.2**
			CNEL=	**78.8**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**176**	**379**	**816**
	CNEL:	**194**	**417**	**898**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Edinger Av. Analyst: NJF
Segment: Kensington Park to Jamboree Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,400
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1987	38	15	1469	28	11	368	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.7	-16.6	-20.5	-0.6	-17.9	-21.8	-6.6	-23.9	-27.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.7	66.1	66.4	74.4	64.8	65.1	68.4	58.8	59.1
VEHICULAR NOISE	DAY=	76.6	Leq	EVENING=	75.3	Leq	NIGHT=	69.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**77.7**
			CNEL=	**78.3**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**162**	**350**	**754**
	CNEL:	**179**	**385**	**830**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Edinger Av.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	29,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1809	34	14	1337	25	10	335	6	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.3	-17.0	-20.9	-1.0	-18.3	-22.2	-7.0	-24.3	-28.2
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.3	65.7	66.0	74.0	64.4	64.7	68.0	58.4	58.7
VEHICULAR NOISE	DAY=	76.2	Leq	EVENING=	74.9	Leq	NIGHT=	68.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.3**, **CNEL= 77.9**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**153**	**329**	**708**
	CNEL:	**168**	**362**	**779**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Valencia Av.
Segment: Red Hill to Armstrong

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	16,800
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1030	19	8	762	14	6	191	4	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-1.7	-18.9	-22.9	-3.0	-20.3	-24.2	-9.0	-26.3	-30.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.4	59.4	60.0	67.1	58.1	58.7	61.1	52.1	52.7
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	68.1	Leq	NIGHT=	62.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 70.5** **CNEL= 71.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**54**	**117**	**251**
	CNEL:	**60**	**129**	**277**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Warner Av.
Segment: Red Hill to Armstrong

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	35,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2147	41	16	1587	30	12	397	8	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.5	-15.8	-19.7	0.2	-17.1	-21.0	-5.8	-23.1	-27.0
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.7	65.7	66.3	73.4	64.4	65.0	67.4	58.4	59.0
VEHICULAR NOISE	DAY=	75.7	Leq	EVENING=	74.4	Leq	NIGHT=	68.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 76.8**, **CNEL= 77.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**143**	**308**	**663**
	CNEL:	**157**	**339**	**730**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Warner Av. Analyst: NJF
Segment: Tustin Ranch to Park/Loop Date: 18-Jul-16

ROADWAY INPUTS	
ADT	35,000
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2147	41	16	1587	30	12	397	8	3
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.6	-14.7	-18.6	1.3	-16.0	-19.9	-4.8	-22.0	-25.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.4	60.9	62.2	67.1	59.6	60.9	61.1	53.6	54.8
VEHICULAR NOISE	DAY=	69.9	Leq	EVENING=	68.6	Leq	NIGHT=	62.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.0**
CNEL= 71.7

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**59**	**126**	**272**
	CNEL:	**64**	**139**	**299**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Jamboree Rd. NB Ramps
Segment: n/o Warner Av.
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	8,600
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	527	10	4	390	7	3	98	2	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-5.1	-22.3	-26.3	-6.4	-23.6	-27.6	-12.4	-29.6	-33.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.9	60.4	60.6	68.6	59.0	59.3	62.6	53.0	53.3
VEHICULAR NOISE	DAY=	70.8	Leq	EVENING=	69.5	Leq	NIGHT=	63.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**71.9**
			CNEL=	**72.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**67**	**144**	**311**
	CNEL:	**74**	**159**	**343**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Warner Av. Analyst: NJF
Segment: Jamboree NB Ramps to Harvard Date: 18-Jul-16

ROADWAY INPUTS	
ADT	16,800
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1030	19	8	762	14	6	191	4	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.2	-19.4	-23.4	-3.5	-20.7	-24.7	-9.5	-26.7	-30.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.7	60.1	60.4	68.4	58.8	59.1	62.4	52.8	53.1
VEHICULAR NOISE	DAY=	70.6	Leq	EVENING=	69.3	Leq	NIGHT=	63.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.7**
CNEL= 72.3

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**65**	**140**	**301**
	CNEL:	**71**	**154**	**331**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Dyer Rd. Analyst: NJF
Segment: SR-55 NB Ramps to Red Hill Date: 18-Jul-16

ROADWAY INPUTS	
ADT	46,400
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2846	54	22	2103	40	16	527	10	4
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.2	-14.0	-18.0	1.9	-15.3	-19.3	-4.1	-21.3	-25.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.5	66.2	67.1	73.1	64.9	65.7	67.1	58.8	59.7

VEHICULAR NOISE DAY= 75.7 Leq EVENING= 74.4 Leq NIGHT= 68.4 Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 76.8** **CNEL= 77.4**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**142**	**305**	**658**
	CNEL:	**156**	**336**	**724**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Barranca Pkwy.
Segment: Red Hill to Aston

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	43,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2680	51	20	1981	37	15	496	9	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.0	-15.3	-19.2	0.7	-16.6	-20.5	-5.3	-22.6	-26.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.0	67.4	67.7	75.7	66.1	66.4	69.7	60.1	60.4
VEHICULAR NOISE	DAY=	77.9	Leq	EVENING=	76.6	Leq	NIGHT=	70.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**79.0**
			CNEL=	**79.6**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**198**	**427**	**920**
	CNEL:	**218**	**470**	**1013**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Barranca Pkwy.
Segment: Aston to Armstrong
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	42,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2607	49	20	1927	36	15	483	9	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.9	-15.4	-19.3	0.6	-16.7	-20.6	-5.5	-22.7	-26.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.9	67.3	67.6	75.6	66.0	66.3	69.5	60.0	60.2
VEHICULAR NOISE	DAY=	77.8	Leq	EVENING=	76.4	Leq	NIGHT=	70.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**78.9**
			CNEL=	**79.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**195**	**419**	**903**
	CNEL:	**214**	**461**	**994**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Barranca Pkwy. Analyst: NJF
Segment: Armstrong to Tustin Ranch Rd./Vor Date: 18-Jul-16

ROADWAY INPUTS	
ADT	43,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2668	50	20	1972	37	15	494	9	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.0	-15.3	-19.2	0.7	-16.6	-20.5	-5.4	-22.6	-26.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.0	67.4	67.7	75.7	66.1	66.4	69.6	60.1	60.3
VEHICULAR NOISE	DAY=	77.9	Leq	EVENING=	76.5	Leq	NIGHT=	70.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.0**
CNEL= 79.6

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**198**	**426**	**917**
	CNEL:	**218**	**469**	**1010**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Barranca Pkwy. Analyst: NJF
Segment: Tustin Ranch Rd./Von Karman Av. Date: 18-Jul-16

ROADWAY INPUTS	
ADT	45,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2803	53	21	2072	39	16	519	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.2	-15.1	-19.0	0.9	-16.4	-20.3	-5.1	-22.4	-26.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.2	67.6	67.9	75.9	66.3	66.6	69.9	60.3	60.6
VEHICULAR NOISE	DAY=	78.1	Leq	EVENING=	76.8	Leq	NIGHT=	70.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.2**
CNEL= 79.8

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**204**	**440**	**948**
	CNEL:	**225**	**484**	**1043**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Barranca Pkwy.
Segment: District to Jamboree
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	46,800
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2870	54	22	2122	40	16	531	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.3	-15.0	-18.9	1.0	-16.3	-20.2	-5.0	-22.3	-26.2
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.3	67.7	68.0	76.0	66.4	66.7	70.0	60.4	60.7
VEHICULAR NOISE	DAY=	78.2	Leq	EVENING=	76.9	Leq	NIGHT=	70.8	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**79.3**
			CNEL=	**79.9**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**207**	**447**	**963**
	CNEL:	**228**	**492**	**1060**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Barranca Pkwy.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	36,800
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2257	43	17	1668	32	13	418	8	3
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	2.2	-15.0	-19.0	0.9	-16.3	-20.3	-5.1	-22.4	-26.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.4	65.2	66.1	72.1	63.8	64.7	66.1	57.8	58.7
VEHICULAR NOISE	DAY=	74.7	Leq	EVENING=	73.4	Leq	NIGHT=	67.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**75.8**
			CNEL=	**76.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**121**	**262**	**564**
	CNEL:	**134**	**288**	**621**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Alton Pkwy.
Segment: Red Hill to Gillette

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	24,200
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1484	28	11	1097	21	8	275	5	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-0.1	-17.4	-21.3	-1.4	-18.7	-22.6	-7.4	-24.7	-28.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.0	61.0	61.6	68.7	59.7	60.3	62.6	53.7	54.2
VEHICULAR NOISE	DAY=	71.0	Leq	EVENING=	69.7	Leq	NIGHT=	63.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 72.1**, **CNEL= 72.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**69**	**149**	**321**
	CNEL:	**76**	**164**	**353**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Alton Pkwy. Analyst: NJF
Segment: Von Karman to Jamboree Date: 18-Jul-16

ROADWAY INPUTS	
ADT	21,900
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1343	25	10	993	19	8	249	5	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-0.6	-17.8	-21.8	-1.9	-19.1	-23.1	-7.9	-25.1	-29.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.5	60.6	61.1	68.2	59.3	59.8	62.2	53.3	53.8
VEHICULAR NOISE	DAY=	70.6	Leq	EVENING=	69.3	Leq	NIGHT=	63.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**71.7**
			CNEL=	**72.3**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**65**	**139**	**300**
	CNEL:	**71**	**153**	**330**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Alton Pkwy.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	24,400
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1497	28	11	1106	21	8	277	5	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-0.1	-17.3	-21.3	-1.4	-18.6	-22.6	-7.4	-24.7	-28.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.0	61.0	61.6	68.7	59.7	60.3	62.7	53.7	54.3
VEHICULAR NOISE	DAY=	71.0	Leq	EVENING=	69.7	Leq	NIGHT=	63.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 72.1** **CNEL= 72.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**69**	**150**	**323**
	CNEL:	**77**	**165**	**355**

Tustin Legacy SP

"2035 NO PROJECT"

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Warner Av.	Grand to Red Hill	36,100	45	84	Soft	6D	**0%**	1
2	Park Av.	Jamboree SB Ramps to Warner	7,300	40	48	Soft	4D	**0%**	2
3	Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	31,900	35	84	Soft	6D	**0%**	3
4	Del Amo Av.	Edinger to Newport	3,800	35	48	Soft	4D	**0%**	4
5	Warner Av.	Park/Loop to Jamboree NB Ramps	17,900	50	48	Soft	4D	**0%**	5
6	Park Av.	Warner to District	9,300	40	48	Soft	4D	**0%**	6
7	Park Av.	Victory to Jamboree SB Ramps	3,800	40	48	Soft	4D	**0%**	7
8	Jamboree Rd. SB Ramps	e/o Park Av.	5,400	45	24	Soft	2D	**0%**	8
9	Tustin Ranch Rd.	Victory to Warner	38,700	50	84	Soft	6D	**0%**	9
10	Red Hill Av.	Valencia to Bell	34,900	45	84	Soft	6D	**0%**	10
11	Valencia Av.	Newport to Red Hill	12,500	45	48	Soft	4D	**0%**	11
12	Valencia Av.	Tustin Ranch to Loop	3,000	45	48	Soft	4D	**0%**	12
13	Tustin Ranch Rd.	Valencia to Moffett	33,800	50	84	Soft	6D	**0%**	13
14	Park Av.	Valencia to Moffett	3,300	40	48	Soft	4D	**0%**	14
15	Park Av.	Moffett to Victory	3,100	40	48	Soft	4D	**0%**	15
16	District Dr.	Barrance to Park	14,500	10	48	Soft	4D	**0%**	16
17	Tustin Ranch Rd.	Warner to Legacy/Park	31,900	50	84	Soft	6D	**0%**	17
18	Park Av.	Tustin Ranch to District	17,600	40	48	Soft	4D	**0%**	18
19	Legacy Rd.	Warner to Tustin Ranch	24,500	40	48	Soft	4D	**0%**	19
20	Kensington Park Dr.	Edinger to Valencia	8,500	40	48	Soft	4D	**0%**	20
21	Valencia Av.	Kensington Park to Tustin Ranch	8,400	45	48	Soft	4D	**0%**	21
22	Tustin Ranch Rd.	Moffett to Victory	32,700	50	84	Soft	6D	**0%**	22
23	Victory Rd,	Tustin Ranch to Loop	4,100	40	48	Soft	4D	**0%**	23
24	Tustin Ranch Rd.	Victory to Warner	32,800	50	84	Soft	6D	**0%**	24
25	Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	10,700	35	84	Soft	6D	**0%**	25
26	Bell Av.	e/o Red Hill Av.	16,800	25	12	Soft	2U	**0%**	26
27	Armstrong Av.	Valencia to Bell	5,900	40	48	Soft	4D	**0%**	27
28	Armstrong Av.	Bell to Warner	8,200	40	48	Soft	4D	**0%**	28
29	Warner Av.	Legacy to Tustin Ranch	14,600	45	84	Soft	6D	**0%**	29
30	Moffett Dr.	Tustin Ranch to Loop	-	40	48	Soft	4D	**0%**	30
31	Moffett Dr.	Loop to Sonora/Meridian	4,300	40	24	Soft	2D	**0%**	31
32									32
33									33
34									34
35	FREEWAY	SEGMENT							35
36	SR-55	Edinger to Dyer	305,800	65	84	Soft		**0%**	36

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE
2U	40	12
4U	40	36
4D	45	48
6D	45	84
2D	40	24

		73.6	75.55%
		13.6	13.96%
		10.22	10.49%

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Tra

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM tc	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Tustin Legacy SP
"2035 NO PROJECT" CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTANCE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Warner Av.	Grand to Red Hill	36,100	77.6	161	346	745
2	Park Av.	Jamboree SB Ramps to Warner	7,300	66.3	28	61	131
3	Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	31,900	74.4	98	211	455
4	Del Amo Av.	Edinger to Newport	3,800	62.0	15	32	68
5	Warner Av.	Park/Loop to Jamboree NB Ramps	17,900	72.6	74	160	345
6	Park Av.	Warner to District	9,300	67.3	33	71	153
7	Park Av.	Victory to Jamboree SB Ramps	3,800	63.4	18	39	84
8	Jamboree Rd. SB Ramps	e/o Park Av.	5,400	65.6	25	54	117
9	Tustin Ranch Rd.	Victory to Warner	38,700	79.1	201	434	934
10	Red Hill Av.	Valencia to Bell	34,900	77.5	157	338	729
11	Valencia Av.	Newport to Red Hill	12,500	69.9	49	106	227
12	Valencia Av.	Tustin Ranch to Loop	3,000	63.7	19	41	88
13	Tustin Ranch Rd.	Valencia to Moffett	33,800	78.5	184	396	853
14	Park Av.	Valencia to Moffett	3,300	62.8	17	36	77
15	Park Av.	Moffett to Victory	3,100	62.5	16	34	74
16	District Dr.	Barrance to Park	14,500	57.4	7	15	33
17	Tustin Ranch Rd.	Warner to Legacy/Park	31,900	78.2	177	381	821
18	Park Av.	Tustin Ranch to District	17,600	70.1	51	109	235
19	Legacy Rd.	Warner to Tustin Ranch	24,500	71.5	63	136	293
20	Kensington Park Dr.	Edinger to Valencia	8,500	66.9	31	67	145
21	Valencia Av.	Kensington Park to Tustin Ranch	8,400	68.1	38	81	174
22	Tustin Ranch Rd.	Moffett to Victory	32,700	78.3	180	387	835
23	Victory Rd,	Tustin Ranch to Loop	4,100	63.7	19	41	89
24	Tustin Ranch Rd.	Victory to Warner	32,800	78.4	180	388	836
25	Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	10,700	69.6	47	102	220
26	Bell Av.	e/o Red Hill Av.	16,800	64.3	21	45	97
27	Armstrong Av.	Valencia to Bell	5,900	65.3	24	53	113
28	Armstrong Av.	Bell to Warner	8,200	66.8	30	65	141
29	Warner Av.	Legacy to Tustin Ranch	14,600	73.7	88	189	408
30	Moffett Dr.	Tustin Ranch to Loop	0	#NUM!	#NUM!	#NUM!	#NUM!
31	Moffett Dr.	Loop to Sonora/Meridian	4,300	63.3	18	38	83
32							
33							
34							
35	FREEWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 100 FT. (dBA CNEL)	70 CNEL	65 CNEL	60 CNEL
36	SR-55	Edinger to Dyer	305,800	83.2	755	1,627	3,506

Scenario: "2035 NO PROJECT"
Roadway: Warner Av.
Segment: Grand to Red Hill

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	36,100
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2214	42	17	1637	31	12	410	8	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.6	-15.6	-19.6	0.3	-16.9	-20.9	-5.7	-22.9	-26.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.8	65.9	66.4	73.5	64.6	65.1	67.5	58.6	59.1
VEHICULAR NOISE	DAY=	75.9	Leq	EVENING=	74.6	Leq	NIGHT=	68.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.0**
CNEL= 77.6

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**146**	**314**	**677**
	CNEL:	**161**	**346**	**745**

Scenario: "2035 NO PROJECT"
Roadway: Park Av.
Segment: Jamboree SB Ramps to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	7,300
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	448	8	3	331	6	3	83	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-4.8	-22.1	-26.0	-6.1	-23.4	-27.3	-12.1	-29.4	-33.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.3	55.0	55.9	62.0	53.7	54.6	56.0	47.7	48.6
VEHICULAR NOISE	DAY=	64.5	Leq	EVENING=	63.2	Leq	NIGHT=	57.2	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**65.6**
				CNEL=	**66.3**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**26**	**55**	**119**
			CNEL:	**28**	**61**	**131**

Scenario: "2035 NO PROJECT"
Roadway: Newport Av.
Segment: Edinger to SR-55 NB Ramps/Del Amo

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	31,900
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1957	37	15	1446	27	11	362	7	3
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.2	-15.1	-19.0	0.9	-16.4	-20.3	-5.2	-22.4	-26.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.2	63.6	64.9	69.8	62.3	63.6	63.8	56.3	57.6
VEHICULAR NOISE	DAY=	72.7	Leq	EVENING=	71.3	Leq	NIGHT=	65.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 73.8**
CNEL= 74.4

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**89**	**192**	**413**
	CNEL:	**98**	**211**	**455**

Scenario: "2035 NO PROJECT"
Roadway: Del Amo Av.
Segment: Edinger to Newport

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	3,800
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	233	4	2	172	3	1	43	1	0
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-7.1	-24.3	-28.3	-8.4	-25.6	-29.6	-14.4	-31.6	-35.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.8	51.3	52.5	57.5	50.0	51.2	51.5	43.9	45.2
VEHICULAR NOISE	DAY=	60.3	Leq	EVENING=	59.0	Leq	NIGHT=	53.0	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 61.4**
CNEL= 62.0

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**13**	**29**	**62**
	CNEL:	**15**	**32**	**68**

Scenario: "2035 NO PROJECT"
Roadway: Warner Av.
Segment: Park/Loop to Jamboree NB Ramps

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	17,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1098	21	8	811	15	6	203	4	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.9	-19.1	-23.1	-3.2	-20.4	-24.4	-9.2	-26.5	-30.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.0	60.4	60.7	68.7	59.1	59.4	62.7	53.1	53.4
VEHICULAR NOISE	DAY=	70.9	Leq	EVENING=	69.6	Leq	NIGHT=	63.5	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**72.0**
					CNEL=	**72.6**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**68**	**146**	**314**
			CNEL:	**74**	**160**	**345**

Scenario: "2035 NO PROJECT"
Roadway: Park Av.
Segment: Warner to District

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	9,300
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	570	11	4	422	8	3	106	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-3.8	-21.0	-25.0	-5.1	-22.3	-26.3	-11.1	-28.3	-32.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.3	56.1	56.9	63.0	54.7	55.6	57.0	48.7	49.6
VEHICULAR NOISE	DAY=	65.6	Leq	EVENING=	64.3	Leq	NIGHT=	58.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 66.7**
CNEL= 67.3

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**30**	**65**	**139**
	CNEL:	**33**	**71**	**153**

Scenario: "2035 NO PROJECT"
Roadway: Park Av.
Segment: Victory to Jamboree SB Ramps

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	3,800
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	233	4	2	172	3	1	43	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-7.7	-24.9	-28.8	-9.0	-26.2	-30.2	-15.0	-32.2	-36.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	60.5	52.2	53.1	59.1	50.9	51.7	53.1	44.8	45.7
VEHICULAR NOISE	DAY=	61.7	Leq	EVENING=	60.4	Leq	NIGHT=	54.4	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**62.8**
				CNEL=	**63.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**17**	**36**	**77**
			CNEL:	**18**	**39**	**84**

Scenario: "2035 NO PROJECT"
Roadway: Jamboree Rd. SB Ramps
Segment: e/o Park Av.

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,400
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	331	6	3	245	5	2	61	1	0
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-6.6	-23.9	-27.8	-7.9	-25.2	-29.1	-14.0	-31.2	-35.2
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	62.8	53.8	54.4	61.5	52.5	53.1	55.5	46.5	47.1
VEHICULAR NOISE	DAY=	63.8	Leq	EVENING=	62.5	Leq	NIGHT=	56.5	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**64.9**
				CNEL=	**65.6**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**23**	**49**	**107**
			CNEL:	**25**	**54**	**117**

Scenario: "2035 NO PROJECT"
Roadway: Tustin Ranch Rd.
Segment: Victory to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	38,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2374	45	18	1754	33	13	439	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.5	-15.8	-19.7	0.1	-17.1	-21.0	-5.9	-23.1	-27.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.5	66.9	67.2	75.1	65.6	65.8	69.1	59.6	59.8
VEHICULAR NOISE	DAY=	77.3	Leq	EVENING=	76.0	Leq	NIGHT=	70.0	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**78.4**
				CNEL=	**79.1**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**183**	**394**	**848**
			CNEL:	**201**	**434**	**934**

Scenario: "2035 NO PROJECT"
Roadway: Red Hill Av.
Segment: Valencia to Bell

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	34,900
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2141	40	16	1582	30	12	396	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.5	-15.8	-19.7	0.2	-17.1	-21.0	-5.9	-23.1	-27.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.7	65.7	66.3	73.4	64.4	65.0	67.4	58.4	59.0
VEHICULAR NOISE	DAY=	75.7	Leq	EVENING=	74.4	Leq	NIGHT=	68.4	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.8**
				CNEL=	**77.5**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**143**	**307**	**662**
			CNEL:	**157**	**338**	**729**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Valencia Av.
Segment: Newport to Red Hill
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	12,500
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	767	14	6	567	11	4	142	3	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-3.0	-20.2	-24.2	-4.3	-21.5	-25.5	-10.3	-27.6	-31.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.1	58.1	58.7	65.8	56.8	57.4	59.8	50.8	51.4
VEHICULAR NOISE	DAY=	68.1	Leq	EVENING=	66.8	Leq	NIGHT=	60.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.2** **CNEL= 69.9**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**44**	**96**	**206**
	CNEL:	**49**	**106**	**227**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Valencia Av.
Segment: Tustin Ranch to Loop
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	3,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	184	3	1	136	3	1	34	1	0
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-9.2	-26.4	-30.4	-10.5	-27.7	-31.7	-16.5	-33.8	-37.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	60.9	51.9	52.5	59.6	50.6	51.2	53.6	44.6	45.2
VEHICULAR NOISE	DAY=	61.9	Leq	EVENING=	60.6	Leq	NIGHT=	54.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**63.0**
			CNEL=	**63.7**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**17**	**37**	**80**
	CNEL:	**19**	**41**	**88**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Tustin Ranch Rd.
Segment: Valencia to Moffett

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	33,800
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2073	39	16	1532	29	12	384	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.9	-16.4	-20.3	-0.4	-17.7	-21.6	-6.5	-23.7	-27.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.9	66.3	66.6	74.6	65.0	65.3	68.5	59.0	59.2
VEHICULAR NOISE	DAY=	76.8	Leq	EVENING=	75.4	Leq	NIGHT=	69.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.9**, **CNEL= 78.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**167**	**360**	**775**
	CNEL:	**184**	**396**	**853**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Park Av.
Segment: Valencia to Moffett

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	3,300
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	202	4	2	150	3	1	37	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-8.3	-25.5	-29.5	-9.6	-26.8	-30.8	-15.6	-32.8	-36.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.8	51.6	52.4	58.5	50.2	51.1	52.5	44.2	45.1
VEHICULAR NOISE	DAY=	61.1	Leq	EVENING=	59.8	Leq	NIGHT=	53.8	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**62.2**
			CNEL=	**62.8**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**15**	**32**	**70**
	CNEL:	**17**	**36**	**77**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Park Av.
Segment: Moffett to Victory

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	3,100
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	190	4	1	141	3	1	35	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-8.5	-25.8	-29.7	-9.8	-27.1	-31.0	-15.9	-33.1	-37.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.6	51.3	52.2	58.3	50.0	50.9	52.2	44.0	44.9
VEHICULAR NOISE	DAY=	60.8	Leq	EVENING=	59.5	Leq	NIGHT=	53.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**61.9**
			CNEL=	**62.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**14**	**31**	**67**
	CNEL:	**16**	**34**	**74**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: District Dr.
Segment: Barrance to Park

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,500
SPEED (mph)	10
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	889	17	7	657	12	5	165	3	1
Speed in MPH	10	10	10	10	10	10	10	10	10
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	44.0	60.9	69.6	44.0	60.9	69.6	44.0	60.9	69.6
ADJUSTMENTS									
Flow	4.2	-13.1	-17.0	2.9	-14.4	-18.3	-3.1	-20.4	-24.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	48.9	48.6	53.3	47.6	47.3	52.0	41.6	41.3	46.0
VEHICULAR NOISE	DAY=	55.6	Leq	EVENING=	54.3	Leq	NIGHT=	48.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 56.7**, **CNEL= 57.4**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**7**	**14**	**30**
	CNEL:	**7**	**15**	**33**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Tustin Ranch Rd.
Segment: Warner to Legacy/Park

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	31,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1957	37	15	1446	27	11	362	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.6	-16.6	-20.6	-0.7	-17.9	-21.9	-6.7	-23.9	-27.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.6	66.1	66.3	74.3	64.7	65.0	68.3	58.7	59.0
VEHICULAR NOISE	DAY=	76.5	Leq	EVENING=	75.2	Leq	NIGHT=	69.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.6** **CNEL= 78.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**161**	**346**	**746**
	CNEL:	**177**	**381**	**821**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Park Av. Analyst: NJF
Segment: Tustin Ranch to District Date: 18-Jul-16

ROADWAY INPUTS	
ADT	17,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1079	20	8	798	15	6	200	4	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-1.0	-18.2	-22.2	-2.3	-19.5	-23.5	-8.3	-25.6	-29.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.1	58.8	59.7	65.8	57.5	58.4	59.8	51.5	52.4
VEHICULAR NOISE	DAY=	68.4	Leq	EVENING=	67.0	Leq	NIGHT=	61.0	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.4**
			CNEL=	**70.1**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**46**	**99**	**213**
	CNEL:	**51**	**109**	**235**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Legacy Rd. Analyst: NJF
Segment: Warner to Tustin Ranch Date: 18-Jul-16

ROADWAY INPUTS	
ADT	24,500
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1503	28	11	1111	21	8	278	5	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	0.4	-16.8	-20.8	-0.9	-18.1	-22.1	-6.9	-24.1	-28.1
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.6	60.3	61.2	67.2	59.0	59.8	61.2	52.9	53.8
VEHICULAR NOISE	DAY=	69.8	Leq	EVENING=	68.5	Leq	NIGHT=	62.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.9**
			CNEL=	**71.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**57**	**123**	**266**
	CNEL:	**63**	**136**	**293**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Kensington Park Dr.
Segment: Edinger to Valencia
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	8,500
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	521	10	4	385	7	3	97	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-4.2	-21.4	-25.3	-5.5	-22.7	-26.7	-11.5	-28.7	-32.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.0	55.7	56.6	62.6	54.4	55.2	56.6	48.3	49.2
VEHICULAR NOISE	DAY=	65.2	Leq	EVENING=	63.9	Leq	NIGHT=	57.9	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 66.3**, **CNEL= 66.9**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**28**	**61**	**131**
	CNEL:	**31**	**67**	**145**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Valencia Av. Analyst: NJF
Segment: Kensington Park to Tustin Ranch Date: 18-Jul-16

ROADWAY INPUTS	
ADT	8,400
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	515	10	4	381	7	3	95	2	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-4.7	-22.0	-25.9	-6.0	-23.3	-27.2	-12.0	-29.3	-33.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	65.4	56.4	57.0	64.1	55.1	55.7	58.0	49.1	49.7
VEHICULAR NOISE	DAY=	66.4	Leq	EVENING=	65.1	Leq	NIGHT=	59.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.5**
			CNEL=	**68.1**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**34**	**74**	**158**
	CNEL:	**38**	**81**	**174**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Tustin Ranch Rd.
Segment: Moffett to Victory

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2006	38	15	1482	28	11	371	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.7	-16.5	-20.5	-0.6	-17.8	-21.8	-6.6	-23.8	-27.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.7	66.2	66.4	74.4	64.8	65.1	68.4	58.8	59.1
VEHICULAR NOISE	DAY=	76.6	Leq	EVENING=	75.3	Leq	NIGHT=	69.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.7**, **CNEL= 78.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**163**	**352**	**758**
	CNEL:	**180**	**387**	**835**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Victory Rd,
Segment: Tustin Ranch to Loop

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	4,100
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	251	5	2	186	4	1	47	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-7.3	-24.6	-28.5	-8.6	-25.9	-29.8	-14.6	-31.9	-35.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	60.8	52.5	53.4	59.5	51.2	52.1	53.5	45.2	46.1
VEHICULAR NOISE	DAY=	62.0	Leq	EVENING=	60.7	Leq	NIGHT=	54.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 63.1** **CNEL= 63.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**17**	**37**	**81**
	CNEL:	**19**	**41**	**89**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Tustin Ranch Rd.
Segment: Victory to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,800
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2012	38	15	1487	28	11	372	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.7	-16.5	-20.5	-0.6	-17.8	-21.8	-6.6	-23.8	-27.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.7	66.2	66.4	74.4	64.9	65.1	68.4	58.8	59.1
VEHICULAR NOISE	DAY=	76.6	Leq	EVENING=	75.3	Leq	NIGHT=	69.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**77.7**
			CNEL=	**78.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**164**	**353**	**760**
	CNEL:	**180**	**388**	**836**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT" Project: Tustin Legacy SP
Roadway: Newport Av. Analyst: NJF
Segment: SR-55 NB Ramps/Del Amo to Vale Date: 18-Jul-16

ROADWAY INPUTS	
ADT	10,700
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	656	12	5	485	9	4	122	2	1
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-2.6	-19.8	-23.8	-3.9	-21.1	-25.1	-9.9	-27.1	-31.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.4	58.9	60.2	65.1	57.6	58.8	59.1	51.6	52.8
VEHICULAR NOISE	DAY=	67.9	Leq	EVENING=	66.6	Leq	NIGHT=	60.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.0**
CNEL= 69.6

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**43**	**93**	**199**
	CNEL:	**47**	**102**	**220**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Bell Av.
Segment: e/o Red Hill Av.
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	16,800
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1030	19	8	762	14	6	191	4	1
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	0.8	-16.4	-20.3	-0.5	-17.7	-21.7	-6.5	-23.7	-27.7
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	60.2	54.6	56.8	58.9	53.3	55.5	52.9	47.3	49.5
VEHICULAR NOISE	DAY=	62.6	Leq	EVENING=	61.3	Leq	NIGHT=	55.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 63.7** **CNEL= 64.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**19**	**41**	**88**
	CNEL:	**21**	**45**	**97**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Armstrong Av.
Segment: Valencia to Bell

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	362	7	3	267	5	2	67	1	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-5.7	-23.0	-26.9	-7.1	-24.3	-28.2	-13.1	-30.3	-34.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	62.4	54.1	55.0	61.1	52.8	53.7	55.0	46.8	47.6
VEHICULAR NOISE	DAY=	63.6	Leq	EVENING=	62.3	Leq	NIGHT=	56.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**64.7**
			CNEL=	**65.3**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**22**	**48**	**103**
	CNEL:	**24**	**53**	**113**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Armstrong Av.
Segment: Bell to Warner
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	8,200
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	503	9	4	372	7	3	93	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-4.3	-21.5	-25.5	-5.6	-22.9	-26.8	-11.6	-28.9	-32.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.8	55.5	56.4	62.5	54.2	55.1	56.5	48.2	49.1
VEHICULAR NOISE	DAY=	65.0	Leq	EVENING=	63.7	Leq	NIGHT=	57.7	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**66.1**
			CNEL=	**66.8**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**28**	**59**	**128**
	CNEL:	**30**	**65**	**141**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Warner Av.
Segment: Legacy to Tustin Ranch

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,600
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	895	17	7	662	13	5	166	3	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-2.3	-19.6	-23.5	-3.6	-20.9	-24.8	-9.6	-26.9	-30.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.9	61.9	62.5	69.6	60.6	61.2	63.6	54.6	55.2
VEHICULAR NOISE	DAY=	71.9	Leq	EVENING=	70.6	Leq	NIGHT=	64.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**73.0**
			CNEL=	**73.7**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**80**	**172**	**370**
	CNEL:	**88**	**189**	**408**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Moffett Dr.
Segment: Tustin Ranch to Loop

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	-
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	0	0	0	0	0	0	0	0	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
VEHICULAR NOISE	DAY=	#NUM!	Leq	EVENING=	#NUM!	Leq	NIGHT=	#NUM!	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= #NUM!** **CNEL= #NUM!**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**#NUM!**	**#NUM!**	**#NUM!**
	CNEL:	**#NUM!**	**#NUM!**	**#NUM!**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: Moffett Dr.
Segment: Loop to Sonora/Meridian
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	4,300
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	264	5	2	195	4	1	49	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-7.1	-24.4	-28.3	-8.4	-25.7	-29.6	-14.4	-31.7	-35.6
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	60.3	52.0	52.9	59.0	50.7	51.6	53.0	44.7	45.6
VEHICULAR NOISE	DAY=	61.6	Leq	EVENING=	60.3	Leq	NIGHT=	54.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 62.7**, **CNEL= 63.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**16**	**35**	**75**
	CNEL:	**18**	**38**	**83**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: "2035 NO PROJECT"
Roadway: SR-55
Segment: Edinger to Dyer

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	######
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	18756	354	142	13863	262	105	3473	66	26
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	9.3	-7.9	-11.9	8.0	-9.3	-13.2	2.0	-15.3	-19.2
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.8	69.8	69.3	79.5	68.5	68.0	73.5	62.5	62.0
VEHICULAR NOISE	DAY=	81.5	Leq	EVENING=	80.1	Leq	NIGHT=	74.1	Leq

RESULTS

NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA): **Ldn= 82.5**, **CNEL= 83.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**686**	**1478**	**3184**
	CNEL:	**755**	**1627**	**3506**

Tustin Legacy SP

2035 WITH PROJECT

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Red Hill Av.	Walnut to Edinger	30,100	45	84	Soft	6D	0%	1
2	Red Hill Av.	Edinger to Valencia	31,700	45	84	Soft	6D	0%	2
3	Red Hill Av.	Bell to Warner	35,800	45	84	Soft	6D	0%	3
4	Red Hill Av.	Warner to Carnegie	33,600	45	84	Soft	6D	0%	4
5	Red Hill Av.	Carnegie to Barranca	34,700	45	84	Soft	6D	0%	5
6	Red Hill Av.	Barranca to Alton	35,500	45	84	Soft	6D	0%	6
7	Edinger Av.	SR-55 ramps to Newport	53,100	45	84	Soft	6D	0%	7
8	Armstrong Av.	Warner to Barranca	10,400	40	48	Soft	4D	0%	8
9	Tustin Ranch Rd.	Walnut to Valencia	33,200	50	84	Soft	6D	0%	9
10	Tustin Ranch Rd.	Barranca to Legacy	33,000	50	84	Soft	6D	0%	10
11	Von Karman Av.	Barranca to Alton	36,200	50	48	Soft	4D	0%	11
12	Jamboree Rd.	Walnut to Edinger	87,700	50	84	Soft	6D	0%	12
13	Jamboree Rd.	Edinger to Warner	88,500	50	84	Soft	6D	0%	13
14	Jamboree Rd.	Warner to Barranca	73,200	50	84	Soft	6D	0%	14
15	Jamboree Rd.	Barranca to Alton	68,000	50	84	Soft	6D	0%	15
16	Harvard Av.	Poplar to Edinger	12,400	50	24	Soft	2D	0%	16
17	Harvard Av.	Edinger/Irvine Center to Moffett	11,600	50	48	Soft	4D	0%	17
18	Harvard Av.	Moffett to Warner	14,900	50	48	Soft	4D	0%	18
19	Harvard Av.	Warner to Barranca	16,900	50	48	Soft	4D	0%	19
20	Harvard Av.	Barranca to Alton	20,300	50	48	Soft	4D	0%	20
21	Walnut Av.	Tustin Ranch to Myford	19,000	40	48	Soft	4D	0%	21
22	Walnut Av.	Myford to Jamboree	27,600	40	84	Soft	6D	0%	22
23	Walnut Av.	Jamboree to Harvard	22,100	40	84	Soft	6D	0%	23
24	Warner Av.	Armstrong to Legacy	46,100	45	48	Soft	4D	0%	24
25	Valencia Av.	Armstrong to Kensington Park	12,900	45	48	Soft	4D	0%	25
26	Edinger Av.	Newport to Del Amo	33,600	50	84	Soft	6D	0%	26
27	Edinger Av.	Del Amo to Red Hill	32,200	50	84	Soft	6D	0%	27
28	Edinger Av.	Red Hill to Kensington Park	39,900	50	84	Soft	6D	0%	28
29	Edinger Av.	Kensington Park to Jamboree	32,700	50	84	Soft	6D	0%	29
30	Edinger Av.	Jamboree to Harvard	27,700	50	84	Soft	6D	0%	30
31	Valencia Av.	Red Hill to Armstrong	20,800	45	48	Soft	4D	0%	31
32	Warner Av.	Red Hill to Armstrong	49,700	45	84	Soft	6D	0%	32
33	Warner Av.	Tustin Ranch to Park/Loop	36,200	35	48	Soft	4D	0%	33
34	Jamboree Rd. NB Ramps	n/o Warner Av.	8,900	50	84	Soft	6D	0%	34
35	Warner Av.	Jamboree NB Ramps to Harvard	17,300	50	48	Soft	4D	0%	35
36	Dyer Rd.	SR-55 NB Ramps to Red Hill	46,600	40	84	Soft	6D	0%	36
37	Barranca Pkwy.	Red Hill to Aston	45,900	50	84	Soft	6D	0%	37
38	Barranca Pkwy.	Aston to Armstrong	44,300	50	84	Soft	6D	0%	38
39	Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman Av.	44,500	50	84	Soft	6D	0%	39
40	Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	45,400	50	84	Soft	6D	0%	40
41	Barranca Pkwy.	District to Jamboree	45,500	50	84	Soft	6D	0%	41
42	Barranca Pkwy.	Jamboree to Harvard	36,000	40	84	Soft	6D	0%	42
43	Alton Pkwy.	Red Hill to Gillette	24,400	45	48	Soft	4D	0%	43
44	Alton Pkwy.	Von Karman to Jamboree	21,400	45	48	Soft	4D	0%	44
45	Alton Pkwy.	Jamboree to Harvard	23,900	45	48	Soft	4D	0%	45

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE
2U	40	12
4U	40	36
4D	45	48
6D	45	84
2D	40	24

		73.6	75.55%
		13.6	13.96%
		10.22	10.49%

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Tra

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM tc	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Tustin Legacy SP
2035 WITH PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTANCE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Red Hill Av.	Walnut to Edinger	30,100	76.8	142	307	660
2	Red Hill Av.	Edinger to Valencia	31,700	77.0	147	317	684
3	Red Hill Av.	Bell to Warner	35,800	77.6	160	344	741
4	Red Hill Av.	Warner to Carnegie	33,600	77.3	153	330	711
5	Red Hill Av.	Carnegie to Barranca	34,700	77.4	156	337	726
6	Red Hill Av.	Barranca to Alton	35,500	77.5	159	342	737
7	Edinger Av.	SR-55 ramps to Newport	53,100	79.3	208	448	964
8	Armstrong Av.	Warner to Barranca	10,400	67.8	36	77	165
9	Tustin Ranch Rd.	Walnut to Valencia	33,200	78.4	182	391	843
10	Tustin Ranch Rd.	Barranca to Legacy	33,000	78.4	181	390	840
11	Von Karman Av.	Barranca to Alton	36,200	75.7	119	256	553
12	Jamboree Rd.	Walnut to Edinger	87,700	82.6	347	748	1611
13	Jamboree Rd.	Edinger to Warner	88,500	82.7	349	752	1621
14	Jamboree Rd.	Warner to Barranca	73,200	81.8	308	663	1429
15	Jamboree Rd.	Barranca to Alton	68,000	81.5	293	631	1360
16	Harvard Av.	Poplar to Edinger	12,400	70.3	53	113	244
17	Harvard Av.	Edinger/Irvine Center to Moffett	11,600	70.7	56	120	259
18	Harvard Av.	Moffett to Warner	14,900	71.8	66	142	306
19	Harvard Av.	Warner to Barranca	16,900	72.3	72	154	333
20	Harvard Av.	Barranca to Alton	20,300	73.1	81	174	376
21	Walnut Av.	Tustin Ranch to Myford	19,000	70.4	53	115	247
22	Walnut Av.	Myford to Jamboree	27,600	75.2	110	238	512
23	Walnut Av.	Jamboree to Harvard	22,100	74.2	95	205	442
24	Warner Av.	Armstrong to Legacy	46,100	75.5	117	252	543
25	Valencia Av.	Armstrong to Kensington Park	12,900	70.0	50	108	232
26	Edinger Av.	Newport to Del Amo	33,600	78.5	183	395	850
27	Edinger Av.	Del Amo to Red Hill	32,200	78.3	178	384	826
28	Edinger Av.	Red Hill to Kensington Park	39,900	79.2	205	442	953
29	Edinger Av.	Kensington Park to Jamboree	32,700	78.3	180	387	835
30	Edinger Av.	Jamboree to Harvard	27,700	77.6	161	347	747
31	Valencia Av.	Red Hill to Armstrong	20,800	72.1	69	148	319
32	Warner Av.	Red Hill to Armstrong	49,700	79.0	199	428	923
33	Warner Av.	Tustin Ranch to Park/Loop	36,200	71.8	66	142	306
34	Jamboree Rd. NB Ramps	n/o Warner Av.	8,900	72.7	76	163	351
35	Warner Av.	Jamboree NB Ramps to Harvard	17,300	72.4	73	157	338
36	Dyer Rd.	SR-55 NB Ramps to Red Hill	46,600	77.4	157	337	727
37	Barranca Pkwy.	Red Hill to Aston	45,900	79.8	225	486	1,047
38	Barranca Pkwy.	Aston to Armstrong	44,300	79.7	220	474	1,022
39	Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman A	44,500	79.7	221	476	1,025
40	Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	45,400	79.8	224	482	1,039
41	Barranca Pkwy.	District to Jamboree	45,500	79.8	224	483	1,040
42	Barranca Pkwy.	Jamboree to Harvard	36,000	76.3	132	284	612
43	Alton Pkwy.	Red Hill to Gillette	24,400	72.8	77	165	355
44	Alton Pkwy.	Von Karman to Jamboree	21,400	72.2	70	151	325
45	Alton Pkwy.	Jamboree to Harvard	23,900	72.7	75	163	350

Scenario: 2035 WITH PROJECT
Roadway: Red Hill Av.
Segment: Walnut to Edinger

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	30,100
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1846	35	14	1365	26	10	342	6	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	0.8	-16.4	-20.4	-0.5	-17.7	-21.7	-6.5	-23.7	-27.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.0	65.1	65.7	72.7	63.8	64.3	66.7	57.8	58.3
VEHICULAR NOISE	DAY=	75.1	Leq	EVENING=	73.8	Leq	NIGHT=	67.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 76.2**
CNEL= 76.8

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**129**	**278**	**600**
	CNEL:	**142**	**307**	**660**

Scenario: 2035 WITH PROJECT
Roadway: Red Hill Av.
Segment: Edinger to Valencia

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	31,700
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1944	37	15	1437	27	11	360	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.0	-16.2	-20.1	-0.3	-17.5	-21.5	-6.3	-23.5	-27.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.3	65.3	65.9	73.0	64.0	64.6	66.9	58.0	58.6
VEHICULAR NOISE	DAY=	75.3	Leq	EVENING=	74.0	Leq	NIGHT=	68.0	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.4**
				CNEL=	**77.0**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**134**	**288**	**621**
			CNEL:	**147**	**317**	**684**

Scenario: 2035 WITH PROJECT
Roadway: Red Hill Av.
Segment: Bell to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	35,800
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2196	41	17	1623	31	12	407	8	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.6	-15.7	-19.6	0.3	-17.0	-20.9	-5.7	-23.0	-26.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.8	65.8	66.4	73.5	64.5	65.1	67.5	58.5	59.1
VEHICULAR NOISE	DAY=	75.8	Leq	EVENING=	74.5	Leq	NIGHT=	68.5	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.9**
				CNEL=	**77.6**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**145**	**313**	**673**
			CNEL:	**160**	**344**	**741**

Scenario: 2035 WITH PROJECT
Roadway: Red Hill Av.
Segment: Warner to Carnegie

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	33,600
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2061	39	16	1523	29	12	382	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.3	-15.9	-19.9	0.0	-17.2	-21.2	-6.0	-23.3	-27.2
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.5	65.6	66.1	73.2	64.3	64.8	67.2	58.2	58.8
VEHICULAR NOISE	DAY=	75.6	Leq	EVENING=	74.3	Leq	NIGHT=	68.2	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.7**
				CNEL=	**77.3**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**139**	**300**	**645**
			CNEL:	**153**	**330**	**711**

Scenario: 2035 WITH PROJECT
Roadway: Red Hill Av.
Segment: Carnegie to Barranca

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	34,700
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2128	40	16	1573	30	12	394	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.4	-15.8	-19.8	0.1	-17.1	-21.1	-5.9	-23.1	-27.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.7	65.7	66.3	73.4	64.4	65.0	67.3	58.4	58.9
VEHICULAR NOISE	DAY=	75.7	Leq	EVENING=	74.4	Leq	NIGHT=	68.4	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.8**
				CNEL=	**77.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**142**	**306**	**659**
			CNEL:	**156**	**337**	**726**

Scenario: 2035 WITH PROJECT
Roadway: Red Hill Av.
Segment: Barranca to Alton

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	35,500
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2177	41	17	1609	30	12	403	8	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.5	-15.7	-19.7	0.2	-17.0	-21.0	-5.8	-23.0	-27.0
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.8	65.8	66.4	73.5	64.5	65.1	67.4	58.5	59.0
VEHICULAR NOISE	DAY=	75.8	Leq	EVENING=	74.5	Leq	NIGHT=	68.5	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.9**
				CNEL=	**77.5**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**144**	**311**	**670**
			CNEL:	**159**	**342**	**737**

Scenario: 2035 WITH PROJECT
Roadway: Edinger Av.
Segment: SR-55 ramps to Newport

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	53,100
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3257	62	25	2407	45	18	603	11	5
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	3.3	-13.9	-17.9	2.0	-15.3	-19.2	-4.0	-21.3	-25.2
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.5	67.6	68.1	75.2	66.2	66.8	69.2	60.2	60.8
VEHICULAR NOISE	DAY=	77.6	Leq	EVENING=	76.2	Leq	NIGHT=	70.2	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**78.7**
				CNEL=	**79.3**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**189**	**406**	**876**
			CNEL:	**208**	**448**	**964**

Scenario: 2035 WITH PROJECT
Roadway: Armstrong Av.
Segment: Warner to Barranca

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	10,400
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	638	12	5	471	9	4	118	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-3.3	-20.5	-24.5	-4.6	-21.8	-25.8	-10.6	-27.8	-31.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.8	56.5	57.4	63.5	55.2	56.1	57.5	49.2	50.1
VEHICULAR NOISE	DAY=	66.1	Leq	EVENING=	64.8	Leq	NIGHT=	58.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.2**
					CNEL=	**67.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**32**	**70**	**150**
			CNEL:	**36**	**77**	**165**

Scenario: 2035 WITH PROJECT
Roadway: Tustin Ranch Rd.
Segment: Walnut to Valencia

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	33,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2036	38	15	1505	28	11	377	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.8	-16.4	-20.4	-0.5	-17.8	-21.7	-6.5	-23.8	-27.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.8	66.2	66.5	74.5	64.9	65.2	68.5	58.9	59.2
VEHICULAR NOISE	DAY=	76.7	Leq	EVENING=	75.4	Leq	NIGHT=	69.4	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**77.8**
				CNEL=	**78.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**165**	**356**	**766**
			CNEL:	**182**	**391**	**843**

Scenario: 2035 WITH PROJECT
Roadway: Tustin Ranch Rd.
Segment: Barranca to Legacy

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	33,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2024	38	15	1496	28	11	375	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.8	-16.5	-20.4	-0.5	-17.8	-21.7	-6.6	-23.8	-27.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.8	66.2	66.5	74.5	64.9	65.2	68.4	58.9	59.1
VEHICULAR NOISE	DAY=	76.7	Leq	EVENING=	75.3	Leq	NIGHT=	69.3	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**77.8**
				CNEL=	**78.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**164**	**354**	**763**
			CNEL:	**181**	**390**	**840**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Von Karman Av.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	36,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2220	42	17	1641	31	12	411	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.2	-16.1	-20.0	-0.1	-17.4	-21.3	-6.2	-23.4	-27.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.0	63.5	63.7	71.7	62.2	62.4	65.7	56.1	56.4
VEHICULAR NOISE	DAY=	73.9	Leq	EVENING=	72.6	Leq	NIGHT=	66.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 75.0** **CNEL= 75.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**108**	**233**	**502**
	CNEL:	**119**	**256**	**553**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Jamboree Rd.
Segment: Walnut to Edinger

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	87,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	5379	102	41	3976	75	30	996	19	8
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	5.0	-12.2	-16.2	3.7	-13.5	-17.5	-2.3	-19.6	-23.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.0	70.4	70.7	78.7	69.1	69.4	72.7	63.1	63.4
VEHICULAR NOISE	DAY=	80.9	Leq	EVENING=	79.6	Leq	NIGHT=	73.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 82.0** **CNEL= 82.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**315**	**679**	**1464**
	CNEL:	**347**	**748**	**1611**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Jamboree Rd.
Segment: Edinger to Warner
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	88,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	5428	103	41	4012	76	30	1005	19	8
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	5.1	-12.2	-16.1	3.7	-13.5	-17.5	-2.3	-19.5	-23.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.0	70.5	70.8	78.7	69.2	69.4	72.7	63.2	63.4
VEHICULAR NOISE	DAY=	80.9	Leq	EVENING=	79.6	Leq	NIGHT=	73.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**82.0**
			CNEL=	**82.7**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**317**	**683**	**1472**
	CNEL:	**349**	**752**	**1621**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Jamboree Rd.
Segment: Warner to Barranca
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	73,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4490	85	34	3318	63	25	831	16	6
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	4.2	-13.0	-17.0	2.9	-14.3	-18.3	-3.1	-20.3	-24.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	79.2	69.7	69.9	77.9	68.3	68.6	71.9	62.3	62.6
VEHICULAR NOISE	DAY=	80.1	Leq	EVENING=	78.8	Leq	NIGHT=	72.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 81.2** **CNEL= 81.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**280**	**602**	**1297**
	CNEL:	**308**	**663**	**1429**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Jamboree Rd.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	68,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4171	79	32	3083	58	23	772	15	6
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	3.9	-13.3	-17.3	2.6	-14.6	-18.6	-3.4	-20.7	-24.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	78.9	69.3	69.6	77.6	68.0	68.3	71.6	62.0	62.3
VEHICULAR NOISE	DAY=	79.8	Leq	EVENING=	78.5	Leq	NIGHT=	72.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 80.9** **CNEL= 81.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**266**	**573**	**1235**
	CNEL:	**293**	**631**	**1360**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Harvard Av.
Segment: Poplar to Edinger
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	12,400
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	761	14	6	562	11	4	141	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-3.5	-20.7	-24.7	-4.8	-22.0	-26.0	-10.8	-28.0	-32.0
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.7	58.2	58.4	66.4	56.8	57.1	60.4	50.8	51.1
VEHICULAR NOISE	DAY=	68.6	Leq	EVENING=	67.3	Leq	NIGHT=	61.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.7**
			CNEL=	**70.3**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**48**	**103**	**222**
	CNEL:	**53**	**113**	**244**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Harvard Av.
Segment: Edinger/Irvine Center to Moffett
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	11,600
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	711	13	5	526	10	4	132	2	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-3.8	-21.0	-25.0	-5.1	-22.3	-26.3	-11.1	-28.3	-32.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.1	58.5	58.8	66.8	57.2	57.5	60.8	51.2	51.5
VEHICULAR NOISE	DAY=	69.0	Leq	EVENING=	67.7	Leq	NIGHT=	61.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.1**
			CNEL=	**70.7**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**51**	**109**	**235**
	CNEL:	**56**	**120**	**259**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Harvard Av.
Segment: Moffett to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	914	17	7	675	13	5	169	3	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.7	-19.9	-23.9	-4.0	-21.2	-25.2	-10.0	-27.2	-31.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.2	59.6	59.9	67.9	58.3	58.6	61.9	52.3	52.6
VEHICULAR NOISE	DAY=	70.1	Leq	EVENING=	68.8	Leq	NIGHT=	62.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**71.2**
			CNEL=	**71.8**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**60**	**129**	**278**
	CNEL:	**66**	**142**	**306**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Harvard Av.
Segment: Warner to Barranca
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	16,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1037	20	8	766	14	6	192	4	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.1	-19.4	-23.3	-3.5	-20.7	-24.6	-9.5	-26.7	-30.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.7	60.2	60.4	68.4	58.9	59.1	62.4	52.8	53.1
VEHICULAR NOISE	DAY=	70.6	Leq	EVENING=	69.3	Leq	NIGHT=	63.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.7**, **CNEL= 72.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**65**	**140**	**302**
	CNEL:	**72**	**154**	**333**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Harvard Av.
Segment: Barranca to Alton
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	20,300
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1245	24	9	920	17	7	231	4	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.3	-18.6	-22.5	-2.7	-19.9	-23.9	-8.7	-25.9	-29.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.5	61.0	61.2	69.2	59.6	59.9	63.2	53.6	53.9
VEHICULAR NOISE	DAY=	71.4	Leq	EVENING=	70.1	Leq	NIGHT=	64.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 72.5** **CNEL= 73.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**74**	**158**	**341**
	CNEL:	**81**	**174**	**376**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Walnut Av.
Segment: Tustin Ranch to Myford

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	19,000
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1165	22	9	861	16	7	216	4	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-0.7	-17.9	-21.9	-2.0	-19.2	-23.2	-8.0	-25.2	-29.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.4	59.2	60.1	66.1	57.8	58.7	60.1	51.8	52.7
VEHICULAR NOISE	DAY=	68.7	Leq	EVENING=	67.4	Leq	NIGHT=	61.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.8** **CNEL= 70.4**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**48**	**104**	**224**
	CNEL:	**53**	**115**	**247**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Walnut Av.
Segment: Myford to Jamboree

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	27,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1693	32	13	1251	24	10	313	6	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	1.0	-16.3	-20.2	-0.4	-17.6	-21.5	-6.4	-23.6	-27.6
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.2	63.9	64.8	70.9	62.6	63.5	64.9	56.6	57.5
VEHICULAR NOISE	DAY=	73.4	Leq	EVENING=	72.1	Leq	NIGHT=	66.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 74.5** **CNEL= 75.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**100**	**216**	**465**
	CNEL:	**110**	**238**	**512**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Walnut Av.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	22,100
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1355	26	10	1002	19	8	251	5	2
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	0.0	-17.2	-21.2	-1.3	-18.6	-22.5	-7.3	-24.6	-28.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.2	62.9	63.8	69.9	61.6	62.5	63.9	55.6	56.5
VEHICULAR NOISE	DAY=	72.5	Leq	EVENING=	71.2	Leq	NIGHT=	65.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 73.6** **CNEL= 74.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**86**	**186**	**401**
	CNEL:	**95**	**205**	**442**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Warner Av.
Segment: Armstrong to Legacy

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	46,100
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2827	53	21	2090	39	16	523	10	4
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	2.7	-14.6	-18.5	1.4	-15.9	-19.8	-4.6	-21.9	-25.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	72.8	63.8	64.4	71.5	62.5	63.1	65.4	56.5	57.0
VEHICULAR NOISE	DAY=	73.8	Leq	EVENING=	72.5	Leq	NIGHT=	66.5	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 74.9**, **CNEL= 75.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**106**	**229**	**493**
	CNEL:	**117**	**252**	**543**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Valencia Av.
Segment: Armstrong to Kensington Park
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	12,900
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	791	15	6	585	11	4	146	3	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-2.9	-20.1	-24.0	-4.2	-21.4	-25.4	-10.2	-27.4	-31.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.2	58.3	58.8	65.9	57.0	57.5	59.9	51.0	51.5
VEHICULAR NOISE	DAY=	68.3	Leq	EVENING=	67.0	Leq	NIGHT=	61.0	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.4**
			CNEL=	**70.0**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**45**	**98**	**211**
	CNEL:	**50**	**108**	**232**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Edinger Av.
Segment: Newport to Del Amo

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	33,600
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2061	39	16	1523	29	12	382	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.8	-16.4	-20.3	-0.5	-17.7	-21.7	-6.5	-23.7	-27.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.8	66.3	66.5	74.5	65.0	65.2	68.5	59.0	59.2
VEHICULAR NOISE	DAY=	76.7	Leq	EVENING=	75.4	Leq	NIGHT=	69.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.8** **CNEL= 78.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**166**	**358**	**772**
	CNEL:	**183**	**395**	**850**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Edinger Av.
Segment: Del Amo to Red Hill
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,200
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1975	37	15	1460	28	11	366	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.7	-16.6	-20.5	-0.7	-17.9	-21.8	-6.7	-23.9	-27.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.7	66.1	66.4	74.3	64.8	65.1	68.3	58.8	59.0
VEHICULAR NOISE	DAY=	76.6	Leq	EVENING=	75.2	Leq	NIGHT=	69.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.6** **CNEL= 78.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**162**	**348**	**750**
	CNEL:	**178**	**384**	**826**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Edinger Av.
Segment: Red Hill to Kensington Park
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	39,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2447	46	19	1809	34	14	453	9	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.6	-15.6	-19.6	0.3	-17.0	-20.9	-5.7	-23.0	-26.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.6	67.0	67.3	75.3	65.7	66.0	69.3	59.7	60.0
VEHICULAR NOISE	DAY=	77.5	Leq	EVENING=	76.2	Leq	NIGHT=	70.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 78.6** **CNEL= 79.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**187**	**402**	**866**
	CNEL:	**205**	**442**	**953**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Edinger Av.
Segment: Kensington Park to Jamboree
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2006	38	15	1482	28	11	371	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.7	-16.5	-20.5	-0.6	-17.8	-21.8	-6.6	-23.8	-27.8
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.7	66.2	66.4	74.4	64.8	65.1	68.4	58.8	59.1
VEHICULAR NOISE	DAY=	76.6	Leq	EVENING=	75.3	Leq	NIGHT=	69.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.7** **CNEL= 78.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**163**	**352**	**758**
	CNEL:	**180**	**387**	**835**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Edinger Av.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	27,700
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1699	32	13	1256	24	10	315	6	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.0	-17.2	-21.2	-1.3	-18.5	-22.5	-7.3	-24.6	-28.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.0	65.4	65.7	73.7	64.1	64.4	67.7	58.1	58.4
VEHICULAR NOISE	DAY=	75.9	Leq	EVENING=	74.6	Leq	NIGHT=	68.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.0**, **CNEL= 77.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**146**	**315**	**679**
	CNEL:	**161**	**347**	**747**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Valencia Av.
Segment: Red Hill to Armstrong

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	20,800
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1276	24	10	943	18	7	236	4	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-0.8	-18.0	-22.0	-2.1	-19.3	-23.3	-8.1	-25.3	-29.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.3	60.4	60.9	68.0	59.0	59.6	62.0	53.0	53.6
VEHICULAR NOISE	DAY=	70.4	Leq	EVENING=	69.0	Leq	NIGHT=	63.0	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.5** **CNEL= 72.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**62**	**135**	**290**
	CNEL:	**69**	**148**	**319**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Warner Av.
Segment: Red Hill to Armstrong

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	49,700
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3048	58	23	2253	43	17	564	11	4
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	3.0	-14.2	-18.2	1.7	-15.5	-19.5	-4.3	-21.6	-25.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.2	67.3	67.8	74.9	66.0	66.5	68.9	59.9	60.5
VEHICULAR NOISE	DAY=	77.3	Leq	EVENING=	76.0	Leq	NIGHT=	69.9	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 78.4**, **CNEL= 79.0**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**181**	**389**	**838**
	CNEL:	**199**	**428**	**923**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Warner Av.
Segment: Tustin Ranch to Park/Loop
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	36,200
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2220	42	17	1641	31	12	411	8	3
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.7	-14.5	-18.5	1.4	-15.8	-19.8	-4.6	-21.8	-25.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	68.6	61.1	62.3	67.3	59.7	61.0	61.3	53.7	55.0
VEHICULAR NOISE	DAY=	70.1	Leq	EVENING=	68.8	Leq	NIGHT=	62.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.2** **CNEL= 71.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**60**	**129**	**278**
	CNEL:	**66**	**142**	**306**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Jamboree Rd. NB Ramps
Segment: n/o Warner Av.

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	8,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	546	10	4	403	8	3	101	2	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-4.9	-22.2	-26.1	-6.2	-23.5	-27.4	-12.2	-29.5	-33.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.1	60.5	60.8	68.8	59.2	59.5	62.7	53.2	53.5
VEHICULAR NOISE	DAY=	71.0	Leq	EVENING=	69.7	Leq	NIGHT=	63.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 72.1**, **CNEL= 72.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**69**	**148**	**318**
	CNEL:	**76**	**163**	**351**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Warner Av.
Segment: Jamboree NB Ramps to Harvard
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	17,300
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1061	20	8	784	15	6	196	4	1
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-2.0	-19.3	-23.2	-3.4	-20.6	-24.5	-9.4	-26.6	-30.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.8	60.3	60.5	68.5	59.0	59.2	62.5	52.9	53.2
VEHICULAR NOISE	DAY=	70.7	Leq	EVENING=	69.4	Leq	NIGHT=	63.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.8** **CNEL= 72.4**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**66**	**142**	**307**
	CNEL:	**73**	**157**	**338**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Dyer Rd.
Segment: SR-55 NB Ramps to Red Hill
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	46,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2858	54	22	2113	40	16	529	10	4
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	3.2	-14.0	-18.0	1.9	-15.3	-19.3	-4.1	-21.3	-25.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.5	66.2	67.1	73.2	64.9	65.8	67.1	58.9	59.8
VEHICULAR NOISE	DAY=	75.7	Leq	EVENING=	74.4	Leq	NIGHT=	68.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**76.8**
			CNEL=	**77.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**142**	**306**	**660**
	CNEL:	**157**	**337**	**727**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Barranca Pkwy.
Segment: Red Hill to Aston

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	45,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2815	53	21	2081	39	16	521	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.2	-15.0	-19.0	0.9	-16.4	-20.3	-5.1	-22.4	-26.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.2	67.6	67.9	75.9	66.3	66.6	69.9	60.3	60.6
VEHICULAR NOISE	DAY=	78.1	Leq	EVENING=	76.8	Leq	NIGHT=	70.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.2** **CNEL= 79.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**205**	**441**	**951**
	CNEL:	**225**	**486**	**1047**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Barranca Pkwy.
Segment: Aston to Armstrong

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	44,300
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2717	51	21	2008	38	15	503	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.0	-15.2	-19.1	0.7	-16.5	-20.5	-5.3	-22.5	-26.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.0	67.5	67.7	75.7	66.2	66.4	69.7	60.2	60.4
VEHICULAR NOISE	DAY=	77.9	Leq	EVENING=	76.6	Leq	NIGHT=	70.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.0**
CNEL= 79.7

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**200**	**431**	**928**
	CNEL:	**220**	**474**	**1022**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Barranca Pkwy.
Segment: Armstrong to Tustin Ranch Rd./Vor
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	44,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2729	52	21	2017	38	15	505	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.1	-15.2	-19.1	0.8	-16.5	-20.4	-5.3	-22.5	-26.5
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.1	67.5	67.8	75.8	66.2	66.5	69.7	60.2	60.4
VEHICULAR NOISE	DAY=	78.0	Leq	EVENING=	76.6	Leq	NIGHT=	70.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.1** **CNEL= 79.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**201**	**432**	**931**
	CNEL:	**221**	**476**	**1025**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Barranca Pkwy.
Segment: Tustin Ranch Rd./Von Karman Av.
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	45,400
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2785	53	21	2058	39	16	516	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.2	-15.1	-19.0	0.8	-16.4	-20.4	-5.2	-22.4	-26.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.1	67.6	67.9	75.8	66.3	66.5	69.8	60.3	60.5
VEHICULAR NOISE	DAY=	78.0	Leq	EVENING=	76.7	Leq	NIGHT=	70.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.1**
CNEL= 79.8

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**203**	**438**	**944**
	CNEL:	**224**	**482**	**1039**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Barranca Pkwy.
Segment: District to Jamboree
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	45,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2791	53	21	2063	39	16	517	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.2	-15.1	-19.0	0.8	-16.4	-20.3	-5.2	-22.4	-26.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.2	67.6	67.9	75.8	66.3	66.6	69.8	60.3	60.5
VEHICULAR NOISE	DAY=	78.1	Leq	EVENING=	76.7	Leq	NIGHT=	70.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.1**, **CNEL= 79.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**204**	**439**	**945**
	CNEL:	**224**	**483**	**1040**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Barranca Pkwy.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	36,000
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2208	42	17	1632	31	12	409	8	3
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	2.1	-15.1	-19.1	0.8	-16.4	-20.4	-5.2	-22.4	-26.4
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.4	65.1	66.0	72.0	63.8	64.6	66.0	57.7	58.6
VEHICULAR NOISE	DAY=	74.6	Leq	EVENING=	73.3	Leq	NIGHT=	67.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 75.7** **CNEL= 76.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**120**	**258**	**556**
	CNEL:	**132**	**284**	**612**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Alton Pkwy.
Segment: Red Hill to Gillette

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	24,400
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1497	28	11	1106	21	8	277	5	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-0.1	-17.3	-21.3	-1.4	-18.6	-22.6	-7.4	-24.7	-28.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.0	61.0	61.6	68.7	59.7	60.3	62.7	53.7	54.3
VEHICULAR NOISE	DAY=	71.0	Leq	EVENING=	69.7	Leq	NIGHT=	63.7	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**72.1**
			CNEL=	**72.8**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**69**	**150**	**323**
	CNEL:	**77**	**165**	**355**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Alton Pkwy.
Segment: Von Karman to Jamboree

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	21,400
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1313	25	10	970	18	7	243	5	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-0.7	-17.9	-21.9	-2.0	-19.2	-23.2	-8.0	-25.2	-29.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.4	60.5	61.0	68.1	59.2	59.7	62.1	53.2	53.7
VEHICULAR NOISE	DAY=	70.5	Leq	EVENING=	69.2	Leq	NIGHT=	63.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 71.6**, **CNEL= 72.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**64**	**137**	**296**
	CNEL:	**70**	**151**	**325**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Alton Pkwy.
Segment: Jamboree to Harvard

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	23,900
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1466	28	11	1083	20	8	271	5	2
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-0.2	-17.4	-21.4	-1.5	-18.7	-22.7	-7.5	-24.7	-28.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.9	61.0	61.5	68.6	59.6	60.2	62.6	53.6	54.2
VEHICULAR NOISE	DAY=	71.0	Leq	EVENING=	69.6	Leq	NIGHT=	63.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 72.1**
CNEL= 72.7

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**69**	**148**	**318**
	CNEL:	**75**	**163**	**350**

Tustin Legacy SP
2035 WITH PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTANCE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Warner Av.	Grand to Red Hill	41,500	78.2	176	380	818
2	Park Av.	Jamboree SB Ramps to Warner	6,800	65.9	27	58	125
3	Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	32,600	74.5	99	214	461
4	Del Amo Av.	Edinger to Newport	4,000	62.2	15	33	70
5	Warner Av.	Park/Loop to Jamboree NB Ramps	18,500	72.7	76	164	353
6	Park Av.	Warner to District	10,400	67.8	36	77	165
7	Park Av.	Victory to Jamboree SB Ramps	5,300	64.9	23	49	105
8	Jamboree Rd. SB Ramps	e/o Park Av.	7,000	66.7	30	65	140
9	Tustin Ranch Rd.	Victory to Warner	36,900	78.9	195	420	905
10	Red Hill Av.	Valencia to Bell	32,700	77.2	150	324	698
11	Valencia Av.	Newport to Red Hill	13,500	70.2	52	111	239
12	Valencia Av.	Tustin Ranch to Loop	7,200	67.5	34	73	157
13	Tustin Ranch Rd.	Valencia to Moffett	39,900	79.2	205	442	953
14	Park Av.	Valencia to Moffett	3,200	62.7	16	35	75
15	Park Av.	Moffett to Victory	2,600	61.8	14	30	66
16	District Dr.	Barrance to Park	14,500	57.4	7	15	33
17	Tustin Ranch Rd.	Warner to Legacy/Park	30,600	78.1	172	371	799
18	Park Av.	Tustin Ranch to District	14,600	69.3	45	96	207
19	Legacy Rd.	Warner to Tustin Ranch	14,800	69.3	45	97	209
20	Kensington Park Dr.	Edinger to Valencia	10,500	67.8	36	77	166
21	Valencia Av.	Kensington Park to Tustin Ranch	10,700	69.2	44	95	205
22	Tustin Ranch Rd.	Moffett to Victory	45,600	79.8	224	484	1042
23	Victory Rd,	Tustin Ranch to Loop	5,100	64.7	22	48	103
24	Tustin Ranch Rd.	Victory to Warner	47,000	79.9	229	493	1063
25	Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	11,200	69.8	49	105	226
26	Bell Av.	e/o Red Hill Av.	5,700	59.6	10	22	47
27	Armstrong Av.	Valencia to Bell	8,900	67.1	32	69	149
28	Armstrong Av.	Bell to Warner	8,900	67.1	32	69	149
29	Warner Av.	Legacy to Tustin Ranch	12,000	72.8	77	166	358
30	Moffett Dr.	Tustin Ranch to Loop	7,100	66.1	28	59	128
31	Moffett Dr.	Loop to Sonora/Meridian	14,700	68.6	41	87	188
32							
33							
34							
35	FREEWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 100 FT. (dBA CNEL)	70 CNEL	65 CNEL	60 CNEL
36	SR-55	Edinger to Dyer	306,900	83.2	757	1,631	3,514

Tustin Legacy SP

2035 WITH PROJECT

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Warner Av.	Grand to Red Hill	41,500	45	84	Soft	6D	0%	1
2	Park Av.	Jamboree SB Ramps to Warner	6,800	40	48	Soft	4D	0%	2
3	Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	32,600	35	84	Soft	6D	0%	3
4	Del Amo Av.	Edinger to Newport	4,000	35	48	Soft	4D	0%	4
5	Warner Av.	Park/Loop to Jamboree NB Ramps	18,500	50	48	Soft	4D	0%	5
6	Park Av.	Warner to District	10,400	40	48	Soft	4D	0%	6
7	Park Av.	Victory to Jamboree SB Ramps	5,300	40	48	Soft	4D	0%	7
8	Jamboree Rd. SB Ramps	e/o Park Av.	7,000	45	24	Soft	2D	0%	8
9	Tustin Ranch Rd.	Victory to Warner	36,900	50	84	Soft	6D	0%	9
10	Red Hill Av.	Valencia to Bell	32,700	45	84	Soft	6D	0%	10
11	Valencia Av.	Newport to Red Hill	13,500	45	48	Soft	4D	0%	11
12	Valencia Av.	Tustin Ranch to Loop	7,200	45	48	Soft	4D	0%	12
13	Tustin Ranch Rd.	Valencia to Moffett	39,900	50	84	Soft	6D	0%	13
14	Park Av.	Valencia to Moffett	3,200	40	48	Soft	4D	0%	14
15	Park Av.	Moffett to Victory	2,600	40	48	Soft	4D	0%	15
16	District Dr.	Barrance to Park	14,500	10	48	Soft	4D	0%	16
17	Tustin Ranch Rd.	Warner to Legacy/Park	30,600	50	84	Soft	6D	0%	17
18	Park Av.	Tustin Ranch to District	14,600	40	48	Soft	4D	0%	18
19	Legacy Rd.	Warner to Tustin Ranch	14,800	40	48	Soft	4D	0%	19
20	Kensington Park Dr.	Edinger to Valencia	10,500	40	48	Soft	4D	0%	20
21	Valencia Av.	Kensington Park to Tustin Ranch	10,700	45	48	Soft	4D	0%	21
22	Tustin Ranch Rd.	Moffett to Victory	45,600	50	84	Soft	6D	0%	22
23	Victory Rd,	Tustin Ranch to Loop	5,100	40	48	Soft	4D	0%	23
24	Tustin Ranch Rd.	Victory to Warner	47,000	50	84	Soft	6D	0%	24
25	Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	11,200	35	84	Soft	6D	0%	25
26	Bell Av.	e/o Red Hill Av.	5,700	25	12	Soft	2U	0%	26
27	Armstrong Av.	Valencia to Bell	8,900	40	48	Soft	4D	0%	27
28	Armstrong Av.	Bell to Warner	8,900	40	48	Soft	4D	0%	28
29	Warner Av.	Legacy to Tustin Ranch	12,000	45	84	Soft	6D	0%	29
30	Moffett Dr.	Tustin Ranch to Loop	7,100	40	48	Soft	4D	0%	30
31	Moffett Dr.	Loop to Sonora/Meridian	14,700	40	24	Soft	2D	0%	31
32								0%	32
33								0%	33
34								0%	34
35								0%	35
36	SR-55	Edinger to Dyer	306,900	65	84	Soft		0%	36

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE
2U	40	12
4U	40	36
4D	45	48
6D	45	84
2D	40	24

		73.6	75.55%
		13.6	13.96%
		10.22	10.49%

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Tra

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM tc	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Scenario: 2035 WITH PROJECT
Roadway: Warner Av.
Segment: Grand to Red Hill

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	41,500
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2545	48	19	1881	36	14	471	9	4
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	2.2	-15.0	-19.0	0.9	-16.3	-20.3	-5.1	-22.3	-26.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.4	66.5	67.0	74.1	65.2	65.7	68.1	59.2	59.7
VEHICULAR NOISE	DAY=	76.5	Leq	EVENING=	75.2	Leq	NIGHT=	69.2	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**77.6**
				CNEL=	**78.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**160**	**345**	**743**
			CNEL:	**176**	**380**	**818**

Scenario: 2035 WITH PROJECT
Roadway: Park Av.
Segment: Jamboree SB Ramps to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	6,800
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	417	8	3	308	6	2	77	1	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-5.1	-22.4	-26.3	-6.4	-23.7	-27.6	-12.4	-29.7	-33.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.0	54.7	55.6	61.7	53.4	54.3	55.7	47.4	48.3
VEHICULAR NOISE	DAY=	64.2	Leq	EVENING=	62.9	Leq	NIGHT=	56.9	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**65.3**
					CNEL=	**65.9**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**24**	**53**	**113**
			CNEL:	**27**	**58**	**125**

Scenario: 2035 WITH PROJECT
Roadway: Newport Av.
Segment: Edinger to SR-55 NB Ramps/Del Amo

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,600
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1999	38	15	1478	28	11	370	7	3
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.3	-15.0	-18.9	0.9	-16.3	-20.2	-5.1	-22.3	-26.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.3	63.7	65.0	69.9	62.4	63.7	63.9	56.4	57.7
VEHICULAR NOISE	DAY=	72.8	Leq	EVENING=	71.4	Leq	NIGHT=	65.4	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**73.8**
				CNEL=	**74.5**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**90**	**194**	**419**
			CNEL:	**99**	**214**	**461**

Scenario: 2035 WITH PROJECT
Roadway: Del Amo Av.
Segment: Edinger to Newport

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	4,000
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	245	5	2	181	3	1	45	1	0
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-6.8	-24.1	-28.0	-8.2	-25.4	-29.4	-14.2	-31.4	-35.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.0	51.5	52.8	57.7	50.2	51.4	51.7	44.2	45.4
VEHICULAR NOISE	DAY=	60.5	Leq	EVENING=	59.2	Leq	NIGHT=	53.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 61.6**
CNEL= 62.2

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**14**	**30**	**64**
	CNEL:	**15**	**33**	**70**

Scenario: 2035 WITH PROJECT
Roadway: Warner Av.
Segment: Park/Loop to Jamboree NB Ramps

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	18,500
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1135	21	9	839	16	6	210	4	2
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-1.7	-19.0	-22.9	-3.1	-20.3	-24.3	-9.1	-26.3	-30.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.1	60.6	60.8	68.8	59.2	59.5	62.8	53.2	53.5
VEHICULAR NOISE	DAY=	71.0	Leq	EVENING=	69.7	Leq	NIGHT=	63.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**72.1**
					CNEL=	**72.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**69**	**149**	**321**
			CNEL:	**76**	**164**	**353**

Scenario: 2035 WITH PROJECT
Roadway: Park Av.
Segment: Warner to District

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	10,400
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	638	12	5	471	9	4	118	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-3.3	-20.5	-24.5	-4.6	-21.8	-25.8	-10.6	-27.8	-31.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.8	56.5	57.4	63.5	55.2	56.1	57.5	49.2	50.1
VEHICULAR NOISE	DAY=	66.1	Leq	EVENING=	64.8	Leq	NIGHT=	58.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.2**
					CNEL=	**67.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**32**	**70**	**150**
			CNEL:	**36**	**77**	**165**

Scenario: 2035 WITH PROJECT
Roadway: Park Av.
Segment: Victory to Jamboree SB Ramps

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,300
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	325	6	2	240	5	2	60	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-6.2	-23.4	-27.4	-7.5	-24.8	-28.7	-13.5	-30.8	-34.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	61.9	53.6	54.5	60.6	52.3	53.2	54.6	46.3	47.2
VEHICULAR NOISE	DAY=	63.1	Leq	EVENING=	61.8	Leq	NIGHT=	55.8	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**64.2**
				CNEL=	**64.9**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**21**	**44**	**96**
			CNEL:	**23**	**49**	**105**

Scenario: 2035 WITH PROJECT
Roadway: Jamboree Rd. SB Ramps
Segment: e/o Park Av.

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	7,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	429	8	3	317	6	2	79	2	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-5.5	-22.7	-26.7	-6.8	-24.1	-28.0	-12.8	-30.1	-34.0
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.9	55.0	55.5	62.6	53.6	54.2	56.6	47.6	48.2
VEHICULAR NOISE	DAY=	65.0	Leq	EVENING=	63.7	Leq	NIGHT=	57.6	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**66.1**
				CNEL=	**66.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**27**	**59**	**127**
			CNEL:	**30**	**65**	**140**

Scenario: 2035 WITH PROJECT
Roadway: Tustin Ranch Rd.
Segment: Victory to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	36,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2263	43	17	1673	32	13	419	8	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.3	-16.0	-19.9	-0.1	-17.3	-21.3	-6.1	-23.3	-27.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.2	66.7	67.0	74.9	65.4	65.6	68.9	59.4	59.6
VEHICULAR NOISE	DAY=	77.1	Leq	EVENING=	75.8	Leq	NIGHT=	69.8	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**78.2**
					CNEL=	**78.9**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**177**	**381**	**822**
			CNEL:	**195**	**420**	**905**

Scenario: 2035 WITH PROJECT
Roadway: Red Hill Av.
Segment: Valencia to Bell

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	32,700
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2006	38	15	1482	28	11	371	7	3
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	1.2	-16.1	-20.0	-0.1	-17.4	-21.3	-6.1	-23.4	-27.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	74.4	65.4	66.0	73.1	64.1	64.7	67.1	58.1	58.7
VEHICULAR NOISE	DAY=	75.5	Leq	EVENING=	74.1	Leq	NIGHT=	68.1	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**76.5**
				CNEL=	**77.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**137**	**294**	**634**
			CNEL:	**150**	**324**	**698**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Valencia Av.
Segment: Newport to Red Hill

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	13,500
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	828	16	6	612	12	5	153	3	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-2.7	-19.9	-23.9	-4.0	-21.2	-25.2	-10.0	-27.2	-31.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.4	58.5	59.0	66.1	57.2	57.7	60.1	51.1	51.7
VEHICULAR NOISE	DAY=	68.5	Leq	EVENING=	67.2	Leq	NIGHT=	61.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.6** **CNEL= 70.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**47**	**101**	**217**
	CNEL:	**52**	**111**	**239**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Valencia Av.
Segment: Tustin Ranch to Loop

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	7,200
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	442	8	3	326	6	2	82	2	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-5.4	-22.6	-26.6	-6.7	-23.9	-27.9	-12.7	-30.0	-33.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.7	55.7	56.3	63.4	54.4	55.0	57.4	48.4	49.0
VEHICULAR NOISE	DAY=	65.7	Leq	EVENING=	64.4	Leq	NIGHT=	58.4	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 66.8** **CNEL= 67.5**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**31**	**66**	**143**
	CNEL:	**34**	**73**	**157**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Tustin Ranch Rd.
Segment: Valencia to Moffett
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	39,900
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2447	46	19	1809	34	14	453	9	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	1.6	-15.6	-19.6	0.3	-17.0	-20.9	-5.7	-23.0	-26.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.6	67.0	67.3	75.3	65.7	66.0	69.3	59.7	60.0
VEHICULAR NOISE	DAY=	77.5	Leq	EVENING=	76.2	Leq	NIGHT=	70.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 78.6** **CNEL= 79.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**187**	**402**	**866**
	CNEL:	**205**	**442**	**953**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Park Av.
Segment: Valencia to Moffett
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	3,200
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	196	4	1	145	3	1	36	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-8.4	-25.6	-29.6	-9.7	-26.9	-30.9	-15.7	-33.0	-36.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.7	51.4	52.3	58.4	50.1	51.0	52.4	44.1	45.0
VEHICULAR NOISE	DAY=	61.0	Leq	EVENING=	59.6	Leq	NIGHT=	53.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 62.0** **CNEL= 62.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**15**	**32**	**68**
	CNEL:	**16**	**35**	**75**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Park Av.
Segment: Moffett to Victory

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	2,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	159	3	1	118	2	1	30	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-9.3	-26.5	-30.5	-10.6	-27.9	-31.8	-16.6	-33.9	-37.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.8	50.5	51.4	57.5	49.2	50.1	51.5	43.2	44.1
VEHICULAR NOISE	DAY=	60.0	Leq	EVENING=	58.7	Leq	NIGHT=	52.7	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**61.1**
			CNEL=	**61.8**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**13**	**28**	**60**
	CNEL:	**14**	**30**	**66**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: District Dr.
Segment: Barrance to Park

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,500
SPEED (mph)	10
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	889	17	7	657	12	5	165	3	1
Speed in MPH	10	10	10	10	10	10	10	10	10
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	44.0	60.9	69.6	44.0	60.9	69.6	44.0	60.9	69.6
ADJUSTMENTS									
Flow	4.2	-13.1	-17.0	2.9	-14.4	-18.3	-3.1	-20.4	-24.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	48.9	48.6	53.3	47.6	47.3	52.0	41.6	41.3	46.0
VEHICULAR NOISE	DAY=	55.6	Leq	EVENING=	54.3	Leq	NIGHT=	48.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 56.7**, **CNEL= 57.4**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**7**	**14**	**30**
	CNEL:	**7**	**15**	**33**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Tustin Ranch Rd.
Segment: Warner to Legacy/Park

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	30,600
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1877	35	14	1387	26	11	347	7	3
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	0.4	-16.8	-20.8	-0.9	-18.1	-22.1	-6.9	-24.1	-28.1
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	75.4	65.9	66.1	74.1	64.6	64.8	68.1	58.5	58.8
VEHICULAR NOISE	DAY=	76.3	Leq	EVENING=	75.0	Leq	NIGHT=	69.0	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 77.4** **CNEL= 78.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**156**	**337**	**725**
	CNEL:	**172**	**371**	**799**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Park Av.
Segment: Tustin Ranch to District

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	895	17	7	662	13	5	166	3	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-1.8	-19.0	-23.0	-3.1	-20.4	-24.3	-9.1	-26.4	-30.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.3	58.0	58.9	65.0	56.7	57.6	59.0	50.7	51.6
VEHICULAR NOISE	DAY=	67.5	Leq	EVENING=	66.2	Leq	NIGHT=	60.2	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 68.6** **CNEL= 69.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**41**	**87**	**188**
	CNEL:	**45**	**96**	**207**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Legacy Rd.
Segment: Warner to Tustin Ranch
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,800
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	908	17	7	671	13	5	168	3	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-1.7	-19.0	-22.9	-3.1	-20.3	-24.3	-9.1	-26.3	-30.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.4	58.1	59.0	65.0	56.8	57.7	59.0	50.8	51.6
VEHICULAR NOISE	DAY=	67.6	Leq	EVENING=	66.3	Leq	NIGHT=	60.3	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 68.7**, **CNEL= 69.3**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**41**	**88**	**190**
	CNEL:	**45**	**97**	**209**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Kensington Park Dr.
Segment: Edinger to Valencia

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	10,500
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	644	12	5	476	9	4	119	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-3.2	-20.5	-24.4	-4.6	-21.8	-25.7	-10.6	-27.8	-31.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.9	56.6	57.5	63.6	55.3	56.2	57.5	49.3	50.2
VEHICULAR NOISE	DAY=	66.1	Leq	EVENING=	64.8	Leq	NIGHT=	58.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 67.2** **CNEL= 67.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**33**	**70**	**151**
	CNEL:	**36**	**77**	**166**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Valencia Av.
Segment: Kensington Park to Tustin Ranch
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	10,700
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	656	12	5	485	9	4	122	2	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-3.7	-20.9	-24.9	-5.0	-22.2	-26.2	-11.0	-28.2	-32.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.4	57.5	58.0	65.1	56.2	56.7	59.1	50.1	50.7
VEHICULAR NOISE	DAY=	67.5	Leq	EVENING=	66.2	Leq	NIGHT=	60.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 68.6** **CNEL= 69.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**40**	**86**	**186**
	CNEL:	**44**	**95**	**205**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Tustin Ranch Rd.
Segment: Moffett to Victory

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	45,600
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2797	53	21	2067	39	16	518	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.2	-15.1	-19.0	0.9	-16.4	-20.3	-5.2	-22.4	-26.3
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.2	67.6	67.9	75.9	66.3	66.6	69.8	60.3	60.6
VEHICULAR NOISE	DAY=	78.1	Leq	EVENING=	76.7	Leq	NIGHT=	70.7	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.2** **CNEL= 79.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**204**	**439**	**946**
	CNEL:	**224**	**484**	**1042**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Victory Rd,
Segment: Tustin Ranch to Loop

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,100
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	313	6	2	231	4	2	58	1	0
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-6.4	-23.6	-27.6	-7.7	-24.9	-28.9	-13.7	-30.9	-34.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	61.7	53.4	54.3	60.4	52.1	53.0	54.4	46.1	47.0
VEHICULAR NOISE	DAY=	63.0	Leq	EVENING=	61.7	Leq	NIGHT=	55.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 64.1** **CNEL= 64.7**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**20**	**43**	**93**
	CNEL:	**22**	**48**	**103**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Tustin Ranch Rd.
Segment: Victory to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	47,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2883	54	22	2131	40	16	534	10	4
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.3	-14.9	-18.9	1.0	-16.2	-20.2	-5.0	-22.3	-26.2
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.3	67.7	68.0	76.0	66.4	66.7	70.0	60.4	60.7
VEHICULAR NOISE	DAY=	78.2	Leq	EVENING=	76.9	Leq	NIGHT=	70.9	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 79.3**, **CNEL= 79.9**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**208**	**448**	**966**
	CNEL:	**229**	**493**	**1063**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Newport Av.
Segment: SR-55 NB Ramps/Del Amo to Vale
Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	11,200
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	687	13	5	508	10	4	127	2	1
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-2.4	-19.6	-23.6	-3.7	-20.9	-24.9	-9.7	-26.9	-30.9
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	66.6	59.1	60.4	65.3	57.8	59.0	59.3	51.8	53.0

VEHICULAR NOISE: DAY= 68.1 Leq EVENING= 66.8 Leq NIGHT= 60.8 Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 69.2** **CNEL= 69.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**44**	**95**	**206**
	CNEL:	**49**	**105**	**226**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Bell Av.
Segment: e/o Red Hill Av.

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	5,700
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	350	7	3	258	5	2	65	1	0
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-3.8	-21.1	-25.0	-5.2	-22.4	-26.4	-11.2	-28.4	-32.4
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	55.5	49.9	52.1	54.2	48.6	50.8	48.2	42.6	44.8
VEHICULAR NOISE	DAY=	57.9	Leq	EVENING=	56.6	Leq	NIGHT=	50.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 59.0** **CNEL= 59.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**9**	**20**	**43**
	CNEL:	**10**	**22**	**47**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Armstrong Av.
Segment: Valencia to Bell

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	8,900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	546	10	4	403	8	3	101	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-4.0	-21.2	-25.1	-5.3	-22.5	-26.5	-11.3	-28.5	-32.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.2	55.9	56.8	62.8	54.6	55.4	56.8	48.5	49.4
VEHICULAR NOISE	DAY=	65.4	Leq	EVENING=	64.1	Leq	NIGHT=	58.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 66.5** **CNEL= 67.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**29**	**63**	**135**
	CNEL:	**32**	**69**	**149**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Armstrong Av.
Segment: Bell to Warner

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	8,900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	546	10	4	403	8	3	101	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-4.0	-21.2	-25.1	-5.3	-22.5	-26.5	-11.3	-28.5	-32.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.2	55.9	56.8	62.8	54.6	55.4	56.8	48.5	49.4
VEHICULAR NOISE	DAY=	65.4	Leq	EVENING=	64.1	Leq	NIGHT=	58.1	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 66.5** **CNEL= 67.1**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**29**	**63**	**135**
	CNEL:	**32**	**69**	**149**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Warner Av.
Segment: Legacy to Tustin Ranch

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	12,000
SPEED (mph)	45
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	736	14	6	544	10	4	136	3	1
Speed in MPH	45	45	45	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	69.3	77.6	82.1	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS									
Flow	-3.2	-20.4	-24.4	-4.5	-21.7	-25.7	-10.5	-27.7	-31.7
Distance	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	70.1	61.1	61.7	68.7	59.8	60.3	62.7	53.8	54.3
VEHICULAR NOISE	DAY=	71.1	Leq	EVENING=	69.8	Leq	NIGHT=	63.8	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 72.2** **CNEL= 72.8**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**70**	**151**	**325**
	CNEL:	**77**	**166**	**358**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Moffett Dr.
Segment: Tustin Ranch to Loop

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	7,100
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	435	8	3	322	6	2	81	2	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-4.9	-22.2	-26.1	-6.2	-23.5	-27.4	-12.3	-29.5	-33.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.2	54.9	55.8	61.9	53.6	54.5	55.8	47.6	48.5
VEHICULAR NOISE	DAY=	64.4	Leq	EVENING=	63.1	Leq	NIGHT=	57.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**65.5**
			CNEL=	**66.1**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**25**	**54**	**116**
	CNEL:	**28**	**59**	**128**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: Moffett Dr.
Segment: Loop to Sonora/Meridian

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	14,700
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	902	17	7	666	13	5	167	3	1
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-1.8	-19.0	-23.0	-3.1	-20.3	-24.3	-9.1	-26.3	-30.3
Distance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	65.7	57.4	58.3	64.4	56.1	57.0	58.3	50.1	51.0
VEHICULAR NOISE	DAY=	66.9	Leq	EVENING=	65.6	Leq	NIGHT=	59.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA): **Ldn= 68.0** **CNEL= 68.6**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**37**	**79**	**171**
	CNEL:	**41**	**87**	**188**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2035 WITH PROJECT
Roadway: SR-55
Segment: Edinger to Dyer

Project: Tustin Legacy SP
Analyst: NJF
Date: 18-Jul-16

ROADWAY INPUTS	
ADT	######
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	18823	356	143	13913	263	106	3485	66	26
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	9.3	-7.9	-11.9	8.0	-9.2	-13.2	2.0	-15.3	-19.2
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.9	69.8	69.3	79.6	68.5	68.0	73.5	62.5	62.0
VEHICULAR NOISE	DAY=	81.5	Leq	EVENING=	80.2	Leq	NIGHT=	74.1	Leq

RESULTS

NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA): **Ldn= 82.6**, **CNEL= 83.2**

NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**688**	**1482**	**3192**
	CNEL:	**757**	**1631**	**3514**

Appendix E Traffic Impact Study

Appendices

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Tustin Legacy Specific Plan
Update Traffic Impact Study

Prepared for:

City of Tustin
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Tustin, CA 92780

Prepared by:
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March 8, 2017

Sign-off Sheet

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1.0 INTRODUCTION

This report presents the findings of a traffic study carried out to determine the impacts of the proposed Tustin Legacy Specific Plan Amendment on the site of former Marine Corps Air Station (MCAS) Tustin. The Tustin Legacy Specific Plan Amendment will henceforth be referred to throughout this report as the "proposed project." The purpose of this report is to identify and evaluate how the proposed project differs from the current Specific Plan in terms of traffic impacts in accordance with specified criteria and to provide a circulation evaluation for the California Environmental Quality Act (CEQA) analysis prepared for the project.

1.1 BACKGROUND

A number of previously certified environmental analysis, adopted findings, and statement of overriding considerations were prepared for the disposal and reuse of MCAS Tustin. A summary of the previous environmental documentation and how it relates to the Tustin Legacy Specific Plan Amendment is provided below.

A Final Joint Environmental Impact Statement/Environmental Impact Report ("2001 FEIS/EIR," SCH#94071005) was certified as complete in January 16, 2001 for the Reuse and Disposal of the Marine Corps Air Station, Tustin. The EIS/EIR also evaluated the adoption of the MCAS Tustin Specific Plan. A comprehensive traffic report was prepared for the MCAS Tustin Specific Plan, and that report was used in preparing the Circulation section of the Final Joint EIS/EIR. The "Program EIS/EIR" mitigation measures identified for the original project were the subject of agreements with the adjacent Cities of Irvine and Santa Ana, and those in Tustin were planned to be implemented in phases according to a phasing plan.

The "Supplemental EIR to the Final EIS/EIR for the Disposal and Reuse of Marine Corps Air Station, Tustin, California: Extension of Tustin Ranch Road between Walnut Avenue and the Future alignment of Valencia North Loop Road" ("2004 SEIR," SCH# 1994071005) was certified on December 6, 2004. It analyzed the impacts of a one-mile extension of Tustin Ranch Road from Walnut Avenue on the north to the future alignment of Valencia North Loop Road on the south. The segment included an overpass over the Orange County Flood Control District right-of-way, the Orange County Transportation Authority / Southern California Regional Rail Authority railroad right-of-way, and Edinger Avenue.

On April 3, 2006, the City certified the "MCAS Tustin Zone Change (Specific Plan Amendment) 05-002, Master Developer Disposition and Development Agreement, and Development Plan Addendum to the Final Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of the MCAS Tustin" ("2006 Addendum"). The Specific Plan Amendment reduced permitted nonresidential development in the project area by about one million square feet to approximately 10.4 million square feet, while retaining the same number of residential units at 4,601. The zone change adjusted the planning area boundaries and redistributed or

eliminated planned land uses, but did not increase the overall development potential or residential capacity allowed under the Specific Plan. The Disposition and Development agreement was made to facilitate the sale, leasing, and development of Tustin Legacy.

An addendum to the FEIS/EIR was prepared to process a General Plan Amendment 2013-001, Specific Plan Amendment 2013-001, Development Agreement 2013-002, and Agreement for Exchange of Real Property between the City and South Orange County Community College District (SOCCCD) on 22 acres. The land transfer was located in the western part of the Specific Plan area near the intersection of Red Hill Avenue and Valencia Avenue. The project added a new local street, Bell Avenue, to service adjacent uses, added an allowable land use (private for-profit non-educational uses), and increased allowable building square footages within the education village (Neighborhood A).

The MCAS Tustin Specific Plan (the "Adopted Specific Plan") was adopted by ordinance on February 3, 2003, and established the zoning for the 1,606-acre project area. The Specific Plan was then amended six times between 2010 and 2014. In response to the changing market conditions, and to ensure that quality development occurs as the remaining portions of the Specific Plan area build out, the City of Tustin is proposing a new update of the Tustin Legacy Specific Plan. While the total trip generation for the non-residential uses in the Legacy area remains within the trip budget established by the Specific Plan, the mix of uses and their distribution and the residential uses within the overall project site have changed along with the internal circulation plan. Accordingly, the purpose of this report is to evaluate if such changes affect any of the traffic impact findings in the previous certified environmental documents.

1.2 SCOPE AND METHODOLOGY

In accordance with the approved Traffic Study Scope of Work, the analysis in this report identifies potential impacts of the proposed project based on existing traffic conditions and 2035 future traffic conditions. The future setting (2035) is based on the existing circulation system plus improvements that are planned to be in place in the future time frame as well as the land use and development growth that is projected in the future time frame.

Existing traffic conditions are based on observed traffic counts whereas future traffic conditions were prepared using the Irvine Transportation Analysis Model, Version 12.4 (ITAM 12.4). ITAM 12.4 was approved by Orange County Transportation Authority (OCTA) as meeting all of the County's consistency guidelines. The particular version used for this application was provided by the City of Irvine in May 2015 which is up to date regarding the City of Irvine General Plan Circulation Element within the Irvine Business Complex (IBC) area adjacent to the project site. The model also provides intersection data in the City of Tustin as well as Irvine and Santa Ana. The ITAM uses a 2035 time frame for traffic forecasting with corresponding assumptions with respect to local and regional transportation improvements.

The circulation system performance criteria applied in the analysis are based on level of service (LOS) calculation methodologies and performance standards that have been used by the

governing jurisdictions in the study area. The criteria include components for arterial intersections, freeway/tollway ramps and freeway/tollway mainline segments.

Study area of the analysis was determined based on discussions with City of Tustin staff. For cumulative conditions in the future timeframe, supplemental Caltrans freeway segments and ramp locations were also analyzed.

1.3 PERFORMANCE CRITERIA

In this report, a set of performance criteria is utilized to identify level of service (LOS) deficiencies on the study area circulation system. Traffic LOS is designated "A" through "F" with LOS "A" representing free flow conditions and LOS "F" representing severe traffic congestion. General LOS descriptions are summarized in **Table 1-1** for intersections and in **Table 1-2** for freeways. **Table 1-3** summarizes the volume/capacity (V/C) ranges that correspond to LOS "A" through "F" for arterial intersections and freeway segments. The V/C ranges listed for arterial intersections are designated in the Orange County Congestion Management Program (CMP) as well as for the City of Tustin and the other city jurisdictions in the study area. The V/C ranges listed for freeway segments are based on the V/C and LOS relationships specified in the 2010 Highway Capacity Manual (HCM 2010) for basic freeway sections.

Both the V/C ratio and the LOS are used in determining impact significance. Certain LOS values are deemed unacceptable, and increases in the V/C ratio that cause or contribute to the LOS being unacceptable are defined as a significant impact.

In establishing V/C based performance criteria, there are certain items that need to be addressed to obtain suitable V/C estimates and relate them to LOS. For instance, while average daily traffic (ADT) is a useful measure to show general levels of traffic on a facility and to provide data for other related aspects such as noise and air quality, congestion is largely a peak hour or peak period occurrence and ADT does not reflect peak period conditions very effectively. Because of this, ADT is not used here as the basis for capacity evaluation but instead this evaluation focuses on those parts of the day when such congestion can occur, specifically the AM and PM peak hours.

The overall performance criteria applied in this study are summarized in **Table 1-4**. The criteria include components for arterial intersections, freeway mainline segments and freeway ramps, and are based on LOS calculation methodologies and performance standards used by the City of Tustin and the other governing agencies in the study area as well as by the Orange County Transportation Authority (OCTA) as part of the CMP.

The analysis of the arterial road system is based on intersection capacity since this is the defining capacity limitation on an arterial highway system. There may be exceptions where certain facilities have long distances between signalized intersections; however, that is not the case

Table 1-1 Level of Service Descriptions – Signalized Intersections

LOS	Description
A	LOS A describes primarily free-flow operations. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at the intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.
B	LOS B describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted, and control delay at the intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.
C	LOS C describes stable operation. The ability to maneuver and change lanes at midsegment locations may be more restricted than at LOS B. Longer queues at the intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.
D	LOS D indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the intersections. The travel speed is between 40% and 50% of the base free-flow speed.
E	LOS E is characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the intersections. The travel speed is between 30% and 40% of the base free-flow speed.
F	LOS F is characterized by flow at extremely low speed. Congestion is likely occurring at the intersections, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed.
Source: Highway Capacity Manual 2010, Transportation Research Board, National Research Council	

Table 1-2 Level of Service Descriptions – Freeways

LOS	Traffic Flow Description		Density (pc/mi/ln)
A		Free-flow conditions. Free-flow speed prevails and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.	≤11
B		Reasonably free-flow operations, and free-flow speed on the freeway is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.	>11 – 18
C		Traffic flow and speeds near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind any significant blockages.	>18 – 26
D		Speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.	>26 – 35
E		Operation at capacity. Operations on the freeway at this level are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. The physical and psychological comfort afforded to drivers is poor.	>35 – 45
F		Breakdown, or unstable flow. Breakdown occurs when the ratio of demand to capacity exceeds 1.00. Whenever queues due to a breakdown exist, they have the potential to extend upstream for considerable distances.	>45

Source: Highway Capacity Manual 2010, Transportation Research Board, National Research Council
pc/mi/ln = passenger cars per mile per lane

Table 1-3 Volume/Capacity Ratio Level of Service Ranges

LOS	Intersection ICU Ranges	Freeway Segment V/C Ranges[1]
A	0.00 – 0.60	0.00 – 0.30
B	0.61 – 0.70	0.31 – 0.50
C	0.71 – 0.80	0.51 – 0.71
D	0.81 – 0.90	0.72 – 0.89
E	0.91 – 1.00	0.90 – 1.00
F	Above 1.00	Above 1.00

ICU – Intersection Capacity Utilization
V/C – Volume/Capacity

Source: Orange County Congestion Management Program and Highway Capacity Manual 2010, Transportation Research Board, National Research Council

[1] Values based on a free flow speed of 65 mph.

Table 1-4 Performance Criteria for Locations Analyzed Within the Study Area

I. Arterial Intersections

V/C Calculation Methodology for Intersections

Level of service based on peak hour intersection capacity utilization (ICU) values calculated using the following assumptions:

Saturation Flow Rate: 1,700 vehicles per hour per lane
Clearance Interval: 0.05
Right-Turn-On-Red Utilization Factor*: 0.75
* "De-facto" right-turn lane is assumed in the ICU calculation if 19 feet from edge to outside of through-lane exists and parking is prohibited during peak periods.

Performance Standard

CMP intersections in the City of Tustin, Intersections in Irvine Business Complex (IBC): Level of Service E (peak hour ICU less than or equal to 1.00).

All other intersections: Level of Service D (peak hour ICU less than or equal to 0.90).

Mitigation Requirement

For ICU greater than the acceptable level of service, mitigation of the project contribution is required to bring intersection back to no-project conditions or better If project contribution is greater than 0.03 at CMP locations in the City of Tustin (the impact threshold specified in the CMP), or 0.02 or greater for all other intersections in the study area.

II. Freeway Ramp Intersections (Joint Jurisdiction with Caltrans)

Delay Calculation Methodology

Level of service based on average vehicle delays calculated using HCM 2010 delay methodology.

Performance Standard

Level of Service D (average delay less than or equal to 55 seconds for signalized intersections, 35 seconds for unsignalized intersections).

Mitigation Requirement

For average delays greater than the acceptable level of service, mitigation of the project contribution is required to bring intersection back to no-project conditions or better If project contribution is 2 seconds or greater.

(continued)

Table 1-4 Performance Criteria for Locations Analyzed Within the Study Area (continued)

III. Freeway Mainline Segments

V/C Calculation Methodology

Level of service based on peak hour V/C ratios calculated using the following capacities:

2,000 vehicles per hour per lane (vphpl) for mixed-flow (general purpose) lanes.
1,600 vphpl for a one-lane buffer-separated high occupancy vehicle (HOV) facility.
1,750 vphpl for a two-lane buffer-separated HOV facility.

Performance Standard

Level of Service E (peak hour V/C less than or equal to 1.00).

Mitigation Requirement

For V/C greater than the acceptable level of service, mitigation of the project contribution is required to bring freeway mainline location back to acceptable level of service or to no-project conditions if project contribution is greater than 0.03 (the impact threshold specified in the Orange County CMP).

IV. Freeway Ramps

V/C Calculation Methodology

Level of service based on peak hour V/C ratios calculated using the following capacities:

Freeway to Arterial Road Interchanges

Metered On-Ramps

A maximum capacity of 900 vehicles per hour (vph) for a one-lane metered on-ramp with only one mixed-flow lane at the meter.

A maximum capacity of 1,080 (20 percent greater than 900) vph for a one-lane metered on-ramp with one mixed-flow lane at the meter plus one HOV preferential lane at the meter.

A maximum capacity of 1,500 vph for a one-lane metered on-ramp with two mixed-flow lanes at the meter.

A maximum capacity of 1,800 vph for a two-lane metered on-ramp with two mixed-flow lanes at the meter.

Non-Metered On-Ramps and Off-Ramps

A maximum capacity of 1,500 vph for a one-lane ramp.

A maximum capacity of 2,250 (50 percent greater than 1,500) vph for a two-lane on-ramp that tapers to one merge lane at or beyond the freeway mainline gore point and for a two-lane off-ramp with only one auxiliary lane.

A maximum capacity of 3,000 vph for a two-lane on-ramp that does not taper to one merge lane and for a two-lane off-ramp with two auxiliary lanes.

(continued)

Table 1-4 Performance Criteria for Locations Analyzed Within the Study Area (continued)

Performance Standard Level of Service E (peak hour V/C less than or equal to 1.00). **Mitigation Requirement** For V/C greater than the acceptable level of service, mitigation of the project contribution is required to bring ramp back to acceptable level of service or to no-project conditions if project contribution is 0.02 or greater.

within the traffic analysis study area here, and, as such, peak hour intersection performance is the most representative measure for evaluating the study area arterial road system.

The intersection criteria involve the use of peak hour intersection capacity utilization (ICU) values. The ICU ranges that correspond to LOS "A" through "F" are the same as the V/C ranges shown in **Table 1-3**. By practice the ICU methodology assumes that intersections are signalized. LOS "E" (ICU not to exceed 1.00) is the performance standard applied in this study for CMP intersections in the City of Tustin and intersections in Irvine Business Complex (IBC). LOS "D" (ICU not to exceed .90) is the performance standard for the remaining intersections in the study area. Caltrans freeway ramp intersections are analyzed in this study using the HCM LOS methodology for signalized intersections in addition to the ICU methodology. In the HCM signalized intersection analysis methodology, the LOS at an intersection location is determined based on the estimated average delay experienced by all traffic using the intersection. The vehicle delay ranges that correspond to LOS "A" through "F" as specified in the HCM are summarized in **Table 1-5**.

Table 1-5 Intersection Level of Service Ranges (ICU and HCM Delay)

Level of Service (LOS)	Intersection Capacity Utilization (ICU)	Highway Capacity Manual (HCM) Average Delay for Signalized Intersections	HCM Average Delay for Unsignalized Intersections
A	0.00 – 0.60	0.00 – 10.0 seconds	0.00 – 10.0 seconds
B	0.61 – 0.70	10.1 – 20.0 seconds	10.1 – 15.0 seconds
C	0.71 – 0.80	20.1 – 35.0 seconds	15.1 – 25.0 seconds
D	0.81 – 0.90	35.1 – 55.0 seconds	25.1 – 35.0 seconds
E	0.91 – 1.00	55.1 – 80.0 seconds	35.1 – 50.0 seconds
F	Above 1.00	Above 80.0 seconds	Above 50.0 seconds

The freeway mainline and freeway ramp criteria are based on peak hour V/C ratios. The freeway mainline and ramp capacities applied in this analysis are based on information contained in the Caltrans Highway Design Manual and the Caltrans Ramp Meter Design Manual and have been verified through previous discussions with Caltrans staff. LOS "E" (V/C not to exceed 1.00) has been established by Caltrans as the operating standard for freeway mainline segments and freeway ramps. This standard is also consistent with the LOS "E" standard specified in the Orange County CMP for CMP facilities (the freeway system in the study area is included in the CMP roadway network).

1.4 REFERENCES

1. "Tustin Legacy Specific Plan Amendment Initial Study", Placeworks, March 2015.

2. "2013 Orange County Congestion Management Program," Orange County Transportation Authority, November 2013.

3. "Highway Capacity Manual 2010," Transportation Research Board, National Research Council, 2010.

4. "Highway Design Manual," Caltrans, December 2015.

5. "Ramp Meter Design Manual," Caltrans, January 2000.

6. "Guide for the Preparation of Traffic Impact Studies," Caltrans, December 2002.

7. "2012 Citywide Circulation Phasing Analysis," City of Irvine, May 2013.

8. "Traffic Impact Analysis" Guidelines," City of Irvine, August 24, 2004.

9. "City of Irvine Transportation Design Procedures," City of Irvine, February 2007.

10. "Trip Generation, Ninth Edition," Institute of Transportation Engineers.

11. "Caltrans 2014 Traffic Volumes on California State Highways," State of California Transportation Agency Department of Transportation, 2015.

2.0 PROPOSED PROJECT

The information presented in this chapter describes the traffic characteristics of the proposed project. The project site, its proposed land uses, the trip generation estimates and traffic distribution patterns associated with the proposed project land uses are presented. This project description information is applied in the traffic impact analysis sections of this report to analyze the project under existing and 2035 conditions.

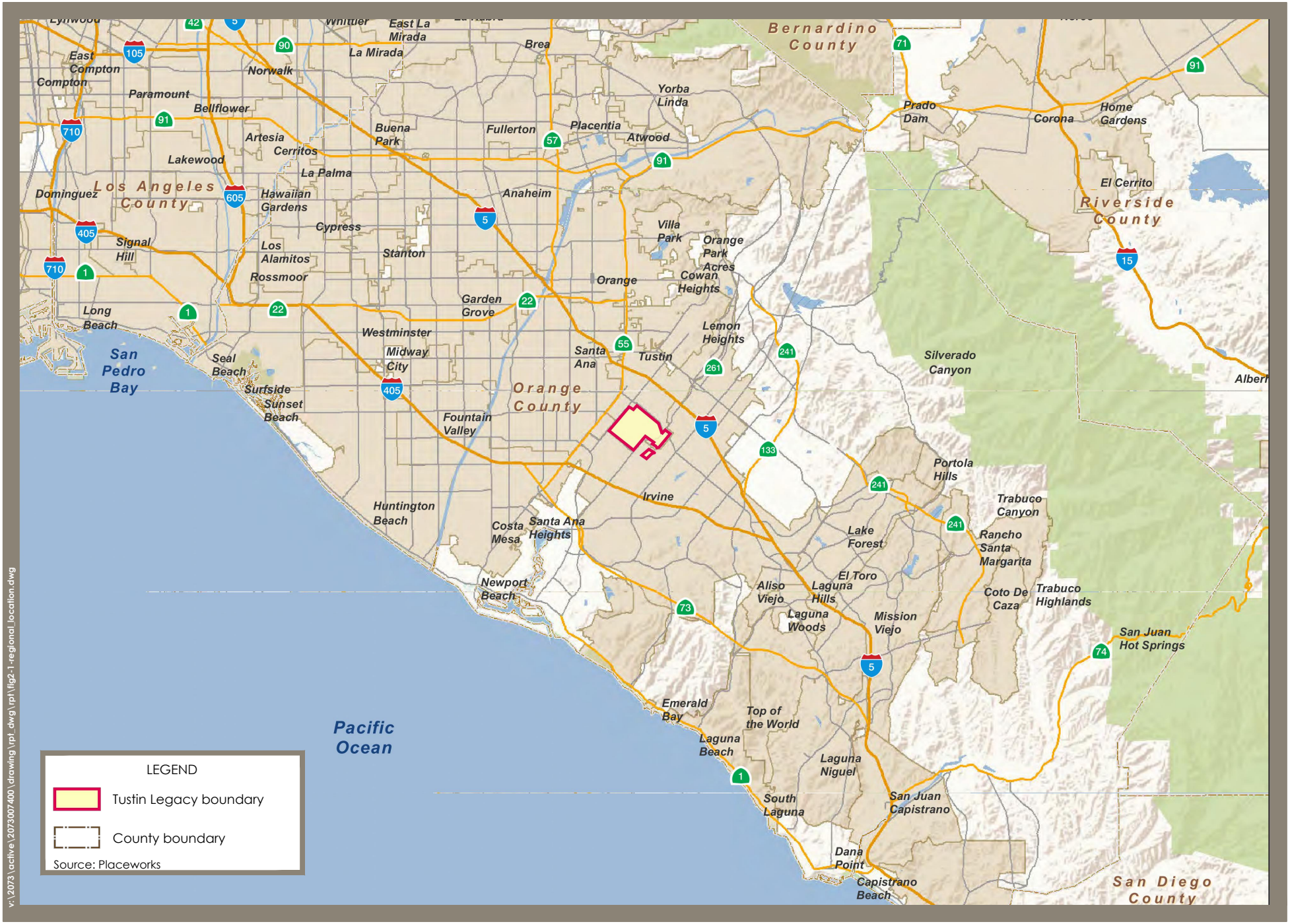
2.1 PROJECT LOCATION

Figure 2-1 and **Figure 2-2** illustrate the regional and local location of the proposed Project, respectively. The proposed Project, the Tustin Legacy Specific Plan (former MCAS Tustin), is in an urbanized area in the southern portion of the City of Tustin and the northwest portion of the City of Irvine in Orange County, California. The 1,606-acre project area includes 1,511 acres in Tustin and approximately 95 acres in Irvine. The major roadways that border the site are Red Hill Avenue on the west, Edinger Avenue on the north, Harvard Avenue on the east, and Barranca Parkway on the south. Jamboree Road transects the site and provides access to the State Route 261 (SR-261), which is a Toll Road. Regional access to the project area is also provided by State Route 55 (SR-55) via Edinger Avenue/Newport Avenue and Barranca Parkway/Dyer Road to the northwest, and by Interstate 5 (I-5) via Red Hill Avenue, Tustin Ranch Road and Jamboree Road to the northeast.

2.2 LAND USE AND TRIP GENERATION

The Tustin Legacy Specific Plan area contains existing residential, commercial, and institutional development and vacant land. 2,507 residential units (402 units in Irvine and 2,105 in Tustin) in four neighborhoods were built during the last decade, with 12 acres of public and private neighborhood parks between both cities. Other existing land uses in the Specific Plan area in Tustin consist of an approximately 1,016,000 square feet regional shopping center named The District, approximately 450,825 square feet of institutional uses, and three residential projects (a 225-unit affordable housing community, a 533-unit apartment complex, and a 375-unit single-family neighborhood) that are either under construction or recently complete. In the City of Irvine, the Irvine Unified School District has a small campus named the Creekside Education Center on approximately 20 acres. Approximately 867 acres of the project area are currently vacant or contain unoccupied buildings from the former Marine Corps Air Station.

The proposed Specific Plan Amendment will guide development of the remaining undeveloped area in the City of Tustin. **Table 2-1** provides a land use and trip generation comparison summary for the entire Specific Plan area between the existing conditions, the current Specific Plan, and the proposed project. The trip generation has been determined based on the trip generation rates summarized in **Appendix A**, which incorporates both the rates used in the 2013

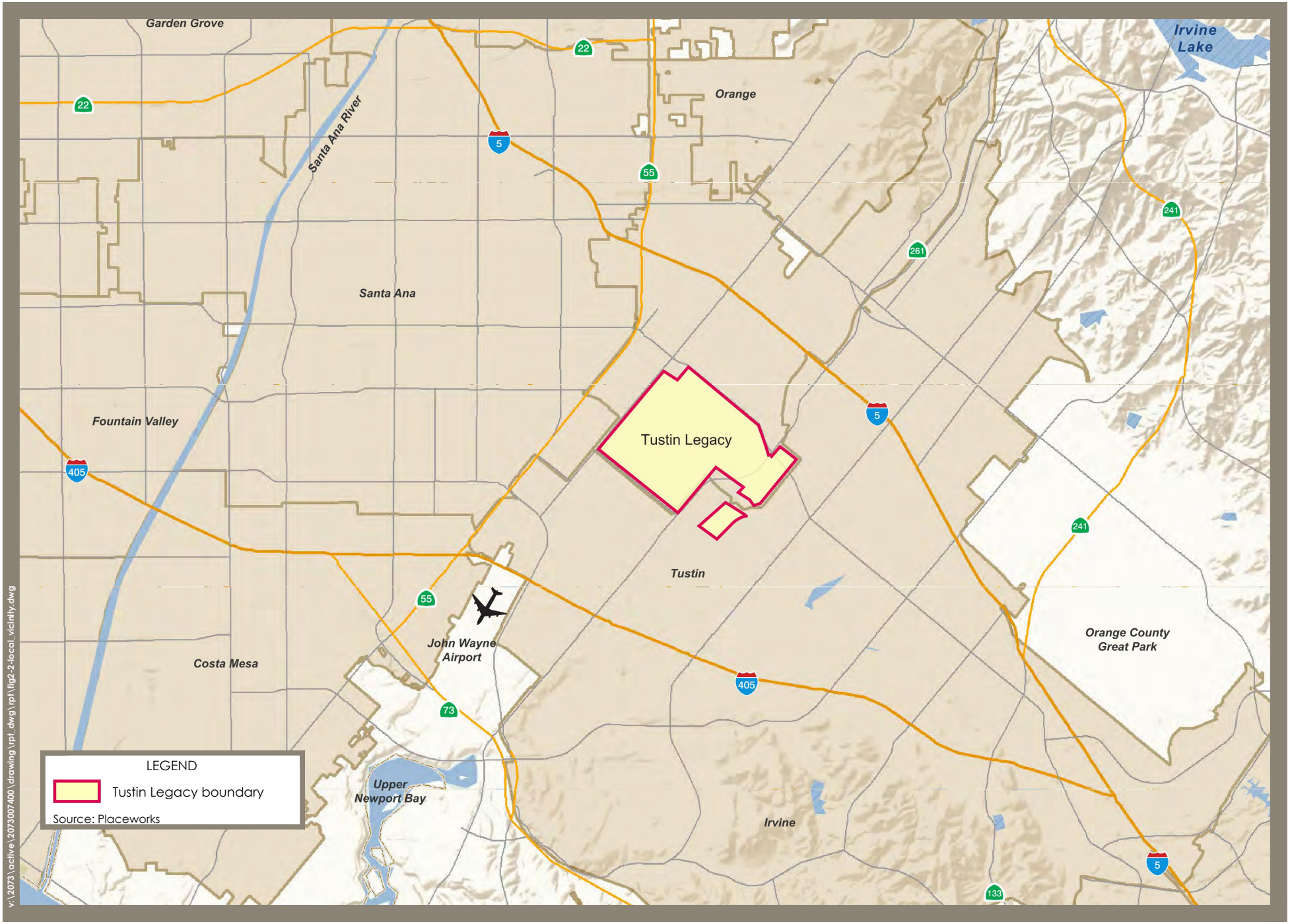


Stantec

N

Figure 2-1

Regional Location



Stantec

N

Figure 2-2

Local Vicinity

Table 2-1 Land Use and Trip Generation Comparison for Tustin Legacy Specific Plan Area

Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Project		Project Difference	
		Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood A									
Transitional Housing	Room	192	941	192	941	192	941	0	0
Elementary School	STU			550	561	900	1,161	350	600
Learning Center	KSF	128.48	1,347	2,151.60	13,170	2,151.60	13,170	0	0
Neighborhood Commercial	KSF			24.85	2,784	0	0	-24.85	-2,784
Tustin Facility (Neighborhood Comm)	KSF			62.13	6,352	0	0	-62.13	-6,352
Office (Military)	KSF			40.85	542	40.85	542	0	0
Office (City)	KSF			14.68	162	14.68	162	0	0
Sports Park	Acre			31.61	1,701	31.61	1,701	0	0
Neighborhood A Total	**KSF**		**2,288**	**2,294.11**	**26,213**	**2,207.13**	**17,677**	**-86.98**	**-8,536**
Neighborhood B									
Residential (LDR)	DU	145	1,388	145	1,388	0	0	-145	-1,388
Residential (MDR)	DU	252	2,016	252	2,016	0	0	-252	-2,016
Residential (MHDR)	DU	438	2,903	438	2,903	0	0	-438	-2,903
Community Commercial	KSF			103.46	7,052	103.46	7,024	0	-28
Office	KSF			144.84	1,922	144.84	1,902	0	-20
Senior Housing Attached	DU	240	833	240	833	240	826	0	-7
Single Family Housing	DU			0	0	145	1,380	145	1,380
Multi Family Housing	DU			0	0	690	4,589	690	4,589
Neighborhood B Total	**DU**	**1,075**	**7,140**	**1,075**	**16,114**	**1,075**	**15,721**	**0**	**-393**
Neighborhood C									
Community Commercial	KSF			57.5	3,920	57.5	3,904	0	-16
Regional Park	Acre			84.5	423	84.5	423	0	0
Neighborhood C Total					**4,343**		**4,327**		**-16**

Table 2-1 Land Use and Trip Generation Comparison for Tustin Legacy Specific Plan Area (continued)

Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Project		Project Difference	
		Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood D									
Multi Family Housing	DU	533	3,544	1,048	6,948	1,829	12,163	781	5,215
Hotel (380 KSF)	Room			500	4,115	0	0	-500	-4,115
Hotel (165.6 KSF)	Room			0	0	550	4,494	550	4,494
High School	STU			1,850	3,312	1,784	3,051	-66	-148
Neighborhood Commercial	KSF			75.45	8,436	0	0	-75.45	-8,436
Tustin Facility (Neighborhood Comm)	KSF			0	0	0	0	0	0
Community Commercial	KSF			128.21	8,741	200	13,578	71.79	4,837
Community Commercial	KSF			0	0	1,463.41	62,487	1,463.41	62,487
Office	KSF			1,855.90	24,630	420	4,633	-1,435.90	-19,997
Office Park	KSF			1,930.80	16,925	0	0	-1,930.80	-16,925
Industrial	KSF			319.51	3,803	0	0	-319.51	-3,803
Park	Acre			23.2	117	54	270	30.8	153
Theater (25 KSF)	Seat			1,000	1,250	0	0	-1,000.00	-1,250
Health Club	KSF			30	988	0	0	-30	-988
Restaurant	KSF			18	2,289	0	0	-18	-2,289
Sports Park	Acre			46	2,475	45	2,421	-1	-54
Amphitheater	Acre			0	0	0	0	0	0
Neighborhood D Total	**KSF**		**3,544**	**4,762.87**	**84,029**	**2,249.01**	**103,097**	**-2,513.87**	**19,068**
Neighborhood E									
Neighborhood Commercial	KSF			18.13	2,028	0	0	-18.13	-2,028
Office	KSF			528.71	7,247	1,588.00	17,516	1,059.29	10,269
Office Park	KSF			412.95	3,944	0	0	-412.95	-3,944
Industrial	KSF			307.54	4,613	0	0	-307.54	-4,613

Table 2-1 Land Use and Trip Generation Comparison for Tustin Legacy Specific Plan Area (continued)

Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Project		Project Difference	
		Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood E (Continued)									
Park	Acre			28.2	143	28	140	-0.2	-3
Neighborhood E Total	**KSF**			**1,267.33**	**17,975**	**1,588.00**	**17,656**	**320.67**	**-319**
Neighborhood F									
Shopping Center	KSF	922.26	28,351	948.23	29,150	1,048.23	32,224	100	3,074
Multiplex Theater (70 KSF)	Seat	3,003	5,405	3,500	6,300	3,500	6,300	0	0
Office	KSF	40.85	542	0	0	0	0	0	0
Neighborhood F Total	**KSF**	**1,033.11**	**34,298**	**1,018.23**	**35,450**	**1,118.23**	**38,524**	**100**	**3,074**
Neighborhood G									
Residential (LDR)	DU	362	3,465	722	6,911	0	0	-722	-6,911
Residential (MDR)	DU	667	5,336	954	7,632	0	0	-954	-7,632
Residential (MHDR)	DU	601	3,985	568	3,766	0	0	-568	-3,766
Single Family Housing	DU			0	0	800	7,616	800	7,616
Multi Family Housing	DU			0	0	3,077	20,462	3,077	20,462
Neighborhood Commercial	KSF			26.68	2,983	95.2	9,733	68.52	6,750
Community Commercial	KSF			130.68	8,908	0	0	-130.68	-8,908
Elementary/Middle School	STU			1,200	1,224	0	0	-1,200	-1,224
Office	KSF			150.28	1,994	0	0	-150.28	-1,994
Tustin Facility (Office)	KSF			36.78	3,760	0	0	-36.78	-3,760
Park	Acre	11	54	49	249	31	155	-18	-94
Senior Congregate	KSF			158.99	970	0	0	-158.99	-970
Senior Care Community	DU			0	0	404	970	404	970
Assisted Living	Bed			0	0	0	0	0	0
Sports Park	Acre			14.1	758	0	0	-14.1	-758

Table 2-1 Land Use and Trip Generation Comparison for Tustin Legacy Specific Plan Area (continued)

Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Project		Project Difference	
		Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood G (Continued)									
Neighborhood G Total	**DU**	**1,630**	**12,840**	**2,244**	**39,155**	**3,877**	**38,936**	**1,633.00**	**-219**
Neighborhood H (City of Irvine)									
Residential (LDR)	DU	166	1,589	166	1,589	0	0	-166	-1,589
Residential (MDR)	DU	243	1,944	243	1,944	0	0	-243	-1,944
Elementary/Middle School	STU	650	663	650	663	650	663	0	0
Single Family Housing	DU			0	0	166	1,580	166	1,580
Multi Family Housing	DU			0	0	243	1,616	243	1,616
Neighborhood H Total	**DU**	**409**	**4,196**	**409**	**4,196**	**409**	**3,859**	**0**	**-337**
TOTAL			**64,306**		**227,475**		**239,797**		**12,322**

ADT = Average Daily Trips
LDR = Low Density Residential
MDR = Medium Density Residential
MHDR = Medium High Density Residential
Comm = Commercial
STU = Students
DU = Dwelling Units
KSF = Thousand Square Feet

Specific Plan Amendment, as well as the latest Institute of Transportation Engineers (ITE) Trip Generation Manual rates (see Reference 10 in Section 1.4).

2.3 TRIP BUDGET FOR NON-RESIDENTIAL USES

This section discusses the non-residential land uses/trip budget tracking system established for the Original Specific Plan. The nonresidential land use/trip budget tracking system was developed as a mechanism for managing the forecast vehicular trips generated by the nonresidential land use mix in the Adopted Specific Plan. In order to manage the availability of roadway capacity for the remaining, undeveloped land, the trip budget tracking system will continue to be monitored with this Specific Plan Amendment. Although all land uses are accounted for in the total average daily trips (ADT) associated with potential development for the Specific Plan, the trip budget applies only to nonresidential uses. The tracking system establishes a maximum limit on the ADT generated from nonresidential uses, and that limit is identified in the trip budget, which summarizes the square footage of nonresidential uses in each neighborhood by Planning Area and the corresponding ADT.

Table 2-2 presents the previous trip budget established in the Current Specific Plan and that of the proposed Specific Plan Amendment. A comparison of the two scenarios shows that the overall trip budget remains the same, with differences occurring within individual neighborhoods. A detailed trip budget comparison with specific land uses between the Current Specific Plan and the proposed project can be found in **Appendix A**.

2.4 PROJECT TRIP DISTRIBUTION

Trip distribution patterns for the proposed project land uses were developed using the ITAM traffic model and are presented in **Figure 2-3** for the cumulative conditions in the future (2035) analysis timeframe. The proposed project is assumed to be fully developed under 2035 with-project conditions. The trip distribution patterns are based on the ITAM model's distribution of daily project traffic. These percentages differ slightly in the peak hours, and the traffic model uses the individual peak hour distribution patterns to assign peak hour trips.

Table 2-2 Planning Area Trip Budget Comparison

Planning Area	Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Specific Plan		Project Difference	
			Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood A										
1	Institution	KSF	128.48	1,347	2,151.60	13,731	2,151.60	14,331	0	600
	Commercial	KSF			86.98	9,136	0	0	-86.98	-9,136
	Office	KSF			55.53	704	55.53	704	0	0
Neighborhood A Total		**KSF**	**128.48**	**1,347**	**2,294.11**	**23,571**	**2,207.13**	**15,035**	**-86.98**	**-8,536**
Neighborhood B										
7	Commercial	KSF			103.46	7,052	103.46	7,024	0	-28
	Office	KSF			144.84	1,922	144.84	1,902	0	-20
Neighborhood B Total		**KSF**			**248.30**	**8,974**	**248.30**	**8,926**	**0**	**-48**
Neighborhood C										
6	Commercial	KSF			57.50	3,920	57.50	3,904	0.00	-16
Neighborhood C Total						**3,920**		**3,904**		**-16**
Neighborhood D										
8	Institution	STU			1,850	3,312	1,784	3,051	-66	-261
	Commercial	KSF			65.69	7,345	1,643.01	75,194	1,577.32	67,849
	Office	KSF			1,590.80	14,027	0	0	-1,590.80	-14,027
	Industrial	KSF			319.51	3,803	0	0	-319.51	-3,803
	Sub-Total	KSF			1,976.00	28,487	1,643.01	78,245	-332.99	49,758
13	Commercial	KSF			548.86	15,704	186.00	5,365	-362.86	-10,339
	Office	KSF			1,512.00	20,065	420	4,633	-1,092.00	-15,432
	Sub-Total				2,060.86	35,769	606.00	9,998	-1,454.86	-25,771
14	Commercial	KSF			42.11	2,770	0	0	-42.11	-2,770

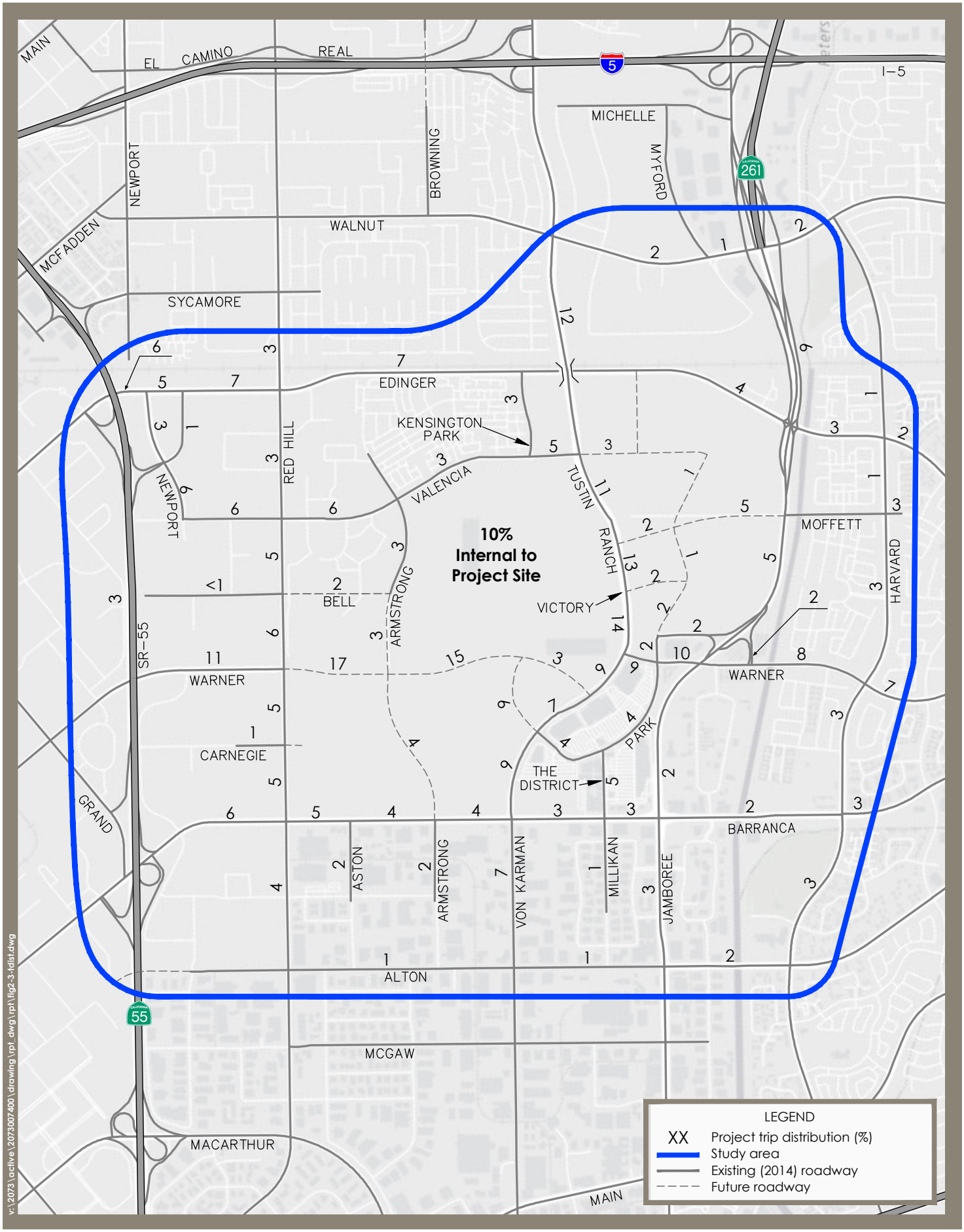
Table 2-2 Planning Area Trip Budget Comparison (Continued)

Planning Area	Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Specific Plan		Project Difference	
			Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood D (Continued)										
14	Office	KSF			683.90	7,463	0	0	-683.90	-7,463
	Sub-Total	KSF			726.01	10,233	0	0	-726.01	-10,233
Neighborhood D Total										
Institution		STU			1,850	3,312	1,784	3,051	-66	-261
Commercial		KSF			656.66	25,819	1,829.01	80,559	1,172	54,740
Office		KSF			3,786.70	41,555	420.00	4,633	-3,367	-148
Industrial		KSF			319.51	3,803	0	0	-319.51	-3,803
Neighborhood D Total		**KSF**			**4,762.87**	**74,489**	**2,249.01**	**88,243**	**-2,513.86**	**13,754**
Neighborhood E										
9,10	Office	KSF			156.82	2,312	730.00	8,052	573.18	5,740
	Industrial	KSF			169.02	2,611	0	0	-169.02	-2,611
	Sub-Total				325.84	4,923	730.00	8,052	404.16	3,129
11,12	Commercial	KSF			18.13	2,028	0	0	-18.13	-2,028
	Office	KSF			784.84	8,879	858.00	9,464	73.16	585
	Industrial	KSF			138.52	2,002	0	0	-138.52	-2,002
	Sub-Total	KSF			941.49	12,909	858.00	9,464	-83.49	-3,445
Neighborhood E Total										
Commercial		KSF			18.13	2,028	0	0	-18.13	-2,028
Office		KSF			941.66	11,191	1,588.00	17,516	646.34	6,325
Industrial		KSF			307.54	4,613	0	0	-307.54	-4,613
Neighborhood E Total		**KSF**			**1,267.33**	**17,832**	**1,588.00**	**17,516**	**320.67**	**-316**

Table 2-2 Planning Area Trip Budget Comparison (Continued)

Planning Area	Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Specific Plan		Project Difference	
			Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood F										
16	Commercial	KSF	448.00	13,772	448.00	13,772	448.00	13,772	0	0
17	Commercial	KSF	47.00	1,445	47.00	1,445	47.00	1,445	0	0
18	Commercial	KSF			17.63	542	117.63	3,616	100.00	3,074
	Office	KSF	40.85	542						
	Sub-Total			542						
19	Commercial	KSF	497.26	18,539	505.60	19,691	505.60	19,691	0	0
	Sub-Total	KSF		18,539	505.60	19,691	505.60	19,691	0	0
Neighborhood F Total										
Commercial		KSF	992.26	33,756	1,018.23	35,450	1,118.23	38,524	100.00	3,074
Office		KSF	40.85	542	0	0	0	0	0	0
Neighborhood F Total		**KSF**	**1,033.11**	**34,298**	**1,018.23**	**35,450**	**1,118.23**	**38,524**	**100.00**	**3,074**
Neighborhood G										
15	Commercial	KSF			353.13	16,621	1,095.20	10,703	742.07	-5,918
	Office	KSF			150.28	1,994	0	0	-150.28	-1,994
Neighborhood G Total		**KSF**			**503.41**	**18,615**	**1,095.20**	**10,703**	**591.79**	**-7,912**
TOTAL				**35,645**		**182,851**		**182,851**		**0**

ADT = Average Daily Trips
STU = Students
DU = Dwelling Units
KSF = Thousand Square Feet
Note: Planning areas not shown are not part of the trip budget. Also for ease of review the land uses have been compressed here.



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Figure 2-3

Project Trip Distribution

3.0 TRANSPORTATION SETTING

This chapter describes the transportation setting for the proposed project. Existing traffic conditions in the traffic analysis study area are summarized, and the future circulation system planned for 2035 within the study area is described.

3.1 EXISTING CONDITIONS

Existing traffic conditions in the study area were identified based on observed traffic counts. Current average daily traffic (ADT) counts for midblock arterial roadway segments and AM and PM peak hour turn movement counts at intersection locations in the study area were collected in 2014. The existing circulation system in the study area as of 2014 is illustrated in **Figure 3-1**. It includes the completion of the Tustin Ranch Road connection between Walnut Avenue and Warner Avenue, but it does not include the recently completed Warner Avenue extension between Red Hill Avenue and Tustin Ranch Road and the Armstrong Avenue extension between Valencia Avenue and Warner Avenue.

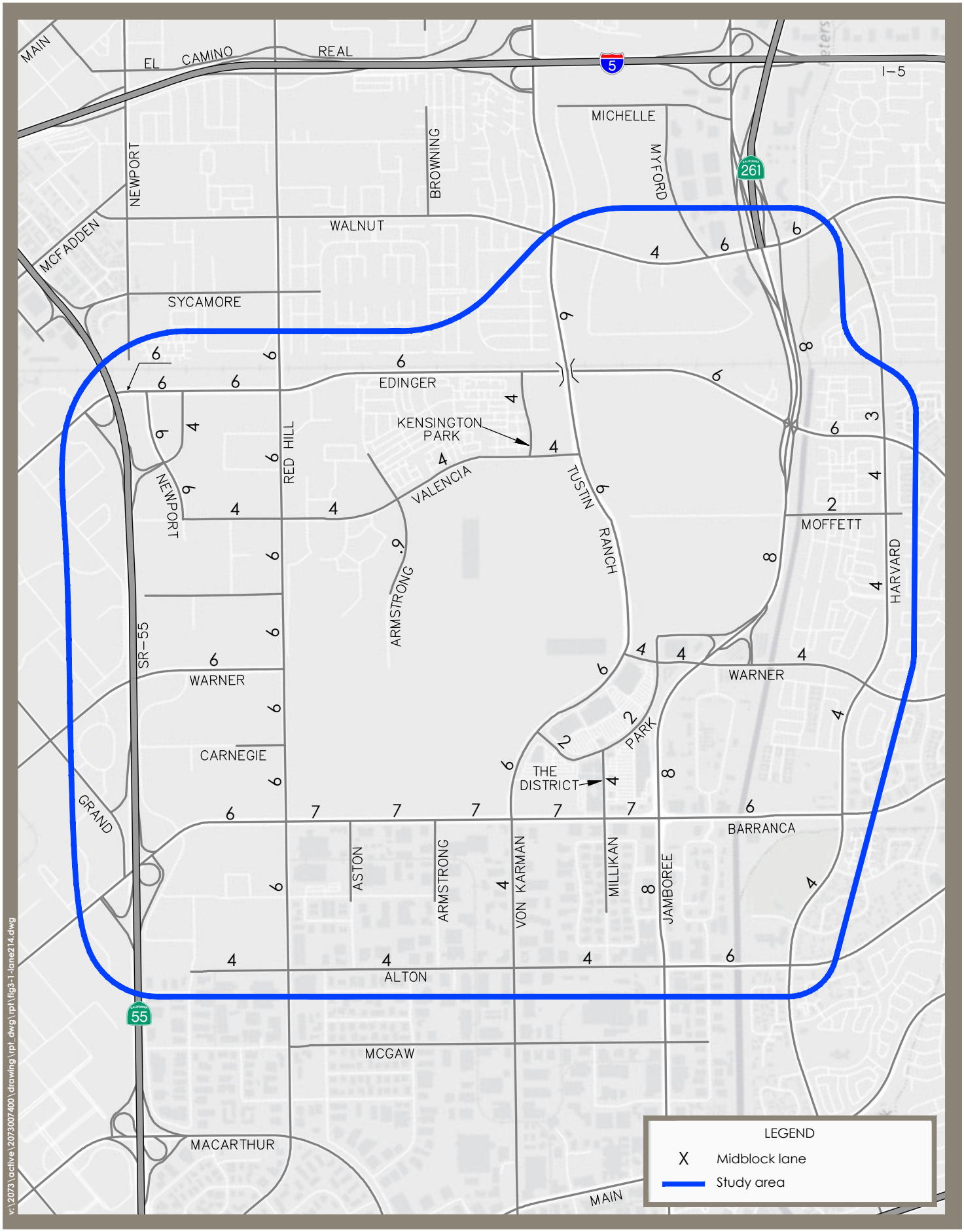
3.1.1 Existing Traffic Volumes and Levels of Service

The average daily traffic (ADT) volumes on the arterial roadway system in the study area are illustrated in **Figure 3-2**. **Figure 3-3** illustrates the intersection locations that were analyzed under existing conditions. Existing intersection capacity utilization (ICU) values were calculated, and existing AM and PM peak hour ICU values are summarized in **Table 3-1**. The detailed ICU calculation worksheets are provided in **Appendix B**, and printouts of the traffic count data sheets are provided in **Appendix C**.

Use of the ICU methodology is consistent with the traffic analysis guidelines of the governing jurisdiction in the study area and the Orange County Transportation Authority (OCTA) Congestion Management Program (CMP), and by practice the ICU methodology assumes that intersections are signalized. Based on the intersection LOS performance criteria outlined in Chapter 1.0, each of the intersection locations analyzed in the study area currently operates at an acceptable LOS with a level of service (LOS) "E" or better (ICU is 1.00 or below) for Congestion Management Program (CMP) locations in the City of Tustin and Irvine Business Complex intersections, and LOS "D" or better (ICU is 0.90 or below) for the remaining intersections in the study area.

3.2 PLANNED CIRCULATION SYSTEM

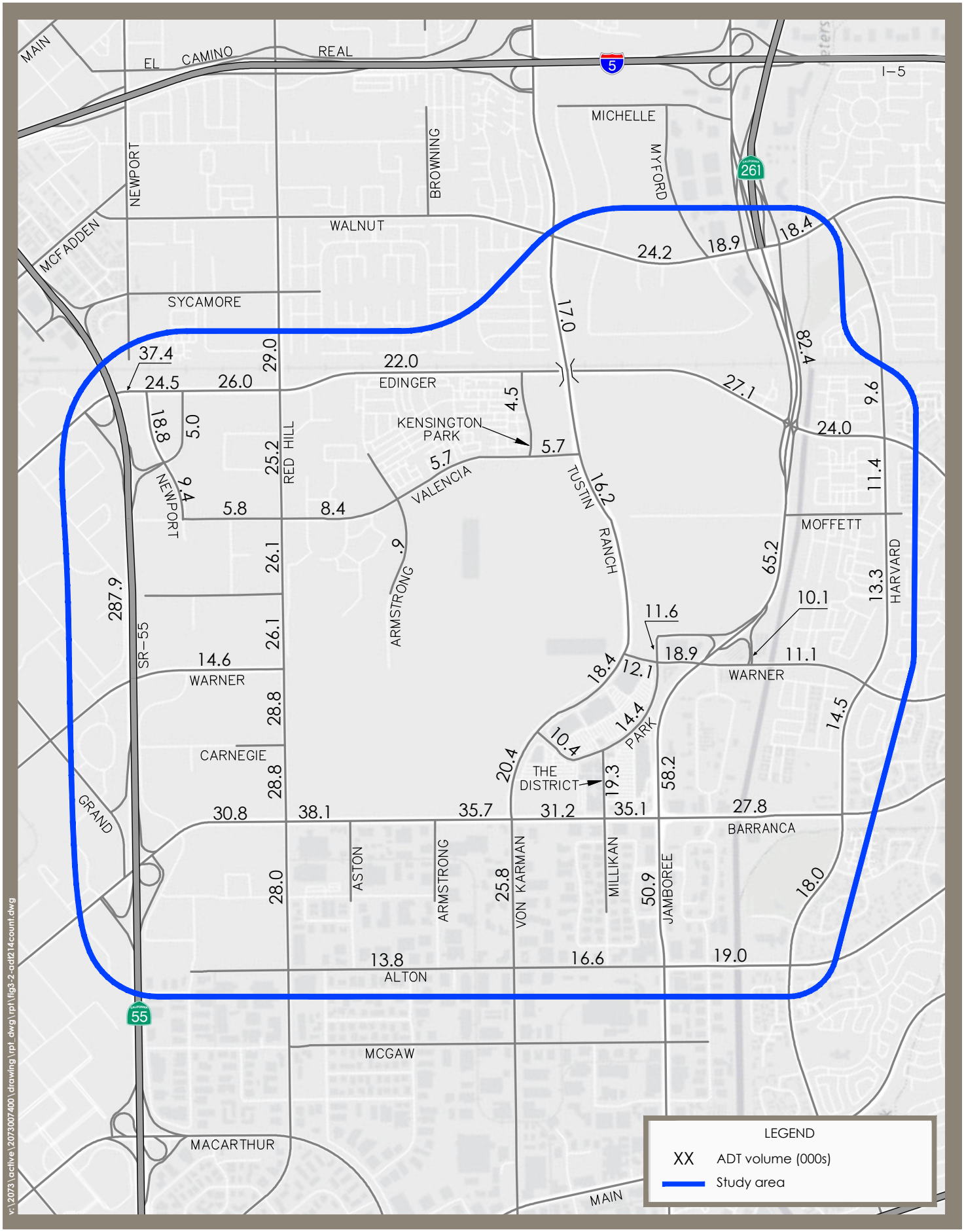
The circulation system that is planned in the traffic analysis study area under 2035 conditions is illustrated in **Figure 3-4**. The 2035 circulation system assumes buildout of the internal project roadways on the Specific Plan site. In addition to the recently completed Warner Avenue and Armstrong Avenue extensions, Bell Avenue is proposed to be extended to Armstrong Avenue, and Moffett Drive is proposed to be extended to Tustin Ranch Road. Red Hill Avenue



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Figure 3-1

Existing (2014) Circulation System

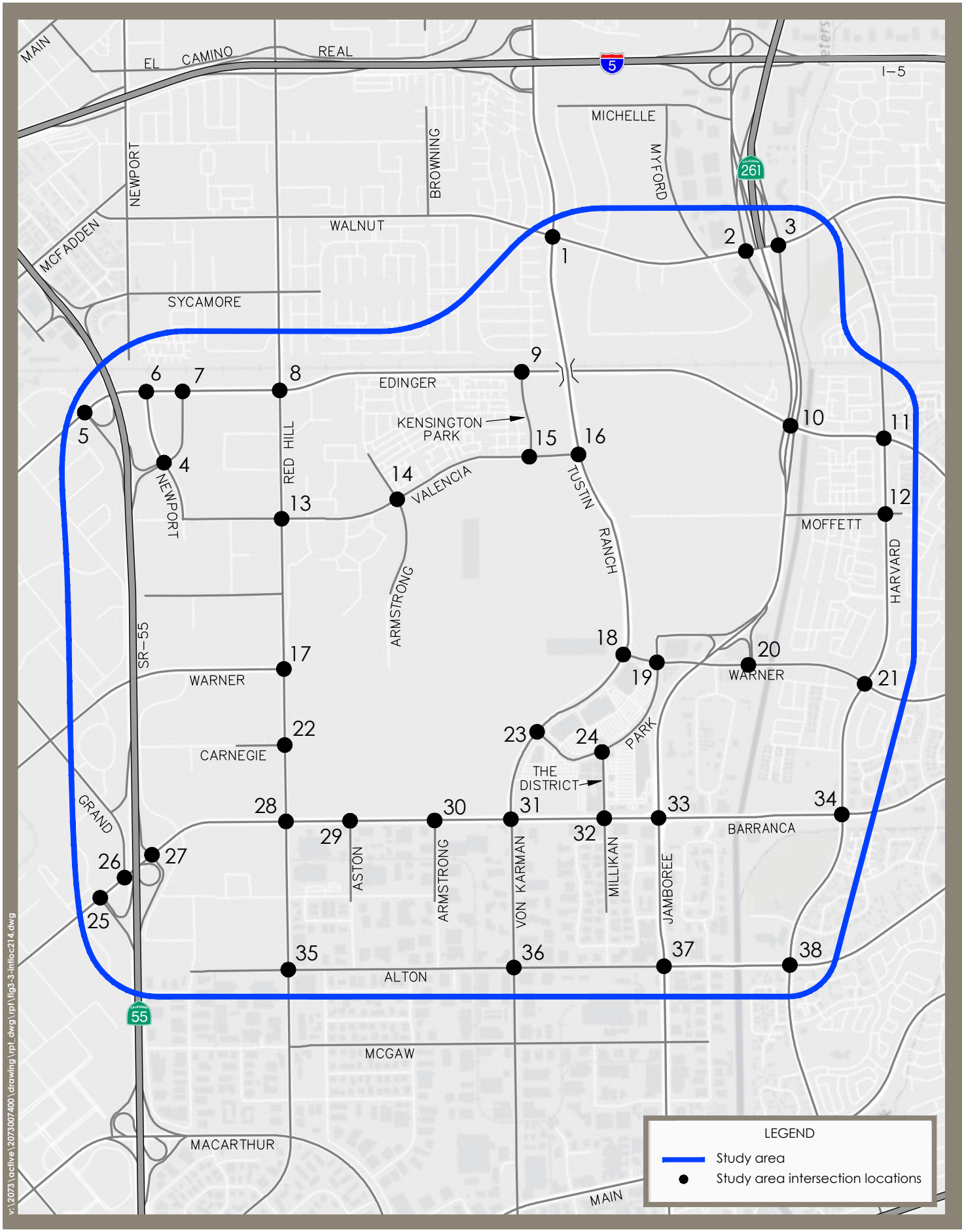


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Figure 3-2

Existing (2014) ADT Volumes (000s)



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Figure 3-3

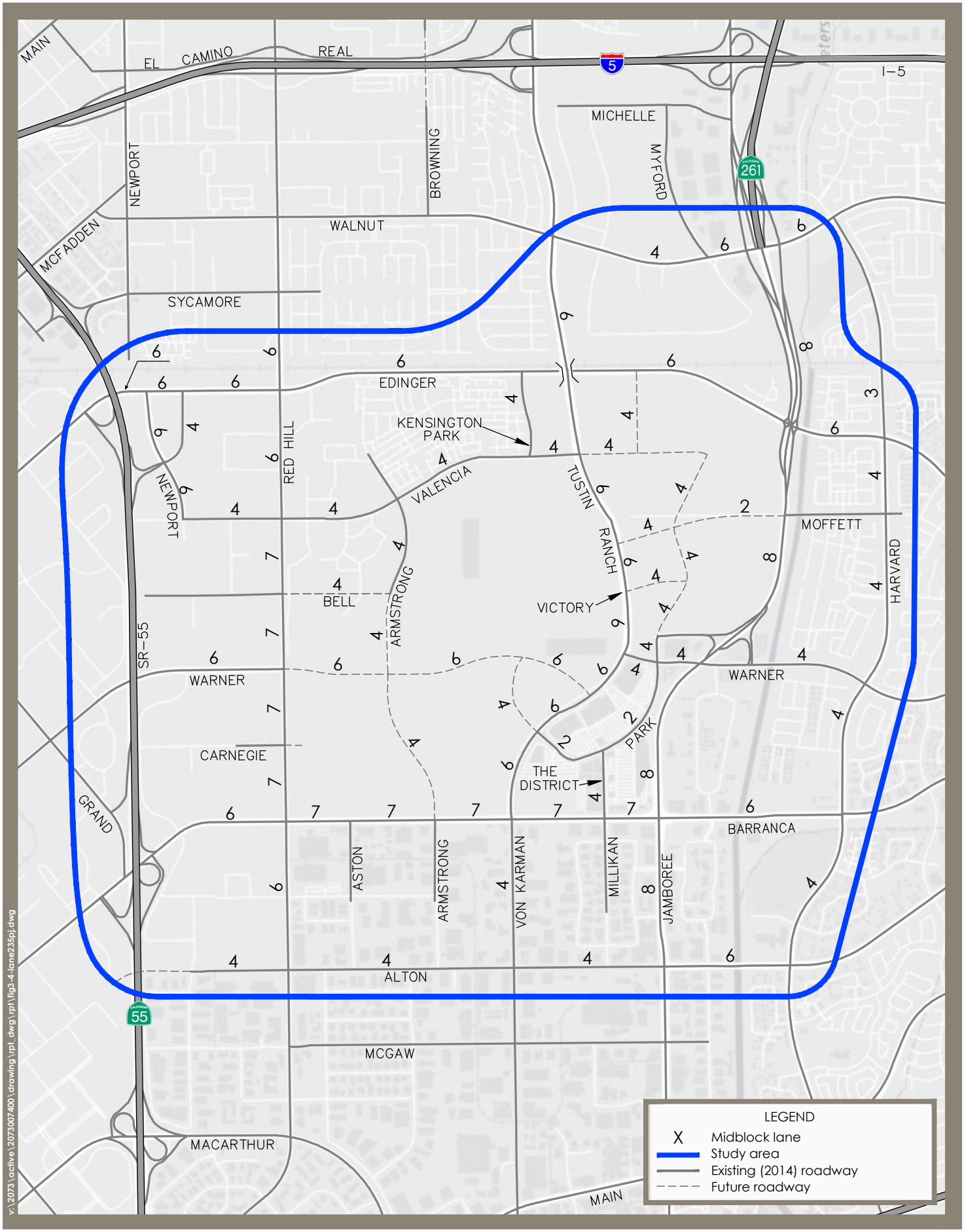
Existing (2014) Intersection Location Map

Table 3-1 Existing Intersection LOS Summary (ICU Methodology)

Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS
1. Tustin Ranch Rd. at Walnut Av.	Tustin	0.48	A	0.71	C
2. Jamboree Rd. SB at Walnut Av.	Irvine	0.43	A	0.45	A
3. Jamboree Rd. NB at Walnut Av.	Irvine	0.34	A	0.52	A
4. Newport Av. at SR-55 NB Ramps (a)	Tustin	0.47	A	0.62	B
5. SR-55 SB Ramps at Edinger Av. (a)	Santa Ana	0.53	A	0.55	A
6. Newport Av. at Edinger Av.	Tustin	0.63	B	0.42	A
7. Del Amo Av. at Edinger Av.	Tustin	0.31	A	0.35	A
8. Red Hill Av. at Edinger Av	Tustin	0.55	A	0.74	C
9 .Kensington Park Dr. at Edinger Av.	Tustin	0.28	A	0.33	A
10. Jamboree Rd. at Edinger Av. (a)	Tustin	0.51	A	0.57	A
11. Harvard Av. at Edinger Av.	Irvine	0.30	A	0.51	A
12. Harvard Av. at Moffett Dr.	Irvine	0.19	A	0.33	A
13. Red Hill Av. at Valencia Av.	Tustin	0.47	A	0.69	B
14. Armstrong Av. at Valencia Av.	Tustin	0.25	A	0.22	A
15. Kensington Park Dr. at Valencia Av.	Tustin	0.18	A	0.20	A
16.Tustin Ranch Rd. at Valencia Av.	Tustin	0.31	A	0.42	A
17. Red Hill Av. at Warner Av.	Tustin	0.55	A	0.59	A
18. Tustin Ranch Rd. at Warner Av. N	Tustin	0.35	A	0.41	A
19. Park Av. at Warner Av.	Tustin	0.35	A	0.51	A
20. Jamboree Rd. NB at Warner Av. (a)	Irvine	0.24	A	0.54	A
21. Harvard Av. at Warner Av.	Irvine	0.37	A	0.49	A
22. Red Hill Av. at Carnegie Av.	Tustin	0.39	A	0.60	A
23. Tustin Ranch Rd. at Legacy Rd.	Tustin	0.38	A	0.52	A
24. District Dr. at Park Av.	Tustin	0.15	A	0.32	A
25. Hotel Terrace Dr./SR-55 SB at Dyer Rd.	Santa Ana	0.52	A	0.69	B
26. Grand Av. at Dyer Rd.	Santa Ana	0.55	A	0.63	B
27. SR-55 NB Ramps at Dyer Rd.	Santa Ana	0.58	A	0.39	A
28. Red Hill Av. at Dyer Rd./Barranca Pkwy. (a)	Irvine	0.51	A	0.68	B
29. Aston St. at Barranca Pkwy. (a)	Irvine/Tustin	0.39	A	0.42	A
30. Armstrong Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.32	A	0.64	B
31. Tustin Ranch Rd./Von Karman Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.67	B	0.75	C
32. Millikan Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.36	A	0.55	A
33. Jamboree Rd. at Barranca Pkwy. (a)	Irvine/Tustin	0.75	C	0.92	E
34. Harvard Av. at Barranca Pkwy.	Irvine	0.44	A	0.56	A
35. Red Hill Av. at Alton Pkwy. (a)	Irvine	0.46	A	0.78	C
36. Von Karman Av. at Alton Pkwy. (a)	Irvine	0.80	C	0.86	D
37. Jamboree Rd. at Alton Pkwy. (a)	Irvine	0.66	B	0.82	D
38. Harvard Av. at Alton Pkwy.	Irvine	0.58	A	0.67	B

Abbreviations: ICU – intersection capacity utilization
LOS – level of service
NB – northbound
SB – southbound

(a) LOS E is acceptable at this location (Congestion Management Program (CMP) locations in the City of Tustin and Irvine Business Complex (IBC) intersections.



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Figure 3-4

2035 Circulation System

northbound is proposed to be widened from three lanes to four lanes between Edinger Avenue and Dyer Road/Barranca Parkway as part of the proposed Specific Plan as well.

Access into the project area is provided via entries along Barranca Parkway, Edinger Avenue, Jamboree Road, Red Hill Avenue, Armstrong Avenue, Tustin Ranch Road, Valencia Avenue, Warner Avenue, Bell Avenue, Harvard Avenue, and Moffett Drive. Access points proposed along the perimeter public streets would be coordinated with access to adjacent land uses. Internal circulation within each Planning Area would consist of smaller access roads or private streets serving development.

4.0 EXISTING-PLUS-PROJECT IMPACT ANALYSIS

This chapter analyzes the impacts of the proposed Specific Plan Amendment for Tustin Legacy Specific Plan area on existing traffic conditions in the traffic analysis study area. This scenario analyzes potential impacts to the existing circulation system due to full development of the land use plan revisions proposed for the currently vacant portions of the Specific Plan project site.

In general, an existing-plus-project traffic analysis is regarded as a hypothetical scenario when used in connection with a development plan that is not an immediate-term construction project. The analysis is hypothetical and, ultimately, misleading because it incorrectly assumes that a proposed project would be fully built out immediately and the corresponding full buildout traffic volumes due to the project would be added to existing roadway volumes and infrastructure. This assumption is incorrect because a long-range development project is constructed incrementally and full buildout is not realized until a future projected date.

An existing-plus-project analysis also presumes that the existing environment (existing traffic volumes, existing roadway infrastructure, and existing land uses) will not change over the long-term buildout of a proposed project. As a result, future increases in traffic volumes attributable to other development projects that are planned with or without the proposed project (i.e., cumulative traffic volumes) are not accounted for in this analysis. This analysis can therefore result in understating project impacts because capacity that otherwise would be utilized by future development that precedes a proposed project is now available to that project. Conversely, this analysis can potentially overstate the project's impacts because it does not account for future roadway improvements from established programs that would increase the capacity of the roadway network. Furthermore, because the analysis does not account for future development and related changing land uses, it does not account for the corresponding change in trip distribution patterns that accompany changing land uses. For these reasons, the existing-plus-project analysis provided here for the proposed Specific Plan Amendment is included for disclosure, information, and comparison purposes only.

4.1 EXISTING-PLUS-PROJECT TRAFFIC IMPACTS

An existing conditions plus project analysis is purely hypothetical due to the fact that it assumes development of the project would occur instantaneously, and is not a realistic portrayal of traffic impacts caused by the land use plan proposed for the Specific Plan project site. Nonetheless, traffic forecasts were prepared for a scenario in which traffic generated by the proposed project is added to the existing present-day traffic conditions that were summarized in Chapter 3.0. The Irvine Transportation Analysis Model, Version 12.4 (ITAM 12.4) was used to distribute the traffic associated with full development of the proposed Specific Plan land use plan onto the existing circulation system. The following sub-section summarizes the resulting existing-plus-project traffic conditions on the arterial roads and intersections of the study area circulation system.

4.1.1 Existing-Plus-Project Traffic Volumes and Levels of Service

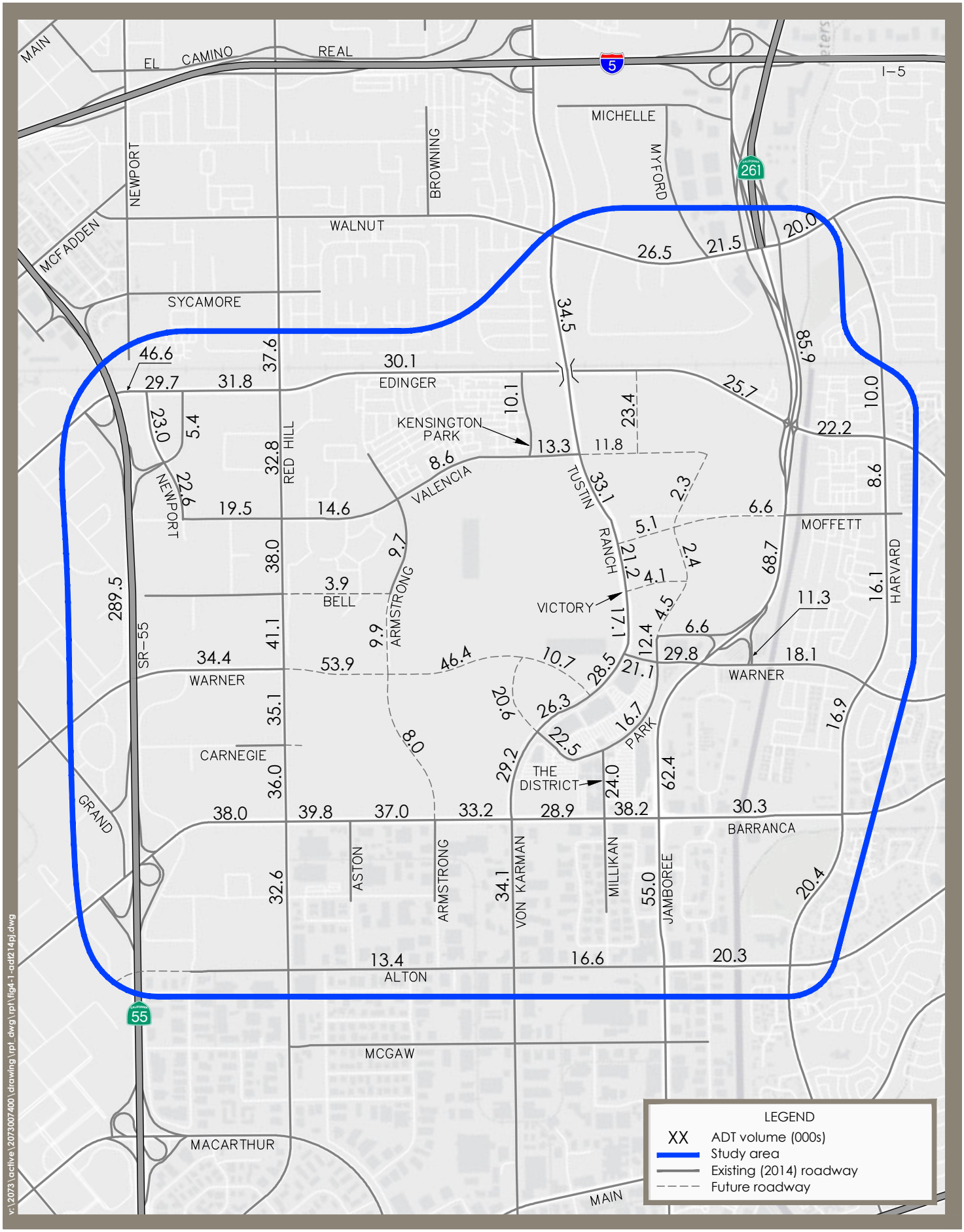
Existing-plus-project average daily traffic (ADT) volumes are illustrated in **Figure 4-1. Figure 4-2** illustrates the intersection locations that were analyzed for the existing-plus-project conditions, and AM and PM peak hour intersection capacity utilization (ICU) values are summarized in **Table 4-1** together with the comparative peak hour ICUs for existing (no-project) conditions presented in Chapter 3.0 (actual turn volumes and ICU calculation worksheets are included in **Appendix B**). Based on the peak hour intersection performance criteria discussed in Chapter 1.0, the following intersections are forecast to be significantly impacted by the proposed project under existing-plus-project conditions:

- 8. Red Hill Avenue & Edinger Avenue
- 13. Red Hill Avenue & Valencia Avenue
- 17. Red Hill Avenue & Warner Avenue

4.1.2 Existing-Plus-Project Mitigation

Roadway improvements are identified, for information purposes, to mitigate the project impacts identified in the previous section. **Table 4-2** lists the improvements to address the impacts identified under this scenario. If implemented, the identified improvements would fully mitigate the project's significant impacts under this scenario, as shown in **Table 4-3**. However, as previously explained, the results of this scenario are misleading and, therefore, significant impacts and recommended mitigation are assessed under the 2035 with-project scenario.

Notwithstanding the above, it should be noted that the improvements identified will be implemented by the project under the 2035 with-project scenario.

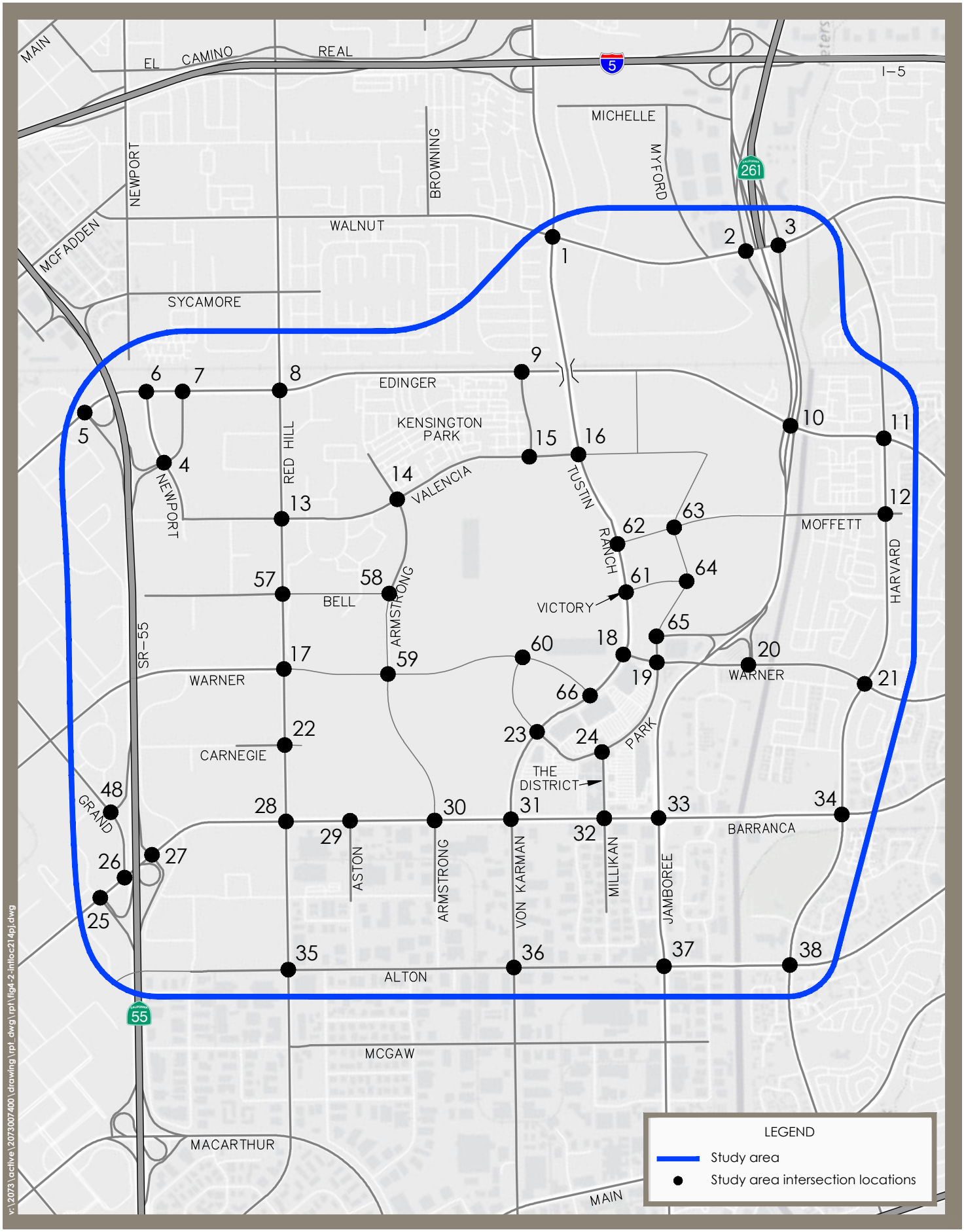


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Figure 4-1

Existing-Plus-Project ADT Volumes (000s)



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Figure 4-2

Existing-Plus-Project Intersection Location Map

Table 4-1 Existing-Plus-Project Intersection LOS Summary (ICU Methodology)

Intersection	Jurisdiction	Existing				Existing-Plus-Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Tustin Ranch Rd. at Walnut Av.	Tustin	0.48	A	0.71	C	0.62	B	0.78	C
2. Jamboree Rd. SB at Walnut Av.	Irvine	0.43	A	0.45	A	0.52	A	0.57	A
3. Jamboree Rd. NB at Walnut Av.	Irvine	0.34	A	0.52	A	0.36	A	0.58	A
4. Newport Av. at SR-55 NB Ramps (a)	Tustin	0.47	A	0.62	B	0.52	A	0.69	B
5. SR-55 SB Ramps at Edinger Av. (a)	Santa Ana	0.53	A	0.55	A	0.61	B	0.59	A
6. Newport Av. at Edinger Av.	Tustin	0.63	B	0.42	A	0.86	D	0.56	A
7. Del Amo Av. at Edinger Av.	Tustin	0.31	A	0.35	A	0.34	A	0.37	A
8. Red Hill Av. at Edinger Av	Tustin	0.55	A	0.74	C	0.63	B	0.91	E
9 .Kensington Park Dr. at Edinger Av.	Tustin	0.28	A	0.33	A	0.32	A	0.43	A
10. Jamboree Rd. at Edinger Av. (a)	Tustin	0.51	A	0.57	A	0.53	A	0.58	A
11. Harvard Av. at Edinger Av.	Irvine	0.30	A	0.51	A	0.28	A	0.52	A
12. Harvard Av. at Moffett Dr.	Irvine	0.19	A	0.33	A	0.39	A	0.50	A
13. Red Hill Av. at Valencia Av.	Tustin	0.47	A	0.69	B	0.84	D	0.92	E
14. Armstrong Av. at Valencia Av.	Tustin	0.25	A	0.22	A	0.68	B	0.54	A
15. Kensington Park Dr. at Valencia Av.	Tustin	0.18	A	0.20	A	0.29	A	0.41	A
16.Tustin Ranch Rd. at Valencia Av.	Tustin	0.31	A	0.42	A	0.52	A	0.65	B
17. Red Hill Av. at Warner Av.	Tustin	0.55	A	0.59	A	0.79	C	1.16	F
18. Tustin Ranch Rd. at Warner Av. N	Tustin	0.35	A	0.41	A	0.44	A	0.54	A
19. Park Av. at Warner Av.	Tustin	0.35	A	0.51	A	0.48	A	0.68	B
20. Jamboree Rd. NB at Warner Av. (a)	Irvine	0.24	A	0.54	A	0.40	A	0.72	C
21. Harvard Av. at Warner Av.	Irvine	0.37	A	0.49	A	0.51	A	0.63	B
22. Red Hill Av. at Carnegie Av.	Tustin	0.39	A	0.60	A	0.37	A	0.66	B
23. Tustin Ranch Rd. at Legacy Rd.	Tustin	0.38	A	0.52	A	0.59	A	0.76	C
24. District Dr. at Park Av.	Tustin	0.15	A	0.32	A	0.68	B	0.90	D
25. Hotel Terrace Dr./SR-55 SB at Dyer Rd.	Santa Ana	0.52	A	0.69	B	0.56	A	0.71	C
26. Grand Av. at Dyer Rd.	Santa Ana	0.55	A	0.63	B	0.59	A	0.67	B
27. SR-55 NB Ramps at Dyer Rd.	Santa Ana	0.58	A	0.39	A	0.66	B	0.41	A
28. Red Hill Av. at Dyer Rd./Barranca Pkwy. (a)	Irvine	0.51	A	0.68	B	0.53	A	0.71	C
29. Aston St. at Barranca Pkwy. (a)	Irvine/Tustin	0.39	A	0.42	A	0.48	A	0.62	B
30. Armstrong Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.32	A	0.64	B	0.47	A	0.69	B

Table 4-1 Existing-Plus-Project Intersection LOS Summary (ICU Methodology) (continued)

Intersection	Jurisdiction	Existing				Existing-Plus-Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
31. Tustin Ranch Rd./Von Karman Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.67	B	0.75	C	0.67	B	0.82	D
32. Millikan Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.36	A	0.55	A	0.41	A	0.63	B
33. Jamboree Rd. at Barranca Pkwy. (a)	Irvine/Tustin	0.75	C	0.92	E	0.79	C	0.99	E
34. Harvard Av. at Barranca Pkwy.	Irvine	0.44	A	0.56	A	0.52	A	0.61	B
35. Red Hill Av. at Alton Pkwy. (a)	Irvine	0.46	A	0.78	C	0.48	A	0.80	C
36. Von Karman Av. at Alton Pkwy. (a)	Irvine	0.80	C	0.86	D	0.79	C	0.89	D
37. Jamboree Rd. at Alton Pkwy. (a)	Irvine	0.66	B	0.82	D	0.68	B	0.85	D
38. Harvard Av. at Alton Pkwy.	Irvine	0.58	A	0.67	B	0.66	B	0.68	B
57. Red Hill Av. at Bell Av.	Tustin	--	--	--	--	0.65	B	0.64	B
58. Armstrong Av. at Bell Av.	Tustin	--	--	--	--	0.26	A	0.30	A
59. Armstrong Av. at Warner Av.	Tustin	--	--	--	--	0.47	A	0.60	A
60. Legacy Rd. at Warner Av.	Tustin	--	--	--	--	0.25	A	0.26	A
61. Tustin Ranch Rd. at Victory Rd.	Tustin	--	--	--	--	0.60	A	0.65	B
62. Tustin Ranch Rd. at Moffet Dr.	Tustin	--	--	--	--	0.71	C	0.61	B
63. Park Av. at Moffett Dr.	Tustin	--	--	--	--	0.29	A	0.28	A
64. Park Av. at Victory Rd.	Tustin	--	--	--	--	0.19	A	0.20	A
65. Park Av. at Jamboree Rd. S	Tustin	--	--	--	--	0.22	A	0.22	A
66. Tustin Ranch Rd. at Warner Av. S	Tustin	--	--	--	--	0.44	A	0.34	A

Abbreviations: ICU – intersection capacity utilization
LOS – level of service
NB – northbound
SB – southbound

(a) LOS E is acceptable at this location (Congestion Management Program (CMP) locations in the City of Tustin and Irvine Business Complex (IBC) intersections.

Denotes a peak hour deficiency.

Table 4-2 Existing-Plus-Project Improvements

Location	Improvements
8. Red Hill Avenue & Edinger Avenue	Intersection signal modification to allow westbound right-turn overlap.
13. Red Hill Avenue & Valencia Avenue	Intersection modifications to add a fourth northbound through lane and add a new northbound right-turn lane.
17. Red Hill Avenue & Warner Avenue	Intersection modifications to add a fourth northbound through lane, add a new northbound right-turn lane, and add a second eastbound left-turn lane

Table 4-3 ICU Summary – Existing-Plus-Project Conditions with Project Improvements

	Existing				Existing–Plus-Project				Existing–Plus-Project with Improvements			
	AM		PM		AM		PM		AM		PM	
Location	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
8. Red Hill at Edinger	0.55	A	0.74	C	0.63	B	0.91	E	0.63	B	0.90	D
13. Red Hill at Valencia	0.47	A	0.69	B	0.84	D	0.92	E	0.84	D	0.76	C
17. Red Hill at Warner	0.55	A	0.59	A	0.79	C	1.16	F	0.73	C	0.89	D

5.0 YEAR 2035 IMPACT ANALYSIS

This chapter analyzes the impacts of the proposed Tustin Legacy Specific Plan Amendment on 2035 cumulative traffic conditions in the traffic analysis study area. The potential traffic impacts of the project are assessed based on a comparison of 2035 no-project and with-project conditions. As mentioned earlier in Chapter 1.0, under 2035 no-project conditions, the Tustin Legacy project site is assumed to be developed in accordance with the previously approved EIR ("2001 FEIS/EIR"), and its subsequent Supplemental EIR ("2004 SEIR") and Addendums ("2006 and 2013 Addendums"). Under 2035 with-project conditions, the Tustin Legacy project site is assumed to be developed with the proposed land uses summarized in Section 2.2 of this report.

5.1 YEAR 2035 TRAFFIC IMPACTS

As discussed in Chapter 1.0, the ITAM 12.4 model was used to prepare the 2035 traffic forecasts that are applied in this analysis. The following sub-sections summarize the resulting 2035 no-project and with-project traffic conditions for the various components of the study area circulation system including arterial roads, intersections, freeway ramps and freeway mainline segments.

5.1.1 Average Daily Traffic Volumes

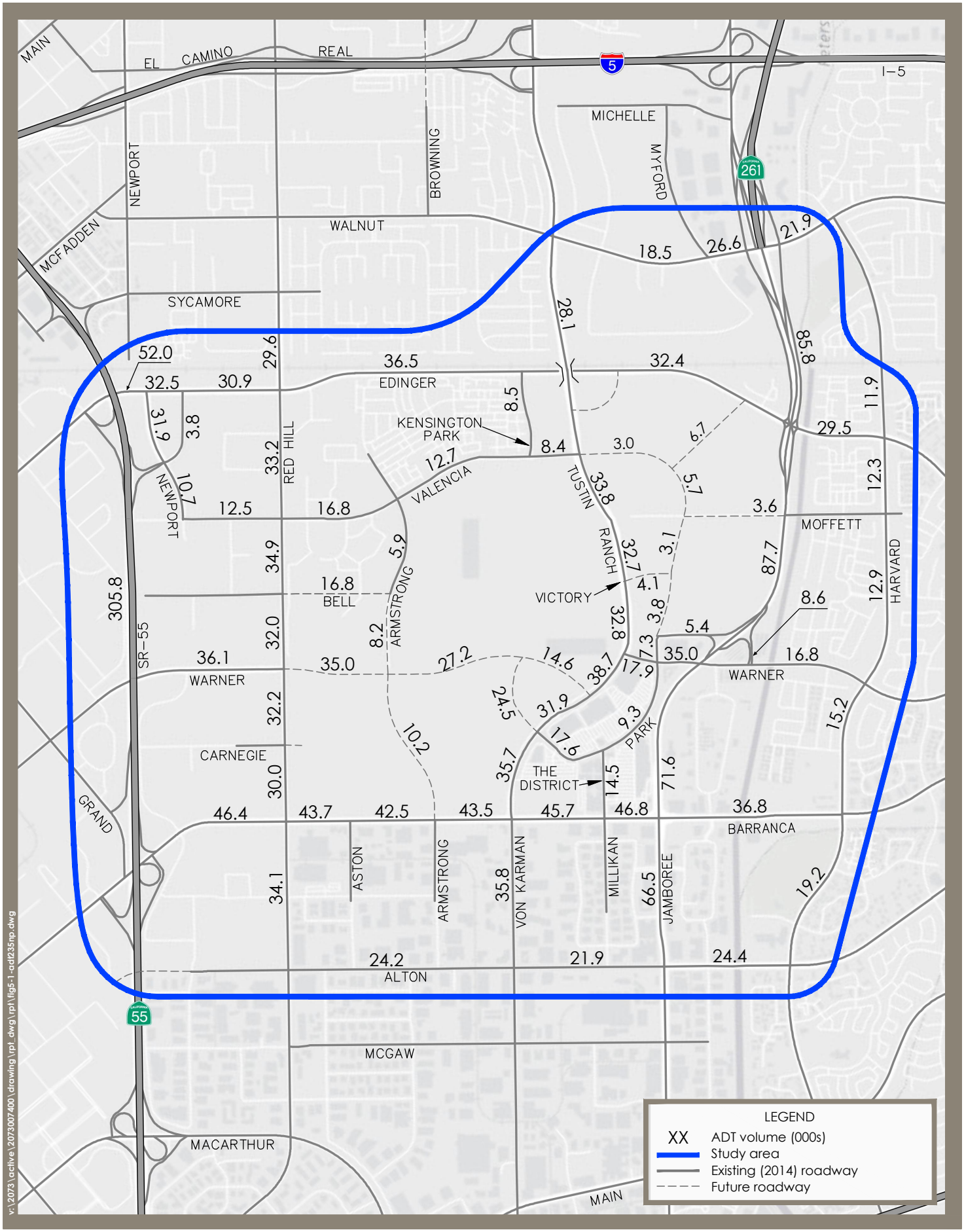
Year 2035 no-project and with-project average daily traffic (ADT) volumes are illustrated in **Figure 5-1** and **Figure 5-2**, respectively.

5.1.2 Peak Hour Intersection Levels of Service

Figure 5-3 illustrates the intersection locations that were analyzed based on year 2035 conditions. No-project and with-project AM and PM peak hour intersection capacity utilization (ICU) values are summarized in **Table 5-1**. Actual turn volumes and ICU calculation worksheets are included in **Appendix B**. Based on the peak hour intersection performance criteria discussed in Chapter 1.0, the following intersections are forecast to operate deficiently under both 2035 no-project and with-project conditions:

- 20. Jamboree Road Northbound at Warner Avenue
- 36. Von Karman Avenue at Alton Parkway

As shown in **Table 5-1**, the proposed project would reduce the ICU and improves conditions at these two intersections. Based on the peak hour intersection ICU impact thresholds discussed in Chapter 1.0, neither of these two intersections is forecast to be significantly impacted by the proposed project. Furthermore, the proposed project would eliminate the PM peak hour deficiencies at the intersections of Tustin Ranch Road & Warner Avenue North and Tustin Ranch Road & Legacy Road/Park Avenue, where it would reduce the LOS from E to C, and F to D, respectively.

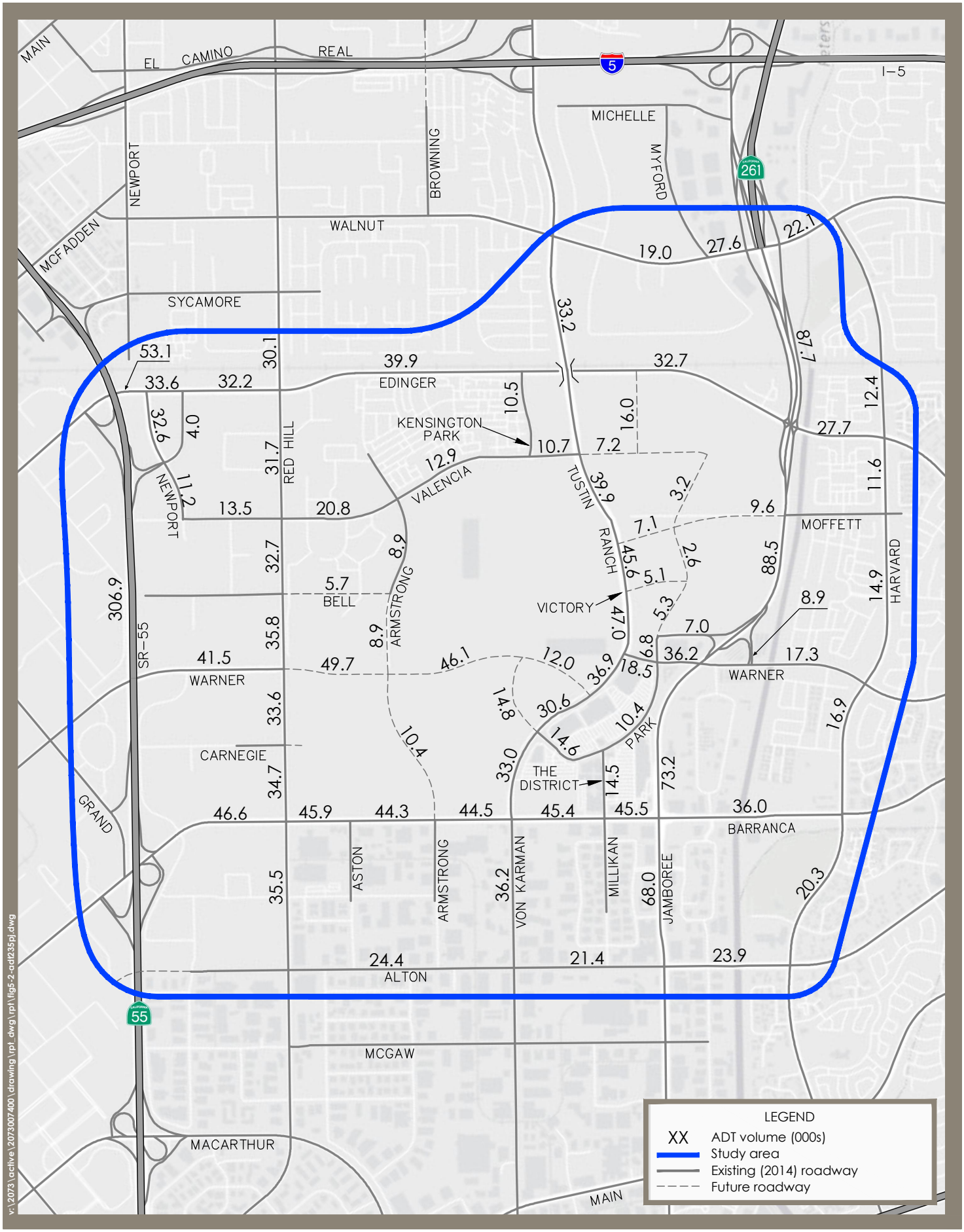


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Figure 5-1

2035 No-Project ADT Volumes (000s)

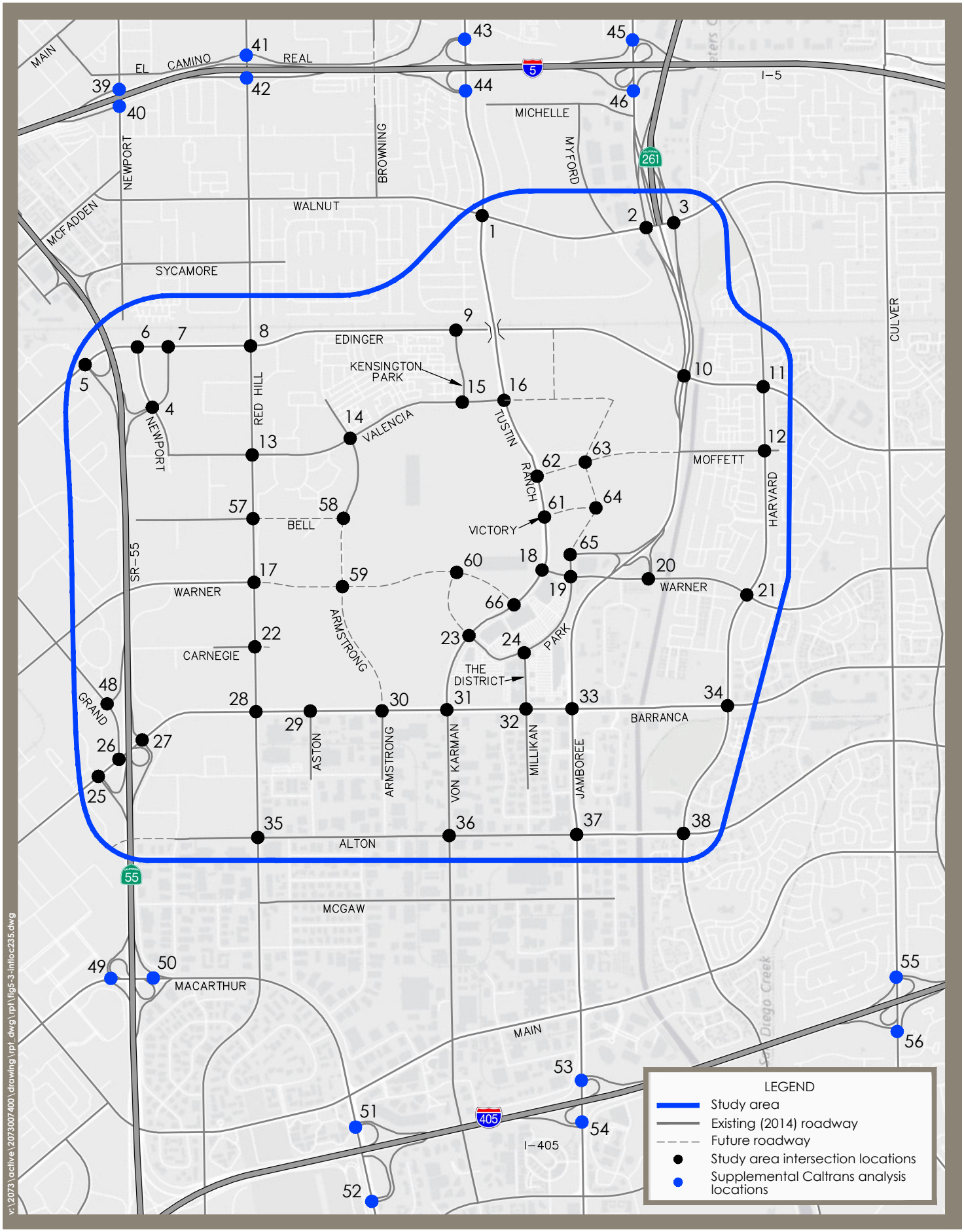


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Figure 5-2

2035 With-Project ADT Volumes (000s)



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Figure 5-3

2035 Intersection Location Map

Table 5-1 2035 Intersection LOS Summary (ICU Methodology)

Intersection	Jurisdiction	No-Project				With-Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
1. Tustin Ranch Rd. at Walnut Av.	Tustin	0.56	A	0.82	D	0.57	A	0.83	D
2. Jamboree Rd. SB at Walnut Av.	Irvine	0.61	B	0.61	B	0.62	B	0.67	B
3. Jamboree Rd. NB at Walnut Av.	Irvine	0.45	A	0.66	B	0.50	A	0.62	B
4. Newport Av. at SR-55 NB Ramps (a)	Tustin	0.46	A	0.85	D	0.48	A	0.83	D
5. SR-55 SB Ramps at Edinger Av. (a)	Santa Ana	0.76	C	0.71	C	0.77	C	0.73	C
6. Newport Av. at Edinger Av.	Tustin	0.86	D	0.74	C	0.87	D	0.75	C
7. Del Amo Av. at Edinger Av.	Tustin	0.48	A	0.45	A	0.45	A	0.47	A
8. Red Hill Av. at Edinger Av	Tustin	0.76	C	0.78	C	0.74	C	0.79	C
9 .Kensington Park Dr. at Edinger Av.	Tustin	0.42	A	0.51	A	0.45	A	0.60	A
10. Jamboree Rd. at Edinger Av. (a)	Tustin	0.44	A	0.66	B	0.43	A	0.64	B
11. Harvard Av. at Edinger Av.	Irvine	0.51	A	0.65	B	0.50	A	0.66	B
12. Harvard Av. at Moffett Dr.	Irvine	0.36	A	0.46	A	0.45	A	0.49	A
13. Red Hill Av. at Valencia Av.	Tustin	0.70	B	0.71	C	0.71	C	0.72	C
14. Armstrong Av. at Valencia Av.	Tustin	0.55	A	0.58	A	0.73	C	0.60	A
15. Kensington Park Dr. at Valencia Av.	Tustin	0.23	A	0.32	A	0.31	A	0.44	A
16.Tustin Ranch Rd. at Valencia Av.	Tustin	0.49	A	0.55	A	0.46	A	0.64	B
17. Red Hill Av. at Warner Av.	Tustin	0.86	D	0.71	C	0.86	D	0.81	D
18. Tustin Ranch Rd. at Warner Av. N	Tustin	0.54	A	0.95	E	0.55	A	0.75	C
19. Park Av. at Warner Av.	Tustin	0.47	A	0.85	D	0.46	A	0.86	D
20. Jamboree Rd. NB at Warner Av. (a)	Irvine	0.55	A	1.06	F	0.54	A	1.05	F
21. Harvard Av. at Warner Av.	Irvine	0.57	A	0.68	B	0.59	A	0.73	C
22. Red Hill Av. at Carnegie Av.	Tustin	0.48	A	0.74	C	0.43	A	0.52	A
23. Tustin Ranch Rd. at Legacy Rd.	Tustin	0.74	C	1.01	F	0.54	A	0.88	D
24. District Dr. at Park Av.	Tustin	0.22	A	0.35	A	0.17	A	0.35	A
25. Hotel Terrace Dr./SR-55 SB at Dyer Rd.	Santa Ana	0.54	A	0.64	B	0.53	A	0.63	B
26. Grand Av. at Dyer Rd.	Santa Ana	0.56	A	0.65	B	0.56	A	0.64	B
27. SR-55 NB Ramps at Dyer Rd.	Santa Ana	0.84	D	0.46	A	0.83	D	0.46	A
28. Red Hill Av. at Dyer Rd./Barranca Pkwy. (a)	Irvine	0.61	B	0.82	D	0.62	B	0.92	E
29. Aston St. at Barranca Pkwy. (a)	Irvine/Tustin	0.58	A	0.69	B	0.62	B	0.69	B
30. Armstrong Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.49	A	0.68	B	0.55	A	0.67	B

Table 5-1 2035 Intersection LOS Summary (ICU Methodology) (continued)

Intersection	Jurisdiction	No-Project				With-Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
31. Tustin Ranch Rd./Von Karman Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.76	C	0.96	E	0.77	C	0.94	E
32. Millikan Av. at Barranca Pkwy. (a)	Irvine/Tustin	0.65	B	0.69	B	0.63	B	0.67	B
33. Jamboree Rd. at Barranca Pkwy. (a)	Irvine/Tustin	0.90	D	0.99	E	0.89	D	0.99	E
34. Harvard Av. at Barranca Pkwy.	Irvine	0.64	B	0.71	C	0.63	B	0.73	C
35. Red Hill Av. at Alton Pkwy. (a)	Irvine	0.78	C	0.87	D	0.79	C	0.89	D
36. Von Karman Av. at Alton Pkwy. (a)	Irvine	0.94	E	1.03	F	0.95	E	1.01	F
37. Jamboree Rd. at Alton Pkwy. (a)	Irvine	0.82	D	0.92	E	0.81	D	0.93	E
38. Harvard Av. at Alton Pkwy.	Irvine	0.70	B	0.73	C	0.69	B	0.74	C
39. Newport Av. at I-5 NB Ramps	Tustin	0.75	C	0.67	B	0.73	C	0.66	B
40. Newport Av. at I-5 SB/Nisson Rd.	Tustin	0.78	C	0.81	D	0.75	C	0.82	D
41. Red Hill Av. at I-5 NB Ramps	Tustin	0.78	C	0.63	B	0.79	C	0.64	B
42. Red Hill Av. at I-5 SB Ramps	Tustin	0.81	D	0.87	D	0.81	D	0.89	D
43. Tustin Ranch Rd. at I-5 NB Ramps	Tustin	0.61	B	0.50	A	0.63	B	0.53	A
44. Tustin Ranch Rd. at I-5 SB Ramps	Tustin	0.72	C	0.51	A	0.74	C	0.51	A
45. Jamboree Rd. at I-5 NB Ramps	Irvine	0.72	C	0.73	C	0.72	C	0.74	C
46. Jamboree Rd. at I-5 SB Ramps	Irvine	0.71	C	0.58	A	0.72	C	0.57	A
47. Jamboree Rd. at Michelle Dr.	Irvine	0.72	C	0.67	B	0.73	C	0.68	B
48. Grand Av. at SR-55 SB Ramps	Santa Ana	0.54	A	0.42	A	0.56	A	0.42	A
49. SR-55 SB Ramps at MacArthur Bl.	Santa Ana	0.63	B	0.60	A	0.63	B	0.60	A
50. SR-55 NB Ramps at MacArthur Bl.	Irvine	0.80	C	0.61	B	0.81	D	0.61	B
51. MacArthur Bl. at I-405 NB Ramps (a)	Irvine	0.75	C	0.69	B	0.75	C	0.70	B
52. MacArthur Bl. at I-405 SB Ramps (a)	Irvine	0.68	B	0.82	D	0.67	B	0.81	D
53. Jamboree Rd. at I-405 NB Ramps (a)	Irvine	0.80	C	0.85	D	0.81	D	0.86	D
54. Jamboree Rd. at I-405 SB Ramps (a)	Irvine	0.99	E	0.81	D	1.00	E	0.82	D
55. Culver Dr. at I-405 NB Ramps	Irvine	0.60	A	0.76	C	0.59	A	0.78	C
56. Culver Dr. at I-405 SB Ramps	Irvine	0.65	B	0.74	C	0.65	B	0.75	C
57. Red Hill Av. at Bell Av.	Tustin	0.43	A	0.76	C	0.46	A	0.64	B
58. Armstrong Av. at Bell Av.	Tustin	0.55	A	0.55	A	0.27	A	0.33	A
59. Armstrong Av. at Warner Av.	Tustin	0.54	A	0.56	A	0.53	A	0.61	B

Table 5-1 2035 Intersection LOS Summary (ICU Methodology) (continued)

Intersection	Jurisdiction	No-Project				With-Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
60. Legacy Rd. at Warner Av.	Tustin	0.32	A	0.39	A	0.31	A	0.30	A
61. Tustin Ranch Rd. at Victory Rd.	Tustin	0.51	A	0.48	A	0.70	B	0.81	D
62. Tustin Ranch Rd. at Moffet Dr.	Tustin	--	--	--	--	0.71	C	0.62	B
63. Park Av. at Moffett Dr.	Tustin	0.16	A	0.21	A	0.35	A	0.33	A
64. Park Av. at Victory Rd.	Tustin	0.21	A	0.21	A	0.25	A	0.22	A
65. Park Av. at Jamboree Rd. S	Tustin	0.20	A	0.16	A	0.19	A	0.21	A
66. Tustin Ranch Rd. at Warner Av. S	Tustin	0.61	B	0.57	A	0.52	A	0.50	A

Abbreviations: ICU – intersection capacity utilization
LOS – level of service
NB – northbound
SB – southbound

(a) LOS E is acceptable at this location (Congestion Management Program (CMP) locations in the City of Tustin and Irvine Business Complex (IBC) intersections.

Denotes a peak hour deficiency.

Year 2035 AM and PM peak hour levels of service are shown in **Table 5-2** for Caltrans freeway ramp intersections based on the HCM signalized intersection LOS methodology (HCM signalized intersection LOS calculation worksheets are included in **Appendix D**). As the summary table indicates, each of the freeway ramp intersections in the study area is forecast to operate at acceptable levels based on the HCM intersection LOS methodologies with the exception of the intersections of Newport Avenue at the SR-55 northbound ramps/Del Amo Avenue, Newport Avenue at the I-5 northbound on-ramp, Newport Avenue at the I-5 southbound off-ramp/Nisson Road and Jamboree Road at the I-405 southbound ramps where 2035 deficiencies are forecast under both no-project and with-project conditions. However, the proposed project would reduce the average vehicle delays at all but one of these intersections, and based on the peak hour freeway ramp intersection HCM delay impact thresholds discussed in Chapter 1.0, none of the deficient freeway ramp intersections are significantly impacted by the proposed project.

5.1.3 Peak Hour Freeway Ramp Levels of Service

Figure 5-4 illustrates the interchange locations where freeway ramps were analyzed under year 2035 conditions. AM and PM peak hour freeway ramp volume/capacity (V/C) ratios for no-project and with-project conditions are summarized in **Table 5-3**. As the summary table indicates, several freeway ramps are forecast to operate deficiently under 2035 with-project conditions. However, based on the peak hour freeway ramp impact thresholds discussed in Chapter 1.0, none of the deficient freeway ramps are significantly impacted by the proposed project.

5.1.4 Peak Hour Freeway Mainline Levels of Service

AM and PM peak hour freeway mainline V/C ratios for no-project and with-project conditions are summarized in **Table 5-4**. As the summary table indicates, several freeway mainline segments are forecast to operate deficiently under 2035 with-project conditions. However, based on the peak hour freeway mainline impact thresholds discussed in Chapter 1.0, none of the deficient freeway mainline segments are significantly impacted by the proposed project.

Table 5-2 2035 Intersection LOS Summary (HCM Methodology)

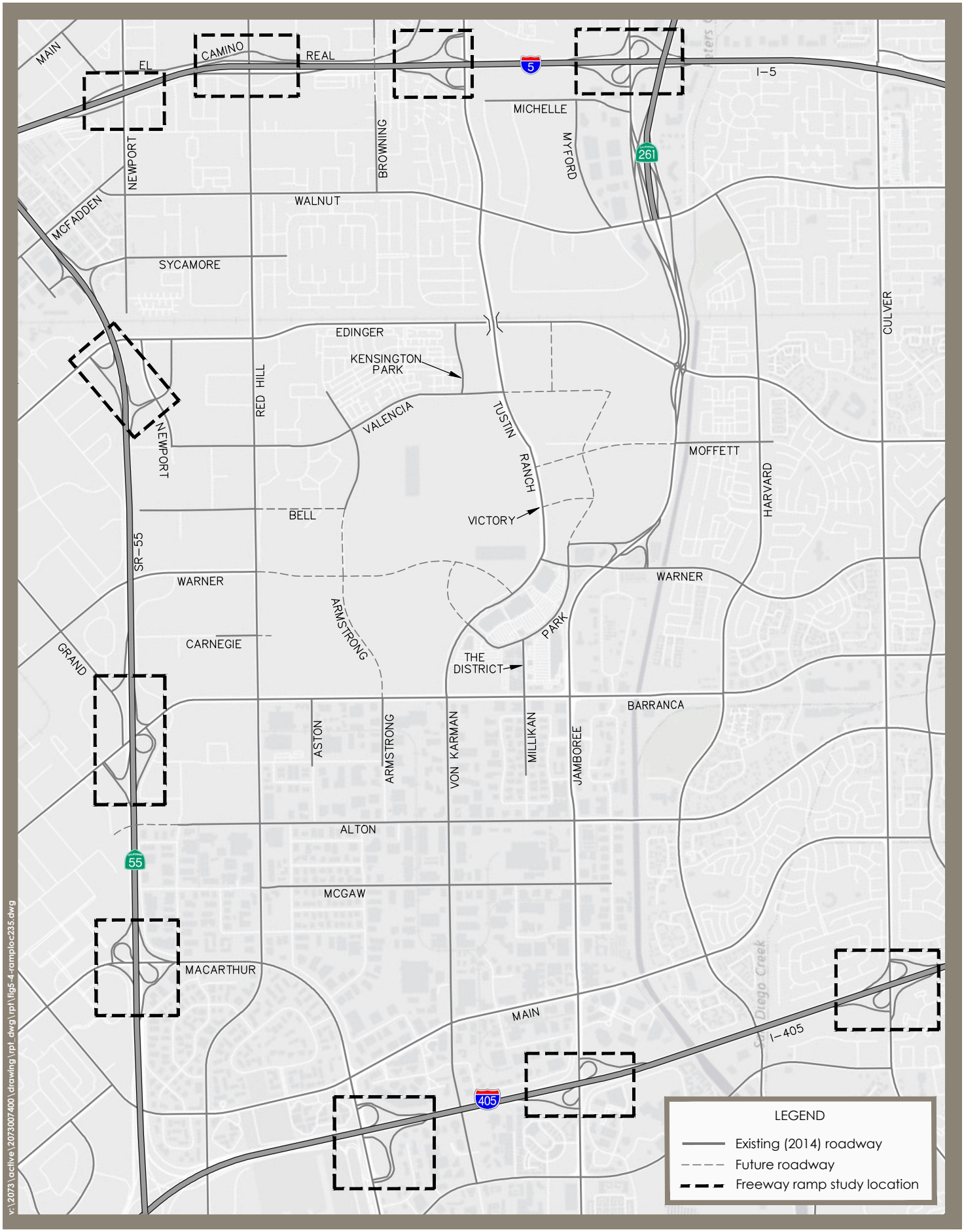
Intersection	No-Project				With-Project			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	Average Delay (seconds)	LOS
4. Newport Ave & SR-55 NB Ramps/Del Amo Ave	20.7	C	63.5	E	21.7	C	56.6	E
5. SR-55 SB Ramps/Auto Mall Drive & Edinger Ave	51.0	D	47.0	D	49.8	D	54.2	D
25. SR-55 SB Ramps/Hotel Terrace & Dyer Road	50.0	D	43.1	D	49.7	D	42.9	D
26. Dyer Road & Grand Avenue	15.9	B	20.3	C	15.8	B	20.3	C
27. SR-55 NB Off-Ramp/SR-55 NB On-Ramp & Dyer Road	31.8	C	11.2	B	29.5	C	11.1	B
39. Newport Ave & I-5 NB On-Ramp (a)	64.5	F	33.7	D	53.8	E	27.7	D
40. Newport Ave & I-5 SB Off-Ramp/Nisson Road	28.3	C	68.3	E	22.0	C	67.5	E
41. Red Hill Av & I-5 NB On-Ramp/I-5 NB Off-Ramp	26.2	C	28.0	C	26.5	C	28.9	C
42. Red Hill Av & I-5 SB Off-Ramp/I-5 SB On-Ramp	24.9	C	27.5	C	25.8	C	28.5	C
43. Tustin Ranch Road & I-5 NB Ramps	15.6	B	18.4	B	15.9	B	18.9	B
44. Tustin Ranch Road & I-5 SB Ramps	26.3	C	14.7	B	27.2	C	14.3	B
45. Jamboree Road & I-5 NB On-Ramp/I-5 NB Off-Ramp	18.7	B	23.6	C	19.0	B	23.5	C
46. Jamboree Road & I-5 SB Off-Ramp/I-5 SB On-Ramp	19.5	B	16.1	B	19.8	B	17.7	B
48. Grand Avenue & SR-55 SB Off-Ramp	10.1	B	7.2	A	10.5	B	7.3	A
49. SR-55 SB On-Ramp/SR-55 SB Off-Ramp & MacArthur Blvd	15.5	B	12.9	B	14.8	B	13.4	B
50. SR-55 NB Off-Ramp/SR-55 NB On-Ramp & MacArthur Blvd	22.1	C	10.9	B	24.0	C	12.9	B
51. MacArthur Blvd & I-405 NB Ramps	26.6	C	22.9	C	33.5	C	23.2	C
52. MacArthur Blvd & I-405 SB Ramps	27.1	C	30.4	C	21.2	C	29.6	C
53. Jamboree Road & I-405 NB Ramps	21.4	C	16.6	B	21.7	C	17.2	B
54. Jamboree Road & I-405 SB Ramps	87.9	F	32.7	C	88.7	F	34.3	C
55. Culver Drive & I-405 NB Ramps	11.6	B	14.8	B	11.5	B	15.7	B
56. Culver Drive & I-405 SB Ramps	12.3	B	21.5	C	12.1	B	22.0	C

Table 5-2 2035 Intersection LOS Summary (HCM Methodology) (continued)

Abbreviations: HCM – Highway Capacity Manual
LOS – level of service
NB – northbound
SB – southbound

(a) Unsignalized intersection

Denotes a peak hour deficiency.



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Figure 5-4

2035 Freeway Ramp Location Map

Table 5-3 2035 Freeway Ramp LOS Summary

Interchange	Ramp	Lanes	Peak Hour Capacity	No-Project						With-Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
I-5 at Newport	NB On	1	1,500	630	.42	A	830	.55	A	630	.42	A	830	.55	A
	SB Off	2	3,000	1,010	.34	A	1,061	.35	A	960	.32	A	1,061	.35	A
I-5 at Red Hill	SB On	1	1,500	1,047	.70	B	968	.65	B	1,062	.71	C	1,018	.68	B
	NB On	1	1,500	1,030	.69	B	811	.54	A	1,031	.69	B	810	.54	A
	SB Off	1	1,500	680	.45	A	711	.47	A	680	.45	A	710	.47	A
	NB Off	1	1,500	838	.56	A	940	.63	B	834	.56	A	950	.63	B
I-5 at Tustin Ranch	SB On	1	1,500	703	.47	A	566	.38	A	708	.47	A	626	.42	A
	NB On	1	1,800	410	.23	A	1,120	.62	B	411	.23	A	1,120	.62	B
	SB Off	2	2,250	1,560	.69	B	1,080	.48	A	1,561	.69	B	1,079	.48	A
	NB Off	1	1,500	531	.35	A	548	.37	A	550	.37	A	611	.41	A
I-5 at Jamboree	SB Direct On	1	1,500	300	.20	A	1,012	.67	B	302	.20	A	1,019	.68	B
	SB Loop On	1	1,080	841	.78	C	516	.48	A	845	.78	C	514	.48	A
	NB Direct On	1	1,080	600	.56	A	480	.44	A	600	.56	A	480	.44	A
	NB Loop On	1	1,080	600	.56	A	560	.52	A	630	.58	A	580	.54	A
	SB Off	2	3,000	1,360	.45	A	1,322	.44	A	1,360	.45	A	1,325	.44	A
	NB Off	1	1,500	1,433	.96	E	1,446	.96	E	1,443	.96	E	1,454	.97	E
I-405 at MacArthur	SB On	1	1,800	580	.32	A	1,130	.63	B	581	.32	A	1,140	.63	B
	NB On	1	1,500	641	.43	A	1,750	1.17	F	650	.43	A	1,743	1.16	F
	SB Off	2	2,250	2,061	.92	E	1,115	.50	A	2,041	.91	E	1,125	.50	A
	NB Off	1	1,500	2,080	1.39	F	931	.62	B	2,084	1.39	F	941	.63	B
I-405 at Jamboree	SB Direct On	1	1,500	701	.47	A	1,300	.87	D	701	.47	A	1,310	.87	D
	SB Loop On	1	1,500	230	.15	A	730	.49	A	230	.15	A	730	.49	A
	NB Direct On	1	1,500	1,180	.79	C	1,000	.67	B	1,191	.79	C	1,000	.67	B
	NB Loop On	1	1,500	640	.43	A	970	.65	B	651	.43	A	960	.64	B
	SB Off	2	2,250	2,990	1.33	F	2,074	.92	E	2,959	1.32	F	2,084	.93	E
	NB Off	2	2,250	2,371	1.05	F	1,214	.54	A	2,381	1.06	F	1,202	.53	A
I-405 at Culver	SB Direct On	1	1,500	330	.22	A	853	.57	A	330	.22	A	855	.57	A
	SB Loop On	1	900	380	.42	A	391	.43	A	380	.42	A	382	.42	A
	NB Direct On	1	1,500	1,060	.71	C	510	.34	A	1,060	.71	C	510	.34	A
	NB Loop On	1	1,500	790	.53	A	350	.23	A	790	.53	A	340	.23	A

Table 5-3 2035 Freeway Ramp LOS Summary (Continued)

Interchange	Ramp	Lanes	Peak Hour Capacity	No-Project						With-Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
I-405 at Culver	SB Off	2	3,000	981	.33	A	1,670	.56	A	961	.32	A	1,670	.56	A
	NB Off	2	2,250	928	.41	A	857	.38	A	907	.40	A	867	.39	A
SR-55 at Edinger	SB On	1	1,500	970	.65	B	797	.53	A	950	.63	B	800	.53	A
	NB On	1	1,500	368	.25	A	1,681	1.12	F	441	.29	A	1,621	1.08	F
	SB Off	1	1,500	903	.60	A	571	.38	A	901	.60	A	571	.38	A
	NB Off	1	1,500	993	.66	B	459	.31	A	976	.65	B	488	.33	A
SR-55 at Dyer/ Barranca	SB On	1	1,500	1,011	.67	B	1,311	.87	D	1,021	.68	B	1,284	.86	D
	NB Direct On	1	1,500	370	.25	A	1,360	.91	E	390	.26	A	1,380	.92	E
	NB Loop On	1	900	550	.61	B	1,020	1.13	F	550	.61	B	1,020	1.13	F
	SB Direct Off	1	1,500	844	.56	A	569	.38	A	821	.55	A	570	.38	A
	SB Loop Off	1	1,500	570	.38	A	298	.20	A	572	.38	A	320	.21	A
	NB Off	1	1,500	1,578	1.05	F	327	.22	A	1,552	1.03	F	347	.23	A
SR-55 at MacArthur	SB Direct On	1	1,500	717	.48	A	950	.63	B	705	.47	A	950	.63	B
	SB Loop On	1	900	143	.16	A	690	.77	C	141	.16	A	700	.78	C
	NB Direct On	1	900	230	.26	A	791	.88	D	230	.26	A	794	.88	D
	NB Loop On	1	1,500	730	.49	A	1,026	.68	B	730	.49	A	1,005	.67	B
	SB Off	2	2,250	2,158	.96	E	1,107	.49	A	2,078	.92	E	1,105	.49	A
	NB Off	2	2,250	1,739	.77	C	1,352	.60	A	1,751	.78	C	1,334	.59	A

Abbreviations: LOS – level of service
V/C – volume/capacity ratio
NB – northbound
SB – southbound

Denotes a peak hour deficiency.

Table 5-4 2035 Freeway Mainline LOS Summary

Location	Direction	Lanes	Peak Hour Capacity	No-Project						With-Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
I-5 n/o Newport	Northbound	5+1H	11,600	15,530	1.34	F	13,840	1.19	F	15,590	1.34	F	13,790	1.19	F
	Southbound	5+1H	11,600	14,160	1.22	F	13,260	1.14	F	14,070	1.21	F	13,260	1.14	F
I-5 n/o Red Hill	Northbound	5+1H	11,600	14,880	1.28	F	13,150	1.13	F	14,930	1.29	F	13,090	1.13	F
	Southbound	5+1H	11,600	14,160	1.22	F	13,260	1.14	F	14,070	1.21	F	13,260	1.14	F
I-5 n/o Tustin Ranch	Northbound	5+1H	11,600	15,620	1.35	F	13,750	1.19	F	15,660	1.35	F	13,720	1.18	F
	Southbound	5+1H	11,600	14,870	1.28	F	14,090	1.21	F	14,840	1.28	F	14,160	1.22	F
I-5 n/o Jamboree	Northbound	5+1H	11,600	15,280	1.32	F	13,350	1.15	F	15,330	1.32	F	13,380	1.15	F
	Southbound	5+1H	11,600	14,210	1.23	F	13,600	1.17	F	14,200	1.22	F	13,730	1.18	F
I-405 n/o MacArthur	Northbound	6+1H	13,600	13,620	1.00	E	13,500	.99	E	13,650	1.00	E	13,490	.99	E
	Southbound	6+1H	13,600	15,190	1.12	F	13,290	.98	E	15,080	1.11	F	13,310	.98	E
I-405 n/o Jamboree	Northbound	6+1H	13,600	14,310	1.05	F	12,660	.93	E	14,340	1.05	F	12,650	.93	E
	Southbound	6+1H	13,600	13,690	1.01	F	13,140	.97	E	13,610	1.00	E	13,160	.97	E
I-405 n/o Culver	Northbound	6+1H	13,600	14,470	1.06	F	11,330	.83	D	14,490	1.07	F	11,320	.83	D
	Southbound	6+1H	13,600	11,410	.84	D	12,770	.94	E	11,360	.84	D	12,800	.94	E
SR-55 n/o Edinger	Northbound	5+1H	11,600	9,100	.78	D	10,550	.91	E	9,210	.79	D	10,520	.91	E
	Southbound	5+1H	11,600	11,460	.99	E	8,680	.75	D	11,410	.98	E	8,740	.75	D
SR-55 n/o Dyer	Northbound	5+1H	11,600	8,870	.76	D	10,000	.86	D	8,900	.77	D	10,050	.87	D
	Southbound	5+1H	11,600	10,890	.94	E	8,320	.72	D	10,840	.93	E	8,360	.72	D
SR-55 n/o MacArthur	Northbound	5+1H	11,600	8,860	.76	D	9,200	.79	D	8,840	.76	D	9,240	.80	D
	Southbound	5+1H	11,600	10,500	.91	E	8,780	.76	D	10,480	.90	E	8,780	.76	D
SR-55 s/o MacArthur	Northbound	6+1H	13,600	9,130	.67	C	8,250	.61	C	9,110	.67	C	8,270	.61	C
	Southbound	6+1H	13,600	9,360	.69	C	8,990	.66	C	9,460	.70	C	9,020	.66	C

Abbreviations: LOS – level of service
V/C – volume/capacity ratio
NB – northbound
SB – southbound

Denotes a peak hour deficiency.

Appendix A TRIP GENERATION SUMMARIES

Table A-1 Trip Generation Rate Summary – Current Specific Plan Rates

Land Use	Unit	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Residential (LDR)	DU	.19	.56	.75	.65	.36	1.01	9.57
Residential (MDR)	DU	.13	.51	.64	.56	.24	.80	8.00
Residential (MHDR)	DU	.08	.43	.51	.42	.20	.62	6.63
Transitional Housing	Room	.21	.17	.38	.18	.22	.40	4.90
Hotel	Room	.34	.22	.56	.32	.29	.61	8.23
Elementary/Middle School	Student	.17	.12	.29	.00	.00	.00	1.02
High School	Student	.32	.14	.46	.06	.09	.15	1.79
Learning Center	KSF	.66	.07	.73	.15	.34	.49	6.12
Neighborhood Commercial	KSF	1.63	1.05	2.68	4.68	5.06	9.74	111.82
Community Commercial	KSF	1.00	.64	1.64	2.85	3.09	5.94	68.17
Shopping Center	KSF	.45	.29	.74	1.28	1.39	2.67	30.74
Office	KSF	1.65	.23	1.88	.31	1.49	1.80	13.27
Office (Military)	KSF	1.65	.23	1.88	.31	1.49	1.80	13.27
Park	Acre	.00	.00	.00	.00	.00	.00	5.00
Regional Park	Acre	.00	.00	.00	.00	.00	.00	5.00
Multiplex Theater	Seat	.00	.00	.00	.09	.06	.15	1.80
Senior Congregate	KSF	.19	.19	.38	.20	.22	.42	6.10
Theater	Seat	.00	.00	.00	.01	.01	.02	1.25
Health Club	KSF	.51	.70	1.21	2.07	1.98	4.05	32.93
High-Turnover Restaurant	KSF	5.99	5.53	11.52	6.66	4.26	10.92	127.15
Senior Housing Attached	DU	.04	.04	.08	.07	.04	.11	3.48
Sports Park	Acre	.01	.00	.01	3.40	4.10	7.50	53.80
Tustin Facility	SG	3.32	1.01	4.33	2.27	4.76	7.03	62.20

ADT = Average Daily Trips
LDR = Low Density Residential
MDR = Medium Density Residential
MHDR = Medium High Density Residential
DU = Dwelling Units
KSF = Thousand Square Feet
SG = Special Generator

Table A-2 Trip Generation Rate Summary – Proposed Specific Plan Amendment Rates

Land Use	ITE Code	Unit	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
Single Family Housing	210	DU	.19	.56	.75	.63	.37	1.00	9.52
Multi Family Housing	220	DU	.10	.41	.51	.40	.22	.62	6.65
Elementary School	520	Student	.25	.20	.45	.07	.08	.15	1.29
High School	530	Student	.29	.14	.43	.09	.04	.13	1.71
Office	710	KSF	1.37	.19	1.56	.25	1.24	1.49	11.03
Industrial	110	KSF	.81	.11	.92	.12	.85	.97	6.97
Amphitheater	460	Acre	4.14	.57	4.71	.76	3.74	4.50	33.33
Hotel	310	Room	.31	.22	.53	.31	.29	.60	8.17
Neighborhood Commercial	850	KSF	2.11	1.29	3.40	4.83	4.65	9.48	102.24
Community Commercial	820	KSF	.60	.36	.96	1.78	1.93	3.71	42.70
Senior Housing Attached	252	DU	.07	.13	.20	.14	.11	.25	3.44
Community Commercial 100 KSF EQ	820	KSF	.92	.57	1.49	2.84	3.07	5.91	67.89
Office 100 KSF EQ	710	KSF	1.68	.23	1.91	.25	1.24	1.49	13.13
Continuing Care Retirement Community	255	Unit	.09	.05	.14	.06	.10	.16	2.40
Middle School		Student	0.3	0.24	0.54	0.14	0.16	0.3	1.62

ADT = Average Daily Trips
DU = Dwelling Units
KSF = Thousand Square Feet
ITE = Institute of Transportation Engineers

Source: ITE Trip Generation Manual, 9th Edition.

Table A-3 Detailed Planning Area Trip Budget

Planning Area	Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Specific Plan		Project Difference	
			Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood A										
1	Elementary School	STU			550	561	900	1,161	350	600
	Learning Center	KSF	128.48	1,347	2,151.60	13,170	2,151.60	13,170	0	0
	Neighborhood Commercial	KSF			24.85	2,784	0	0	-24.85	-2,784
	Tustin Facility (Neigh Comm'l)	KSF			62.13	6,352	0	0	-62.13	-6,352
	Office (Military)	KSF			40.85	542	40.85	542	0	0
	Office (City)	KSF			14.68	162	14.68	162	0	0
Neighborhood A Total		**KSF**	**128.48**	**1,347**	**2,294.11**	**23,571**	**2,207.13**	**15,035**	**-86.98**	**-8,536**
Neighborhood B										
7	Community Commercial (EQ)	KSF			103.46	7,052	103.46	7,024	0	-28
	Office (EQ)	KSF			144.84	1,922	144.84	1,902	0	-20
Neighborhood B Total		**KSF**			**248.30**	**8,974**	**248.30**	**8,926**	**0**	**-48**
Neighborhood C										
6	Community Commercial (EQ)	KSF			57.50	3,920	57.50	3,904	0.00	-16
Neighborhood C Total						**3,920**		**3,904**		**-16**
Neighborhood D										
8	High School	STU			1,850	3,312	1,784	3,051	-66	-261
	Neighborhood Commercial	KSF			65.69	7,345	0	0	-65.69	-7,345
	Tustin Facility (Neigh Comm'l)	KSF			0	0	0	0	0.00	0
	Community Commercial (EQ)	KSF			0	0	200.00	13,578	200.00	13,578
	Community Commercial	KSF			0	0	1,443.01	61,616	1,443.01	61,616
	Office	KSF			207.00	2,747	0	0	-207.00	-2,747

Table A-3 Detailed Planning Area Trip Budget (Continued)

Planning Area	Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Specific Plan		Project Difference	
			Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood D (Continued)										
8	Office Park	KSF			1,383.80	11,280	0	0	-1,383.80	-11,280
	Industrial	KSF			319.51	3,803	0	0	-319.51	-3,803
	Amphitheater	Acre			0	0	0	0	0.00	0
	Sub-Total	KSF			1,976.00	28,487	1,643.01	78,245	-332.99	49,758
13	Hotel (380 KSF)	Room			500	4,115	0	0	-500	-4,115
	Hotel (165.6 KSF)	Room			0	0	550	4,494	550	4,494
	Neighborhood Commercial	KSF			9.76	1,091	0	0	-9.76	-1,091
	Community Commercial (EQ)	KSF			117.10	7,984	0	0	-117.10	-7,984
	Community Commercial	KSF			0	0	20.40	871	20.40	871
	Office	KSF			1,512.00	20,065	420	4,633	-1,092.00	-15,432
	Health Club	KSF			30.00	988	0	0	-30.00	-988
	Restaurant	KSF			12.00	1,526	0	0	-12.00	-1,526
	Sub-Total				2,060.86	35,769	606.00	9,998	-1,454.86	-25,771
14	Community Commercial (EQ)	KSF			11.11	757	0	0	-11.11	-757
	Office	KSF			136.90	1,818	0	0	-136.90	-1,818
	Office Park	KSF			547.00	5,645	0	0	-547.00	-5,645
	Theater (25 KSF)	Seat			1,000	1,250	0	0	-1,000.00	-1,250
	Restaurant	KSF			6.00	763	0	0	-6.00	-763
	Sub-Total	KSF			726.01	10,233	0	0	-726.01	-10,233

Table A-3 Detailed Planning Area Trip Budget (Continued)

Planning Area	Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Specific Plan		Project Difference	
			Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood D Total										
Hotel (380 KSF)		Room			500	4,115	0	0	-500	-4,115
Hotel (165.6 KSF)		Room			0	0	550	4,494	550	4,494
High School		STU			1,850	3,312	1,784	3,051	-66	-148
Neighborhood Commercial		KSF			75.45	8,436	0	0	-75.45	-8,436
Tustin Facility (Neigh Comm'l)		KSF			0	0	0	0	0.00	0
Community Commercial (EQ)		KSF			128.21	8,741	200.00	13,578	71.79	4,837
Community Commercial		KSF			0	0	1,463.41	62,487	1,463.41	62,487
Office		KSF			1,855.90	24,630	420.00	4,633	-1,435.90	-19,997
Office Park		KSF			1,930.80	16,925	0	0	-1,930.80	-16,925
Industrial		KSF			319.51	3,803	0	0	-319.51	-3,803
Theater (25 KSF)		Seat			1,000	1,250	0	0	-1,000.00	-1,250
Health Club		KSF			30.00	988	0	0	-30.00	-988
Restaurant		KSF			18.00	2,289	0	0	-18.00	-2,289
Neighborhood D Total		**KSF**			**4,762.87**	**74,489**	**2,249.01**	**88,243**	**-2,513.86**	**13,754**
Neighborhood E										
9,10	Office	KSF			156.82	2,312	730.00	8,052	573.18	5,740
	Industrial	KSF			169.02	2,611	0	0	-169.02	-2,611
	Sub-Total				325.84	4,923	730.00	8,052	404.16	3,129
11,12	Neighborhood Commercial	KSF			18.13	2,028	0	0	-18.13	-2,028
	Office	KSF			371.89	4,935	858.00	9,464	486.11	4,529
	Office Park	KSF			412.95	3,944	0	0	-412.95	-3,944
	Industrial	KSF			138.52	2,002	0	0	-138.52	-2,002

Table A-3 Detailed Planning Area Trip Budget (Continued)

Planning Area	Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Specific Plan		Project Difference	
			Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood E (Continued)										
11,12	Sub-Total	KSF			941.49	12,909	858.00	9,464	-83.49	-3,445
Neighborhood E Total										
Neighborhood Commercial		KSF			18.13	2,028	0	0	-18.13	-2,028
Office		KSF			528.71	7,247	1,588.00	17,516	1,059.29	10,269
Office Park		KSF			412.95	3,944	0	0	-412.95	-3,944
Industrial		KSF			307.54	4,613	0	0	-307.54	-4,613
Neighborhood E Total		**KSF**			**1,267.33**	**17,832**	**1,588.00**	**17,516**	**320.67**	**-316**
Neighborhood F										
16	Shopping Center	KSF	448.00	13,772	448.00	13,772	448.00	13,772	0	0
17	Shopping Center	KSF	47.00	1,445	47.00	1,445	47.00	1,445	0	0
18	Shopping Center	KSF	0	0	17.63	542	117.63	3,616	100.00	3,074
	Office	KSF	40.85	542	0	0	0	0	0	0
	Sub-Total		535.85	542	512.63	542	612.63	3616	100.00	3,074
19	Shopping Center	KSF	427.26	13,134	435.60	13,391	435.60	13,391	0	0
	Multiplex Theater (70 KSF)	Seat	3,003	5,405	3,500	6,300	3,500	6,300	0	0
	Sub-Total	KSF	497.26	18,539	505.60	19,691	505.60	19,691	0	0
Neighborhood F Total										
Shopping Center		KSF	922.26	28,351	948.23	29,150	1,048.23	32,224	100.00	3,074
Office		KSF	40.85	542	0	0	0	0	0	0
Multiplex Theater (70 TSF)		Seat	3,003	5,405	3,500	6,300	3,500	6,300	0	0
Neighborhood F Total		**KSF**	**1,033.11**	**34,298**	**1,018.23**	**35,450**	**1,118.23**	**38,524**	**100.00**	**3,074**

Table A-3 Detailed Planning Area Trip Budget (Continued)

Planning Area	Land Use	Unit	Existing (2015)		Current Specific Plan		Proposed Specific Plan		Project Difference	
			Amount	ADT	Amount	ADT	Amount	ADT	Amount	ADT
Neighborhood G										
15	Neighborhood Commercial	KSF			26.68	2,983	95.20	9,733	68.52	6,750
	Community Commercial	KSF			130.68	8,908	0	0	-130.68	-8,908
	Office	KSF			150.28	1,994	0	0	-150.28	-1,994
	Tustin Facililty (Neigh Comm'l)	KSF			36.78	3,760	0	0	-36.78	-3,760
	Senior Congregate	KSF			158.99	970	0	0	-158.99	-970
	Senior Care Community (1M KSF)	DU			0	0	404	970	404	970
	Assisted Living	Bed			0	0	0	0	0	0
Neighborhood G Total		**KSF**			**503.41**	**18,615**	**1,095.20**	**10,703**	**591.79**	**-7,912**
TOTAL				**35,645**		**182,851**		**182,851**		**0**

ADT = Average Daily Trips
STU = Students
DU = Dwelling Units
KSF = Thousand Square Feet

Note: Planning areas not shown are not part of the trip budget. Also for ease of review the land uses have been compressed here.

Appendix B ICU WORKSHEETS

Peak hour intersection volume/capacity ratios are calculated by means of intersection capacity utilization (ICU) values. ICU calculations were performed for the intersections shown in **Figure B-1**.

The procedure is based on the critical movement methodology, and shows the amount of capacity utilized by each critical move. A "de-facto" right-turn lane is used in the ICU calculation for cases where a curb lane is wide enough to separately serve both through and right-turn traffic (typically with a width of 19 feet from curb to outside of through-lane with parking prohibited during peak periods). Such lanes are treated the same as striped right-turn lanes during the ICU calculations, but they are denoted on the ICU calculation worksheets using the letter "d" in place of a numerical entry for right-turn lanes.

The methodology also incorporates a check for right-turn capacity utilization. Both right-turn-on-green (RTOG) and right-turn-on-red (RTOR) capacity availability are calculated and checked against the total right-turn capacity need. If insufficient capacity is available, then an adjustment is made to the total capacity utilization value. The following example shows how this adjustment is made.

Example of Right-turn Capacity Utilization For Northbound Right

1. Right-Turn-On-Green (RTOG)

If NBT is critical move, then:
RTOG = V/C (NBT)
Otherwise,
RTOG = V/C (NBL) + V/C (SBT) - V/C (SBL)

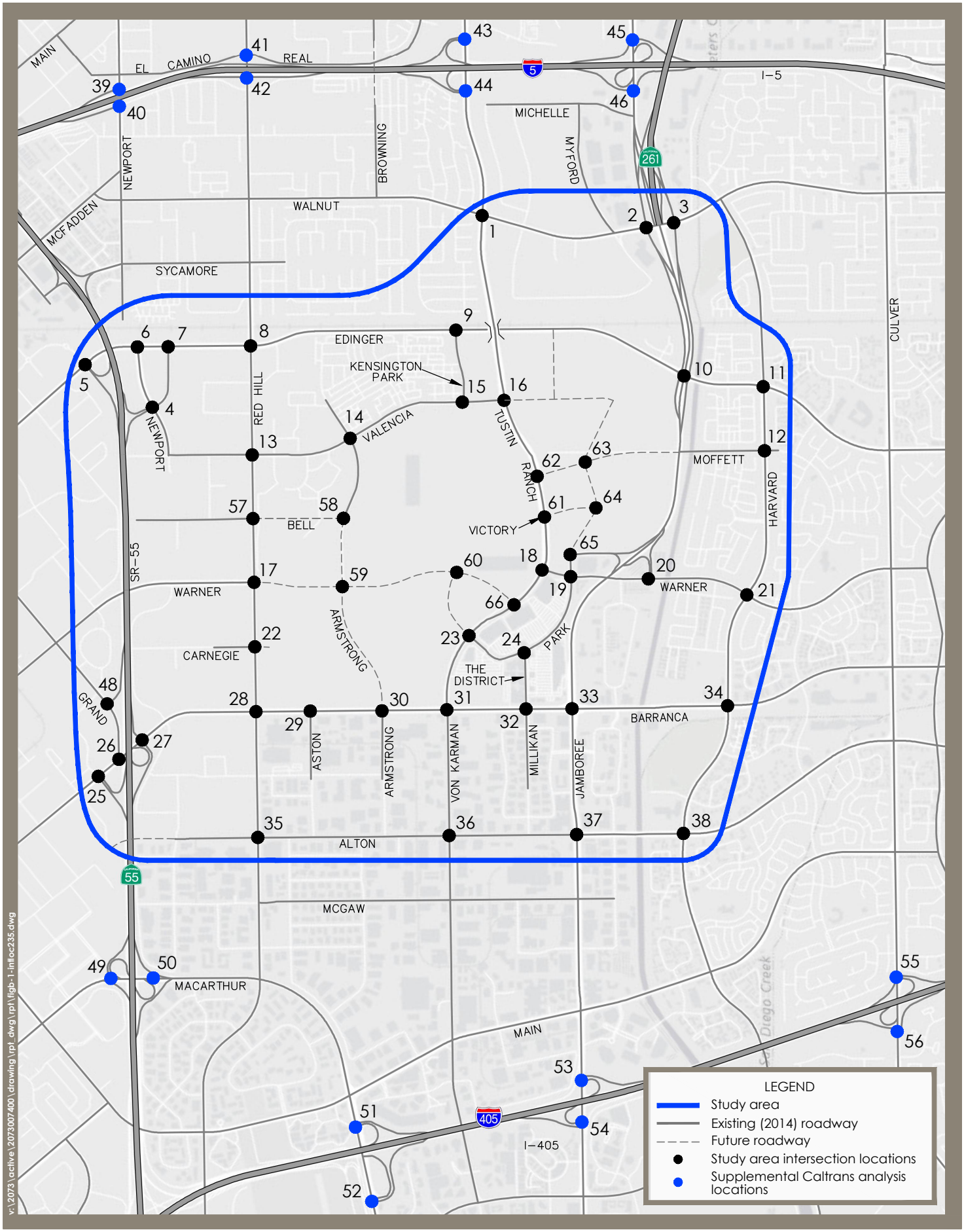
2. Right-Turn-On-Red (RTOR)

If WBL is critical move, then:
RTOR = V/C (WBL)
Otherwise,
RTOR = V/C (EBL) + V/C (WBT) - V/C (EBT)

3. Right-Turn Overlap Adjustment

If the northbound right is assumed to overlap with the adjacent westbound left, adjustments to the RTOG and RTOR values are made as follows:

RTOG = RTOG + V/C (WBL)
RTOR = RTOR - V/C (WBL)



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Figure B-1

2035 Intersection Location Map

4. Total Right-Turn Capacity (RTC) Availability For NBR

RTC = RTOG + factor x RTOR
Where factor = RTOR saturation flow factor (typically 75%)

5. Right-turn Adjustment for ICU Calculation

Right-turn adjustment is then as follows: Additional ICU = V/C (NBR) - RTC

A zero or negative value indicates that adequate capacity is available and no adjustment is necessary. A positive value indicates that the available RTOR and RTOG capacity does not adequately accommodate the right-turn V/C, therefore the right-turn is essentially considered to be a critical movement. In such cases, the right-turn adjustment is noted on the ICU worksheet and it is included in the total capacity utilization value. When it is determined that a right-turn adjustment is required for more than one right-turn movement, the word "multi" is printed on the worksheet instead of an actual right-turn movement reference, and the right-turn adjustments are cumulatively added to the total capacity utilization value. In such cases, further operational evaluation is typically carried out to determine if under actual operational conditions, the critical right-turns would operate simultaneously, and therefore a right-turn adjustment credit should be applied.

Shared Lane V/C Methodology

For intersection approaches where shared usage of a lane is permitted by more than one turn movement (e.g., left/through, through/right, left/through/right), the individual turn volumes are evaluated to determine whether dedication of the shared lane is warranted to any one given turn movement. The following example demonstrates how this evaluation is carried out:

Example of Shared Lane Utilization for Shared Left/Through Lane

1. Average Lane Volume (ALV)

$$ALV = \frac{\text{Left-Turn Volume + Through Volume}}{\text{Total Left + Through Approach Lanes (including shared lane)}}.$$

2. ALV for Each Approach

$$ALV\ (Left) = \frac{\text{Left-Turn Volume}}{\text{Left Approach Lanes (including shared lane)}}.$$

$$ALV\ (Through) = \frac{\text{Through Volume}}{\text{Through Approach Lanes (including shared lane)}}.$$

3. Lane Dedication is Warranted

If ALV (Left) is greater than ALV then full dedication of the shared lane to the left-turn approach is warranted. Left-turn and through V/C ratios for this case are calculated as follows:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (including shared lane)}}$$

$$\text{V/C (Through)} = \frac{\text{Through Volume}}{\text{Through Approach Capacity (excluding shared lane)}}$$

Similarly, if ALV (Through) is greater than ALV then full dedication to the through approach is warranted, and left-turn and through V/C ratios are calculated as follows:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (excluding shared lane)}}$$

$$\text{V/C (Through)} = \frac{\text{Through Volume}}{\text{Through Approach Capacity (including shared lane)}}$$

4. Lane Dedication is Not Warranted

If ALV (Left) and ALV (Through) are both less than ALV, the left/through lane is assumed to be truly shared and each left, left/through or through approach lane carries an evenly distributed volume of traffic equal to ALV. A combined left/through V/C ratio is calculated as follows:

$$\text{V/C (Left/Through)} = \frac{\text{Left-Turn Volume + Through Volume}}{\text{Total Left + Through Approach Capacity (including shared lane)}}$$

This V/C (Left/Through) ratio is assigned as the V/C (Through) ratio for the critical movement analysis and ICU summary listing.

If split phasing has not been designated for this approach, the relative proportion of V/C (Through) that is attributed to the left-turn volume is estimated as follows:

If approach has more than one left-turn (including shared lane), then:

$$\text{V/C (Left)} = \text{V/C (Through)}$$

If approach has only one left-turn lane (shared lane), then:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Single Approach Lane Capacity}}$$

If this left-turn movement is determined to be a critical movement, the V/C (Left) value is posted in brackets on the ICU summary printout.

These same steps are carried out for shared through/right lanes. If full dedication of a shared through/right lane to the right-turn movement is warranted, the right-turn V/C value calculated in step three is checked against the RTOR and RTOG capacity availability if the option to include right-turns in the V/C ratio calculations is selected. If the V/C value that is determined using the shared lane methodology described here is reduced due to RTOR and RTOG capacity availability, the V/C value for the through/right lanes is posted in brackets.

When an approach contains more than one shared lane (e.g., left/through and through/right), steps one and two listed above are carried out for the three turn movements combined. Step four is carried out if dedication is not warranted for either of the shared lanes. If dedication of one of the shared lanes is warranted to one movement or another, step three is carried out for the two movements involved, and then steps one through four are repeated for the two movements involved in the other shared lane.

1 . Tustin Ranch Rd. at Walnut Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	25	.01*	261	.08
NBT	3	5100	169	.03	1215	.24*
NBR	1	1700	82	.05	141	.08
SBL	2	3400	506	.15	294	.09*
SBT	3	5100	987	.19*	436	.09
SBR	1	1700	184	.11	360	.21
EBL	2	3400	294	.09	305	.09*
EBT	2	3400	486	.18*	288	.10
EBR	0	0	139		47	
WBL	2	3400	179	.05*	110	.03
WBT	2	3400	142	.04	764	.22*
WBR	1	1700	91	.05	529	.31
Right Turn Adjustment					WBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.71**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	30	.01*	290	.09
NBT	3	5100	294	.06	1727	.34*
NBR	1	1700	148	.09	281	.17
SBL	2	3400	497	.15	282	.08*
SBT	3	5100	1356	.27*	728	.14
SBR	1	1700	173	.10	352	.21
EBL	2	3400	287	.08	295	.09*
EBT	2	3400	478	.19*	254	.10
EBR	0	0	183		72	
WBL	2	3400	341	.10*	265	.08
WBT	2	3400	96	.03	741	.22*
WBR	1	1700	86	.05	483	.28
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.62**		**.78**

2 . Jamboree Rd. SB at Walnut Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	185	.05	243	.07
SBT	2	3400	519	.15*	385	.11*
SBR	1	1700	335	.20	143	.08
EBL	0	0	0		0	
EBT	3	5100	279	.05*	705	.14*
EBR	1	1700	181	.11	379	.22
WBL	2	3400	339	.10*	249	.07*
WBT	3	5100	542	.11	882	.17
WBR	0	0	0		0	
Right Turn Adjustment			Multi	.08*	EBR	.08*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.43**		**.45**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	164	.05	229	.07
SBT	2	3400	933	.27*	554	.16*
SBR	1	1700	321	.19	125	.07
EBL	0	0	0		0	
EBT	3	5100	303	.06*	731	.14*
EBR	1	1700	194	.11	486	.29
WBL	2	3400	321	.09*	244	.07*
WBT	3	5100	670	.13	1004	.20
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.15*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.57**

3 . Jamboree Rd. NB at Walnut Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	249	.07	308	.09
NBT	2	3400	307	.09*	546	.16*
NBR	d	1700	113	.07	377	.22
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3400	76	.02*	304	.09*
EBT	3	5100	384	.08	633	.12
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	622	.12*	831	.16*
WBR	1	1700	304	.18	379	.22
Right Turn Adjustment			WBR	.06*	WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.34**		**.52**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	285	.08	343	.10
NBT	2	3400	451	.13*	812	.24*
NBR	d	1700	177	.10	421	.25
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3400	72	.02*	294	.09*
EBT	3	5100	391	.08	654	.13
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	696	.14*	914	.18*
WBR	1	1700	276	.16	343	.20
Right Turn Adjustment			WBR	.02*	WBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.36**		**.58**

4 . Newport Av. at SR-55 NB Ramps/Del Amo Av._(s

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	90	.03*	671	.20*
NBT	3	5100	50	.01	225	.04
NBR	d	1700	3	.00	40	.02
SBL	1	1700	19	.01	10	.01
SBT	3	5100	345	.07*	77	.02*
SBR	1	1700	574	.34	386	.23
EBL	2	3400	303	.09*	76	.02*
EBT	2	3400	169	.08	23	.01
EBR	0	0	113		6	
WBL	1	1700	6	.00	3	.00
WBT	2	3400	93	.03*	487	.14*
WBR	d	1700	1	.00	13	.01
Right Turn Adjustment			SBR	.20*	SBR	.19*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.47**		**.62**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	252	.07*	1080	.32*
NBT	3	5100	58	.01	300	.06
NBR	d	1700	16	.01	51	.03
SBL	1	1700	19	.01	10	.01
SBT	3	5100	745	.15*	435	.09*
SBR	1	1700	568	.33	341	.20
EBL	2	3400	302	.09*	75	.02*
EBT	2	3400	170	.10	97	.03
EBR	0	0	245	.14	4	
WBL	1	1700	12	.01	20	.01
WBT	2	3400	162	.05*	397	.12*
WBR	d	1700	1	.00	15	.01
Right Turn Adjustment			SBR	.11*	SBR	.09*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.69**

5 . SR-55 SB Ramps at Edinger Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		426		325	
NBT	0.5	3400	67	.15*	33	.11*
NBR	2	3400	543	.16	256	.08
SBL	1	1700	60	.04*	105	.06*
SBT	1	1700	31	.02	62	.04
SBR	1	1700	9	.01	36	.02
EBL	1	1700	21	.01	33	.02
EBT	3	5100	1032	.20*	1150	.23*
EBR	f		288		305	
WBL	2	3400	297	.09*	353	.10*
WBT	3	5100	848	.19	1044	.22
WBR	0	0	116		93	
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				**.53**		**.55**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		423		325	
NBT	0.5	3400	67	.14*	33	.11*
NBR	2	3400	867	.26	490	.14
SBL	1	1700	60	.04*	107	.06*
SBT	1	1700	31	.02	62	.04
SBR	1	1700	9	.01	36	.02
EBL	1	1700	21	.01	33	.02
EBT	3	5100	1246	.24*	1233	.24*
EBR	f		287		305	
WBL	2	3400	342	.10*	455	.13*
WBT	3	5100	847	.19	1224	.26
WBR	0	0	104		95	
Right Turn Adjustment			NBR	.04*		
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				**.61**		**.59**

6 . Newport Av. at Edinger Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	333	.10*	304	.09*
NBT	0	0	0		0	
NBR	1	1700	83	.05	57	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	759	.15*	1108	.22*
EBR	1	1700	814	.48	406	.24
WBL	1	1700	135	.08*	100	.06*
WBT	3	5100	946	.19	1189	.23
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.25*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.63**		**.42**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	331	.10*	380	.11*
NBT	0	0	0		0	
NBR	1	1700	93	.05	57	.03
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	905	.18*	1113	.22*
EBR	1	1700	1207	.71	719	.42
WBL	1	1700	135	.08*	100	.06*
WBT	3	5100	980	.19	1396	.27
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.45*	EBR	.12*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.86**		**.56**

7 . Del Amo Av. at Edinger Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		3		46	
NBT	0.5	3400	1	.00*	0	.01*
NBR	1	1700	162	.10	93	.05
SBL	0	0	4		2	
SBT	1	1700	2	.00*	1	.00*
SBR	0	0	2		2	
EBL	1	1700	1	.00	0	.00
EBT	3	5100	742	.15	1030	.20*
EBR	d	1700	57	.03	163	.10
WBL	2	3400	128	.04	294	.09*
WBT	3	5100	1058	.21*	1236	.24
WBR	0	0	2		0	
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				**.31**		**.35**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		3		48	
NBT	0.5	3400	1	.00*	0	.01*
NBR	1	1700	165	.10	168	.10
SBL	0	0	4		2	
SBT	1	1700	2	.00*	1	.00*
SBR	0	0	2		2	
EBL	1	1700	1	.00	0	.00
EBT	3	5100	908	.18*	1041	.20
EBR	d	1700	46	.03	157	.09
WBL	2	3400	202	.06*	221	.07
WBT	3	5100	1092	.21	1441	.28*
WBR	0	0	2		0	
Right Turn Adjustment			NBR	.05*	NBR	.03*
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				**.34**		**.37**

8 . Red Hill Av. at Edinger Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	72	.02*	204	.06
NBT	3	5100	330	.06	1752	.34*
NBR	1	1700	55	.03	178	.10
SBL	2	3400	187	.06	133	.04*
SBT	3	5100	1208	.24*	415	.08
SBR	1	1700	352	.21	247	.15
EBL	2	3400	239	.07*	361	.11*
EBT	3	5100	457	.09	775	.15
EBR	1	1700	136	.08	90	.05
WBL	2	3400	331	.10	115	.03
WBT	3	5100	886	.17*	984	.19*
WBR	1	1700	111	.07	386	.23
Right Turn Adjustment					WBR	.01*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.55** **.74**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	74	.02*	220	.06
NBT	3	5100	403	.08	1989	.39*
NBR	1	1700	34	.02	143	.08
SBL	2	3400	302	.09	171	.05*
SBT	3	5100	1560	.31*	605	.12
SBR	1	1700	350	.21	229	.13
EBL	2	3400	201	.06*	337	.10*
EBT	3	5100	647	.13	874	.17
EBR	1	1700	153	.09	100	.06
WBL	2	3400	311	.09	104	.03
WBT	3	5100	994	.19*	1119	.22*
WBR	1	1700	193	.11	607	.36
Right Turn Adjustment					WBR	.10*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.63** **.91**

Existing-Plus-Project w/Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	74	.02*	220	.06
NBT	3	5100	403	.08	1989	.39*
NBR	1	1700	34	.02	143	.08
SBL	2	3400	302	.09	171	.05*
SBT	3	5100	1560	.31*	605	.12
SBR	1	1700	350	.21	229	.13
EBL	2	3400	201	.06*	337	.10*
EBT	3	5100	647	.13	874	.17
EBR	1	1700	153	.09	100	.06
WBL	2	3400	311	.09	104	.03
WBT	3	5100	994	.19*	1119	.22*
WBR	1	1700	193	.11	607	.36
Right Turn Adjustment					WBR	.09*
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for WBR

TOTAL CAPACITY UTILIZATION **.63** **.90**

9 . Kensington Park Dr. at Edinger Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	53	.02*	41	.01*
NBT	0	0	0		0	
NBR	1	1700	91	.05	144	.08
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	707	.14	929	.18
EBR	1	1700	32	.02	86	.05
WBL	2	3400	89	.03	143	.04
WBT	3	5100	1089	.21*	1374	.27*
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.28**		**.33**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	91	.03*	277	.08*
NBT	0	0	0		0	
NBR	1	1700	99	.06	275	.16
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	807	.16	1025	.20
EBR	1	1700	226	.13	98	.06
WBL	2	3400	162	.05	191	.06
WBT	3	5100	1229	.24*	1482	.29*
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.32**		**.43**

10 . Jamboree Rd. at Edinger Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	65	.02	227	.07
NBT	0	0	0		0	
NBR	1	1700	32	.02	229	.13
SBL	2	3400	144	.04*	259	.08*
SBT	0	0	0		0	
SBR	1	1700	507	.30	355	.21
EBL	2	3400	194	.06*	436	.13*
EBT	3	5100	521	.12	824	.18
EBR	0	0	85		105	
WBL	2	3400	198	.06	136	.04
WBT	3	5100	686	.13*	963	.19*
WBR	1	1700	202	.12	253	.15
Right Turn Adjustment			SBR	.23*	Multi	.12*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.51**		**.57**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	53	.02	189	.06
NBT	0	0	0		0	
NBR	1	1700	37	.02	247	.15
SBL	2	3400	274	.08*	396	.12*
SBT	0	0	0		0	
SBR	1	1700	578	.34	458	.27
EBL	2	3400	317	.09*	609	.18*
EBT	3	5100	347	.08	566	.12
EBR	0	0	48		69	
WBL	2	3400	195	.06	138	.04
WBT	3	5100	443	.09*	824	.16*
WBR	1	1700	278	.16	324	.19
Right Turn Adjustment			Multi	.22*	SBR	.07*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.53**		**.58**

11 . Harvard Av. at Edinger Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	131	.04*	181	.05
NBT	2	3400	81	.02	454	.13*
NBR	1	1700	66	.04	217	.13
SBL	1	1700	65	.04	80	.05*
SBT	2	3400	223	.07*	176	.05
SBR	d	1700	114	.07	66	.04
EBL	2	3400	35	.01*	105	.03*
EBT	3	5100	559	.11	863	.17
EBR	1	1700	99	.06	160	.09
WBL	2	3400	72	.02	115	.03
WBT	3	5100	665	.13*	1285	.25*
WBR	d	1700	39	.02	82	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.30**		**.51**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	5	.00	136	.04
NBT	2	3400	108	.03	485	.14*
NBR	1	1700	63	.04	208	.12
SBL	1	1700	63	.04	77	.05*
SBT	2	3400	261	.08*	215	.06
SBR	d	1700	90	.05	55	.03
EBL	2	3400	34	.01*	104	.03*
EBT	3	5100	509	.10	930	.18
EBR	1	1700	115	.07	5	.00
WBL	2	3400	72	.02	133	.04
WBT	3	5100	710	.14*	1257	.25*
WBR	d	1700	37	.02	77	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.28**		**.52**

12 . Harvard Av. at Moffett Dr./Paseo Westpark_(s

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	2	.00	22	.01
NBT	2	3400	197	.06	799	.24*
NBR	d	1700	27	.02	65	.04
SBL	1	1700	24	.01	35	.02*
SBT	2	3400	351	.10*	363	.11
SBR	1	1700	10	.01	38	.02
EBL	1	1700	11	.01	18	.01*
EBT	1	1700	7	.00*	6	.00
EBR	d	1700	23	.01	16	.01
WBL	1	1700	48	.03*	22	.01
WBT	1	1700	2	.00	9	.01*
WBR	d	1700	70	.04	58	.03
Right Turn Adjustment			EBR	.01*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.19**		**.33**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	2	.00	22	.01
NBT	2	3400	113	.03	813	.24*
NBR	d	1700	26	.02	55	.03
SBL	1	1700	5	.00	5	.00
SBT	2	3400	446	.13*	326	.10
SBR	1	1700	29	.02	28	.02
EBL	1	1700	5	.00	42	.02
EBT	1	1700	274	.16	348	.20*
EBR	d	1700	23	.01	16	.01
WBL	1	1700	40	.02	19	.01*
WBT	1	1700	358	.21*	290	.17
WBR	d	1700	5	.00	5	.00
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.39**		**.50**

13 . Red Hill Av. at Valencia Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	58	.03*	206	.12
NBT	3	5100	357	.09	1961	.46*
NBR	0	0	82		365	
SBL	1	1700	115	.07	82	.05*
SBT	3	5100	1152	.25*	455	.10
SBR	0	0	103		43	
EBL	1	1700	12	.01*	52	.03
EBT	1	1700	53	.03	155	.09*
EBR	1	1700	44	.03	55	.03
WBL	2	3400	277	.08	120	.04*
WBT	1	1700	213	.13*	73	.04
WBR	1	1700	93	.05	48	.03
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.47** **.69**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	222	.13*	341	.20
NBT	3	5100	395	.09	2100	.47*
NBR	0	0	70		277	
SBL	1	1700	153	.09	129	.08*
SBT	3	5100	1393	.31*	600	.13
SBR	0	0	172		43	
EBL	1	1700	12	.01	113	.07*
EBT	1	1700	527	.31*	344	.20
EBR	1	1700	123	.07	264	.16
WBL	2	3400	128	.04*	78	.02
WBT	1	1700	192	.11	430	.25*
WBR	1	1700	111	.07	76	.04
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.84** **.92**

Existing-Plus-Project w/Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	222	.13*	341	.20
NBT	4	6800	395	.06	2100	.31*
NBR	1	1700	70	.04	277	.16
SBL	1	1700	153	.09	129	.08*
SBT	3	5100	1393	.31*	600	.13
SBR	0	0	172		43	
EBL	1	1700	12	.01	113	.07*
EBT	1	1700	527	.31*	344	.20
EBR	1	1700	123	.07	264	.16
WBL	2	3400	128	.04*	78	.02
WBT	1	1700	192	.11	430	.25*
WBR	1	1700	111	.07	76	.04
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.84** **.76**

14 . Armstrong Av. at Valencia Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		4		2	
NBT	0.5	3400	0	.00*	1	.00*
NBR	1	1700	6	.00	0	.00
SBL	1	1700	25	.01	12	.01
SBT	1	1700	0	.06*	2	.01*
SBR	0	0	101		22	
EBL	1	1700	14	.01*	70	.04
EBT	2	3400	97	.03	547	.16*
EBR	1	1700	3	.00	40	.02
WBL	2	3400	5	.00	7	.00
WBT	2	3400	458	.13*	179	.05
WBR	d	1700	11	.01	29	.02
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.25** **.22**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		69		154	
NBT	0.5	3400	26	.03*	145	.09*
NBR	1	1700	12	.01	42	.02
SBL	1	1700	142	.08	81	.05
SBT	1	1700	183	.27*	82	.11*
SBR	0	0	280		101	
EBL	1	1700	62	.04*	219	.13
EBT	2	3400	273	.08	937	.28*
EBR	1	1700	92	.05	226	.13
WBL	2	3400	35	.01	19	.01*
WBT	2	3400	1001	.29*	429	.13
WBR	d	1700	44	.03	126	.07
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.68** **.54**

15 . Kensington Park Dr. at Valencia Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	58	.02*	90	.03*
SBT	0	0	0		0	
SBR	1	1700	61	.04	78	.05
EBL	2	3400	21	.01*	141	.04
EBT	2	3400	136	.04	396	.12*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3400	311	.09*	175	.05
WBR	d	1700	28	.02	96	.06
Right Turn Adjustment			SBR	.01*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.18**		**.20**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	4	.00	16	.01
NBT	2	3400	63	.02	292	.09*
NBR	1	1700	67	.04	219	.13
SBL	2	3400	70	.02	126	.04*
SBT	2	3400	332	.10*	107	.03
SBR	1	1700	12	.01	40	.02
EBL	2	3400	5	.00	116	.03
EBT	2	3400	170	.05	599	.18*
EBR	1	1700	52	.03	12	.01
WBL	2	3400	155	.05	141	.04*
WBT	2	3400	489	.14*	235	.07
WBR	1	1700	19	.01	68	.04
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.29**		**.41**

16 . Tustin Ranch Rd. at Valencia Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	44	.01*	136	.04
NBT	3	5100	175	.03	1324	.26*
NBR	0	0	0		0	
SBL	1	1700	0	.00	0	.00
SBT	3	5100	1024	.20*	437	.09
SBR	1	1700	265	.16	124	.07
EBL	2	3400	98	.03*	373	.11*
EBT	0	0	0		0	
EBR	1	1700	105	.06	97	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.02*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.31**		**.42**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	5	.00	87	.03
NBT	3	5100	309	.07	1846	.40*
NBR	0	0	59		204	
SBL	1	1700	104	.06	132	.08*
SBT	3	5100	1344	.26*	672	.13
SBR	1	1700	415	.24	229	.13
EBL	2	3400	87	.03	422	.12*
EBT	0	0	91		272	
EBR	1	1700	103	.06	179	.11
WBL	0	0	251	{.15}*	128	
WBT	0	0	411		165	
WBR	0	0	74		110	
Right Turn Adjustment			EBR	.06*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.65**

17 . Red Hill Av. at Warner Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	199	.06*	521	.15
NBT	3	5100	373	.07	2030	.40*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1145	.29*	525	.15
SBR	0	0	339		318	.19
EBL	2	3400	256	.08*	473	.14*
EBT	0	0	1		0	
EBR	1	1700	333	.20	260	.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.55** **.59**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	91	.03	355	.10
NBT	3	5100	455	.13*	1788	.44*
NBR	0	0	239	.14	444	
SBL	2	3400	751	.22*	554	.16*
SBT	3	5100	817	.19	502	.14
SBR	0	0	137		201	
EBL	1	1700	198	.12	304	.18*
EBT	3	5100	1291	.27*	1189	.26
EBR	0	0	85		116	
WBL	2	3400	396	.12*	431	.13
WBT	3	5100	963	.19	1235	.24*
WBR	1	1700	317	.19	758	.45
Right Turn Adjustment					WBR	.09*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.79** **1.16**

Existing-Plus-Project w/Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	91	.03	355	.10
NBT	4	6800	455	.07*	1788	.26*
NBR	1	1700	239	.14	444	.26
SBL	2	3400	751	.22*	554	.16*
SBT	3	5100	817	.19	502	.14
SBR	0	0	137		201	
EBL	2	3400	198	.06	304	.09
EBT	3	5100	1291	.27*	1189	.26*
EBR	0	0	85		116	
WBL	2	3400	396	.12*	431	.13*
WBT	3	5100	963	.19	1235	.24
WBR	1	1700	317	.19	758	.45
Right Turn Adjustment					WBR	.03*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.73** **.89**

18 . Tustin Ranch Rd. at Warner Av. N.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	112	.02	1190	.23*
NBR	1	1700	58	.03	474	.28
SBL	2	3400	210	.06	207	.06*
SBT	3	5100	963	.19*	317	.06
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	553	.11*	176	.03*
WBT	0	0	0		0	
WBR	2	3400	111	.03	349	.10
Right Turn Adjustment					Multi	.04*
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION **.35** **.41**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	423	.08	1472	.29*
NBR	1	1700	114	.07	488	.29
SBL	2	3400	219	.06	512	.15*
SBT	3	5100	1200	.24*	726	.14
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	744	.15*	242	.05*
WBT	0	0	0		0	
WBR	2	3400	385	.11	529	.16
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION **.44** **.54**

19 . Park Av. at Warner Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	29	.02	90	.05
NBT	1	1700	25	.01*	43	.03*
NBR	1	1700	88	.05	312	.18
SBL	1	1700	160	.09*	183	.11*
SBT	2	3400	167	.05	249	.07
SBR	1	1700	345	.20	43	.03
EBL	1	1700	7	.00	16	.01
EBT	2	3400	192	.06*	528	.16*
EBR	1	1700	53	.03	76	.04
WBL	2	3400	62	.02*	185	.05*
WBT	2	3400	194	.06	294	.09
WBR	1	1700	24	.01	14	.01
Right Turn Adjustment			Multi	.12*	NBR	.11*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.35**		**.51**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	29	.02	4	.00
NBT	1	1700	47	.03*	138	.08*
NBR	1	1700	176	.10	434	.26
SBL	1	1700	168	.10*	162	.10*
SBT	2	3400	213	.06	264	.08
SBR	1	1700	367	.22	50	.03
EBL	1	1700	7	.00	14	.01
EBT	2	3400	304	.09	854	.25*
EBR	1	1700	22	.01	36	.02
WBL	2	3400	82	.02	221	.07*
WBT	2	3400	638	.19*	619	.18
WBR	1	1700	25	.01	18	.01
Right Turn Adjustment			SBR	.11*	NBR	.13*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.68**

20 . Jamboree Rd. NB at Warner Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1700	0	.00	0	.00
NBR	0	0	1		4	
SBL	0	0	4		2	
SBT	1	1700	0	.00*	2	.00*
SBR	1	1700	24	.01	70	.04
EBL	1	1700	158	.09*	607	.36*
EBT	2	3400	199	.06	574	.17
EBR	d	1700	1	.00	1	.00
WBL	1	1700	3	.00	5	.00
WBT	2	3400	281	.08*	426	.13*
WBR	d	1700	169	.10	171	.10
Right Turn Adjustment			WBR	.02*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.24**		**.54**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1700	0	.00	0	.00
NBR	0	0	1		4	
SBL	0	0	5		2	
SBT	1	1700	0	.00*	2	.00*
SBR	1	1700	79	.05	111	.07
EBL	1	1700	260	.15*	761	.45*
EBT	2	3400	295	.09	838	.25
EBR	d	1700	1	.00	1	.00
WBL	1	1700	3	.00	5	.00
WBT	2	3400	679	.20*	752	.22*
WBR	d	1700	89	.05	53	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.40**		**.72**

21 . Harvard Av. at Warner Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	68	.04*	329	.19*
NBT	2	3400	183	.05	746	.22
NBR	d	1700	21	.01	93	.05
SBL	1	1700	95	.06	62	.04
SBT	2	3400	552	.16*	280	.08*
SBR	d	1700	95	.06	54	.03
EBL	1	1700	62	.04*	150	.09*
EBT	2	3400	126	.04	352	.10
EBR	d	1700	101	.06	85	.05
WBL	1	1700	69	.04	40	.02
WBT	2	3400	278	.08*	275	.08*
WBR	d	1700	74	.04	44	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.37**		**.49**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	56	.03*	249	.15
NBT	2	3400	271	.08	909	.27*
NBR	d	1700	5	.00	92	.05
SBL	1	1700	117	.07	121	.07*
SBT	2	3400	705	.21*	309	.09
SBR	d	1700	120	.07	67	.04
EBL	1	1700	81	.05*	144	.08*
EBT	2	3400	226	.07	532	.16
EBR	d	1700	79	.05	175	.10
WBL	1	1700	52	.03	12	.01
WBT	2	3400	584	.17*	550	.16*
WBR	d	1700	91	.05	52	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.51**		**.63**

22 . Red Hill Av. at Carnegie Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	79	.05*	37	.02
NBT	3	5100	556	.11	2468	.48*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1403	.29*	745	.15
SBR	0	0	98		15	
EBL	1	1700	1	.00	114	.07*
EBT	1	1700	0	.00	0	.05
EBR	0	0	4		77	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.39**		**.60**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	52	.03*	23	.01
NBT	3	5100	748	.17	2455	.50*
NBR	0	0	99		80	
SBL	1	1700	0	.00	0	.00
SBT	3	5100	1236	.26*	969	.20
SBR	0	0	86		54	
EBL	1	1700	21	.01	163	.10*
EBT	1	1700	6	.01*	7	.03
EBR	0	0	5		46	
WBL	1	1700	36	.02*	92	.05
WBT	1	1700	4	.00	9	.01*
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.37**		**.66**

23 . Tustin Ranch Rd. at Legacy Rd./Park Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	5	.00	0	.00
NBT	3	5100	159	.03	1491	.29*
NBR	1	1700	54	.03	341	.20
SBL	2	3400	61	.02	130	.04*
SBT	3	5100	1403	.28*	350	.07
SBR	1	1700	26	.02	2	.00
EBL	1	1700	4	.00	5	.00
EBT	2	3400	0	.00*	0	.01*
EBR	0	0	8		17	
WBL	1	1700	89	.05*	229	.13*
WBT	2	3400	0	.00	0	.04
WBR	0	0	10		152	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.38**		**.52**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	125	.04*	181	.05
NBT	3	5100	358	.07	1580	.31*
NBR	1	1700	16	.01	284	.17
SBL	2	3400	5	.00	127	.04*
SBT	3	5100	1380	.27*	717	.14
SBR	1	1700	99	.06	68	.04
EBL	1	1700	68	.04*	150	.09
EBT	2	3400	586	.22	717	.26*
EBR	0	0	175		163	
WBL	1	1700	5	.00	176	.10*
WBT	2	3400	627	.19*	662	.23
WBR	0	0	5		126	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.59**		**.76**

24 . District Dr. at Park Av.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	23	.01*	107	.06
NBT	2	3400	45	.02	171	.09*
NBR	0	0	38		150	
SBL	1	1700	8	.00	32	.02*
SBT	1	1700	34	.02*	86	.05
SBR	1	1700	5	.00	21	.01
EBL	1	1700	6	.00	26	.02
EBT	1	1700	29	.02*	124	.07*
EBR	1	1700	28	.02	96	.06
WBL	1	1700	87	.05*	154	.09*
WBT	1	1700	61	.04	121	.07
WBR	1	1700	16	.01	37	.02
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.15**		**.32**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	406	.24*	661	.39*
NBT	2	3400	175	.07	318	.14
NBR	0	0	47		168	
SBL	1	1700	8	.00	32	.02
SBT	1	1700	95	.06*	223	.13*
SBR	1	1700	130	.08	258	.15
EBL	1	1700	157	.09*	253	.15
EBT	1	1700	146	.09	412	.24*
EBR	1	1700	519	.31	668	.39
WBL	1	1700	108	.06	161	.09*
WBT	1	1700	403	.24*	254	.15
WBR	1	1700	16	.01	37	.02
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.90**

25 . Hotel Terrace Dr./SR-55 SB at Dyer Rd.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		231		256	
NBT	0.5	3400	16	.07*	4	.08*
NBR	2	3400	468	.14	211	.06
SBL	0.5		58		103	
SBT	1.5	3400	153	.06*	225	.10*
SBR	1	1700	83	.05	115	.07
EBL	1	1700	28	.02	86	.05
EBT	3	5100	1220	.24*	1510	.30*
EBR	1	1700	284	.17	236	.14
WBL	2	3400	339	.10*	536	.16*
WBT	3	5100	807	.16	1072	.21
WBR	1	1700	93	.05	57	.03
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.52** **.69**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		262		252	
NBT	0.5	3400	16	.08*	4	.08*
NBR	2	3400	486	.14	274	.08
SBL	0.5		58		103	
SBT	1.5	3400	139	.06*	236	.10*
SBR	1	1700	83	.05	115	.07
EBL	1	1700	28	.02	86	.05
EBT	3	5100	1308	.26*	1535	.30*
EBR	1	1700	277	.16	202	.12
WBL	2	3400	379	.11*	620	.18*
WBT	3	5100	752	.15	1181	.23
WBR	1	1700	93	.05	57	.03
Clearance Interval				.05*		.05*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION **.56** **.71**

26 . Grand Av. at Dyer Rd.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	587	.17*	328	.10*
SBT	0	0	0		0	
SBR	1	1700	404	.24	413	.24
EBL	2	3400	185	.05	337	.10*
EBT	3	5100	1564	.31*	1418	.28
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	829	.24	1194	.32*
WBR	0	0	531	.31	429	
Right Turn Adjustment			SBR	.02*	SBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.63**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	721	.21*	239	.07*
SBT	0	0	0		0	
SBR	1	1700	345	.20	424	.25
EBL	2	3400	185	.05	337	.10*
EBT	3	5100	1671	.33*	1507	.30
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	872	.26	1376	.35*
WBR	0	0	469	.28	394	
Right Turn Adjustment					SBR	.10*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.59**		**.67**

27 . SR-55 NB Ramps at Dyer Rd.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		692	{.22}*	181	.05*
NBT	0	5100	0	.22	0	
NBR	1.5		448		81	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1560	.31*	1136	.22
EBR	f		578		641	
WBL	0	0	0		0	
WBT	3	5100	683	.13	1463	.29*
WBR	f		278		1001	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.58**		**.39**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		689	{.26}*	141	{.04}*
NBT	0	5100	0	.26	0	{.04}
NBR	1.5		640		192	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1805	.35*	1148	.23
EBR	f		574		628	
WBL	0	0	0		0	
WBT	3	5100	667	.13	1649	.32*
WBR	f		347		1199	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.41**

28 . Red Hill Av. at Dyer Rd./Barranca Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	112	.03*	358	.11
NBT	4	6800	311	.05	1829	.27*
NBR	d	1700	91	.05	363	.21
SBL	2	3400	351	.10	337	.10*
SBT	4	6800	954	.14*	454	.07
SBR	d	1700	162	.10	123	.07
EBL	2	3400	102	.03	215	.06*
EBT	4	6800	787	.15*	867	.14
EBR	0	0	218		88	
WBL	2	3400	468	.14*	135	.04
WBT	4	6800	477	.07	868	.13*
WBR	1	1700	192	.11	472	.28
Right Turn Adjustment					WBR	.07*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.51**		**.68**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	102	.03	530	.16
NBT	4	6800	507	.07*	1768	.26*
NBR	d	1700	91	.05	363	.21
SBL	2	3400	324	.10*	281	.08*
SBT	4	6800	809	.12	706	.10
SBR	d	1700	195	.11	213	.13
EBL	2	3400	249	.07	330	.10*
EBT	4	6800	881	.17*	882	.14
EBR	0	0	324	.19	73	
WBL	2	3400	468	.14*	147	.04
WBT	4	6800	513	.08	944	.14*
WBR	1	1700	114	.07	471	.28
Right Turn Adjustment					WBR	.08*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.53**		**.71**

29 . Aston St. at Barranca Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	13	.01*	49	.03*
NBT	0	0	0		0	
NBR	1	1700	18	.01	114	.07
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1172	.23*	1507	.30*
EBR	1	1700	140	.08	56	.03
WBL	1	1700	175	.10*	14	.01*
WBT	4	6800	1147	.17	1585	.23
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.03*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.39**		**.42**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	5	.00	53	.03*
NBT	1	1700	133	.09*	134	.13
NBR	0	0	15		87	
SBL	1	1700	15	.01*	91	.05
SBT	1	1700	85	.09	155	.26*
SBR	0	0	66		287	
EBL	1	1700	309	.18*	112	.07
EBT	3	5100	982	.19	1398	.27*
EBR	1	1700	88	.05	12	.01
WBL	1	1700	174	.10	19	.01*
WBT	4	6800	1048	.15*	1380	.20
WBR	d	1700	83	.05	47	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.62**

30 . Armstrong Av. at Barranca Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	60	.04*	423	.25*
NBT	0	0	0		0	
NBR	1	1700	12	.01	260	.15
SBL	1	1700	0	.00	0	.00
SBT	1	1700	0	.00*	0	.00*
SBR	1	1700	0	.00	0	.00
EBL	1	1700	0	.00	0	.00
EBT	3	5100	967	.19*	1615	.32*
EBR	d	1700	140	.08	47	.03
WBL	2	3400	146	.04*	64	.02*
WBT	4	6800	1319	.19	1245	.18
WBR	1	1700	0	.00	0	.00
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.32**		**.64**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	59	.03*	421	.25*
NBT	2	3400	61	.02	326	.17
NBR	0	0	5		235	
SBL	1	1700	26	.02	63	.04
SBT	1	1700	319	.19*	161	.09*
SBR	1	1700	142	.08	61	.04
EBL	1	1700	52	.03*	70	.04
EBT	3	5100	751	.15	1499	.29*
EBR	d	1700	125	.07	47	.03
WBL	2	3400	102	.03	40	.01*
WBT	4	6800	1161	.17*	1032	.15
WBR	1	1700	93	.05	81	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.47**		**.69**

31 . Tustin Ranch Rd./Von Karman Av. at Barranca_

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	78	.02*	274	.08
NBT	2	3400	76	.02	1125	.33*
NBR	d	1700	53	.03	377	.22
SBL	2	3400	70	.02	62	.02*
SBT	2	3400	1040	.31*	273	.08
SBR	2	3400	317	.09	283	.08
EBL	2	3400	126	.04	390	.11
EBT	3	5100	624	.12*	1480	.29*
EBR	d	1700	237	.14	105	.06
WBL	2	3400	591	.17*	216	.06*
WBT	4	6800	941	.14	761	.11
WBR	1	1700	26	.02	174	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.67**		**.75**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	68	.02*	229	.07
NBT	2	3400	385	.11	1356	.40*
NBR	d	1700	47	.03	365	.21
SBL	2	3400	70	.02	63	.02*
SBT	2	3400	1022	.30*	669	.20
SBR	2	3400	271	.08	324	.10
EBL	2	3400	80	.02	347	.10
EBT	3	5100	463	.09*	1479	.29*
EBR	d	1700	237	.14	92	.05
WBL	2	3400	619	.18*	217	.06*
WBT	4	6800	884	.13	589	.09
WBR	1	1700	26	.02	174	.10
Right Turn Adjustment			EBR	.03*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.67**		**.82**

32 . Millikan Av. at Barranca Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	46	.03*	150	.09
NBT	2	3400	14	.00	127	.04*
NBR	d	1700	33	.02	146	.09
SBL	2	3400	87	.03	353	.10*
SBT	0.5	3400	83	.05*	44	{.03}
SBR	1.5		100	{.04}	186	
EBL	2	3400	53	.02*	217	.06
EBT	3	5100	555	.11	1582	.31*
EBR	d	1700	150	.09	100	.06
WBL	1	1700	74	.04	30	.02*
WBT	4	6800	1428	.21*	784	.12
WBR	1	1700	130	.08	371	.22
Right Turn Adjustment					NBR	.03*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.36**		**.55**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	23	.01*	117	.07
NBT	2	3400	126	.04	242	.07*
NBR	d	1700	31	.02	139	.08
SBL	2	3400	177	.05	536	.16*
SBT	0.5	3400	215	.13*	206	.12
SBR	1.5		34	.02	42	
EBL	2	3400	7	.00	157	.05
EBT	3	5100	517	.10	1668	.33*
EBR	d	1700	64	.04	61	.04
WBL	1	1700	76	.04	28	.02*
WBT	4	6800	1485	.22*	786	.12
WBR	1	1700	291	.17	523	.31
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.41**		**.63**

33 . Jamboree Rd. at Barranca Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	117	.03*	397	.12
NBT	4	6800	681	.10	2776	.41*
NBR	f		107		94	
SBL	2	3400	481	.14	306	.09*
SBT	4	6800	3272	.48*	1221	.18
SBR	f		1254		232	
EBL	2.5		180	.05	1140	
EBT	2.5	8500	442	.09*	801	.23*
EBR	1	1700	118	.07	232	.14
WBL	2	3400	229	.07	132	.04
WBT	3	5100	489	.10*	694	.14*
WBR	f		151		334	
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION **.75** **.92**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	127	.04*	398	.12
NBT	4	6800	844	.12	2887	.42*
NBR	f		114		80	
SBL	2	3400	483	.14	341	.10*
SBT	4	6800	3355	.49*	1370	.20
SBR	f		1319		278	
EBL	2.5		191	.06	1211	
EBT	2.5	8500	480	.09*	990	.26*
EBR	1	1700	118	.07	234	.14
WBL	2	3400	211	.06	136	.04
WBT	3	5100	633	.12*	799	.16*
WBR	f		152		352	
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION **.79** **.99**

34 . Harvard Av. at Barranca Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	138	.08*	215	.13
NBT	2	3400	199	.06	830	.24*
NBR	1	1700	54	.03	165	.10
SBL	1	1700	144	.08	106	.06*
SBT	2	3400	591	.17*	300	.09
SBR	1	1700	180	.11	47	.03
EBL	2	3400	30	.01*	156	.05*
EBT	3	5100	403	.08	853	.17
EBR	1	1700	160	.09	200	.12
WBL	2	3400	183	.05	88	.03
WBT	3	5100	680	.13*	797	.16*
WBR	d	1700	57	.03	126	.07
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.44**		**.56**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	137	.08*	216	.13
NBT	2	3400	239	.07	911	.27*
NBR	1	1700	50	.03	157	.09
SBL	1	1700	141	.08	117	.07*
SBT	2	3400	713	.21*	372	.11
SBR	1	1700	154	.09	39	.02
EBL	2	3400	25	.01*	139	.04*
EBT	3	5100	460	.09	992	.19
EBR	1	1700	158	.09	278	.16
WBL	2	3400	149	.04	83	.02
WBT	3	5100	842	.17*	923	.18*
WBR	d	1700	64	.04	128	.08
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.52**		**.61**

35 . Red Hill Av. at Alton Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	115	.07*	43	.03
NBT	3	5100	528	.10	1971	.39*
NBR	d	1700	326	.19	239	.14
SBL	1	1700	271	.16	158	.09*
SBT	3	5100	1147	.22*	661	.13
SBR	d	1700	122	.07	6	.00
EBL	1	1700	7	.00	78	.05
EBT	2	3400	40	.01	254	.07*
EBR	1	1700	20	.01	132	.08
WBL	2	3400	278	.08	482	.14*
WBT	1	1700	197	.12*	116	.07
WBR	1	1700	145	.09	461	.27
Right Turn Adjustment					WBR	.04*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.46**		**.78**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	115	.07*	43	.03
NBT	3	5100	814	.16	2230	.44*
NBR	d	1700	312	.18	301	.18
SBL	1	1700	203	.12	79	.05*
SBT	3	5100	1238	.24*	1029	.20
SBR	d	1700	129	.08	10	.01
EBL	1	1700	12	.01*	87	.05
EBT	2	3400	41	.01	256	.08*
EBR	1	1700	20	.01	132	.08
WBL	2	3400	316	.09	487	.14*
WBT	1	1700	186	.11*	115	.07
WBR	1	1700	102	.06	418	.25
Right Turn Adjustment					WBR	.04*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.80**

36 . Von Karman Av. at Alton Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	46	.03*	84	.05
NBT	2	3400	262	.08	1253	.37*
NBR	d	1700	61	.04	294	.17
SBL	1	1700	63	.04	169	.10*
SBT	2	3400	1576	.46*	454	.13
SBR	d	1700	156	.09	193	.11
EBL	1	1700	48	.03*	185	.11
EBT	2	3400	224	.07	966	.28*
EBR	d	1700	59	.03	68	.04
WBL	1	1700	226	.13	99	.06*
WBT	2	3400	765	.23*	614	.18
WBR	d	1700	121	.07	99	.06
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.80**		**.86**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	34	.02*	144	.08
NBT	2	3400	529	.16	1383	.41*
NBR	d	1700	58	.03	283	.17
SBL	1	1700	66	.04	154	.09*
SBT	2	3400	1597	.47*	781	.23
SBR	d	1700	132	.08	191	.11
EBL	1	1700	51	.03*	218	.13
EBT	2	3400	230	.07	971	.29*
EBR	d	1700	97	.06	39	.02
WBL	1	1700	220	.13	81	.05*
WBT	2	3400	752	.22*	638	.19
WBR	d	1700	121	.07	93	.05
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.79**		**.89**

37 . Jamboree Rd. at Alton Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	206	.06*	219	.06
NBT	4	6800	803	.12	2920	.43*
NBR	1	1700	135	.08	219	.13
SBL	2	3400	173	.05	180	.05*
SBT	4	6800	2276	.37*	1485	.24
SBR	0	0	244		166	
EBL	2	3400	51	.02*	456	.13
EBT	3	5100	176	.05	898	.22*
EBR	0	0	68		235	
WBL	2	3400	178	.05	239	.07*
WBT	3	5100	819	.16*	511	.10
WBR	d	1700	115	.07	264	.16
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.82**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	225	.07*	255	.08
NBT	4	6800	943	.14	2987	.44*
NBR	1	1700	138	.08	233	.14
SBL	2	3400	93	.03	212	.06*
SBT	4	6800	2400	.39*	1674	.27
SBR	0	0	251		163	
EBL	2	3400	46	.01*	464	.14
EBT	3	5100	235	.06	902	.23*
EBR	0	0	87		257	
WBL	2	3400	181	.05	240	.07*
WBT	3	5100	833	.16*	509	.10
WBR	d	1700	191	.11	306	.18
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.85**

38 . Harvard Av. at Alton Pkwy.

Existing Count

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	190	.11*	153	.09
NBT	2	3400	351	.10	1242	.37*
NBR	d	1700	69	.04	213	.13
SBL	1	1700	23	.01	68	.04*
SBT	2	3400	887	.26*	563	.17
SBR	1	1700	168	.10	35	.02
EBL	2	3400	51	.02*	192	.06
EBT	3	5100	170	.03	857	.17*
EBR	1	1700	143	.08	359	.21
WBL	2	3400	198	.06	124	.04*
WBT	3	5100	739	.14*	549	.11
WBR	d	1700	27	.02	47	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.58**		**.67**

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	276	.16*	210	.12
NBT	2	3400	376	.11	1296	.38*
NBR	d	1700	62	.04	183	.11
SBL	1	1700	24	.01	70	.04*
SBT	2	3400	982	.29*	704	.21
SBR	1	1700	143	.08	26	.02
EBL	2	3400	47	.01*	188	.06
EBT	3	5100	188	.04	898	.18*
EBR	1	1700	105	.06	375	.22
WBL	2	3400	205	.06	115	.03*
WBT	3	5100	764	.15*	544	.11
WBR	d	1700	27	.02	47	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.66**		**.68**

57 . Red Hill Av. at Bell Av.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	73	.04*	91	.05
NBT	3	5100	673	.16	2129	.45*
NBR	0	0	126		163	
SBL	2	3400	54	.02	16	.00
SBT	3	5100	2445	.48*	1129	.24
SBR	0	0	2		91	
EBL	1	1700	27	.02	2	.00
EBT	1	1700	6	.04*	21	.08*
EBR	0	0	62		117	
WBL	1	1700	62	.04*	108	.06*
WBT	0.5	3400	15	.01	18	.01
WBR	1.5		8		29	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.64**

58 . Armstrong Av. at Bell Av.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	39	.02*	121	.07*
NBT	2	3400	169	.05	430	.13
NBR	0	0	2		3	
SBL	1	1700	4	.00	5	.00
SBT	2	3400	356	.11*	329	.10*
SBR	0	0	29		24	
EBL	1	1700	18	.01	69	.04
EBT	1	1700	40	.08*	29	.08*
EBR	0	0	97		99	
WBL	1	1700	0	.00	1	.00
WBT	1	1700	10	.01	33	.03
WBR	0	0	5		26	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.26**		**.30**

59 . Armstrong Av. at Warner Av.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	134	.04*	226	.07
NBT	2	3400	107	.03	303	.09*
NBR	d	1700	21	.01	63	.04
SBL	2	3400	118	.03	171	.05*
SBT	2	3400	177	.05*	131	.04
SBR	1	1700	157	.09	127	.07
EBL	1	1700	35	.02	60	.04*
EBT	3	5100	1587	.31*	1809	.35
EBR	1	1700	357	.21	244	.14
WBL	1	1700	25	.01*	23	.01
WBT	3	5100	1425	.28	1875	.37*
WBR	1	1700	68	.04	190	.11
Right Turn Adjustment			SBR	.01*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.47**		**.60**

60 . Legacy Rd. at Warner Av.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	171	.05*	305	.09*
NBT	0	0	0		0	
NBR	2	3400	0	.00	0	.00
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1700	0	.00	0	.00
EBT	3	5100	309	.06	614	.12*
EBR	1	1700	295	.17	302	.18
WBL	1	1700	0	.00	0	.00
WBT	3	5100	758	.15*	500	.10
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.25**		**.26**

61 . Tustin Ranch Rd. at Victory Rd.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	496	.15*	341	.10*
NBT	3	5100	758	.15	1404	.28
NBR	1	1700	9	.01	52	.03
SBL	2	3400	3	.00	9	.00
SBT	3	5100	1592	.31*	972	.19*
SBR	1	1700	352	.21	595	.35
EBL	2	3400	123	.04*	872	.26*
EBT	2	3400	20	.01	151	.04
EBR	1	1700	282	.17	568	.33
WBL	1	1700	58	.03	19	.01
WBT	2	3400	160	.05*	171	.05*
WBR	1	1700	22	.01	8	.00
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.60**		**.65**

62 . Tustin Ranch Rd. at Moffett. Dr.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	357	.11*	368	.11
NBT	3	5100	467	.11	1624	.38*
NBR	0	0	79		291	
SBL	1	1700	3	.00	11	.01*
SBT	3	5100	1467	.43*	1029	.25
SBR	0	0	785	.46	250	
EBL	2	3400	239	.07*	378	.11*
EBT	2	3400	5	.00	25	.01
EBR	0	0	211	.12	390	.23
WBL	2	3400	269	.08	157	.05
WBT	2	3400	68	.03*	16	.01*
WBR	0	0	33		9	
Right Turn Adjustment			EBR	.02*	EBR	.05*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.71**		**.61**

63 . Park Av. at Moffett Dr.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	3	.00	1	.00
NBT	2	3400	51	.02	118	.04*
NBR	0	0	8		6	
SBL	1	1700	0	.00	0	.00
SBT	2	3400	112	.04*	96	.03
SBR	0	0	11		7	
EBL	1	1700	0	.00	1	.00
EBT	1	1700	93	.06	311	.19*
EBR	0	0	2		7	
WBL	1	1700	2	.00	0	.00
WBT	1	1700	338	.20*	173	.10
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.29**		**.28**

64 . Park Av. at Victory Rd.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	118	.07*	137	.08*
NBT	2	3400	53	.02	79	.02
NBR	d	1700	5	.00	18	.01
SBL	1	1700	0	.00	0	.00
SBT	2	3400	78	.02*	71	.02*
SBR	d	1700	38	.02	32	.02
EBL	1	1700	9	.01*	46	.03*
EBT	1	1700	9	.01	51	.03
EBR	1	1700	13	.01	103	.06
WBL	1	1700	15	.01	8	.00
WBT	1	1700	72	.04*	27	.02*
WBR	d	1700	0	.00	0	.00
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.19**		**.20**

65 . Park Av. at Jamboree Rd. SB

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	25	.01*	104	.03*
NBR	1	1700	2	.00	8	.00
SBL	1	1700	51	.03*	124	.07*
SBT	2	3400	96	.03	40	.01
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	454	.13*	231	.07*
WBT	0	0	0		0	
WBR	1	1700	112	.07	150	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.22**		**.22**

66 . Tustin Ranch Rd. at Warner Av. S.

Existing-Plus-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	16	.00	210	.06
NBT	3	5100	505	.10	1019	.20*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1150	.23*	563	.11
SBR	1	1700	592	.35	249	.15
EBL	2	3400	136	.04*	299	.09*
EBT	0	0	0		0	
EBR	1	1700	144	.08	203	.12
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			Multi	.12*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for SBR EBR

TOTAL CAPACITY UTILIZATION **.44** **.34**

1 . Tustin Ranch Rd. at Walnut Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	94	.03*	378	.11
NBT	3	5100	297	.06	1459	.29*
NBR	1	1700	269	.16	263	.15
SBL	2	3400	504	.15	324	.10*
SBT	3	5100	1114	.22*	589	.12
SBR	1	1700	211	.12	308	.18
EBL	2	3400	235	.07	323	.10*
EBT	3	5100	722	.14*	473	.09
EBR	d	1700	235	.14	95	.06
WBL	2	3400	415	.12*	217	.06
WBT	2	3400	336	.10	954	.28*
WBR	1	1700	100	.06	549	.32
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION **.56** **.82**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	98	.03*	410	.12
NBT	3	5100	314	.06	1567	.31*
NBR	1	1700	257	.15	303	.18
SBL	2	3400	490	.14	346	.10*
SBT	3	5100	1148	.23*	736	.14
SBR	1	1700	222	.13	310	.18
EBL	2	3400	259	.08	313	.09*
EBT	3	5100	723	.14*	492	.10
EBR	d	1700	248	.15	115	.07
WBL	2	3400	424	.12*	269	.08
WBT	2	3400	350	.10	951	.28*
WBR	1	1700	106	.06	541	.32
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION **.57** **.83**

2 . Jamboree Rd. SB at Walnut Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	190	.06	276	.08
SBT	2	3400	559	.16*	484	.14*
SBR	1	1700	521	.31	169	.10
EBL	0	0	0		0	
EBT	3	5100	440	.09*	927	.18*
EBR	1	1700	300	.18	552	.32
WBL	2	3400	342	.10*	337	.10*
WBT	3	5100	789	.15	1124	.22
WBR	0	0	0		0	
Right Turn Adjustment		Multi		.21*	EBR	.14*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.61** **.61**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	169	.05	279	.08
SBT	2	3400	510	.15*	528	.16*
SBR	1	1700	525	.31	193	.11
EBL	0	0	0		0	
EBT	3	5100	431	.08*	961	.19*
EBR	1	1700	301	.18	618	.36
WBL	2	3400	319	.09*	335	.10*
WBT	3	5100	815	.16	1167	.23
WBR	0	0	0		0	
Right Turn Adjustment		Multi		.25*	EBR	.17*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.62** **.67**

3 . Jamboree Rd. NB at Walnut Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	333	.10*	820	.24*
NBT	2	3400	319	.09	678	.20
NBR	d	1700	398	.23	622	.37
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3400	22	.01*	260	.08*
EBT	3	5100	772	.15	831	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	1027	.20*	1074	.21*
WBR	1	1700	379	.22	485	.29
Right Turn Adjustment			Multi	.09*	Multi	.08*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.45**		**.66**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	348	.10	854	.25*
NBT	2	3400	363	.11*	687	.20
NBR	d	1700	431	.25	584	.34
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3400	22	.01*	286	.08*
EBT	3	5100	739	.14	846	.17
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	1012	.20*	1086	.21*
WBR	1	1700	406	.24	477	.28
Right Turn Adjustment			Multi	.13*	WBR	.03*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.62**

4 . Newport Av. at SR-55 NB Ramps/Del Amo Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	84	.02*	455	.13
NBT	3	5100	207	.04	974	.19*
NBR	d	1700	64	.04	47	.03
SBL	1	1700	0	.00	16	.01*
SBT	3	5100	937	.18*	227	.04
SBR	1	1700	198	.12	958	.56
EBL	2	3400	620	.18*	417	.12*
EBT	2	3400	231	.11	17	.01
EBR	0	0	142		25	.01
WBL	1	1700	63	.04	77	.05
WBT	2	3400	86	.03*	268	.08*
WBR	d	1700	9	.01	59	.03
Right Turn Adjustment					SBR	.40*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.46**		**.85**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	147	.04*	423	.12
NBT	3	5100	270	.05	949	.19*
NBR	d	1700	66	.04	46	.03
SBL	1	1700	0	.00	16	.01*
SBT	3	5100	918	.18*	310	.06
SBR	1	1700	205	.12	957	.56
EBL	2	3400	616	.18*	435	.13*
EBT	2	3400	181	.11	18	.01
EBR	0	0	179		35	.02
WBL	1	1700	63	.04	95	.06
WBT	2	3400	89	.03*	241	.07*
WBR	d	1700	7	.00	56	.03
Right Turn Adjustment					SBR	.38*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.83**

5 . SR-55 SB Ramps at Edinger Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		377		373	
NBT	0.5	3400	41	.12*	40	.12*
NBR	2	3400	485	.14	158	.05
SBL	1	1700	76	.04*	136	.08*
SBT	1	1700	27	.02	79	.05
SBR	1	1700	28	.02	75	.04
EBL	1	1700	46	.03	66	.04
EBT	3	5100	1949	.38*	1767	.35*
EBR	f		362		340	
WBL	2	3400	581	.17*	378	.11*
WBT	3	5100	1685	.35	1622	.34
WBR	0	0	103		88	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.76**		**.71**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		390		359	
NBT	0.5	3400	41	.13*	40	.12*
NBR	2	3400	470	.14	172	.05
SBL	1	1700	75	.04*	143	.08*
SBT	1	1700	26	.02	77	.05
SBR	1	1700	29	.02	70	.04
EBL	1	1700	47	.03	64	.04
EBT	3	5100	1935	.38*	1825	.36*
EBR	f		356		328	
WBL	2	3400	568	.17*	395	.12*
WBT	3	5100	1771	.37	1599	.33
WBR	0	0	103		90	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.77**		**.73**

6 . Newport Av. at Edinger Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	370	.11*	435	.13*
NBT	3	5100	319	.06	789	.15
NBR	d	1700	122	.07	158	.09
SBL	2	3400	213	.06	117	.03
SBT	3	5100	863	.17*	460	.09*
SBR	1	1700	655	.39	324	.19
EBL	2	3400	424	.12	611	.18*
EBT	3	5100	1465	.29*	1105	.22
EBR	1	1700	634	.37	485	.29
WBL	1	1700	202	.12*	225	.13
WBT	3	5100	1415	.28	1460	.29*
WBR	f		137		300	
Right Turn Adjustment		SBR	.12*			
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				**.86**		**.74**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	397	.12*	422	.12*
NBT	3	5100	336	.07	796	.16
NBR	d	1700	128	.08	155	.09
SBL	2	3400	209	.06	119	.04
SBT	3	5100	831	.16*	497	.10*
SBR	1	1700	641	.38	326	.19
EBL	2	3400	433	.13*	649	.19*
EBT	3	5100	1433	.28	1127	.22
EBR	1	1700	628	.37	516	.30
WBL	1	1700	221	.13	247	.15
WBT	3	5100	1482	.29*	1463	.29*
WBR	f		141		305	
Right Turn Adjustment		SBR	.12*			
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				**.87**		**.75**

7 . Del Amo Av. at Edinger Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		36	{.01}*	67	{.02}*
NBT	0.5	3400	4	.01	0	.02
NBR	1	1700	180	.11	85	.05
SBL	0	0	0		0	
SBT	1	1700	0	.00*	0	.00*
SBR	0	0	0		0	
EBL	1	1700	13	.01	7	.00
EBT	3	5100	1620	.32*	1335	.26
EBR	d	1700	141	.08	61	.04
WBL	2	3400	279	.08*	189	.06
WBT	3	5100	1734	.34	1963	.38*
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.02*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION .48 .45

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		30	{.01}*	87	{.03}*
NBT	0.5	3400	4	.01	0	.03
NBR	1	1700	136	.08	104	.06
SBL	0	0	0		0	
SBT	1	1700	0	.00*	0	.00*
SBR	0	0	0		0	
EBL	1	1700	13	.01	7	.00
EBT	3	5100	1588	.31*	1336	.26
EBR	d	1700	133	.08	63	.04
WBL	2	3400	258	.08*	187	.06
WBT	3	5100	1825	.36	1973	.39*
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION .45 .47

8 . Red Hill Av. at Edinger Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	113	.03*	351	.10
NBT	3	5100	252	.05	1739	.34*
NBR	1	1700	202	.12	557	.33
SBL	2	3400	223	.07	139	.04*
SBT	3	5100	1359	.27*	387	.08
SBR	1	1700	352	.21	224	.13
EBL	2	3400	230	.07	336	.10*
EBT	3	5100	1095	.21*	952	.19
EBR	1	1700	327	.19	161	.09
WBL	2	3400	684	.20*	245	.07
WBT	3	5100	1495	.29	1280	.25*
WBR	1	1700	118	.07	398	.23
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for WBR EBR

TOTAL CAPACITY UTILIZATION .76 .78

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	102	.03*	331	.10
NBT	3	5100	252	.05	1726	.34*
NBR	1	1700	207	.12	592	.35
SBL	2	3400	259	.08	150	.04*
SBT	3	5100	1290	.25*	384	.08
SBR	1	1700	361	.21	216	.13
EBL	2	3400	220	.06	329	.10*
EBT	3	5100	1072	.21*	996	.20
EBR	1	1700	261	.15	154	.09
WBL	2	3400	681	.20*	259	.08
WBT	3	5100	1606	.31	1314	.26*
WBR	1	1700	140	.08	429	.25
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for WBR EBR

TOTAL CAPACITY UTILIZATION .74 .79

9 . Kensington Park Dr. at Edinger Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	97	.03*	163	.05*
NBT	0	0	0		0	
NBR	1	1700	74	.04	272	.16
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1446	.28*	1328	.26
EBR	1	1700	234	.14	190	.11
WBL	2	3400	206	.06*	160	.05
WBT	3	5100	1593	.31	2097	.41*
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .42 .51

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	102	.03*	194	.06*
NBT	0	0	0		0	
NBR	1	1700	107	.06	401	.24
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1483	.29*	1439	.28
EBR	1	1700	205	.12	182	.11
WBL	2	3400	265	.08*	178	.05
WBT	3	5100	1748	.34	2146	.42*
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.07*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .45 .60

10 . Jamboree Rd. at Edinger Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	73	.02	203	.06
NBT	0	0	0		0	
NBR	1	1700	78	.05	291	.17
SBL	2	3400	215	.06*	365	.11*
SBT	0	0	0		0	
SBR	f		602		391	
EBL	2	3400	238	.07*	658	.19*
EBT	3	5100	907	.20	1334	.28
EBR	0	0	100		106	
WBL	2	3400	280	.08	144	.04
WBT	3	5100	1344	.26*	1456	.29*
WBR	1	1700	372	.22	382	.22
Right Turn Adjustment					NBR	.02*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .44 .66

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	82	.02	228	.07
NBT	0	0	0		0	
NBR	1	1700	68	.04	292	.17
SBL	2	3400	170	.05*	419	.12*
SBT	0	0	0		0	
SBR	f		609		501	
EBL	2	3400	335	.10*	703	.21*
EBT	3	5100	832	.19	1170	.25
EBR	0	0	125		118	
WBL	2	3400	255	.08	152	.04
WBT	3	5100	1159	.23*	1351	.26*
WBR	1	1700	385	.23	387	.23
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .43 .64

11 . Harvard Av. at Edinger Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	152	.04	322	.09
NBT	2	3400	139	.04*	551	.16*
NBR	1	1700	99	.06	273	.16
SBL	1	1700	164	.10*	117	.07*
SBT	2	3400	314	.09	175	.05
SBR	d	1700	152	.09	70	.04
EBL	2	3400	55	.02*	164	.05*
EBT	3	5100	1107	.22	1529	.30
EBR	1	1700	172	.10	164	.10
WBL	2	3400	174	.05	131	.04
WBT	3	5100	1515	.30*	1618	.32*
WBR	d	1700	156	.09	155	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.51**		**.65**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	124	.04	294	.09
NBT	2	3400	143	.04*	568	.17*
NBR	1	1700	113	.07	290	.17
SBL	1	1700	197	.12*	132	.08*
SBT	2	3400	313	.09	184	.05
SBR	d	1700	131	.08	67	.04
EBL	2	3400	46	.01*	153	.05*
EBT	3	5100	1040	.20	1468	.29
EBR	1	1700	134	.08	147	.09
WBL	2	3400	187	.06	139	.04
WBT	3	5100	1408	.28*	1569	.31*
WBR	d	1700	183	.11	169	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.50**		**.66**

12 . Harvard Av. at Moffett Dr./Paseo Westpark

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	56	.03*	42	.02
NBT	2	3400	215	.06	906	.27*
NBR	d	1700	59	.03	183	.11
SBL	1	1700	64	.04	61	.04*
SBT	2	3400	531	.16*	347	.10
SBR	1	1700	95	.06	72	.04
EBL	1	1700	22	.01	68	.04
EBT	1	1700	58	.03*	92	.05*
EBR	d	1700	50	.03	60	.04
WBL	1	1700	158	.09*	50	.03*
WBT	1	1700	109	.06	49	.03
WBR	d	1700	143	.08	161	.09
Right Turn Adjustment					WBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.36**		**.46**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	81	.05*	80	.05
NBT	2	3400	161	.05	791	.23*
NBR	d	1700	63	.04	198	.12
SBL	1	1700	79	.05	64	.04*
SBT	2	3400	436	.13*	283	.08
SBR	1	1700	156	.09	134	.08
EBL	1	1700	56	.03	137	.08
EBT	1	1700	208	.12*	228	.13*
EBR	d	1700	122	.07	115	.07
WBL	1	1700	162	.10*	61	.04*
WBT	1	1700	223	.13	134	.08
WBR	d	1700	153	.09	205	.12
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.45**		**.49**

13 . Red Hill Av. at Valencia Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	160	.09*	585	.34*
NBT	4	6800	495	.07	2294	.34
NBR	1	1700	182	.11	316	.19
SBL	1	1700	128	.08	58	.03
SBT	3	5100	1332	.29*	580	.13*
SBR	0	0	142		99	
EBL	1	1700	47	.03	102	.06
EBT	1	1700	330	.19*	226	.13*
EBR	1	1700	283	.17	145	.09
WBL	2	3400	274	.08*	214	.06*
WBT	2	3400	252	.07	236	.07
WBR	1	1700	55	.03	64	.04
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.70** **.71**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	180	.11*	444	.26
NBT	4	6800	454	.07	2211	.33*
NBR	1	1700	195	.11	371	.22
SBL	1	1700	150	.09	94	.06*
SBT	3	5100	1096	.25*	543	.13
SBR	0	0	174		105	
EBL	1	1700	48	.03	128	.08
EBT	1	1700	393	.23*	345	.20*
EBR	1	1700	239	.14	128	.08
WBL	2	3400	223	.07*	259	.08*
WBT	2	3400	303	.09	321	.09
WBR	1	1700	55	.03	111	.07
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.71** **.72**

14 . Armstrong Av. at Valencia Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		27		142	.08
NBT	0.5	3400	0	.01*	201	.12*
NBR	1	1700	73	.04	0	.00
SBL	1	1700	187	.11	147	.09*
SBT	1	1700	0	.24*	34	.07
SBR	0	0	413		80	
EBL	1	1700	61	.04*	111	.07
EBT	2	3400	170	.05	1023	.30*
EBR	1	1700	90	.05	105	.06
WBL	2	3400	250	.07	71	.02*
WBT	2	3400	730	.21*	388	.11
WBR	d	1700	79	.05	178	.10
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION **.55** **.58**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		69		151	.09
NBT	0.5	3400	25	.03*	173	.10*
NBR	1	1700	16	.01	77	.05
SBL	1	1700	77	.05	59	.03
SBT	1	1700	193	.31*	92	.13*
SBR	0	0	340		121	
EBL	1	1700	57	.03*	254	.15
EBT	2	3400	308	.09	1042	.31*
EBR	1	1700	83	.05	174	.10
WBL	2	3400	65	.02	47	.01*
WBT	2	3400	1047	.31*	534	.16
WBR	d	1700	48	.03	65	.04
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION **.73** **.60**

15 . Kensington Park Dr. at Valencia Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	0	.00	0	.00
NBT	2	3400	0	.00*	0	.00*
NBR	1	1700	0	.00	0	.00
SBL	2	3400	129	.04*	129	.04*
SBT	2	3400	0	.00	0	.00
SBR	1	1700	49	.03	54	.03
EBL	2	3400	8	.00	130	.04
EBT	2	3400	151	.04	791	.23*
EBR	1	1700	0	.00	0	.00
WBL	2	3400	0	.00	0	.00
WBT	2	3400	461	.14*	346	.10
WBR	1	1700	42	.02	180	.11
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.23** **.32**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	49	.03*	52	.03
NBT	2	3400	30	.01	247	.07*
NBR	1	1700	82	.05	211	.12
SBL	2	3400	122	.04	161	.05*
SBT	2	3400	276	.08*	130	.04
SBR	1	1700	73	.04	39	.02
EBL	2	3400	6	.00	92	.03
EBT	2	3400	156	.05	708	.21*
EBR	1	1700	39	.02	61	.04
WBL	2	3400	206	.06	109	.03*
WBT	2	3400	499	.15*	289	.09
WBR	1	1700	34	.02	151	.09
Right Turn Adjustment				NBR		.03*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.31** **.44**

16 . Tustin Ranch Rd. at Valencia Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	139	.04*	276	.08
NBT	3	5100	309	.06	1471	.29*
NBR	1	1700	0	.00	0	.00
SBL	1	1700	0	.00	0	.00
SBT	3	5100	1231	.24*	646	.13
SBR	1	1700	661	.39	244	.14
EBL	2	3400	171	.05*	709	.21*
EBT	1	1700	0	.00	0	.00
EBR	1	1700	159	.09	254	.15
WBL	1	1700	0	.00	0	.00
WBT	2	3400	0	.00*	0	.00*
WBR	1	1700	0	.00	0	.00
Right Turn Adjustment		Multi		.11*		
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR NBR						

TOTAL CAPACITY UTILIZATION **.49** **.55**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	80	.02*	251	.07
NBT	3	5100	360	.07	1735	.34*
NBR	1	1700	14	.01	103	.06
SBL	1	1700	81	.05	96	.06*
SBT	3	5100	1290	.25*	754	.15
SBR	1	1700	430	.25	240	.14
EBL	2	3400	159	.05*	520	.15*
EBT	1	1700	55	.03	251	.15
EBR	1	1700	108	.06	229	.13
WBL	1	1700	102	.06	47	.03
WBT	2	3400	300	.09*	128	.04*
WBR	1	1700	151	.09	105	.06
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR NBR						

TOTAL CAPACITY UTILIZATION **.46** **.64**

17 . Red Hill Av. at Warner Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	264	.08*	479	.14
NBT	4	6800	520	.08	1542	.23*
NBR	1	1700	291	.17	422	.25
SBL	2	3400	412	.12	242	.07*
SBT	3	5100	1132	.29*	523	.15
SBR	0	0	362		266	.16
EBL	2	3400	275	.08	402	.12*
EBT	3	5100	1357	.35*	985	.24
EBR	0	0	407		235	
WBL	2	3400	290	.09*	261	.08
WBT	3	5100	864	.17	1205	.24*
WBR	1	1700	185	.11	436	.26
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.86** **.71**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	225	.07*	384	.11
NBT	4	6800	526	.08	1589	.23*
NBR	1	1700	336	.20	568	.33
SBL	2	3400	508	.15	381	.11*
SBT	3	5100	1105	.28*	547	.16
SBR	0	0	336		263	
EBL	2	3400	248	.07	379	.11*
EBT	3	5100	1416	.35*	1252	.28
EBR	0	0	346		189	
WBL	2	3400	380	.11*	334	.10
WBT	3	5100	1079	.21	1413	.28*
WBR	1	1700	286	.17	632	.37
Right Turn Adjustment					Multi	.03*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.86** **.81**

18 . Tustin Ranch Rd. at Warner Av. N.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	395	.08	1457	.29*
NBR	1	1700	590	.35	1396	.82
SBL	2	3400	270	.08	268	.08*
SBT	3	5100	1011	.20*	655	.13
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1459	.29*	808	.16*
WBT	0	0	0		0	
WBR	2	3400	125	.04	417	.12
Right Turn Adjustment					NBR	.37*
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION **.54** **.95**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	690	.14*	1689	.33*
NBR	1	1700	412	.24	860	.51
SBL	2	3400	490	.14*	650	.19*
SBT	3	5100	1049	.21	931	.18
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1136	.22*	459	.09*
WBT	0	0	0		0	
WBR	2	3400	423	.12	761	.22
Right Turn Adjustment					NBR	.09*
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION **.55** **.75**

19 . Park Av. at Warner Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	23	.01	29	.02
NBT	2	3400	23	.01*	48	.01*
NBR	1	1700	131	.08	453	.27
SBL	1	1700	236	.14*	253	.15*
SBT	2	3400	149	.04	211	.06
SBR	f		915		306	
EBL	2	3400	17	.01*	54	.02
EBT	3	5100	713	.14	1941	.38*
EBR	d	1700	30	.02	15	.01
WBL	2	3400	191	.06	371	.11*
WBT	2	3400	892	.26*	567	.17
WBR	1	1700	50	.03	122	.07
Right Turn Adjustment					NBR	.15*
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION **.47** **.85**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	25	.01	30	.02
NBT	2	3400	19	.01*	47	.01*
NBR	1	1700	145	.09	515	.30
SBL	1	1700	233	.14*	269	.16*
SBT	2	3400	161	.05	211	.06
SBR	f		890		288	
EBL	2	3400	13	.00	42	.01
EBT	3	5100	752	.15	1797	.35*
EBR	d	1700	35	.02	14	.01
WBL	2	3400	214	.06	412	.12*
WBT	2	3400	895	.26*	592	.17
WBR	1	1700	38	.02	123	.07
Right Turn Adjustment					NBR	.17*
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION **.46** **.86**

20 . Jamboree Rd. NB at Warner Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1700	0	.00	0	.00
NBR	0	0	0		0	
SBL	0	0	1		2	
SBT	1	1700	0	.00*	0	.00*
SBR	1	1700	105	.06	73	.04
EBL	1	1700	337	.20*	1314	.77*
EBT	2	3400	469	.14	1141	.34
EBR	d	1700	4	.00	3	.00
WBL	1	1700	2	.00	5	.00
WBT	2	3400	1015	.30*	829	.24*
WBR	d	1700	103	.06	110	.06
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.55** **1.06**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	1	1700	0	.00	0	.00
NBR	0	0	0		0	
SBL	0	0	2		4	
SBT	1	1700	0	.00*	0	.00*
SBR	1	1700	135	.08	114	.07
EBL	1	1700	335	.20*	1268	.75*
EBT	2	3400	518	.15	1126	.33
EBR	d	1700	4	.00	3	.00
WBL	1	1700	2	.00	5	.00
WBT	2	3400	985	.29*	866	.25*
WBR	d	1700	105	.06	122	.07
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.54** **1.05**

21 . Harvard Av. at Warner Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	125	.07*	215	.13
NBT	2	3400	201	.06	793	.23*
NBR	d	1700	69	.04	132	.08
SBL	1	1700	187	.11	98	.06*
SBT	2	3400	550	.16*	319	.09
SBR	d	1700	173	.10	93	.05
EBL	1	1700	122	.07*	287	.17*
EBT	2	3400	314	.09	760	.22
EBR	d	1700	90	.05	103	.06
WBL	1	1700	131	.08	88	.05
WBT	2	3400	763	.22*	572	.17*
WBR	d	1700	158	.09	150	.09
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.68**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	139	.08*	212	.12
NBT	2	3400	262	.08	868	.26*
NBR	d	1700	80	.05	141	.08
SBL	1	1700	197	.12	123	.07*
SBT	2	3400	583	.17*	399	.12
SBR	d	1700	174	.10	107	.06
EBL	1	1700	143	.08*	290	.17*
EBT	2	3400	333	.10	749	.22
EBR	d	1700	96	.06	101	.06
WBL	1	1700	132	.08	100	.06
WBT	2	3400	727	.21*	604	.18*
WBR	d	1700	175	.10	175	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.59**		**.73**

22 . Red Hill Av. at Carnegie Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	48	.03*	26	.02
NBT	4	6800	801	.12	2165	.32*
NBR	1	1700	134	.08	186	.11
SBL	1	1700	212	.12	204	.12*
SBT	3	5100	1128	.24*	799	.16
SBR	0	0	78		37	
EBL	1	1700	15	.01*	107	.06*
EBT	1	1700	23	.02	79	.07
EBR	0	0	13		34	
WBL	1	1700	149	.09	86	.05
WBT	1	1700	94	.15*	37	.19*
WBR	0	0	164		278	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.48**		**.74**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	131	.08*	51	.03
NBT	4	6800	989	.15	2473	.36*
NBR	1	1700	54	.03	37	.02
SBL	1	1700	32	.02	19	.01*
SBT	3	5100	1299	.27*	1068	.22
SBR	0	0	85		39	
EBL	1	1700	14	.01	121	.07*
EBT	1	1700	7	.02*	14	.06
EBR	0	0	28		96	
WBL	1	1700	19	.01*	35	.02
WBT	1	1700	11	.01	10	.03*
WBR	0	0	10		45	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.43**		**.52**

23 . Tustin Ranch Rd. at Legacy Rd./Park Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	255	.08*	328	.10
NBT	3	5100	371	.07	1474	.29*
NBR	1	1700	44	.03	237	.14
SBL	2	3400	90	.03	136	.04*
SBT	3	5100	1136	.22*	742	.15
SBR	1	1700	554	.33	182	.11
EBL	1	1700	232	.14*	368	.22*
EBT	2	3400	237	.14	549	.26
EBR	0	0	331	.19	334	
WBL	2	3400	82	.02	206	.06
WBT	1	1700	358	.25*	462	.41*
WBR	0	0	60		232	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.74**		**1.01**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	165	.05*	231	.07
NBT	3	5100	468	.09	1456	.29*
NBR	1	1700	54	.03	300	.18
SBL	2	3400	87	.03	177	.05*
SBT	3	5100	1161	.23*	769	.15
SBR	1	1700	255	.15	135	.08
EBL	1	1700	177	.10*	216	.13*
EBT	2	3400	178	.10	392	.17
EBR	0	0	271	.16	182	
WBL	2	3400	68	.02	219	.06
WBT	1	1700	139	.11*	354	.36*
WBR	0	0	45		257	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.54**		**.88**

24 . District Dr. at Park Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	141	.08*	120	.07
NBT	2	3400	78	.05	182	.11*
NBR	0	0	80	.05	178	
SBL	1	1700	2	.00	31	.02*
SBT	1	1700	41	.02*	90	.05
SBR	1	1700	6	.00	20	.01
EBL	1	1700	2	.00	23	.01
EBT	1	1700	13	.01*	124	.07*
EBR	1	1700	44	.03	102	.06
WBL	1	1700	96	.06*	173	.10*
WBT	1	1700	59	.03	121	.07
WBR	1	1700	5	.00	35	.02
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.22**		**.35**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	47	.03*	112	.07*
NBT	2	3400	67	.04	175	.10
NBR	0	0	65		184	.11
SBL	1	1700	6	.00	34	.02
SBT	1	1700	40	.02*	86	.05*
SBR	1	1700	5	.00	19	.01
EBL	1	1700	3	.00	23	.01
EBT	1	1700	22	.01*	131	.08*
EBR	1	1700	35	.02	95	.06
WBL	1	1700	99	.06*	176	.10*
WBT	1	1700	52	.03	126	.07
WBR	1	1700	9	.01	38	.02
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.17**		**.35**

25 . Hotel Terrace Dr./SR-55 SB at Dyer Rd.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		187	{.06}*	186	{.06}*
NBT	0.5	3400	14	.06	14	.06
NBR	2	3400	369	.11	98	.03
SBL	0.5		88		90	
SBT	1.5	3400	174	.08*	465	.16*
SBR	1	1700	34	.02	125	.07
EBL	1	1700	66	.04	123	.07
EBT	3	5100	1053	.21*	826	.16*
EBR	1	1700	360	.21	142	.08
WBL	2	3400	477	.14*	704	.21*
WBT	3	5100	719	.14	979	.19
WBR	1	1700	180	.11	57	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.54**		**.64**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		188	{.06}*	200	{.06}*
NBT	0.5	3400	15	.06	15	.06
NBR	2	3400	369	.11	105	.03
SBL	0.5		87		89	
SBT	1.5	3400	176	.08*	465	.16*
SBR	1	1700	34	.02	125	.07
EBL	1	1700	65	.04	124	.07
EBT	3	5100	1044	.20*	824	.16*
EBR	1	1700	363	.21	143	.08
WBL	2	3400	482	.14*	676	.20*
WBT	3	5100	718	.14	948	.19
WBR	1	1700	180	.11	55	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.53**		**.63**

26 . Grand Av. at Dyer Rd.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	815	.24*	737	.22*
SBT	0	0	0		0	
SBR	1	1700	386	.23	362	.21
EBL	2	3400	155	.05	304	.09*
EBT	3	5100	1385	.27*	776	.15
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	974	.19	1468	.29*
WBR	f		815		433	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.56**		**.65**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	812	.24*	753	.22*
SBT	0	0	0		0	
SBR	1	1700	354	.21	327	.19
EBL	2	3400	144	.04	295	.09*
EBT	3	5100	1368	.27*	786	.15
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5100	1006	.20	1425	.28*
WBR	f		866		455	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.56**		**.64**

27 . SR-55 NB Ramps at Dyer Rd.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		756	{.31}*	211	.06*
NBT	0	5100	0	.31	0	
NBR	1.5		822		116	{.00}
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	2458	.48*	1094	.21
EBR	f		550		1020	
WBL	0	0	0		0	
WBT	3	5100	1054	.21	1799	.35*
WBR	f		370		1360	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.84**		**.46**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1.5		751	{.30}*	215	.06*
NBT	0	5100	0	.30	0	
NBR	1.5		801		132	{.00}
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	2429	.48*	1148	.23
EBR	f		550		1020	
WBL	0	0	0		0	
WBT	3	5100	1159	.23	1765	.35*
WBR	f		390		1380	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.83**		**.46**

28 . Red Hill Av. at Dyer Rd./Barranca Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	273	.08*	563	.17
NBT	4	6800	586	.09	1859	.27*
NBR	d	1700	122	.07	338	.20
SBL	2	3400	410	.12	312	.09*
SBT	4	6800	958	.14*	607	.09
SBR	d	1700	150	.09	130	.08
EBL	2	3400	191	.06	259	.08*
EBT	4	6800	1241	.22*	971	.16
EBR	0	0	276		109	
WBL	2	3400	417	.12*	245	.07
WBT	4	6800	973	.14	1319	.19*
WBR	1	1700	322	.19	686	.40
Right Turn Adjustment					WBR	.14*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.61**		**.82**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	231	.07	514	.15
NBT	4	6800	624	.09*	1961	.29*
NBR	d	1700	116	.07	345	.20
SBL	2	3400	448	.13*	442	.13*
SBT	4	6800	936	.14	722	.11
SBR	d	1700	146	.09	166	.10
EBL	2	3400	210	.06	280	.08*
EBT	4	6800	1216	.21*	1013	.16
EBR	0	0	242		96	
WBL	2	3400	472	.14*	232	.07
WBT	4	6800	1094	.16	1330	.20*
WBR	1	1700	456	.27	798	.47
Right Turn Adjustment					WBR	.17*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.62**		**.92**

29 . Aston St. at Barranca Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	54	.03	110	.06*
NBT	1	1700	93	.09*	71	.09
NBR	0	0	53		79	
SBL	1	1700	93	.05*	205	.12
SBT	1	1700	9	.06	108	.23*
SBR	0	0	98		287	
EBL	1	1700	277	.16*	138	.08*
EBT	3	5100	1434	.28	1405	.28
EBR	1	1700	19	.01	74	.04
WBL	1	1700	21	.01	68	.04
WBT	4	6800	1558	.23*	1853	.27*
WBR	d	1700	309	.18	140	.08
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.58**		**.69**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	55	.03	106	.06*
NBT	1	1700	74	.07*	56	.07
NBR	0	0	41		69	
SBL	1	1700	71	.04*	182	.11
SBT	1	1700	5	.06	78	.21*
SBR	0	0	95		281	
EBL	1	1700	299	.18*	140	.08*
EBT	3	5100	1468	.29	1589	.31
EBR	1	1700	16	.01	66	.04
WBL	1	1700	19	.01	67	.04
WBT	4	6800	1870	.28*	1973	.29*
WBR	d	1700	267	.16	114	.07
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.62**		**.69**

30 . Armstrong Av. at Barranca Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	45	.03*	213	.13
NBT	2	3400	54	.03	218	.13*
NBR	0	0	61	.04	339	.20
SBL	1	1700	131	.08	228	.13*
SBT	1	1700	144	.08*	123	.07
SBR	1	1700	96	.06	140	.08
EBL	1	1700	114	.07*	102	.06
EBT	3	5100	1168	.23	1493	.29*
EBR	d	1700	139	.08	84	.05
WBL	2	3400	287	.08	173	.05*
WBT	4	6800	1789	.26*	1647	.24
WBR	1	1700	242	.14	199	.12
Right Turn Adjustment					NBR	.03*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.49**		**.68**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	60	.04*	234	.14
NBT	2	3400	46	.03	259	.15*
NBR	0	0	64	.04	348	.20
SBL	1	1700	136	.08	168	.10*
SBT	1	1700	165	.10*	90	.05
SBR	1	1700	129	.08	112	.07
EBL	1	1700	99	.06*	127	.07
EBT	3	5100	1163	.23	1603	.31*
EBR	d	1700	154	.09	100	.06
WBL	2	3400	282	.08	161	.05*
WBT	4	6800	2015	.30*	1732	.25
WBR	1	1700	194	.11	206	.12
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.67**

31 . Tustin Ranch Rd./Von Karman Av. at Barranca Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	135	.04*	210	.06
NBT	2	3400	473	.14	1205	.35*
NBR	d	1700	149	.09	488	.29
SBL	2	3400	125	.04	213	.06*
SBT	2	3400	948	.28*	626	.18
SBR	2	3400	350	.10	575	.17
EBL	2	3400	361	.11	403	.12
EBT	3	5100	806	.16*	1849	.36*
EBR	d	1700	156	.09	87	.05
WBL	2	3400	766	.23*	467	.14*
WBT	4	6800	1475	.22	975	.14
WBR	1	1700	146	.09	312	.18
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.76**		**.96**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	190	.06*	280	.08
NBT	2	3400	358	.11	1206	.35*
NBR	d	1700	156	.09	464	.27
SBL	2	3400	103	.03	137	.04*
SBT	2	3400	942	.28*	552	.16
SBR	2	3400	387	.11	519	.15
EBL	2	3400	279	.08	424	.12
EBT	3	5100	861	.17*	1848	.36*
EBR	d	1700	202	.12	120	.07
WBL	2	3400	726	.21*	487	.14*
WBT	4	6800	1553	.23	1041	.15
WBR	1	1700	83	.05	250	.15
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.77**		**.94**

32 . Millikan Av. at Barranca Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	249	.15*	151	.09*
NBT	2	3400	85	.03	93	.03
NBR	d	1700	97	.06	227	.13
SBL	2	3400	99	.03	375	.11
SBT	0.5	3400	39	{.03}*	125	.07*
SBR	1.5		101		113	
EBL	2	3400	96	.03*	149	.04
EBT	3	5100	663	.13	1978	.39*
EBR	d	1700	171	.10	186	.11
WBL	1	1700	111	.07	99	.06*
WBT	4	6800	2678	.39*	1187	.17
WBR	1	1700	234	.14	618	.36
Right Turn Adjustment					NBR	.03*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.65**		**.69**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	240	.14*	162	.10*
NBT	2	3400	60	.02	99	.03
NBR	d	1700	90	.05	220	.13
SBL	2	3400	97	.03	376	.11
SBT	0.5	3400	39	{.03}*	121	.07*
SBR	1.5		104		125	
EBL	2	3400	79	.02*	154	.05
EBT	3	5100	705	.14	1884	.37*
EBR	d	1700	185	.11	172	.10
WBL	1	1700	105	.06	87	.05*
WBT	4	6800	2619	.39*	1184	.17
WBR	1	1700	169	.10	607	.36
Right Turn Adjustment					NBR	.03*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.63**		**.67**

33 . Jamboree Rd. at Barranca Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	257	.08*	500	.15
NBT	5	8500	1289	.15	2982	.35*
NBR	1	1700	260	.15	249	.15
SBL	2	3400	471	.14	484	.14*
SBT	4	6800	3195	.47*	1683	.25
SBR	f		1838		487	
EBL	2.5		181	.05	1096	
EBT	2.5	8500	519	.10*	1096	.26*
EBR	1	1700	137	.08	330	.19
WBL	2	3400	288	.08	227	.07
WBT	3	5100	1025	.20*	973	.19*
WBR	f		280		652	
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .90 .99

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	240	.07*	489	.14
NBT	5	8500	1320	.16	3044	.36*
NBR	1	1700	253	.15	245	.14
SBL	2	3400	481	.14	488	.14*
SBT	4	6800	3207	.47*	1766	.26
SBR	f		1800		489	
EBL	2.5		196	.06	1070	
EBT	2.5	8500	536	.11*	1028	.25*
EBR	1	1700	139	.08	322	.19
WBL	2	3400	274	.08	232	.07
WBT	3	5100	950	.19*	952	.19*
WBR	f		285		666	
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .89 .99

34 . Harvard Av. at Barranca Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	208	.12*	301	.18
NBT	2	3400	286	.08	944	.28*
NBR	1	1700	96	.06	264	.16
SBL	1	1700	207	.12	106	.06*
SBT	2	3400	617	.18*	373	.11
SBR	1	1700	144	.08	64	.04
EBL	2	3400	58	.02*	187	.06
EBT	3	5100	679	.13	1440	.28*
EBR	1	1700	193	.11	331	.19
WBL	2	3400	232	.07	135	.04*
WBT	3	5100	1401	.27*	1135	.22
WBR	d	1700	88	.05	139	.08
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .64 .71

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	198	.12*	287	.17
NBT	2	3400	343	.10	993	.29*
NBR	1	1700	98	.06	270	.16
SBL	1	1700	215	.13	128	.08*
SBT	2	3400	625	.18*	430	.13
SBR	1	1700	140	.08	72	.04
EBL	2	3400	70	.02*	185	.05
EBT	3	5100	696	.14	1382	.27*
EBR	1	1700	194	.11	303	.18
WBL	2	3400	232	.07	138	.04*
WBT	3	5100	1342	.26*	1131	.22
WBR	d	1700	107	.06	153	.09
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .63 .73

35 . Red Hill Av. at Alton Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	396	.23*	312	.18
NBT	3	5100	709	.14	2115	.41*
NBR	1	1700	405	.24	215	.13
SBL	1	1700	241	.14	151	.09*
SBT	3	5100	962	.19*	952	.19
SBR	1	1700	247	.15	105	.06
EBL	2	3400	249	.07	234	.07*
EBT	2	3400	744	.22*	683	.20
EBR	1	1700	286	.17	381	.22
WBL	2	3400	322	.09*	377	.11
WBT	2	3400	657	.19	862	.25*
WBR	f		211		321	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.78**		**.87**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	392	.23*	299	.18
NBT	3	5100	683	.13	2157	.42*
NBR	1	1700	396	.23	217	.13
SBL	1	1700	245	.14	167	.10*
SBT	3	5100	990	.19*	1000	.20
SBR	1	1700	253	.15	110	.06
EBL	2	3400	247	.07	245	.07*
EBT	2	3400	751	.22*	708	.21
EBR	1	1700	292	.17	376	.22
WBL	2	3400	332	.10*	377	.11
WBT	2	3400	677	.20	862	.25*
WBR	f		211		341	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.79**		**.89**

36 . Von Karman Av. at Alton Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	129	.08*	140	.08
NBT	2	3400	711	.21	1366	.40*
NBR	d	1700	171	.10	343	.20
SBL	1	1700	73	.04	172	.10*
SBT	2	3400	1545	.45*	810	.24
SBR	d	1700	179	.11	282	.17
EBL	1	1700	136	.08*	217	.13
EBT	2	3400	657	.19	1215	.36*
EBR	d	1700	147	.09	150	.09
WBL	1	1700	242	.14	201	.12*
WBT	2	3400	961	.28*	1018	.30
WBR	d	1700	146	.09	107	.06
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.94**		**1.03**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	144	.08*	159	.09
NBT	2	3400	683	.20	1405	.41*
NBR	d	1700	172	.10	344	.20
SBL	1	1700	66	.04	156	.09*
SBT	2	3400	1553	.46*	806	.24
SBR	d	1700	180	.11	287	.17
EBL	1	1700	129	.08*	220	.13
EBT	2	3400	649	.19	1200	.35*
EBR	d	1700	162	.10	163	.10
WBL	1	1700	240	.14	191	.11*
WBT	2	3400	955	.28*	994	.29
WBR	d	1700	126	.07	95	.06
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.95**		**1.01**

37 . Jamboree Rd. at Alton Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	232	.07*	263	.08
NBT	4	6800	1457	.21	2993	.44*
NBR	1	1700	243	.14	290	.17
SBL	2	3400	263	.08	349	.10*
SBT	4	6800	3023	.48*	1659	.29
SBR	0	0	228		294	
EBL	2	3400	156	.05*	466	.14
EBT	3	5100	475	.12	933	.24*
EBR	0	0	151		301	
WBL	2	3400	311	.09	302	.09*
WBT	3	5100	881	.17*	684	.13
WBR	d	1700	199	.12	255	.15
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.82**		**.92**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	237	.07*	258	.08
NBT	4	6800	1463	.22	3039	.45*
NBR	1	1700	252	.15	283	.17
SBL	2	3400	262	.08	346	.10*
SBT	4	6800	3029	.48*	1716	.30
SBR	0	0	224		293	
EBL	2	3400	152	.04	473	.14
EBT	3	5100	477	.12*	911	.24*
EBR	0	0	152		308	
WBL	2	3400	303	.09*	306	.09*
WBT	3	5100	841	.16	668	.13
WBR	d	1700	187	.11	258	.15
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.81**		**.93**

38 . Harvard Av. at Alton Pkwy.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	312	.18*	296	.17
NBT	2	3400	445	.13	1248	.37*
NBR	d	1700	133	.08	191	.11
SBL	1	1700	37	.02	69	.04*
SBT	2	3400	860	.25*	572	.17
SBR	1	1700	183	.11	153	.09
EBL	2	3400	60	.02*	232	.07
EBT	3	5100	583	.11	1179	.23*
EBR	1	1700	358	.21	413	.24
WBL	2	3400	246	.07	145	.04*
WBT	3	5100	1010	.20*	801	.16
WBR	d	1700	34	.02	60	.04
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.70**		**.73**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	294	.17*	290	.17
NBT	2	3400	472	.14	1277	.38*
NBR	d	1700	133	.08	191	.11
SBL	1	1700	36	.02	73	.04*
SBT	2	3400	872	.26*	590	.17
SBR	1	1700	171	.10	157	.09
EBL	2	3400	62	.02*	232	.07
EBT	3	5100	571	.11	1158	.23*
EBR	1	1700	356	.21	397	.23
WBL	2	3400	256	.08	145	.04*
WBT	3	5100	968	.19*	795	.16
WBR	d	1700	36	.02	62	.04
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.69**		**.74**

39 . Newport Av. at I-5 NB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	339	.20*	389	.23*
NBT	3	5100	1350	.26	2190	.43
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	2260	.50*	1570	.39*
SBR	0	0	291		441	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.75** **.67**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	326	.19*	359	.21*
NBT	3	5100	1390	.27	2190	.43
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	2190	.49*	1560	.40*
SBR	0	0	304		471	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.73** **.66**

40 . Newport Av. at I-5 SB/Nisson Rd.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1292	.27*	2016	.41*
NBR	0	0	88		97	
SBL	1	1700	203	.12*	260	.15*
SBT	3	5100	1998	.39	1397	.27
SBR	0	0	0		0	
EBL	1.5		405		380	
EBT	0.5	3400	79	.14*	46	.13*
EBR	1	1700	526	.31	635	.37
WBL	1	1700	56	.03*	80	.05*
WBT	0	0	0		0	
WBR	1	1700	144	.08	169	.10
Right Turn Adjustment			EBR	.17*	EBR	.02*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.78** **.81**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1322	.27*	1992	.41*
NBR	0	0	79		98	
SBL	1	1700	183	.11*	256	.15*
SBT	3	5100	1947	.38	1392	.27
SBR	0	0	0		0	
EBL	1.5		400		371	
EBT	0.5	3400	68	.14*	46	.12*
EBR	1	1700	492	.29	644	.38
WBL	1	1700	51	.03*	82	.05*
WBT	0	0	0		0	
WBR	1	1700	138	.08	167	.10
Right Turn Adjustment			EBR	.15*	EBR	.04*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.75** **.82**

41 . Red Hill Av. at I-5 NB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	411	.24*	457	.27*
NBT	3	5100	901	.18	1133	.22
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1404	.28*	860	.17*
SBR	1	1700	616	.36	311	.18
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		446		410	
WBT	0.5	3400	3	.13*	43	.13*
WBR	1	1700	389	.23	487	.29
Right Turn Adjustment			SBR	.08*	SBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.78**		**.63**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	405	.24*	458	.27*
NBT	3	5100	918	.18	1171	.23
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1431	.28*	901	.18*
SBR	1	1700	623	.37	310	.18
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		439		419	
WBT	0.5	3400	3	.13*	42	.14*
WBR	1	1700	392	.23	489	.29
Right Turn Adjustment			SBR	.09*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.79**		**.64**

42 . Red Hill Av. at I-5 SB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1078	.16*	1203	.18*
NBR	1	1700	574	.34	528	.31
SBL	1	1700	473	.28*	440	.26*
SBT	4	6800	1384	.20	829	.12
SBR	0	0	0		0	
EBL	0.5		236	{.14}*	418	{.25}*
EBT	0.5	1700	0	.14	0	.25
EBR	1	1700	444	.26	293	.17
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.18*	NBR	.13*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.81**		**.87**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1073	.16*	1248	.18*
NBR	1	1700	579	.34	562	.33
SBL	1	1700	483	.28*	456	.27*
SBT	4	6800	1395	.21	864	.13
SBR	0	0	0		0	
EBL	0.5		235	{.14}*	413	{.24}*
EBT	0.5	1700	0	.14	0	.24
EBR	1	1700	445	.26	297	.17
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.18*	NBR	.15*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.81**		**.89**

43 . Tustin Ranch Rd. at I-5 NB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	353	.10*	627	.18*
NBT	3	5100	893	.18	1333	.26
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1936	.38*	899	.18*
SBR	f		57		493	
EBL	1.5		187	{.08}*	297	.09*
EBT	0	5100	0	{.08}	0	
EBR	1.5		344		251	{.01}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.61** **.50**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	357	.11*	640	.19*
NBT	3	5100	954	.19	1332	.26
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	2004	.39*	997	.20*
SBR	f		54		480	
EBL	1.5		188	{.08}*	308	.09*
EBT	0	5100	0	{.08}	0	
EBR	1.5		362		303	{.04}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.63** **.53**

44 . Tustin Ranch Rd. at I-5 SB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	129	.04*	168	.05
NBT	3	5100	841	.16	1300	.25*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1705	.33*	754	.15
SBR	d	1700	574	.34	398	.23
EBL	1.5		881	{.30}*	714	.21*
EBT	0	5100	0	{.30}	0	
EBR	1.5		679		366	{.14}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.72** **.51**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	125	.04*	195	.06
NBT	3	5100	896	.18	1351	.26*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1775	.35*	873	.17
SBR	d	1700	583	.34	431	.25
EBL	1.5		909	{.30}*	670	.20*
EBT	0	5100	0	{.30}	0	
EBR	1.5		652		409	{.17}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.74** **.51**

45 . Jamboree Rd. at I-5 NB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1213	.18	2727	.40*
NBR	f		600		560	
SBL	0	0	0		0	
SBT	4	6800	2354	.35*	1627	.24
SBR	f		600		480	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		1076	.32*	523	
WBT	0	5100	0		0	.28*
WBR	1.5		357	.21	923	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.72**		**.73**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1214	.18	2726	.40*
NBR	f		630		580	
SBL	0	0	0		0	
SBT	4	6800	2353	.35*	1690	.25
SBR	f		600		480	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		1087	.32*	530	
WBT	0	5100	0		0	.29*
WBR	1.5		356	.21	924	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.72**		**.74**

46 . Jamboree Rd. at I-5 SB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1349	.20	2569	.38*
NBR	f		300		1012	
SBL	0	0	0		0	
SBT	4	6800	2609	.38*	1561	.23
SBR	f		841		516	
EBL	2	3400	414	.12*	516	.15*
EBT	0	0	0		0	
EBR	2	3400	946	.28	806	.24
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.16*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.71**		**.58**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1395	.21	2607	.38*
NBR	f		302		1019	
SBL	0	0	0		0	
SBT	4	6800	2618	.39*	1645	.24
SBR	f		845		514	
EBL	2	3400	406	.12*	469	.14*
EBT	0	0	0		0	
EBR	2	3400	954	.28	856	.25
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.16*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.72**		**.57**

47 . Jamboree Rd. at Michelle Dr.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	244	.14*	86	.05
NBT	4	6800	1519	.22	3110	.46*
NBR	d	1700	0	.00	0	.00
SBL	1	1700	0	.00	0	.00
SBT	4	6800	3419	.50*	2158	.32
SBR	d	1700	566	.33	143	.08
EBL	2	3400	91	.03*	534	.16*
EBT	0.5	3400	0	.00	20	{.02}
EBR	1.5		91		220	
WBL	1	1700	0	.00	2	.00
WBT	1	1700	0	.00*	2	.00*
WBR	0	0	1		6	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.72**		**.67**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	262	.15*	81	.05
NBT	4	6800	1569	.23	3174	.47*
NBR	d	1700	0	.00	0	.00
SBL	1	1700	0	.00	0	.00
SBT	4	6800	3420	.50*	2284	.34
SBR	d	1700	568	.33	147	.09
EBL	2	3400	91	.03*	536	.16*
EBT	0.5	3400	0	.00	20	{.02}
EBR	1.5		90		218	
WBL	1	1700	0	.00	2	.00
WBT	1	1700	0	.00*	1	.00*
WBR	0	0	1		6	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.73**		**.68**

48 . Grand Av. at SR-55 SB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	959	.28*	731	.22*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	697	.14	810	.16
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	493	.15*	321	.09*
WBT	0	0	0		0	
WBR	1	1700	351	.21	248	.15
Right Turn Adjustment			WBR	.06*	WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.54**		**.42**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	1005	.30*	741	.22*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	704	.14	809	.16
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	471	.14*	322	.09*
WBT	0	0	0		0	
WBR	1	1700	350	.21	248	.15
Right Turn Adjustment			WBR	.07*	WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.56**		**.42**

49 . SR-55 SB Ramps at MacArthur Bl.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	1181	.35*	329	.10*
SBT	0	0	0		0	
SBR	2	3400	977	.29	778	.23
EBL	0	0	0		0	
EBT	3	5100	1197	.23*	1131	.22
EBR	f		717		950	
WBL	0	0	0		0	
WBT	3	5100	1124	.22	1622	.32*
WBR	f		143		690	
Right Turn Adjustment					SBR	.13*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.63** **.60**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3400	1139	.34*	326	.10*
SBT	0	0	0		0	
SBR	2	3400	939	.28	779	.23
EBL	0	0	0		0	
EBT	3	5100	1209	.24*	1144	.22
EBR	f		705		950	
WBL	0	0	0		0	
WBT	3	5100	1127	.22	1621	.32*
WBR	f		141		700	
Right Turn Adjustment					SBR	.13*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.63** **.60**

50 . SR-55 NB Ramps at MacArthur Bl.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	913	.27*	897	.26*
NBT	0	0	0		0	
NBR	f		826		455	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3400	1624	.48*	1014	.30*
EBR	f		730		1026	
WBL	0	0	0		0	
WBT	3	5100	318	.06	1154	.23
WBR	f		230		791	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.80** **.61**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	946	.28*	897	.26*
NBT	0	0	0		0	
NBR	f		805		437	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3400	1645	.48*	1028	.30*
EBR	f		730		1005	
WBL	0	0	0		0	
WBT	3	5100	302	.06	1116	.22
WBR	f		230		794	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.81** **.61**

51 . MacArthur Bl. at I-405 NB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	2312	.34*	2323	.34*
NBR	2	3400	446	.13	1248	.37
SBL	2	3400	195	.06*	502	.15*
SBT	4	6800	1477	.22	2076	.31
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	896	.26*	524	.15*
WBT	0	0	0		0	
WBR	2	3400	1184	.35	407	.12
Right Turn Adjustment			WBR	.04*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.75**		**.69**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	2301	.34*	2302	.34*
NBR	2	3400	451	.13	1239	.36
SBL	2	3400	199	.06*	504	.15*
SBT	4	6800	1505	.22	2075	.31
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	905	.27*	529	.16*
WBT	0	0	0		0	
WBR	2	3400	1179	.35	412	.12
Right Turn Adjustment			WBR	.03*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.75**		**.70**

52 . MacArthur Bl. at I-405 SB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1814	.27*	3192	.47*
NBR	1	1700	443	.26	690	.41
SBL	2	3400	137	.04*	440	.13*
SBT	4	6800	1778	.26	1806	.27
SBR	1	1700	477	.28	377	.22
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	1082	.32*	564	.17*
WBT	1	1700	143	.08	163	.10
WBR	f		836		388	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.68**		**.82**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1807	.27*	3158	.46*
NBR	1	1700	440	.26	694	.41
SBL	2	3400	141	.04*	446	.13*
SBT	4	6800	1805	.27	1801	.26
SBR	1	1700	474	.28	376	.22
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	1063	.31*	569	.17*
WBT	1	1700	137	.08	164	.10
WBR	f		841		392	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.67**		**.81**

53 . Jamboree Rd. at I-405 NB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	2333	.46*	3248	.64*
NBR	f		640		970	
SBL	0	0	0		0	
SBT	4	6800	2156	.32	2318	.34
SBR	f		1180		1000	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1494	.29*	832	.16*
WBT	0	0	0		0	
WBR	f		877		382	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.80**		**.85**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	2333	.46*	3296	.65*
NBR	f		651		960	
SBL	0	0	0		0	
SBT	4	6800	2205	.32	2352	.35
SBR	f		1191		1000	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1510	.30*	818	.16*
WBT	0	0	0		0	
WBR	f		871		384	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.81**		**.86**

54 . Jamboree Rd. at I-405 SB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1862	.27	3106	.46*
NBR	f		701		1300	
SBL	0	0	0		0	
SBT	4	6800	3407	.50*	2510	.37
SBR	f		230		730	
EBL	1.5		1101	{.44}*	1034	.30*
EBT	0	6800	0	.44	0	
EBR	2.5		1889		1040	{.27}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.99**		**.81**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1873	.28	3137	.46*
NBR	f		701		1310	
SBL	0	0	0		0	
SBT	4	6800	3467	.51*	2529	.37
SBR	f		230		730	
EBL	1.5		1100	{.44}*	1043	.31*
EBT	0	6800	0	.44	0	
EBR	2.5		1859		1041	.31
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**1.00**		**.82**

55 . Culver Dr. at I-405 NB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1481	.29	2548	.50*
NBR	f		790		350	
SBL	0	0	0		0	
SBT	3	5100	1661	.33*	1615	.32
SBR	f		1060		510	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	749	.22*	495	.15*
WBT	0	0	0		0	
WBR	1	1700	179	.11	362	.21
Right Turn Adjustment					WBR	.06*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.60** **.76**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1493	.29	2590	.51*
NBR	f		790		340	
SBL	0	0	0		0	
SBT	3	5100	1690	.33*	1653	.32
SBR	f		1060		510	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	730	.21*	497	.15*
WBT	0	0	0		0	
WBR	1	1700	177	.10	370	.22
Right Turn Adjustment					WBR	.07*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.59** **.78**

56 . Culver Dr. at I-405 SB Ramps

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1616	.32	1894	.37*
NBR	f		330		853	
SBL	0	0	0		0	
SBT	3	5100	2103	.41*	1702	.33
SBR	f		380		391	
EBL	1.5		564	{.19}*	1005	{.32}*
EBT	0	5100	0	.19	0	{.32}
EBR	1.5		417		665	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.65** **.74**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	1629	.32	1924	.38*
NBR	f		330		855	
SBL	0	0	0		0	
SBT	3	5100	2110	.41*	1759	.34
SBR	f		380		382	
EBL	1.5		561	{.19}*	1014	{.32}*
EBT	0	5100	0	.19	0	{.32}
EBR	1.5		400		656	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.65** **.75**

57 . Red Hill Av. at Bell Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	15	.01*	15	.01
NBT	4	6800	507	.09	2400	.38*
NBR	0	0	88		157	
SBL	2	3400	617	.18	359	.11*
SBT	3	5100	1341	.28*	557	.11
SBR	0	0	104		19	
EBL	1	1700	16	.01	80	.05*
EBT	1	1700	25	.02*	44	.03
EBR	0	0	6		7	
WBL	1	1700	123	.07*	66	.04
WBT	0.5	3400	81	{.05}	26	{.17}*
WBR	1.5		317	{.04}	700	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.43**		**.76**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	80	.05*	0	.00
NBT	4	6800	787	.14	2894	.46*
NBR	0	0	131		209	
SBL	2	3400	94	.03	50	.01*
SBT	3	5100	1397	.29*	942	.19
SBR	0	0	62		13	
EBL	1	1700	4	.00	33	.02
EBT	1	1700	6	.01*	22	.04*
EBR	0	0	10		48	
WBL	1	1700	103	.06*	143	.08*
WBT	0.5	3400	38	.02	7	.03
WBR	1.5		40		99	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.46**		**.64**

58 . Armstrong Av. at Bell Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	145	.09*	266	.16*
NBT	2	3400	42	.02	189	.06
NBR	0	0	16		16	
SBL	1	1700	22	.01	7	.00
SBT	2	3400	149	.09*	70	.04*
SBR	0	0	194	.11	113	.07
EBL	1	1700	85	.05	189	.11*
EBT	1	1700	303	.32*	139	.18
EBR	0	0	234		170	
WBL	1	1700	7	.00	21	.01
WBT	1	1700	82	.05	296	.19*
WBR	0	0	3		23	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.55**		**.55**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	76	.04*	106	.06*
NBT	2	3400	158	.05	395	.12
NBR	0	0	9		8	
SBL	1	1700	11	.01	8	.00
SBT	2	3400	292	.11*	244	.10*
SBR	0	0	91		99	
EBL	1	1700	60	.04	129	.08*
EBT	1	1700	30	.07*	24	.06
EBR	0	0	93		86	
WBL	1	1700	5	.00	13	.01
WBT	1	1700	13	.01	47	.04*
WBR	0	0	3		19	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.27**		**.33**

59 . Armstrong Av. at Warner Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	196	.06*	395	.12*
NBT	2	3400	58	.02	222	.07
NBR	d	1700	78	.05	166	.10
SBL	2	3400	54	.02	46	.01
SBT	2	3400	206	.06*	108	.03*
SBR	1	1700	131	.08	107	.06
EBL	1	1700	104	.06	171	.10*
EBT	3	5100	1218	.24*	1188	.23
EBR	1	1700	533	.31	295	.17
WBL	1	1700	182	.11*	137	.08
WBT	3	5100	1074	.21	1308	.26*
WBR	1	1700	38	.02	77	.05
Right Turn Adjustment			EBR	.02*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.54** **.56**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	98	.03*	186	.05*
NBT	2	3400	44	.01	148	.04
NBR	d	1700	68	.04	166	.10
SBL	2	3400	105	.03	116	.03
SBT	2	3400	134	.04*	90	.03*
SBR	1	1700	152	.09	134	.08
EBL	1	1700	118	.07	192	.11*
EBT	3	5100	1627	.32*	1898	.37
EBR	1	1700	239	.14	154	.09
WBL	1	1700	157	.09*	136	.08
WBT	3	5100	1550	.30	1880	.37*
WBR	1	1700	78	.05	169	.10
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.53** **.61**

60 . Legacy Rd. at Warner Av.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	196	.06*	453	.13*
NBT	0	0	0		0	
NBR	2	3400	31	.01	145	.04
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1700	0	.00	0	.00
EBT	3	5100	609	.12	905	.18*
EBR	1	1700	227	.13	263	.15
WBL	1	1700	63	.04	57	.03*
WBT	3	5100	1054	.21*	607	.12
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.32** **.39**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	233	.07*	290	.09*
NBT	0	0	0		0	
NBR	2	3400	27	.01	42	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1700	0	.00	0	.00
EBT	3	5100	503	.10	768	.15*
EBR	1	1700	155	.09	212	.12
WBL	1	1700	35	.02	18	.01*
WBT	3	5100	977	.19*	470	.09
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.31** **.30**

61 . Tustin Ranch Rd. at Victory Rd.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	227	.07*	241	.07
NBT	3	5100	692	.14	1341	.26*
NBR	1	1700	13	.01	75	.04
SBL	2	3400	48	.01	111	.03*
SBT	3	5100	1574	.31*	952	.19
SBR	1	1700	214	.13	89	.05
EBL	1	1700	78	.05*	223	.13*
EBT	2	3400	9	.00	75	.02
EBR	1	1700	94	.06	214	.13
WBL	1	1700	122	.07	54	.03
WBT	2	3400	99	.03*	30	.01*
WBR	1	1700	100	.06	56	.03
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.51** **.48**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	634	.19*	802	.24*
NBT	3	5100	889	.17	1404	.28
NBR	1	1700	7	.00	24	.01
SBL	2	3400	13	.00	19	.01
SBT	3	5100	1557	.31*	1047	.21*
SBR	1	1700	305	.18	541	.32
EBL	2	3400	100	.03*	826	.24*
EBT	2	3400	50	.01	247	.07
EBR	1	1700	458	.27	814	.48
WBL	1	1700	39	.02	19	.01
WBT	2	3400	271	.08*	191	.06*
WBR	1	1700	20	.01	20	.01
Right Turn Adjustment			EBR	.04*	EBR	.01*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.70** **.81**

62 . Tustin Ranch Rd. at Moffett. Dr.

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	375	.11*	383	.11
NBT	3	5100	557	.12	1495	.35*
NBR	0	0	54		308	
SBL	1	1700	24	.01	92	.05*
SBT	3	5100	1291	.38*	1046	.25
SBR	0	0	763	.45	241	
EBL	2	3400	240	.07*	375	.11*
EBT	2	3400	3	.00	30	.02
EBR	0	0	220	.13	399	.23
WBL	2	3400	354	.10	162	.05
WBT	2	3400	86	.05*	12	.01*
WBR	0	0	73		70	.04
Right Turn Adjustment			Multi	.05*	EBR	.05*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.71** **.62**

63 . Park Av. at Moffett Dr.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	61	.02*	104	.03*
NBR	1	1700	19	.01	126	.07
SBL	1	1700	31	.02*	128	.08*
SBT	2	3400	69	.02	62	.02
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1700	111	.07*	60	.04*
WBT	0	0	0		0	
WBR	1	1700	159	.09	100	.06
Right Turn Adjustment					NBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.16**		**.21**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	39	.02*	44	.03*
NBT	2	3400	21	.01	59	.03
NBR	0	0	10		37	
SBL	1	1700	29	.02	45	.03
SBT	2	3400	67	.04*	51	.03*
SBR	0	0	107	.06	54	.03
EBL	1	1700	14	.01*	58	.03
EBT	1	1700	61	.05	318	.21*
EBR	0	0	16		42	
WBL	1	1700	27	.02	16	.01*
WBT	1	1700	354	.22*	152	.10
WBR	0	0	24		23	
Right Turn Adjustment				SBR	.01*	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.35**		**.33**

64 . Park Av. at Victory Rd.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	26	.02	15	.01
NBT	2	3400	113	.03*	31	.01*
NBR	d	1700	21	.01	24	.01
SBL	1	1700	24	.01*	111	.07*
SBT	2	3400	15	.00	80	.02
SBR	d	1700	30	.02	69	.04
EBL	1	1700	94	.06*	61	.04
EBT	1	1700	35	.02	95	.06*
EBR	1	1700	11	.01	34	.02
WBL	1	1700	13	.01	26	.02*
WBT	1	1700	53	.03*	46	.03
WBR	d	1700	113	.07	48	.03
Right Turn Adjustment				WBR	.03*	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.21**		**.21**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	197	.12*	164	.10*
NBT	2	3400	57	.02	92	.03
NBR	d	1700	7	.00	14	.01
SBL	1	1700	2	.00	3	.00
SBT	2	3400	56	.02*	72	.02*
SBR	d	1700	52	.03	35	.02
EBL	1	1700	12	.01*	46	.03*
EBT	1	1700	12	.01	63	.04
EBR	1	1700	46	.03	161	.09
WBL	1	1700	10	.01	7	.00
WBT	1	1700	77	.05*	31	.02*
WBR	d	1700	2	.00	2	.00
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.25**		**.22**

65 . Park Av. at Jamboree Rd. SB

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	43	.01	97	.03*
NBR	1	1700	16	.01	63	.04
SBL	1	1700	14	.01	37	.02*
SBT	2	3400	116	.03*	103	.03
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	414	.12*	187	.06*
WBT	0	0	0		0	
WBR	1	1700	127	.07	103	.06
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.20** **.16**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3400	22	.01*	79	.02*
NBR	1	1700	18	.01	71	.04
SBL	1	1700	52	.03*	119	.07*
SBT	2	3400	108	.03	111	.03
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	342	.10*	179	.05*
WBT	0	0	0		0	
WBR	1	1700	208	.12	211	.12
Right Turn Adjustment				WBR		.02*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.19** **.21**

66 . Tustin Ranch Rd. at Warner Av. S.

2035 No-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	96	.03*	75	.02
NBT	3	5100	686	.13	1442	.28*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1418	.28*	725	.14
SBR	1	1700	904	.53	585	.34
EBL	2	3400	424	.12*	828	.24*
EBT	0	0	0		0	
EBR	1	1700	252	.15	205	.12
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment		SBR	.13*			
Clearance Interval			.05*			.05*
Note: Assumes Right-Turn Overlap for SBR EBR						

TOTAL CAPACITY UTILIZATION **.61** **.57**

2035 With-Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	88	.03*	78	.02
NBT	3	5100	745	.15	1317	.26*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5100	1256	.25*	865	.17
SBR	1	1700	742	.44	352	.21
EBL	2	3400	475	.14*	653	.19*
EBT	0	0	0		0	
EBR	1	1700	94	.06	95	.06
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment		SBR	.05*			
Clearance Interval			.05*			.05*
Note: Assumes Right-Turn Overlap for SBR EBR						

TOTAL CAPACITY UTILIZATION **.52** **.50**

Appendix C TRAFFIC COUNT WORKSHEETS

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : NEWPORT AVENUE — Site: TUSTIN

Segment : EDINGER AVE TO SR-55 SB RAMPS — Date: 05/29/14

Client : CITY OF TUSTIN — Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	8	47	116	444	27	93	194	870	35	140	310	1,314
12:15	8		119		22		238		30		357	
12:30	26		96		24		212		50		308	
12:45	5		113		20		226		25		339	
01:00	5	25	93	367	15	53	228	904	20	78	321	1,271
01:15	7		100		10		228		17		328	
01:30	6		98		18		238		24		336	
01:45	7		76		10		210		17		286	
02:00	9	21	85	334	12	48	243	919	21	69	328	1,253
02:15	3		82		8		212		11		294	
02:30	4		106		14		216		18		322	
02:45	5		61		14		248		19		309	
03:00	53	225	58	323	20	94	214	796	73	319	272	1,119
03:15	128		55		14		222		142		277	
03:30	26		123		26		192		52		315	
03:45	18		87		34		168		52		255	
04:00	9	34	92	316	28	190	171	599	37	224	263	915
04:15	4		68		35		130		39		198	
04:30	5		90		63		130		68		220	
04:45	16		66		64		168		80		234	
05:00	13	117	110	310	82	648	144	527	95	765	254	837
05:15	18		72		138		108		156		180	
05:30	29		68		195		128		224		196	
05:45	57		60		233		147		290		207	
06:00	37	264	54	215	136	824	158	600	173	1,088	212	815
06:15	44		55		176		138		220		193	
06:30	65		54		225		176		290		230	
06:45	118		52		287		128		405		180	
07:00	82	366	52	189	218	1,129	144	546	300	1,495	196	735
07:15	105		43		324		134		429		177	
07:30	92		52		297		132		389		184	
07:45	87		42		290		136		377		178	
08:00	92	354	40	139	260	958	137	464	352	1,312	177	603
08:15	72		38		258		124		330		162	
08:30	96		30		228		102		324		132	
08:45	94		31		212		101		306		132	
09:00	86	358	26	104	222	857	101	345	308	1,215	127	449
09:15	102		23		226		96		328		119	
09:30	98		24		218		75		316		99	
09:45	72		31		191		73		263		104	
10:00	92	378	28	95	180	713	80	221	272	1,091	108	316
10:15	88		26		183		52		271		78	
10:30	92		20		196		52		288		72	
10:45	106		21		154		37		260		58	
11:00	110	425	8	52	194	753	28	103	304	1,178	36	155
11:15	108		22		174		23		282		45	
11:30	105		15		204		28		309		43	
11:45	102		7		181		24		283		31	
Totals	2,614		2,888		6,360		6,894		8,974		9,782	
Split%	29.1		29.5		70.9		70.5					
Day Totals		5,502				13,254				18,756		
Day Splits		29.3				70.7						
Peak Hour	10:45		12:00		07:15		12:45		07:15		12:15	
Volume	429		444		1,171		920		1,547		1,325	
Factor	0.98		0.93		0.90		0.97		0.90		0.93	

* Data File : D1405082

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : NEWPORT AVENUE — Site: TUSTIN

Segment : SR-55 SB RAMPS TO VALENCIA AVE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	3	93	70	262	3	7	58	249	6	100	128	511	
12:15	11		70		2		66		13		136		
12:30	77		64		2		63		79		127		
12:45	2		58		0		62		2		120		
01:00	5	20	54	249	3	5	50	191	8	25	104	440	
01:15	2		56		0		60		2		116		
01:30	10		69		0		41		10		110		
01:45	3		70		2		40		5		110		
02:00	1	7	98	476	0	6	42	138	1	13	140	614	
02:15	2		76		1		36		3		112		
02:30	1		198		3		34		4		232		
02:45	3		104		2		26		5		130		
03:00	4	12	98	714	4	22	32	206	8	34	130	920	
03:15	3		123		6		42		9		165		
03:30	2		324		2		76		4		400		
03:45	3		169		10		56		13		225		
04:00	8	13	207	826	7	48	28	93	15	61	235	919	
04:15	3		199		6		18		9		217		
04:30	1		238		7		22		8		260		
04:45	1		182		28		25		29		207		
05:00	6	50	266	874	14	350	24	105	20	400	290	979	
05:15	9		216		62		31		71		247		
05:30	17		218		122		24		139		242		
05:45	18		174		152		26		170		200		
06:00	19	115	182	564	59	385	23	64	78	500	205	628	
06:15	18		190		68		16		86		206		
06:30	39		130		92		14		131		144		
06:45	39		62		166		11		205		73		
07:00	30	148	76	216	108	498	18	55	138	646	94	271	
07:15	42		56		128		7		170		63		
07:30	40		58		128		12		168		70		
07:45	36		26		134		18		170		44		
08:00	53	242	22	89	121	433	11	51	174	675	33	140	
08:15	50		20		118		14		168		34		
08:30	51		23		110		12		161		35		
08:45	88		24		84		14		172		38		
09:00	54	200	20	75	80	227	18	54	134	427	38	129	
09:15	37		21		57		15		94		36		
09:30	68		18		40		10		108		28		
09:45	41		16		50		11		91		27		
10:00	51	173	20	47	40	142	7	26	91	315	27	73	
10:15	30		10		34		8		64		18		
10:30	42		11		34		8		76		19		
10:45	50		6		34		3		84		9		
11:00	78	336	8	23	50	192	3	19	128	528	11	42	
11:15	67		6		30		5		97		11		
11:30	103		4		63		3		166		7		
11:45	88		5		49		8		137		13		
Totals	1,409		4,415		2,315		1,251		3,724		5,666		
Split%	37.8		77.9		62.2		22.1						
Day Totals		5,824				3,566				9,390			
Day Splits		62.0				38.0							
Peak Hour	11:00		04:30		06:45		12:00		07:15		03:30		
Volume	336		902		530		249		682		1,077		
Factor	0.82		0.85		0.80		0.94		0.98		0.67		

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : REDHILL AVENUE — Site: TUSTIN

Segment : N/O EDINGER AVENUE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	25	62	234	803	12	47	189	857	37	109	423	1,660	
12:15	12		194		13		216		25		410		
12:30	17		187		12		226		29		413		
12:45	8		188		10		226		18		414		
01:00	15	30	212	824	8	34	190	790	23	64	402	1,614	
01:15	4		177		10		185		14		362		
01:30	6		217		10		202		16		419		
01:45	5		218		6		213		11		431		
02:00	8	28	214	1,071	6	20	200	822	14	48	414	1,893	
02:15	8		266		4		207		12		473		
02:30	7		288		4		200		11		488		
02:45	5		303		6		215		11		518		
03:00	29	99	288	1,412	3	46	196	727	32	145	484	2,139	
03:15	31		345		4		192		35		537		
03:30	18		396		12		182		30		578		
03:45	21		383		27		157		48		540		
04:00	18	55	474	1,976	24	144	180	739	42	199	654	2,715	
04:15	3		464		24		164		27		628		
04:30	19		536		32		200		51		736		
04:45	15		502		64		195		79		697		
05:00	13	108	512	2,214	34	394	169	683	47	502	681	2,897	
05:15	31		630		64		178		95		808		
05:30	26		564		124		170		150		734		
05:45	38		508		172		166		210		674		
06:00	42	281	501	1,708	134	870	176	682	176	1,151	677	2,390	
06:15	73		498		168		182		241		680		
06:30	80		385		232		156		312		541		
06:45	86		324		336		168		422		492		
07:00	113	589	249	774	290	1,586	154	559	403	2,175	403	1,333	
07:15	146		203		378		163		524		366		
07:30	161		164		404		128		565		292		
07:45	169		158		514		114		683		272		
08:00	152	491	115	445	386	1,542	82	337	538	2,033	197	782	
08:15	109		120		458		83		567		203		
08:30	122		107		364		90		486		197		
08:45	108		103		334		82		442		185		
09:00	112	479	68	322	310	988	63	238	422	1,467	131	560	
09:15	125		98		256		58		381		156		
09:30	102		86		206		69		308		155		
09:45	140		70		216		48		356		118		
10:00	118	484	66	215	188	701	45	153	306	1,185	111	368	
10:15	108		59		164		46		272		105		
10:30	120		55		184		34		304		89		
10:45	138		35		165		28		303		63		
11:00	141	650	56	154	167	663	32	84	308	1,313	88	238	
11:15	145		36		157		16		302		52		
11:30	189		31		139		20		328		51		
11:45	175		31		200		16		375		47		
Totals	3,356		11,918		7,035		6,671		10,391		18,589		
Split%	32.3		64.1		67.7		35.9						
Day Totals		15,274				13,706				28,980			
Day Splits		52.7				47.3							
Peak Hour	11:00		05:00		07:30		12:15		07:30		04:30		
Volume	650		2,214		1,762		858		2,353		2,922		
Factor	0.86		0.88		0.86		0.95		0.86		0.90		

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : REDHILL AVENUE — Site: TUSTIN

Segment : S/O EDINGER AVENUE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	22	64	232	798	8	34	168	806	30	98	400	1,604	
12:15	14		200		8		202		22		402		
12:30	18		176		10		212		28		388		
12:45	10		190		8		224		18		414		
01:00	8	21	210	788	8	25	182	746	16	46	392	1,534	
01:15	3		176		7		159		10		335		
01:30	6		188		6		197		12		385		
01:45	4		214		4		208		8		422		
02:00	8	24	204	1,046	5	19	186	698	13	43	390	1,744	
02:15	8		232		4		183		12		415		
02:30	5		280		2		159		7		439		
02:45	3		330		8		170		11		500		
03:00	7	38	294	1,412	2	41	184	639	9	79	478	2,051	
03:15	4		354		4		148		8		502		
03:30	16		384		5		166		21		550		
03:45	11		380		30		141		41		521		
04:00	10	41	394	1,649	22	141	134	586	32	182	528	2,235	
04:15	3		421		24		142		27		563		
04:30	14		414		35		164		49		578		
04:45	14		420		60		146		74		566		
05:00	12	79	424	1,801	38	405	140	574	50	484	564	2,375	
05:15	16		513		65		130		81		643		
05:30	24		440		134		152		158		592		
05:45	27		424		168		152		195		576		
06:00	44	221	436	1,513	110	714	124	483	154	935	560	1,996	
06:15	42		470		166		137		208		607		
06:30	76		351		162		112		238		463		
06:45	59		256		276		110		335		366		
07:00	65	385	210	645	240	1,442	98	356	305	1,827	308	1,001	
07:15	80		179		320		104		400		283		
07:30	114		144		376		78		490		222		
07:45	126		112		506		76		632		188		
08:00	114	369	83	382	372	1,495	60	235	486	1,864	143	617	
08:15	67		106		444		65		511		171		
08:30	94		100		348		56		442		156		
08:45	94		93		331		54		425		147		
09:00	98	413	70	265	284	920	44	167	382	1,333	114	432	
09:15	100		66		235		42		335		108		
09:30	94		68		201		46		295		114		
09:45	121		61		200		35		321		96		
10:00	93	419	52	164	160	626	33	107	253	1,045	85	271	
10:15	94		43		150		19		244		62		
10:30	106		44		150		30		256		74		
10:45	126		25		166		25		292		50		
11:00	126	618	50	127	134	582	18	56	260	1,200	68	183	
11:15	143		22		142		12		285		34		
11:30	187		29		139		17		326		46		
11:45	162		26		167		9		329		35		
Totals	2,692		10,590		6,444		5,453		9,136		16,043		
Split%	29.5		66.0		70.5		34.0						
Day Totals		13,282				11,897				25,179			
Day Splits		52.8				47.2							
Peak Hour	11:00		05:15		07:30		12:15		07:30		05:00		
Volume	618		1,813		1,698		820		2,119		2,375		
Factor	0.83		0.88		0.84		0.92		0.84		0.92		

* Data File : D1405089

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : REDHILL AVENUE — Site: TUSTIN

Segment : S/O VALENCIA AVENUE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	24	59	223	767	8	38	176	772	32	97	399	1,539	
12:15	12		202		7		188		19		390		
12:30	13		170		16		199		29		369		
12:45	10		172		7		209		17		381		
01:00	6	22	210	809	6	23	180	670	12	45	390	1,479	
01:15	4		166		6		152		10		318		
01:30	7		190		6		186		13		376		
01:45	5		243		5		152		10		395		
02:00	8	25	208	1,113	5	19	173	651	13	44	381	1,764	
02:15	8		244		5		154		13		398		
02:30	6		321		3		170		9		491		
02:45	3		340		6		154		9		494		
03:00	9	31	342	1,573	1	39	174	671	10	70	516	2,244	
03:15	3		368		6		150		9		518		
03:30	9		419		4		203		13		622		
03:45	10		444		28		144		38		588		
04:00	6	37	423	1,855	21	137	148	656	27	174	571	2,511	
04:15	3		472		22		164		25		636		
04:30	13		474		38		188		51		662		
04:45	15		486		56		156		71		642		
05:00	17	103	516	2,138	29	330	191	696	46	433	707	2,834	
05:15	19		586		57		157		76		743		
05:30	29		518		102		188		131		706		
05:45	38		518		142		160		180		678		
06:00	48	284	518	1,739	93	645	140	537	141	929	658	2,276	
06:15	64		550		139		171		203		721		
06:30	88		364		164		126		252		490		
06:45	84		307		249		100		333		407		
07:00	84	440	229	665	236	1,332	112	375	320	1,772	341	1,040	
07:15	102		176		292		104		394		280		
07:30	120		146		322		78		442		224		
07:45	134		114		482		81		616		195		
08:00	138	460	86	362	386	1,467	52	225	524	1,927	138	587	
08:15	103		106		402		66		505		172		
08:30	102		84		356		59		458		143		
08:45	117		86		323		48		440		134		
09:00	98	403	78	266	274	852	43	162	372	1,255	121	428	
09:15	97		67		204		41		301		108		
09:30	96		65		196		41		292		106		
09:45	112		56		178		37		290		93		
10:00	86	399	55	162	162	610	36	101	248	1,009	91	263	
10:15	101		45		154		17		255		62		
10:30	98		38		140		23		238		61		
10:45	114		24		154		25		268		49		
11:00	126	614	36	108	133	595	20	54	259	1,209	56	162	
11:15	136		22		140		10		276		32		
11:30	181		30		164		14		345		44		
11:45	171		20		158		10		329		30		
Totals	2,877		11,557		6,087		5,570		8,964		17,127		
Split%	32.1		67.5		67.9		32.5						
Day Totals		14,434				11,657				26,091			
Day Splits		55.3				44.7							
Peak Hour	11:00		05:15		07:45		12:15		07:45		05:00		
Volume	614		2,140		1,626		776		2,103		2,834		
Factor	0.85		0.91		0.84		0.93		0.85		0.95		

* Data File : D1405088

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : REDHILL AVENUE — Site: TUSTIN

Segment : N/O BARRANCA PARKWAY — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	18	45	243	887	10	39	240	922	28	84	483	1,809	
12:15	8		199		10		208		18		407		
12:30	13		211		11		230		24		441		
12:45	6		234		8		244		14		478		
01:00	4	25	258	1,043	5	24	228	808	9	49	486	1,851	
01:15	5		241		4		193		9		434		
01:30	9		268		10		199		19		467		
01:45	7		276		5		188		12		464		
02:00	21	40	272	1,356	3	24	172	712	24	64	444	2,068	
02:15	6		295		5		169		11		464		
02:30	9		407		4		188		13		595		
02:45	4		382		12		183		16		565		
03:00	14	35	410	1,867	6	73	169	669	20	108	579	2,536	
03:15	4		446		7		170		11		616		
03:30	9		485		14		178		23		663		
03:45	8		526		46		152		54		678		
04:00	8	36	466	2,094	27	206	174	759	35	242	640	2,853	
04:15	4		575		37		177		41		752		
04:30	12		527		62		218		74		745		
04:45	12		526		80		190		92		716		
05:00	22	145	552	2,404	42	393	240	840	64	538	792	3,244	
05:15	22		634		61		208		83		842		
05:30	50		626		128		214		178		840		
05:45	51		592		162		178		213		770		
06:00	72	282	608	1,866	108	674	169	585	180	956	777	2,451	
06:15	46		558		152		178		198		736		
06:30	76		384		168		132		244		516		
06:45	88		316		246		106		334		422		
07:00	86	486	232	673	217	1,167	110	399	303	1,653	342	1,072	
07:15	117		184		258		112		375		296		
07:30	118		151		273		92		391		243		
07:45	165		106		419		85		584		191		
08:00	152	545	93	368	334	1,252	68	266	486	1,797	161	634	
08:15	134		108		338		68		472		176		
08:30	127		82		296		66		423		148		
08:45	132		85		284		64		416		149		
09:00	146	490	88	300	208	768	48	187	354	1,258	136	487	
09:15	106		80		202		54		308		134		
09:30	120		72		178		48		298		120		
09:45	118		60		180		37		298		97		
10:00	116	472	82	214	152	632	31	105	268	1,104	113	319	
10:15	106		49		176		17		282		66		
10:30	126		50		132		25		258		75		
10:45	124		33		172		32		296		65		
11:00	138	622	45	154	179	768	19	62	317	1,390	64	216	
11:15	136		34		169		11		305		45		
11:30	178		44		228		19		406		63		
11:45	170		31		192		13		362		44		
Totals	3,223		13,226		6,020		6,314		9,243		19,540		
Split%	34.9		67.7		65.1		32.3						
Day Totals		16,449				12,334				28,783			
Day Splits		57.1				42.9							
Peak Hour	11:00		05:15		07:45		12:00		07:45		05:00		
Volume	622		2,460		1,387		922		1,965		3,244		
Factor	0.87		0.97		0.83		0.94		0.84		0.96		

* Data File : D1405087

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Redhill Avenue
B/ Deere Avenue - Barranca Parkway / Dyer Road

File Name 272
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/16/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	236			2	214				
12:15	14	195			7	197				
12:30	20	303			9	175				
12:45	8	247	50	981	8	171	26	757	76	1738
1:00	13	292			7	144				
1:15	14	303			3	163				
1:30	7	489			8	171				
1:45	7	321	41	1405	9	154	27	632	68	2037
2:00	8	485			5	125				
2:15	7	363			13	134				
2:30	11	566			28	118				
2:45	10	415	36	1829	24	143	70	520	106	2349
3:00	8	576			39	147				
3:15	14	448			38	116				
3:30	18	617			90	131				
3:45	12	576	52	2217	93	147	260	541	312	2758
4:00	24	672			71	200				
4:15	20	532			80	156				
4:30	30	636			137	181				
4:45	46	629	120	2469	190	133	478	670	598	3139
5:00	99	643			135	116				
5:15	51	571			140	113				
5:30	62	433			158	112				
5:45	69	301	281	1948	250	113	683	454	964	2402
6:00	73	246			234	77				
6:15	100	163			273	74				
6:30	108	105			350	65				
6:45	139	202	420	716	392	66	1249	282	1669	998
7:00	137	102			323	56				
7:15	152	102			365	53				
7:30	140	82			317	51				
7:45	133	52	562	338	331	51	1336	211	1898	549
8:00	119	110			220	48				
8:15	101	71			199	27				
8:30	142	56			159	35				
8:45	120	51	482	288	168	30	746	140	1228	428
9:00	126	96			138	31				
9:15	103	48			126	32				
9:30	132	61			135	29				
9:45	119	30	480	235	108	17	507	109	987	344
10:00	162	37			127	16				
10:15	181	34			131	9				
10:30	233	51			169	8				
10:45	193	29	769	151	169	9	596	42	1365	193
11:00	239	28			185	13				
11:15	232	17			176	8				
11:30	219	24			194	5				
11:45	201	7	891	76	221	6	776	32	1667	108
Totals	4184	12653			6754	4390				
Combined Totals		16837				11144				
ADT										27981
AM Peak Hour	1030	AM			630	AM				
Volume	897				1430					
P.H.F.	0.938				0.912					
PM Peak Hour		430	PM			1200	PM			
Volume		2479				757				
P.H.F.		0.964				0.884				
Percentage	24.9%	75.1%			60.6%	39.4%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

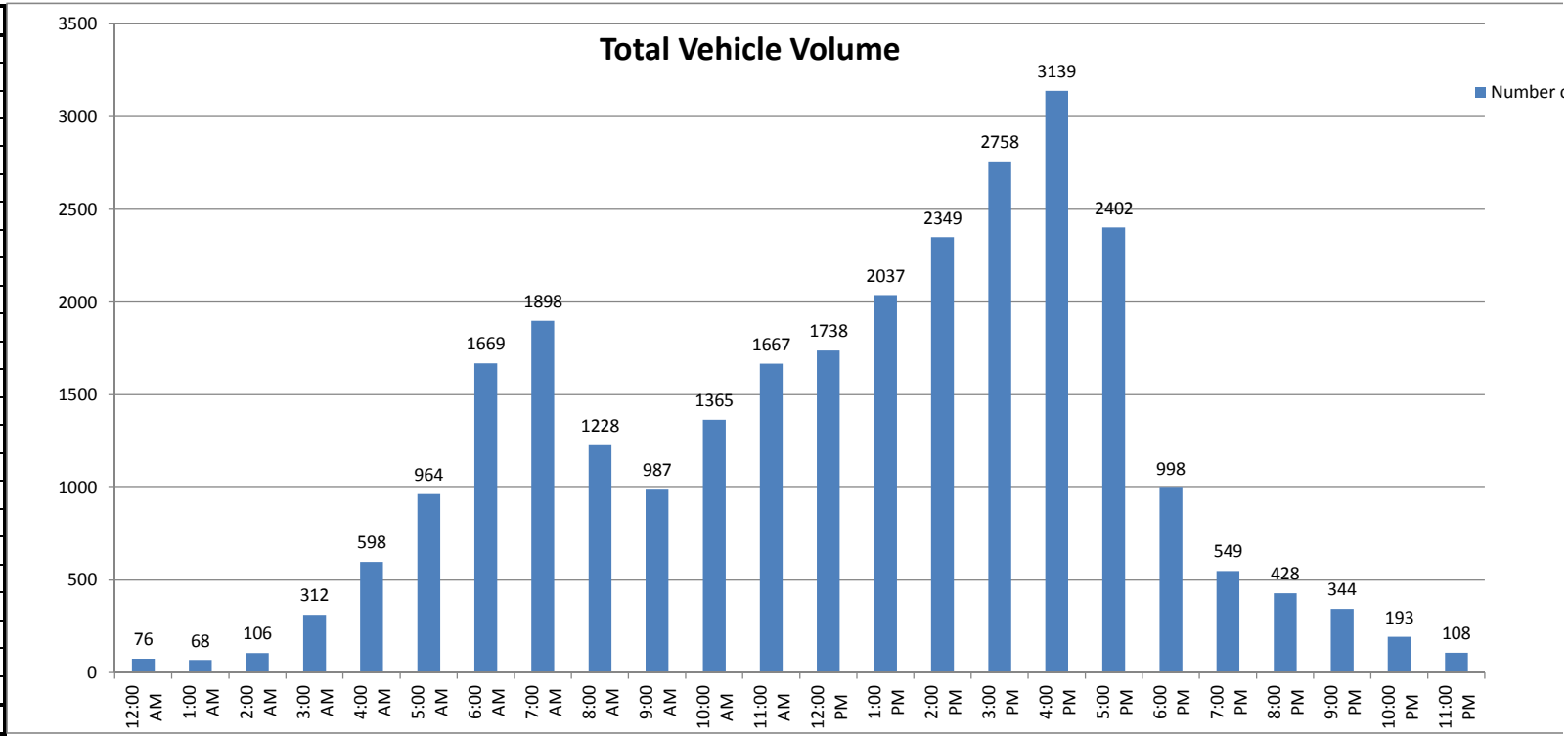
Redhill Avenue

B/ Deere Avenue - Barranca Parkway / Dyer Road

4/16/2014

Southbound

Start Time	4/16/2014
12:00 AM	76
1:00 AM	68
2:00 AM	106
3:00 AM	312
4:00 AM	598
5:00 AM	964
6:00 AM	1669
7:00 AM	1898
8:00 AM	1228
9:00 AM	987
10:00 AM	1365
11:00 AM	1667
12:00 PM	1738
1:00 PM	2037
2:00 PM	2349
3:00 PM	2758
4:00 PM	3139
5:00 PM	2402
6:00 PM	998
7:00 PM	549
8:00 PM	428
9:00 PM	344
10:00 PM	193
11:00 PM	108
Total	27981



Volumes represent the combined totals for both directions

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : KENSINGTON PARK DRIVE — Site: TUSTIN

Segment : S/O EDINGER AVENUE — Date: 05/29/14

Client : CITY OF TUSTIN — Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	1	9	18	103	2	12	32	119	3	21	50	222
12:15	1		32		6		32		7		64	
12:30	1		21		2		33		3		54	
12:45	6		32		2		22		8		54	
01:00	0	1	28	109	4	6	26	108	4	7	54	217
01:15	1		23		1		30		2		53	
01:30	0		32		1		28		1		60	
01:45	0		26		0		24		0		50	
02:00	0	2	32	125	0	2	29	135	0	4	61	260
02:15	0		41		1		26		1		67	
02:30	1		24		0		37		1		61	
02:45	1		28		1		43		2		71	
03:00	0	4	39	144	1	7	38	169	1	11	77	313
03:15	2		39		1		46		3		85	
03:30	0		40		2		44		2		84	
03:45	2		26		3		41		5		67	
04:00	4	14	44	184	2	11	34	174	6	25	78	358
04:15	2		42		3		49		5		91	
04:30	3		43		2		50		5		93	
04:45	5		55		4		41		9		96	
05:00	3	25	60	220	1	22	82	282	4	47	142	502
05:15	5		56		4		64		9		120	
05:30	6		60		3		76		9		136	
05:45	11		44		14		60		25		104	
06:00	15	88	54	163	15	77	50	237	30	165	104	400
06:15	21		53		14		64		35		117	
06:30	34		37		22		58		56		95	
06:45	18		19		26		65		44		84	
07:00	31	177	23	81	23	119	42	160	54	296	65	241
07:15	52		24		32		38		84		62	
07:30	51		12		20		50		71		62	
07:45	43		22		44		30		87		52	
08:00	66	181	22	68	43	151	37	119	109	332	59	187
08:15	30		17		44		36		74		53	
08:30	35		12		29		26		64		38	
08:45	50		17		35		20		85		37	
09:00	38	109	17	52	27	90	23	88	65	199	40	140
09:15	23		15		19		26		42		41	
09:30	24		9		26		26		50		35	
09:45	24		11		18		13		42		24	
10:00	23	85	11	34	18	98	13	60	41	183	24	94
10:15	21		9		25		24		46		33	
10:30	15		8		30		12		45		20	
10:45	26		6		25		11		51		17	
11:00	26	109	5	13	20	112	8	30	46	221	13	43
11:15	22		0		22		2		44		2	
11:30	36		6		36		6		72		12	
11:45	25		2		34		14		59		16	
Totals	804		1,296		707		1,681		1,511		2,977	
Split%	53.2		43.5		46.8		56.5					
Day Totals		2,100				2,388				4,488		
Day Splits		46.8				53.2						
Peak Hour	07:15		04:45		07:45		05:00		07:15		05:00	
Volume	212		231		160		282		351		502	
Factor	0.80		0.96		0.91		0.86		0.81		0.88	

* Data File : D1405081

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : TUSTIN RANCH ROAD — Site: TUSTIN

Segment : 500' S/O WALNUT AVENUE — Date: 04/29/14

Client : CITY OF TUSTIN — Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	9	28	116	438	4	16	100	411	13	44	216	849
12:15	9		92		6		94		15		186	
12:30	4		112		3		116		7		228	
12:45	6		118		3		101		9		219	
01:00	3	8	119	484	2	5	120	406	5	13	239	890
01:15	1		111		0		98		1		209	
01:30	3		126		2		92		5		218	
01:45	1		128		1		96		2		224	
02:00	4	9	130	557	0	7	70	331	4	16	200	888
02:15	2		126		2		84		4		210	
02:30	1		163		0		83		1		246	
02:45	2		138		5		94		7		232	
03:00	1	2	163	697	0	18	104	422	1	20	267	1,119
03:15	1		150		3		98		4		248	
03:30	0		174		5		115		5		289	
03:45	0		210		10		105		10		315	
04:00	3	13	236	1,188	9	54	83	384	12	67	319	1,572
04:15	4		296		5		94		9		390	
04:30	1		293		10		112		11		405	
04:45	5		363		30		95		35		458	
05:00	6	34	438	1,710	22	190	108	484	28	224	546	2,194
05:15	9		453		34		120		43		573	
05:30	12		423		55		128		67		551	
05:45	7		396		79		128		86		524	
06:00	18	132	372	1,167	104	502	116	394	122	634	488	1,561
06:15	22		312		108		100		130		412	
06:30	32		250		116		100		148		350	
06:45	60		233		174		78		234		311	
07:00	42	247	158	495	154	1,055	74	268	196	1,302	232	763
07:15	60		122		222		82		282		204	
07:30	70		121		289		60		359		181	
07:45	75		94		390		52		465		146	
08:00	78	288	82	296	332	1,193	48	174	410	1,481	130	470
08:15	88		81		346		54		434		135	
08:30	60		80		296		42		356		122	
08:45	62		53		219		30		281		83	
09:00	60	220	74	218	200	609	39	130	260	829	113	348
09:15	50		42		138		32		188		74	
09:30	62		50		131		30		193		80	
09:45	48		52		140		29		188		81	
10:00	62	269	48	134	109	394	22	67	171	663	70	201
10:15	62		28		106		14		168		42	
10:30	61		34		80		15		141		49	
10:45	84		24		99		16		183		40	
11:00	65	343	34	96	90	351	15	43	155	694	49	139
11:15	80		25		82		13		162		38	
11:30	114		25		93		9		207		34	
11:45	84		12		86		6		170		18	
Totals	1,593		7,480		4,394		3,514		5,987		10,994	
Split%	26.6		68.0		73.4		32.0					
Day Totals		9,073				7,908				16,981		
Day Splits		53.4				46.6						
Peak Hour	10:45		05:00		07:45		05:15		07:30		05:00	
Volume	343		1,710		1,364		492		1,668		2,194	
Factor	0.75		0.94		0.87		0.96		0.90		0.96	

Transportation Studies, Inc.
2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location: : TUSTIN RANCH ROAD
Segment: : S/O VALENCIA AVENUE
Client: : CITY OF TUSTIN

Site: TUSTIN
Date: 04/29/14
Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	12	34	118	463	4	18	126	447	16	52	244	910
12:15	11		119		4		106		15		225	
12:30	5		102		6		122		11		224	
12:45	6		124		4		93		10		217	
01:00	3	16	124	498	1	7	109	401	4	23	233	899
01:15	7		102		2		99		9		201	
01:30	4		134		1		96		5		230	
01:45	2		138		3		97		5		235	
02:00	3	8	132	546	1	7	70	353	4	15	202	899
02:15	1		142		1		94		2		236	
02:30	2		128		2		97		4		225	
02:45	2		144		3		92		5		236	
03:00	1	7	128	665	0	20	100	394	1	27	228	1,059
03:15	1		171		3		108		4		279	
03:30	2		160		4		82		6		242	
03:45	3		206		13		104		16		310	
04:00	2	10	243	1,063	6	60	92	400	8	70	335	1,463
04:15	2		257		12		101		14		358	
04:30	2		264		8		101		10		365	
04:45	4		299		34		106		38		405	
05:00	2	16	339	1,503	28	201	98	430	30	217	437	1,933
05:15	4		385		38		114		42		499	
05:30	4		387		64		114		68		501	
05:45	6		392		71		104		77		496	
06:00	22	100	334	1,073	90	461	88	369	112	561	422	1,442
06:15	14		297		100		92		114		389	
06:30	24		258		142		92		166		350	
06:45	40		184		129		97		169		281	
07:00	42	173	162	520	172	977	89	289	214	1,150	251	809
07:15	38		126		236		74		274		200	
07:30	49		116		250		65		299		181	
07:45	44		116		319		61		363		177	
08:00	60	228	114	347	293	1,066	35	153	353	1,294	149	500
08:15	48		75		292		51		340		126	
08:30	72		92		251		40		323		132	
08:45	48		66		230		27		278		93	
09:00	60	244	71	232	174	553	36	115	234	797	107	347
09:15	70		67		128		35		198		102	
09:30	63		55		136		26		199		81	
09:45	51		39		115		18		166		57	
10:00	46	233	30	126	111	429	19	57	157	662	49	183
10:15	50		31		109		15		159		46	
10:30	73		38		114		17		187		55	
10:45	64		27		95		6		159		33	
11:00	68	309	32	82	106	421	7	29	174	730	39	111
11:15	88		21		96		8		184		29	
11:30	78		19		116		10		194		29	
11:45	75		10		103		4		178		14	
Totals	1,378		7,118		4,220		3,437		5,598		10,555	
Split%	24.6		67.4		75.4		32.6					
Day Totals		8,496				7,657				16,153		
Day Splits		52.6				47.4						
Peak Hour	11:00		05:00		07:45		12:00		07:45		05:00	
Volume	309		1,503		1,155		447		1,379		1,933	
Factor	0.88		0.96		0.91		0.89		0.95		0.96	

Transportation Studies, Inc.

2640 Walnut Avenue, Suite H

Tustin, CA. 92780

Location : TUSTIN RANCH ROAD — Site: TUSTIN

Segment : WARNER AVE TO PARK AVE — Date: 11/06/14

Client : CITY OF TUSTIN — Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	10	41	179	683	8	24	148	644	18	65	327	1,327
12:15	8		162		4		157		12		319	
12:30	15		176		6		156		21		332	
12:45	8		166		6		183		14		349	
01:00	6	15	198	679	0	6	160	590	6	21	358	1,269
01:15	3		157		1		148		4		305	
01:30	1		160		3		136		4		296	
01:45	5		164		2		146		7		310	
02:00	6	16	184	793	0	5	128	467	6	21	312	1,260
02:15	6		210		0		122		6		332	
02:30	1		179		3		108		4		287	
02:45	3		220		2		109		5		329	
03:00	2	11	205	1,003	1	15	125	527	3	26	330	1,530
03:15	1		230		2		110		3		340	
03:30	2		266		2		148		4		414	
03:45	6		302		10		144		16		446	
04:00	5	23	317	1,459	4	63	134	538	9	86	451	1,997
04:15	3		368		8		130		11		498	
04:30	3		380		13		130		16		510	
04:45	12		394		38		144		50		538	
05:00	8	46	382	1,617	20	178	152	616	28	224	534	2,233
05:15	7		429		38		144		45		573	
05:30	9		419		50		158		59		577	
05:45	22		387		70		162		92		549	
06:00	26	124	382	1,355	64	475	148	546	90	599	530	1,901
06:15	38		355		107		154		145		509	
06:30	34		306		122		120		156		426	
06:45	26		312		182		124		208		436	
07:00	49	221	245	795	188	1,363	85	304	237	1,584	330	1,099
07:15	52		214		312		86		364		300	
07:30	64		174		365		69		429		243	
07:45	56		162		498		64		554		226	
08:00	92	311	144	460	510	1,880	53	186	602	2,191	197	646
08:15	74		130		520		42		594		172	
08:30	69		101		458		41		527		142	
08:45	76		85		392		50		468		135	
09:00	75	330	93	309	295	894	48	141	370	1,224	141	450
09:15	72		82		231		38		303		120	
09:30	84		74		194		25		278		99	
09:45	99		60		174		30		273		90	
10:00	112	460	68	225	144	563	21	67	256	1,023	89	292
10:15	117		62		148		18		265		80	
10:30	118		54		135		18		253		72	
10:45	113		41		136		10		249		51	
11:00	130	571	40	114	148	600	14	35	278	1,171	54	149
11:15	144		25		136		6		280		31	
11:30	152		27		150		8		302		35	
11:45	145		22		166		7		311		29	
Totals	2,169		9,492		6,066		4,661		8,235		14,153	
Split%	26.3		67.1		73.7		32.9					
Day Totals		11,661				10,727				22,388		
Day Splits		52.1				47.9						
Peak Hour	11:00		04:45		07:45		12:15		07:45		05:00	
Volume	571		1,624		1,986		656		2,277		2,233	
Factor	0.94		0.95		0.95		0.90		0.95		0.97	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : TUSTIN RANCH ROAD — Site: TUSTIN

Segment : PARK AVE TO BARRANCA PKWY — Date: 04/29/14

Client : CITY OF TUSTIN — Day: Tuesday

Interval	SB				NB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	3	16	158	851	10	18	251	895	13	34	409	1,746
12:15	5		201		4		228		9		429	
12:30	6		242		2		226		8		468	
12:45	2		250		2		190		4		440	
01:00	5	8	262	933	1	4	198	699	6	12	460	1,632
01:15	1		245		1		180		2		425	
01:30	1		216		2		182		3		398	
01:45	1		210		0		139		1		349	
02:00	1	5	165	619	2	10	125	606	3	15	290	1,225
02:15	1		176		2		142		3		318	
02:30	2		124		4		176		6		300	
02:45	1		154		2		163		3		317	
03:00	0	9	158	571	1	7	161	735	1	16	319	1,306
03:15	4		102		0		195		4		297	
03:30	1		153		0		169		1		322	
03:45	4		158		6		210		10		368	
04:00	4	27	120	514	6	26	236	1,178	10	53	356	1,692
04:15	3		134		2		299		5		433	
04:30	6		132		6		313		12		445	
04:45	14		128		12		330		26		458	
05:00	17	126	118	544	4	40	414	1,571	21	166	532	2,115
05:15	30		118		4		386		34		504	
05:30	29		154		6		398		35		552	
05:45	50		154		26		373		76		527	
06:00	64	383	119	470	18	128	309	1,052	82	511	428	1,522
06:15	68		127		42		308		110		435	
06:30	95		112		32		243		127		355	
06:45	156		112		36		192		192		304	
07:00	171	1,150	116	439	19	134	174	529	190	1,284	290	968
07:15	250		108		34		150		284		258	
07:30	303		100		42		106		345		206	
07:45	426		115		39		99		465		214	
08:00	504	1,626	86	385	44	201	86	273	548	1,827	172	658
08:15	460		116		52		84		512		200	
08:30	372		93		55		53		427		146	
08:45	290		90		50		50		340		140	
09:00	229	679	68	210	48	245	53	147	277	924	121	357
09:15	148		50		66		45		214		95	
09:30	160		52		56		25		216		77	
09:45	142		40		75		24		217		64	
10:00	109	434	38	109	82	369	22	71	191	803	60	180
10:15	125		30		82		22		207		52	
10:30	96		26		103		15		199		41	
10:45	104		15		102		12		206		27	
11:00	112	525	17	62	149	734	9	56	261	1,259	26	118
11:15	116		16		170		12		286		28	
11:30	150		16		198		23		348		39	
11:45	147		13		217		12		364		25	
Totals	4,988		5,707		1,916		7,812		6,904		13,519	
Split%	72.2		42.2		27.8		57.8					
Day Totals		10,695				9,728				20,423		
Day Splits		52.4				47.6						
Peak Hour	07:45		12:30		11:00		05:00		07:45		05:00	
Volume	1,762		999		734		1,571		1,952		2,115	
Factor	0.87		0.95		0.85		0.95		0.89		0.96	

* Data File : D1405013

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Von Karman Avenue
B/ Alton Parkway - Barranca Parkway

File Name 312
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/6/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	13	217			10	169				
12:15	8	212			6	223				
12:30	13	237			4	267				
12:45	8	200	42	866	2	292	22	951	64	1817
1:00	15	216			4	255				
1:15	7	187			2	251				
1:30	8	198			7	252				
1:45	5	181	35	782	2	217	15	975	50	1757
2:00	8	201			3	164				
2:15	4	199			6	203				
2:30	7	297			4	198				
2:45	3	200	22	897	6	188	19	753	41	1650
3:00	5	256			3	159				
3:15	7	221			4	157				
3:30	8	330			13	167				
3:45	14	281	34	1088	21	160	41	643	75	1731
4:00	11	371			17	153				
4:15	13	360			18	157				
4:30	26	441			34	151				
4:45	44	422	94	1594	77	138	146	599	240	2193
5:00	27	475			47	135				
5:15	25	402			60	178				
5:30	43	418			96	142				
5:45	78	410	173	1705	166	129	369	584	542	2289
6:00	53	397			95	117				
6:15	61	333			108	94				
6:30	74	310			161	114				
6:45	92	261	280	1301	269	120	633	445	913	1746
7:00	114	214			280	117				
7:15	99	173			366	107				
7:30	112	132			472	72				
7:45	112	110	437	629	553	77	1671	373	2108	1002
8:00	104	86			535	60				
8:15	117	98			493	73				
8:30	116	83			447	52				
8:45	113	78	450	345	447	59	1922	244	2372	589
9:00	106	69			287	61				
9:15	89	54			244	53				
9:30	104	63			193	35				
9:45	106	75	405	261	201	39	925	188	1330	449
10:00	106	48			152	37				
10:15	113	42			127	34				
10:30	114	45			127	29				
10:45	110	24	443	159	108	21	514	121	957	280
11:00	190	36			142	24				
11:15	191	15			140	13				
11:30	225	28			155	21				
11:45	239	19	845	98	193	14	630	72	1475	170
Totals	3260	9725			6907	5948				
Combined Totals		12985				12855				
ADT										25840
AM Peak Hour	1100	AM			730	AM				
Volume	845				2053					
P.H.F.	0.884				0.928					
PM Peak Hour		430	PM			1230	PM			
Volume		1740				1065				
P.H.F.		0.916				0.912				
Percentage	25.1%	74.9%			53.7%	46.3%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

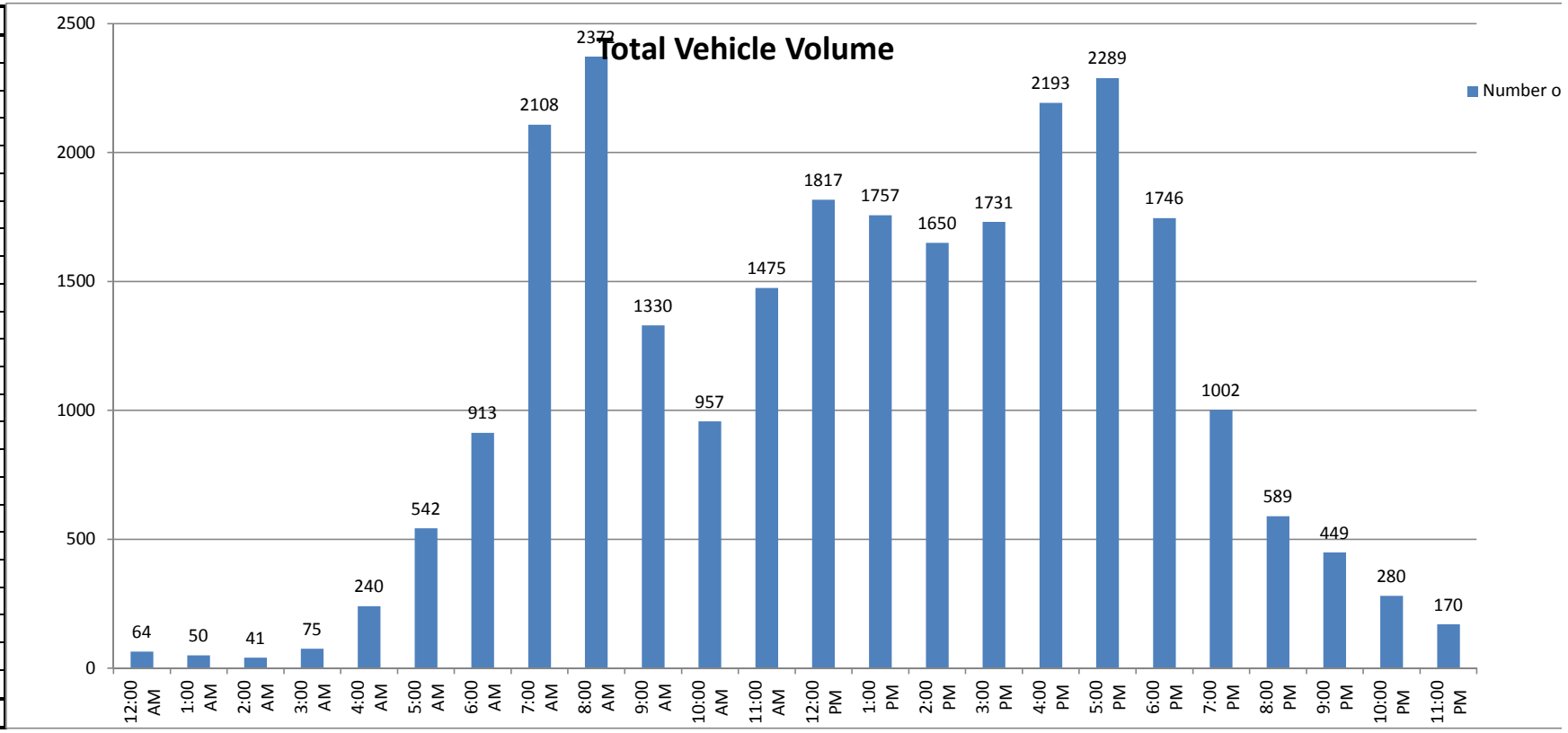
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Von Karman Avenue
B/ Alton Parkway - Barranca Parkway
3/6/2014

Southbound

Start Time	3/6/2014
12:00 AM	64
1:00 AM	50
2:00 AM	41
3:00 AM	75
4:00 AM	240
5:00 AM	542
6:00 AM	913
7:00 AM	2108
8:00 AM	2372
9:00 AM	1330
10:00 AM	957
11:00 AM	1475
12:00 PM	1817
1:00 PM	1757
2:00 PM	1650
3:00 PM	1731
4:00 PM	2193
5:00 PM	2289
6:00 PM	1746
7:00 PM	1002
8:00 PM	589
9:00 PM	449
10:00 PM	280
11:00 PM	170
Total	25840



Volumes represent the combined totals for both directions

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location: : PARK AVENUE — Site: TUSTIN

Segment: : N/O WARNER AVENUE — Date: 06/05/14

Client: : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	3	4	32	107	10	36	176	658	13	40	208	765	
12:15	0		28		14		158		14		186		
12:30	0		17		10		152		10		169		
12:45	1		30		2		172		3		202		
01:00	1	1	32	104	8	52	170	684	9	53	202	788	
01:15	0		21		22		192		22		213		
01:30	0		30		14		176		14		206		
01:45	0		21		8		146		8		167		
02:00	0	0	22	90	8	45	156	656	8	45	178	746	
02:15	0		27		12		152		12		179		
02:30	0		20		6		172		6		192		
02:45	0		21		19		176		19		197		
03:00	0	1	17	51	6	54	174	721	6	55	191	772	
03:15	0		16		12		176		12		192		
03:30	1		10		14		180		15		190		
03:45	0		8		22		191		22		199		
04:00	1	1	19	66	27	154	145	670	28	155	164	736	
04:15	0		23		31		172		31		195		
04:30	0		12		54		168		54		180		
04:45	0		12		42		185		42		197		
05:00	1	12	26	67	64	324	189	715	65	336	215	782	
05:15	2		13		54		148		56		161		
05:30	5		14		98		204		103		218		
05:45	4		14		108		174		112		188		
06:00	13	66	12	57	99	417	152	581	112	483	164	638	
06:15	19		20		112		159		131		179		
06:30	18		10		100		132		118		142		
06:45	16		15		106		138		122		153		
07:00	12	50	9	50	131	722	102	426	143	772	111	476	
07:15	12		16		164		111		176		127		
07:30	12		12		176		98		188		110		
07:45	14		13		251		115		265		128		
08:00	12	49	12	53	246	899	98	333	258	948	110	386	
08:15	10		11		244		92		254		103		
08:30	16		17		201		71		217		88		
08:45	11		13		208		72		219		85		
09:00	10	43	10	27	133	623	43	174	143	666	53	201	
09:15	5		8		156		58		161		66		
09:30	16		7		158		44		174		51		
09:45	12		2		176		29		188		31		
10:00	14	77	3	7	150	674	40	115	164	751	43	122	
10:15	25		1		170		27		195		28		
10:30	18		1		178		32		196		33		
10:45	20		2		176		16		196		18		
11:00	20	85	1	6	196	752	16	53	216	837	17	59	
11:15	18		0		180		12		198		12		
11:30	21		3		182		14		203		17		
11:45	26		2		194		11		220		13		
Totals	389		685		4,752		5,786		5,141		6,471		
Split%	7.6		10.6		92.4		89.4						
Day Totals		1,074				10,538				11,612			
Day Splits		9.2				90.8							
Peak Hour	11:00		12:45		07:45		04:45		07:45		12:45		
Volume	85		113		942		726		994		823		
Factor	0.82		0.88		0.94		0.89		0.94		0.97		

* Data File : D1405086

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location: : PARK AVENUE — Site: TUSTIN

Segment: : S/O WARNER AVENUE — Date: 06/05/14

Client: : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	6	35	148	588	2	11	173	632	8	46	321	1,220	
12:15	12		140		7		166		19		306		
12:30	10		138		0		150		10		288		
12:45	7		162		2		143		9		305		
01:00	5	17	171	642	1	6	138	569	6	23	309	1,211	
01:15	1		151		0		170		1		321		
01:30	7		170		4		127		11		297		
01:45	4		150		1		134		5		284		
02:00	0	0	166	600	0	9	109	488	0	9	275	1,088	
02:15	0		144		0		128		0		272		
02:30	0		146		1		121		1		267		
02:45	0		144		8		130		8		274		
03:00	0	3	100	430	3	13	119	509	3	16	219	939	
03:15	0		108		1		123		1		231		
03:30	2		104		0		121		2		225		
03:45	1		118		9		146		10		264		
04:00	2	14	120	495	5	63	125	489	7	77	245	984	
04:15	0		134		12		113		12		247		
04:30	4		122		22		115		26		237		
04:45	8		119		24		136		32		255		
05:00	6	17	138	547	12	57	110	541	18	74	248	1,088	
05:15	6		140		9		127		15		267		
05:30	1		133		6		162		7		295		
05:45	4		136		30		142		34		278		
06:00	23	113	163	581	32	180	136	517	55	293	299	1,098	
06:15	26		140		48		137		74		277		
06:30	28		151		46		136		74		287		
06:45	36		127		54		108		90		235		
07:00	27	122	132	552	63	276	126	497	90	398	258	1,049	
07:15	29		132		58		133		87		265		
07:30	28		132		74		119		102		251		
07:45	38		156		81		119		119		275		
08:00	52	198	129	541	102	352	102	316	154	550	231	857	
08:15	64		144		90		90		154		234		
08:30	39		132		84		64		123		196		
08:45	43		136		76		60		119		196		
09:00	44	198	119	347	71	429	48	146	115	627	167	493	
09:15	38		104		102		52		140		156		
09:30	53		79		102		30		155		109		
09:45	63		45		154		16		217		61		
10:00	71	309	46	160	146	561	18	43	217	870	64	203	
10:15	82		27		134		8		216		35		
10:30	72		39		142		10		214		49		
10:45	84		48		139		7		223		55		
11:00	96	403	36	109	177	687	8	20	273	1,090	44	129	
11:15	82		13		142		5		224		18		
11:30	90		46		196		2		286		48		
11:45	135		14		172		5		307		19		
Totals	1,429		5,592		2,644		4,767		4,073		10,359		
Split%	35.1		54.0		64.9		46.0						
Day Totals		7,021				7,411				14,432			
Day Splits		48.6				51.4							
Peak Hour	11:00		12:45		11:00		12:00		11:00		12:45		
Volume	403		654		687		632		1,090		1,232		
Factor	0.75		0.96		0.88		0.91		0.89		0.96		

* Data File : D1405085

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : PARK AVENUE — Site: TUSTIN

Segment : S/O TUSTIN RANCH ROAD — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	NB				SB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	7	30	122	675	2	4	172	566	9	34	294	1,241	
12:15	6		160		1		146		7		306		
12:30	4		166		0		137		4		303		
12:45	13		227		1		111		14		338		
01:00	1	10	190	681	1	3	112	418	2	13	302	1,099	
01:15	1		182		2		120		3		302		
01:30	6		160		0		104		6		264		
01:45	2		149		0		82		2		231		
02:00	0	2	142	477	0	1	98	327	0	3	240	804	
02:15	2		126		0		66		2		192		
02:30	0		104		0		85		0		189		
02:45	0		105		1		78		1		183		
03:00	2	3	90	341	1	19	99	313	3	22	189	654	
03:15	1		84		2		81		3		165		
03:30	0		79		9		70		9		149		
03:45	0		88		7		63		7		151		
04:00	0	3	89	350	2	16	96	376	2	19	185	726	
04:15	1		107		3		84		4		191		
04:30	1		84		2		83		3		167		
04:45	1		70		9		113		10		183		
05:00	0	7	80	365	0	16	106	450	0	23	186	815	
05:15	0		90		4		110		4		200		
05:30	6		104		4		104		10		208		
05:45	1		91		8		130		9		221		
06:00	10	40	87	386	8	43	134	465	18	83	221	851	
06:15	9		105		8		136		17		241		
06:30	4		97		12		107		16		204		
06:45	17		97		15		88		32		185		
07:00	10	65	98	453	10	68	75	278	20	133	173	731	
07:15	16		124		13		66		29		190		
07:30	20		123		22		76		42		199		
07:45	19		108		23		61		42		169		
08:00	24	100	97	424	34	138	66	200	58	238	163	624	
08:15	22		98		41		59		63		157		
08:30	30		124		26		36		56		160		
08:45	24		105		37		39		61		144		
09:00	25	155	73	266	43	202	25	71	68	357	98	337	
09:15	35		87		45		21		80		108		
09:30	50		60		51		14		101		74		
09:45	45		46		63		11		108		57		
10:00	34	212	44	130	54	246	6	18	88	458	50	148	
10:15	54		42		62		5		116		47		
10:30	56		33		54		3		110		36		
10:45	68		11		76		4		144		15		
11:00	50	349	21	101	100	564	2	12	150	913	23	113	
11:15	83		22		126		2		209		24		
11:30	100		31		150		3		250		34		
11:45	116		27		188		5		304		32		
Totals	976		4,649		1,320		3,494		2,296		8,143		
Split%	42.5		57.1		57.5		42.9						
Day Totals		5,625				4,814				10,439			
Day Splits		53.9				46.1							
Peak Hour	11:00		12:30		11:00		12:00		11:00		12:15		
Volume	349		765		564		566		913		1,249		
Factor	0.75		0.84		0.75		0.82		0.75		0.92		

* Data File : D1405084

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : DISTRICT DRIVE — Site: TUSTIN

Segment : N/O BARRANCA PARKWAY — Date: 05/21/14

Client : CITY OF TUSTIN — Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	5	25	325	1,181	32	77	202	897	37	102	527	2,078
12:15	8		328		13		207		21		535	
12:30	9		257		20		244		29		501	
12:45	3		271		12		244		15		515	
01:00	2	9	246	911	5	22	232	889	7	31	478	1,800
01:15	2		260		3		228		5		488	
01:30	2		192		12		221		14		413	
01:45	3		213		2		208		5		421	
02:00	1	8	194	731	4	9	190	745	5	17	384	1,476
02:15	1		178		3		185		4		363	
02:30	5		186		0		200		5		386	
02:45	1		173		2		170		3		343	
03:00	3	7	162	716	4	6	185	656	7	13	347	1,372
03:15	1		166		0		154		1		320	
03:30	1		188		0		168		1		356	
03:45	2		200		2		149		4		349	
04:00	1	26	166	710	2	10	152	548	3	36	318	1,258
04:15	1		176		2		136		3		312	
04:30	5		172		3		136		8		308	
04:45	19		196		3		124		22		320	
05:00	6	53	190	816	2	17	146	571	8	70	336	1,387
05:15	10		202		4		151		14		353	
05:30	11		208		3		132		14		340	
05:45	26		216		8		142		34		358	
06:00	18	88	252	835	18	97	146	604	36	185	398	1,439
06:15	20		236		22		149		42		385	
06:30	18		179		30		162		48		341	
06:45	32		168		27		147		59		315	
07:00	39	162	194	700	44	209	168	627	83	371	362	1,327
07:15	32		190		59		151		91		341	
07:30	44		162		50		150		94		312	
07:45	47		154		56		158		103		312	
08:00	52	276	125	486	61	263	182	659	113	539	307	1,145
08:15	84		132		67		164		151		296	
08:30	70		122		77		162		147		284	
08:45	70		107		58		151		128		258	
09:00	72	404	86	266	68	276	161	465	140	680	247	731
09:15	96		70		78		132		174		202	
09:30	104		57		60		78		164		135	
09:45	132		53		70		94		202		147	
10:00	133	646	21	84	64	415	86	260	197	1,061	107	344
10:15	150		26		103		64		253		90	
10:30	174		21		94		50		268		71	
10:45	189		16		154		60		343		76	
11:00	198	977	16	52	138	633	57	139	336	1,610	73	191
11:15	215		14		172		28		387		42	
11:30	266		10		153		32		419		42	
11:45	298		12		170		22		468		34	
Totals	2,681		7,488		2,034		7,060		4,715		14,548	
Split%	56.9		51.5		43.1		48.5					
Day Totals		10,169				9,094				19,263		
Day Splits		52.8				47.2						
Peak Hour	11:00		12:00		11:00		12:30		11:00		12:00	
Volume	977		1,181		633		948		1,610		2,078	
Factor	0.82		0.90		0.92		0.97		0.86		0.97	

* Data File : D1405065

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location: : JAMBOREE ROAD | Site: TUSTIN

Segment: : EDINGER AVE TO WALNUT AVE | Date: 06/05/14

Client: : CITY OF TUSTIN | Day: Thursday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	62	231	448	1,808	44	151	454	1,779	106	382	902	3,587
12:15	60		424		43		442		103		866	
12:30	56		437		38		411		94		848	
12:45	53		499		26		472		79		971	
01:00	35	111	530	2,105	26	103	364	1,621	61	214	894	3,726
01:15	13		477		23		416		36		893	
01:30	27		522		36		450		63		972	
01:45	36		576		18		391		54		967	
02:00	16	75	539	2,404	14	73	427	1,657	30	148	966	4,061
02:15	26		588		20		386		46		974	
02:30	20		621		8		400		28		1,021	
02:45	13		656		31		444		44		1,100	
03:00	23	73	625	2,934	17	104	387	1,621	40	177	1,012	4,555
03:15	20		714		24		420		44		1,134	
03:30	16		751		23		376		39		1,127	
03:45	14		844		40		438		54		1,282	
04:00	18	118	888	3,783	47	327	380	1,629	65	445	1,268	5,412
04:15	22		946		54		392		76		1,338	
04:30	35		984		97		404		132		1,388	
04:45	43		965		129		453		172		1,418	
05:00	41	260	1,103	4,495	142	1,023	452	1,886	183	1,283	1,555	6,381
05:15	57		1,158		203		466		260		1,624	
05:30	84		1,150		300		466		384		1,616	
05:45	78		1,084		378		502		456		1,586	
06:00	124	730	1,158	3,892	376	2,044	424	1,646	500	2,774	1,582	5,538
06:15	148		1,128		426		454		574		1,582	
06:30	192		898		511		376		703		1,274	
06:45	266		708		731		392		997		1,100	
07:00	262	1,171	544	1,938	706	3,917	288	1,118	968	5,088	832	3,056
07:15	264		518		917		308		1,181		826	
07:30	288		462		1,088		260		1,376		722	
07:45	357		414		1,206		262		1,563		676	
08:00	350	1,454	416	1,537	1,142	4,463	254	928	1,492	5,917	670	2,465
08:15	398		388		1,190		246		1,588		634	
08:30	354		395		1,070		230		1,424		625	
08:45	352		338		1,061		198		1,413		536	
09:00	308	1,200	350	1,191	864	2,759	184	650	1,172	3,959	534	1,841
09:15	300		309		708		190		1,008		499	
09:30	274		296		629		152		903		448	
09:45	318		236		558		124		876		360	
10:00	286	1,287	238	798	486	1,893	141	451	772	3,180	379	1,249
10:15	342		213		489		132		831		345	
10:30	303		173		480		102		783		275	
10:45	356		174		438		76		794		250	
11:00	369	1,557	154	451	411	1,833	82	254	780	3,390	236	705
11:15	382		103		464		54		846		157	
11:30	386		104		492		68		878		172	
11:45	420		90		466		50		886		140	
Totals	8,267		27,336		18,690		15,240		26,957		42,576	
Split%	30.7		64.2		69.3		35.8					
Day Totals		35,603				33,930				69,533		
Day Splits		51.2				48.8						
Peak Hour	11:00		05:15		07:30		05:00		07:45		05:15	
Volume	1,557		4,550		4,626		1,886		6,067		6,408	
Factor	0.93		0.98		0.96		0.94		0.96		0.99	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : JAMBOREE FRONTAGE ROAD
Segment : EDINGER TO WALNUT
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14

Interval
Day: Thursday

Begin	AM - NB		PM - NB	
12:00	11	27	64	314
12:15	7		106	
12:30	5		68	
12:45	4		76	
1:00	6	17	102	333
1:15	6		80	
1:30	3		72	
1:45	2		79	
2:00	3	7	72	357
2:15	2		109	
2:30	1		80	
2:45	1		96	
3:00	1	13	94	391
3:15	3		93	
3:30	8		100	
3:45	1		104	
4:00	5	31	132	534
4:15	6		140	
4:30	9		108	
4:45	11		154	
5:00	11	74	153	621
5:15	18		146	
5:30	20		182	
5:45	25		140	
6:00	34	224	150	558
6:15	46		170	
6:30	70		120	
6:45	74		118	
7:00	74	392	82	263
7:15	93		68	
7:30	126		59	
7:45	99		54	
8:00	134	441	62	227
8:15	90		53	
8:30	115		60	
8:45	102		52	
9:00	103	334	40	135
9:15	82		43	
9:30	80		25	
9:45	69		27	
10:00	64	277	29	96
10:15	62		32	
10:30	71		16	
10:45	80		19	
11:00	54	297	10	32
11:15	70		8	
11:30	83		7	
11:45	90		7	
Totals	2,134		3,861	
Peak Hour	7:15		5:30	
Volume	452		642	
Factor	0.84		0.88	
DayTotal	**5,995**			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : JAMBOREE FRONTAGE ROAD
Segment : WALNUT TO EDINGER
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14

Interval
Day: Thursday

Begin	AM - SB		PM - SB	
12:00	10	40	77	318
12:15	15		71	
12:30	5		86	
12:45	10		84	
1:00	3	12	90	285
1:15	5		65	
1:30	2		62	
1:45	2		68	
2:00	3	14	70	346
2:15	6		102	
2:30	5		78	
2:45	0		96	
3:00	1	7	133	505
3:15	0		126	
3:30	1		116	
3:45	5		130	
4:00	7	30	116	495
4:15	5		108	
4:30	10		134	
4:45	8		137	
5:00	6	111	159	573
5:15	32		140	
5:30	19		144	
5:45	54		130	
6:00	58	341	142	485
6:15	77		118	
6:30	100		131	
6:45	106		94	
7:00	138	728	124	369
7:15	152		88	
7:30	200		84	
7:45	238		73	
8:00	180	695	66	215
8:15	168		56	
8:30	175		49	
8:45	172		44	
9:00	126	397	58	191
9:15	97		57	
9:30	86		40	
9:45	88		36	
10:00	78	274	22	102
10:15	70		30	
10:30	64		26	
10:45	62		24	
11:00	65	265	23	82
11:15	68		21	
11:30	62		16	
11:45	70		22	
Totals	2,914		3,966	
Peak Hour	7:30		4:45	
Volume	786		580	
Factor	0.83		0.91	
DayTotal	**6,880**			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location: : JAMBOREE ROAD | Site: TUSTIN

Segment: : WARNER AVE TO EDINGER AVE | Date: 05/21/14

Client: : CITY OF TUSTIN | Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	56	209	460	1,886	17	76	492	1,983	73	285	952	3,869
12:15	60		484		16		497		76		981	
12:30	46		452		17		458		63		910	
12:45	47		490		26		536		73		1,026	
01:00	45	118	514	2,115	17	56	448	1,805	62	174	962	3,920
01:15	29		553		16		448		45		1,001	
01:30	22		532		13		447		35		979	
01:45	22		516		10		462		32		978	
02:00	14	76	534	2,322	18	61	426	1,211	32	137	960	3,533
02:15	31		564		10		354		41		918	
02:30	13		578		9		252		22		830	
02:45	18		646		24		179		42		825	
03:00	24	75	654	3,068	12	102	202	783	36	177	856	3,851
03:15	16		758		28		196		44		954	
03:30	12		731		26		205		38		936	
03:45	23		925		36		180		59		1,105	
04:00	16	99	910	3,905	18	224	274	971	34	323	1,184	4,876
04:15	15		963		33		271		48		1,234	
04:30	24		928		62		202		86		1,130	
04:45	44		1,104		111		224		155		1,328	
05:00	40	258	1,166	4,573	112	877	227	1,039	152	1,135	1,393	5,612
05:15	66		1,114		182		254		248		1,368	
05:30	52		1,134		251		276		303		1,410	
05:45	100		1,159		332		282		432		1,441	
06:00	132	806	1,064	3,778	361	1,921	282	890	493	2,727	1,346	4,668
06:15	176		1,117		408		256		584		1,373	
06:30	236		886		532		194		768		1,080	
06:45	262		711		620		158		882		869	
07:00	278	1,261	598	2,153	461	3,495	216	1,145	739	4,756	814	3,298
07:15	286		616		858		329		1,144		945	
07:30	325		497		1,038		318		1,363		815	
07:45	372		442		1,138		282		1,510		724	
08:00	318	1,398	415	1,416	1,212	4,561	221	794	1,530	5,959	636	2,210
08:15	378		332		1,176		196		1,554		528	
08:30	354		362		1,017		176		1,371		538	
08:45	348		307		1,156		201		1,504		508	
09:00	354	1,318	367	1,214	840	2,093	106	314	1,194	3,411	473	1,528
09:15	314		304		386		85		700		389	
09:30	310		284		451		62		761		346	
09:45	340		259		416		61		756		320	
10:00	358	1,381	210	719	521	2,048	58	237	879	3,429	268	956
10:15	315		221		506		64		821		285	
10:30	334		147		500		65		834		212	
10:45	374		141		521		50		895		191	
11:00	398	1,686	134	403	465	2,064	39	177	863	3,750	173	580
11:15	391		114		517		36		908		150	
11:30	396		89		511		46		907		135	
11:45	501		66		571		56		1,072		122	
Totals	8,685		27,552		17,578		11,349		26,263		38,901	
Split%	33.1		70.8		66.9		29.2					
Day Totals		36,237				28,927				65,164		
Day Splits		55.6				44.4						
Peak Hour	11:00		05:00		07:30		12:00		07:45		05:00	
Volume	1,686		4,573		4,564		1,983		5,965		5,612	
Factor	0.84		0.98		0.94		0.92		0.96		0.97	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : JAMBOREE ROAD — Site: TUSTIN

Segment : BARRANCA PKWY TO WARNER AVE — Date: 05/21/14

Client : CITY OF TUSTIN — Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	52	179	394	1,432	32	94	361	1,468	84	273	755	2,900
12:15	48		330		22		365		70		695	
12:30	39		355		16		350		55		705	
12:45	40		353		24		392		64		745	
01:00	26	72	342	1,487	21	55	322	1,432	47	127	664	2,919
01:15	20		405		13		371		33		776	
01:30	15		358		13		387		28		745	
01:45	11		382		8		352		19		734	
02:00	21	59	388	1,818	18	37	348	1,356	39	96	736	3,174
02:15	12		443		4		314		16		757	
02:30	8		473		6		344		14		817	
02:45	18		514		9		350		27		864	
03:00	6	39	538	2,518	15	83	327	1,354	21	122	865	3,872
03:15	5		594		26		338		31		932	
03:30	10		665		14		334		24		999	
03:45	18		721		28		355		46		1,076	
04:00	8	69	788	3,370	22	236	370	1,443	30	305	1,158	4,813
04:15	13		792		40		366		53		1,158	
04:30	20		844		60		342		80		1,186	
04:45	28		946		114		365		142		1,311	
05:00	22	180	1,007	3,891	124	816	400	1,577	146	996	1,407	5,468
05:15	43		946		167		411		210		1,357	
05:30	36		951		227		386		263		1,337	
05:45	79		987		298		380		377		1,367	
06:00	91	529	975	3,120	316	1,917	380	1,488	407	2,446	1,355	4,608
06:15	136		893		388		392		524		1,285	
06:30	132		664		503		380		635		1,044	
06:45	170		588		710		336		880		924	
07:00	162	850	438	1,568	724	3,824	312	1,106	886	4,674	750	2,674
07:15	219		444		930		300		1,149		744	
07:30	212		348		1,060		268		1,272		616	
07:45	257		338		1,110		226		1,367		564	
08:00	245	1,007	317	1,054	1,066	4,138	189	777	1,311	5,145	506	1,831
08:15	248		216		1,028		196		1,276		412	
08:30	276		290		1,040		190		1,316		480	
08:45	238		231		1,004		202		1,242		433	
09:00	232	920	286	936	854	2,575	169	564	1,086	3,495	455	1,500
09:15	228		240		605		153		833		393	
09:30	224		216		616		122		840		338	
09:45	236		194		500		120		736		314	
10:00	234	988	185	550	433	1,615	114	392	667	2,603	299	942
10:15	234		143		386		130		620		273	
10:30	216		114		392		80		608		194	
10:45	304		108		404		68		708		176	
11:00	258	1,172	110	308	364	1,534	47	174	622	2,706	157	482
11:15	282		86		392		40		674		126	
11:30	290		64		384		46		674		110	
11:45	342		48		394		41		736		89	
Totals	6,064		22,052		16,924		13,131		22,988		35,183	
Split%	26.4		62.7		73.6		37.3					
Day Totals		28,116				30,055				58,171		
Day Splits		48.3				51.7						
Peak Hour	11:00		05:00		07:30		05:00		07:45		05:00	
Volume	1,172		3,891		4,264		1,577		5,270		5,468	
Factor	0.86		0.97		0.96		0.96		0.96		0.97	

* Data File : D1405074

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Jamboree Road
B/ Alton Parkway - Beckman Avenue

File Name 191
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/30/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	47	422			30	314				
12:15	46	418			35	367				
12:30	25	352			29	362				
12:45	40	375	158	1567	27	443	121	1486	279	3053
1:00	24	355			9	359				
1:15	16	424			9	358				
1:30	20	363			13	408				
1:45	17	368	77	1510	0	329	31	1454	108	2964
2:00	9	397			12	346				
2:15	21	443			10	316				
2:30	11	435			13	342				
2:45	15	481	56	1756	8	354	43	1358	99	3114
3:00	11	516			4	323				
3:15	10	547			16	304				
3:30	10	578			14	281				
3:45	15	617	46	2258	14	296	48	1204	94	3462
4:00	18	592			14	324				
4:15	18	715			24	296				
4:30	15	496			34	321				
4:45	33	669	84	2472	73	328	145	1269	229	3741
5:00	49	697			72	359				
5:15	43	737			96	395				
5:30	46	764			146	365				
5:45	83	764	221	2962	150	358	464	1477	685	4439
6:00	79	607			179	351				
6:15	133	716			245	355				
6:30	136	611			305	266				
6:45	145	528	493	2462	453	329	1182	1301	1675	3763
7:00	153	453			467	272				
7:15	153	395			557	268				
7:30	195	401			740	234				
7:45	225	308	726	1557	657	224	2421	998	3147	2555
8:00	218	286			786	210				
8:15	267	271			827	179				
8:30	247	246			751	163				
8:45	258	219	990	1022	786	196	3150	748	4140	1770
9:00	262	225			750	169				
9:15	225	218			619	185				
9:30	231	218			593	165				
9:45	238	192	956	853	561	123	2523	642	3479	1495
10:00	279	199			396	108				
10:15	244	114			374	100				
10:30	265	118			392	90				
10:45	256	101	1044	532	332	71	1494	369	2538	901
11:00	267	80			373	52				
11:15	320	55			341	60				
11:30	376	71			321	49				
11:45	346	43	1309	249	395	38	1430	199	2739	448
Totals	6160	19200			13052	12505				
Combined Totals		25360				25557				
ADT										50917
AM Peak Hour	1100	AM			800	AM				
Volume	1309				3150					
P.H.F.	0.870				0.952					
PM Peak Hour		500	PM			2445	PM			
Volume		2962				1568				
P.H.F.		0.969				0.885				
Percentage	24.3%	75.7%			51.1%	48.9%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

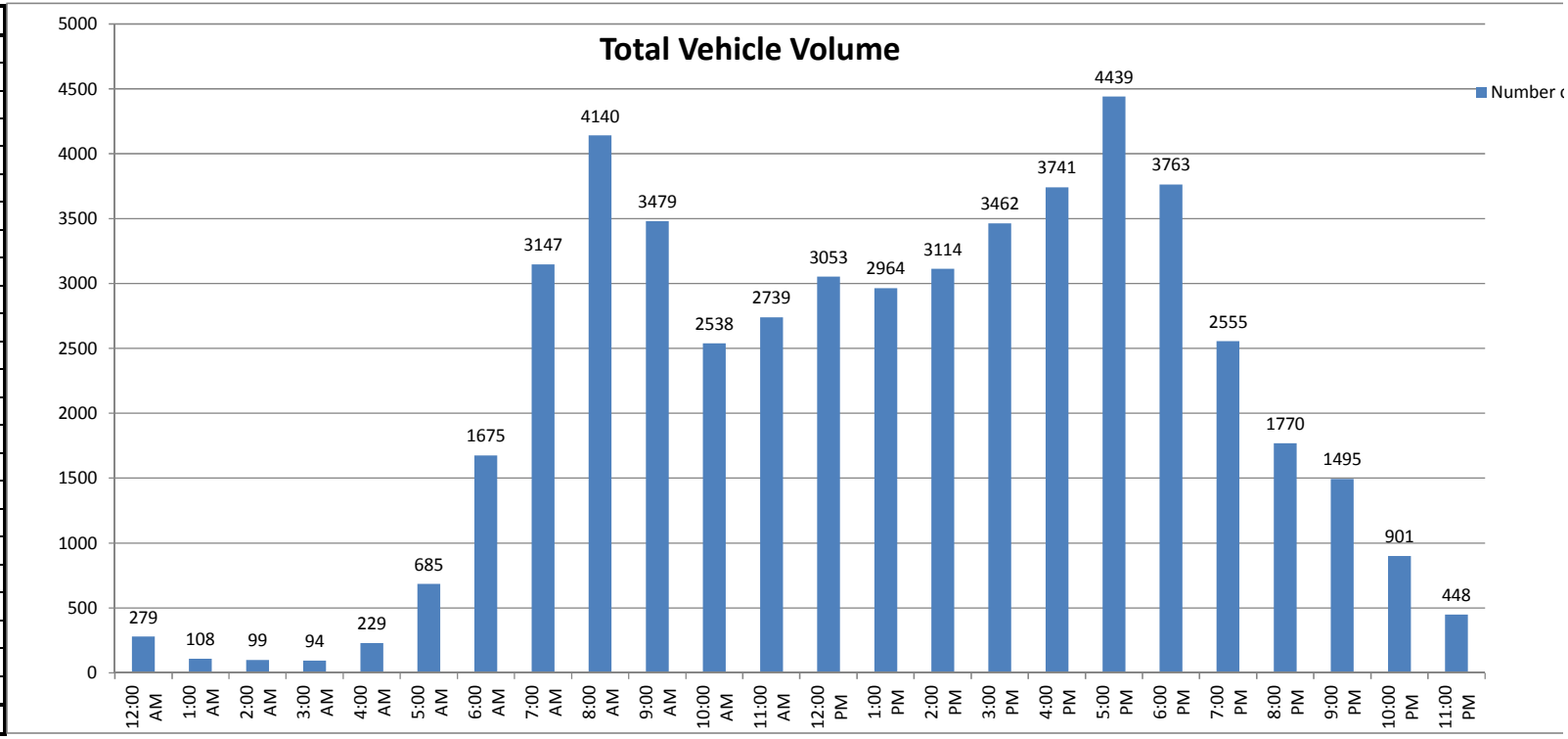
Jamboree Road

B/ Alton Parkway - Beckman Avenue

4/30/2014

Southbound

Start Time	4/30/2014
12:00 AM	279
1:00 AM	108
2:00 AM	99
3:00 AM	94
4:00 AM	229
5:00 AM	685
6:00 AM	1675
7:00 AM	3147
8:00 AM	4140
9:00 AM	3479
10:00 AM	2538
11:00 AM	2739
12:00 PM	3053
1:00 PM	2964
2:00 PM	3114
3:00 PM	3462
4:00 PM	3741
5:00 PM	4439
6:00 PM	3763
7:00 PM	2555
8:00 PM	1770
9:00 PM	1495
10:00 PM	901
11:00 PM	448
Total	50917



Volumes represent the combined totals for both directions

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : HARVARD AVENUE — Site: TUSTIN

Segment : N/O EDINGER AVE/ ICD — Date: 05/21/14

Client : CITY OF TUSTIN

Interval	SB				NB				Combined				Day: Wednesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	3	9	63	228	10	22	70	262	13	31	133	490	
12:15	3		57		2		52		5		109		
12:30	1		56		6		66		7		122		
12:45	2		52		4		74		6		126		
01:00	2	6	67	284	5	16	82	317	7	22	149	601	
01:15	0		51		4		91		4		142		
01:30	2		96		3		76		5		172		
01:45	2		70		4		68		6		138		
02:00	1	4	74	352	3	7	64	253	4	11	138	605	
02:15	2		89		2		70		4		159		
02:30	1		100		1		58		2		158		
02:45	0		89		1		61		1		150		
03:00	0	7	60	240	1	8	83	361	1	15	143	601	
03:15	4		62		1		98		5		160		
03:30	0		64		6		80		6		144		
03:45	3		54		0		100		3		154		
04:00	1	12	62	267	0	5	108	446	1	17	170	713	
04:15	0		68		1		118		1		186		
04:30	6		69		0		104		6		173		
04:45	5		68		4		116		9		184		
05:00	4	52	75	296	3	17	157	739	7	69	232	1,035	
05:15	14		67		3		197		17		264		
05:30	18		76		5		191		23		267		
05:45	16		78		6		194		22		272		
06:00	23	147	100	305	10	58	178	548	33	205	278	853	
06:15	26		68		5		154		31		222		
06:30	42		67		14		114		56		181		
06:45	56		70		29		102		85		172		
07:00	41	397	80	273	26	192	92	359	67	589	172	632	
07:15	78		79		34		110		112		189		
07:30	122		55		48		86		170		141		
07:45	156		59		84		71		240		130		
08:00	163	495	40	200	58	237	56	303	221	732	96	503	
08:15	122		56		68		88		190		144		
08:30	114		46		51		82		165		128		
08:45	96		58		60		77		156		135		
09:00	85	275	30	83	48	188	47	174	133	463	77	257	
09:15	55		19		52		50		107		69		
09:30	67		16		47		49		114		65		
09:45	68		18		41		28		109		46		
10:00	48	225	25	65	42	175	38	133	90	400	63	198	
10:15	54		23		55		44		109		67		
10:30	71		8		32		26		103		34		
10:45	52		9		46		25		98		34		
11:00	48	195	10	23	54	245	14	53	102	440	24	76	
11:15	43		4		64		14		107		18		
11:30	56		5		68		12		124		17		
11:45	48		4		59		13		107		17		
Totals	1,824		2,616		1,170		3,948		2,994		6,564		
Split%	60.9		39.9		39.1		60.1						
Day Totals		4,440				5,118				9,558			
Day Splits		46.5				53.5							
Peak Hour	07:30		02:00		07:45		05:15		07:30		05:15		
Volume	563		352		261		760		821		1,081		
Factor	0.86		0.88		0.78		0.96		0.86		0.97		

* Data File : D1405073

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location: : HARVARD AVENUE | Site: TUSTIN

Segment: : PASEO WESTPARK TO EDINGER AVE | Date: 05/21/14

Client: : CITY OF TUSTIN | Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	9	17	77	325	3	17	76	310	12	34	153	635
12:15	3		78		6		78		9		156	
12:30	3		86		4		74		7		160	
12:45	2		84		4		82		6		166	
01:00	5	18	73	357	4	13	81	355	9	31	154	712
01:15	5		105		5		80		10		185	
01:30	6		93		2		96		8		189	
01:45	2		86		2		98		4		184	
02:00	3	9	76	338	5	9	78	316	8	18	154	654
02:15	1		106		2		96		3		202	
02:30	2		76		1		72		3		148	
02:45	3		80		1		70		4		150	
03:00	0	10	95	424	0	8	94	337	0	18	189	761
03:15	2		106		1		85		3		191	
03:30	6		102		1		84		7		186	
03:45	2		121		6		74		8		195	
04:00	2	15	124	555	0	5	78	333	2	20	202	888
04:15	3		132		2		78		5		210	
04:30	5		133		0		72		5		205	
04:45	5		166		3		105		8		271	
05:00	7	45	180	906	3	41	116	442	10	86	296	1,348
05:15	10		244		4		110		14		354	
05:30	12		244		13		108		25		352	
05:45	16		238		21		108		37		346	
06:00	16	102	210	680	20	117	137	411	36	219	347	1,091
06:15	22		194		17		100		39		294	
06:30	22		140		30		82		52		222	
06:45	42		136		50		92		92		228	
07:00	50	302	128	420	43	362	78	317	93	664	206	737
07:15	66		121		77		92		143		213	
07:30	78		95		98		74		176		169	
07:45	108		76		144		73		252		149	
08:00	110	371	56	264	168	515	53	227	278	886	109	491
08:15	86		61		132		72		218		133	
08:30	81		84		115		52		196		136	
08:45	94		63		100		50		194		113	
09:00	65	278	52	185	76	286	52	138	141	564	104	323
09:15	75		55		76		28		151		83	
09:30	70		52		74		28		144		80	
09:45	68		26		60		30		128		56	
10:00	52	218	35	117	64	233	26	88	116	451	61	205
10:15	54		35		48		24		102		59	
10:30	46		23		67		22		113		45	
10:45	66		24		54		16		120		40	
11:00	60	300	14	46	65	226	13	40	125	526	27	86
11:15	74		16		47		10		121		26	
11:30	88		6		50		9		138		15	
11:45	78		10		64		8		142		18	
Totals	1,685		4,617		1,832		3,314		3,517		7,931	
Split%	47.9		58.2		52.1		41.8					
Day Totals		6,302				5,146				11,448		
Day Splits		55.0				45.0						
Peak Hour	07:45		05:15		07:45		05:15		07:45		05:15	
Volume	385		936		559		463		944		1,399	
Factor	0.88		0.96		0.83		0.84		0.85		0.99	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location: : HARVARD AVENUE | Site: TUSTIN

Segment: : N/O WARNER AVENUE | Date: 05/21/14

Client: : CITY OF TUSTIN | Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	12	31	92	366	3	16	70	346	15	47	162	712
12:15	6		82		6		82		12		164	
12:30	11		96		4		68		15		164	
12:45	2		96		3		126		5		222	
01:00	9	27	82	407	2	4	95	414	11	31	177	821
01:15	4		128		1		102		5		230	
01:30	7		98		1		102		8		200	
01:45	7		99		0		115		7		214	
02:00	8	16	88	359	3	6	102	373	11	22	190	732
02:15	3		102		2		103		5		205	
02:30	2		76		1		76		3		152	
02:45	3		93		0		92		3		185	
03:00	0	12	104	494	0	6	99	356	0	18	203	850
03:15	3		140		1		105		4		245	
03:30	8		118		0		78		8		196	
03:45	1		132		5		74		6		206	
04:00	2	11	130	602	0	9	89	339	2	20	219	941
04:15	3		137		2		88		5		225	
04:30	2		162		2		66		4		228	
04:45	4		173		5		96		9		269	
05:00	4	37	221	1,039	4	68	112	436	8	105	333	1,475
05:15	8		269		13		112		21		381	
05:30	6		309		21		96		27		405	
05:45	19		240		30		116		49		356	
06:00	15	110	229	752	40	184	139	443	55	294	368	1,195
06:15	23		196		30		130		53		326	
06:30	26		170		50		82		76		252	
06:45	46		157		64		92		110		249	
07:00	36	216	146	628	76	574	74	272	112	790	220	900
07:15	44		160		104		76		148		236	
07:30	52		142		160		64		212		206	
07:45	84		180		234		58		318		238	
08:00	132	390	87	398	242	711	52	212	374	1,101	139	610
08:15	105		94		184		61		289		155	
08:30	75		124		141		47		216		171	
08:45	78		93		144		52		222		145	
09:00	69	271	94	315	119	388	48	128	188	659	142	443
09:15	79		94		101		30		180		124	
09:30	64		90		92		26		156		116	
09:45	59		37		76		24		135		61	
10:00	60	236	46	174	78	289	29	85	138	525	75	259
10:15	52		54		71		20		123		74	
10:30	48		32		74		21		122		53	
10:45	76		42		66		15		142		57	
11:00	58	328	30	75	80	273	15	39	138	601	45	114
11:15	80		20		62		8		142		28	
11:30	101		9		60		10		161		19	
11:45	89		16		71		6		160		22	
Totals	1,685		5,609		2,528		3,443		4,213		9,052	
Split%	40.0		62.0		60.0		38.0					
Day Totals		7,294				5,971				13,265		
Day Splits		55.0				45.0						
Peak Hour	07:45		05:15		07:30		05:30		07:45		05:15	
Volume	396		1,047		820		481		1,197		1,510	
Factor	0.75		0.85		0.85		0.87		0.80		0.93	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Harvard Avenue
B/ Barranca Parkway - Warner Avenue

File Name 131
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
2/19/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	108			3	72				
12:15	10	89			8	97				
12:30	9	92			8	107				
12:45	10	82	35	371	2	130	21	406	56	777
1:00	7	105			4	128				
1:15	7	138			3	122				
1:30	7	132			1	129				
1:45	5	108	26	483	1	119	9	498	35	981
2:00	3	91			2	119				
2:15	3	134			1	86				
2:30	6	95			1	104				
2:45	3	98	15	418	1	93	5	402	20	820
3:00	1	116			1	100				
3:15	4	157			0	104				
3:30	0	133			3	85				
3:45	4	150	9	556	4	93	8	382	17	938
4:00	2	184			2	95				
4:15	2	187			3	110				
4:30	3	244			6	89				
4:45	3	236	10	851	7	118	18	412	28	1263
5:00	3	272			12	119				
5:15	7	316			20	111				
5:30	6	326			19	136				
5:45	9	312	25	1226	26	109	77	475	102	1701
6:00	11	313			30	131				
6:15	14	255			34	125				
6:30	27	197			45	90				
6:45	37	147	89	912	62	85	171	431	260	1343
7:00	40	175			94	95				
7:15	50	152			123	88				
7:30	52	102			222	64				
7:45	76	88	218	517	247	79	686	326	904	843
8:00	89	95			247	55				
8:15	77	78			220	47				
8:30	59	76			201	55				
8:45	71	83	296	332	169	37	837	194	1133	526
9:00	66	81			154	45				
9:15	64	67			113	31				
9:30	56	80			124	30				
9:45	70	50	256	278	105	29	496	135	752	413
10:00	63	44			95	26				
10:15	71	44			75	31				
10:30	56	29			86	17				
10:45	69	26	259	143	74	13	330	87	589	230
11:00	81	15			69	10				
11:15	75	16			95	11				
11:30	83	17			103	6				
11:45	103	15	342	63	80	6	347	33	689	96
Totals	1580	6150			3005	3781				
Combined Totals		7730				6786				
ADT										14516
AM Peak Hour	1100	AM			730	AM				
Volume	342				936					
P.H.F.	0.830				0.947					
PM Peak Hour		515	PM			2445	PM			
Volume		1267				509				
P.H.F.		0.972				0.979				
Percentage	20.4%	79.6%			44.3%	55.7%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

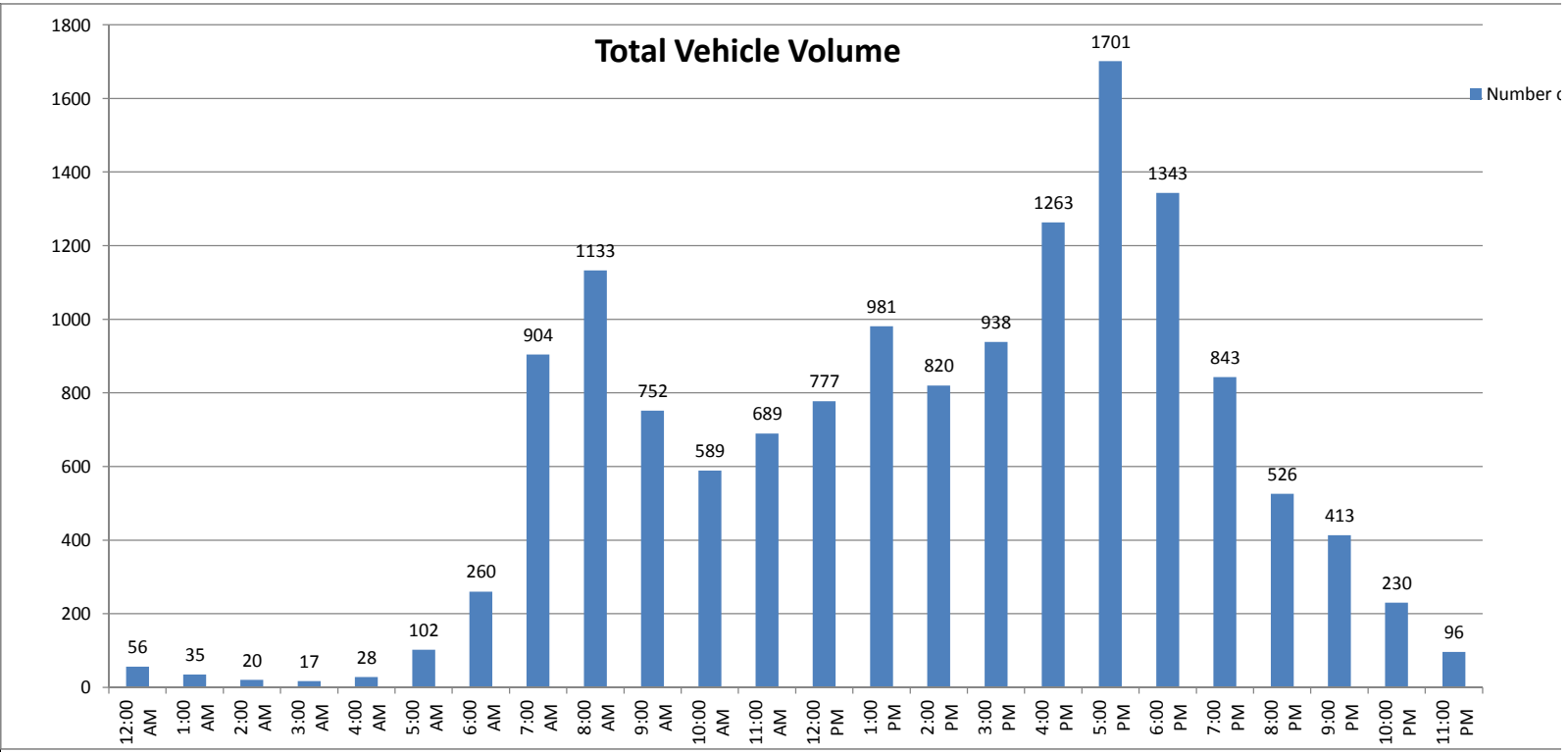
Harvard Avenue

B/ Barranca Parkway - Warner Avenue

2/19/2014

Southbound

Start Time	2/19/2014
12:00 AM	56
1:00 AM	35
2:00 AM	20
3:00 AM	17
4:00 AM	28
5:00 AM	102
6:00 AM	260
7:00 AM	904
8:00 AM	1133
9:00 AM	752
10:00 AM	589
11:00 AM	689
12:00 PM	777
1:00 PM	981
2:00 PM	820
3:00 PM	938
4:00 PM	1263
5:00 PM	1701
6:00 PM	1343
7:00 PM	843
8:00 PM	526
9:00 PM	413
10:00 PM	230
11:00 PM	96
Total	14516



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Harvard Avenue
B/ San Juan - Barranca Parkway

File Name 130
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
2/20/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	11	153			5	144				
12:15	11	140			12	139				
12:30	10	111			9	147				
12:45	5	147	37	551	6	159	32	589	69	1140
1:00	6	127			6	160				
1:15	7	110			5	147				
1:30	3	114			6	126				
1:45	6	100	22	451	3	125	20	558	42	1009
2:00	4	129			4	131				
2:15	5	155			5	133				
2:30	4	137			2	122				
2:45	1	161	14	582	1	122	12	508	26	1090
3:00	6	150			4	110				
3:15	1	167			2	125				
3:30	3	162			4	119				
3:45	5	181	15	660	4	110	14	464	29	1124
4:00	4	230			3	128				
4:15	2	242			3	128				
4:30	0	213			4	129				
4:45	8	285	14	970	11	131	21	516	35	1486
5:00	5	301			10	143				
5:15	10	343			14	145				
5:30	10	405			25	167				
5:45	10	407	35	1456	25	166	74	621	109	2077
6:00	15	334			39	165				
6:15	27	280			58	149				
6:30	32	247			45	123				
6:45	59	206	133	1067	105	122	247	559	380	1626
7:00	67	178			85	115				
7:15	72	151			135	134				
7:30	74	121			230	107				
7:45	99	86	312	536	278	114	728	470	1040	1006
8:00	116	104			288	101				
8:15	121	127			249	89				
8:30	114	88			255	86				
8:45	125	64	476	383	215	79	1007	355	1483	738
9:00	66	91			189	83				
9:15	86	78			125	57				
9:30	80	69			120	52				
9:45	91	52	323	290	115	42	549	234	872	524
10:00	94	75			74	39				
10:15	83	55			104	37				
10:30	101	33			99	39				
10:45	100	26	378	189	78	24	355	139	733	328
11:00	96	32			72	32				
11:15	99	19			101	21				
11:30	130	26			102	12				
11:45	148	15	473	92	127	14	402	79	875	171
Totals	2232	7227			3461	5092				
Combined Totals		9459				8553				
ADT										18012
AM Peak Hour	800	AM			745	AM				
Volume	476				1070					
P.H.F.	0.952				0.929					
PM Peak Hour		515	PM			530	PM			
Volume		1489				647				
P.H.F.		0.915				0.969				
Percentage	23.6%	76.4%			40.5%	59.5%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

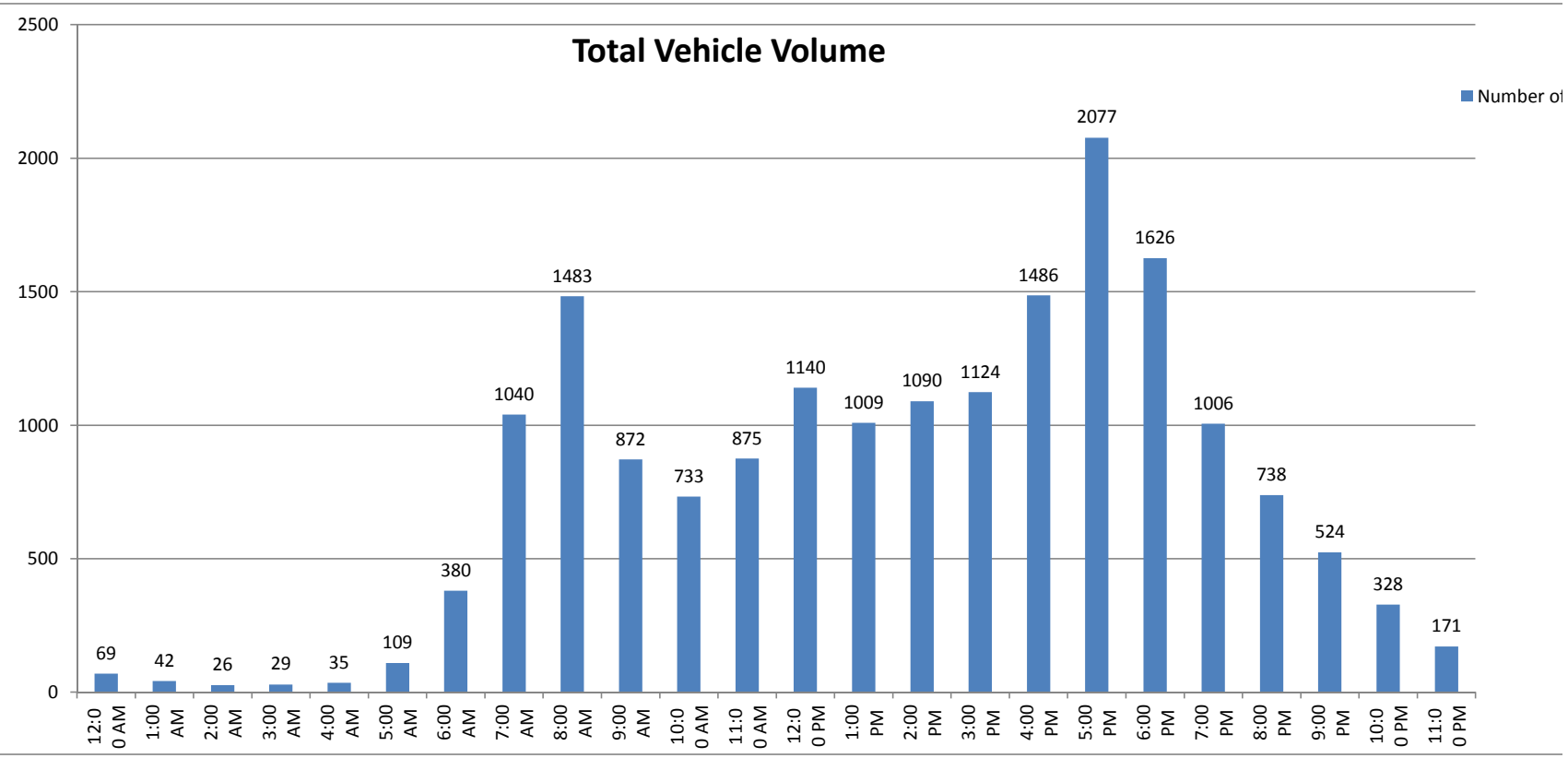
Harvard Avenue

B/ San Juan - Barranca Parkway

2/20/2014

Southbound

Start Time	2/20/2014
12:00 AM	69
1:00 AM	42
2:00 AM	26
3:00 AM	29
4:00 AM	35
5:00 AM	109
6:00 AM	380
7:00 AM	1040
8:00 AM	1483
9:00 AM	872
10:00 AM	733
11:00 AM	875
12:00 PM	1140
1:00 PM	1009
2:00 PM	1090
3:00 PM	1124
4:00 PM	1486
5:00 PM	2077
6:00 PM	1626
7:00 PM	1006
8:00 PM	738
9:00 PM	524
10:00 PM	328
11:00 PM	171
Total	18012



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Deerfield Avenue - Walnut Avenue

File Name 103
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/12/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	50	296			35	297				
12:15	38	352			33	319				
12:30	29	293			25	325				
12:45	22	337	139	1278	18	303	111	1244	250	2522
1:00	25	353			16	292				
1:15	12	301			11	326				
1:30	11	344			17	314				
1:45	14	289	62	1287	12	349	56	1281	118	2568
2:00	5	336			14	302				
2:15	5	297			9	294				
2:30	5	316			6	286				
2:45	8	341	23	1290	7	334	36	1216	59	2506
3:00	12	336			7	305				
3:15	8	421			7	325				
3:30	6	401			8	342				
3:45	10	372	36	1530	11	309	33	1281	69	2811
4:00	5	398			16	309				
4:15	11	400			12	305				
4:30	11	431			18	315				
4:45	24	447	51	1676	30	338	76	1267	127	2943
5:00	17	447			35	351				
5:15	42	452			49	347				
5:30	33	527			60	379				
5:45	46	485	138	1911	74	389	218	1466	356	3377
6:00	72	525			64	358				
6:15	56	458			111	383				
6:30	106	412			134	353				
6:45	135	382	369	1777	213	339	522	1433	891	3210
7:00	144	429			226	303				
7:15	157	357			316	353				
7:30	250	331			452	279				
7:45	328	340	879	1457	533	254	1527	1189	2406	2646
8:00	238	286			530	234				
8:15	254	275			571	235				
8:30	241	257			499	223				
8:45	209	206	942	1024	492	194	2092	886	3034	1910
9:00	236	203			368	187				
9:15	258	246			365	175				
9:30	265	168			286	136				
9:45	208	181	967	798	293	125	1312	623	2279	1421
10:00	232	155			270	132				
10:15	215	136			287	107				
10:30	262	98			284	86				
10:45	207	77	916	466	310	81	1151	406	2067	872
11:00	240	78			258	62				
11:15	244	59			266	63				
11:30	316	58			351	39				
11:45	309	47	1109	242	288	43	1163	207	2272	449
Totals	5631	14736			8297	12499				
Combined Totals		20367				20796				
ADT										41163
AM Peak Hour	1100	AM			745	AM				
Volume	1109				2133					
P.H.F.	0.877				0.934					
PM Peak Hour		530	PM			530	PM			
Volume		1995				1509				
P.H.F.		0.946				0.970				
Percentage	27.6%	72.4%			39.9%	60.1%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

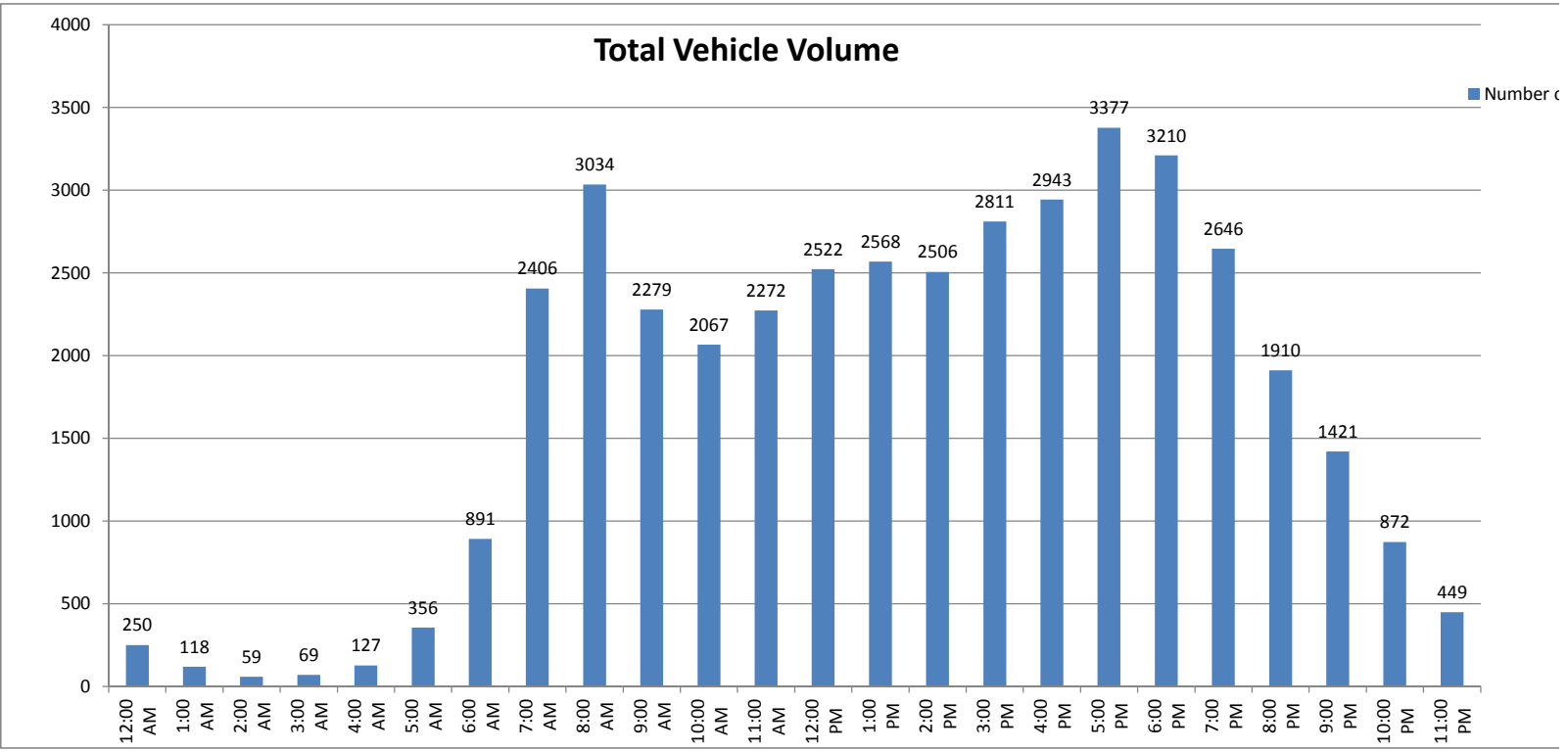
Culver Drive

B/ Deerfield Avenue - Walnut Avenue

3/12/2014

Southbound

Start Time	3/12/2014
12:00 AM	250
1:00 AM	118
2:00 AM	59
3:00 AM	69
4:00 AM	127
5:00 AM	356
6:00 AM	891
7:00 AM	2406
8:00 AM	3034
9:00 AM	2279
10:00 AM	2067
11:00 AM	2272
12:00 PM	2522
1:00 PM	2568
2:00 PM	2506
3:00 PM	2811
4:00 PM	2943
5:00 PM	3377
6:00 PM	3210
7:00 PM	2646
8:00 PM	1910
9:00 PM	1421
10:00 PM	872
11:00 PM	449
Total	41163



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Irvine Center Drive - Deerfield Avenue

File Name 102
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/13/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	35	261			45	311				
12:15	22	274			24	311				
12:30	24	302			26	277				
12:45	22	310	103	1147	17	340	112	1239	215	2386
1:00	18	257			15	291				
1:15	14	253			13	298				
1:30	13	261			12	254				
1:45	14	288	59	1059	9	301	49	1144	108	2203
2:00	5	273			12	282				
2:15	9	358			4	291				
2:30	8	307			11	364				
2:45	12	322	34	1260	8	317	35	1254	69	2514
3:00	4	321			5	318				
3:15	10	376			6	325				
3:30	16	346			7	335				
3:45	6	338	36	1381	10	322	28	1300	64	2681
4:00	7	349			7	258				
4:15	5	380			11	301				
4:30	8	426			16	318				
4:45	7	375	27	1530	24	322	58	1199	85	2729
5:00	14	467			33	348				
5:15	21	500			45	358				
5:30	24	516			44	355				
5:45	32	488	91	1971	69	366	191	1427	282	3398
6:00	44	499			78	370				
6:15	55	481			92	406				
6:30	76	454			147	347				
6:45	98	412	273	1846	194	321	511	1444	784	3290
7:00	142	342			247	309				
7:15	133	358			319	316				
7:30	169	322			456	306				
7:45	237	269	681	1291	548	256	1570	1187	2251	2478
8:00	216	246			518	234				
8:15	231	245			539	248				
8:30	170	258			534	231				
8:45	207	213	824	962	472	162	2063	875	2887	1837
9:00	211	189			389	234				
9:15	177	188			373	168				
9:30	185	199			328	143				
9:45	204	175	777	751	304	117	1394	662	2171	1413
10:00	178	148			265	133				
10:15	205	130			276	126				
10:30	182	84			267	90				
10:45	225	90	790	452	272	80	1080	429	1870	881
11:00	231	75			272	55				
11:15	264	56			241	57				
11:30	275	59			321	44				
11:45	277	56	1047	246	281	49	1115	205	2162	451
Totals	4742	13896			8206	12365				
Combined Totals		18638				20571				
ADT										39209
AM Peak Hour	1100	AM			745	AM				
Volume	1047				2139					
P.H.F.	0.945				0.976					
PM Peak Hour		515	PM			530	PM			
Volume		2003				1497				
P.H.F.		0.970				0.922				
Percentage	25.4%	74.6%			39.9%	60.1%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

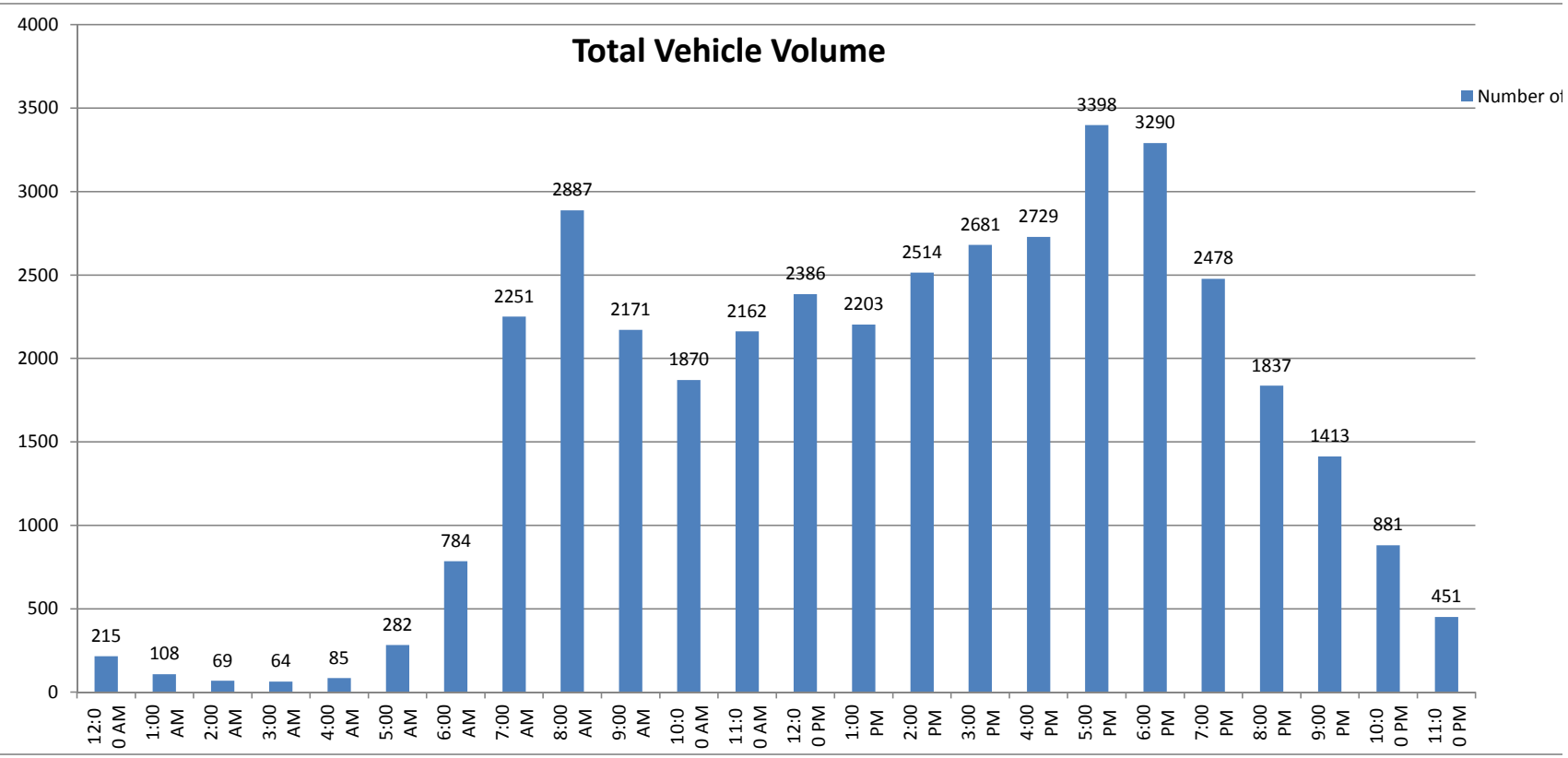
Culver Drive

B/ Irvine Center Drive - Deerfield Avenue

3/13/2014

Southbound

Start Time	3/13/2014
12:00 AM	215
1:00 AM	108
2:00 AM	69
3:00 AM	64
4:00 AM	85
5:00 AM	282
6:00 AM	784
7:00 AM	2251
8:00 AM	2887
9:00 AM	2171
10:00 AM	1870
11:00 AM	2162
12:00 PM	2386
1:00 PM	2203
2:00 PM	2514
3:00 PM	2681
4:00 PM	2729
5:00 PM	3398
6:00 PM	3290
7:00 PM	2478
8:00 PM	1837
9:00 PM	1413
10:00 PM	881
11:00 PM	451
Total	39209



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Warner Avenue - Irvine Center Drive

File Name 101
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/12/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	43	322			21	293				
12:15	26	328			32	360				
12:30	29	321			24	323				
12:45	24	327	122	1298	23	390	100	1366	222	2664
1:00	19	370			18	361				
1:15	10	369			11	306				
1:30	18	330			13	300				
1:45	10	305	57	1374	9	331	51	1298	108	2672
2:00	13	295			16	349				
2:15	8	347			6	283				
2:30	8	313			5	308				
2:45	11	344	40	1299	5	353	32	1293	72	2592
3:00	11	366			7	317				
3:15	11	430			5	357				
3:30	8	414			13	334				
3:45	9	396	39	1606	10	329	35	1337	74	2943
4:00	6	424			10	307				
4:15	9	463			16	338				
4:30	9	478			20	320				
4:45	13	489	37	1854	28	351	74	1316	111	3170
5:00	19	565			39	326				
5:15	38	510			68	402				
5:30	38	564			58	412				
5:45	48	569	143	2208	86	376	251	1516	394	3724
6:00	53	561			74	402				
6:15	56	485			91	401				
6:30	84	449			165	371				
6:45	120	471	313	1966	239	355	569	1529	882	3495
7:00	133	463			256	290				
7:15	165	388			331	348				
7:30	247	360			477	298				
7:45	306	310	851	1521	597	266	1661	1202	2512	2723
8:00	274	300			568	264				
8:15	277	319			614	250				
8:30	251	249			540	251				
8:45	237	245	1039	1113	556	193	2278	958	3317	2071
9:00	264	223			434	214				
9:15	263	246			384	180				
9:30	245	170			348	160				
9:45	226	180	998	819	324	127	1490	681	2488	1500
10:00	205	173			310	135				
10:15	244	127			272	101				
10:30	219	103			327	70				
10:45	268	87	936	490	298	67	1207	373	2143	863
11:00	240	75			299	67				
11:15	249	56			298	51				
11:30	331	56			341	43				
11:45	329	58	1149	245	333	41	1271	202	2420	447
Totals	5724	15793			9019	13071				
Combined Totals		21517				22090				
ADT										43607
AM Peak Hour	1100	AM			745	AM				
Volume	1149				2319					
P.H.F.	0.868				0.944					
PM Peak Hour		500	PM			515	PM			
Volume		2208				1592				
P.H.F.		0.970				0.966				
Percentage	26.6%	73.4%			40.8%	59.2%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

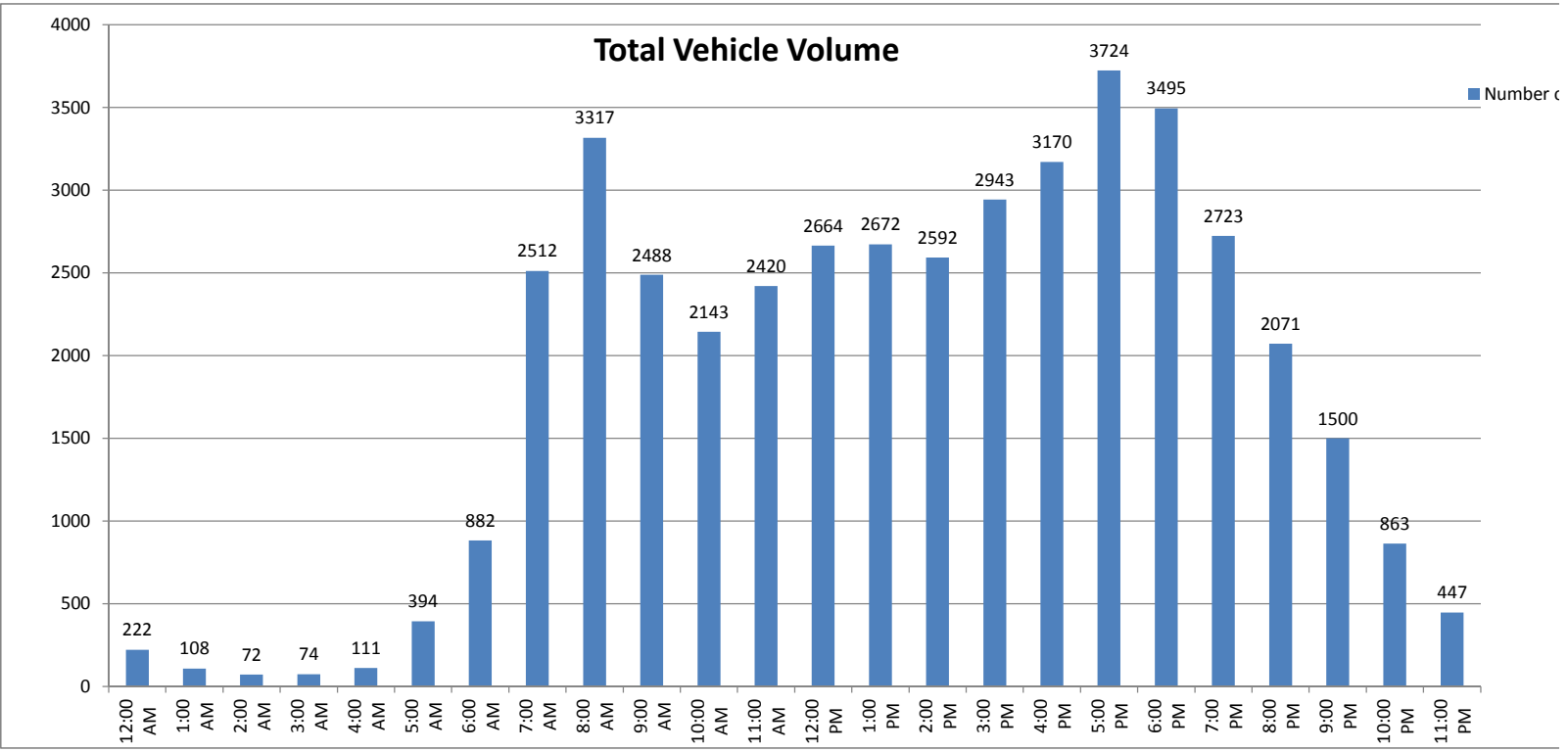
Culver Drive

B/ Warner Avenue - Irvine Center Drive

3/12/2014

Southbound

Start Time	3/12/2014
12:00 AM	222
1:00 AM	108
2:00 AM	72
3:00 AM	74
4:00 AM	111
5:00 AM	394
6:00 AM	882
7:00 AM	2512
8:00 AM	3317
9:00 AM	2488
10:00 AM	2143
11:00 AM	2420
12:00 PM	2664
1:00 PM	2672
2:00 PM	2592
3:00 PM	2943
4:00 PM	3170
5:00 PM	3724
6:00 PM	3495
7:00 PM	2723
8:00 PM	2071
9:00 PM	1500
10:00 PM	863
11:00 PM	447
Total	43607



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Barranca Parkway - Warner Avenue

File Name 100
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
6/4/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	72	320			36	305				
12:15	59	336			36	350				
12:30	32	275			19	309				
12:45	29	333	192	1264	27	369	118	1333	310	2597
1:00	15	308			31	331				
1:15	27	333			15	353				
1:30	26	313			13	263				
1:45	22	317	90	1271	19	333	78	1280	168	2551
2:00	9	354			19	389				
2:15	12	339			8	289				
2:30	14	320			10	331				
2:45	12	323	47	1336	6	308	43	1317	90	2653
3:00	4	388			6	283				
3:15	9	380			7	345				
3:30	7	396			7	285				
3:45	9	369	29	1533	9	314	29	1227	58	2760
4:00	7	392			10	311				
4:15	8	399			17	330				
4:30	6	430			12	324				
4:45	5	485	26	1706	36	329	75	1294	101	3000
5:00	9	526			30	287				
5:15	22	573			63	377				
5:30	21	609			86	362				
5:45	38	570	90	2278	98	356	277	1382	367	3660
6:00	48	567			97	334				
6:15	52	525			98	340				
6:30	54	551			154	356				
6:45	90	474	244	2117	219	341	568	1371	812	3488
7:00	141	362			292	298				
7:15	157	374			328	313				
7:30	151	360			450	257				
7:45	216	320	665	1416	590	246	1660	1114	2325	2530
8:00	245	292			573	241				
8:15	229	305			576	273				
8:30	195	216			583	239				
8:45	229	273	898	1086	584	188	2316	941	3214	2027
9:00	244	272			446	195				
9:15	234	214			373	183				
9:30	255	212			381	165				
9:45	250	166	983	864	365	129	1565	672	2548	1536
10:00	197	162			268	107				
10:15	230	155			247	111				
10:30	249	108			302	95				
10:45	222	100	898	525	294	77	1111	390	2009	915
11:00	292	102			295	64				
11:15	247	64			265	54				
11:30	256	60			303	40				
11:45	267	57	1062	283	302	40	1165	198	2227	481
Totals	5224	15679			9005	12519				
Combined Totals		20903				21524				
ADT										42427
AM Peak Hour	1100	AM			745	AM				
Volume	1062				2322					
P.H.F.	0.909				0.984					
PM Peak Hour		515	PM			515	PM			
Volume		2319				1429				
P.H.F.		0.952				0.948				
Percentage	25.0%	75.0%			41.8%	58.2%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

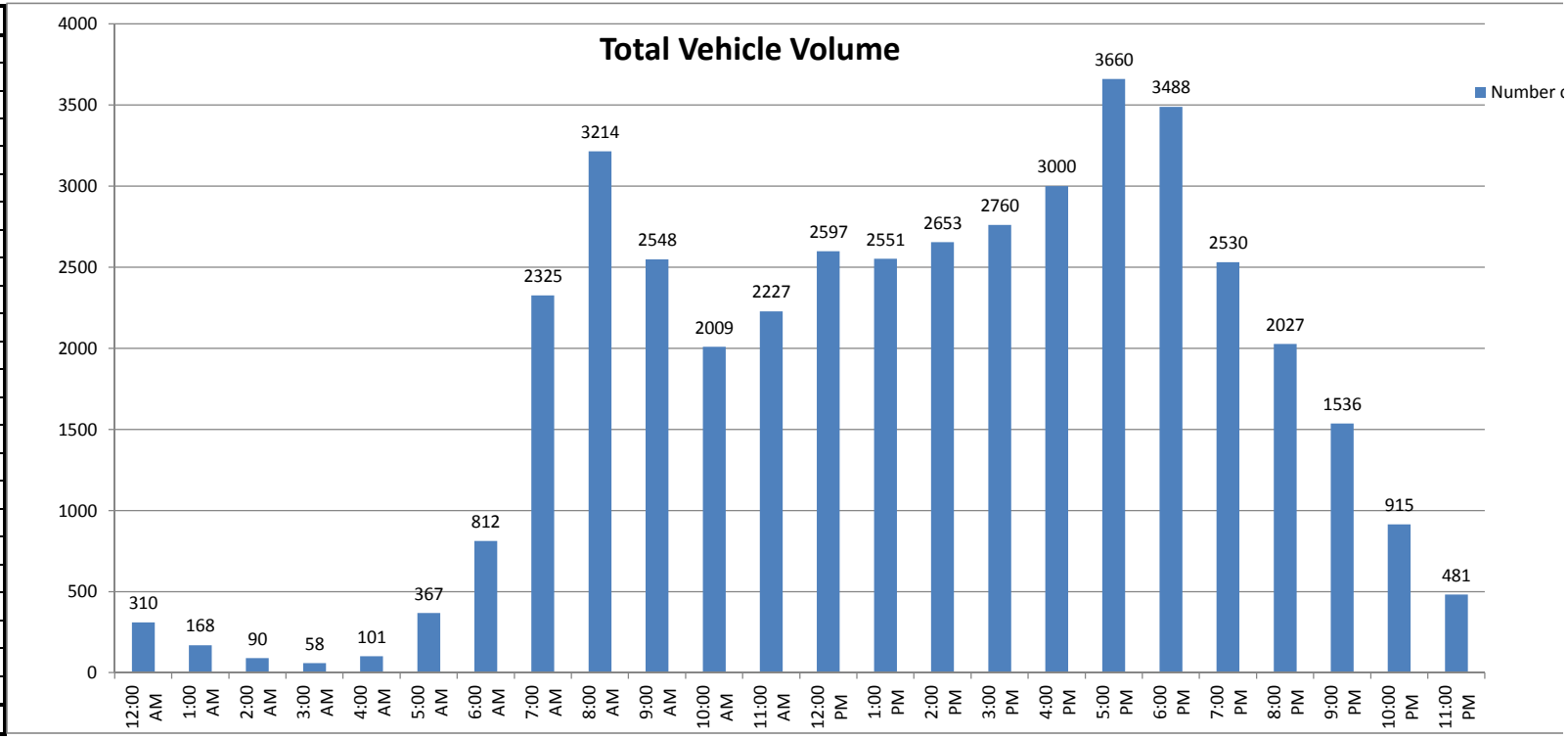
Culver Drive

B/ Barranca Parkway - Warner Avenue

6/4/2014

Southbound

Start Time	6/4/2014
12:00 AM	310
1:00 AM	168
2:00 AM	90
3:00 AM	58
4:00 AM	101
5:00 AM	367
6:00 AM	812
7:00 AM	2325
8:00 AM	3214
9:00 AM	2548
10:00 AM	2009
11:00 AM	2227
12:00 PM	2597
1:00 PM	2551
2:00 PM	2653
3:00 PM	2760
4:00 PM	3000
5:00 PM	3660
6:00 PM	3488
7:00 PM	2530
8:00 PM	2027
9:00 PM	1536
10:00 PM	915
11:00 PM	481
Total	42427



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Alton Parkway - Barranca Parkway

File Name 099
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/12/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	42	361			26	386				
12:15	28	367			33	378				
12:30	32	346			34	388				
12:45	21	378	123	1452	30	443	123	1595	246	3047
1:00	21	363			14	432				
1:15	10	350			12	375				
1:30	17	380			12	391				
1:45	10	331	58	1424	15	404	53	1602	111	3026
2:00	9	401			13	329				
2:15	11	370			5	346				
2:30	8	347			4	369				
2:45	6	424	34	1542	6	361	28	1405	62	2947
3:00	15	408			5	348				
3:15	10	461			5	311				
3:30	6	434			13	354				
3:45	9	464	40	1767	2	344	25	1357	65	3124
4:00	6	485			17	340				
4:15	9	488			12	374				
4:30	13	501			24	344				
4:45	27	559	55	2033	31	377	84	1435	139	3468
5:00	23	524			42	404				
5:15	39	580			61	416				
5:30	52	625			74	416				
5:45	46	546	160	2275	86	407	263	1643	423	3918
6:00	68	514			76	401				
6:15	58	488			126	398				
6:30	90	484			184	373				
6:45	124	509	340	1995	241	370	627	1542	967	3537
7:00	166	535			316	368				
7:15	195	404			379	351				
7:30	265	395			546	339				
7:45	305	299	931	1633	610	326	1851	1384	2782	3017
8:00	284	329			566	317				
8:15	342	323			562	299				
8:30	282	268			529	277				
8:45	311	212	1219	1132	511	259	2168	1152	3387	2284
9:00	307	292			394	283				
9:15	311	202			375	225				
9:30	268	200			367	186				
9:45	247	155	1133	849	331	174	1467	868	2600	1717
10:00	243	188			313	157				
10:15	261	127			325	137				
10:30	266	101			312	86				
10:45	256	77	1026	493	329	95	1279	475	2305	968
11:00	304	65			310	83				
11:15	268	63			315	52				
11:30	351	54			352	46				
11:45	362	37	1285	219	347	48	1324	229	2609	448
Totals	6404	16814			9292	14687				
Combined Totals		23218				23979				
ADT										47197
AM Peak Hour	1100	AM			730	AM				
Volume	1285				2284					
P.H.F.	0.887				0.936					
PM Peak Hour		445	PM			500	PM			
Volume		2288				1643				
P.H.F.		0.915				0.987				
Percentage	27.6%	72.4%			38.8%	61.2%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

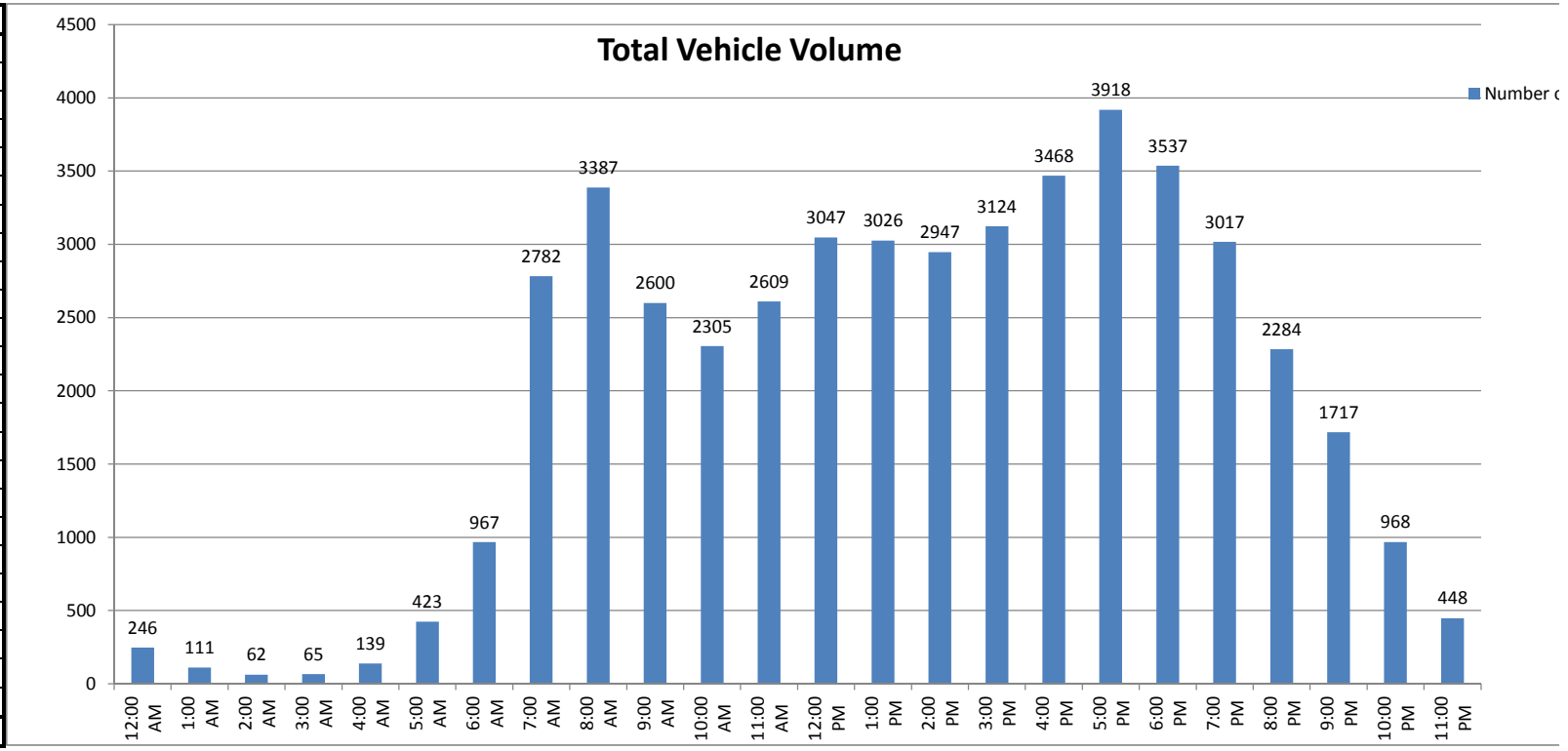
Culver Drive

B/ Alton Parkway - Barranca Parkway

3/12/2014

Southbound

Start Time	3/12/2014
12:00 AM	246
1:00 AM	111
2:00 AM	62
3:00 AM	65
4:00 AM	139
5:00 AM	423
6:00 AM	967
7:00 AM	2782
8:00 AM	3387
9:00 AM	2600
10:00 AM	2305
11:00 AM	2609
12:00 PM	3047
1:00 PM	3026
2:00 PM	2947
3:00 PM	3124
4:00 PM	3468
5:00 PM	3918
6:00 PM	3537
7:00 PM	3017
8:00 PM	2284
9:00 PM	1717
10:00 PM	968
11:00 PM	448
Total	47197



Volumes represent the combined totals for both directions

Traffic and Vehicle Data Systems Unit

2013 All Traffic Volumes on CSHS

Home

Dist	Rte	CO	Post Mile		Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	54	SD	T	13.71	CHASE AVENUE	2100	23100	22900	1950	22600	22500
11	54	SD	T	14.179	GROVE RD	1950	22600	22500	1950	22600	22500
11	54	SD	T	14.212	END ROUTE 54	1950	22600	22500			
12	55	ORA		0	TUSTIN, FINLEY AVENUE				3800	56000	48500
12	55	ORA		0.267	JCT. RTE. 1	3800	56000	48500	4350	64000	55500
12	55	ORA		1.513	COSTA MESA, EAST 17TH STREET	4450	64000	55500	7000	100000	87500
12	55	ORA		1.82	COSTA MESA, HARBOR BOULEVARD	7000	100000	87500	5700	82000	71500
12	55	ORA		2.021	COSTA MESA, 19TH STREET	5700	82000	71500	6400	100000	94500
12	55	ORA	R	2.772	COSTA MESA, VICTORIA/22ND STREETS	6600	104000	98500	10000	140000	134000
12	55	ORA	R	4.022	COSTA MESA, MESA DRIVE	10000	140000	134000	11800	158000	153400
12	55	ORA	R	5.99	JCT. RTE. 405, SAN DIEGO FREEWAY	11800	159000	154500	12300	166000	161200
12	55	ORA	R	6.99	SANTA ANA, MAC ARTHUR BOULEVARD	21500	289000	281000	21400	292000	281000
12	55	ORA	R	7.85	SANTA ANA, DYER ROAD	20700	282000	271500	21900	305000	287900
12	55	ORA	R	9.437	SANTA ANA, EDINGER AVENUE	21800	304000	287000	22400	319000	303000
12	55	ORA	R	9.96	TUSTIN, MC FADDEN STREET	22400	319000	303000	21200	302000	287000
12	55	ORA		10.45	TUSTIN, JCT. RTE. 5	19100	275000	260500	18800	254000	238500
12	55	ORA		10.979	SANTA ANA, FOURTH STREET	18800	254000	238500	20500	277000	259000
12	55	ORA		11.785	TUSTIN, SEVENTEENTH STREET	20500	277000	259000	19800	268000	250000
12	55	ORA		12.967	JCT. RTE. 22 WEST	19800	268000	250000	20800	281000	262500
12	55	ORA		13.7	CHAPMAN AVENUE	20800	281000	262500	18100	246000	230000
12	55	ORA		15.242	ORANGE, KATELLA AVENUE	18100	246000	230000	17100	228000	214000
12	55	ORA		16.981	ORANGE, LINCOLN AVENUE	17100	228000	214000	17200	230000	215100
12	55	ORA	R	17.876	JCT. RTE. 91	17200	230000	215100			
11	56	SD		0	JCT. RTE . 5				4450	58000	56000

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : WALNUT AVENUE — Site: TUSTIN

Segment : E/O TUSTIN RANCH ROAD — Date: 05/29/14

Client : CITY OF TUSTIN — Day: Thursday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	5	18	195	847	24	79	254	779	29	97	449	1,626
12:15	3		198		18		172		21		370	
12:30	8		210		17		182		25		392	
12:45	2		244		20		171		22		415	
01:00	4	15	216	762	28	57	188	725	32	72	404	1,487
01:15	5		210		14		190		19		400	
01:30	1		184		9		203		10		387	
01:45	5		152		6		144		11		296	
02:00	3	25	160	617	13	29	162	815	16	54	322	1,432
02:15	8		173		4		182		12		355	
02:30	6		130		7		282		13		412	
02:45	8		154		5		189		13		343	
03:00	7	68	152	574	7	17	306	1,101	14	85	458	1,675
03:15	3		174		2		223		5		397	
03:30	16		120		2		320		18		440	
03:45	42		128		6		252		48		380	
04:00	58	254	129	582	12	32	441	1,607	70	286	570	2,189
04:15	54		150		12		316		66		466	
04:30	39		146		7		440		46		586	
04:45	103		157		1		410		104		567	
05:00	64	450	178	696	18	90	418	1,586	82	540	596	2,282
05:15	92		182		18		401		110		583	
05:30	112		160		26		445		138		605	
05:45	182		176		28		322		210		498	
06:00	134	957	132	574	48	244	318	1,056	182	1,201	450	1,630
06:15	225		168		46		260		271		428	
06:30	289		144		78		246		367		390	
06:45	309		130		72		232		381		362	
07:00	290	1,278	110	370	78	440	204	630	368	1,718	314	1,000
07:15	294		110		96		161		390		271	
07:30	308		80		126		147		434		227	
07:45	386		70		140		118		526		188	
08:00	315	1,217	76	261	138	509	121	417	453	1,726	197	678
08:15	320		73		122		100		442		173	
08:30	286		56		130		102		416		158	
08:45	296		56		119		94		415		150	
09:00	218	781	56	165	105	417	91	274	323	1,198	147	439
09:15	202		45		97		69		299		114	
09:30	165		34		121		60		286		94	
09:45	196		30		94		54		290		84	
10:00	171	547	33	85	100	464	78	210	271	1,011	111	295
10:15	136		18		114		48		250		66	
10:30	112		24		118		52		230		76	
10:45	128		10		132		32		260		42	
11:00	122	594	15	51	182	756	35	95	304	1,350	50	146
11:15	170		16		162		26		332		42	
11:30	136		14		210		21		346		35	
11:45	166		6		202		13		368		19	
Totals	6,204		5,584		3,134		9,295		9,338		14,879	
Split%	66.4		37.5		33.6		62.5					
Day Totals		11,788				12,429				24,217		
Day Splits		48.7				51.3						
Peak Hour	07:30		12:30		11:00		04:45		07:30		04:45	
Volume	1,329		880		756		1,674		1,855		2,351	
Factor	0.86		0.90		0.90		0.94		0.88		0.97	

* Data File : D1405097

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Walnut Avenue
B/ Myford Road - Jamboree Road

File Name 313
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/19/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	183			6	148				
12:15	3	161			10	150				
12:30	10	155			6	156				
12:45	5	167	27	666	3	180	25	634	52	1300
1:00	1	170			4	186				
1:15	1	161			3	154				
1:30	2	158			1	154				
1:45	3	128	7	617	3	149	11	643	18	1260
2:00	5	122			3	138				
2:15	2	136			4	130				
2:30	4	139			2	133				
2:45	1	124	12	521	1	115	10	516	22	1037
3:00	3	163			3	175				
3:15	3	137			2	169				
3:30	0	186			3	161				
3:45	5	156	11	642	5	175	13	680	24	1322
4:00	2	232			6	181				
4:15	6	173			10	192				
4:30	5	254			9	209				
4:45	18	236	31	895	25	201	50	783	81	1678
5:00	12	375			20	214				
5:15	10	273			20	211				
5:30	18	272			40	245				
5:45	31	226	71	1146	58	246	138	916	209	2062
6:00	19	234			70	216				
6:15	34	186			94	242				
6:30	66	225			94	156				
6:45	56	136	175	781	131	141	389	755	564	1536
7:00	83	147			129	134				
7:15	72	145			149	119				
7:30	130	105			201	102				
7:45	124	124	409	521	212	108	691	463	1100	984
8:00	101	142			243	65				
8:15	117	74			227	70				
8:30	122	67			242	58				
8:45	149	59	489	342	202	57	914	250	1403	592
9:00	121	73			193	59				
9:15	115	50			150	49				
9:30	90	39			131	33				
9:45	100	29	426	191	119	32	593	173	1019	364
10:00	96	35			121	36				
10:15	100	26			110	23				
10:30	109	17			115	29				
10:45	98	24	403	102	117	16	463	104	866	206
11:00	124	20			112	21				
11:15	138	11			114	15				
11:30	153	7			101	12				
11:45	178	7	593	45	173	10	500	58	1093	103
Totals	2654	6469			3797	5975				
Combined Totals		9123				9772				
ADT										18895
AM Peak Hour	1100	AM			745	AM				
Volume	593				924					
P.H.F.	0.833				0.951					
PM Peak Hour		445	PM			530	PM			
Volume		1156				949				
P.H.F.		0.771				0.964				
Percentage	29.1%	70.9%			38.9%	61.1%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

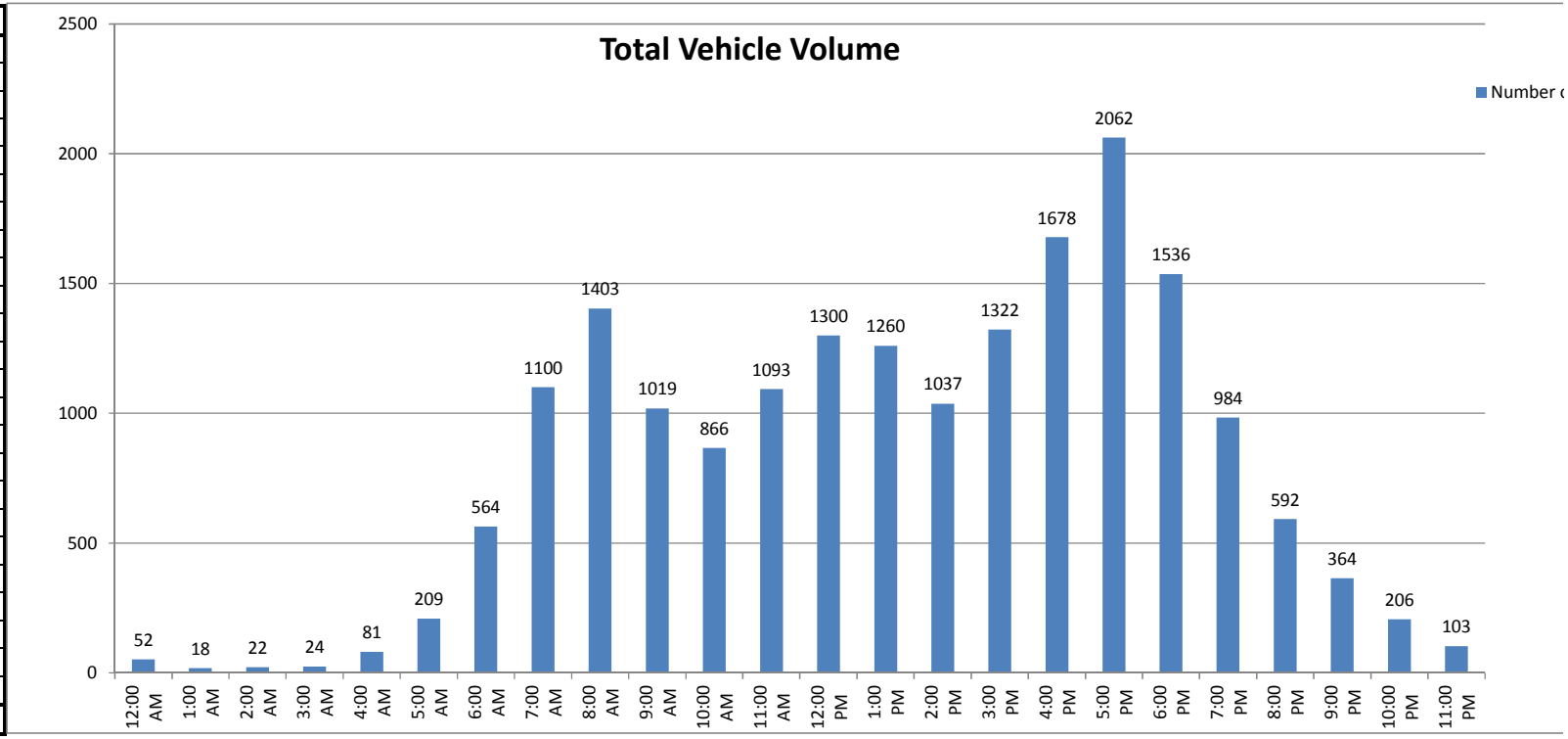
Walnut Avenue

B/ Myford Road - Jamboree Road

3/19/2014

Westbound

Start Time	3/19/2014
12:00 AM	52
1:00 AM	18
2:00 AM	22
3:00 AM	24
4:00 AM	81
5:00 AM	209
6:00 AM	564
7:00 AM	1100
8:00 AM	1403
9:00 AM	1019
10:00 AM	866
11:00 AM	1093
12:00 PM	1300
1:00 PM	1260
2:00 PM	1037
3:00 PM	1322
4:00 PM	1678
5:00 PM	2062
6:00 PM	1536
7:00 PM	984
8:00 PM	592
9:00 PM	364
10:00 PM	206
11:00 PM	103
Total	18895



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Walnut Avenue
B/ Jamboree Road - Harvard Avenue

File Name 314
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/20/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	20	168			8	106				
12:15	15	135			7	142				
12:30	14	133			4	160				
12:45	8	116	57	552	3	176	22	584	79	1136
1:00	8	138			3	139				
1:15	8	140			2	136				
1:30	8	125			5	131				
1:45	3	103	27	506	3	158	13	564	40	1070
2:00	10	102			4	139				
2:15	4	126			4	134				
2:30	0	123			4	113				
2:45	7	125	21	476	1	123	13	509	34	985
3:00	1	122			4	130				
3:15	0	163			2	166				
3:30	3	156			4	171				
3:45	3	162	7	603	9	170	19	637	26	1240
4:00	0	183			7	160				
4:15	3	195			7	196				
4:30	5	196			15	202				
4:45	12	200	20	774	16	196	45	754	65	1528
5:00	11	261			24	177				
5:15	14	272			36	233				
5:30	15	247			39	230				
5:45	15	246	55	1026	47	228	146	868	201	1894
6:00	14	212			62	200				
6:15	19	226			45	214				
6:30	51	236			96	181				
6:45	38	172	122	846	121	165	324	760	446	1606
7:00	50	161			109	145				
7:15	61	180			160	162				
7:30	74	167			219	150				
7:45	95	133	280	641	222	122	710	579	990	1220
8:00	85	140			267	100				
8:15	62	110			256	84				
8:30	79	123			270	91				
8:45	86	106	312	479	267	82	1060	357	1372	836
9:00	84	122			190	88				
9:15	70	88			150	59				
9:30	66	63			130	50				
9:45	87	78	307	351	140	35	610	232	917	583
10:00	76	59			121	81				
10:15	76	56			111	54				
10:30	83	41			108	37				
10:45	95	37	330	193	88	17	428	189	758	382
11:00	63	25			108	25				
11:15	104	18			105	22				
11:30	123	24			118	18				
11:45	123	25	413	92	121	18	452	83	865	175
Totals	1951	6539			3842	6116				
Combined Totals		8490				9958				
ADT										18448
AM Peak Hour	1100	AM			800	AM				
Volume	413				1060					
P.H.F.	0.839				0.981					
PM Peak Hour		500	PM			515	PM			
Volume		1026				891				
P.H.F.		0.943				0.956				
Percentage	23.0%	77.0%			38.6%	61.4%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

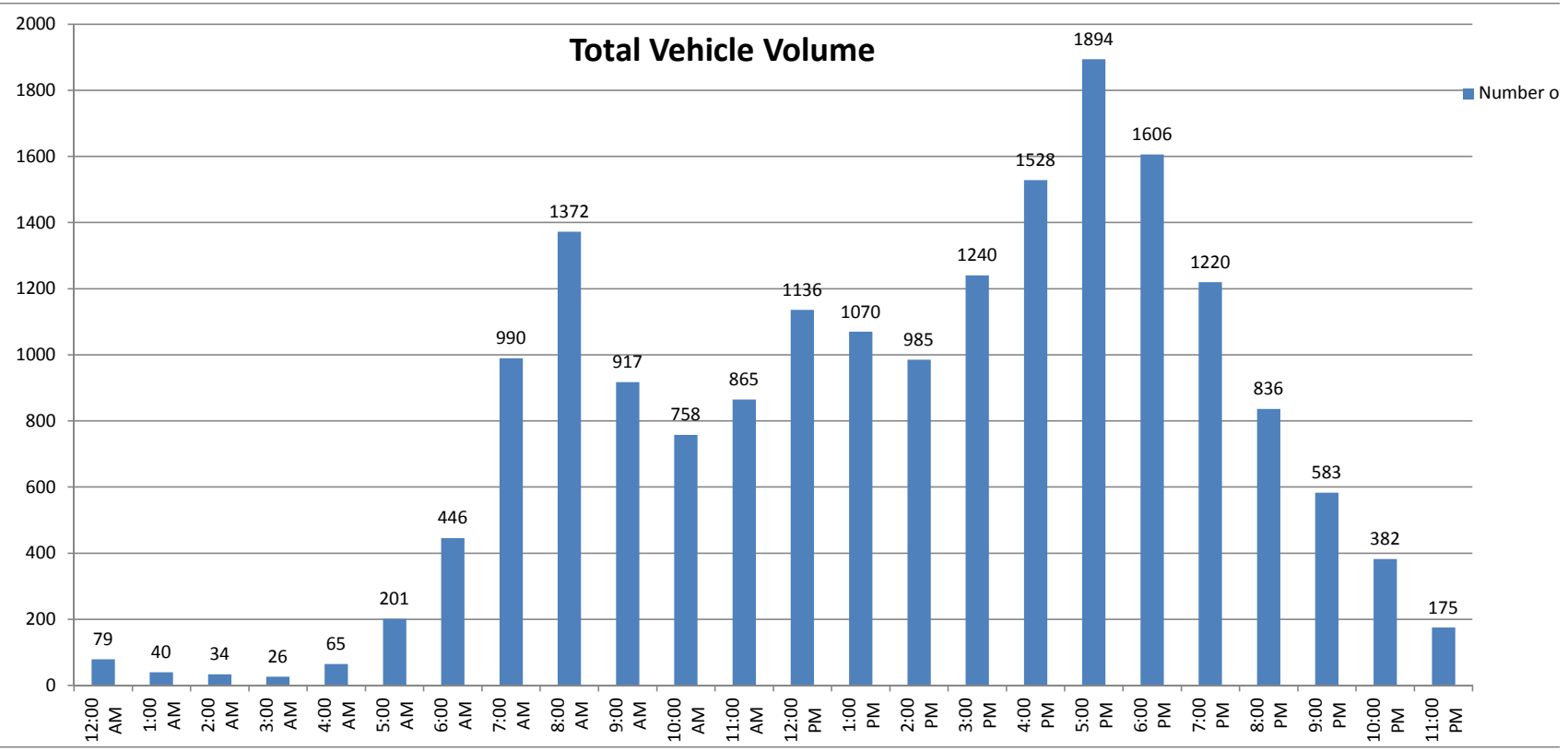
Walnut Avenue

B/ Jamboree Road - Harvard Avenue

3/20/2014

Westbound

Start Time	3/20/2014
12:00 AM	79
1:00 AM	40
2:00 AM	34
3:00 AM	26
4:00 AM	65
5:00 AM	201
6:00 AM	446
7:00 AM	990
8:00 AM	1372
9:00 AM	917
10:00 AM	758
11:00 AM	865
12:00 PM	1136
1:00 PM	1070
2:00 PM	985
3:00 PM	1240
4:00 PM	1528
5:00 PM	1894
6:00 PM	1606
7:00 PM	1220
8:00 PM	836
9:00 PM	583
10:00 PM	382
11:00 PM	175
Total	18448



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Walnut Avenue
B/ Harvard Avenue - Culver Drive

File Name 315
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/20/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	11	169			10	106				
12:15	4	132			7	140				
12:30	7	126			1	157				
12:45	2	121	24	548	5	161	23	564	47	1112
1:00	5	136			5	141				
1:15	4	128			5	122				
1:30	4	118			10	132				
1:45	3	104	16	486	2	169	22	564	38	1050
2:00	4	118			5	132				
2:15	1	117			4	126				
2:30	1	123			3	127				
2:45	7	136	13	494	1	109	13	494	26	988
3:00	0	112			3	164				
3:15	1	151			1	154				
3:30	2	162			6	191				
3:45	3	141	6	566	6	186	16	695	22	1261
4:00	0	165			5	176				
4:15	3	164			3	186				
4:30	4	168			4	198				
4:45	8	182	15	679	7	201	19	761	34	1440
5:00	10	200			9	178				
5:15	13	236			13	270				
5:30	19	237			15	242				
5:45	18	228	60	901	22	214	59	904	119	1805
6:00	21	221			38	209				
6:15	23	238			32	203				
6:30	45	212			52	158				
6:45	57	160	146	831	79	146	201	716	347	1547
7:00	65	154			82	151				
7:15	68	160			121	166				
7:30	129	153			181	151				
7:45	158	101	420	568	204	93	588	561	1008	1129
8:00	111	108			255	98				
8:15	96	89			214	97				
8:30	84	93			218	110				
8:45	98	85	389	375	217	86	904	391	1293	766
9:00	95	106			176	82				
9:15	82	60			132	50				
9:30	63	45			104	51				
9:45	84	43	324	254	118	35	530	218	854	472
10:00	80	52			86	63				
10:15	78	43			91	39				
10:30	83	32			80	30				
10:45	96	20	337	147	80	17	337	149	674	296
11:00	83	17			91	28				
11:15	95	9			87	10				
11:30	143	16			114	17				
11:45	116	10	437	52	113	13	405	68	842	120
Totals	2187	5901			3117	6085				
Combined Totals		8088				9202				
ADT										17290
AM Peak Hour	730	AM			800	AM				
Volume	494				904					
P.H.F.	0.782				0.886					
PM Peak Hour		530	PM			515	PM			
Volume		924				935				
P.H.F.		0.971				0.866				
Percentage	27.0%	73.0%			33.9%	66.1%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

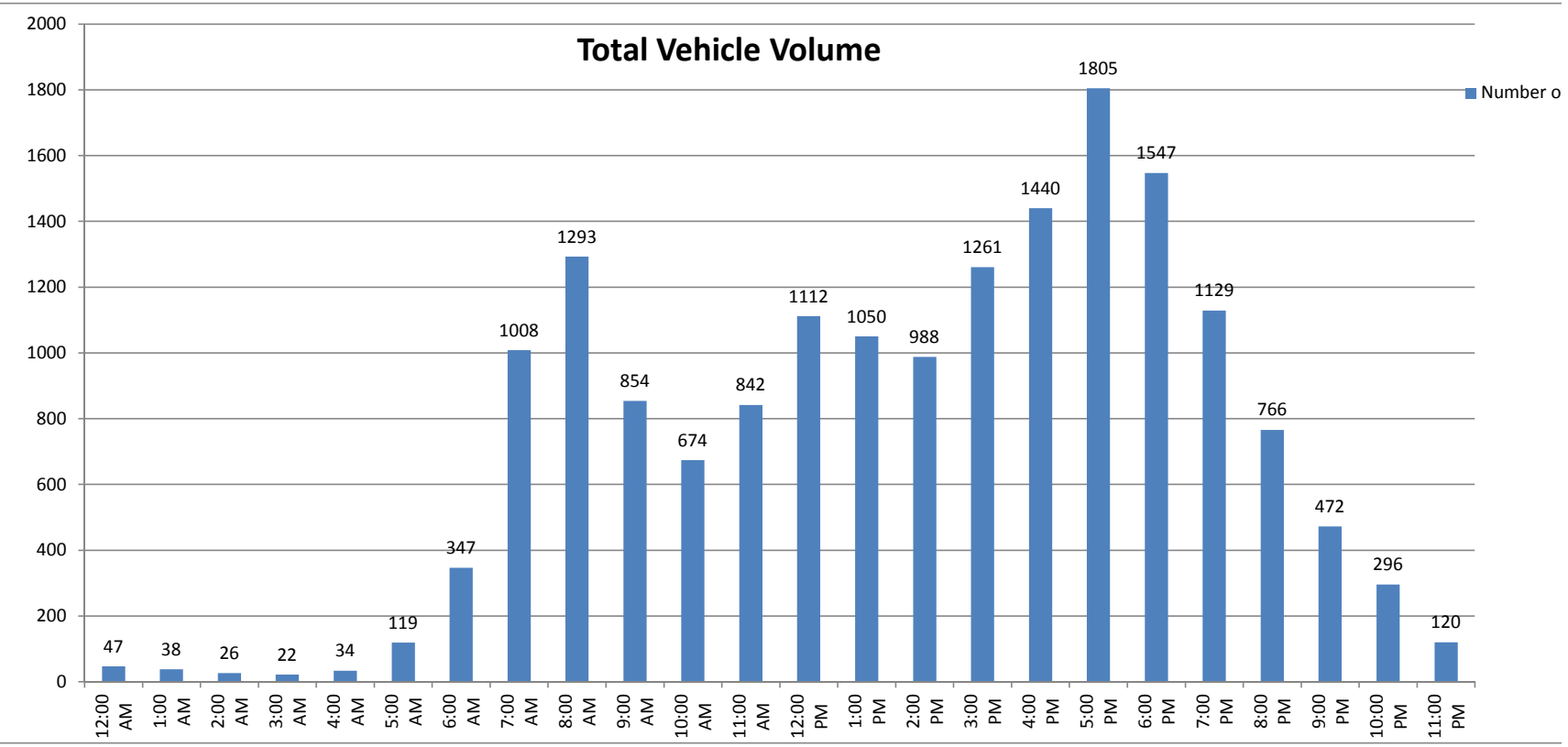
Walnut Avenue

B/ Harvard Avenue - Culver Drive

3/20/2014

Westbound

Start Time	3/20/2014
12:00 AM	47
1:00 AM	38
2:00 AM	26
3:00 AM	22
4:00 AM	34
5:00 AM	119
6:00 AM	347
7:00 AM	1008
8:00 AM	1293
9:00 AM	854
10:00 AM	674
11:00 AM	842
12:00 PM	1112
1:00 PM	1050
2:00 PM	988
3:00 PM	1261
4:00 PM	1440
5:00 PM	1805
6:00 PM	1547
7:00 PM	1129
8:00 PM	766
9:00 PM	472
10:00 PM	296
11:00 PM	120
Total	17290



Volumes represent the combined totals for both directions

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Transportation Studies, Inc.

2640 Walnut Avenue, Suite H

Tustin, CA. 92780

Location: : EDINGER AVENUE | Site: TUSTIN

Segment: : W/O NEWPORT AVENUE | Date: 09/30/14

Client: : CITY OF TUSTIN | Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	36	104	288	1,268	25	63	243	990	61	167	531	2,258
12:15	30		326		16		234		46		560	
12:30	17		320		14		253		31		573	
12:45	21		334		8		260		29		594	
01:00	24	64	302	1,214	5	56	275	973	29	120	577	2,187
01:15	11		306		15		232		26		538	
01:30	20		294		26		240		46		534	
01:45	9		312		10		226		19		538	
02:00	30	64	328	1.335	12	38	254	1.165	42	102	582	2.500
02:15	3		308		6		259		9		567	
02:30	12		384		10		331		22		715	
02:45	19		315		10		321		29		636	
03:00	12	91	351	1,390	15	47	309	1,267	27	138	660	2,657
03:15	14		324		4		292		18		616	
03:30	27		382		18		354		45		736	
03:45	38		333		10		312		48		645	
04:00	40	301	366	1.420	9	78	351	1.405	49	379	717	2.825
04:15	53		348		9		353		62		701	
04:30	102		372		22		350		124		722	
04:45	106		334		38		351		144		685	
05:00	132	1,010	418	1,657	32	262	368	1,447	164	1,272	786	3,104
05:15	210		437		52		374		262		811	
05:30	328		418		62		374		390		792	
05:45	340		384		116		331		456		715	
06:00	234	1,300	340	1,141	102	637	256	1,028	336	1,937	596	2,169
06:15	276		298		129		318		405		616	
06:30	396		264		146		268		542		532	
06:45	394		239		260		186		654		425	
07:00	366	1.599	208	805	245	1.274	155	547	611	2.873	363	1.352
07:15	414		215		298		132		712		347	
07:30	424		212		341		134		765		346	
07:45	395		170		390		126		785		296	
08:00	398	1,404	190	607	349	1,428	116	365	747	2,832	306	972
08:15	344		140		354		97		698		237	
08:30	332		142		384		82		716		224	
08:45	330		135		341		70		671		205	
09:00	290	1,087	106	431	278	1,020	64	277	568	2,107	170	708
09:15	267		105		280		84		547		189	
09:30	264		114		227		68		491		182	
09:45	266		106		235		61		501		167	
10:00	256	1,016	93	307	194	776	83	258	450	1,792	176	565
10:15	245		70		186		68		431		138	
10:30	268		90		202		57		470		147	
10:45	247		54		194		50		441		104	
11:00	284	1,247	46	169	206	866	47	129	490	2,113	93	298
11:15	318		44		200		36		518		80	
11:30	316		46		200		20		516		66	
11:45	329		33		260		26		589		59	
Totals	9.287		11.744		6.545		9.851		15.832		21.595	
Split%	58.7		54.4		41.3		45.6					
Day Totals		21.031				16.396				37.427		
Day Splits		56.2				43.8						
Peak Hour	07:15		05:00		07:45		04:45		07:15		05:00	
Volume	1.631		1.657		1.477		1.467		3.009		3.104	
Factor	0.96		0.95		0.95		0.98		0.96		0.96	

Transportation Studies, Inc.

2640 Walnut Avenue, Suite H

Tustin, CA. 92780

Location : EDINGER AVENUE — Site: TUSTIN

Segment : NEWPORT AVE TO DEL AMO AVE — Date: 10/07/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Tuesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	6	31	178	660	26	76	145	603	32	107	323	1,263	
12:15	10		150		20		142		30		292		
12:30	10		169		14		152		24		321		
12:45	5		163		16		164		21		327		
01:00	12	37	158	630	6	28	178	657	18	65	336	1,287	
01:15	9		159		9		162		18		321		
01:30	10		138		9		152		19		290		
01:45	6		175		4		165		10		340		
02:00	8	20	168	665	9	27	204	910	17	47	372	1,575	
02:15	2		144		6		210		8		354		
02:30	2		182		6		250		8		432		
02:45	8		171		6		246		14		417		
03:00	4	34	211	835	3	26	225	1,043	7	60	436	1,878	
03:15	4		170		6		282		10		452		
03:30	14		228		10		254		24		482		
03:45	12		226		7		282		19		508		
04:00	9	103	245	976	5	59	309	1,162	14	162	554	2,138	
04:15	16		246		7		263		23		509		
04:30	30		241		12		300		42		541		
04:45	48		244		35		290		83		534		
05:00	62	414	394	1,389	23	154	292	1,208	85	568	686	2,597	
05:15	94		346		26		342		120		688		
05:30	124		342		33		318		157		660		
05:45	134		307		72		256		206		563		
06:00	118	627	254	762	62	502	241	982	180	1,129	495	1,744	
06:15	149		219		116		282		265		501		
06:30	166		161		120		261		286		422		
06:45	194		128		204		198		398		326		
07:00	181	916	121	405	192	1,029	150	514	373	1,945	271	919	
07:15	244		99		230		160		474		259		
07:30	255		100		256		100		511		200		
07:45	236		85		351		104		587		189		
08:00	220	808	79	269	293	1,223	101	325	513	2,031	180	594	
08:15	207		74		312		78		519		152		
08:30	196		62		326		88		522		150		
08:45	185		54		292		58		477		112		
09:00	140	542	46	175	232	717	49	223	372	1,259	95	398	
09:15	134		41		179		70		313		111		
09:30	125		52		166		54		291		106		
09:45	143		36		140		50		283		86		
10:00	140	544	41	95	124	510	62	210	264	1,054	103	305	
10:15	118		25		137		56		255		81		
10:30	158		12		118		42		276		54		
10:45	128		17		131		50		259		67		
11:00	138	611	23	83	130	543	36	107	268	1,154	59	190	
11:15	132		22		137		27		269		49		
11:30	159		18		142		20		301		38		
11:45	182		20		134		24		316		44		
Totals	4.687		6.944		4.894		7.944		9.581		14.888		
Split%	48.9		46.6		51.1		53.4						
Day Totals		11.631				12.838				24.469			
Day Splits		47.5				52.5							
Peak Hour	07:15		05:00		07:45		04:45		07:45		05:00		
Volume	955		1.389		1.282		1.242		2.141		2.597		
Factor	0.94		0.88		0.91		0.91		0.91		0.94		

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : EDINGER AVENUE — Site: TUSTIN

Segment : W/O REDHILL AVENUE — Date: 05/21/14

Client : CITY OF TUSTIN — Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	10	42	168	652	22	63	180	759	32	105	348	1,411
12:15	8		160		18		198		26		358	
12:30	16		166		11		198		27		364	
12:45	8		158		12		183		20		341	
01:00	6	20	145	595	12	37	160	747	18	57	305	1,342
01:15	7		155		12		190		19		345	
01:30	3		141		8		177		11		318	
01:45	4		154		5		220		9		374	
02:00	3	22	148	635	10	28	212	957	13	50	360	1,592
02:15	10		158		7		208		17		366	
02:30	5		158		7		238		12		396	
02:45	4		171		4		299		8		470	
03:00	5	36	160	701	4	24	275	1,208	9	60	435	1,909
03:15	8		176		7		316		15		492	
03:30	13		182		5		311		18		493	
03:45	10		183		8		306		18		489	
04:00	12	114	213	949	10	56	363	1,356	22	170	576	2,305
04:15	27		230		12		336		39		566	
04:30	38		226		16		330		54		556	
04:45	37		280		18		327		55		607	
05:00	68	475	296	1,178	24	168	325	1,389	92	643	621	2,567
05:15	90		334		24		380		114		714	
05:30	165		296		62		388		227		684	
05:45	152		252		58		296		210		548	
06:00	106	612	206	677	82	531	374	1,226	188	1,143	580	1,903
06:15	138		198		123		342		261		540	
06:30	176		142		135		294		311		436	
06:45	192		131		191		216		383		347	
07:00	190	935	122	414	171	1,303	190	559	361	2,238	312	973
07:15	242		108		348		132		590		240	
07:30	241		101		360		140		601		241	
07:45	262		83		424		97		686		180	
08:00	228	884	90	340	335	1,244	102	362	563	2,128	192	702
08:15	230		92		331		96		561		188	
08:30	203		84		296		96		499		180	
08:45	223		74		282		68		505		142	
09:00	168	616	74	248	236	814	69	254	404	1,430	143	502
09:15	162		54		213		82		375		136	
09:30	138		64		186		53		324		117	
09:45	148		56		179		50		327		106	
10:00	122	529	53	146	148	536	62	210	270	1,065	115	356
10:15	141		39		125		65		266		104	
10:30	134		23		128		50		262		73	
10:45	132		31		135		33		267		64	
11:00	140	596	28	66	134	574	30	94	274	1,170	58	160
11:15	136		13		152		24		288		37	
11:30	142		16		142		24		284		40	
11:45	178		9		146		16		324		25	
Totals	4,881		6,601		5,378		9,121		10,259		15,722	
Split%	47.6		42.0		52.4		58.0					
Day Totals		11,482				14,499				25,981		
Day Splits		44.2				55.8						
Peak Hour	07:15		04:45		07:15		05:15		07:15		04:45	
Volume	973		1,206		1,467		1,438		2,440		2,626	
Factor	0.93		0.90		0.86		0.93		0.89		0.92	

* Data File : D1405066

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : EDINGER AVENUE — Site: TUSTIN

Segment : E/O REDHILL AVENUE — Date: 05/21/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Wednesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	9	36	124	494	21	55	130	591	30	91	254	1,085	
12:15	7		134		14		163		21		297		
12:30	12		118		10		166		22		284		
12:45	8		118		10		132		18		250		
01:00	6	17	124	465	7	29	149	615	13	46	273	1,080	
01:15	3		106		11		152		14		258		
01:30	5		111		6		136		11		247		
01:45	3		124		5		178		8		302		
02:00	3	20	134	501	8	25	156	706	11	45	290	1,207	
02:15	8		119		7		152		15		271		
02:30	5		108		8		162		13		270		
02:45	4		140		2		236		6		376		
03:00	3	28	130	555	4	19	226	1,086	7	47	356	1,641	
03:15	3		141		5		292		8		433		
03:30	15		150		3		288		18		438		
03:45	7		134		7		280		14		414		
04:00	7	78	196	825	6	40	320	1,321	13	118	516	2,146	
04:15	19		194		10		366		29		560		
04:30	20		198		11		292		31		490		
04:45	32		237		13		343		45		580		
05:00	48	289	238	1,066	13	149	278	1,352	61	438	516	2,418	
05:15	65		300		23		384		88		684		
05:30	94		268		51		350		145		618		
05:45	82		260		62		340		144		600		
06:00	66	431	186	656	74	480	326	1,172	140	911	512	1,828	
06:15	94		202		118		340		212		542		
06:30	137		142		130		296		267		438		
06:45	134		126		158		210		292		336		
07:00	124	672	106	359	177	1,183	185	516	301	1,855	291	875	
07:15	171		92		290		118		461		210		
07:30	172		95		338		118		510		213		
07:45	205		66		378		95		583		161		
08:00	174	732	70	289	344	1,220	83	263	518	1,952	153	552	
08:15	186		76		359		57		545		133		
08:30	181		72		246		65		427		137		
08:45	191		71		271		58		462		129		
09:00	136	436	50	185	205	656	68	219	341	1,092	118	404	
09:15	112		40		174		57		286		97		
09:30	94		48		154		52		248		100		
09:45	94		47		123		42		217		89		
10:00	84	386	50	134	102	441	54	178	186	827	104	312	
10:15	94		34		110		50		204		84		
10:30	117		24		114		52		231		76		
10:45	91		26		115		22		206		48		
11:00	114	455	28	64	91	440	22	78	205	895	50	142	
11:15	108		13		108		18		216		31		
11:30	100		11		124		20		224		31		
11:45	133		12		117		18		250		30		
Totals	3,580		5,593		4,737		8,097		8,317		13,690		
Split%	43.0		40.9		57.0		59.1						
Day Totals		9,173				12,834				22,007			
Day Splits		41.7				58.3							
Peak Hour	07:45		05:00		07:30		05:15		07:30		05:00		
Volume	746		1,066		1,419		1,400		2,156		2,418		
Factor	0.91		0.89		0.94		0.91		0.92		0.88		

* Data File : D1405067

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location: : EDINGER AVENUE | Site: TUSTIN

Segment: : W/O SB JAMBOREE RAMPS | Date: 05/21/14

Client: : CITY OF TUSTIN | Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	8	43	179	661	19	59	142	606	27	102	321	1,267
12:15	9		160		16		168		25		328	
12:30	9		156		12		166		21		322	
12:45	17		166		12		130		29		296	
01:00	14	29	150	593	6	30	150	635	20	59	300	1,228
01:15	3		139		13		161		16		300	
01:30	5		150		7		148		12		298	
01:45	7		154		4		176		11		330	
02:00	5	22	138	643	9	26	152	719	14	48	290	1,362
02:15	8		172		5		145		13		317	
02:30	6		155		6		162		12		317	
02:45	3		178		6		260		9		438	
03:00	3	30	201	807	3	26	248	1,169	6	56	449	1,976
03:15	6		192		6		304		12		496	
03:30	14		216		3		299		17		515	
03:45	7		198		14		318		21		516	
04:00	8	86	237	1,175	13	49	366	1,499	21	135	603	2,674
04:15	22		280		8		422		30		702	
04:30	28		300		10		315		38		615	
04:45	28		358		18		396		46		754	
05:00	42	285	397	1,638	20	226	379	1,602	62	511	776	3,240
05:15	68		412		74		456		142		868	
05:30	99		439		40		387		139		826	
05:45	76		390		92		380		168		770	
06:00	94	566	288	1,028	108	600	370	1,307	202	1,166	658	2,335
06:15	94		266		130		390		224		656	
06:30	160		214		166		317		326		531	
06:45	218		260		196		230		414		490	
07:00	166	927	180	566	244	1,430	205	559	410	2,357	385	1,125
07:15	241		126		330		132		571		258	
07:30	242		151		400		118		642		269	
07:45	278		109		456		104		734		213	
08:00	258	957	98	402	399	1,354	91	320	657	2,311	189	722
08:15	228		122		368		72		596		194	
08:30	228		90		295		78		523		168	
08:45	243		92		292		79		535		171	
09:00	196	630	72	256	219	730	78	260	415	1,360	150	516
09:15	158		72		185		67		343		139	
09:30	132		65		172		67		304		132	
09:45	144		47		154		48		298		95	
10:00	112	466	76	215	122	477	58	181	234	943	134	396
10:15	114		57		129		52		243		109	
10:30	126		48		112		47		238		95	
10:45	114		34		114		24		228		58	
11:00	125	565	30	89	111	496	24	97	236	1,061	54	186
11:15	144		26		120		24		264		50	
11:30	136		17		139		23		275		40	
11:45	160		16		126		26		286		42	
Totals	4,606		8,073		5,503		8,954		10,109		17,027	
Split%	45.6		47.4		54.4		52.6					
Day Totals		12,679				14,457				27,136		
Day Splits		46.7				53.3						
Peak Hour	07:15		05:00		07:30		04:45		07:30		05:00	
Volume	1,019		1,638		1,623		1,618		2,629		3,240	
Factor	0.92		0.93		0.89		0.89		0.90		0.93	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : EDINGER AVENUE — Site: TUSTIN

Segment : E/O JAMBOREE NB RAMPS — Date: 05/21/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Wednesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	11	54	148	568	18	56	126	564	29	110	274	1,132	
12:15	16		146		14		156		30		302		
12:30	9		132		12		154		21		286		
12:45	18		142		12		128		30		270		
01:00	15	30	128	526	5	22	156	610	20	52	284	1,136	
01:15	5		137		9		140		14		277		
01:30	4		128		5		144		9		272		
01:45	6		133		3		170		9		303		
02:00	12	32	118	476	6	24	183	745	18	56	301	1,221	
02:15	7		104		5		160		12		264		
02:30	10		122		9		186		19		308		
02:45	3		132		4		216		7		348		
03:00	1	25	162	717	6	19	226	949	7	44	388	1,666	
03:15	5		188		5		240		10		428		
03:30	9		180		3		225		12		405		
03:45	10		187		5		258		15		445		
04:00	4	56	185	920	14	62	266	1,272	18	118	451	2,192	
04:15	14		220		8		410		22		630		
04:30	16		245		18		238		34		483		
04:45	22		270		22		358		44		628		
05:00	30	211	358	1,364	17	172	306	1,384	47	383	664	2,748	
05:15	52		346		48		368		100		714		
05:30	73		326		42		324		115		650		
05:45	56		334		65		386		121		720		
06:00	52	358	296	1,017	68	462	328	1,221	120	820	624	2,238	
06:15	60		265		122		390		182		655		
06:30	102		238		116		266		218		504		
06:45	144		218		156		237		300		455		
07:00	132	694	173	598	174	1,080	173	657	306	1,774	346	1,255	
07:15	159		136		248		185		407		321		
07:30	197		151		306		147		503		298		
07:45	206		138		352		152		558		290		
08:00	189	733	109	463	348	1,170	114	416	537	1,903	223	879	
08:15	184		135		313		101		497		236		
08:30	168		109		268		107		436		216		
08:45	192		110		241		94		433		204		
09:00	164	517	88	334	192	697	87	302	356	1,214	175	636	
09:15	131		94		197		70		328		164		
09:30	112		82		162		88		274		170		
09:45	110		70		146		57		256		127		
10:00	87	379	84	258	102	466	55	201	189	845	139	459	
10:15	96		72		118		68		214		140		
10:30	96		54		116		51		212		105		
10:45	100		48		130		27		230		75		
11:00	108	467	42	119	112	471	24	93	220	938	66	212	
11:15	108		31		114		24		222		55		
11:30	122		23		132		24		254		47		
11:45	129		23		113		21		242		44		
Totals	3,556		7,360		4,701		8,414		8,257		15,774		
Split%	43.1		46.7		56.9		53.3						
Day Totals		10,916				13,115				24,031			
Day Splits		45.4				54.6							
Peak Hour	07:30		05:00		07:30		05:30		07:30		05:00		
Volume	776		1,364		1,319		1,428		2,095		2,748		
Factor	0.94		0.95		0.94		0.92		0.94		0.95		

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Irvine Center Drive
B/ Harvard Avenue - Culver Drive

File Name 138
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/26/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	7	163			23	156				
12:15	10	173			11	168				
12:30	3	148			12	194				
12:45	8	159	28	643	3	202	49	720	77	1363
1:00	4	154			10	168				
1:15	4	155			6	167				
1:30	7	145			6	174				
1:45	4	140	19	594	5	168	27	677	46	1271
2:00	4	142			7	210				
2:15	6	146			5	162				
2:30	6	151			9	201				
2:45	6	187	22	626	5	235	26	808	48	1434
3:00	0	191			4	239				
3:15	4	206			2	269				
3:30	7	174			1	254				
3:45	5	200	16	771	4	255	11	1017	27	1788
4:00	7	222			11	304				
4:15	14	232			6	349				
4:30	27	258			10	330				
4:45	24	267	72	979	15	341	42	1324	114	2303
5:00	28	293			19	330				
5:15	63	393			46	406				
5:30	74	351			37	399				
5:45	74	367	239	1404	55	339	157	1474	396	2878
6:00	56	285			61	302				
6:15	67	286			79	373				
6:30	111	242			96	290				
6:45	149	262	383	1075	124	231	360	1196	743	2271
7:00	134	147			146	192				
7:15	157	157			206	183				
7:30	245	147			246	168				
7:45	248	114	784	565	358	106	956	649	1740	1214
8:00	246	109			338	106				
8:15	199	108			333	103				
8:30	217	107			290	127				
8:45	206	85	868	409	231	83	1192	419	2060	828
9:00	188	72			190	91				
9:15	148	79			190	93				
9:30	123	75			163	81				
9:45	108	53	567	279	127	74	670	339	1237	618
10:00	102	51			119	66				
10:15	119	35			108	56				
10:30	112	31			121	60				
10:45	112	24	445	141	129	29	477	211	922	352
11:00	116	25			119	26				
11:15	112	28			138	31				
11:30	147	22			156	25				
11:45	182	25	557	100	168	19	581	101	1138	201
Totals	4000	7586			4548	8935				
Combined Totals		11586				13483				
ADT										25069
AM Peak Hour	730	AM			745	AM				
Volume	938				1319					
P.H.F.	0.946				0.921					
PM Peak Hour		500	PM			445	PM			
Volume		1404				1476				
P.H.F.		0.893				0.909				
Percentage	34.5%	65.5%			33.7%	66.3%				

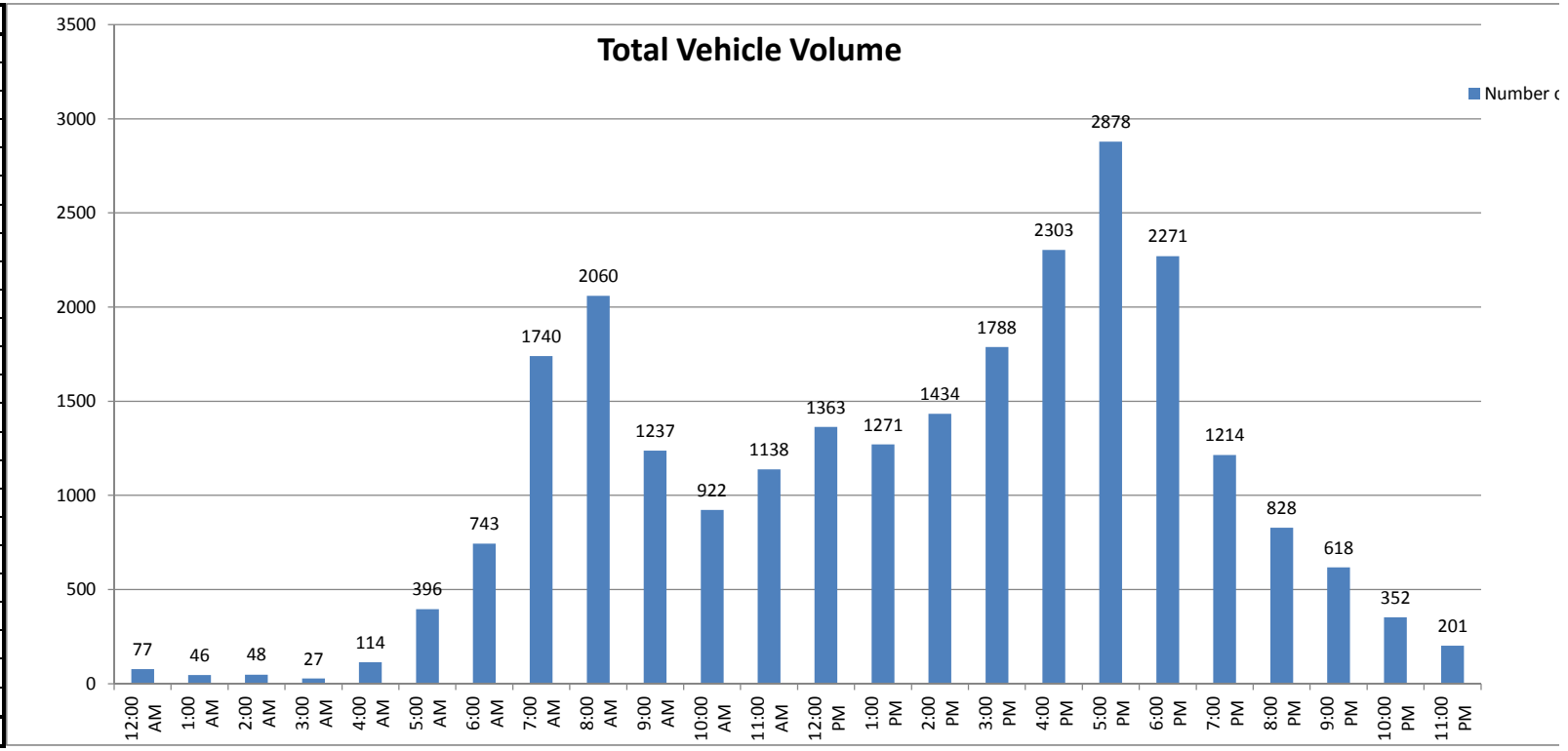
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Irvine Center Drive
B/ Harvard Avenue - Culver Drive
2/26/2014

Westbound

Start Time	2/26/2014
12:00 AM	77
1:00 AM	46
2:00 AM	48
3:00 AM	27
4:00 AM	114
5:00 AM	396
6:00 AM	743
7:00 AM	1740
8:00 AM	2060
9:00 AM	1237
10:00 AM	922
11:00 AM	1138
12:00 PM	1363
1:00 PM	1271
2:00 PM	1434
3:00 PM	1788
4:00 PM	2303
5:00 PM	2878
6:00 PM	2271
7:00 PM	1214
8:00 PM	828
9:00 PM	618
10:00 PM	352
11:00 PM	201
Total	25069



Volumes represent the combined totals for both directions

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : DEL AMO AVENUE
Segment : E/O NEWPORT AVE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/21/14
Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	4	10	32	129	0	5	35	151	4	15	67	280
12:15	2		34		3		44		5		78	
12:30	2		28		0		36		2		64	
12:45	2		35		2		36		4		71	
01:00	1	2	39	117	0	1	32	153	1	3	71	270
01:15	0		30		0		32		0		62	
01:30	0		30		0		41		0		71	
01:45	1		18		1		48		2		66	
02:00	1	4	20	72	0	1	56	252	1	5	76	324
02:15	2		22		0		38		2		60	
02:30	1		16		1		86		2		102	
02:45	0		14		0		72		0		86	
03:00	2	4	11	80	0	1	70	399	2	5	81	479
03:15	1		18		1		70		2		88	
03:30	1		34		0		133		1		167	
03:45	0		17		0		126		0		143	
04:00	1	8	14	76	0	4	154	566	1	12	168	642
04:15	2		21		0		136		2		157	
04:30	3		21		4		146		7		167	
04:45	2		20		0		130		2		150	
05:00	4	41	21	94	1	12	148	546	5	53	169	640
05:15	9		24		3		138		12		162	
05:30	16		35		6		142		22		177	
05:45	12		14		2		118		14		132	
06:00	12	95	15	44	3	27	105	323	15	122	120	367
06:15	20		8		8		108		28		116	
06:30	21		12		4		68		25		80	
06:45	42		9		12		42		54		51	
07:00	40	164	24	79	17	122	64	152	57	286	88	231
07:15	39		18		28		41		67		59	
07:30	39		24		33		28		72		52	
07:45	46		13		44		19		90		32	
08:00	30	172	19	69	28	154	16	55	58	326	35	124
08:15	46		23		53		6		99		29	
08:30	48		13		43		15		91		28	
08:45	48		14		30		18		78		32	
09:00	27	121	14	51	24	71	12	42	51	192	26	93
09:15	28		12		13		13		41		25	
09:30	28		18		17		9		45		27	
09:45	38		7		17		8		55		15	
10:00	17	111	16	38	18	93	7	23	35	204	23	61
10:15	34		9		26		5		60		14	
10:30	32		6		25		7		57		13	
10:45	28		7		24		4		52		11	
11:00	24	106	4	14	32	130	2	4	56	236	6	18
11:15	30		1		41		1		71		2	
11:30	22		8		28		0		50		8	
11:45	30		1		29		1		59		2	
Totals	838		863		621		2,666		1,459		3,529	
Split%	57.4		24.5		42.6		75.5					
Day Totals		1,701				3,287				4,988		
Day Splits		34.1				65.9						
Peak Hour	08:00		12:15		07:45		04:00		07:45		04:45	
Volume	172		136		168		566		338		658	
Factor	0.90		0.87		0.79		0.92		0.85		0.93	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : VALENCIA AVENUE — Site: TUSTIN

Segment : W/O REDHILL AVENUE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	WB				EB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	1	4	48	248	1	18	64	214	2	22	112	462	
12:15	1		60		2		54		3		114		
12:30	1		70		14		50		15		120		
12:45	1		70		1		46		2		116		
01:00	1	3	56	228	0	2	48	158	1	5	104	386	
01:15	1		52		0		44		1		96		
01:30	0		48		0		38		0		86		
01:45	1		72		2		28		3		100		
02:00	0	0	76	290	0	2	30	116	0	2	106	406	
02:15	0		56		0		23		0		79		
02:30	0		84		1		49		1		133		
02:45	0		74		1		14		1		88		
03:00	0	4	70	324	0	6	32	177	0	10	102	501	
03:15	0		73		4		32		4		105		
03:30	2		84		1		77		3		161		
03:45	2		97		1		36		3		133		
04:00	4	9	63	308	0	7	54	212	4	16	117	520	
04:15	1		105		1		44		2		149		
04:30	1		70		2		66		3		136		
04:45	3		70		4		48		7		118		
05:00	8	63	80	286	0	35	94	270	8	98	174	556	
05:15	12		71		2		68		14		139		
05:30	26		70		14		53		40		123		
05:45	17		65		19		55		36		120		
06:00	14	152	79	277	15	70	53	145	29	222	132	422	
06:15	29		106		15		40		44		146		
06:30	51		64		16		37		67		101		
06:45	58		28		24		15		82		43		
07:00	48	289	24	74	16	97	19	69	64	386	43	143	
07:15	74		17		17		15		91		32		
07:30	78		20		30		14		108		34		
07:45	89		13		34		21		123		34		
08:00	114	366	13	54	36	116	8	45	150	482	21	99	
08:15	100		9		16		13		116		22		
08:30	80		17		36		13		116		30		
08:45	72		15		28		11		100		26		
09:00	47	167	14	46	40	118	18	48	87	285	32	94	
09:15	32		9		25		12		57		21		
09:30	49		11		25		8		74		19		
09:45	39		12		28		10		67		22		
10:00	37	126	14	32	25	106	7	29	62	232	21	61	
10:15	29		6		24		7		53		13		
10:30	36		8		27		10		63		18		
10:45	24		4		30		5		54		9		
11:00	42	184	5	12	25	193	6	15	67	377	11	27	
11:15	34		6		36		3		70		9		
11:30	40		0		80		3		120		3		
11:45	68		1		52		3		120		4		
Totals	1,367		2,179		770		1,498		2,137		3,677		
Split%	64.0		59.3		36.0		40.7						
Day Totals		3,546				2,268				5,814			
Day Splits		61.0				39.0							
Peak Hour	07:45		03:30		11:00		04:30		07:45		04:15		
Volume	383		349		193		276		505		577		
Factor	0.84		0.83		0.60		0.73		0.84		0.83		

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : VALENCIA AVENUE — Site: TUSTIN

Segment : E/O REDHILL AVENUE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	1	7	56	230	1	6	58	243	2	13	114	473	
12:15	1		61		2		51		3		112		
12:30	3		60		2		72		5		132		
12:45	2		53		1		62		3		115		
01:00	0	5	58	204	0	3	54	253	0	8	112	457	
01:15	0		41		0		64		0		105		
01:30	2		52		0		67		2		119		
01:45	3		53		3		68		6		121		
02:00	1	3	70	239	1	1	118	317	2	4	188	556	
02:15	0		61		0		60		0		121		
02:30	1		57		0		61		1		118		
02:45	1		51		0		78		1		129		
03:00	2	8	59	265	1	9	62	280	3	17	121	545	
03:15	3		56		0		69		3		125		
03:30	1		78		6		68		7		146		
03:45	2		72		2		81		4		153		
04:00	0	7	84	429	6	14	60	304	6	21	144	733	
04:15	1		92		1		102		2		194		
04:30	1		114		4		79		5		193		
04:45	5		139		3		63		8		202		
05:00	5	77	173	602	7	54	100	270	12	131	273	872	
05:15	4		152		17		52		21		204		
05:30	28		132		12		67		40		199		
05:45	40		145		18		51		58		196		
06:00	25	149	132	412	22	181	44	216	47	330	176	628	
06:15	33		111		29		106		62		217		
06:30	38		106		84		36		122		142		
06:45	53		63		46		30		99		93		
07:00	36	251	51	171	80	525	30	112	116	776	81	283	
07:15	42		52		113		26		155		78		
07:30	74		35		138		36		212		71		
07:45	99		33		194		20		293		53		
08:00	60	194	20	101	180	558	18	116	240	752	38	217	
08:15	51		27		128		35		179		62		
08:30	35		31		138		34		173		65		
08:45	48		23		112		29		160		52		
09:00	50	148	32	83	95	309	18	81	145	457	50	164	
09:15	30		24		60		16		90		40		
09:30	32		12		72		15		104		27		
09:45	36		15		82		32		118		47		
10:00	31	138	11	49	58	210	20	49	89	348	31	98	
10:15	32		15		48		10		80		25		
10:30	36		14		58		8		94		22		
10:45	39		9		46		11		85		20		
11:00	38	186	5	18	57	257	18	32	95	443	23	50	
11:15	38		4		60		10		98		14		
11:30	57		7		70		1		127		8		
11:45	53		2		70		3		123		5		
Totals	1,173		2,803		2,127		2,273		3,300		5,076		
Split%	35.5		55.2		64.5		44.8						
Day Totals		3,976				4,400				8,376			
Day Splits		47.5				52.5							
Peak Hour	07:30		05:00		07:30		04:15		07:30		04:45		
Volume	284		602		640		344		924		878		
Factor	0.72		0.87		0.82		0.84		0.79		0.80		

* Data File : D1405092

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : VALENCIA AVENUE — Site: TUSTIN

Segment : W/O KENSINGTON PARK DRIVE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	1	6	50	160	2	5	34	179	3	11	84	339	
12:15	0		36		1		46		1		82		
12:30	3		36		1		60		4		96		
12:45	2		38		1		39		3		77		
01:00	0	0	44	142	1	4	37	162	1	4	81	304	
01:15	0		31		1		48		1		79		
01:30	0		39		1		40		1		79		
01:45	0		28		1		37		1		65		
02:00	0	2	38	145	0	1	32	147	0	3	70	292	
02:15	1		41		0		34		1		75		
02:30	1		36		1		39		2		75		
02:45	0		30		0		42		0		72		
03:00	1	3	48	183	0	7	46	160	1	10	94	343	
03:15	1		33		0		30		1		63		
03:30	0		55		2		31		2		86		
03:45	1		47		5		53		6		100		
04:00	1	8	65	366	1	4	32	185	2	12	97	551	
04:15	0		78		1		46		1		124		
04:30	1		107		0		54		1		161		
04:45	6		116		2		53		8		169		
05:00	4	17	145	508	2	35	62	236	6	52	207	744	
05:15	2		135		9		54		11		189		
05:30	5		119		7		70		12		189		
05:45	6		109		17		50		23		159		
06:00	10	92	110	318	13	97	34	163	23	189	144	481	
06:15	15		105		17		53		32		158		
06:30	33		67		32		44		65		111		
06:45	34		36		35		32		69		68		
07:00	30	182	41	134	59	337	25	126	89	519	66	260	
07:15	37		43		70		31		107		74		
07:30	45		32		76		46		121		78		
07:45	70		18		132		24		202		42		
08:00	52	143	19	63	116	373	28	89	168	516	47	152	
08:15	37		15		96		19		133		34		
08:30	22		18		94		21		116		39		
08:45	32		11		67		21		99		32		
09:00	27	101	18	37	60	170	18	67	87	271	36	104	
09:15	24		12		38		18		62		30		
09:30	20		3		37		16		57		19		
09:45	30		4		35		15		65		19		
10:00	26	91	5	17	34	117	8	30	60	208	13	47	
10:15	18		5		26		9		44		14		
10:30	24		3		32		5		56		8		
10:45	23		4		25		8		48		12		
11:00	28	152	3	12	24	103	10	21	52	255	13	33	
11:15	24		4		26		4		50		8		
11:30	59		4		31		3		90		7		
11:45	41		1		22		4		63		5		
Totals	797		2,085		1,253		1,565		2,050		3,650		
Split%	38.9		57.1		61.1		42.9						
Day Totals		2,882				2,818				5,700			
Day Splits		50.6				49.4							
Peak Hour	07:15		04:45		07:45		04:45		07:30		04:45		
Volume	204		515		438		239		624		754		
Factor	0.73		0.89		0.83		0.85		0.77		0.91		

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : VALENCIA AVENUE — Site: TUSTIN

Segment : TRR TO KENSINGTON PARK DR — Date: 04/29/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Tuesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	0	1	42	170	4	7	36	170	4	8	78	340	
12:15	1		48		2		46		3		94		
12:30	0		38		0		44		0		82		
12:45	0		42		1		44		1		86		
01:00	0	0	40	165	0	1	62	189	0	1	102	354	
01:15	0		40		0		42		0		82		
01:30	0		36		0		46		0		82		
01:45	0		49		1		39		1		88		
02:00	1	2	45	188	0	1	34	144	1	3	79	332	
02:15	0		50		1		34		1		84		
02:30	1		44		0		34		1		78		
02:45	0		49		0		42		0		91		
03:00	0	4	45	177	0	0	41	174	0	4	86	351	
03:15	1		36		0		48		1		84		
03:30	2		59		0		44		2		103		
03:45	1		37		0		41		1		78		
04:00	0	7	66	294	1	4	34	153	1	11	100	447	
04:15	1		66		0		41		1		107		
04:30	0		80		2		45		2		125		
04:45	6		82		1		33		7		115		
05:00	6	32	135	479	2	22	68	226	8	54	203	705	
05:15	7		126		1		46		8		172		
05:30	12		108		7		59		19		167		
05:45	7		110		12		53		19		163		
06:00	22	109	96	301	14	88	51	219	36	197	147	520	
06:15	21		80		12		69		33		149		
06:30	30		71		22		56		52		127		
06:45	36		54		40		43		76		97		
07:00	40	225	43	122	33	288	36	127	73	513	79	249	
07:15	48		33		74		28		122		61		
07:30	60		28		80		39		140		67		
07:45	77		18		101		24		178		42		
08:00	50	169	17	72	82	332	32	96	132	501	49	168	
08:15	46		12		97		18		143		30		
08:30	35		18		92		25		127		43		
08:45	38		25		61		21		99		46		
09:00	34	130	13	47	57	157	22	74	91	287	35	121	
09:15	34		10		35		25		69		35		
09:30	37		15		32		19		69		34		
09:45	25		9		33		8		58		17		
10:00	22	102	9	18	28	85	14	36	50	187	23	54	
10:15	30		2		14		9		44		11		
10:30	22		6		18		9		40		15		
10:45	28		1		25		4		53		5		
11:00	38	150	3	8	26	111	7	21	64	261	10	29	
11:15	28		2		25		4		53		6		
11:30	51		1		32		6		83		7		
11:45	33		2		28		4		61		6		
Totals	931		2,041		1,096		1,629		2,027		3,670		
Split%	45.9		55.6		54.1		44.4						
Day Totals		2,972				2,725				5,697			
Day Splits		52.2				47.8							
Peak Hour	07:15		05:00		07:45		05:30		07:30		05:00		
Volume	235		479		372		232		593		705		
Factor	0.76		0.89		0.92		0.84		0.83		0.87		

Transportation Studies, Inc.

2640 Walnut Avenue, Suite H

Tustin, CA. 92780

Location: : WARNER AVENUE
Segment: : W/O REDHILL AVENUE
Client: : CITY OF TUSTIN

Site: SANTA ANA
Date: 09/23/14
Day: Tuesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	9	21	136	446	8	27	115	455	17	48	251	901
12:15	3		104		5		115		8		219	
12:30	5		102		10		109		15		211	
12:45	4		104		4		116		8		220	
01:00	6	14	114	425	2	11	110	450	8	25	224	875
01:15	2		87		2		102		4		189	
01:30	5		118		5		136		10		254	
01:45	1		106		2		102		3		208	
02:00	2	22	120	500	6	12	128	691	8	34	248	1.191
02:15	5		112		2		128		7		240	
02:30	8		150		2		249		10		399	
02:45	7		118		2		186		9		304	
03:00	4	49	115	448	3	11	148	686	7	60	263	1,134
03:15	2		101		0		164		2		265	
03:30	19		124		5		211		24		335	
03:45	24		108		3		163		27		271	
04:00	17	140	146	597	6	44	193	783	23	184	339	1.380
04:15	29		137		10		188		39		325	
04:30	36		160		10		208		46		368	
04:45	58		154		18		194		76		348	
05:00	29	361	216	714	10	90	202	810	39	451	418	1,524
05:15	58		166		12		230		70		396	
05:30	98		186		24		202		122		388	
05:45	176		146		44		176		220		322	
06:00	75	443	154	432	46	246	156	511	121	689	310	943
06:15	102		131		48		138		150		269	
06:30	112		70		60		139		172		209	
06:45	154		77		92		78		246		155	
07:00	106	561	72	232	98	478	72	188	204	1.039	144	420
07:15	132		58		128		39		260		97	
07:30	143		54		124		41		267		95	
07:45	180		48		128		36		308		84	
08:00	140	526	48	135	132	509	36	129	272	1.035	84	264
08:15	160		35		134		34		294		69	
08:30	126		20		115		27		241		47	
08:45	100		32		128		32		228		64	
09:00	77	266	28	98	99	359	36	124	176	625	64	222
09:15	62		32		91		28		153		60	
09:30	66		12		85		33		151		45	
09:45	61		26		84		27		145		53	
10:00	74	293	25	64	68	293	36	99	142	586	61	163
10:15	70		16		84		18		154		34	
10:30	67		11		73		25		140		36	
10:45	82		12		68		20		150		32	
11:00	102	414	12	35	59	259	20	58	161	673	32	93
11:15	102		8		62		16		164		24	
11:30	109		7		68		14		177		21	
11:45	101		8		70		8		171		16	
Totals	3.110		4.126		2.339		4.984		5.449		9.110	
Split%	57.1		45.3		42.9		54.7					
Day Totals		7.236				7.323				14.559		
Day Splits		49.7				50.3						
Peak Hour	07:30		04:45		07:30		04:30		07:30		04:45	
Volume	623		722		518		834		1.141		1.550	
Factor	0.87		0.84		0.97		0.91		0.93		0.93	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : WARNER AVENUE — Site: TUSTIN

Segment : TUSTIN RANCH TO PARK AVE — Date: 05/29/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	10	21	116	455	4	17	63	275	14	38	179	730	
12:15	3		112		3		64		6		176		
12:30	6		94		6		76		12		170		
12:45	2		133		4		72		6		205		
01:00	2	17	126	463	2	6	89	319	4	23	215	782	
01:15	2		124		0		86		2		210		
01:30	9		105		1		74		10		179		
01:45	4		108		3		70		7		178		
02:00	5	12	104	420	4	7	70	316	9	19	174	736	
02:15	2		108		1		86		3		194		
02:30	2		97		1		70		3		167		
02:45	3		111		1		90		4		201		
03:00	4	15	124	476	1	4	78	315	5	19	202	791	
03:15	1		128		1		76		2		204		
03:30	2		114		1		74		3		188		
03:45	8		110		1		87		9		197		
04:00	8	61	140	644	4	13	102	360	12	74	242	1,004	
04:15	16		170		0		86		16		256		
04:30	14		157		6		74		20		231		
04:45	23		177		3		98		26		275		
05:00	18	151	210	768	6	39	116	472	24	190	326	1,240	
05:15	26		208		12		138		38		346		
05:30	43		172		6		112		49		284		
05:45	64		178		15		106		79		284		
06:00	65	301	175	667	22	178	86	377	87	479	261	1,044	
06:15	68		184		38		105		106		289		
06:30	72		159		50		112		122		271		
06:45	96		149		68		74		164		223		
07:00	37	227	124	431	79	507	57	211	116	734	181	642	
07:15	36		126		119		46		155		172		
07:30	64		102		142		63		206		165		
07:45	90		79		167		45		257		124		
08:00	72	324	81	293	196	683	43	161	268	1,007	124	454	
08:15	83		80		214		35		297		115		
08:30	77		74		150		41		227		115		
08:45	92		58		123		42		215		100		
09:00	48	227	55	157	80	264	30	99	128	491	85	256	
09:15	52		36		64		32		116		68		
09:30	58		40		74		23		132		63		
09:45	69		26		46		14		115		40		
10:00	59	300	17	72	56	224	9	51	115	524	26	123	
10:15	75		20		41		14		116		34		
10:30	90		27		55		17		145		44		
10:45	76		8		72		11		148		19		
11:00	84	407	12	42	50	212	7	33	134	619	19	75	
11:15	88		9		52		13		140		22		
11:30	119		8		59		11		178		19		
11:45	116		13		51		2		167		15		
Totals	2,063		4,888		2,154		2,989		4,217		7,877		
Split%	48.9		62.1		51.1		37.9						
Day Totals		6,951				5,143				12,094			
Day Splits		57.5				42.5							
Peak Hour	11:00		05:00		07:45		05:00		07:45		05:00		
Volume	407		768		727		472		1,049		1,240		
Factor	0.86		0.91		0.85		0.86		0.88		0.90		

* Data File : D1405099

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : WARNER AVENUE
Segment : E/O PARK AVENUE
Client : CITY OF TUSTIN

Site: TUSTIN
Date: 05/29/14

Day: Thursday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	47	125	232	939	8	20	82	341	55	145	314	1,280
12:15	32		234		3		78		35		312	
12:30	26		207		6		78		32		285	
12:45	20		266		3		103		23		369	
01:00	20	68	258	1,035	1	4	81	344	21	72	339	1,379
01:15	18		235		0		88		18		323	
01:30	20		282		1		93		21		375	
01:45	10		260		2		82		12		342	
02:00	18	52	241	955	4	9	86	342	22	61	327	1,297
02:15	4		218		1		100		5		318	
02:30	10		260		1		79		11		339	
02:45	20		236		3		77		23		313	
03:00	11	46	250	955	2	3	95	346	13	49	345	1,301
03:15	7		248		0		81		7		329	
03:30	12		242		1		74		13		316	
03:45	16		215		0		96		16		311	
04:00	14	125	232	1,022	2	14	99	397	16	139	331	1,419
04:15	16		250		3		108		19		358	
04:30	40		266		6		82		46		348	
04:45	55		274		3		108		58		382	
05:00	54	356	332	1,158	6	38	122	512	60	394	454	1,670
05:15	74		280		12		139		86		419	
05:30	104		270		5		123		109		393	
05:45	124		276		15		128		139		404	
06:00	116	441	304	1,153	16	121	88	410	132	562	392	1,563
06:15	109		311		30		136		139		447	
06:30	98		266		27		110		125		376	
06:45	118		272		48		76		166		348	
07:00	73	419	241	859	49	247	75	287	122	666	316	1,146
07:15	88		223		62		66		150		289	
07:30	101		198		66		82		167		280	
07:45	157		197		70		64		227		261	
08:00	166	653	192	770	78	314	70	200	244	967	262	970
08:15	151		185		90		54		241		239	
08:30	162		195		74		37		236		232	
08:45	174		198		72		39		246		237	
09:00	122	506	174	491	52	224	30	95	174	730	204	586
09:15	128		135		50		36		178		171	
09:30	120		114		64		11		184		125	
09:45	136		68		58		18		194		86	
10:00	123	648	76	221	74	306	7	34	197	954	83	255
10:15	153		60		82		16		235		76	
10:30	193		54		64		7		257		61	
10:45	179		31		86		4		265		35	
11:00	184	828	38	140	86	347	6	23	270	1,175	44	163
11:15	196		46		79		5		275		51	
11:30	214		32		104		8		318		40	
11:45	234		24		78		4		312		28	
Totals	4,267		9,698		1,647		3,331		5,914		13,029	
Split%	72.2		74.4		27.8		25.6					
Day Totals		13,965				4,978				18,943		
Day Splits		73.7				26.3						
Peak Hour	11:00		05:30		10:45		05:00		11:00		05:00	
Volume	828		1,161		355		512		1,175		1,670	
Factor	0.88		0.93		0.85		0.92		0.92		0.92	

* Data File : D1405100

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : WARNER AVENUE (NB) Site: TUSTIN

Segment : JAMBOREE ROAD Date: 05/29/14

Client : CITY OF TUSTIN

Interval	ON				OFF				Combined				Day: Thursday
Begin	AM		PM		AM		PM		AM		PM		
12:00	16	79	130	614	4	8	18	70	20	87	148	684	
12:15	38		152		2		16		40		168		
12:30	17		154		1		12		18		166		
12:45	8		178		1		24		9		202		
01:00	15	82	162	606	0	0	18	57	15	82	180	663	
01:15	18		126		0		18		18		144		
01:30	37		148		0		14		37		162		
01:45	12		170		0		7		12		177		
02:00	12	36	159	630	0	1	10	47	12	37	169	677	
02:15	8		162		1		19		9		181		
02:30	6		148		0		8		6		156		
02:45	10		161		0		10		10		171		
03:00	12	39	140	615	0	0	17	51	12	39	157	666	
03:15	9		164		0		10		9		174		
03:30	12		172		0		10		12		182		
03:45	6		139		0		14		6		153		
04:00	14	69	176	741	0	8	24	65	14	77	200	806	
04:15	10		172		2		12		12		184		
04:30	11		206		4		12		15		218		
04:45	34		187		2		17		36		204		
05:00	28	111	212	784	1	7	16	64	29	118	228	848	
05:15	30		206		0		20		30		226		
05:30	28		180		4		14		32		194		
05:45	25		186		2		14		27		200		
06:00	64	378	186	732	6	15	16	60	70	393	202	792	
06:15	72		204		5		20		77		224		
06:30	108		187		1		16		109		203		
06:45	134		155		3		8		137		163		
07:00	118	413	192	562	2	12	14	52	120	425	206	614	
07:15	100		146		2		12		102		158		
07:30	105		113		4		14		109		127		
07:45	90		111		4		12		94		123		
08:00	106	469	106	436	6	26	12	28	112	495	118	464	
08:15	110		109		7		6		117		115		
08:30	145		115		10		2		155		117		
08:45	108		106		3		8		111		114		
09:00	111	426	124	333	12	24	5	17	123	450	129	350	
09:15	104		76		6		5		110		81		
09:30	102		87		2		3		104		90		
09:45	109		46		4		4		113		50		
10:00	118	484	50	147	3	36	1	5	121	520	51	152	
10:15	124		41		11		4		135		45		
10:30	116		38		6		0		122		38		
10:45	126		18		16		0		142		18		
11:00	114	523	22	110	18	72	0	4	132	595	22	114	
11:15	116		36		22		0		138		36		
11:30	138		31		16		2		154		33		
11:45	155		21		16		2		171		23		
Totals	3,109		6,310		209		520		3,318		6,830		
Split%	93.7		92.4		6.3		7.6						
Day Totals		9,419				729				10,148			
Day Splits		92.8				7.2							
Peak Hour	11:00		04:30		10:45		12:45		11:00		04:30		
Volume	523		811		72		74		595		876		
Factor	0.84		0.96		0.82		0.77		0.87		0.96		

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Warner Avenue
B/ Construction Circle North - Harvard Avenue

File Name 318
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/16/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	83			6	79				
12:15	5	112			2	73				
12:30	2	102			2	74				
12:45	4	104	20	401	2	83	12	309	32	710
1:00	1	120			3	77				
1:15	1	111			1	72				
1:30	4	116			5	92				
1:45	2	117	8	464	3	72	12	313	20	777
2:00	1	114			1	67				
2:15	1	95			1	62				
2:30	3	118			0	83				
2:45	0	99	5	426	1	84	3	296	8	722
3:00	0	107			0	84				
3:15	0	97			2	111				
3:30	1	86			1	95				
3:45	2	121	3	411	0	103	3	393	6	804
4:00	3	110			3	113				
4:15	0	106			1	112				
4:30	0	142			4	100				
4:45	4	124	7	482	10	134	18	459	25	941
5:00	1	116			10	116				
5:15	4	121			14	149				
5:30	2	103			13	120				
5:45	8	120	15	460	24	121	61	506	76	966
6:00	14	115			29	123				
6:15	19	122			32	128				
6:30	22	126			56	111				
6:45	35	114	90	477	58	86	175	448	265	925
7:00	39	119			61	95				
7:15	43	91			92	66				
7:30	72	92			94	70				
7:45	77	106	231	408	120	65	367	296	598	704
8:00	65	85			121	48				
8:15	65	91			132	42				
8:30	59	70			110	33				
8:45	69	55	258	301	107	20	470	143	728	444
9:00	66	53			91	31				
9:15	53	70			108	26				
9:30	55	42			87	20				
9:45	49	35	223	200	77	16	363	93	586	293
10:00	58	30			90	11				
10:15	65	25			87	14				
10:30	67	22			77	13				
10:45	77	15	267	92	85	12	339	50	606	142
11:00	70	17			68	7				
11:15	81	13			79	7				
11:30	80	14			81	3				
11:45	98	5	329	49	82	4	310	21	639	70
Totals	1456	4171			2133	3327				
Combined Totals		5627				5460				
ADT										11087
AM Peak Hour	1100	AM			745	AM				
Volume	329				483					
P.H.F.	0.839				0.915					
PM Peak Hour		430	PM			445	PM			
Volume		503				519				
P.H.F.		0.886				0.871				
Percentage	25.9%	74.1%			39.1%	60.9%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

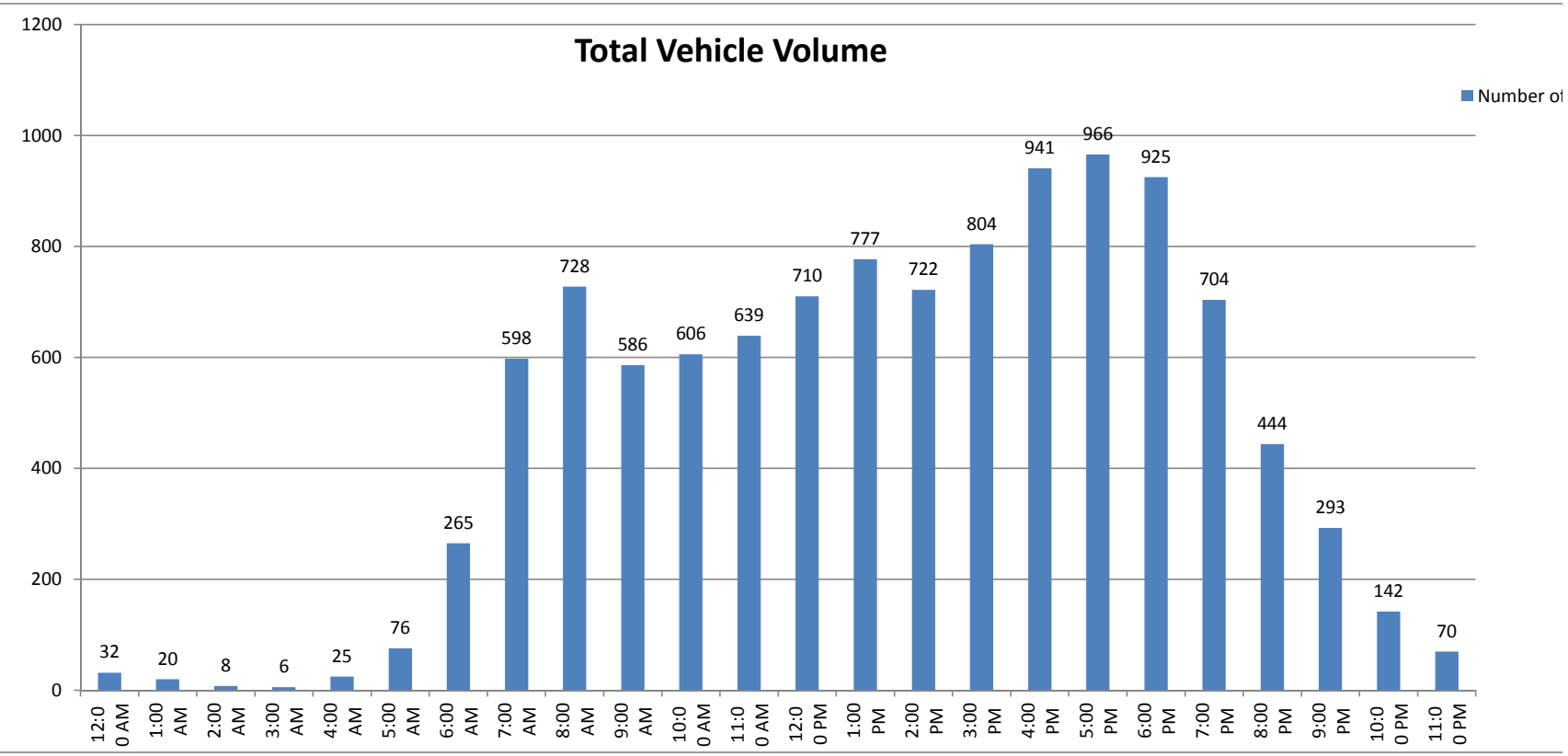
Warner Avenue

B/ Construction Circle North - Harvard Avenue

1/16/2014

Westbound

Start Time	1/16/2014
12:00 AM	32
1:00 AM	20
2:00 AM	8
3:00 AM	6
4:00 AM	25
5:00 AM	76
6:00 AM	265
7:00 AM	598
8:00 AM	728
9:00 AM	586
10:00 AM	606
11:00 AM	639
12:00 PM	710
1:00 PM	777
2:00 PM	722
3:00 PM	804
4:00 PM	941
5:00 PM	966
6:00 PM	925
7:00 PM	704
8:00 PM	444
9:00 PM	293
10:00 PM	142
11:00 PM	70
Total	11087



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Warner Avenue
B/ Harvard Avenue - Paseo Westpark

File Name 319
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/15/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	5	49			2	53				
12:15	8	55			1	52				
12:30	2	69			1	51				
12:45	2	54	17	227	0	66	4	222	21	449
1:00	7	106			1	54				
1:15	2	88			2	79				
1:30	3	61			2	101				
1:45	3	62	15	317	0	68	5	302	20	619
2:00	0	75			0	49				
2:15	0	71			0	59				
2:30	0	69			1	53				
2:45	2	90	2	305	3	57	4	218	6	523
3:00	0	86			0	71				
3:15	0	95			1	98				
3:30	1	80			2	72				
3:45	1	89	2	350	2	63	5	304	7	654
4:00	2	60			4	60				
4:15	0	119			0	61				
4:30	2	85			2	62				
4:45	2	97	6	361	6	69	12	252	18	613
5:00	2	98			3	64				
5:15	0	113			5	81				
5:30	2	101			11	78				
5:45	3	133	7	445	15	89	34	312	41	757
6:00	5	106			14	78				
6:15	7	125			21	70				
6:30	11	109			33	66				
6:45	22	115	45	455	40	62	108	276	153	731
7:00	16	91			48	50				
7:15	27	71			56	54				
7:30	31	66			81	33				
7:45	96	71	170	299	113	34	298	171	468	470
8:00	52	62			144	35				
8:15	43	57			107	38				
8:30	27	63			76	29				
8:45	37	50	159	232	85	27	412	129	571	361
9:00	58	51			78	22				
9:15	50	38			80	15				
9:30	19	38			80	10				
9:45	25	23	152	150	67	9	305	56	457	206
10:00	38	31			59	10				
10:15	35	18			65	19				
10:30	42	24			52	9				
10:45	52	16	167	89	49	6	225	44	392	133
11:00	54	17			47	9				
11:15	66	5			55	5				
11:30	58	7			54	3				
11:45	53	11	231	40	64	2	220	19	451	59
Totals	973	3270			1632	2305				
Combined Totals		4243				3937				
ADT										8180
AM Peak Hour	1100	AM			730	AM				
Volume	231				445					
P.H.F.	0.875				0.773					
PM Peak Hour		545	PM			515	PM			
Volume		473				326				
P.H.F.		0.889				0.916				
Percentage	22.9%	77.1%			41.5%	58.5%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

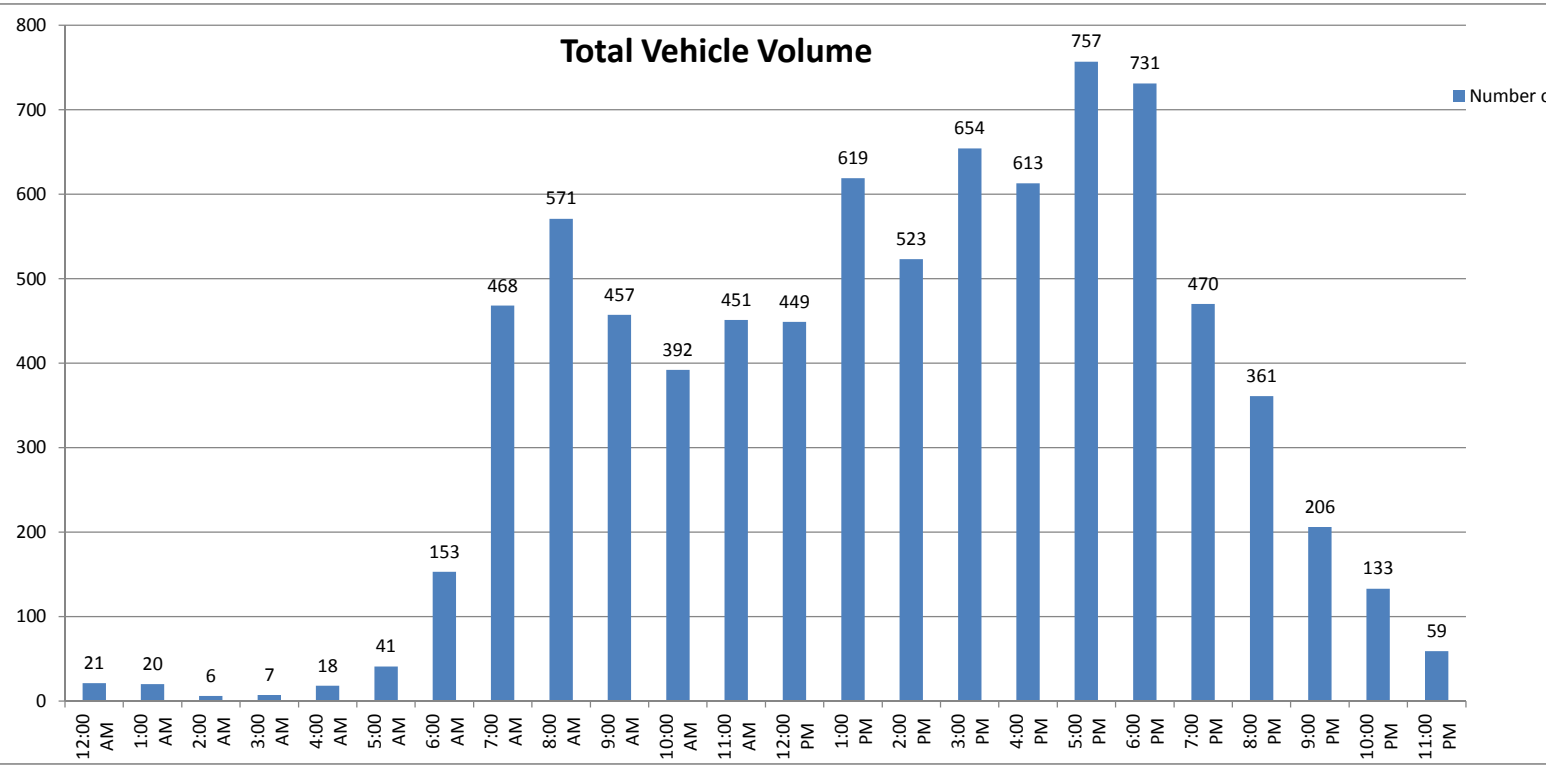
Warner Avenue

B/ Harvard Avenue - Paseo Westpark

1/15/2014

Westbound

Start Time	1/15/2014
12:00 AM	21
1:00 AM	20
2:00 AM	6
3:00 AM	7
4:00 AM	18
5:00 AM	41
6:00 AM	153
7:00 AM	468
8:00 AM	571
9:00 AM	457
10:00 AM	392
11:00 AM	451
12:00 PM	449
1:00 PM	619
2:00 PM	523
3:00 PM	654
4:00 PM	613
5:00 PM	757
6:00 PM	731
7:00 PM	470
8:00 PM	361
9:00 PM	206
10:00 PM	133
11:00 PM	59
Total	8180



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Barranca Parkway
B/ Pullman Street - Redhill Avenue

File Name 050
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/23/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	14	249			52	218				
12:15	11	219			25	193				
12:30	11	209			59	247				
12:45	5	201	41	878	21	225	157	883	198	1761
1:00	10	212			20	270				
1:15	11	215			23	225				
1:30	14	217			54	253				
1:45	12	214	47	858	21	267	118	1015	165	1873
2:00	5	178			31	274				
2:15	14	194			21	309				
2:30	24	196			17	308				
2:45	29	201	72	769	19	356	88	1247	160	2016
3:00	8	189			27	291				
3:15	17	190			10	333				
3:30	32	187			12	348				
3:45	49	255	106	821	8	339	57	1311	163	2132
4:00	35	190			10	327				
4:15	48	213			11	367				
4:30	95	222			20	375				
4:45	187	275	365	900	27	374	68	1443	433	2343
5:00	147	292			25	380				
5:15	137	336			32	360				
5:30	208	265			32	296				
5:45	315	237	807	1130	49	308	138	1344	945	2474
6:00	189	238			93	326				
6:15	235	222			105	301				
6:30	233	185			88	319				
6:45	311	141	968	786	143	239	429	1185	1397	1971
7:00	266	149			159	247				
7:15	312	125			161	220				
7:30	322	105			173	184				
7:45	318	77	1218	456	235	190	728	841	1946	1297
8:00	305	98			248	173				
8:15	307	90			236	155				
8:30	276	58			233	152				
8:45	293	78	1181	324	194	135	911	615	2092	939
9:00	234	61			166	148				
9:15	237	56			156	122				
9:30	183	50			169	123				
9:45	240	47	894	214	165	127	656	520	1550	734
10:00	182	38			159	136				
10:15	182	47			162	109				
10:30	193	41			171	96				
10:45	226	42	783	168	179	84	671	425	1454	593
11:00	214	36			210	106				
11:15	188	32			195	83				
11:30	222	18			221	75				
11:45	239	11	863	97	220	50	846	314	1709	411
Totals	7345	7401			4867	11143				
Combined Totals		14746				16010				
ADT										30756
AM Peak Hour	715	AM			745	AM				
Volume	1257				952					
P.H.F.	0.976				0.960					
PM Peak Hour		445	PM			415	PM			
Volume		1168				1496				
P.H.F.		0.869				0.984				
Percentage	49.8%	50.2%			30.4%	69.6%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

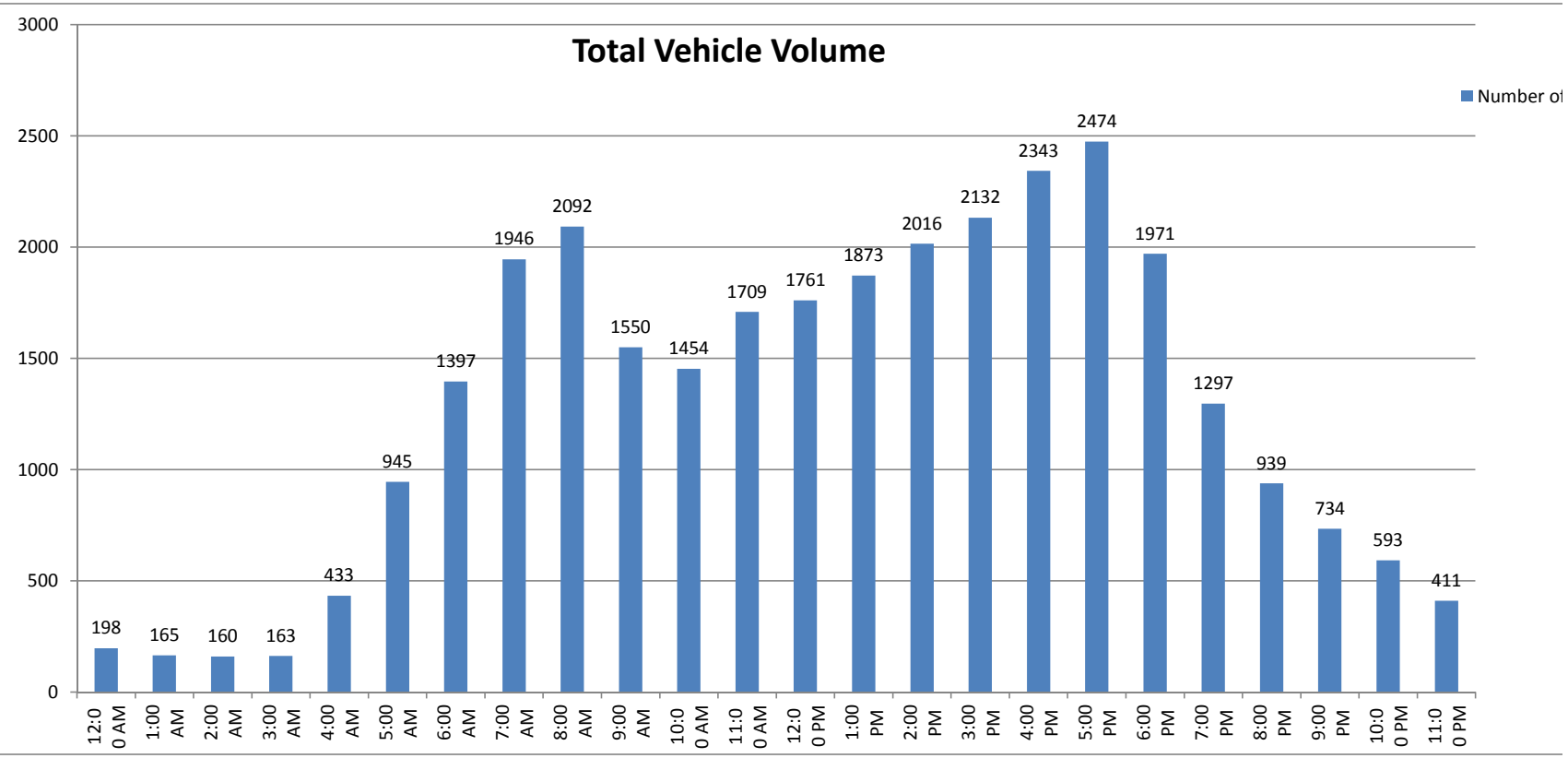
Barranca Parkway

B/ Pullman Street - Redhill Avenue

1/23/2014

Westbound

Start Time	1/23/2014
12:00 AM	198
1:00 AM	165
2:00 AM	160
3:00 AM	163
4:00 AM	433
5:00 AM	945
6:00 AM	1397
7:00 AM	1946
8:00 AM	2092
9:00 AM	1550
10:00 AM	1454
11:00 AM	1709
12:00 PM	1761
1:00 PM	1873
2:00 PM	2016
3:00 PM	2132
4:00 PM	2343
5:00 PM	2474
6:00 PM	1971
7:00 PM	1297
8:00 PM	939
9:00 PM	734
10:00 PM	593
11:00 PM	411
Total	30756



Volumes represent the combined totals for both directions

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : BARRANCA PARKWAY — Site: TUSTIN

Segment : E/O REDHILL AVENUE — Date: 05/21/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Wednesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	16	50	411	1,464	45	132	278	1,239	61	182	689	2,703	
12:15	12		346		29		316		41		662		
12:30	12		397		34		306		46		703		
12:45	10		310		24		339		34		649		
01:00	9	30	376	1,257	30	90	338	1,320	39	120	714	2,577	
01:15	4		284		16		292		20		576		
01:30	8		314		26		351		34		665		
01:45	9		283		18		339		27		622		
02:00	6	59	304	1,171	22	76	290	1,257	28	135	594	2,428	
02:15	4		279		11		273		15		552		
02:30	11		281		25		360		36		641		
02:45	38		307		18		334		56		641		
03:00	12	110	340	1,257	25	55	388	1,544	37	165	728	2,801	
03:15	13		312		9		366		22		678		
03:30	32		290		5		412		37		702		
03:45	53		315		16		378		69		693		
04:00	33	312	308	1,415	7	53	398	1,535	40	365	706	2,950	
04:15	44		332		8		374		52		706		
04:30	82		343		14		384		96		727		
04:45	153		432		24		379		177		811		
05:00	96	669	374	1,673	15	149	400	1,518	111	818	774	3,191	
05:15	117		458		30		362		147		820		
05:30	194		417		29		402		223		819		
05:45	262		424		75		354		337		778		
06:00	194	1,029	394	1,296	86	443	336	1,295	280	1,472	730	2,591	
06:15	251		352		92		357		343		709		
06:30	240		268		110		330		350		598		
06:45	344		282		155		272		499		554		
07:00	258	1,177	230	776	192	1,035	288	943	450	2,212	518	1,719	
07:15	270		202		250		252		520		454		
07:30	309		196		236		216		545		412		
07:45	340		148		357		187		697		335		
08:00	328	1,324	130	457	332	1,255	213	723	660	2,579	343	1,180	
08:15	348		124		312		179		660		303		
08:30	326		107		282		177		608		284		
08:45	322		96		329		154		651		250		
09:00	280	986	94	350	236	833	178	622	516	1,819	272	972	
09:15	242		96		217		144		459		240		
09:30	228		80		196		168		424		248		
09:45	236		80		184		132		420		212		
10:00	260	945	53	198	182	728	124	450	442	1,673	177	648	
10:15	229		60		163		136		392		196		
10:30	214		46		167		92		381		138		
10:45	242		39		216		98		458		137		
11:00	294	1,361	44	124	226	931	107	334	520	2,292	151	458	
11:15	320		42		182		81		502		123		
11:30	376		16		258		80		634		96		
11:45	371		22		265		66		636		88		
Totals	8,052		11,438		5,780		12,780		13,832		24,218		
Split%	58.2		47.2		41.8		52.8						
Day Totals		19,490				18,560				38,050			
Day Splits		51.2				48.8							
Peak Hour	11:00		05:15		07:45		03:30		07:45		04:45		
Volume	1,361		1,693		1,283		1,562		2,625		3,224		
Factor	0.90		0.92		0.90		0.95		0.94		0.98		

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Barranca Parkway
B/ Armstrong Avenue - Von Karman Avenue

File Name 052
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/23/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	21	341			47	215				
12:15	13	406			27	256				
12:30	15	331			34	294				
12:45	11	339	60	1417	22	352	130	1117	190	2534
1:00	13	306			9	340				
1:15	10	309			22	348				
1:30	8	267			16	302				
1:45	9	303	40	1185	18	295	65	1285	105	2470
2:00	5	266			22	294				
2:15	2	236			25	326				
2:30	9	240			9	279				
2:45	11	288	27	1030	13	366	69	1265	96	2295
3:00	5	261			10	266				
3:15	7	321			6	347				
3:30	10	277			8	315				
3:45	33	332	55	1191	4	387	28	1315	83	2506
4:00	32	311			8	307				
4:15	32	358			12	367				
4:30	29	350			14	329				
4:45	81	415	174	1434	18	352	52	1355	226	2789
5:00	109	419			26	321				
5:15	91	471			27	397				
5:30	96	455			42	313				
5:45	157	407	453	1752	66	293	161	1324	614	3076
6:00	191	389			82	317				
6:15	122	373			95	315				
6:30	176	355			103	297				
6:45	242	295	731	1412	147	293	427	1222	1158	2634
7:00	231	219			196	237				
7:15	259	192			244	259				
7:30	237	189			272	200				
7:45	305	135	1032	735	386	190	1098	886	2130	1621
8:00	289	149			411	174				
8:15	272	131			440	161				
8:30	250	101			410	143				
8:45	286	104	1097	485	398	143	1659	621	2756	1106
9:00	248	87			292	143				
9:15	232	88			273	135				
9:30	204	80			183	106				
9:45	204	74	888	329	249	133	997	517	1885	846
10:00	193	45			173	116				
10:15	208	62			167	119				
10:30	198	52			188	86				
10:45	202	52	801	211	188	96	716	417	1517	628
11:00	242	28			187	65				
11:15	268	43			209	76				
11:30	287	27			223	86				
11:45	405	16	1202	114	225	47	844	274	2046	388
Totals	6560	11295			6246	11598				
Combined Totals		17855				17844				
ADT										35699
AM Peak Hour	1100	AM			800	AM				
Volume	1202				1659					
P.H.F.	0.742				0.943					
PM Peak Hour		445	PM			430	PM			
Volume		1760				1399				
P.H.F.		0.934				0.881				
Percentage	36.7%	63.3%			35.0%	65.0%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

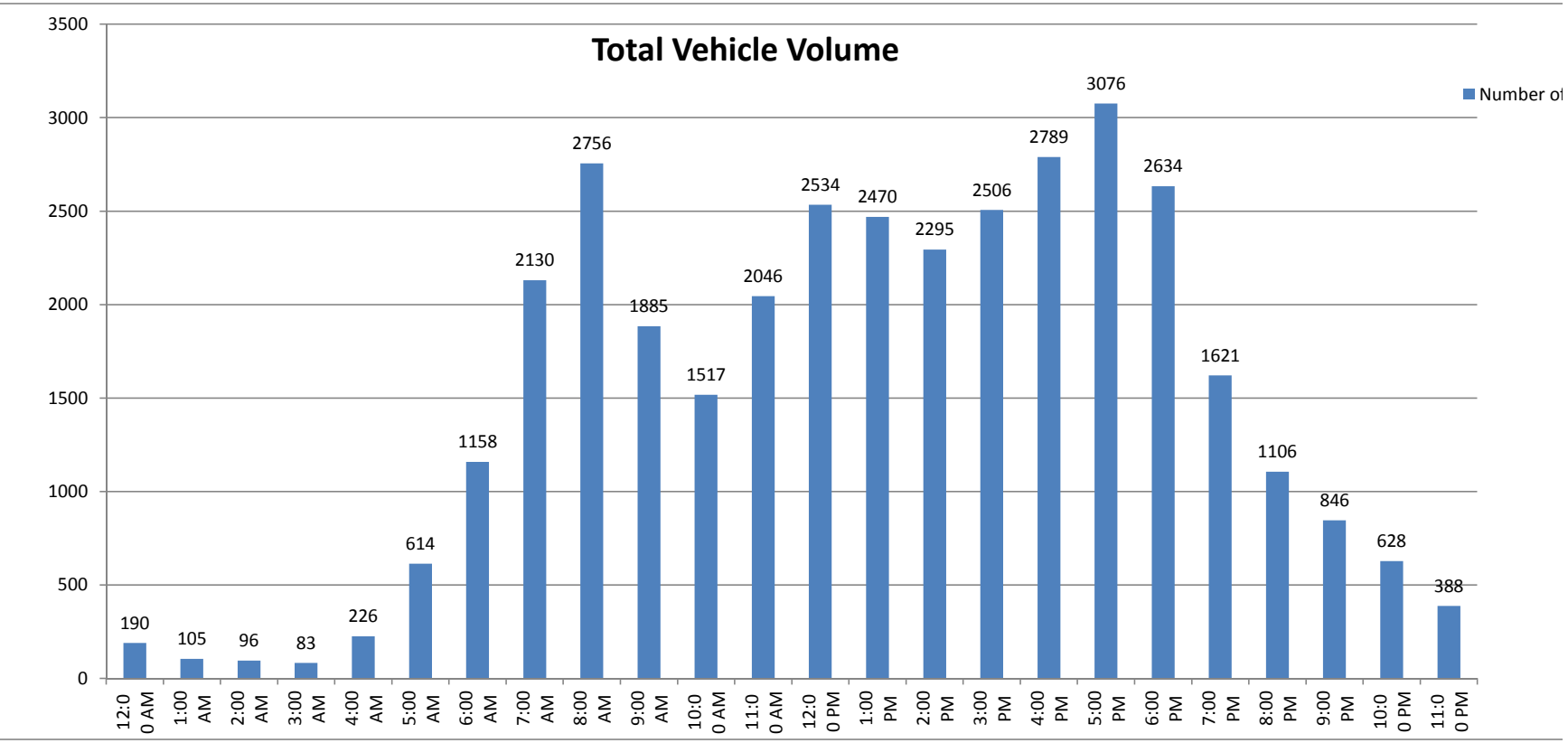
Barranca Parkway

B/ Armstrong Avenue - Von Karman Avenue

1/23/2014

Westbound

Start Time	1/23/2014
12:00 AM	190
1:00 AM	105
2:00 AM	96
3:00 AM	83
4:00 AM	226
5:00 AM	614
6:00 AM	1158
7:00 AM	2130
8:00 AM	2756
9:00 AM	1885
10:00 AM	1517
11:00 AM	2046
12:00 PM	2534
1:00 PM	2470
2:00 PM	2295
3:00 PM	2506
4:00 PM	2789
5:00 PM	3076
6:00 PM	2634
7:00 PM	1621
8:00 PM	1106
9:00 PM	846
10:00 PM	628
11:00 PM	388
Total	35699



Volumes represent the combined totals for both directions

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : BARRANCA PARKWAY | Site: TUSTIN

Segment : TUSTIN RANCH TO DISTRICT DR | Date: 05/21/14

Client : CITY OF TUSTIN | Day: Wednesday

Interval	EB				WB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	18	44	316	1,122	30	74	254	1,160	48	118	570	2,282
12:15	8		294		11		286		19		580	
12:30	9		286		19		310		28		596	
12:45	9		226		14		310		23		536	
01:00	10	26	276	917	16	62	302	1,158	26	88	578	2,075
01:15	7		227		14		317		21		544	
01:30	5		202		22		298		27		500	
01:45	4		212		10		241		14		453	
02:00	6	24	226	938	10	38	248	991	16	62	474	1,929
02:15	5		217		6		247		11		464	
02:30	7		215		18		256		25		471	
02:45	6		280		4		240		10		520	
03:00	7	55	248	1,053	13	36	282	1,110	20	91	530	2,163
03:15	7		246		6		286		13		532	
03:30	16		240		6		288		22		528	
03:45	25		319		11		254		36		573	
04:00	13	86	296	1,280	11	63	282	1,079	24	149	578	2,359
04:15	14		306		12		261		26		567	
04:30	15		326		10		264		25		590	
04:45	44		352		30		272		74		624	
05:00	36	268	420	1,706	26	216	326	1,167	62	484	746	2,873
05:15	48		472		37		264		85		736	
05:30	68		370		53		305		121		675	
05:45	116		444		100		272		216		716	
06:00	90	490	368	1,206	101	628	226	938	191	1,118	594	2,144
06:15	101		378		128		258		229		636	
06:30	128		256		149		246		277		502	
06:45	171		204		250		208		421		412	
07:00	151	647	192	698	274	1,430	248	735	425	2,077	440	1,433
07:15	138		200		338		167		476		367	
07:30	168		168		378		156		546		324	
07:45	190		138		440		164		630		302	
08:00	178	748	118	456	436	1,676	130	499	614	2,424	248	955
08:15	202		116		391		137		593		253	
08:30	204		123		428		122		632		245	
08:45	164		99		421		110		585		209	
09:00	157	561	94	308	307	1,046	117	416	464	1,607	211	724
09:15	128		84		298		108		426		192	
09:30	139		70		224		112		363		182	
09:45	137		60		217		79		354		139	
10:00	170	612	56	200	210	742	72	296	380	1,354	128	496
10:15	148		56		164		94		312		150	
10:30	154		50		164		66		318		116	
10:45	140		38		204		64		344		102	
11:00	220	1,025	55	150	210	850	70	212	430	1,875	125	362
11:15	221		36		195		51		416		87	
11:30	292		28		207		51		499		79	
11:45	292		31		238		40		530		71	
Totals	4,586		10,034		6,861		9,761		11,447		19,795	
Split%	40.1		50.7		59.9		49.3					
Day Totals		14,620				16,622				31,242		
Day Splits		46.8				53.2						
Peak Hour	11:00		05:00		07:45		12:30		07:45		05:00	
Volume	1,025		1,706		1,695		1,239		2,469		2,873	
Factor	0.88		0.90		0.96		0.98		0.98		0.96	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : BARRANCA PARKWAY — Site: TUSTIN

Segment : DISTRICT DR TO JAMBOREE RD — Date: 05/21/14

Client : CITY OF TUSTIN

Interval	EB				WB				Combined				Day: Wednesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	38	88	304	1,126	22	63	321	1,333	60	151	625	2,459	
12:15	16		262		11		344		27		606		
12:30	20		294		22		326		42		620		
12:45	14		266		8		342		22		608		
01:00	11	29	287	1,078	9	36	310	1,246	20	65	597	2,324	
01:15	4		263		6		340		10		603		
01:30	12		271		15		296		27		567		
01:45	2		257		6		300		8		557		
02:00	8	23	256	1,112	5	21	262	1,084	13	44	518	2,196	
02:15	6		264		6		266		12		530		
02:30	3		304		6		286		9		590		
02:45	6		288		4		270		10		558		
03:00	8	46	334	1,293	6	29	299	1,199	14	75	633	2,492	
03:15	3		285		5		290		8		575		
03:30	12		344		8		308		20		652		
03:45	23		330		10		302		33		632		
04:00	6	63	382	1,571	9	77	306	1,173	15	140	688	2,744	
04:15	16		378		12		286		28		664		
04:30	13		405		16		294		29		699		
04:45	28		406		40		287		68		693		
05:00	17	181	506	1,918	34	274	308	1,242	51	455	814	3,160	
05:15	31		462		46		294		77		756		
05:30	53		474		74		312		127		786		
05:45	80		476		120		328		200		804		
06:00	78	371	436	1,437	111	655	355	1,238	189	1,026	791	2,675	
06:15	84		420		130		307		214		727		
06:30	86		315		158		328		244		643		
06:45	123		266		256		248		379		514		
07:00	122	570	270	958	270	1,421	282	965	392	1,991	552	1,923	
07:15	112		256		334		255		446		511		
07:30	170		228		397		230		567		458		
07:45	166		204		420		198		586		402		
08:00	173	666	214	772	453	1,722	170	627	626	2,388	384	1,399	
08:15	144		204		413		180		557		384		
08:30	195		187		446		144		641		331		
08:45	154		167		410		133		564		300		
09:00	146	584	161	525	333	1,167	108	396	479	1,751	269	921	
09:15	140		149		296		114		436		263		
09:30	136		103		258		95		394		198		
09:45	162		112		280		79		442		191		
10:00	150	704	110	318	248	992	60	232	398	1,696	170	550	
10:15	188		81		234		70		422		151		
10:30	174		67		236		52		410		119		
10:45	192		60		274		50		466		110		
11:00	222	1,020	80	200	261	1,118	36	124	483	2,138	116	324	
11:15	248		41		262		36		510		77		
11:30	272		39		287		22		559		61		
11:45	278		40		308		30		586		70		
Totals	4,345		12,308		7,575		10,859		11,920		23,167		
Split%	36.5		53.1		63.5		46.9						
Day Totals		16,653				18,434				35,087			
Day Splits		47.5				52.5							
Peak Hour	11:00		05:00		07:45		12:00		07:45		05:00		
Volume	1,020		1,918		1,732		1,333		2,410		3,160		
Factor	0.92		0.95		0.96		0.97		0.94		0.97		

* Data File : D1405064

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Barranca Parkway
B/ Jamboree Road - Construction Circle

File Name 054
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/23/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	19	264			15	260				
12:15	18	266			16	235				
12:30	14	233			14	257				
12:45	12	226	63	989	6	285	51	1037	114	2026
1:00	13	246			8	253				
1:15	7	247			7	261				
1:30	11	239			10	235				
1:45	10	247	41	979	5	240	30	989	71	1968
2:00	5	203			6	231				
2:15	12	201			2	235				
2:30	4	201			10	246				
2:45	7	220	28	825	8	248	26	960	54	1785
3:00	7	203			3	252				
3:15	3	229			6	245				
3:30	11	206			8	274				
3:45	12	230	33	868	8	260	25	1031	58	1899
4:00	10	200			8	262				
4:15	16	270			3	271				
4:30	29	250			11	257				
4:45	46	269	101	989	16	251	38	1041	139	2030
5:00	48	301			22	322				
5:15	61	294			21	316				
5:30	82	261			37	331				
5:45	111	275	302	1131	63	341	143	1310	445	2441
6:00	106	259			90	312				
6:15	137	250			106	280				
6:30	128	253			127	250				
6:45	157	193	528	955	159	214	482	1056	1010	2011
7:00	174	198			151	202				
7:15	172	185			211	174				
7:30	181	179			187	159				
7:45	200	111	727	673	250	154	799	689	1526	1362
8:00	210	139			219	140				
8:15	218	143			272	119				
8:30	256	133			241	85				
8:45	231	98	915	513	238	77	970	421	1885	934
9:00	203	91			188	112				
9:15	199	79			182	85				
9:30	171	85			183	84				
9:45	191	60	764	315	184	76	737	357	1501	672
10:00	135	59			171	69				
10:15	153	66			179	68				
10:30	178	66			209	57				
10:45	196	47	662	238	206	55	765	249	1427	487
11:00	199	40			164	51				
11:15	180	40			211	37				
11:30	211	25			233	35				
11:45	236	20	826	125	231	17	839	140	1665	265
Totals	4990	8600			4905	9280				
Combined Totals		13590				14185				
ADT										27775
AM Peak Hour	800	AM			745	AM				
Volume	915				982					
P.H.F.	0.894				0.903					
PM Peak Hour		500	PM			500	PM			
Volume		1131				1310				
P.H.F.		0.939				0.960				
Percentage	36.7%	63.3%			34.6%	65.4%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

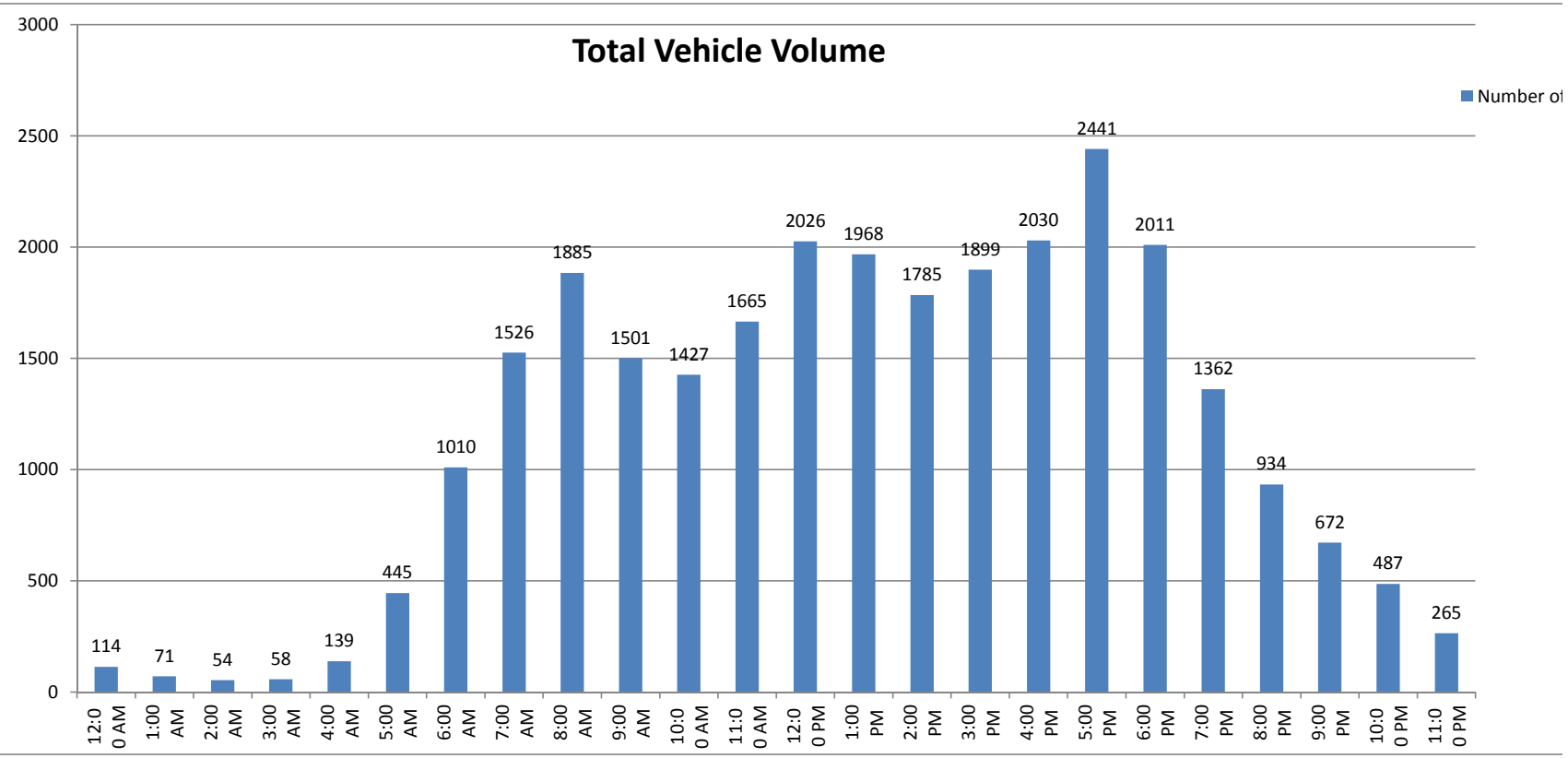
Barranca Parkway

B/ Jamboree Road - Construction Circle

1/23/2014

Westbound

Start Time	1/23/2014
12:00 AM	114
1:00 AM	71
2:00 AM	54
3:00 AM	58
4:00 AM	139
5:00 AM	445
6:00 AM	1010
7:00 AM	1526
8:00 AM	1885
9:00 AM	1501
10:00 AM	1427
11:00 AM	1665
12:00 PM	2026
1:00 PM	1968
2:00 PM	1785
3:00 PM	1899
4:00 PM	2030
5:00 PM	2441
6:00 PM	2011
7:00 PM	1362
8:00 PM	934
9:00 PM	672
10:00 PM	487
11:00 PM	265
Total	27775



Volumes represent the combined totals for both directions

Phone: 951-268-6268
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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Barranca Parkway
B/ Santa Rosa - Culver Drive

File Name 059
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
1/22/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	12	234			16	200				
12:15	11	198			8	223				
12:30	6	212			4	210				
12:45	8	217	37	861	9	208	37	841	74	1702
1:00	5	230			1	227				
1:15	4	231			5	187				
1:30	6	228			4	182				
1:45	4	219	19	908	5	194	15	790	34	1698
2:00	1	204			1	169				
2:15	2	208			2	212				
2:30	1	214			0	163				
2:45	1	231	5	857	3	195	6	739	11	1596
3:00	4	231			1	197				
3:15	4	220			2	222				
3:30	3	173			1	211				
3:45	3	222	14	846	6	180	10	810	24	1656
4:00	8	219			5	202				
4:15	5	225			1	211				
4:30	7	270			3	206				
4:45	14	253	34	967	7	229	16	848	50	1815
5:00	10	260			2	252				
5:15	23	314			11	257				
5:30	27	311			19	252				
5:45	42	315	102	1200	17	260	49	1021	151	2221
6:00	30	317			23	241				
6:15	38	261			20	244				
6:30	54	280			41	220				
6:45	98	256	220	1114	64	209	148	914	368	2028
7:00	104	185			73	185				
7:15	103	194			113	151				
7:30	253	188			177	137				
7:45	277	170	737	737	286	93	649	566	1386	1303
8:00	175	186			289	97				
8:15	214	136			241	98				
8:30	179	120			232	113				
8:45	198	105	766	547	212	96	974	404	1740	951
9:00	145	87			193	94				
9:15	151	97			146	97				
9:30	148	93			131	59				
9:45	159	57	603	334	177	68	647	318	1250	652
10:00	133	74			148	56				
10:15	152	43			141	41				
10:30	165	37			118	29				
10:45	153	36	603	190	155	22	562	148	1165	338
11:00	159	30			163	22				
11:15	169	16			158	23				
11:30	213	25			174	20				
11:45	214	14	755	85	186	14	681	79	1436	164
Totals	3895	8646			3794	7478				
Combined Totals		12541				11272				
ADT										23813
AM Peak Hour	730	AM			745	AM				
Volume	919				1048					
P.H.F.	0.829				0.907					
PM Peak Hour		515	PM			500	PM			
Volume		1257				1021				
P.H.F.		0.991				0.982				
Percentage	31.1%	68.9%			33.7%	66.3%				

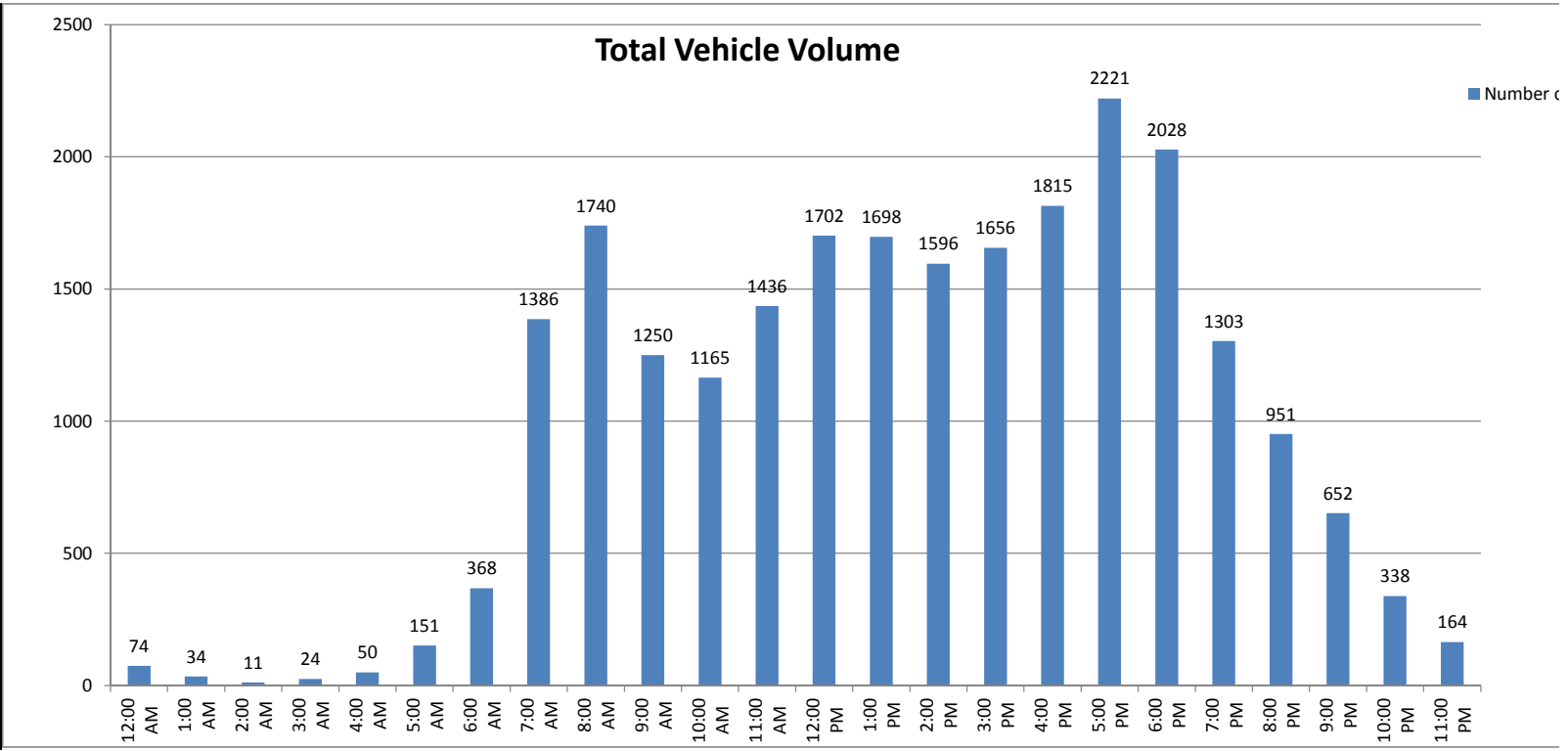
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Barranca Parkway
B/ Santa Rosa - Culver Drive
1/22/2014

Westbound

Start Time	1/22/2014
12:00 AM	74
1:00 AM	34
2:00 AM	11
3:00 AM	24
4:00 AM	50
5:00 AM	151
6:00 AM	368
7:00 AM	1386
8:00 AM	1740
9:00 AM	1250
10:00 AM	1165
11:00 AM	1436
12:00 PM	1702
1:00 PM	1698
2:00 PM	1596
3:00 PM	1656
4:00 PM	1815
5:00 PM	2221
6:00 PM	2028
7:00 PM	1303
8:00 PM	951
9:00 PM	652
10:00 PM	338
11:00 PM	164
Total	23813



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Alton Parkway
B/ Redhill Avenue - Von Karman Avenue

File Name 002
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	122			13	145				
12:15	3	149			15	109				
12:30	3	111			6	155				
12:45	5	112	17	494	8	151	42	560	59	1054
1:00	2	106			2	163				
1:15	3	102			6	106				
1:30	4	93			10	140				
1:45	0	96	9	397	0	120	18	529	27	926
2:00	1	66			4	134				
2:15	3	83			2	97				
2:30	3	102			6	153				
2:45	1	89	8	340	2	142	14	526	22	866
3:00	1	102			7	140				
3:15	1	95			4	101				
3:30	6	113			12	159				
3:45	2	107	10	417	7	151	30	551	40	968
4:00	9	125			14	184				
4:15	16	122			6	164				
4:30	18	164			14	242				
4:45	32	170	75	581	15	219	49	809	124	1390
5:00	23	242			12	227				
5:15	21	218			11	213				
5:30	23	170			16	250				
5:45	61	163	128	793	26	192	65	882	193	1675
6:00	37	150			39	175				
6:15	37	131			34	155				
6:30	43	106			64	110				
6:45	69	97	186	484	58	110	195	550	381	1034
7:00	69	84			55	97				
7:15	77	64			84	65				
7:30	96	56			100	60				
7:45	129	37	371	241	174	45	413	267	784	508
8:00	121	34			161	49				
8:15	106	31			143	44				
8:30	99	29			177	22				
8:45	115	33	441	127	147	33	628	148	1069	275
9:00	80	33			136	29				
9:15	66	26			89	32				
9:30	56	16			90	25				
9:45	58	25	260	100	79	17	394	103	654	203
10:00	59	21			76	34				
10:15	55	17			69	13				
10:30	72	11			69	43				
10:45	53	10	239	59	67	27	281	117	520	176
11:00	88	13			79	24				
11:15	89	10			78	17				
11:30	146	8			87	3				
11:45	138	6	461	37	96	15	340	59	801	96
Totals	2205	4070			2469	5101				
Combined Totals		6275				7570				
ADT										13845
AM Peak Hour	1100	AM			745	AM				
Volume	461				655					
P.H.F.	0.789				0.925					
PM Peak Hour		445	PM			445	PM			
Volume		800				909				
P.H.F.		0.826				0.909				
Percentage	35.1%	64.9%			32.6%	67.4%				

Counts Unlimited, Inc.
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24 Hour Volume Plot

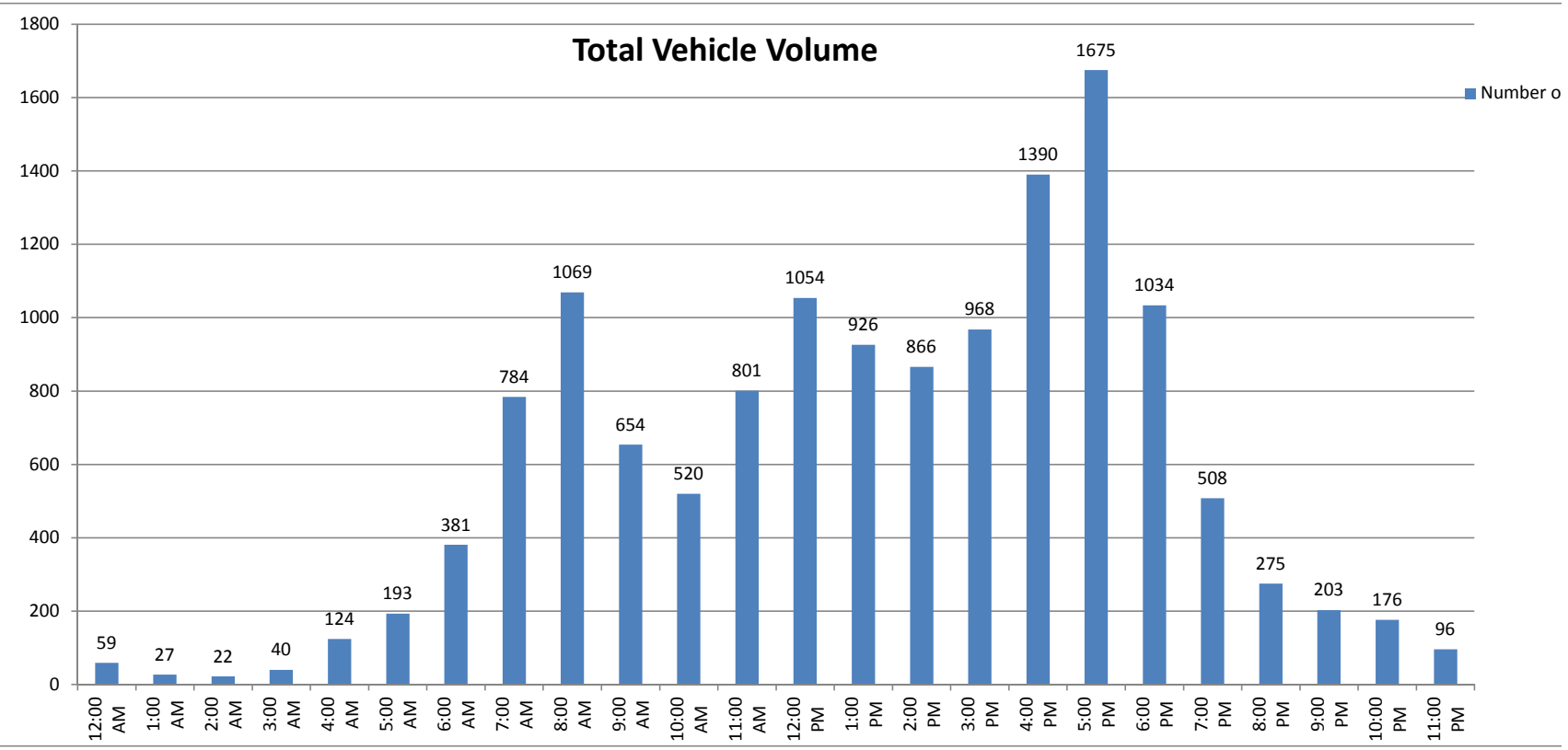
Alton Parkway

B/ Redhill Avenue - Von Karman Avenue

3/27/2014

Westbound

Start Time	3/27/2014
12:00 AM	59
1:00 AM	27
2:00 AM	22
3:00 AM	40
4:00 AM	124
5:00 AM	193
6:00 AM	381
7:00 AM	784
8:00 AM	1069
9:00 AM	654
10:00 AM	520
11:00 AM	801
12:00 PM	1054
1:00 PM	926
2:00 PM	866
3:00 PM	968
4:00 PM	1390
5:00 PM	1675
6:00 PM	1034
7:00 PM	508
8:00 PM	275
9:00 PM	203
10:00 PM	176
11:00 PM	96
Total	13845



Volumes represent the combined totals for both directions

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

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City of Irvine
Alton Parkway
B/ Von Karman Avenue - Jamboree Road

File Name 003
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	13	200			22	136				
12:15	3	195			7	141				
12:30	3	143			7	184				
12:45	5	132	24	670	10	212	46	673	70	1343
1:00	4	133			2	162				
1:15	1	130			8	150				
1:30	3	125			5	145				
1:45	1	126	9	514	3	155	18	612	27	1126
2:00	1	104			4	146				
2:15	4	105			1	132				
2:30	2	124			9	128				
2:45	3	107	10	440	3	148	17	554	27	994
3:00	4	125			5	108				
3:15	3	88			2	133				
3:30	4	133			9	130				
3:45	3	136	14	482	11	147	27	518	41	1000
4:00	11	194			12	189				
4:15	17	171			10	142				
4:30	13	213			24	204				
4:45	32	247	73	825	20	177	66	712	139	1537
5:00	24	334			17	175				
5:15	27	293			24	181				
5:30	31	304			35	195				
5:45	54	252	136	1183	58	146	134	697	270	1880
6:00	20	265			67	174				
6:15	35	222			38	119				
6:30	36	169			98	115				
6:45	45	136	136	792	99	90	302	498	438	1290
7:00	42	113			103	85				
7:15	56	108			152	68				
7:30	65	83			166	62				
7:45	81	66	244	370	297	50	718	265	962	635
8:00	69	66			251	49				
8:15	80	58			285	35				
8:30	77	59			201	42				
8:45	97	58	323	241	199	36	936	162	1259	403
9:00	58	65			173	32				
9:15	61	55			130	36				
9:30	61	25			100	38				
9:45	72	33	252	178	106	24	509	130	761	308
10:00	77	37			82	30				
10:15	75	37			113	26				
10:30	80	23			76	56				
10:45	82	16	314	113	96	34	367	146	681	259
11:00	104	19			87	24				
11:15	118	8			105	19				
11:30	167	10			137	8				
11:45	173	10	562	47	141	11	470	62	1032	109
Totals	2097	5855			3610	5029				
Combined Totals		7952				8639				
ADT										16591
AM Peak Hour	1100	AM			745	AM				
Volume	562				1034					
P.H.F.	0.812				0.870					
PM Peak Hour		500	PM			430	PM			
Volume		1183				737				
P.H.F.		0.885				0.903				
Percentage	26.4%	73.6%			41.8%	58.2%				

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24 Hour Volume Plot

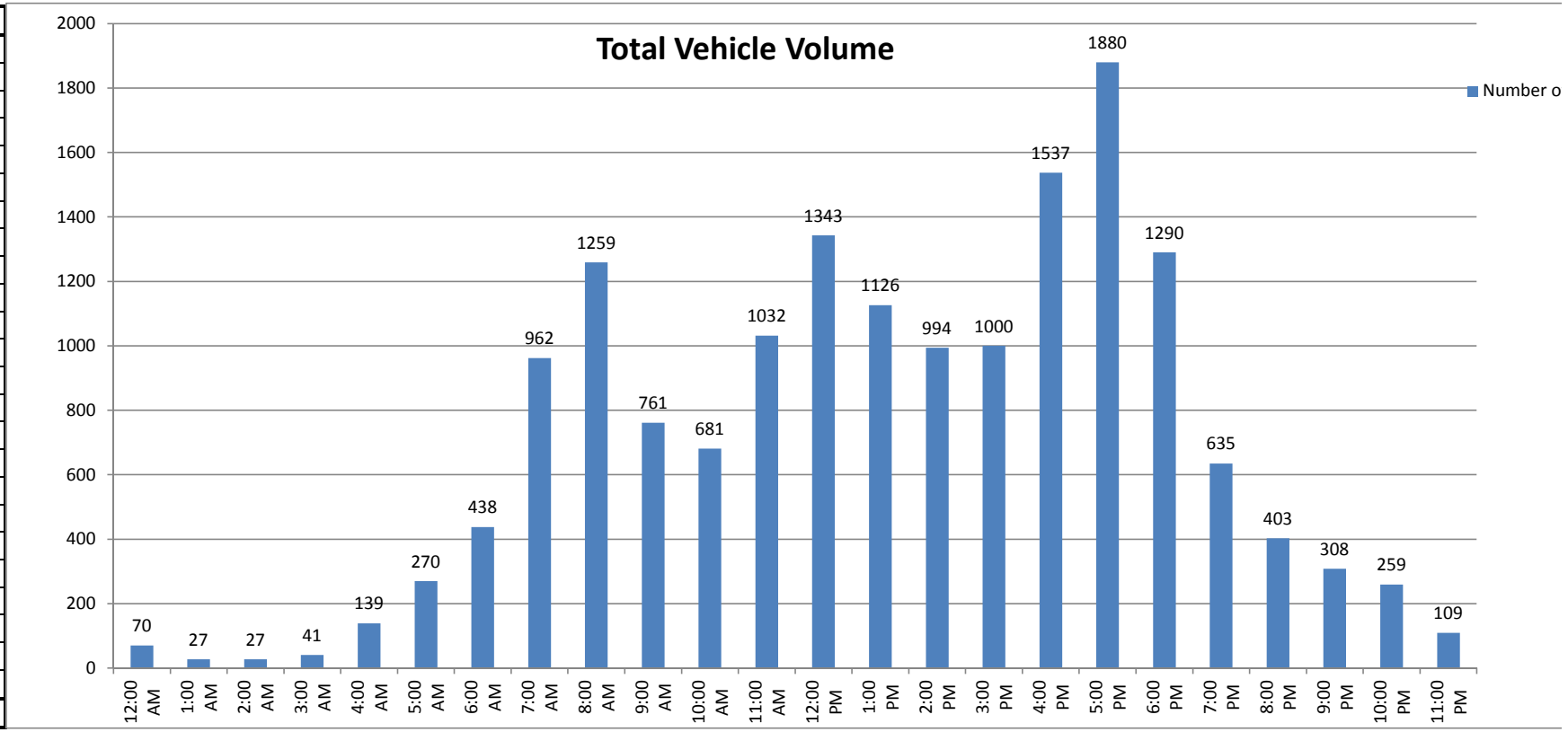
Alton Parkway

B/ Von Karman Avenue - Jamboree Road

3/27/2014

Westbound

Start Time	3/27/2014
12:00 AM	70
1:00 AM	27
2:00 AM	27
3:00 AM	41
4:00 AM	139
5:00 AM	270
6:00 AM	438
7:00 AM	962
8:00 AM	1259
9:00 AM	761
10:00 AM	681
11:00 AM	1032
12:00 PM	1343
1:00 PM	1126
2:00 PM	994
3:00 PM	1000
4:00 PM	1537
5:00 PM	1880
6:00 PM	1290
7:00 PM	635
8:00 PM	403
9:00 PM	308
10:00 PM	259
11:00 PM	109
Total	16591



Volumes represent the combined totals for both directions

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City of Irvine
Alton Parkway
B/ Jamboree Road - Murphy Avenue

File Name 004
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	21	187			17	152				
12:15	23	170			10	173				
12:30	15	156			11	178				
12:45	15	134	74	647	14	196	52	699	126	1346
1:00	12	140			10	180				
1:15	5	135			4	179				
1:30	4	136			8	163				
1:45	4	138	25	549	2	171	24	693	49	1242
2:00	4	149			4	155				
2:15	2	137			2	147				
2:30	4	128			3	144				
2:45	3	137	13	551	5	159	14	605	27	1156
3:00	4	148			0	139				
3:15	1	122			1	157				
3:30	3	146			2	153				
3:45	4	158	12	574	6	163	9	612	21	1186
4:00	5	182			7	225				
4:15	6	187			7	181				
4:30	13	203			10	226				
4:45	20	221	44	793	16	216	40	848	84	1641
5:00	15	288			9	240				
5:15	15	263			24	238				
5:30	10	240			22	248				
5:45	34	258	74	1049	42	235	97	961	171	2010
6:00	36	221			30	223				
6:15	40	212			36	186				
6:30	46	216			53	169				
6:45	61	174	183	823	65	159	184	737	367	1560
7:00	75	170			75	154				
7:15	78	152			114	144				
7:30	109	111			154	105				
7:45	136	99	398	532	229	129	572	532	970	1064
8:00	114	125			232	101				
8:15	120	104			252	74				
8:30	113	96			211	95				
8:45	126	95	473	420	174	72	869	342	1342	762
9:00	120	93			172	83				
9:15	81	80			139	91				
9:30	72	62			117	68				
9:45	78	59	351	294	112	52	540	294	891	588
10:00	103	81			100	63				
10:15	58	61			115	51				
10:30	70	51			94	30				
10:45	87	39	318	232	113	46	422	190	740	422
11:00	114	28			139	31				
11:15	104	30			130	18				
11:30	141	25			142	19				
11:45	120	31	479	114	152	21	563	89	1042	203
Totals	2444	6578			3386	6602				
Combined Totals		9022				9988				
ADT										19010
AM Peak Hour	745	AM			745	AM				
Volume	483				924					
P.H.F.	0.888				0.917					
PM Peak Hour		500	PM			500	PM			
Volume		1049				961				
P.H.F.		0.911				0.969				
Percentage	27.1%	72.9%			33.9%	66.1%				

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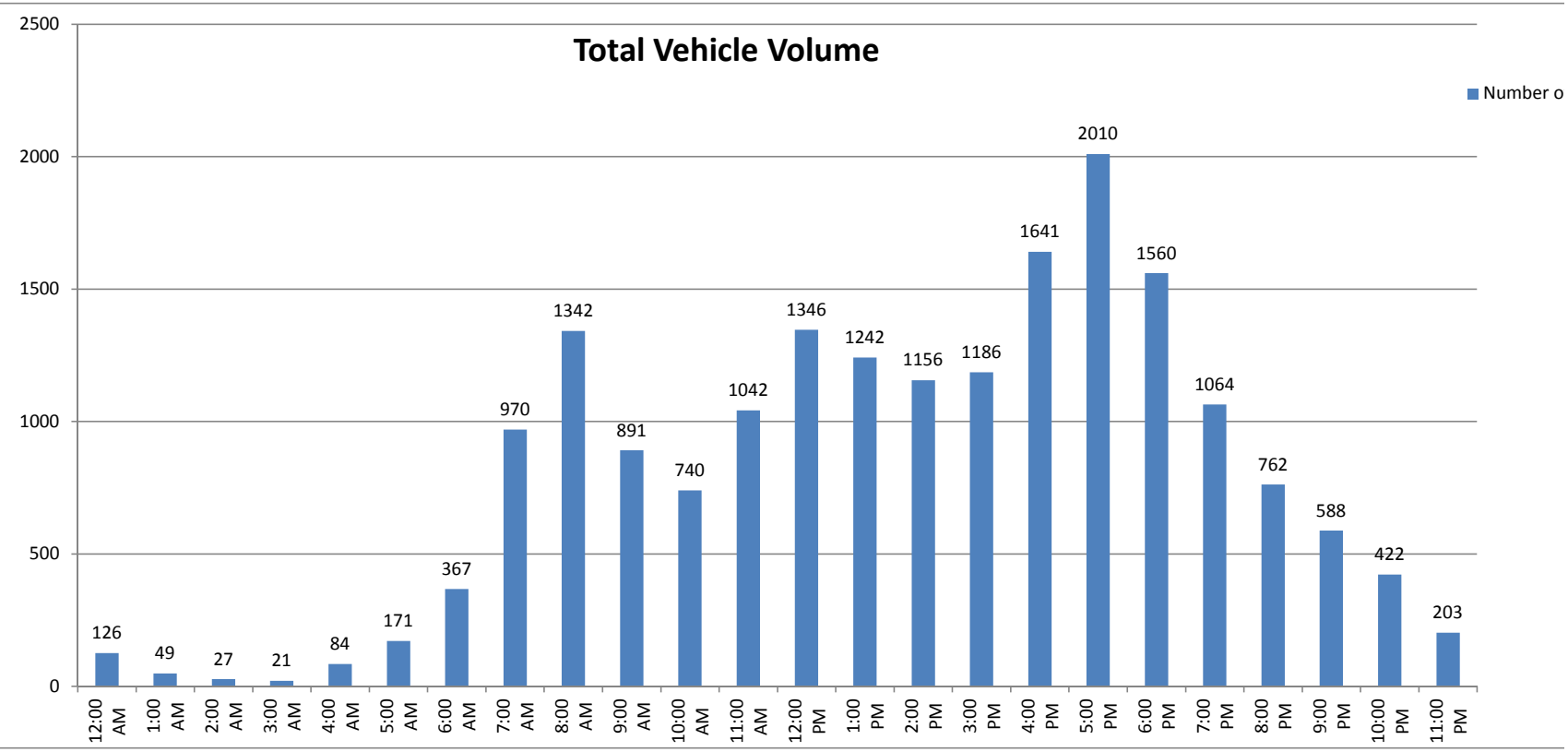
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Alton Parkway
B/ Jamboree Road - Murphy Avenue
3/27/2014

Westbound

Start Time	3/27/2014
12:00 AM	126
1:00 AM	49
2:00 AM	27
3:00 AM	21
4:00 AM	84
5:00 AM	171
6:00 AM	367
7:00 AM	970
8:00 AM	1342
9:00 AM	891
10:00 AM	740
11:00 AM	1042
12:00 PM	1346
1:00 PM	1242
2:00 PM	1156
3:00 PM	1186
4:00 PM	1641
5:00 PM	2010
6:00 PM	1560
7:00 PM	1064
8:00 PM	762
9:00 PM	588
10:00 PM	422
11:00 PM	203
Total	19010



Volumes represent the combined totals for both directions

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City of Irvine
Alton Parkway
B/ San Marino - Culver Drive

File Name 008
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
3/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	16	189			13	222				
12:15	20	170			9	245				
12:30	12	177			8	255				
12:45	7	176	55	712	9	253	39	975	94	1687
1:00	12	179			6	206				
1:15	9	197			7	202				
1:30	5	185			7	229				
1:45	6	195	32	756	8	210	28	847	60	1603
2:00	4	204			5	228				
2:15	6	191			6	241				
2:30	2	210			2	190				
2:45	0	234	12	839	9	234	22	893	34	1732
3:00	7	241			3	214				
3:15	6	170			1	274				
3:30	4	213			2	257				
3:45	4	206	21	830	7	247	13	992	34	1822
4:00	4	239			10	241				
4:15	7	242			9	240				
4:30	9	213			8	247				
4:45	8	259	28	953	14	254	41	982	69	1935
5:00	13	301			21	266				
5:15	15	324			27	281				
5:30	12	331			26	300				
5:45	17	266	57	1222	40	288	114	1135	171	2357
6:00	25	305			43	282				
6:15	48	256			43	260				
6:30	47	261			64	218				
6:45	73	243	193	1065	96	245	246	1005	439	2070
7:00	79	216			124	185				
7:15	84	203			152	194				
7:30	160	179			173	156				
7:45	196	149	519	747	269	175	718	710	1237	1457
8:00	161	137			290	152				
8:15	150	136			274	128				
8:30	137	127			206	115				
8:45	142	98	590	498	205	102	975	497	1565	995
9:00	106	105			199	88				
9:15	115	118			173	80				
9:30	99	78			171	72				
9:45	108	82	428	383	141	75	684	315	1112	698
10:00	116	83			149	81				
10:15	103	71			176	60				
10:30	135	45			189	48				
10:45	143	33	497	232	169	40	683	229	1180	461
11:00	140	48			169	29				
11:15	122	34			139	22				
11:30	162	24			196	25				
11:45	147	18	571	124	230	24	734	100	1305	224
Totals	3003	8361			4297	8680				
Combined Totals		11364				12977				
ADT										24341
AM Peak Hour	730	AM			745	AM				
Volume	667				1039					
P.H.F.	0.851				0.896					
PM Peak Hour		515	PM			515	PM			
Volume		1226				1151				
P.H.F.		0.926				0.959				
Percentage	26.4%	73.6%			33.1%	66.9%				

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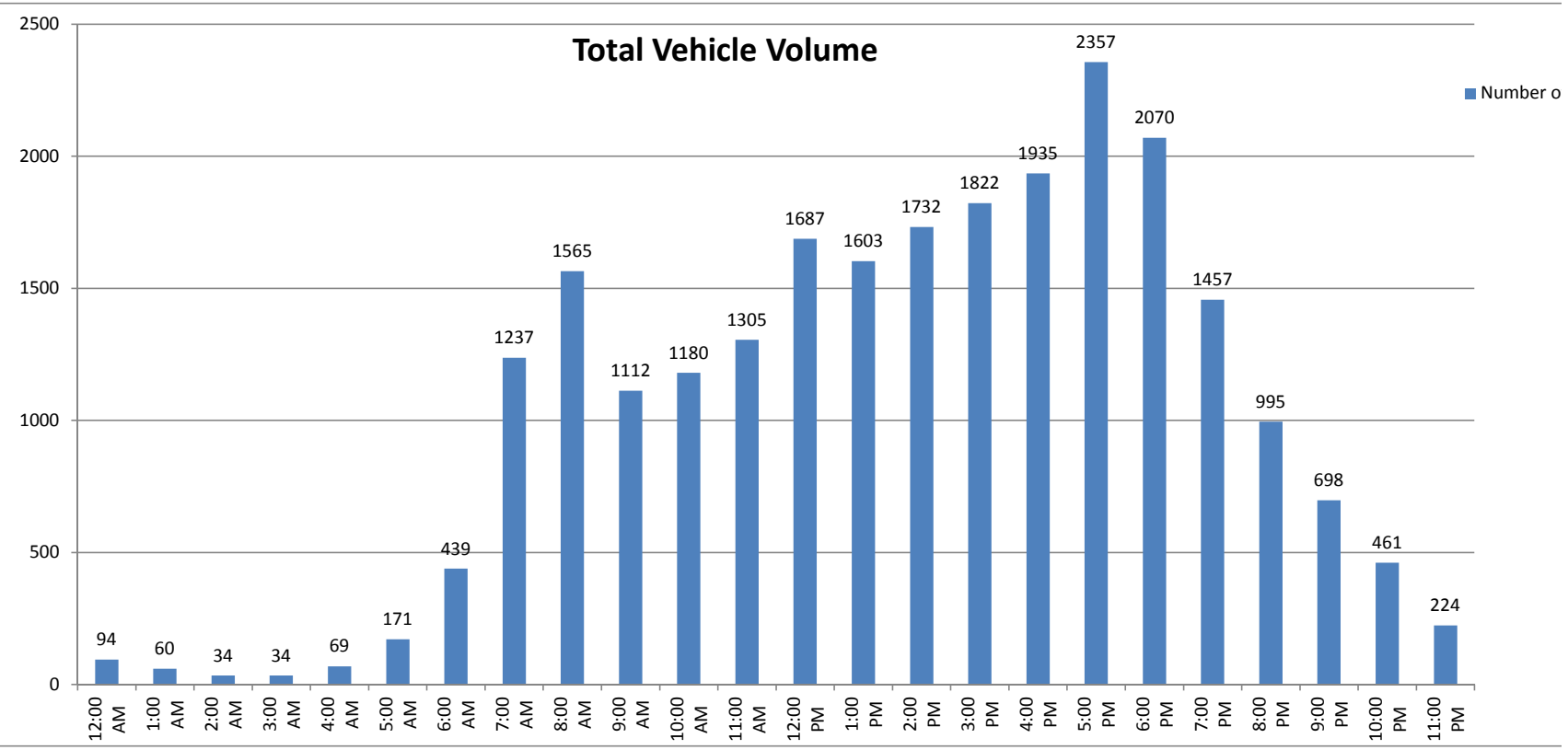
24 Hour Volume Plot

Alton Parkway
B/ San Marino - Culver Drive

3/27/2014

Westbound

Start Time	3/27/2014
12:00 AM	94
1:00 AM	60
2:00 AM	34
3:00 AM	34
4:00 AM	69
5:00 AM	171
6:00 AM	439
7:00 AM	1237
8:00 AM	1565
9:00 AM	1112
10:00 AM	1180
11:00 AM	1305
12:00 PM	1687
1:00 PM	1603
2:00 PM	1732
3:00 PM	1822
4:00 PM	1935
5:00 PM	2357
6:00 PM	2070
7:00 PM	1457
8:00 PM	995
9:00 PM	698
10:00 PM	461
11:00 PM	224
Total	24341



Volumes represent the combined totals for both directions

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Corona, CA 92878

City of Irvine
McGaw Aveneu
B/ Redhill Avenue - Von Karman Avenue

File Name 240
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/4/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	2	77			4	64				
12:15	3	93			2	61				
12:30	4	66			0	62				
12:45	0	68	9	304	1	80	7	267	16	571
1:00	4	83			0	84				
1:15	0	67			2	76				
1:30	1	41			3	71				
1:45	1	46	6	237	5	67	10	298	16	535
2:00	3	55			7	62				
2:15	2	54			7	73				
2:30	0	51			0	75				
2:45	2	60	7	220	2	50	16	260	23	480
3:00	4	53			1	44				
3:15	1	45			4	35				
3:30	8	84			1	65				
3:45	14	57	27	239	7	70	13	214	40	453
4:00	8	88			11	47				
4:15	19	90			5	40				
4:30	17	95			6	64				
4:45	28	100	72	373	10	49	32	200	104	573
5:00	11	152			6	53				
5:15	34	184			7	62				
5:30	15	154			20	63				
5:45	37	123	97	613	21	46	54	224	151	837
6:00	29	119			33	40				
6:15	11	89			38	36				
6:30	26	67			20	21				
6:45	43	49	109	324	32	24	123	121	232	445
7:00	28	29			55	31				
7:15	33	33			59	27				
7:30	41	26			54	28				
7:45	38	16	140	104	100	9	268	95	408	199
8:00	45	21			103	15				
8:15	34	14			91	10				
8:30	46	15			80	10				
8:45	41	24	166	74	88	6	362	41	528	115
9:00	43	13			82	5				
9:15	28	33			67	3				
9:30	30	15			49	7				
9:45	39	9	140	70	73	4	271	19	411	89
10:00	37	8			54	21				
10:15	32	6			44	9				
10:30	30	3			36	8				
10:45	34	4	133	21	33	5	167	43	300	64
11:00	38	4			30	2				
11:15	55	5			38	2				
11:30	76	2			51	4				
11:45	87	2	256	13	62	3	181	11	437	24
Totals	1162	2592			1504	1793				
Combined Totals		3754				3297				
ADT										7051
AM Peak Hour	1100	AM			745	AM				
Volume	256				374					
P.H.F.	0.736				0.908					
PM Peak Hour		500	PM			1245	PM			
Volume		613				311				
P.H.F.		0.833				0.926				
Percentage	31.0%	69.0%			45.6%	54.4%				

Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

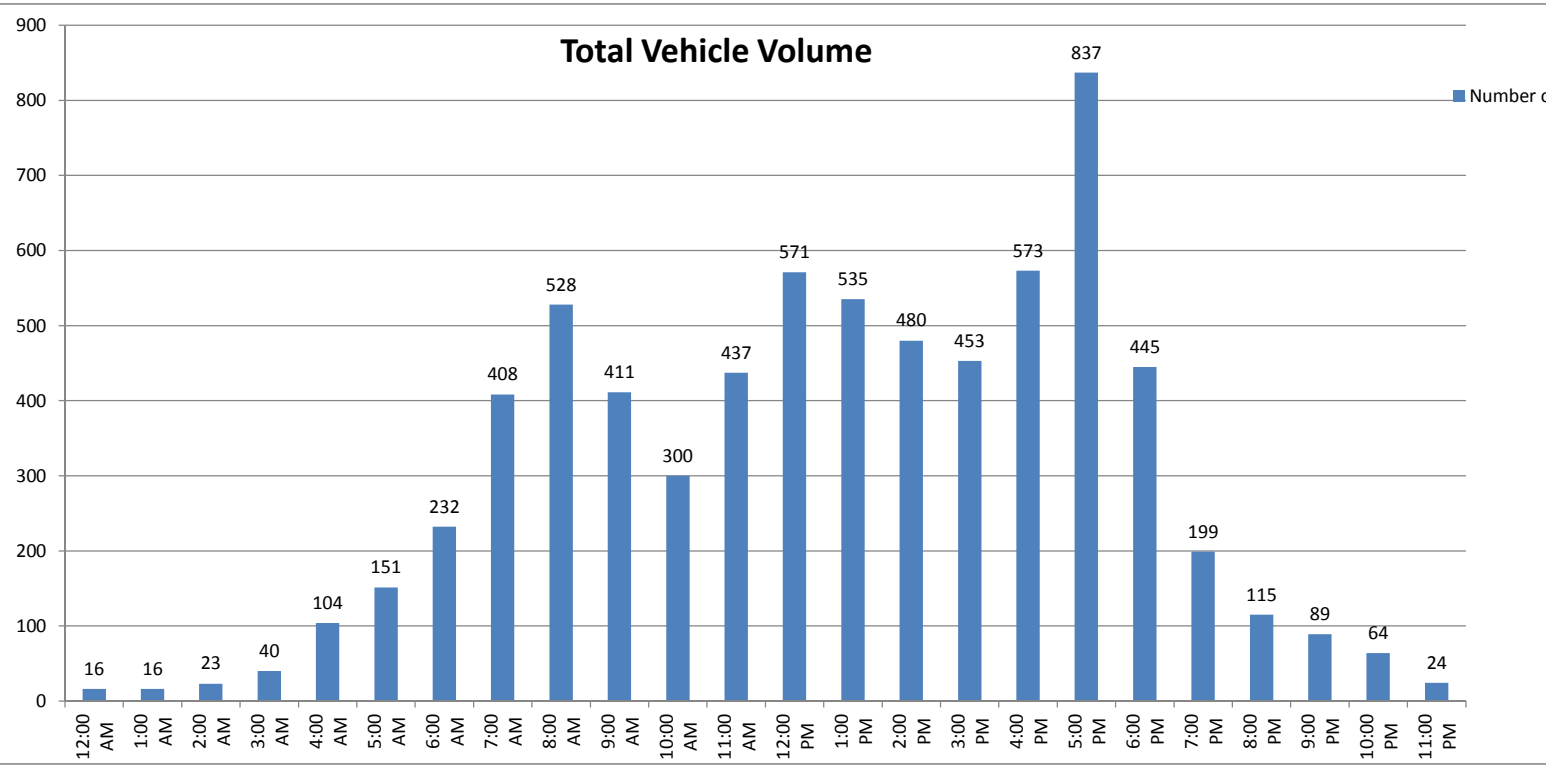
McGaw Aveneu

B/ Redhill Avenue - Von Karman Avenue

2/4/2014

Westbound

Start Time	2/4/2014
12:00 AM	16
1:00 AM	16
2:00 AM	23
3:00 AM	40
4:00 AM	104
5:00 AM	151
6:00 AM	232
7:00 AM	408
8:00 AM	528
9:00 AM	411
10:00 AM	300
11:00 AM	437
12:00 PM	571
1:00 PM	535
2:00 PM	480
3:00 PM	453
4:00 PM	573
5:00 PM	837
6:00 PM	445
7:00 PM	199
8:00 PM	115
9:00 PM	89
10:00 PM	64
11:00 PM	24
Total	7051



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
McGaw Aveneu
B/ Von Karman Avenue - Jamboree Road

File Name 241
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/5/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	1	63			2	50				
12:15	1	71			2	57				
12:30	1	46			3	70				
12:45	3	62	6	242	1	91	8	268	14	510
1:00	0	75			2	84				
1:15	0	65			4	62				
1:30	0	54			3	71				
1:45	3	54	3	248	1	47	10	264	13	512
2:00	1	48			9	78				
2:15	6	35			2	49				
2:30	5	57			3	87				
2:45	10	48	22	188	4	41	18	255	40	443
3:00	6	57			0	50				
3:15	3	40			2	46				
3:30	10	53			5	86				
3:45	22	68	41	218	4	41	11	223	52	441
4:00	16	80			9	58				
4:15	23	52			6	48				
4:30	19	103			10	70				
4:45	39	106	97	341	10	64	35	240	132	581
5:00	20	177			13	73				
5:15	42	194			10	50				
5:30	30	164			17	68				
5:45	56	135	148	670	29	37	69	228	217	898
6:00	19	97			47	41				
6:15	17	79			34	34				
6:30	26	77			18	20				
6:45	38	61	100	314	42	23	141	118	241	432
7:00	30	48			39	23				
7:15	39	34			47	32				
7:30	38	30			61	30				
7:45	57	26	164	138	116	13	263	98	427	236
8:00	40	12			84	17				
8:15	51	20			76	7				
8:30	33	19			77	18				
8:45	42	21	166	72	76	26	313	68	479	140
9:00	34	37			71	24				
9:15	34	37			52	18				
9:30	26	15			59	18				
9:45	35	11	129	100	34	9	216	69	345	169
10:00	25	21			34	30				
10:15	27	10			28	10				
10:30	23	5			32	12				
10:45	27	1	102	37	36	9	130	61	232	98
11:00	44	2			22	2				
11:15	59	3			41	5				
11:30	71	5			44	6				
11:45	75	4	249	14	46	2	153	15	402	29
Totals	1227	2582			1367	1907				
Combined Totals		3809				3274				
ADT										7083
AM Peak Hour	1100	AM			745	AM				
Volume	249				353					
P.H.F.	0.830				0.761					
PM Peak Hour		500	PM			1245	PM			
Volume		670				308				
P.H.F.		0.863				0.846				
Percentage	32.2%	67.8%			41.8%	58.2%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

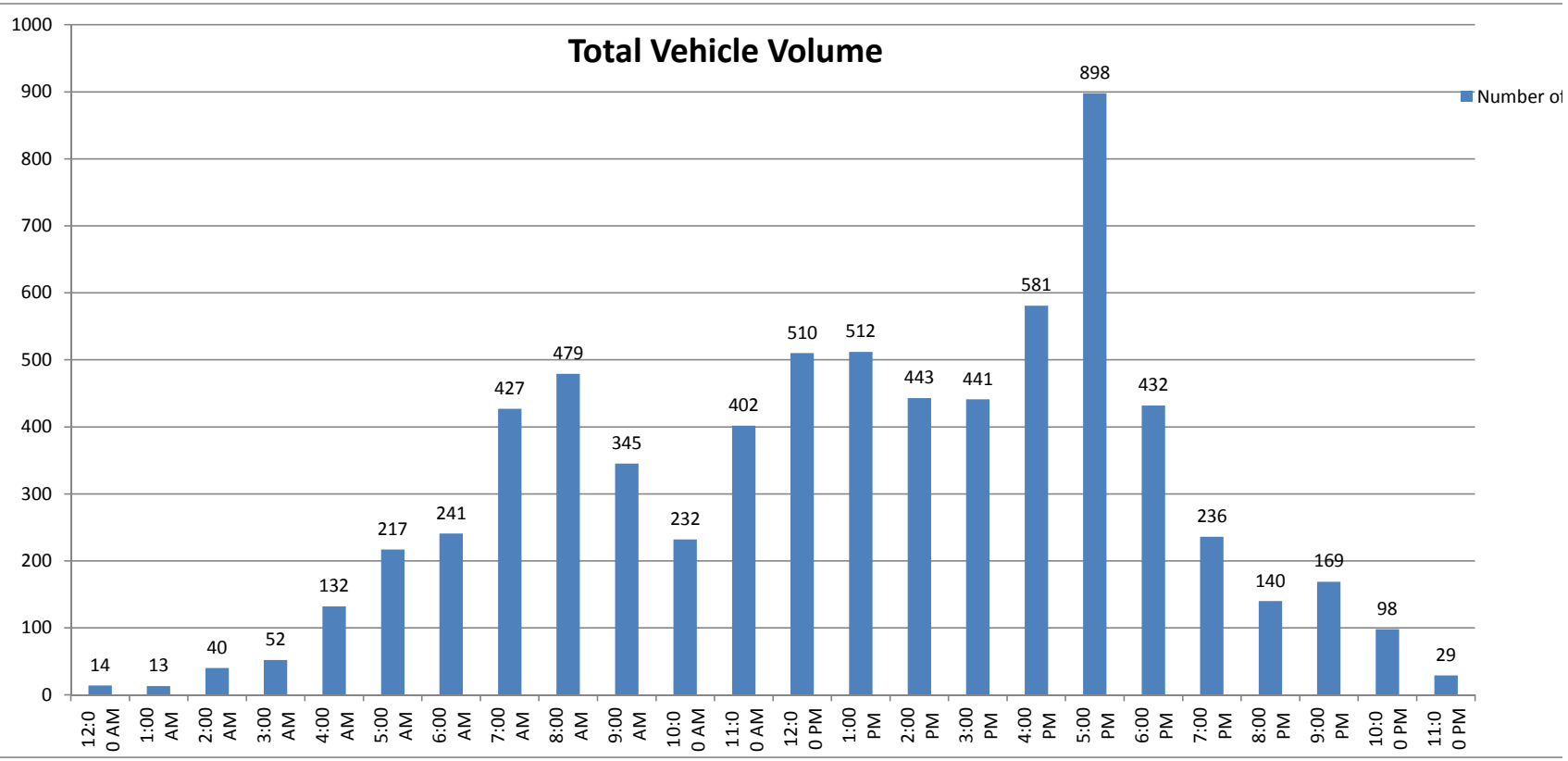
McGaw Aveneu

B/ Von Karman Avenue - Jamboree Road

2/5/2014

Westbound

Start Time	2/5/2014
12:00 AM	14
1:00 AM	13
2:00 AM	40
3:00 AM	52
4:00 AM	132
5:00 AM	217
6:00 AM	241
7:00 AM	427
8:00 AM	479
9:00 AM	345
10:00 AM	232
11:00 AM	402
12:00 PM	510
1:00 PM	512
2:00 PM	443
3:00 PM	441
4:00 PM	581
5:00 PM	898
6:00 PM	432
7:00 PM	236
8:00 PM	140
9:00 PM	169
10:00 PM	98
11:00 PM	29
Total	7083



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Redhill Avenue
B/ McGaw Avenue - Alton Parkway

File Name 270
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/16/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	10	215			11	184				
12:15	7	235			5	227				
12:30	7	205			6	187				
12:45	7	193	31	848	8	233	30	831	61	1679
1:00	4	210			4	205				
1:15	4	201			10	192				
1:30	8	232			8	184				
1:45	4	239	20	882	7	176	29	757	49	1639
2:00	4	255			6	167				
2:15	5	292			3	253				
2:30	3	354			8	188				
2:45	3	299	15	1200	3	193	20	801	35	2001
3:00	5	363			7	183				
3:15	2	364			21	226				
3:30	5	410			16	200				
3:45	5	356	17	1493	11	254	55	863	72	2356
4:00	10	447			18	216				
4:15	26	428			37	282				
4:30	31	472			59	226				
4:45	47	501	114	1848	36	363	150	1087	264	2935
5:00	39	503			48	282				
5:15	25	492			58	249				
5:30	51	469			90	264				
5:45	76	537	191	2001	75	204	271	999	462	3000
6:00	73	551			95	168				
6:15	67	491			97	154				
6:30	97	403			168	156				
6:45	131	310	368	1755	170	117	530	595	898	2350
7:00	154	241			206	110				
7:15	137	147			243	106				
7:30	217	111			340	68				
7:45	223	163	731	662	250	81	1039	365	1770	1027
8:00	249	106			295	77				
8:15	211	85			300	63				
8:30	231	67			268	57				
8:45	207	56	898	314	200	61	1063	258	1961	572
9:00	175	84			178	52				
9:15	141	51			157	37				
9:30	128	47			156	45				
9:45	166	46	610	228	133	35	624	169	1234	397
10:00	134	61			101	34				
10:15	124	35			137	35				
10:30	115	36			110	27				
10:45	131	15	504	147	136	12	484	108	988	255
11:00	128	23			138	10				
11:15	162	17			174	18				
11:30	200	24			195	9				
11:45	194	18	684	82	197	15	704	52	1388	134
Totals	4183	11460			4999	6885				
Combined Totals		15643				11884				
ADT										27527
AM Peak Hour	745	AM			730	AM				
Volume	914				1185					
P.H.F.	0.918				0.871					
PM Peak Hour		515	PM			445	PM			
Volume		2049				1158				
P.H.F.		0.930				0.798				
Percentage	26.7%	73.3%			42.1%	57.9%				

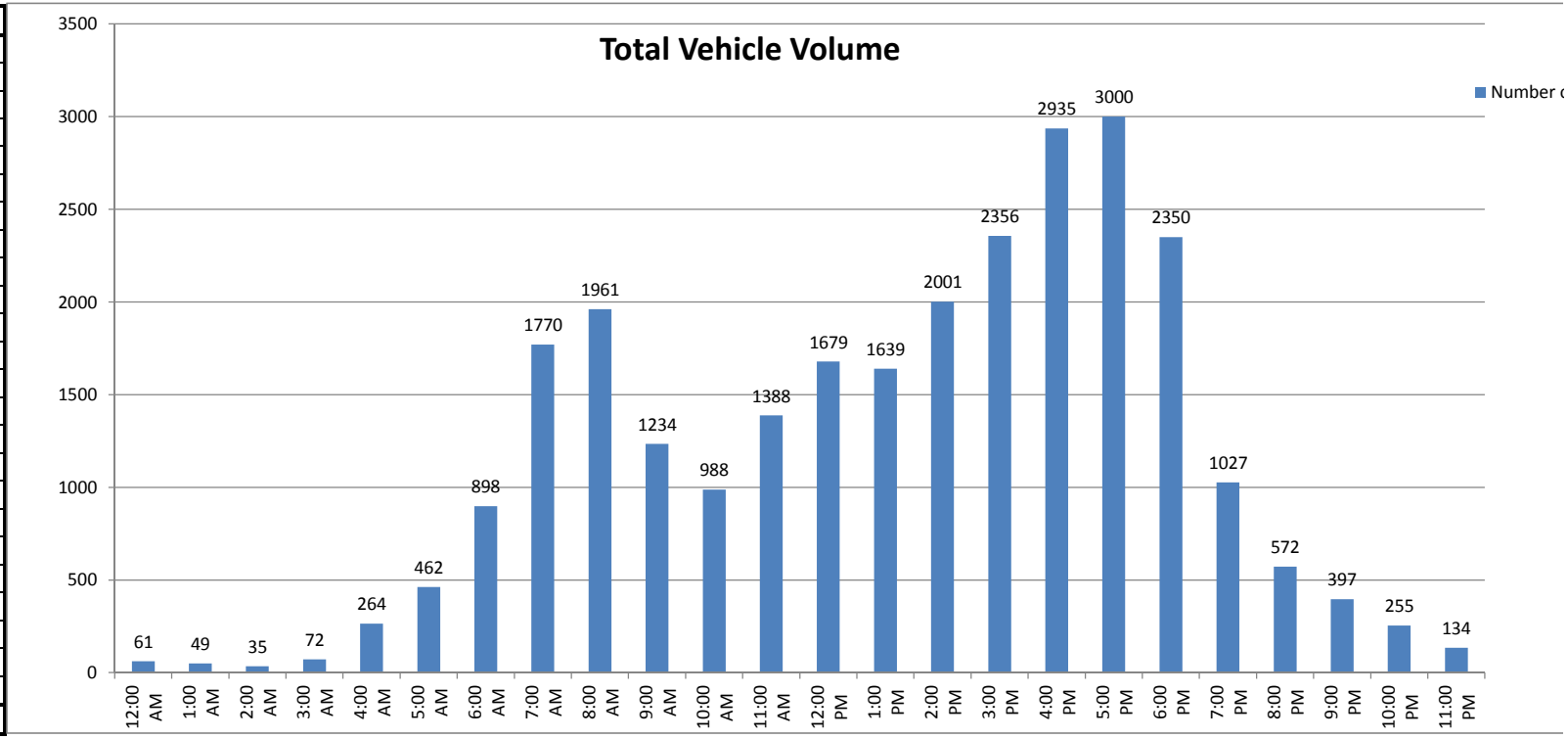
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Redhill Avenue
B/ McGaw Avenue - Alton Parkway
4/16/2014

Southbound

Start Time	4/16/2014
12:00 AM	61
1:00 AM	49
2:00 AM	35
3:00 AM	72
4:00 AM	264
5:00 AM	462
6:00 AM	898
7:00 AM	1770
8:00 AM	1961
9:00 AM	1234
10:00 AM	988
11:00 AM	1388
12:00 PM	1679
1:00 PM	1639
2:00 PM	2001
3:00 PM	2356
4:00 PM	2935
5:00 PM	3000
6:00 PM	2350
7:00 PM	1027
8:00 PM	572
9:00 PM	397
10:00 PM	255
11:00 PM	134
Total	27527



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Redhill Avenue
B/ MacArthur Boulevard - McGaw Avenue

File Name 269
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/16/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	245			26	254				
12:15	9	261			62	255				
12:30	7	253			43	252				
12:45	5	258	29	1017	42	251	173	1012	202	2029
1:00	7	280			18	286				
1:15	11	257			10	276				
1:30	19	248			14	295				
1:45	21	281	58	1066	7	283	49	1140	107	2206
2:00	20	320			4	292				
2:15	12	356			2	264				
2:30	15	396			7	433				
2:45	17	301	64	1373	10	308	23	1297	87	2670
3:00	18	361			8	316				
3:15	18	382			9	278				
3:30	29	424			26	417				
3:45	56	356	121	1523	10	330	53	1341	174	2864
4:00	85	487			21	427				
4:15	89	442			11	335				
4:30	106	509			28	426				
4:45	137	514	417	1952	30	389	90	1577	507	3529
5:00	61	548			51	499				
5:15	81	544			33	469				
5:30	96	533			38	348				
5:45	198	575	436	2200	82	366	204	1682	640	3882
6:00	138	596			91	299				
6:15	125	499			91	277				
6:30	153	438			119	232				
6:45	223	312	639	1845	139	191	440	999	1079	2844
7:00	258	259			169	158				
7:15	255	155			165	170				
7:30	306	103			246	143				
7:45	366	167	1185	684	329	105	909	576	2094	1260
8:00	365	131			298	102				
8:15	314	89			262	97				
8:30	324	74			309	87				
8:45	293	47	1296	341	252	86	1121	372	2417	713
9:00	239	69			226	112				
9:15	186	51			206	65				
9:30	192	46			162	55				
9:45	192	49	809	215	187	58	781	290	1590	505
10:00	184	54			154	90				
10:15	157	37			150	44				
10:30	144	34			166	63				
10:45	160	21	645	146	145	43	615	240	1260	386
11:00	164	22			191	50				
11:15	192	25			189	27				
11:30	220	22			208	38				
11:45	195	15	771	84	256	19	844	134	1615	218
Totals	6470	12446			5302	10660				
Combined Totals		18916				15962				
ADT										34878
AM Peak Hour	745	AM			745	AM				
Volume	1369				1198					
P.H.F.	0.935				0.910					
PM Peak Hour		515	PM			430	PM			
Volume		2248				1783				
P.H.F.		0.943				0.893				
Percentage	34.2%	65.8%			33.2%	66.8%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

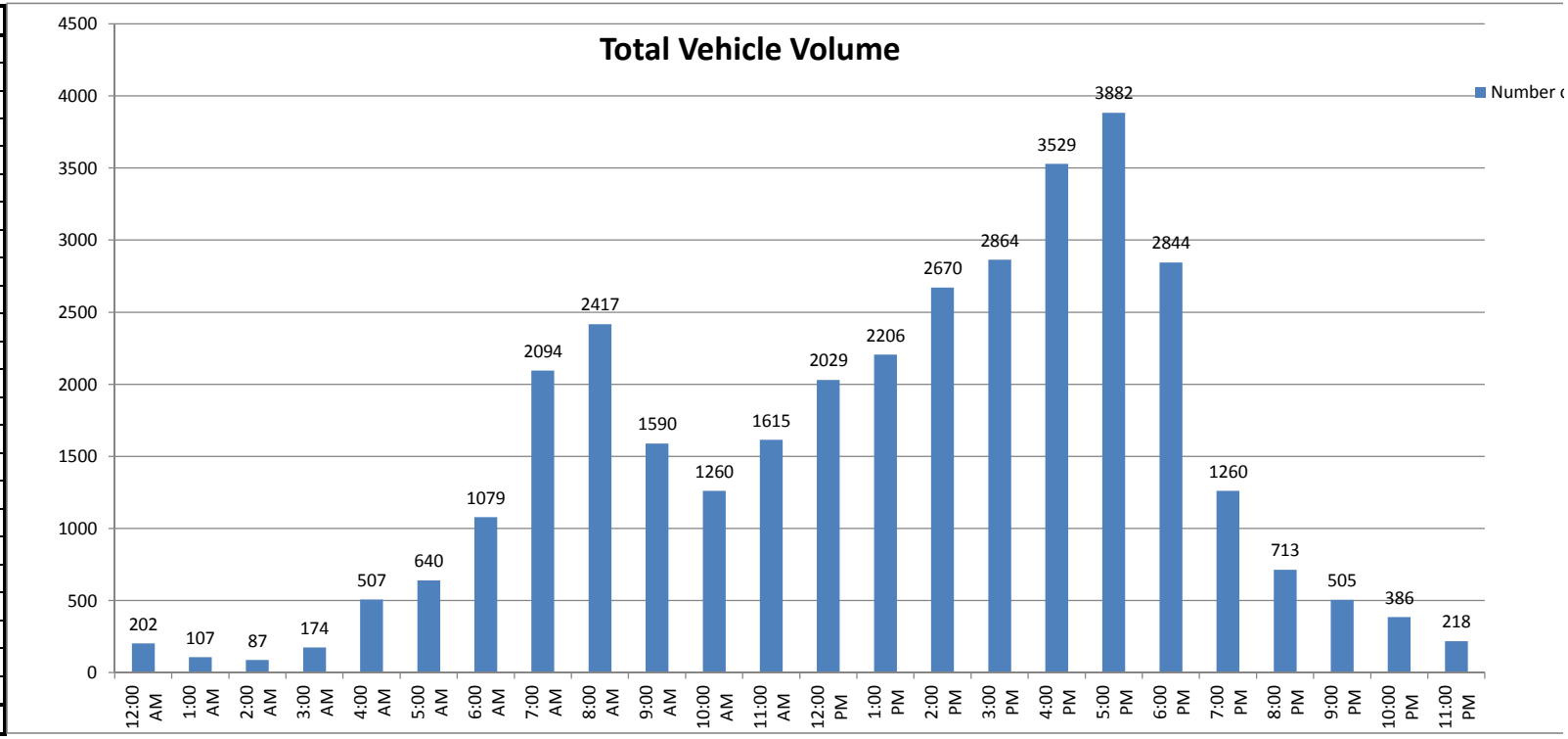
Redhill Avenue

B/ MacArthur Boulevard - McGaw Avenue

4/16/2014

Southbound

Start Time	4/16/2014
12:00 AM	202
1:00 AM	107
2:00 AM	87
3:00 AM	174
4:00 AM	507
5:00 AM	640
6:00 AM	1079
7:00 AM	2094
8:00 AM	2417
9:00 AM	1590
10:00 AM	1260
11:00 AM	1615
12:00 PM	2029
1:00 PM	2206
2:00 PM	2670
3:00 PM	2864
4:00 PM	3529
5:00 PM	3882
6:00 PM	2844
7:00 PM	1260
8:00 PM	713
9:00 PM	505
10:00 PM	386
11:00 PM	218
Total	34878



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Redhill Avenue
B/ Sky Park North - MacArthur Boulevard

File Name 268
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
6/11/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	19	155			6	139				
12:15	13	153			5	141				
12:30	6	162			2	154				
12:45	7	153	45	623	4	153	17	587	62	1210
1:00	3	174			3	146				
1:15	1	164			3	137				
1:30	2	177			2	125				
1:45	0	150	6	665	2	117	10	525	16	1190
2:00	1	138			2	114				
2:15	1	139			0	110				
2:30	2	173			3	145				
2:45	3	178	7	628	1	117	6	486	13	1114
3:00	1	213			5	104				
3:15	4	187			7	137				
3:30	4	225			8	126				
3:45	4	203	13	828	16	163	36	530	49	1358
4:00	3	263			23	148				
4:15	6	248			22	145				
4:30	7	271			35	160				
4:45	13	293	29	1075	23	193	103	646	132	1721
5:00	7	346			28	237				
5:15	14	336			39	216				
5:30	17	336			37	259				
5:45	28	313	66	1331	64	214	168	926	234	2257
6:00	35	326			59	167				
6:15	45	250			53	137				
6:30	44	192			67	119				
6:45	78	157	202	925	109	97	288	520	490	1445
7:00	75	125			93	62				
7:15	86	95			111	72				
7:30	109	77			150	60				
7:45	181	78	451	375	197	49	551	243	1002	618
8:00	170	57			215	37				
8:15	129	81			207	32				
8:30	146	43			204	43				
8:45	106	51	551	232	196	36	822	148	1373	380
9:00	107	49			180	35				
9:15	93	53			124	30				
9:30	82	47			125	26				
9:45	80	38	362	187	109	25	538	116	900	303
10:00	109	38			108	19				
10:15	97	23			110	18				
10:30	92	20			96	10				
10:45	92	16	390	97	91	13	405	60	795	157
11:00	112	20			108	9				
11:15	103	19			100	9				
11:30	128	23			132	6				
11:45	107	30	450	92	148	2	488	26	938	118
Totals	2572	7058			3432	4813				
Combined Totals		9630				8245				
ADT										17875
AM Peak Hour	745	AM			745	AM				
Volume	626				823					
P.H.F.	0.865				0.957					
PM Peak Hour		500	PM			500	PM			
Volume		1331				926				
P.H.F.		0.962				0.894				
Percentage	26.7%	73.3%			41.6%	58.4%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

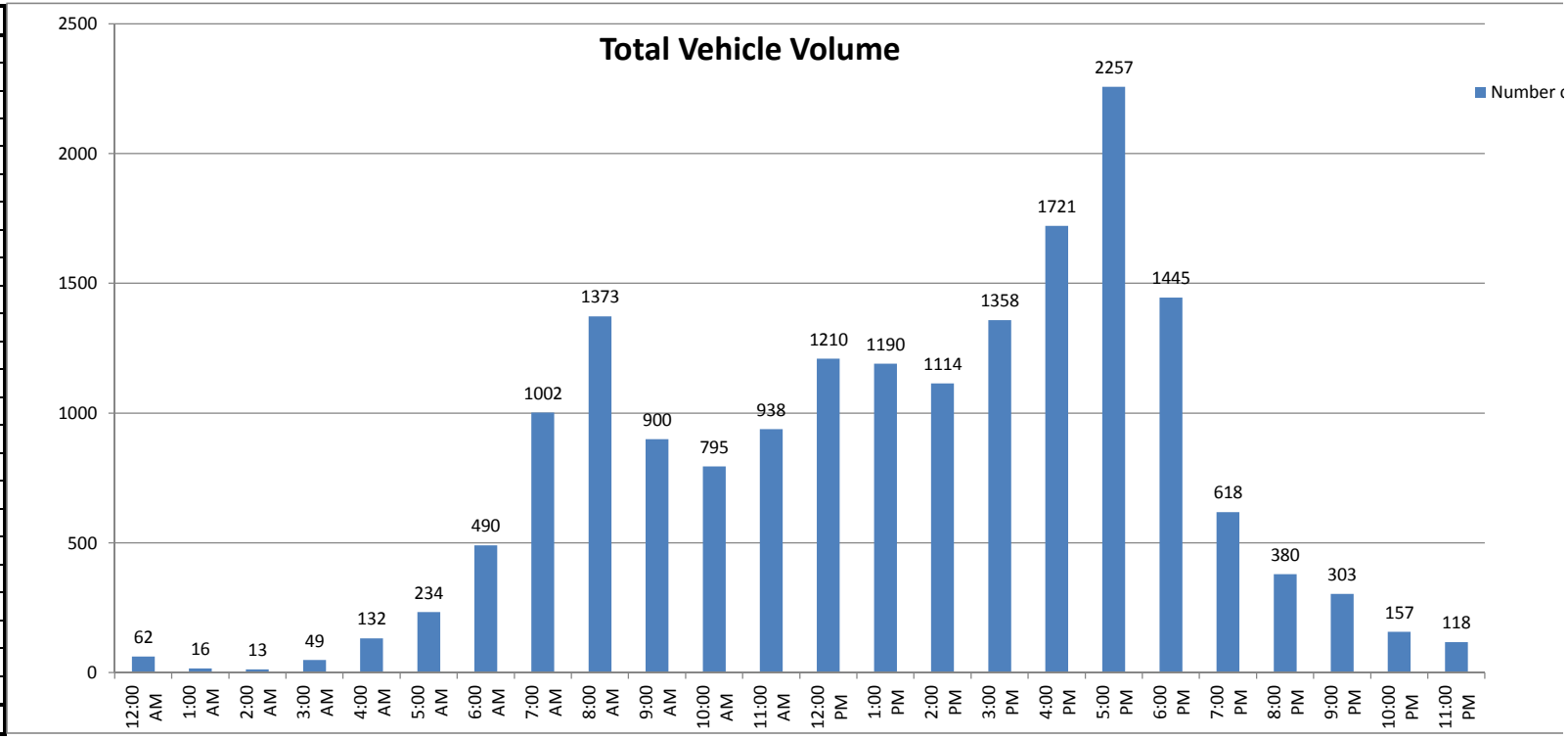
Redhill Avenue

B/ Sky Park North - MacArthur Boulevard

6/11/2014

Southbound

Start Time	6/11/2014
12:00 AM	62
1:00 AM	16
2:00 AM	13
3:00 AM	49
4:00 AM	132
5:00 AM	234
6:00 AM	490
7:00 AM	1002
8:00 AM	1373
9:00 AM	900
10:00 AM	795
11:00 AM	938
12:00 PM	1210
1:00 PM	1190
2:00 PM	1114
3:00 PM	1358
4:00 PM	1721
5:00 PM	2257
6:00 PM	1445
7:00 PM	618
8:00 PM	380
9:00 PM	303
10:00 PM	157
11:00 PM	118
Total	17875



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Von Karman Avenue
B/ McGaw Avenue - Alton Parkway

File Name 311
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/6/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	249			3	129				
12:15	5	211			4	141				
12:30	10	205			1	205				
12:45	2	178	25	843	1	187	9	662	34	1505
1:00	8	214			1	235				
1:15	5	190			0	192				
1:30	8	187			0	203				
1:45	1	173	22	764	2	171	3	801	25	1565
2:00	7	183			2	125				
2:15	1	163			3	138				
2:30	3	223			1	136				
2:45	3	181	14	750	3	118	9	517	23	1267
3:00	4	218			1	97				
3:15	3	201			3	108				
3:30	4	258			4	102				
3:45	4	247	15	924	5	113	13	420	28	1344
4:00	3	318			5	96				
4:15	4	324			5	107				
4:30	8	381			8	138				
4:45	12	388	27	1411	34	110	52	451	79	1862
5:00	11	407			17	125				
5:15	9	392			28	137				
5:30	17	373			36	157				
5:45	44	417	81	1589	70	122	151	541	232	2130
6:00	46	399			55	109				
6:15	43	362			63	89				
6:30	45	260			105	87				
6:45	59	242	193	1263	162	65	385	350	578	1613
7:00	48	180			172	82				
7:15	65	151			253	66				
7:30	65	106			306	47				
7:45	96	87	274	524	390	37	1121	232	1395	756
8:00	82	86			449	33				
8:15	105	81			415	41				
8:30	90	74			395	28				
8:45	72	70	349	311	384	39	1643	141	1992	452
9:00	91	65			292	29				
9:15	77	50			172	29				
9:30	82	42			162	20				
9:45	85	70	335	227	136	16	762	94	1097	321
10:00	73	59			117	20				
10:15	84	32			77	12				
10:30	90	34			82	13				
10:45	95	20	342	145	64	14	340	59	682	204
11:00	180	23			102	6				
11:15	141	11			73	4				
11:30	237	19			124	7				
11:45	203	14	761	67	133	5	432	22	1193	89
Totals	2438	8818			4920	4290				
Combined Totals		11256				9210				
ADT										20466
AM Peak Hour	1100	AM			745	AM				
Volume	761				1649					
P.H.F.	0.803				0.918					
PM Peak Hour		500	PM			1230	PM			
Volume		1589				819				
P.H.F.		0.953				0.871				
Percentage	21.7%	78.3%			53.4%	46.6%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
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Corona, CA 92878

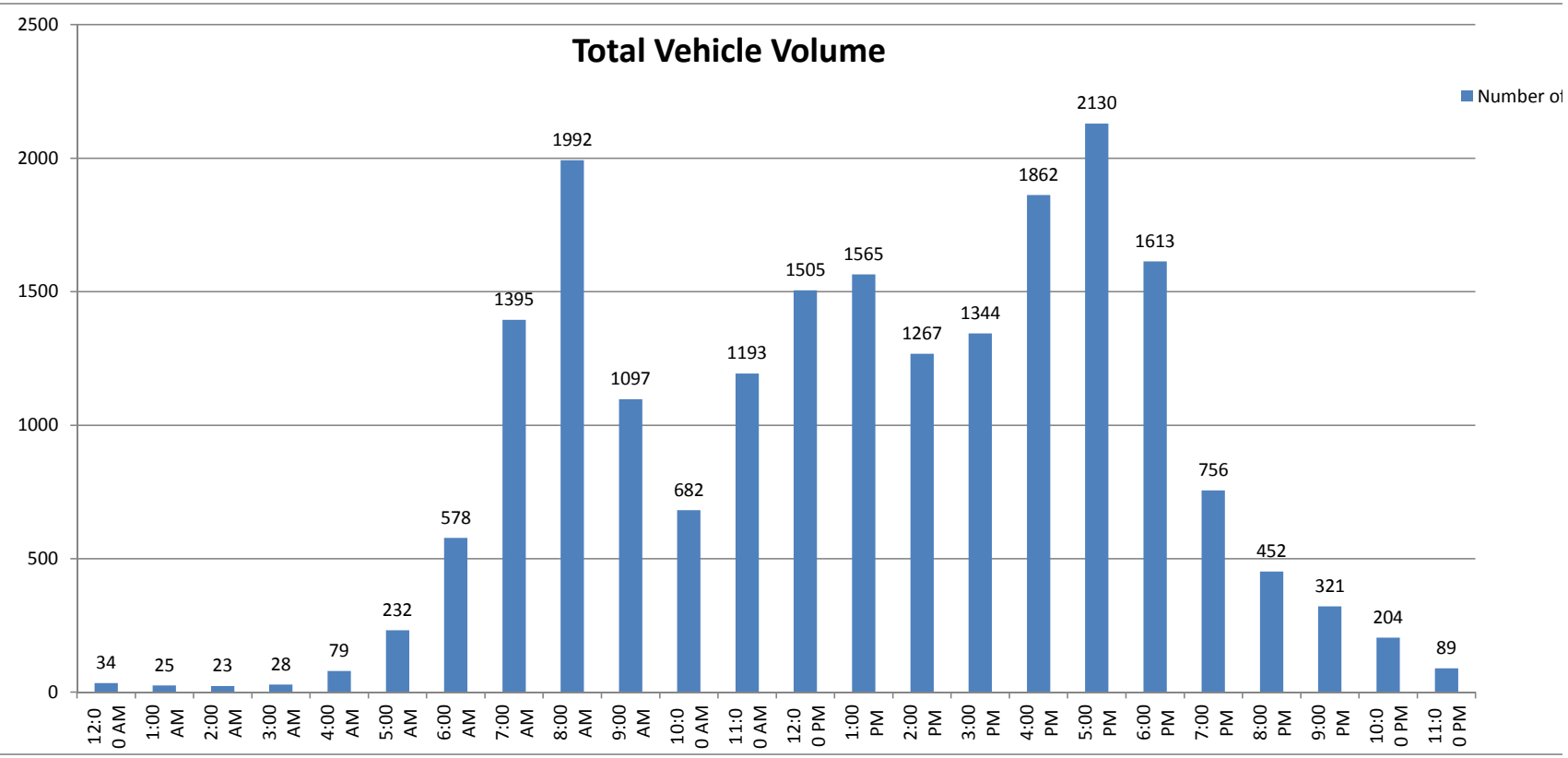
24 Hour Volume Plot

Von Karman Avenue
B/ McGaw Avenue - Alton Parkway

3/6/2014

Southbound

Start Time	3/6/2014
12:00 AM	34
1:00 AM	25
2:00 AM	23
3:00 AM	28
4:00 AM	79
5:00 AM	232
6:00 AM	578
7:00 AM	1395
8:00 AM	1992
9:00 AM	1097
10:00 AM	682
11:00 AM	1193
12:00 PM	1505
1:00 PM	1565
2:00 PM	1267
3:00 PM	1344
4:00 PM	1862
5:00 PM	2130
6:00 PM	1613
7:00 PM	756
8:00 PM	452
9:00 PM	321
10:00 PM	204
11:00 PM	89
Total	20466



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Von Karman Avenue
B/ Main Street - McGaw Avenue

File Name 310
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/6/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	233			6	165				
12:15	1	211			6	174				
12:30	8	209			2	219				
12:45	2	203	17	856	2	217	16	775	33	1631
1:00	6	217			1	254				
1:15	4	206			0	215				
1:30	5	183			0	222				
1:45	1	190	16	796	4	198	5	889	21	1685
2:00	2	164			1	147				
2:15	2	165			1	173				
2:30	3	210			1	177				
2:45	8	163	15	702	3	165	6	662	21	1364
3:00	2	199			5	148				
3:15	7	189			6	138				
3:30	3	235			3	137				
3:45	8	225	20	848	5	160	19	583	39	1431
4:00	5	332			3	164				
4:15	1	294			2	148				
4:30	8	370			7	189				
4:45	17	367	31	1363	25	162	37	663	68	2026
5:00	11	446			23	185				
5:15	13	442			27	185				
5:30	23	416			33	191				
5:45	54	451	101	1755	57	163	140	724	241	2479
6:00	43	388			60	162				
6:15	55	331			70	137				
6:30	60	281			96	103				
6:45	95	246	253	1246	147	87	373	489	626	1735
7:00	58	180			168	98				
7:15	90	151			232	89				
7:30	112	83			327	69				
7:45	118	89	378	503	364	56	1091	312	1469	815
8:00	120	81			464	52				
8:15	131	73			424	56				
8:30	115	64			411	36				
8:45	112	65	478	283	384	57	1683	201	2161	484
9:00	120	67			295	43				
9:15	104	40			193	43				
9:30	102	36			167	31				
9:45	103	65	429	208	160	27	815	144	1244	352
10:00	66	53			126	30				
10:15	101	40			100	33				
10:30	89	29			112	22				
10:45	115	17	371	139	93	27	431	112	802	251
11:00	154	23			126	12				
11:15	142	10			114	9				
11:30	234	16			158	10				
11:45	217	9	747	58	204	10	602	41	1349	99
Totals	2856	8757			5218	5595				
Combined Totals		11613				10813				
ADT										22426
AM Peak Hour	1100	AM			800	AM				
Volume	747				1683					
P.H.F.	0.798				0.907					
PM Peak Hour		500	PM			1245	PM			
Volume		1755				908				
P.H.F.		0.973				0.894				
Percentage	24.6%	75.4%			48.3%	51.7%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

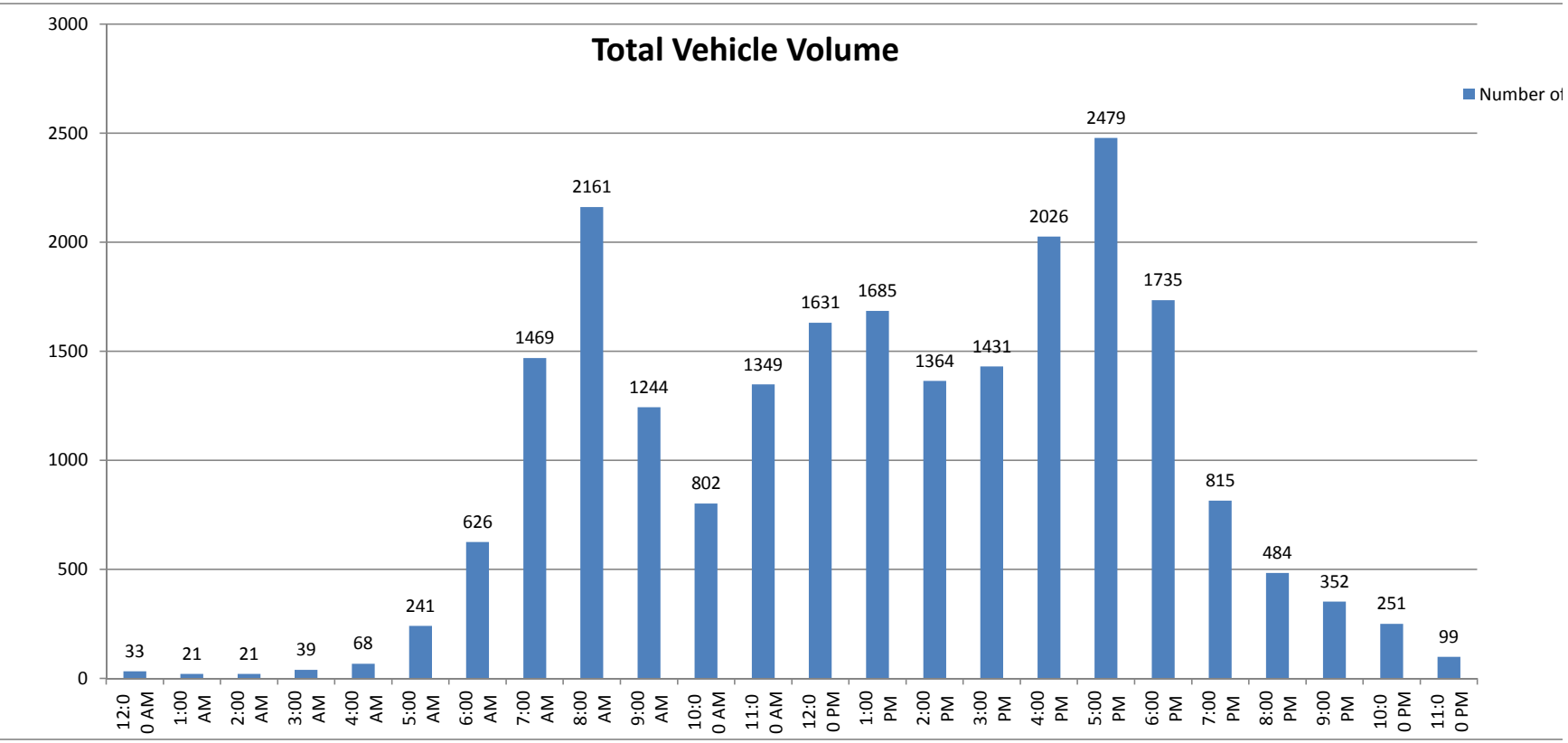
24 Hour Volume Plot

Von Karman Avenue
B/ Main Street - McGaw Avenue

3/6/2014

Southbound

Start Time	3/6/2014
12:00 AM	33
1:00 AM	21
2:00 AM	21
3:00 AM	39
4:00 AM	68
5:00 AM	241
6:00 AM	626
7:00 AM	1469
8:00 AM	2161
9:00 AM	1244
10:00 AM	802
11:00 AM	1349
12:00 PM	1631
1:00 PM	1685
2:00 PM	1364
3:00 PM	1431
4:00 PM	2026
5:00 PM	2479
6:00 PM	1735
7:00 PM	815
8:00 PM	484
9:00 PM	352
10:00 PM	251
11:00 PM	99
Total	22426



Volumes represent the combined totals for both directions

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Counts Unlimited, Inc.
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City of Irvine
Jamboree Road
B/ McGaw Avenue - Alton Parkway

File Name 190
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/30/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	45	442			37	375				
12:15	36	432			33	406				
12:30	18	368			36	431				
12:45	18	390	117	1632	39	459	145	1671	262	3303
1:00	23	379			12	432				
1:15	20	403			14	394				
1:30	16	384			10	466				
1:45	14	399	73	1565	6	387	42	1679	115	3244
2:00	13	425			15	378				
2:15	12	445			9	387				
2:30	8	447			10	425				
2:45	11	509	44	1826	8	394	42	1584	86	3410
3:00	8	519			11	342				
3:15	10	588			11	340				
3:30	14	571			15	323				
3:45	17	575	49	2253	18	358	55	1363	104	3616
4:00	15	651			15	345				
4:15	20	689			19	307				
4:30	21	538			32	379				
4:45	47	644	103	2522	69	363	135	1394	238	3916
5:00	60	730			66	408				
5:15	49	645			105	425				
5:30	85	684			140	364				
5:45	134	684	328	2743	133	359	444	1556	772	4299
6:00	112	671			212	395				
6:15	155	679			243	367				
6:30	177	594			344	342				
6:45	204	515	648	2459	493	331	1292	1435	1940	3894
7:00	242	397			457	329				
7:15	223	460			624	273				
7:30	240	312			652	299				
7:45	297	347	1002	1516	745	242	2478	1143	3480	2659
8:00	289	269			730	265				
8:15	302	273			764	209				
8:30	292	240			816	206				
8:45	287	229	1170	1011	782	245	3092	925	4262	1936
9:00	305	250			776	223				
9:15	271	234			649	217				
9:30	274	216			541	184				
9:45	271	196	1121	896	507	142	2473	766	3594	1662
10:00	302	153			482	162				
10:15	246	92			404	138				
10:30	294	118			399	130				
10:45	263	93	1105	456	361	101	1646	531	2751	987
11:00	330	68			384	76				
11:15	333	58			407	84				
11:30	386	38			372	60				
11:45	438	41	1487	205	347	39	1510	259	2997	464
Totals	7247	19084			13354	14306				
Combined Totals		26331				27660				
ADT										53991
AM Peak Hour	1100	AM			815	AM				
Volume	1487				3138					
P.H.F.	0.849				0.961					
PM Peak Hour		500	PM			2445	PM			
Volume		2743				1751				
P.H.F.		0.939				0.939				
Percentage	27.5%	72.5%			48.3%	51.7%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

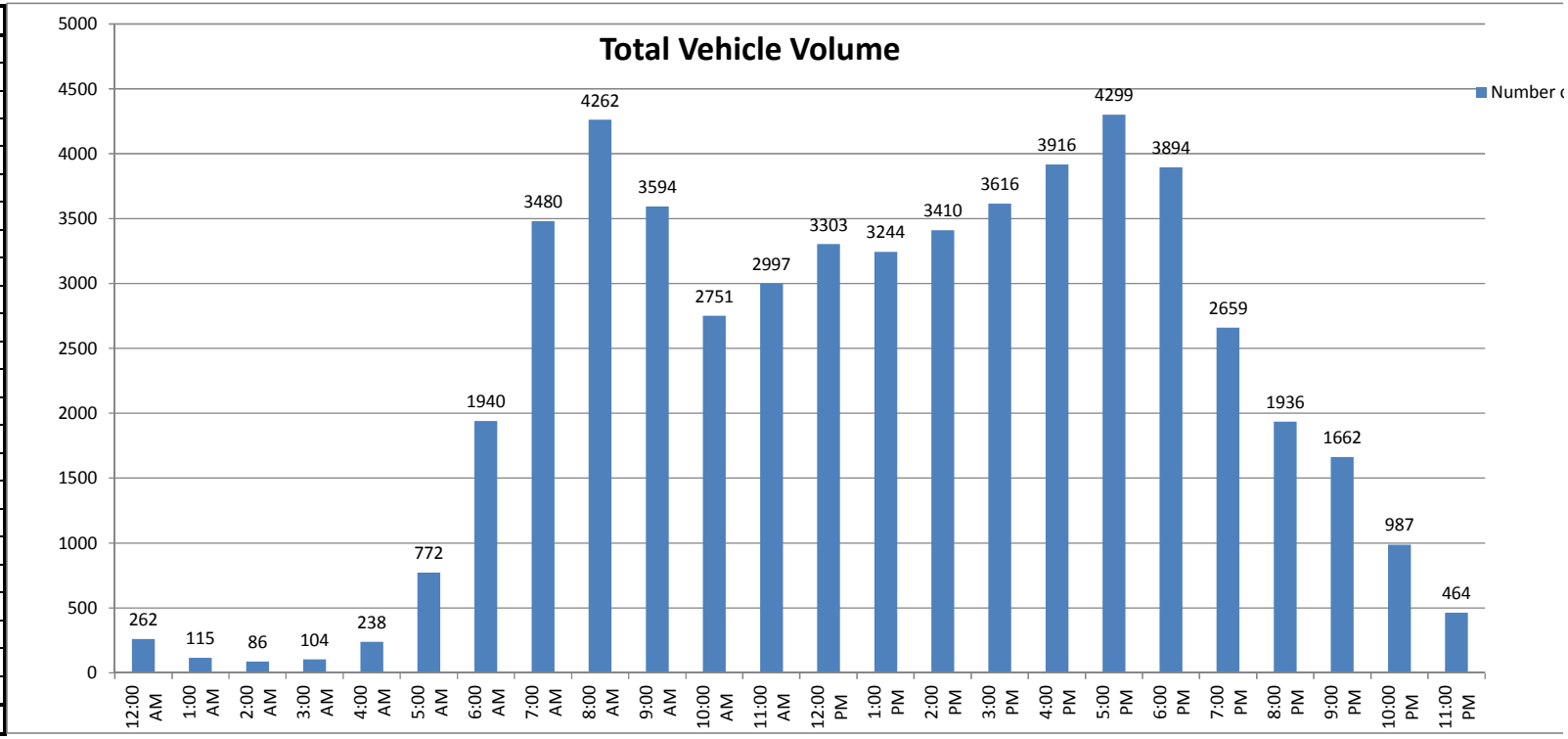
Jamboree Road

B/ McGaw Avenue - Alton Parkway

4/30/2014

Southbound

Start Time	4/30/2014
12:00 AM	262
1:00 AM	115
2:00 AM	86
3:00 AM	104
4:00 AM	238
5:00 AM	772
6:00 AM	1940
7:00 AM	3480
8:00 AM	4262
9:00 AM	3594
10:00 AM	2751
11:00 AM	2997
12:00 PM	3303
1:00 PM	3244
2:00 PM	3410
3:00 PM	3616
4:00 PM	3916
5:00 PM	4299
6:00 PM	3894
7:00 PM	2659
8:00 PM	1936
9:00 PM	1662
10:00 PM	987
11:00 PM	464
Total	53991



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Jamboree Road
B/ Main Street - Kelvin Avenue

File Name 188
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
4/30/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	48	471			52	400				
12:15	36	431			33	427				
12:30	18	390			37	427				
12:45	19	397	121	1689	40	507	162	1761	283	3450
1:00	25	441			16	439				
1:15	21	452			21	422				
1:30	21	428			11	466				
1:45	19	426	86	1747	13	379	61	1706	147	3453
2:00	13	429			22	426				
2:15	12	498			9	439				
2:30	8	425			14	458				
2:45	8	578	41	1930	9	439	54	1762	95	3692
3:00	4	530			14	413				
3:15	10	601			7	361				
3:30	12	562			9	429				
3:45	30	577	56	2270	19	365	49	1568	105	3838
4:00	22	647			15	419				
4:15	29	615			16	355				
4:30	38	597			30	455				
4:45	69	676	158	2535	66	405	127	1634	285	4169
5:00	82	666			48	503				
5:15	74	785			86	476				
5:30	125	667			122	450				
5:45	204	648	485	2766	138	389	394	1818	879	4584
6:00	141	644			192	417				
6:15	200	686			245	389				
6:30	212	642			309	325				
6:45	289	545	842	2517	469	336	1215	1467	2057	3984
7:00	297	467			470	338				
7:15	253	443			546	280				
7:30	294	364			715	266				
7:45	348	354	1192	1628	633	279	2364	1163	3556	2791
8:00	346	297			762	273				
8:15	347	308			769	247				
8:30	302	267			732	220				
8:45	363	206	1358	1078	791	287	3054	1027	4412	2105
9:00	353	251			764	268				
9:15	308	248			628	238				
9:30	324	203			498	222				
9:45	320	205	1305	907	595	150	2485	878	3790	1785
10:00	353	154			427	183				
10:15	280	103			411	148				
10:30	315	120			420	159				
10:45	301	98	1249	475	366	116	1624	606	2873	1081
11:00	318	75			418	85				
11:15	367	60			391	109				
11:30	402	50			403	68				
11:45	453	43	1540	228	374	44	1586	306	3126	534
Totals	8433	19770			13175	15696				
Combined Totals		28203				28871				
ADT										57074
AM Peak Hour	1100	AM			815	AM				
Volume	1540				3056					
P.H.F.	0.850				0.966					
PM Peak Hour		445	PM			430	PM			
Volume		2794				1839				
P.H.F.		0.890				0.914				
Percentage	29.9%	70.1%			45.6%	54.4%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

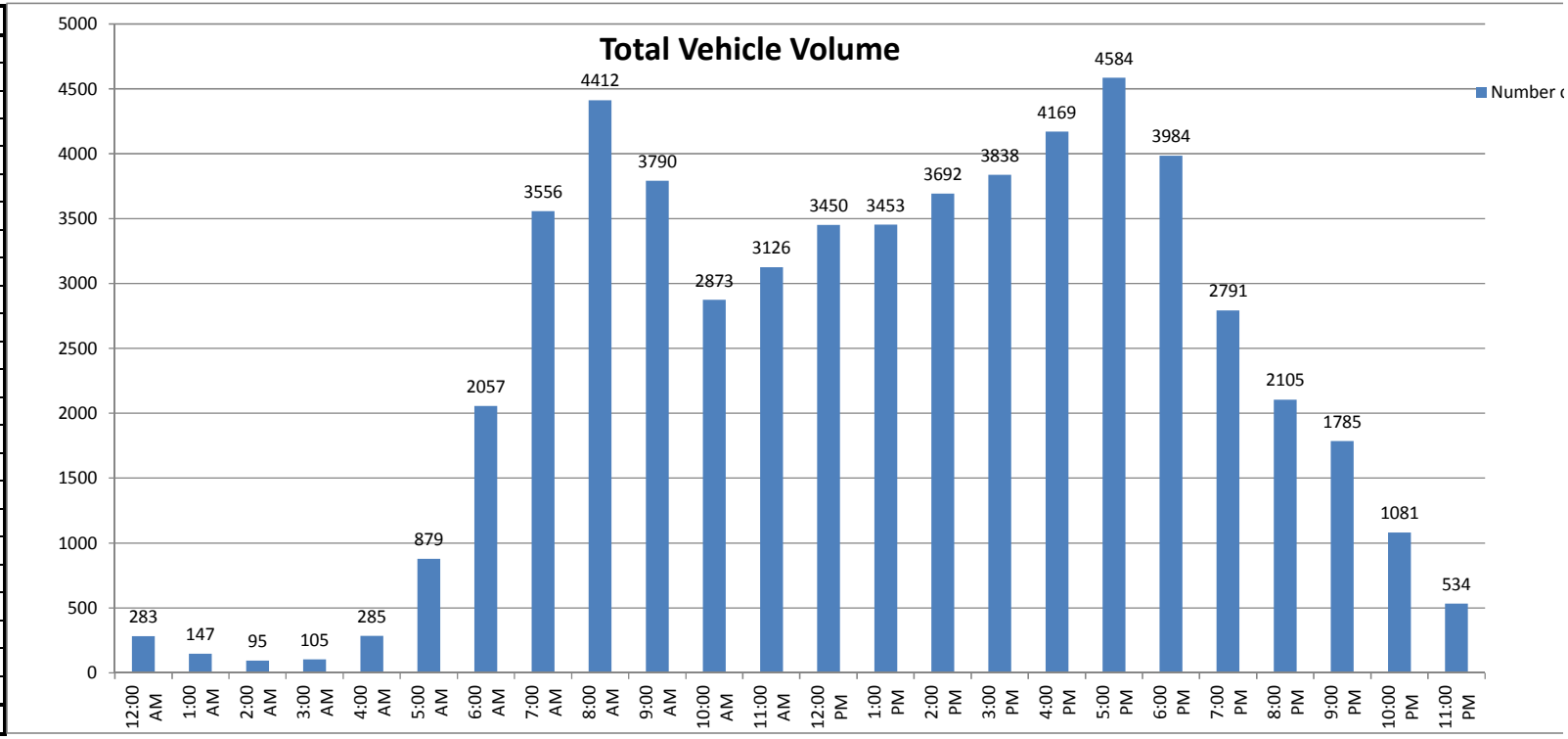
Jamboree Road

B/ Main Street - Kelvin Avenue

4/30/2014

Southbound

Start Time	4/30/2014
12:00 AM	283
1:00 AM	147
2:00 AM	95
3:00 AM	105
4:00 AM	285
5:00 AM	879
6:00 AM	2057
7:00 AM	3556
8:00 AM	4412
9:00 AM	3790
10:00 AM	2873
11:00 AM	3126
12:00 PM	3450
1:00 PM	3453
2:00 PM	3692
3:00 PM	3838
4:00 PM	4169
5:00 PM	4584
6:00 PM	3984
7:00 PM	2791
8:00 PM	2105
9:00 PM	1785
10:00 PM	1081
11:00 PM	534
Total	57074



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Harvard Avenue
B/ San Carlo - San Marino

File Name 126
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
2/20/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	10	185			10	169				
12:15	17	150			11	177				
12:30	19	154			14	166				
12:45	7	161	53	650	7	194	42	706	95	1356
1:00	10	149			10	223				
1:15	19	134			7	183				
1:30	6	129			4	194				
1:45	8	108	43	520	2	153	23	753	66	1273
2:00	4	157			3	133				
2:15	10	155			3	149				
2:30	1	187			2	141				
2:45	4	159	19	658	4	152	12	575	31	1233
3:00	6	170			2	143				
3:15	3	229			1	142				
3:30	3	209			4	156				
3:45	2	222	14	830	1	146	8	587	22	1417
4:00	1	247			1	153				
4:15	0	235			3	142				
4:30	1	274			7	141				
4:45	8	278	10	1034	12	152	23	588	33	1622
5:00	7	367			16	178				
5:15	7	438			14	163				
5:30	10	409			33	200				
5:45	14	436	38	1650	38	199	101	740	139	2390
6:00	13	366			44	177				
6:15	35	320			52	191				
6:30	33	319			52	176				
6:45	50	269	131	1274	107	145	255	689	386	1963
7:00	56	202			121	107				
7:15	71	191			161	128				
7:30	86	130			258	102				
7:45	121	126	334	649	363	108	903	445	1237	1094
8:00	124	147			356	104				
8:15	153	147			375	91				
8:30	137	99			345	95				
8:45	133	97	547	490	340	87	1416	377	1963	867
9:00	91	109			284	91				
9:15	94	96			188	72				
9:30	93	74			179	86				
9:45	95	82	373	361	166	53	817	302	1190	663
10:00	97	70			123	72				
10:15	77	73			124	58				
10:30	106	65			133	46				
10:45	90	44	370	252	105	34	485	210	855	462
11:00	103	44			107	36				
11:15	108	40			129	36				
11:30	141	30			132	17				
11:45	186	31	538	145	129	20	497	109	1035	254
Totals	2470	8513			4582	6081				
Combined Totals		10983				10663				
ADT										21646
AM Peak Hour	800	AM			745	AM				
Volume	547				1439					
P.H.F.	0.894				0.959					
PM Peak Hour		500	PM			2445	PM			
Volume		1650				794				
P.H.F.		0.942				0.890				
Percentage	22.5%	77.5%			43.0%	57.0%				

Phone: 951-268-6268 counts@countsunlimited.com Fax: 951-268-6267

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

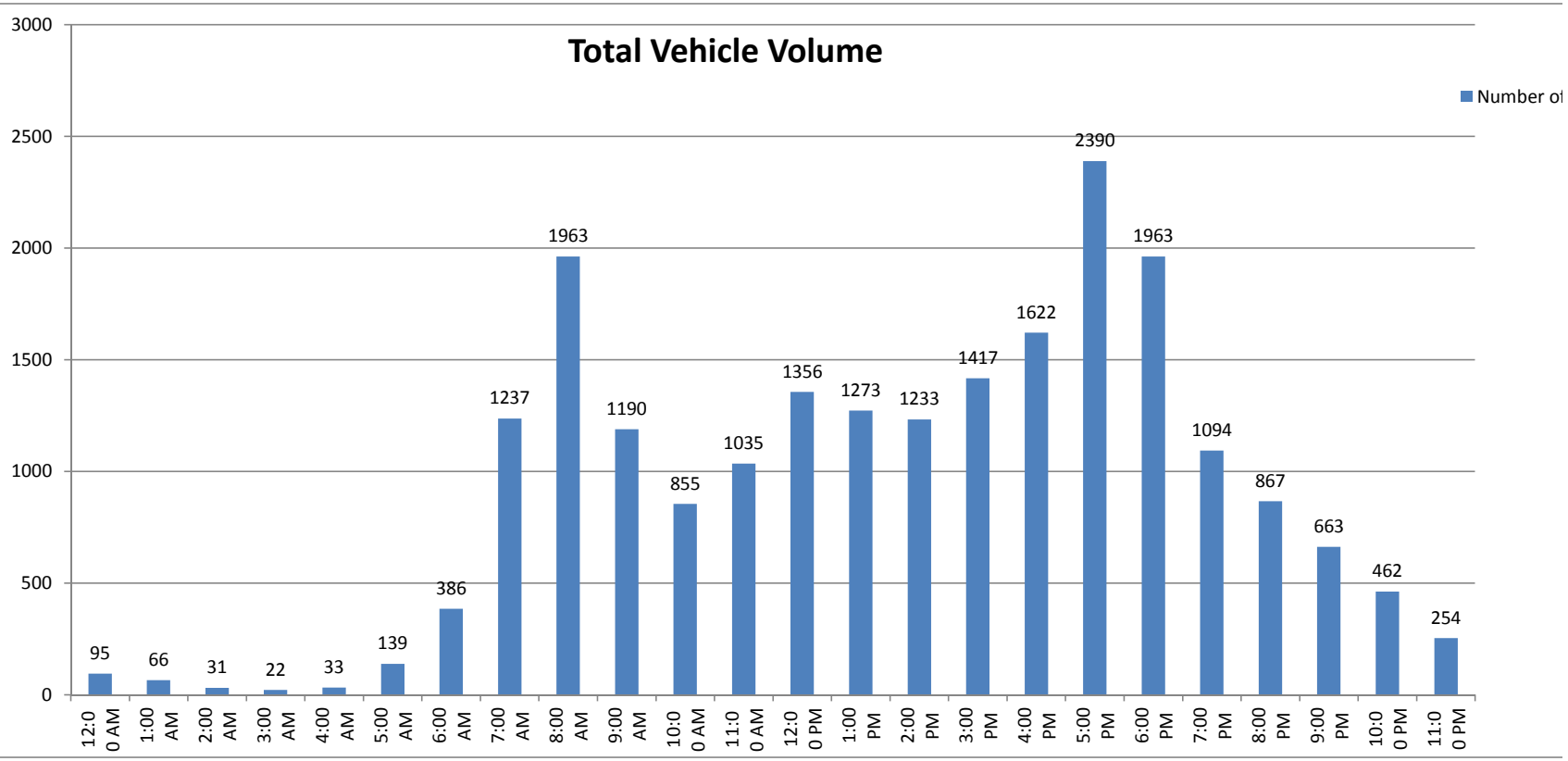
Harvard Avenue

B/ San Carlo - San Marino

2/20/2014

Southbound

Start Time	2/20/2014
12:00 AM	95
1:00 AM	66
2:00 AM	31
3:00 AM	22
4:00 AM	33
5:00 AM	139
6:00 AM	386
7:00 AM	1237
8:00 AM	1963
9:00 AM	1190
10:00 AM	855
11:00 AM	1035
12:00 PM	1356
1:00 PM	1273
2:00 PM	1233
3:00 PM	1417
4:00 PM	1622
5:00 PM	2390
6:00 PM	1963
7:00 PM	1094
8:00 PM	867
9:00 PM	663
10:00 PM	462
11:00 PM	254
Total	21646



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Culver Drive
B/ Main Street - Alton Parkway

File Name 098
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/12/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	47	337			32	327				
12:15	31	373			41	307				
12:30	42	314			30	349				
12:45	25	366	145	1390	34	381	137	1364	282	2754
1:00	18	312			17	404				
1:15	9	359			12	341				
1:30	17	346			15	367				
1:45	14	320	58	1337	15	348	59	1460	117	2797
2:00	11	344			15	331				
2:15	12	377			6	323				
2:30	6	315			6	343				
2:45	7	395	36	1431	10	359	37	1356	73	2787
3:00	11	398			6	318				
3:15	13	445			6	312				
3:30	7	430			11	322				
3:45	11	438	42	1711	6	351	29	1303	71	3014
4:00	4	439			9	339				
4:15	10	463			15	338				
4:30	17	522			24	320				
4:45	23	523	54	1947	25	344	73	1341	127	3288
5:00	20	542			31	352				
5:15	34	579			58	395				
5:30	48	599			85	409				
5:45	68	580	170	2300	79	369	253	1525	423	3825
6:00	63	467			73	355				
6:15	79	456			122	340				
6:30	96	422			159	335				
6:45	135	457	373	1802	237	331	591	1361	964	3163
7:00	125	550			277	343				
7:15	200	408			347	359				
7:30	274	366			479	315				
7:45	276	293	875	1617	585	293	1688	1310	2563	2927
8:00	309	313			544	298				
8:15	334	278			559	282				
8:30	317	268			518	264				
8:45	301	192	1261	1051	543	237	2164	1081	3425	2132
9:00	303	242			420	265				
9:15	315	222			354	231				
9:30	291	192			332	193				
9:45	250	155	1159	811	354	174	1460	863	2619	1674
10:00	252	168			297	178				
10:15	243	141			285	144				
10:30	259	115			330	97				
10:45	265	75	1019	499	292	109	1204	528	2223	1027
11:00	272	61			303	96				
11:15	289	54			304	53				
11:30	307	59			301	40				
11:45	385	43	1253	217	335	55	1243	244	2496	461
Totals	6445	16113			8938	13736				
Combined Totals		22558				22674				
ADT										45232
AM Peak Hour	800	AM			745	AM				
Volume	1261				2206					
P.H.F.	0.944				0.943					
PM Peak Hour		500	PM			515	PM			
Volume		2300				1528				
P.H.F.		0.960				0.934				
Percentage	28.6%	71.4%			39.4%	60.6%				

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

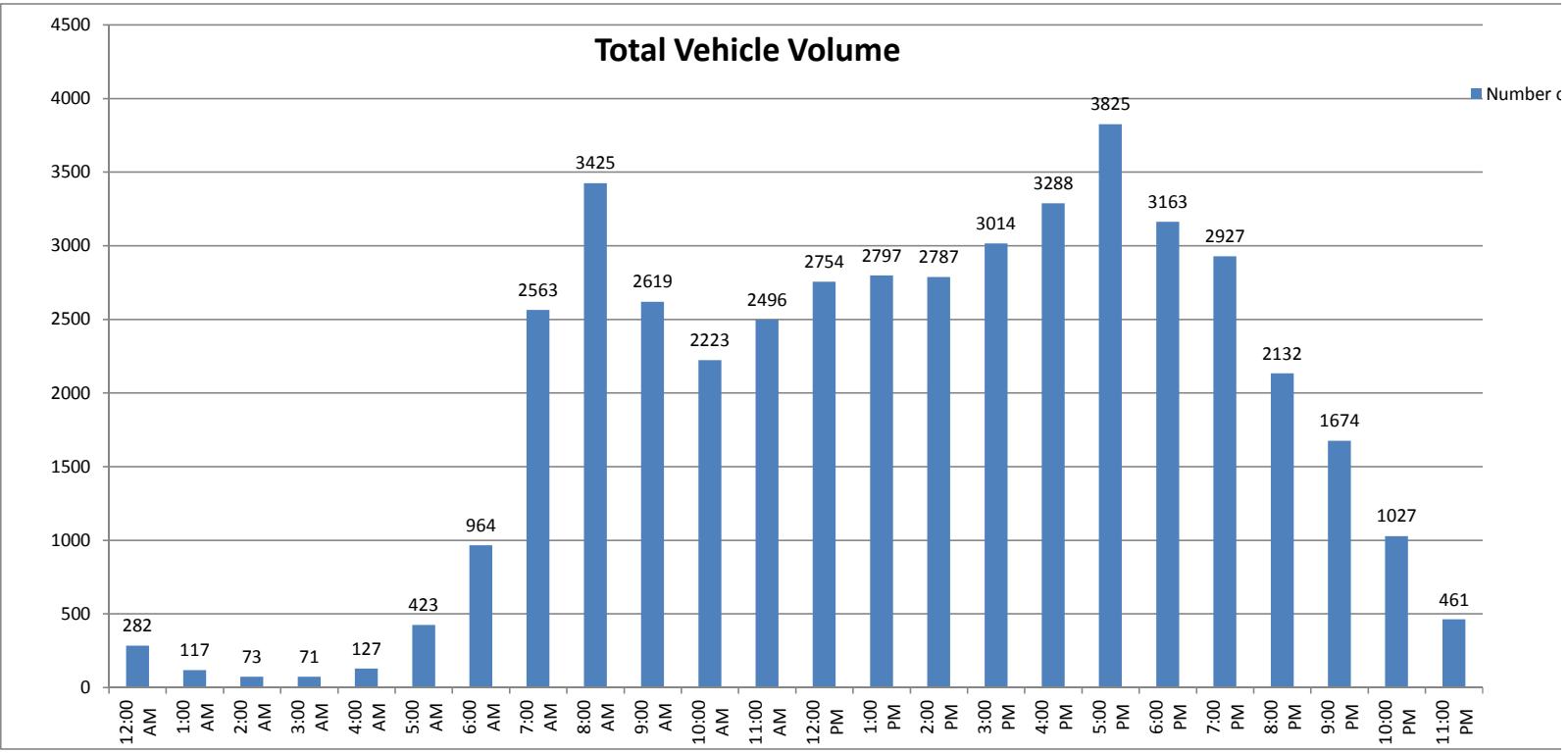
Culver Drive

B/ Main Street - Alton Parkway

3/12/2014

Southbound

Start Time	3/12/2014
12:00 AM	282
1:00 AM	117
2:00 AM	73
3:00 AM	71
4:00 AM	127
5:00 AM	423
6:00 AM	964
7:00 AM	2563
8:00 AM	3425
9:00 AM	2619
10:00 AM	2223
11:00 AM	2496
12:00 PM	2754
1:00 PM	2797
2:00 PM	2787
3:00 PM	3014
4:00 PM	3288
5:00 PM	3825
6:00 PM	3163
7:00 PM	2927
8:00 PM	2132
9:00 PM	1674
10:00 PM	1027
11:00 PM	461
Total	45232



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
MacArthur Boulevard
B/ Main Street - Redhill Avenue

File Name 230
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Northbound				Southbound					
3/6/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	217			26	223				
12:15	8	175			15	208				
12:30	5	219			21	195				
12:45	4	202	23	813	16	218	78	844	101	1657
1:00	7	203			22	229				
1:15	4	210			11	281				
1:30	4	191			11	256				
1:45	9	194	24	798	14	321	58	1087	82	1885
2:00	2	201			9	228				
2:15	2	193			15	272				
2:30	2	232			18	321				
2:45	7	178	13	804	18	290	60	1111	73	1915
3:00	6	190			9	371				
3:15	7	175			7	324				
3:30	11	182			11	390				
3:45	10	187	34	734	8	388	35	1473	69	2207
4:00	12	207			12	411				
4:15	19	169			15	437				
4:30	42	216			12	362				
4:45	55	185	128	777	36	380	75	1590	203	2367
5:00	43	246			25	422				
5:15	58	228			28	428				
5:30	59	276			47	428				
5:45	94	261	254	1011	56	393	156	1671	410	2682
6:00	96	188			70	350				
6:15	124	158			64	368				
6:30	124	157			98	305				
6:45	169	137	513	640	115	293	347	1316	860	1956
7:00	188	100			148	245				
7:15	228	135			166	170				
7:30	207	115			190	118				
7:45	243	83	866	433	207	105	711	638	1577	1071
8:00	280	61			240	96				
8:15	279	66			208	94				
8:30	244	48			194	99				
8:45	263	61	1066	236	227	85	869	374	1935	610
9:00	201	65			224	80				
9:15	171	57			177	78				
9:30	143	60			150	71				
9:45	165	41	680	223	155	81	706	310	1386	533
10:00	155	36			151	64				
10:15	144	21			146	68				
10:30	163	27			148	54				
10:45	204	16	666	100	189	42	634	228	1300	328
11:00	214	22			174	41				
11:15	230	19			174	36				
11:30	228	16			179	48				
11:45	181	15	853	72	215	19	742	144	1595	216
Totals	5120	6641			4471	10786				
Combined Totals		11761				15257				
ADT										27018
AM Peak Hour	800	AM			800	AM				
Volume	1066				869					
P.H.F.	0.952				0.905					
PM Peak Hour		500	PM			500	PM			
Volume		1011				1671				
P.H.F.		0.916				0.976				
Percentage	43.5%	56.5%			29.3%	70.7%				

Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

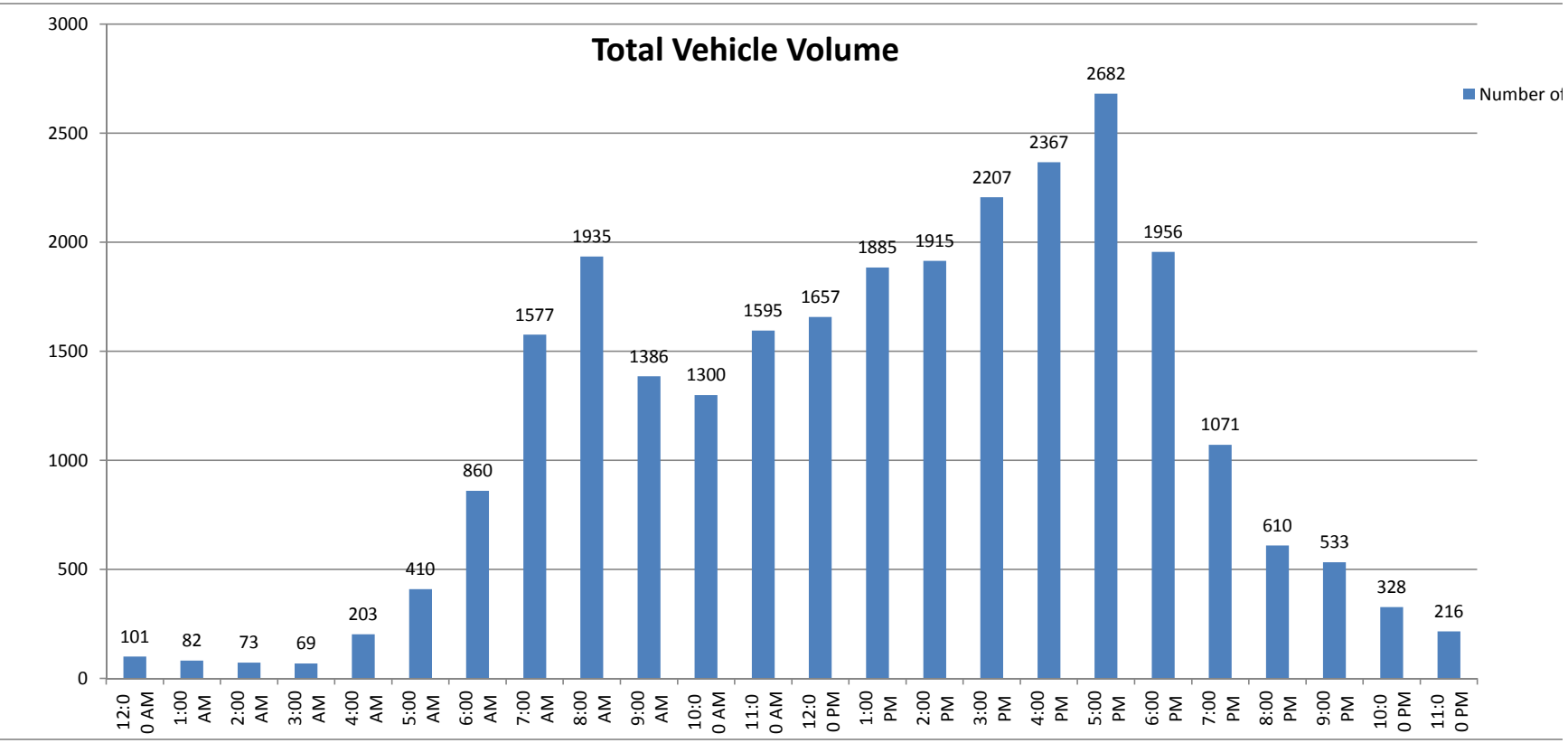
MacArthur Boulevard

B/ Main Street - Redhill Avenue

3/6/2014

Southbound

Start Time	3/6/2014
12:00 AM	101
1:00 AM	82
2:00 AM	73
3:00 AM	69
4:00 AM	203
5:00 AM	410
6:00 AM	860
7:00 AM	1577
8:00 AM	1935
9:00 AM	1386
10:00 AM	1300
11:00 AM	1595
12:00 PM	1657
1:00 PM	1885
2:00 PM	1915
3:00 PM	2207
4:00 PM	2367
5:00 PM	2682
6:00 PM	1956
7:00 PM	1071
8:00 PM	610
9:00 PM	533
10:00 PM	328
11:00 PM	216
Total	27018



Volumes represent the combined totals for both directions

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PO Box 1178
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City of Irvine
Main Street
B/ Redhill Avenue - MacArthur Boulevard

File Name 233
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	17	242			21	216				
12:15	14	249			11	207				
12:30	13	230			16	228				
12:45	7	244	51	965	12	221	60	872	111	1837
1:00	5	225			13	198				
1:15	2	230			6	239				
1:30	7	229			9	204				
1:45	8	226	22	910	7	225	35	866	57	1776
2:00	5	185			9	186				
2:15	4	237			14	204				
2:30	5	228			21	238				
2:45	3	195	17	845	8	230	52	858	69	1703
3:00	6	220			8	228				
3:15	5	179			2	192				
3:30	6	205			8	305				
3:45	16	215	33	819	9	268	27	993	60	1812
4:00	14	236			9	341				
4:15	23	268			5	324				
4:30	40	280			11	404				
4:45	44	267	121	1051	16	359	41	1428	162	2479
5:00	36	322			18	461				
5:15	57	327			25	422				
5:30	98	333			33	472				
5:45	133	348	324	1330	51	370	127	1725	451	3055
6:00	87	267			51	319				
6:15	103	218			64	297				
6:30	171	176			76	218				
6:45	246	155	607	816	109	208	300	1042	907	1858
7:00	224	136			120	144				
7:15	271	116			151	109				
7:30	368	89			178	100				
7:45	424	64	1287	405	200	90	649	443	1936	848
8:00	421	92			207	81				
8:15	431	66			221	65				
8:30	373	73			209	65				
8:45	327	65	1552	296	199	47	836	258	2388	554
9:00	260	65			178	63				
9:15	192	74			151	66				
9:30	174	66			119	52				
9:45	174	58	800	263	156	48	604	229	1404	492
10:00	167	60			132	45				
10:15	166	67			136	38				
10:30	169	47			126	37				
10:45	153	41	655	215	135	20	529	140	1184	355
11:00	185	32			145	34				
11:15	200	25			179	35				
11:30	198	19			165	27				
11:45	232	18	815	94	190	14	679	110	1494	204
Totals	6284	8009			3939	8964				
Combined Totals		14293				12903				
ADT										27196
AM Peak Hour	745	AM			745	AM				
Volume	1649				837					
P.H.F.	0.956				0.947					
PM Peak Hour		500	PM			500	PM			
Volume		1330				1725				
P.H.F.		0.955				0.914				
Percentage	44.0%	56.0%			30.5%	69.5%				

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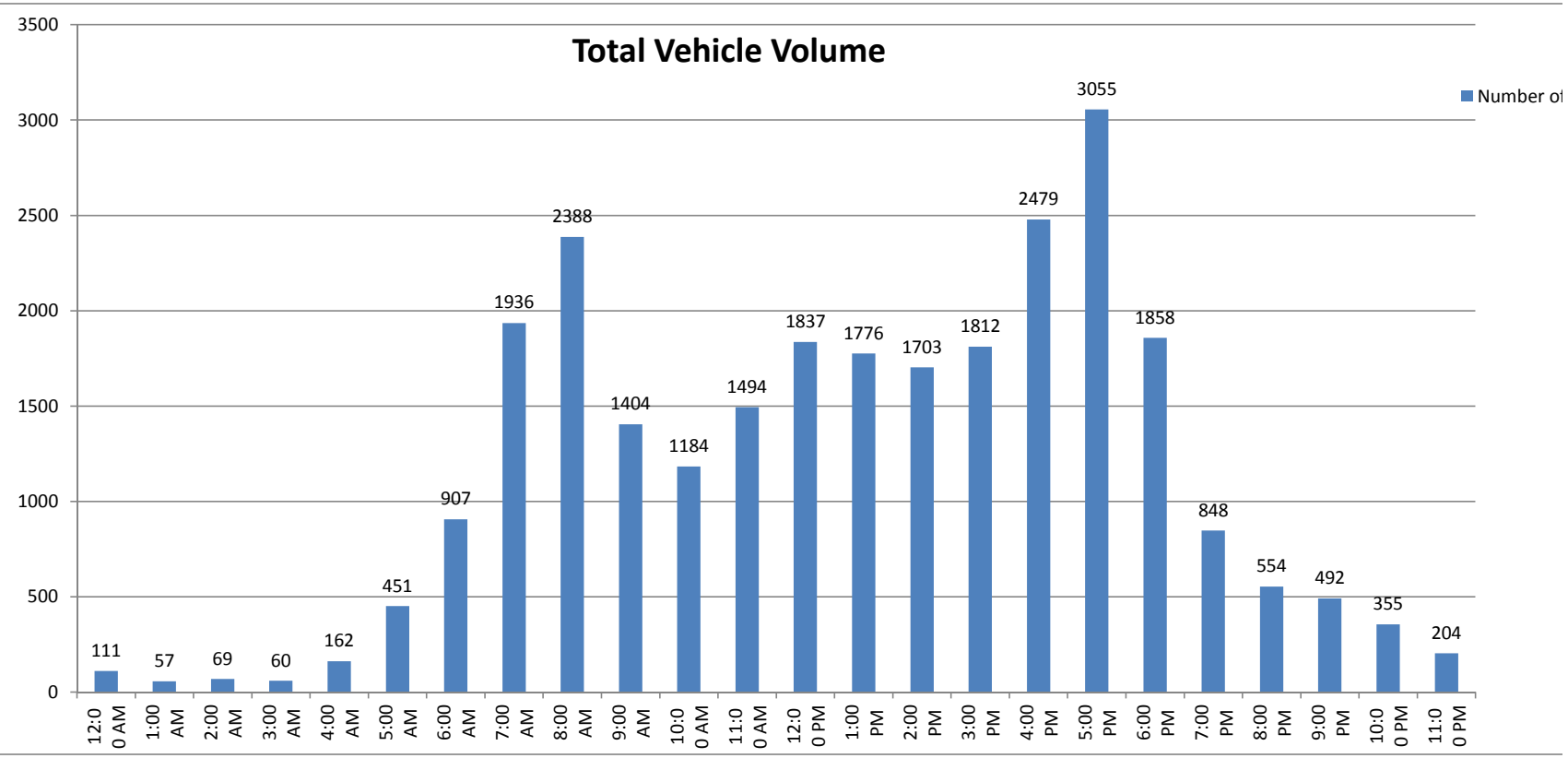
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Main Street
B/ Redhill Avenue - MacArthur Boulevard
2/27/2014

Westbound

Start Time	2/27/2014
12:00 AM	111
1:00 AM	57
2:00 AM	69
3:00 AM	60
4:00 AM	162
5:00 AM	451
6:00 AM	907
7:00 AM	1936
8:00 AM	2388
9:00 AM	1404
10:00 AM	1184
11:00 AM	1494
12:00 PM	1837
1:00 PM	1776
2:00 PM	1703
3:00 PM	1812
4:00 PM	2479
5:00 PM	3055
6:00 PM	1858
7:00 PM	848
8:00 PM	554
9:00 PM	492
10:00 PM	355
11:00 PM	204
Total	27196



Volumes represent the combined totals for both directions

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Main Street
B/ MacArthur Boulevard - Von Karman Avenue

File Name 234
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/26/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	239			26	276				
12:15	13	247			18	256				
12:30	12	241			23	248				
12:45	11	279	45	1006	8	230	75	1010	120	2016
1:00	7	263			15	253				
1:15	4	278			12	251				
1:30	5	232			13	279				
1:45	4	244	20	1017	10	220	50	1003	70	2020
2:00	4	197			22	253				
2:15	4	204			7	248				
2:30	1	207			20	350				
2:45	5	244	14	852	15	254	64	1105	78	1957
3:00	8	201			15	340				
3:15	9	214			6	255				
3:30	16	198			13	380				
3:45	33	210	66	823	3	301	37	1276	103	2099
4:00	18	230			6	363				
4:15	28	257			6	340				
4:30	54	258			13	409				
4:45	133	256	233	1001	22	339	47	1451	280	2452
5:00	72	276			21	406				
5:15	89	346			31	408				
5:30	144	386			33	370				
5:45	257	319	562	1327	49	317	134	1501	696	2828
6:00	166	326			82	358				
6:15	198	297			62	284				
6:30	217	218			76	248				
6:45	291	184	872	1025	86	228	306	1118	1178	2143
7:00	356	136			127	188				
7:15	341	126			170	140				
7:30	355	112			214	131				
7:45	487	106	1539	480	210	95	721	554	2260	1034
8:00	415	100			256	110				
8:15	430	82			250	91				
8:30	379	95			218	80				
8:45	359	70	1583	347	218	61	942	342	2525	689
9:00	328	69			227	75				
9:15	256	53			192	66				
9:30	225	58			169	76				
9:45	210	76	1019	256	156	54	744	271	1763	527
10:00	174	51			177	59				
10:15	162	31			154	41				
10:30	156	40			128	56				
10:45	194	40	686	162	164	29	623	185	1309	347
11:00	165	25			193	42				
11:15	190	21			190	17				
11:30	227	23			251	71				
11:45	242	12	824	81	270	20	904	150	1728	231
Totals	7463	8377			4647	9966				
Combined Totals		15840				14613				
ADT										30453
AM Peak Hour	745	AM			800	AM				
Volume	1711				942					
P.H.F.	0.878				0.920					
PM Peak Hour		515	PM			430	PM			
Volume		1377				1562				
P.H.F.		0.892				0.955				
Percentage	47.1%	52.9%			31.8%	68.2%				

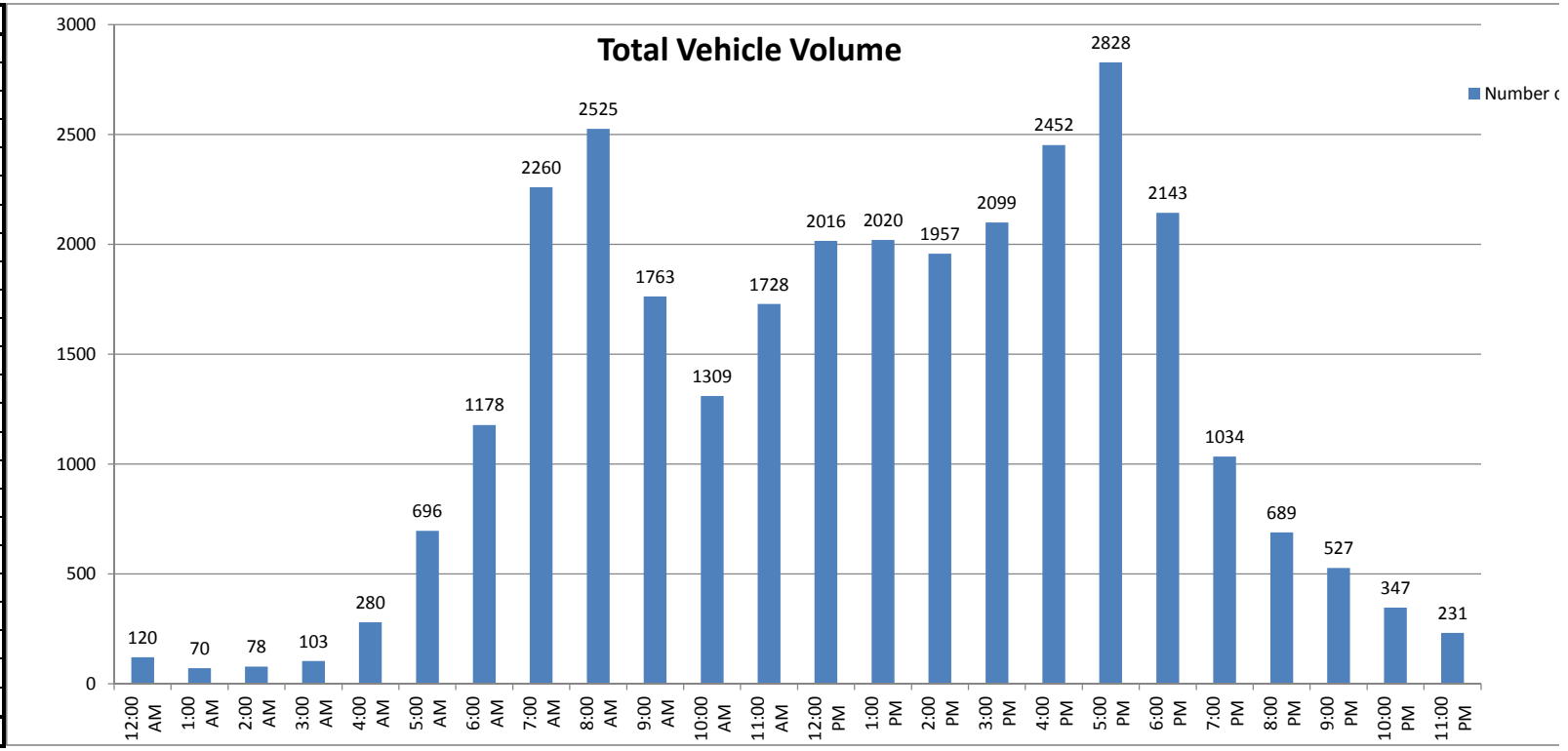
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Main Street
B/ MacArthur Boulevard - Von Karman Avenue
2/26/2014

Westbound

Start Time	2/26/2014
12:00 AM	120
1:00 AM	70
2:00 AM	78
3:00 AM	103
4:00 AM	280
5:00 AM	696
6:00 AM	1178
7:00 AM	2260
8:00 AM	2525
9:00 AM	1763
10:00 AM	1309
11:00 AM	1728
12:00 PM	2016
1:00 PM	2020
2:00 PM	1957
3:00 PM	2099
4:00 PM	2452
5:00 PM	2828
6:00 PM	2143
7:00 PM	1034
8:00 PM	689
9:00 PM	527
10:00 PM	347
11:00 PM	231
Total	30453



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Main Street
B/ Von Karman Avenue - Jamboree Road

File Name 235
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/27/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	225			5	154				
12:15	10	213			4	210				
12:30	10	244			6	183				
12:45	11	231	40	913	2	195	17	742	57	1655
1:00	11	233			2	191				
1:15	9	202			2	175				
1:30	0	213			4	166				
1:45	8	159	28	807	3	164	11	696	39	1503
2:00	5	190			1	168				
2:15	4	231			1	138				
2:30	4	172			4	147				
2:45	5	200	18	793	2	165	8	618	26	1411
3:00	3	234			5	126				
3:15	3	267			2	127				
3:30	7	191			4	132				
3:45	17	328	30	1020	4	142	15	527	45	1547
4:00	6	277			4	137				
4:15	10	380			5	149				
4:30	12	344			6	154				
4:45	14	504	42	1505	25	179	40	619	82	2124
5:00	13	513			14	209				
5:15	12	517			28	222				
5:30	36	425			44	209				
5:45	47	404	108	1859	61	209	147	849	255	2708
6:00	41	371			58	161				
6:15	37	242			72	166				
6:30	62	183			78	118				
6:45	91	195	231	991	127	142	335	587	566	1578
7:00	99	165			154	83				
7:15	139	160			189	79				
7:30	149	124			232	77				
7:45	167	153	554	602	277	56	852	295	1406	897
8:00	139	126			306	54				
8:15	151	98			325	40				
8:30	144	106			311	34				
8:45	137	104	571	434	296	31	1238	159	1809	593
9:00	133	80			298	42				
9:15	114	68			163	27				
9:30	88	57			172	28				
9:45	84	54	419	259	150	35	783	132	1202	391
10:00	107	48			138	17				
10:15	120	47			110	29				
10:30	123	42			109	18				
10:45	142	32	492	169	107	10	464	74	956	243
11:00	176	30			119	15				
11:15	206	34			110	10				
11:30	236	18			115	10				
11:45	260	20	878	102	172	7	516	42	1394	144
Totals	3411	9454			4426	5340				
Combined Totals		12865				9766				
ADT										22631
AM Peak Hour	1100	AM			800	AM				
Volume	878				1238					
P.H.F.	0.844				0.952					
PM Peak Hour		445	PM			500	PM			
Volume		1959				849				
P.H.F.		0.947				0.956				
Percentage	26.5%	73.5%			45.3%	54.7%				

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Corona, CA 92878

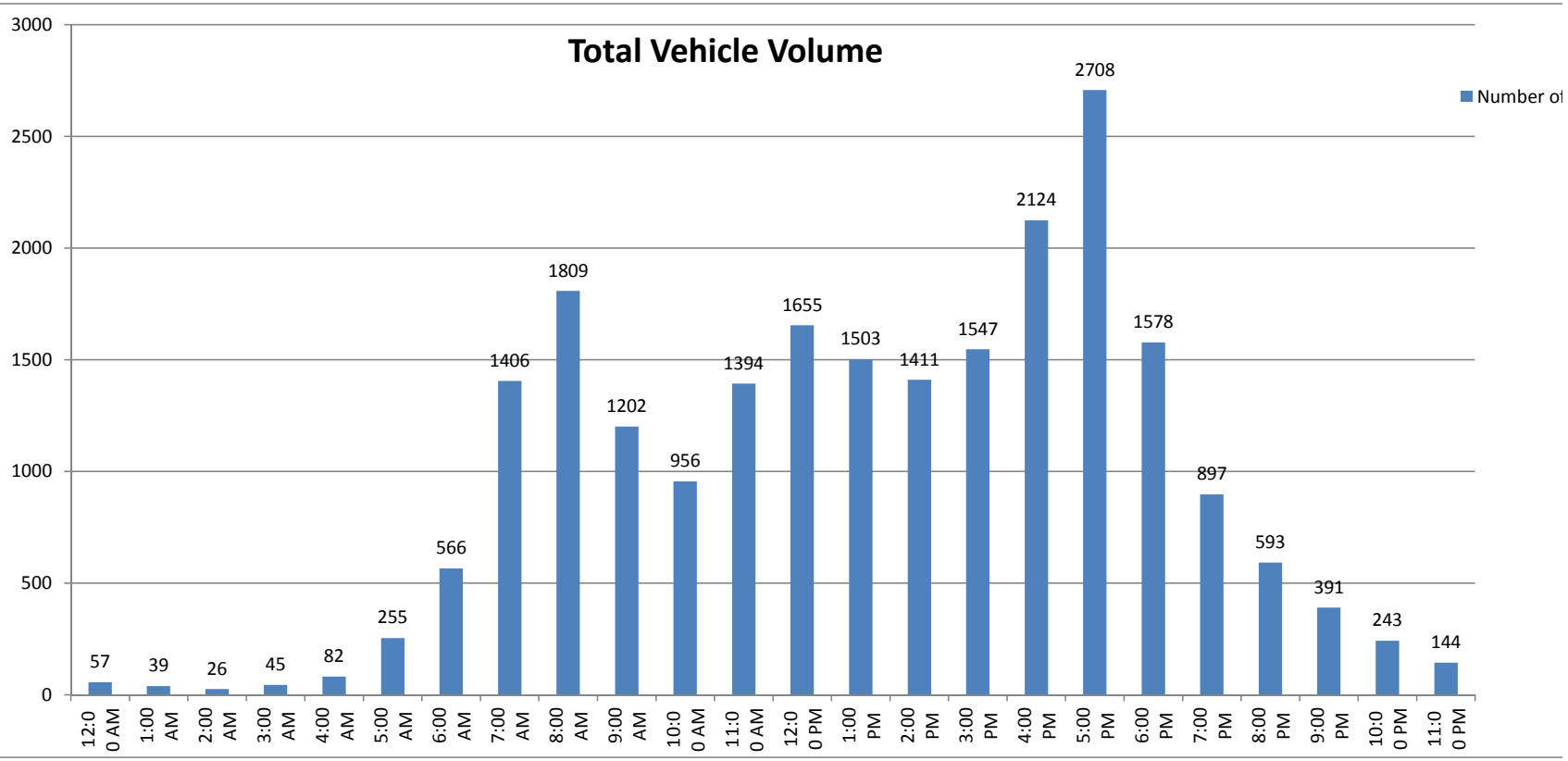
24 Hour Volume Plot

Main Street
B/ Von Karman Avenue - Jamboree Road

2/27/2014

Westbound

Start Time	2/27/2014
12:00 AM	57
1:00 AM	39
2:00 AM	26
3:00 AM	45
4:00 AM	82
5:00 AM	255
6:00 AM	566
7:00 AM	1406
8:00 AM	1809
9:00 AM	1202
10:00 AM	956
11:00 AM	1394
12:00 PM	1655
1:00 PM	1503
2:00 PM	1411
3:00 PM	1547
4:00 PM	2124
5:00 PM	2708
6:00 PM	1578
7:00 PM	897
8:00 PM	593
9:00 PM	391
10:00 PM	243
11:00 PM	144
Total	22631



Volumes represent the combined totals for both directions

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Main Street
B/ Jamboree Road - Harvard Avenue

File Name 236
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/26/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	24	222			15	179				
12:15	17	217			8	178				
12:30	19	234			19	182				
12:45	13	236	73	909	6	228	48	767	121	1676
1:00	14	237			8	183				
1:15	11	186			14	184				
1:30	4	194			1	197				
1:45	3	178	32	795	2	160	25	724	57	1519
2:00	4	169			2	165				
2:15	5	155			1	165				
2:30	4	170			4	152				
2:45	7	176	20	670	2	168	9	650	29	1320
3:00	8	214			2	155				
3:15	5	212			0	155				
3:30	6	188			8	158				
3:45	6	203	25	817	6	150	16	618	41	1435
4:00	6	240			4	155				
4:15	15	245			6	158				
4:30	8	365			12	152				
4:45	5	315	34	1165	19	199	41	664	75	1829
5:00	25	486			21	201				
5:15	13	480			34	159				
5:30	23	468			47	179				
5:45	29	446	90	1880	52	194	154	733	244	2613
6:00	38	419			56	192				
6:15	53	374			69	183				
6:30	63	312			78	155				
6:45	88	252	242	1357	130	157	333	687	575	2044
7:00	106	209			140	131				
7:15	133	194			205	157				
7:30	164	192			261	124				
7:45	201	167	604	762	321	99	927	511	1531	1273
8:00	170	134			349	87				
8:15	185	129			343	74				
8:30	172	119			275	70				
8:45	175	115	702	497	277	79	1244	310	1946	807
9:00	162	115			232	56				
9:15	132	106			159	57				
9:30	136	83			185	57				
9:45	130	89	560	393	161	53	737	223	1297	616
10:00	122	80			137	44				
10:15	110	56			151	45				
10:30	154	63			144	45				
10:45	129	44	515	243	133	45	565	179	1080	422
11:00	147	46			153	39				
11:15	171	34			143	25				
11:30	200	29			165	18				
11:45	229	20	747	129	180	5	641	87	1388	216
Totals	3644	9617			4740	6153				
Combined Totals		13261				10893				
ADT										24154
AM Peak Hour	1100	AM			745	AM				
Volume	747				1288					
P.H.F.	0.816				0.923					
PM Peak Hour		500	PM			2445	PM			
Volume		1880				792				
P.H.F.		0.967				0.868				
Percentage	27.5%	72.5%			43.5%	56.5%				

Counts Unlimited, Inc.
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Corona, CA 92878

24 Hour Volume Plot

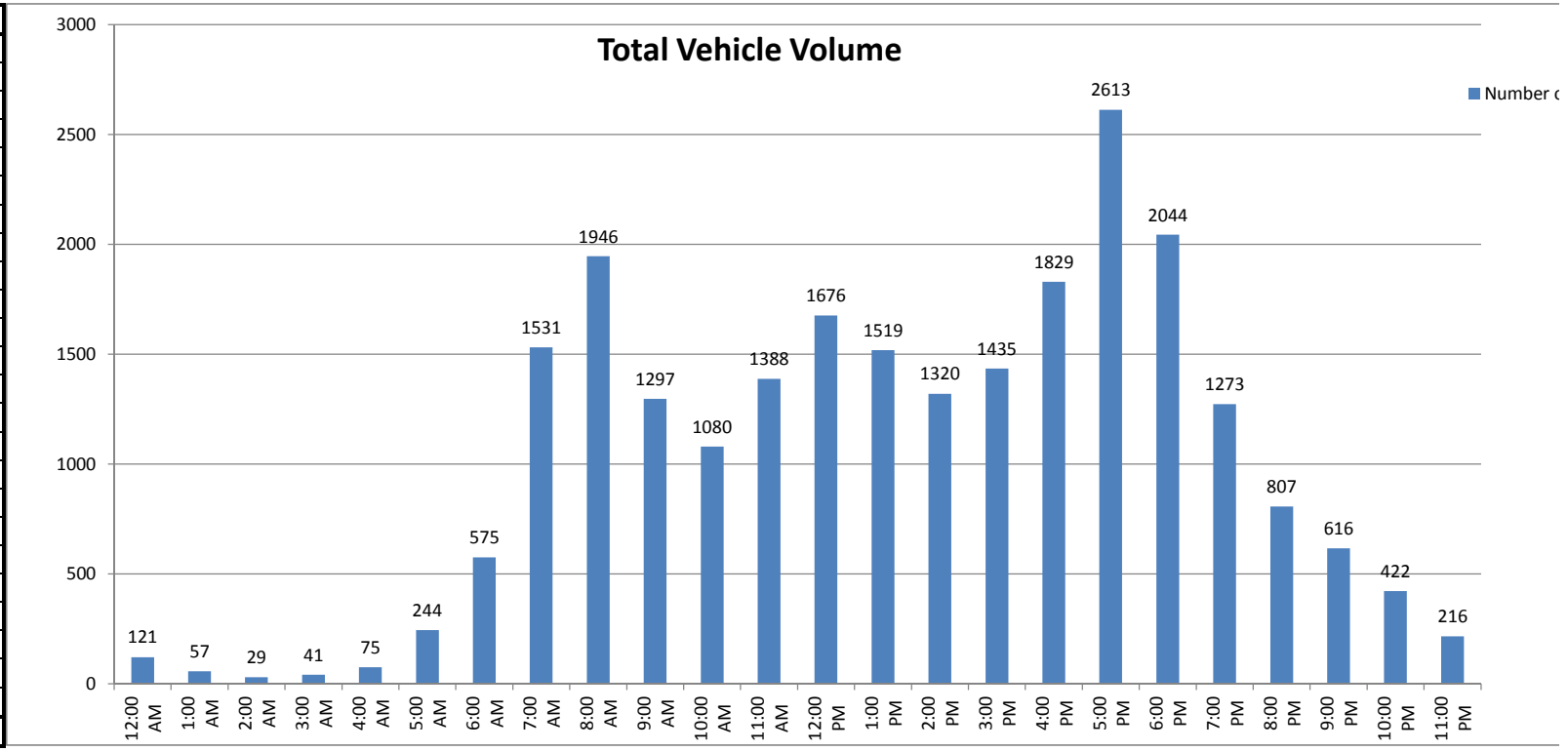
Main Street

B/ Jamboree Road - Harvard Avenue

2/26/2014

Westbound

Start Time	2/26/2014
12:00 AM	121
1:00 AM	57
2:00 AM	29
3:00 AM	41
4:00 AM	75
5:00 AM	244
6:00 AM	575
7:00 AM	1531
8:00 AM	1946
9:00 AM	1297
10:00 AM	1080
11:00 AM	1388
12:00 PM	1676
1:00 PM	1519
2:00 PM	1320
3:00 PM	1435
4:00 PM	1829
5:00 PM	2613
6:00 PM	2044
7:00 PM	1273
8:00 PM	807
9:00 PM	616
10:00 PM	422
11:00 PM	216
Total	24154



Volumes represent the combined totals for both directions

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

City of Irvine
Main Street
B/ Harvard Avenue - Culver Drive

File Name 237
Site Code: 192-14002
24 Hour Directional Volume Count

Date:	Eastbound				Westbound					
2/26/2014	15 Minute Totals		Hourly Totals		15 Minute Totals		Hourly Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	9	95			3	50				
12:15	7	77			1	57				
12:30	11	97			4	56				
12:45	6	110	33	379	5	74	13	237	46	616
1:00	4	125			3	94				
1:15	3	105			3	96				
1:30	2	91			2	64				
1:45	2	64	11	385	0	87	8	341	19	726
2:00	1	85			0	58				
2:15	1	79			2	66				
2:30	2	84			0	65				
2:45	1	92	5	340	0	83	2	272	7	612
3:00	0	107			0	55				
3:15	0	107			1	55				
3:30	2	95			2	67				
3:45	2	133	4	442	1	41	4	218	8	660
4:00	2	127			1	50				
4:15	6	158			1	45				
4:30	1	210			4	55				
4:45	1	224	10	719	4	70	10	220	20	939
5:00	4	307			6	92				
5:15	6	309			8	70				
5:30	2	344			13	80				
5:45	6	303	18	1263	18	88	45	330	63	1593
6:00	15	283			17	79				
6:15	19	253			23	76				
6:30	15	228			36	72				
6:45	37	144	86	908	51	57	127	284	213	1192
7:00	31	117			79	53				
7:15	44	108			99	62				
7:30	105	95			157	42				
7:45	166	88	346	408	216	32	551	189	897	597
8:00	76	69			262	30				
8:15	66	57			216	38				
8:30	61	69			188	28				
8:45	52	58	255	253	180	22	846	118	1101	371
9:00	56	54			105	18				
9:15	61	39			81	24				
9:30	38	36			101	16				
9:45	57	44	212	173	77	21	364	79	576	252
10:00	39	32			57	15				
10:15	41	25			51	14				
10:30	59	24			45	13				
10:45	36	26	175	107	58	14	211	56	386	163
11:00	59	18			54	8				
11:15	73	11			52	8				
11:30	77	9			65	6				
11:45	79	3	288	41	63	6	234	28	522	69
Totals	1443	5418			2415	2372				
Combined Totals		6861				4787				
ADT										11648
AM Peak Hour	730	AM			745	AM				
Volume	413				882					
P.H.F.	0.622				0.842					
PM Peak Hour		500	PM			100	PM			
Volume		1263				341				
P.H.F.		0.918				0.888				
Percentage	21.0%	79.0%			50.4%	49.6%				

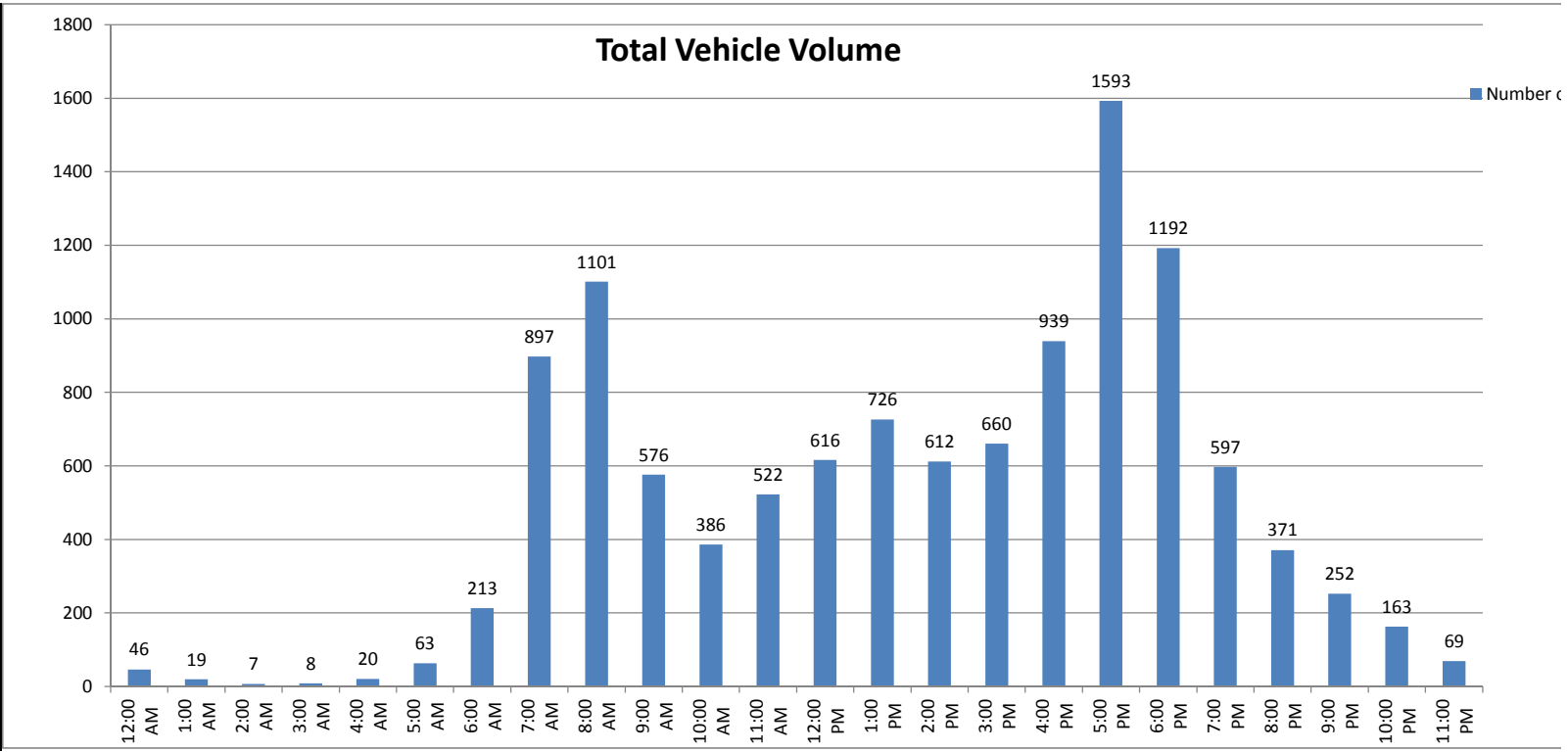
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878

24 Hour Volume Plot

Main Street
B/ Harvard Avenue - Culver Drive
2/26/2014

Westbound

Start Time	2/26/2014
12:00 AM	46
1:00 AM	19
2:00 AM	7
3:00 AM	8
4:00 AM	20
5:00 AM	63
6:00 AM	213
7:00 AM	897
8:00 AM	1101
9:00 AM	576
10:00 AM	386
11:00 AM	522
12:00 PM	616
1:00 PM	726
2:00 PM	612
3:00 PM	660
4:00 PM	939
5:00 PM	1593
6:00 PM	1192
7:00 PM	597
8:00 PM	371
9:00 PM	252
10:00 PM	163
11:00 PM	69
Total	11648



Volumes represent the combined totals for both directions

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H

Tustin, CA. 92780

Location : ARMSTRONG AVENUE — Site: TUSTIN

Segment : S/O VALENCIA AVENUE — Date: 05/21/14

Client : CITY OF TUSTIN — Day: Wednesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	0	0	4	12	0	0	3	19	0	0	7	31
12:15	0		3		0		7		0		10	
12:30	0		3		0		6		0		9	
12:45	0		2		0		3		0		5	
01:00	0	0	5	21	0	0	5	15	0	0	10	36
01:15	0		7		0		4		0		11	
01:30	0		4		0		4		0		8	
01:45	0		5		0		2		0		7	
02:00	0	0	7	21	0	0	2	13	0	0	9	34
02:15	0		3		0		1		0		4	
02:30	0		8		0		8		0		16	
02:45	0		3		0		2		0		5	
03:00	0	0	6	43	0	0	1	11	0	0	7	54
03:15	0		15		0		2		0		17	
03:30	0		14		0		6		0		20	
03:45	0		8		0		2		0		10	
04:00	0	0	8	70	0	1	6	18	0	1	14	88
04:15	0		48		0		2		0		50	
04:30	0		13		1		9		1		22	
04:45	0		1		0		1		0		2	
05:00	0	1	3	6	3	52	5	21	3	53	8	27
05:15	0		0		2		10		2		10	
05:30	0		1		10		3		10		4	
05:45	1		2		37		3		38		5	
06:00	0	5	7	84	30	107	5	31	30	112	12	115
06:15	2		76		48		1		50		77	
06:30	0		0		13		11		13		11	
06:45	3		1		16		14		19		15	
07:00	1	5	0	1	17	45	14	23	18	50	14	24
07:15	2		0		14		4		16		4	
07:30	0		1		5		3		5		4	
07:45	2		0		9		2		11		2	
08:00	0	10	8	54	3	17	2	3	3	27	10	57
08:15	4		11		2		1		6		12	
08:30	3		17		3		0		6		17	
08:45	3		18		9		0		12		18	
09:00	1	16	0	20	9	13	0	1	10	29	0	21
09:15	3		2		1		0		4		2	
09:30	4		18		2		1		6		19	
09:45	8		0		1		0		9		0	
10:00	7	13	1	1	3	13	0	0	10	26	1	1
10:15	2		0		2		0		4		0	
10:30	3		0		3		0		6		0	
10:45	1		0		5		0		6		0	
11:00	13	50	0	0	24	42	0	0	37	92	0	0
11:15	11		0		8		0		19		0	
11:30	18		0		3		0		21		0	
11:45	8		0		7		0		15		0	
Totals	100		333		290		155		390		488	
Split%	25.6		68.2		74.4		31.8					
Day Totals		433				445				878		
Day Splits		49.3				50.7						
Peak Hour	11:00		05:30		05:45		06:30		05:45		06:15	
Volume	50		86		128		43		131		117	
Factor	0.69		0.28		0.67		0.77		0.65		0.38	

* Data File : D1405061

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WALNUT AVENUE

File Name : H1405080
Site Code : 00000554
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

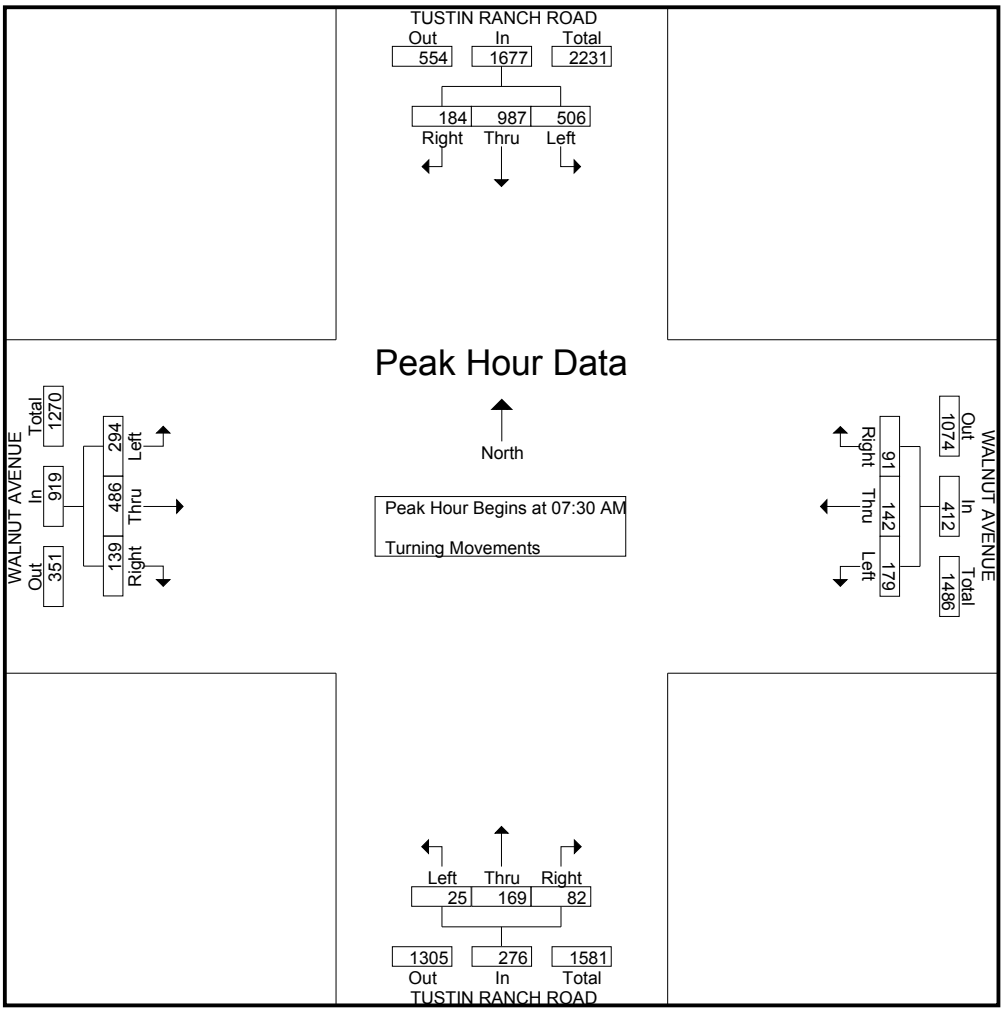
	TUSTIN RANCH ROAD Southbound			WALNUT AVENUE Westbound			TUSTIN RANCH ROAD Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	15	166	130	20	31	6	20	36	7	13	100	36	580
07:15 AM	29	185	148	26	34	10	12	26	4	26	103	67	670
07:30 AM	53	250	132	21	22	22	22	37	5	32	101	91	788
07:45 AM	54	284	152	22	42	29	24	36	7	41	123	87	901
Total	151	885	562	89	129	67	78	135	23	112	427	281	2939
08:00 AM	43	233	118	27	38	33	19	50	6	43	138	71	819
08:15 AM	34	220	104	21	40	95	17	46	7	23	124	45	776
08:30 AM	27	215	138	25	48	34	19	30	5	15	106	37	699
08:45 AM	18	189	122	35	31	13	16	27	11	18	93	58	631
Total	122	857	482	108	157	175	71	153	29	99	461	211	2925
*** BREAK ***													
04:00 PM	33	63	63	50	153	19	44	242	42	10	61	48	828
04:15 PM	45	74	79	117	147	26	26	265	62	10	48	62	961
04:30 PM	79	81	73	188	203	22	22	266	54	10	67	61	1126
04:45 PM	68	76	103	130	171	24	23	290	63	12	80	51	1091
Total	225	294	318	485	674	91	115	1063	221	42	256	222	4006
05:00 PM	82	99	68	138	194	34	32	295	44	12	58	67	1123
05:15 PM	92	114	82	140	190	20	45	335	76	10	74	79	1257
05:30 PM	89	114	72	148	208	33	29	287	78	17	74	67	1216
05:45 PM	97	109	72	103	172	23	35	298	63	8	82	92	1154
Total	360	436	294	529	764	110	141	1215	261	47	288	305	4750
Grand Total	858	2472	1656	1211	1724	443	405	2566	534	300	1432	1019	14620
Apprch %	17.2	49.6	33.2	35.8	51	13.1	11.6	73.2	15.2	10.9	52.1	37	
Total %	5.9	16.9	11.3	8.3	11.8	3	2.8	17.6	3.7	2.1	9.8	7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WALNUT AVENUE

File Name : H1405080
Site Code : 00000554
Start Date : 6/10/2014

	TUSTIN RANCH ROAD Southbound				WALNUT AVENUE Westbound				TUSTIN RANCH ROAD Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	53	250	132	435	21	22	22	65	22	37	5	64	32	101	**91**	224	788
07:45 AM	**54**	**284**	**152**	**490**	22	**42**	29	93	**24**	36	**7**	67	41	123	87	251	**901**
08:00 AM	43	233	118	394	**27**	38	33	98	19	**50**	6	**75**	**43**	**138**	71	**252**	819
08:15 AM	34	220	104	358	21	40	**95**	**156**	17	46	7	70	23	124	45	192	776
Total Volume	184	987	506	1677	91	142	179	412	82	169	25	276	139	486	294	919	3284
% App. Total	11	58.9	30.2		22.1	34.5	43.4		29.7	61.2	9.1		15.1	52.9	32		
PHF	.852	.869	.832	.856	.843	.845	.471	.660	.854	.845	.893	.920	.808	.880	.808	.912	.911

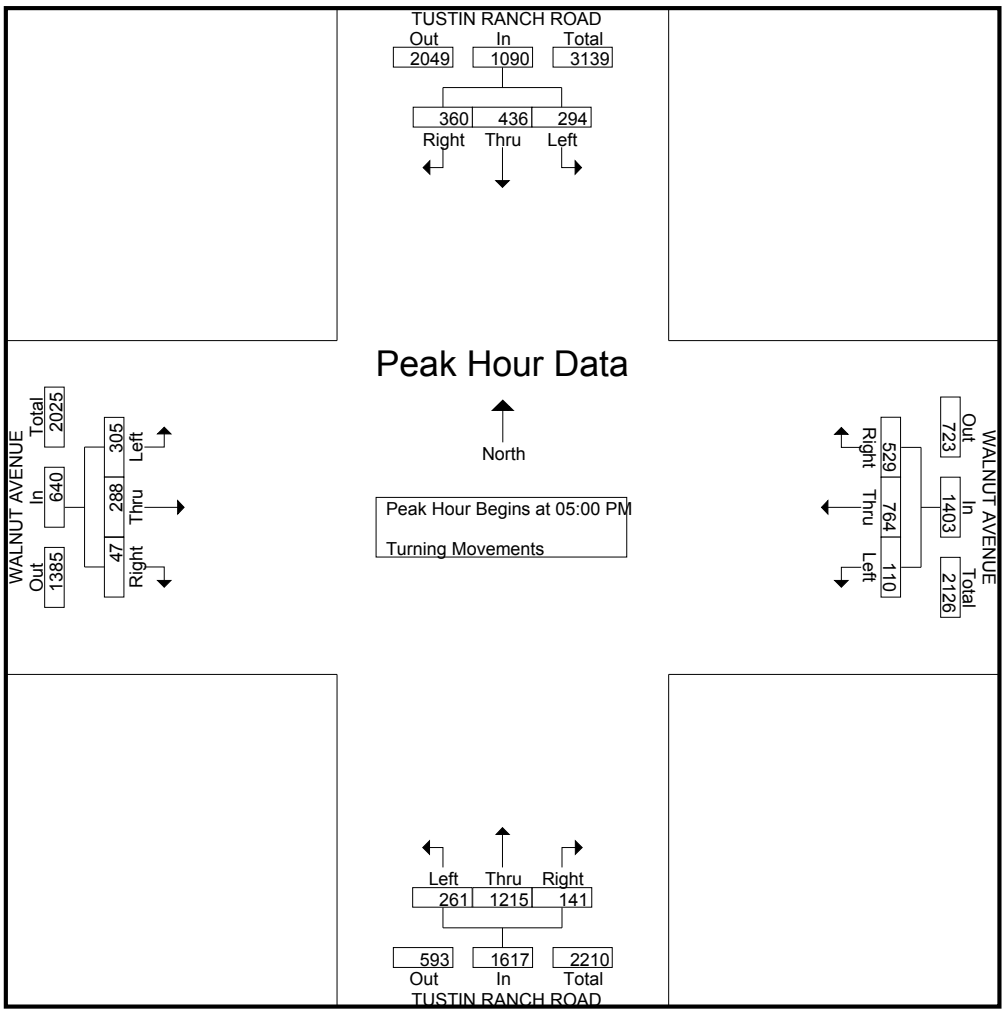


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WALNUT AVENUE

File Name : H1405080
Site Code : 00000554
Start Date : 6/10/2014
Page No : 3

	TUSTIN RANCH ROAD Southbound				WALNUT AVENUE Westbound				TUSTIN RANCH ROAD Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	82	99	68	249	138	194	**34**	366	32	295	44	371	12	58	67	137	1123
05:15 PM	92	**114**	**82**	**288**	140	190	20	350	**45**	**335**	76	**456**	10	74	79	163	**1257**
05:30 PM	89	114	72	275	**148**	**208**	33	**389**	29	287	**78**	394	**17**	74	67	158	1216
05:45 PM	**97**	109	72	278	103	172	23	298	35	298	63	396	8	**82**	**92**	**182**	1154
Total Volume	360	436	294	1090	529	764	110	1403	141	1215	261	1617	47	288	305	640	4750
% App. Total	33	40	27		37.7	54.5	7.8		8.7	75.1	16.1		7.3	45	47.7		
PHF	.928	.956	.896	.946	.894	.918	.809	.902	.783	.907	.837	.887	.691	.878	.829	.879	.945



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD SB
E-W Direction: WALNUT AVENUE

File Name : H1404043
Site Code : 131
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

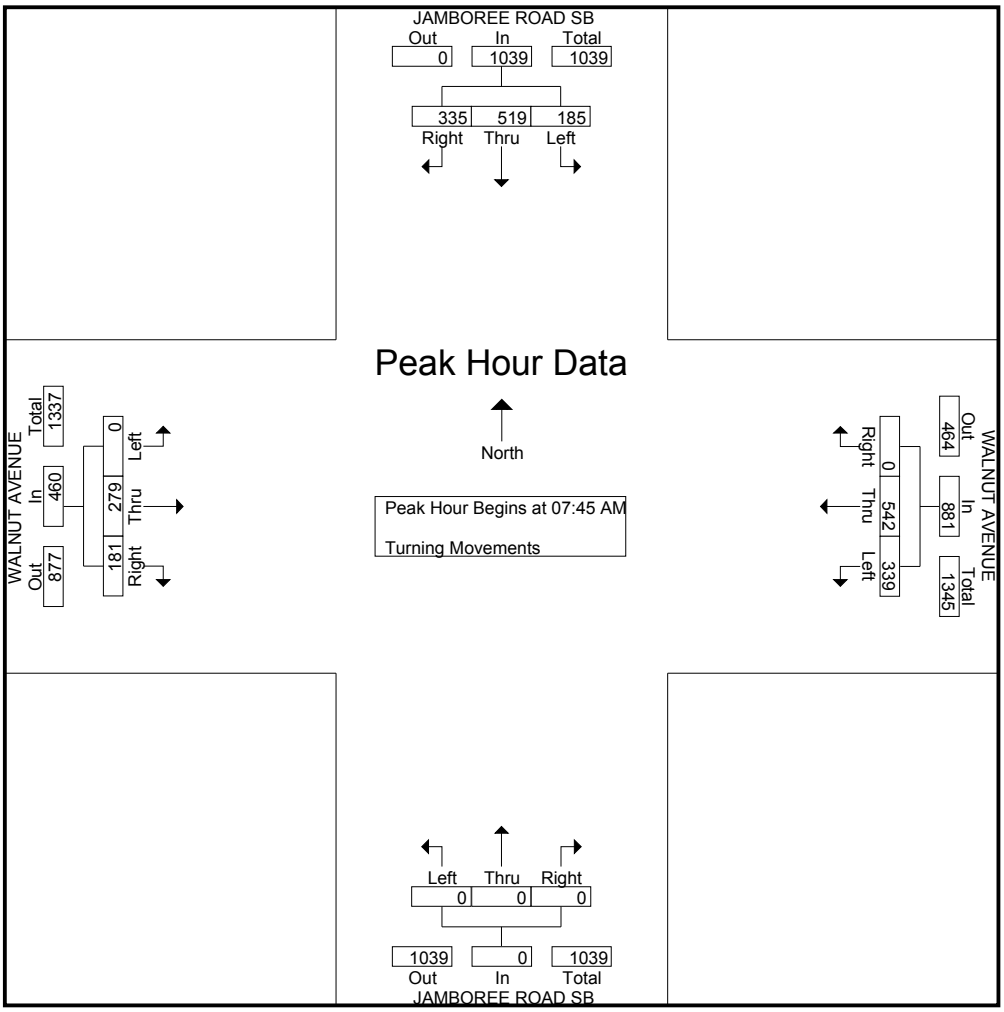
	JAMBOREE ROAD SB Southbound			WALNUT AVENUE Westbound			JAMBOREE ROAD SB Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	63	99	34	0	76	57	0	0	0	24	23	0	376
07:15 AM	65	114	28	0	80	66	0	0	0	26	45	0	424
07:30 AM	71	120	48	0	98	85	0	0	0	52	45	0	519
07:45 AM	81	156	35	0	147	99	0	0	0	41	71	0	630
Total	280	489	145	0	401	307	0	0	0	143	184	0	1949
08:00 AM	90	122	66	0	132	82	0	0	0	47	78	0	617
08:15 AM	78	110	35	0	126	79	0	0	0	45	62	0	535
08:30 AM	86	131	49	0	137	79	0	0	0	48	68	0	598
08:45 AM	76	126	49	0	141	93	0	0	0	68	68	0	621
Total	330	489	199	0	536	333	0	0	0	208	276	0	2371
*** BREAK ***													
04:00 PM	33	76	51	0	156	47	0	0	0	86	155	0	604
04:15 PM	36	87	52	0	155	46	0	0	0	69	117	0	562
04:30 PM	29	83	51	0	213	55	0	0	0	60	127	0	618
04:45 PM	27	93	52	0	187	55	0	0	0	74	153	0	641
Total	125	339	206	0	711	203	0	0	0	289	552	0	2425
05:00 PM	31	105	55	0	219	59	0	0	0	89	194	0	752
05:15 PM	38	75	71	0	205	62	0	0	0	113	166	0	730
05:30 PM	39	106	60	0	212	63	0	0	0	103	178	0	761
05:45 PM	35	99	57	0	246	65	0	0	0	74	167	0	743
Total	143	385	243	0	882	249	0	0	0	379	705	0	2986
Grand Total	878	1702	793	0	2530	1092	0	0	0	1019	1717	0	9731
Apprch %	26	50.5	23.5	0	69.9	30.1	0	0	0	37.2	62.8	0	
Total %	9	17.5	8.1	0	26	11.2	0	0	0	10.5	17.6	0	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD SB
E-W Direction: WALNUT AVENUE

File Name : H1404043
Site Code : 131
Start Date : 6/10/2014

	JAMBOREE ROAD SB Southbound				WALNUT AVENUE Westbound				JAMBOREE ROAD SB Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	81	**156**	35	272	0	**147**	**99**	**246**	0	0	0	0	41	71	0	112	**630**
08:00 AM	**90**	122	**66**	**278**	0	132	82	214	0	0	0	0	47	**78**	0	**125**	617
08:15 AM	78	110	35	223	0	126	79	205	0	0	0	0	45	62	0	107	535
08:30 AM	86	131	49	266	0	137	79	216	0	0	0	0	**48**	68	0	116	598
Total Volume	335	519	185	1039	0	542	339	881	0	0	0	0	181	279	0	460	2380
% App. Total	32.2	50	17.8		0	61.5	38.5		0	0	0		39.3	60.7	0		
PHF	.931	.832	.701	.934	.000	.922	.856	.895	.000	.000	.000	.000	.943	.894	.000	.920	.944

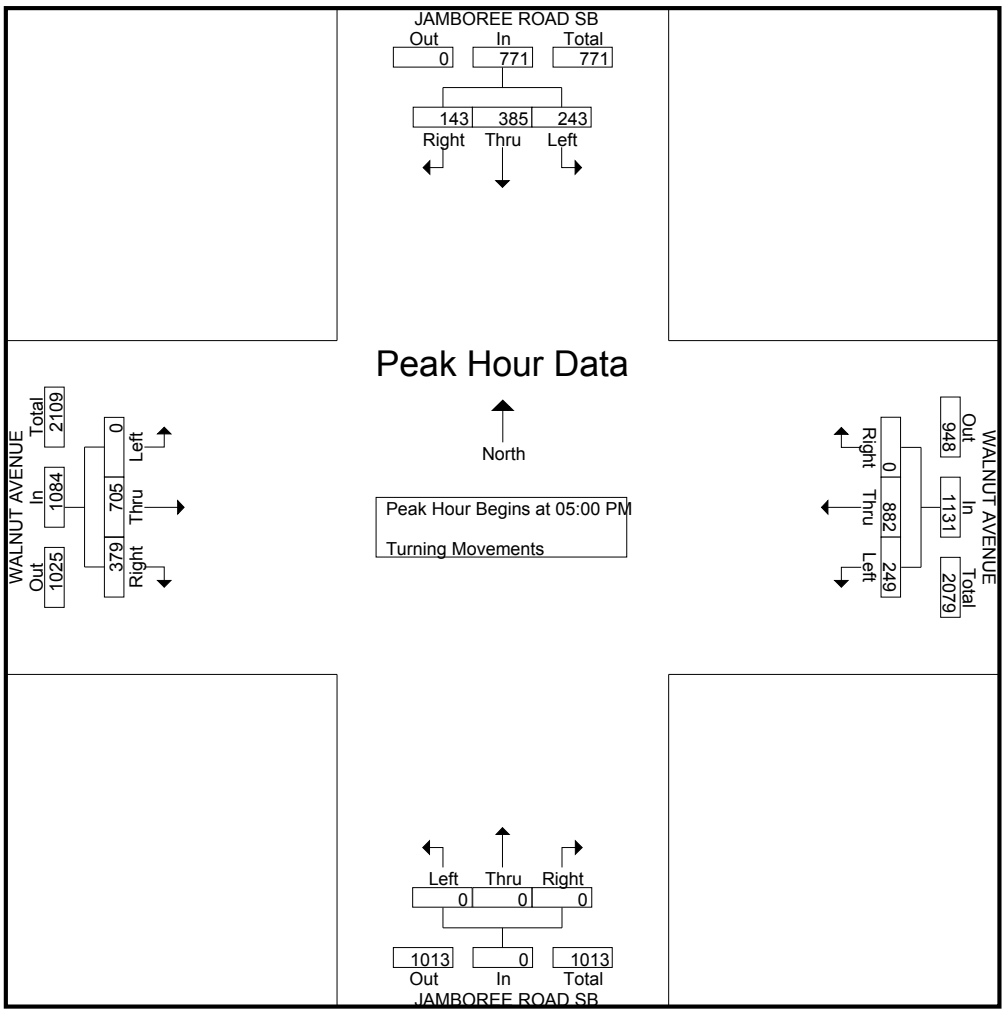


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD SB
E-W Direction: WALNUT AVENUE

File Name : H1404043
Site Code : 131
Start Date : 6/10/2014
Page No : 3

	JAMBOREE ROAD SB Southbound				WALNUT AVENUE Westbound				JAMBOREE ROAD SB Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	31	105	55	191	0	219	59	278	0	0	0	0	89	**194**	0	**283**	752
05:15 PM	38	75	**71**	184	0	205	62	267	0	0	0	0	**113**	166	0	279	730
05:30 PM	**39**	**106**	60	**205**	0	212	63	275	0	0	0	0	103	178	0	281	**761**
05:45 PM	35	99	57	191	0	**246**	**65**	**311**	0	0	0	0	74	167	0	241	743
Total Volume	143	385	243	771	0	882	249	1131	0	0	0	0	379	705	0	1084	2986
% App. Total	18.5	49.9	31.5		0	78	22		0	0	0		35	65	0		
PHF	.917	.908	.856	.940	.000	.896	.958	.909	.000	.000	.000	.000	.838	.909	.000	.958	.981



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WALNUT AVENUE

File Name : H1404044
Site Code : 132
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

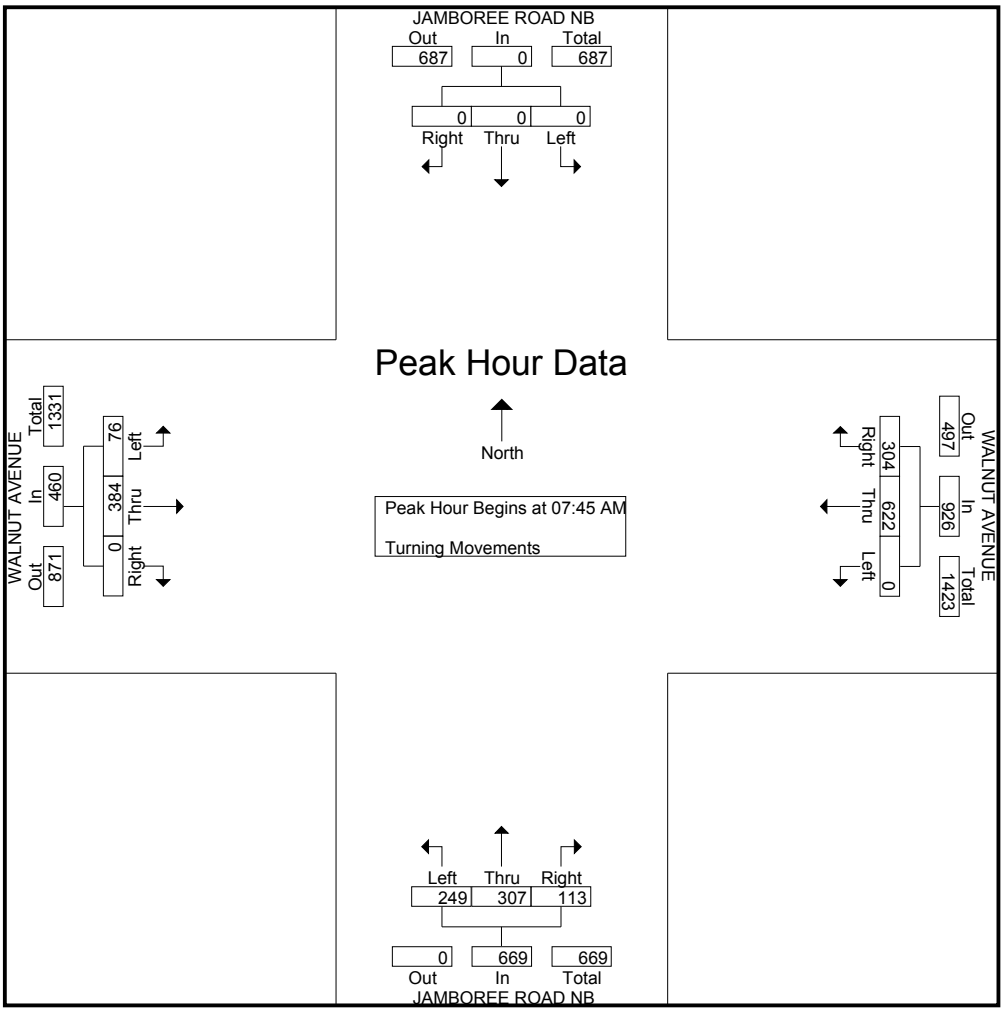
	JAMBOREE ROAD NB Southbound			WALNUT AVENUE Westbound			JAMBOREE ROAD NB Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	51	95	0	28	52	35	0	54	8	323
07:15 AM	0	0	0	51	108	0	22	51	44	0	62	11	349
07:30 AM	0	0	0	62	143	0	28	80	48	0	76	13	450
07:45 AM	0	0	0	66	168	0	28	94	68	0	91	14	529
Total	0	0	0	230	514	0	106	277	195	0	283	46	1651
08:00 AM	0	0	0	76	141	0	33	73	62	0	117	23	525
08:15 AM	0	0	0	67	148	0	32	73	56	0	86	18	480
08:30 AM	0	0	0	95	165	0	20	67	63	0	90	21	521
08:45 AM	0	0	0	81	163	0	39	76	56	0	96	18	529
Total	0	0	0	319	617	0	124	289	237	0	389	80	2055
*** BREAK ***													
04:00 PM	0	0	0	74	143	0	58	100	57	0	124	77	633
04:15 PM	0	0	0	72	159	0	68	106	54	0	107	42	608
04:30 PM	0	0	0	68	201	0	69	130	75	0	128	45	716
04:45 PM	0	0	0	76	170	0	71	125	62	0	122	94	720
Total	0	0	0	290	673	0	266	461	248	0	481	258	2677
05:00 PM	0	0	0	101	204	0	82	141	76	0	148	95	847
05:15 PM	0	0	0	84	194	0	89	143	74	0	161	71	816
05:30 PM	0	0	0	92	209	0	104	139	80	0	169	65	858
05:45 PM	0	0	0	102	224	0	102	123	78	0	155	73	857
Total	0	0	0	379	831	0	377	546	308	0	633	304	3378
Grand Total	0	0	0	1218	2635	0	873	1573	988	0	1786	688	9761
Apprch %	0	0	0	31.6	68.4	0	25.4	45.8	28.8	0	72.2	27.8	
Total %	0	0	0	12.5	27	0	8.9	16.1	10.1	0	18.3	7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WALNUT AVENUE

File Name : H1404044
Site Code : 132
Start Date : 6/10/2014

	JAMBOREE ROAD NB Southbound				WALNUT AVENUE Westbound				JAMBOREE ROAD NB Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	66	**168**	0	234	28	**94**	**68**	**190**	0	91	14	105	**529**
08:00 AM	0	0	0	0	76	141	0	217	**33**	73	62	168	0	**117**	**23**	**140**	525
08:15 AM	0	0	0	0	67	148	0	215	32	73	56	161	0	86	18	104	480
08:30 AM	0	0	0	0	**95**	165	0	**260**	20	67	63	150	0	90	21	111	521
Total Volume	0	0	0	0	304	622	0	926	113	307	249	669	0	384	76	460	2055
% App. Total	0	0	0		32.8	67.2	0		16.9	45.9	37.2		0	83.5	16.5		
PHF	.000	.000	.000	.000	.800	.926	.000	.890	.856	.816	.915	.880	.000	.821	.826	.821	.971

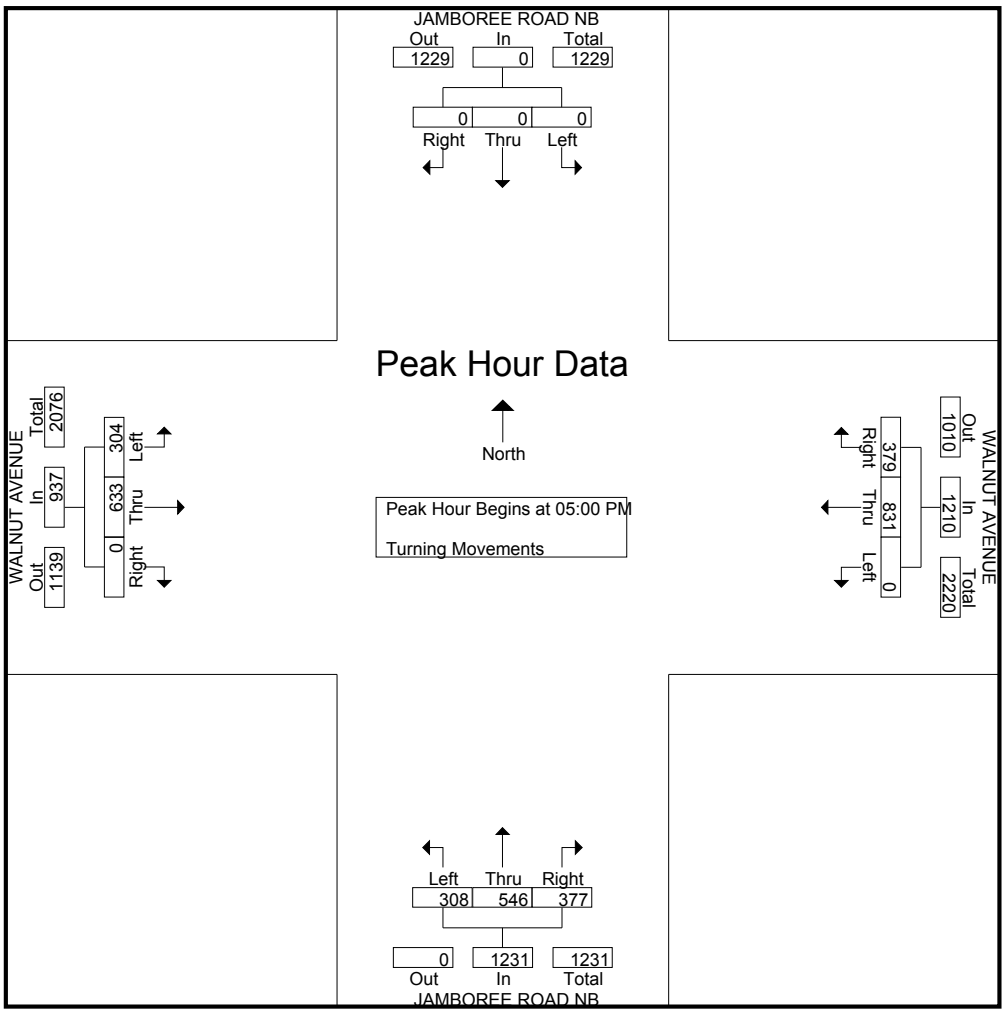


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WALNUT AVENUE

File Name : H1404044
Site Code : 132
Start Date : 6/10/2014
Page No : 3

	JAMBOREE ROAD NB Southbound				WALNUT AVENUE Westbound				JAMBOREE ROAD NB Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	101	204	0	305	82	141	76	299	0	148	**95**	**243**	847
05:15 PM	0	0	0	0	84	194	0	278	89	**143**	74	306	0	161	71	232	816
05:30 PM	0	0	0	0	92	209	0	301	**104**	139	**80**	**323**	0	**169**	65	234	**858**
05:45 PM	0	0	0	0	**102**	**224**	0	**326**	102	123	78	303	0	155	73	228	857
Total Volume	0	0	0	0	379	831	0	1210	377	546	308	1231	0	633	304	937	3378
% App. Total	0	0	0		31.3	68.7	0		30.6	44.4	25		0	67.6	32.4		
PHF	.000	.000	.000	.000	.929	.927	.000	.928	.906	.955	.963	.953	.000	.936	.800	.964	.984



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WALNUT AVENUE

File Name : H1405096
Site Code : 00005163
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

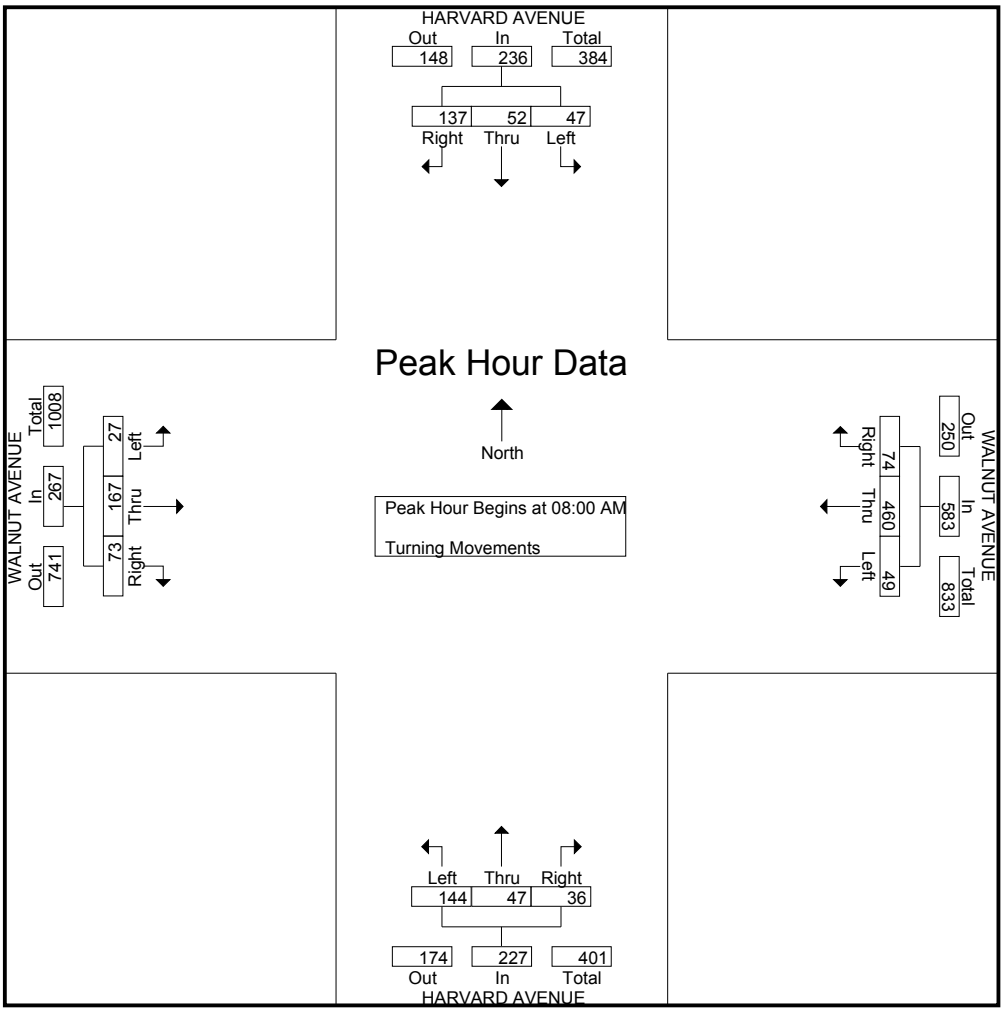
	HARVARD AVENUE Southbound			WALNUT AVENUE Westbound			HARVARD AVENUE Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	3	6	11	84	4	7	11	18	5	33	4	208
07:15 AM	29	6	1	11	96	10	6	3	31	16	32	7	248
07:30 AM	31	4	6	14	116	8	10	4	39	17	27	4	280
07:45 AM	32	13	9	16	130	15	7	6	36	19	25	2	310
Total	114	26	22	52	426	37	30	24	124	57	117	17	1046
08:00 AM	34	11	6	24	114	17	12	7	28	12	37	8	310
08:15 AM	33	10	14	19	116	14	11	13	44	11	33	4	322
08:30 AM	23	20	13	17	114	9	9	15	31	19	45	7	322
08:45 AM	47	11	14	14	116	9	4	12	41	31	52	8	359
Total	137	52	47	74	460	49	36	47	144	73	167	27	1313
*** BREAK ***													
04:00 PM	11	13	27	4	117	19	22	8	34	34	100	21	410
04:15 PM	16	14	14	3	118	23	20	15	39	29	105	16	412
04:30 PM	12	6	12	7	114	20	16	7	39	39	91	16	379
04:45 PM	9	8	17	2	94	17	35	9	38	39	98	21	387
Total	48	41	70	16	443	79	93	39	150	141	394	74	1588
05:00 PM	7	11	17	4	101	30	37	8	38	49	111	25	438
05:15 PM	10	21	19	5	129	27	23	14	42	47	157	23	517
05:30 PM	6	8	18	7	123	26	37	12	54	58	153	29	531
05:45 PM	13	16	33	13	148	35	44	14	54	58	144	27	599
Total	36	56	87	29	501	118	141	48	188	212	565	104	2085
Grand Total	335	175	226	171	1830	283	300	158	606	483	1243	222	6032
Apprch %	45.5	23.8	30.7	7.5	80.1	12.4	28.2	14.8	57	24.8	63.8	11.4	
Total %	5.6	2.9	3.7	2.8	30.3	4.7	5	2.6	10	8	20.6	3.7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WALNUT AVENUE

File Name : H1405096
Site Code : 00005163
Start Date : 6/12/2014

	HARVARD AVENUE Southbound				WALNUT AVENUE Westbound				HARVARD AVENUE Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	34	11	6	51	**24**	114	**17**	**155**	**12**	7	28	47	12	37	**8**	57	310
08:15 AM	33	10	**14**	57	19	**116**	14	149	11	13	**44**	**68**	11	33	4	48	322
08:30 AM	23	**20**	13	56	17	114	9	140	9	**15**	31	55	19	45	7	71	322
08:45 AM	**47**	11	14	**72**	14	116	9	139	4	12	41	57	**31**	**52**	8	**91**	**359**
Total Volume	137	52	47	236	74	460	49	583	36	47	144	227	73	167	27	267	1313
% App. Total	58.1	22	19.9		12.7	78.9	8.4		15.9	20.7	63.4		27.3	62.5	10.1		
PHF	.729	.650	.839	.819	.771	.991	.721	.940	.750	.783	.818	.835	.589	.803	.844	.734	.914

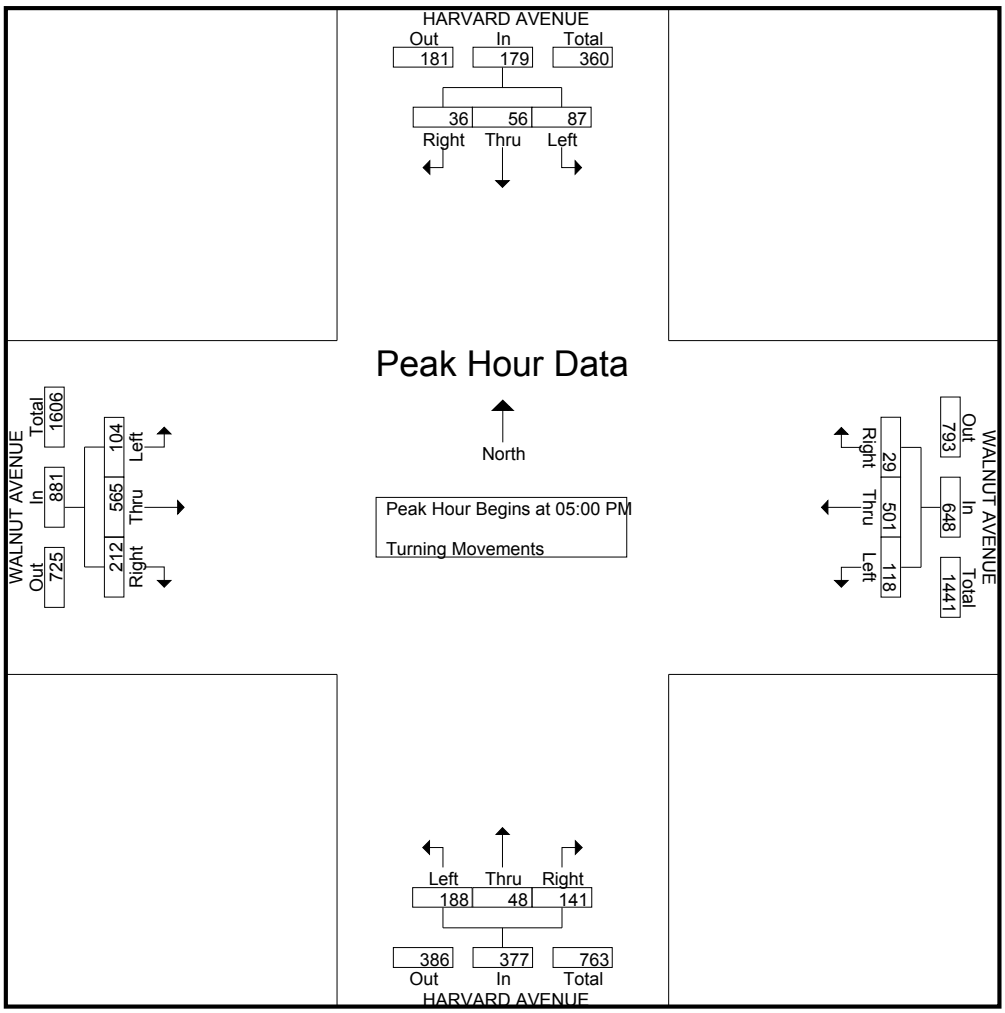


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WALNUT AVENUE

File Name : H1405096
Site Code : 00005163
Start Date : 6/12/2014

	HARVARD AVENUE Southbound				WALNUT AVENUE Westbound				HARVARD AVENUE Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	7	11	17	35	4	101	30	135	37	8	38	83	49	111	25	185	438
05:15 PM	10	**21**	19	50	5	129	27	161	23	**14**	42	79	47	**157**	23	227	517
05:30 PM	6	8	18	32	7	123	26	156	37	12	**54**	103	**58**	153	**29**	**240**	531
05:45 PM	**13**	16	**33**	**62**	**13**	**148**	**35**	**196**	**44**	14	54	**112**	58	144	27	229	**599**
Total Volume	36	56	87	179	29	501	118	648	141	48	188	377	212	565	104	881	2085
% App. Total	20.1	31.3	48.6		4.5	77.3	18.2		37.4	12.7	49.9		24.1	64.1	11.8		
PHF	.692	.667	.659	.722	.558	.846	.843	.827	.801	.857	.870	.842	.914	.900	.897	.918	.870



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WALNUT AVENUE

File Name : H1404060
Site Code : 224
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

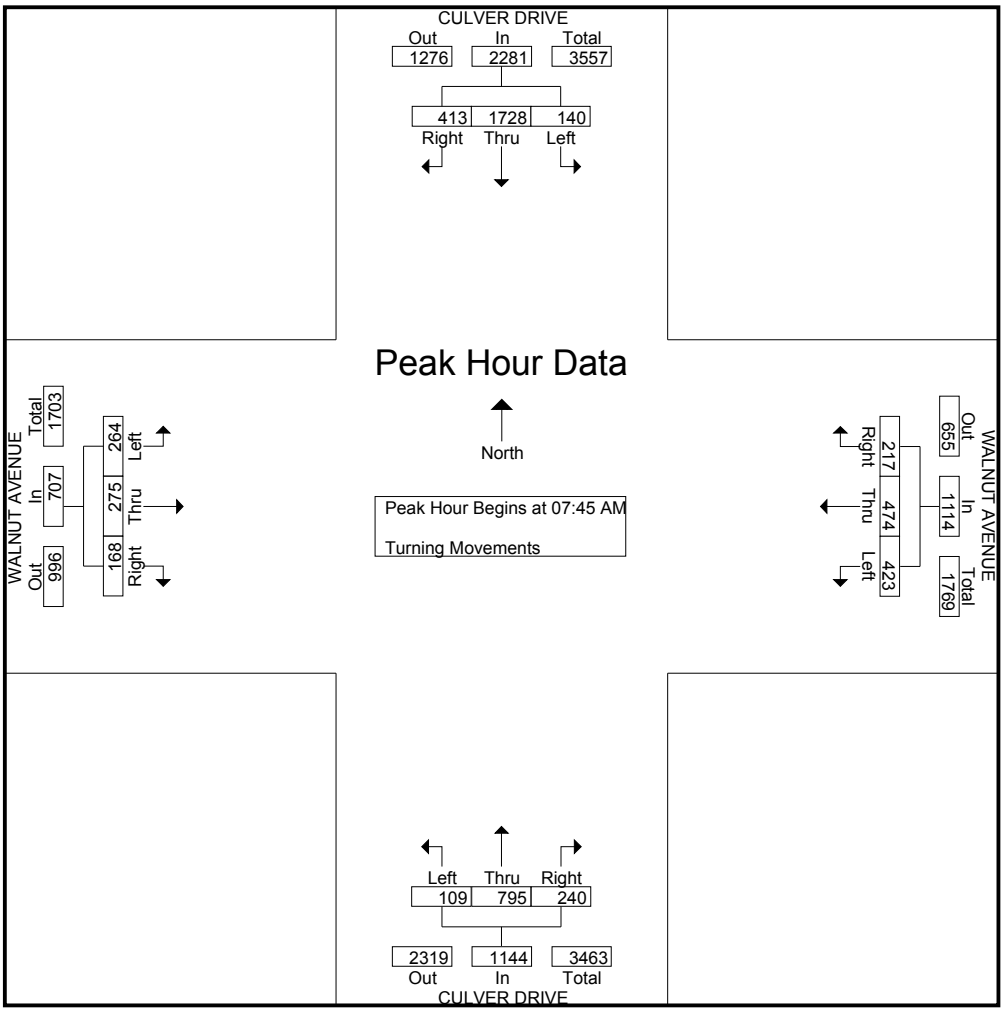
	CULVER DRIVE Southbound			WALNUT AVENUE Westbound			CULVER DRIVE Northbound			WALNUT AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	36	136	28	37	67	40	17	93	8	12	26	37	537
07:15 AM	62	213	28	49	72	56	25	139	8	10	26	43	731
07:30 AM	86	321	35	52	91	67	55	172	23	33	101	59	1095
07:45 AM	130	434	43	59	127	121	120	190	27	37	141	75	1504
Total	314	1104	134	197	357	284	217	594	66	92	294	214	3867
08:00 AM	88	462	29	75	155	138	32	189	25	57	50	70	1370
08:15 AM	84	416	38	47	86	79	52	200	31	50	43	69	1195
08:30 AM	111	416	30	36	106	85	36	216	26	24	41	50	1177
08:45 AM	74	377	39	44	75	62	33	175	26	17	43	59	1024
Total	357	1671	136	202	422	364	153	780	108	148	177	248	4766
*** BREAK ***													
04:00 PM	41	278	63	44	152	90	61	275	33	21	76	72	1206
04:15 PM	54	253	57	33	132	68	59	313	51	15	81	80	1196
04:30 PM	54	248	42	44	130	85	51	290	39	28	87	80	1178
04:45 PM	70	285	78	47	128	72	62	345	53	35	93	95	1363
Total	219	1064	240	168	542	315	233	1223	176	99	337	327	4943
05:00 PM	59	287	69	50	126	74	97	394	49	38	80	102	1425
05:15 PM	60	313	59	44	124	105	90	411	45	41	110	112	1514
05:30 PM	66	327	65	34	124	105	97	436	51	29	110	109	1553
05:45 PM	85	327	75	55	137	80	102	373	50	25	131	104	1544
Total	270	1254	268	183	511	364	386	1614	195	133	431	427	6036
Grand Total	1160	5093	778	750	1832	1327	989	4211	545	472	1239	1216	19612
Apprch %	16.5	72.4	11.1	19.2	46.9	33.9	17.2	73.3	9.5	16.1	42.3	41.5	
Total %	5.9	26	4	3.8	9.3	6.8	5	21.5	2.8	2.4	6.3	6.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WALNUT AVENUE

File Name : H1404060
Site Code : 224
Start Date : 6/12/2014

	CULVER DRIVE Southbound				WALNUT AVENUE Westbound				CULVER DRIVE Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**130**	434	**43**	**607**	59	127	121	307	**120**	190	27	**337**	37	**141**	**75**	**253**	**1504**
08:00 AM	88	**462**	29	579	**75**	**155**	**138**	**368**	32	189	25	246	**57**	50	70	177	1370
08:15 AM	84	416	38	538	47	86	79	212	52	200	**31**	283	50	43	69	162	1195
08:30 AM	111	416	30	557	36	106	85	227	36	**216**	26	278	24	41	50	115	1177
Total Volume	413	1728	140	2281	217	474	423	1114	240	795	109	1144	168	275	264	707	5246
% App. Total	18.1	75.8	6.1		19.5	42.5	38		21	69.5	9.5		23.8	38.9	37.3		
PHF	.794	.935	.814	.939	.723	.765	.766	.757	.500	.920	.879	.849	.737	.488	.880	.699	.872

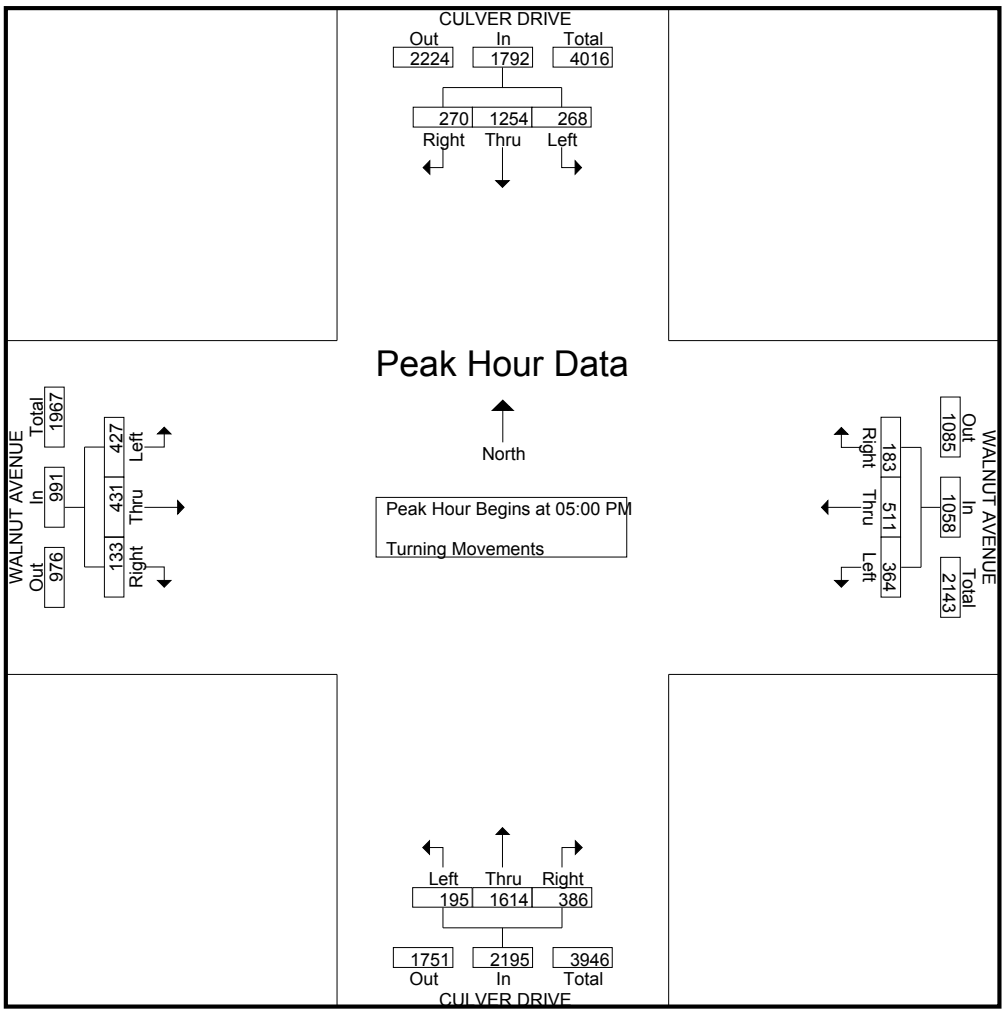


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WALNUT AVENUE

File Name : H1404060
Site Code : 224
Start Date : 6/12/2014
Page No : 3

	CULVER DRIVE Southbound				WALNUT AVENUE Westbound				CULVER DRIVE Northbound				WALNUT AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	59	287	69	415	50	126	74	250	97	394	49	540	38	80	102	220	1425
05:15 PM	60	313	59	432	44	124	**105**	**273**	90	411	45	546	**41**	110	**112**	**263**	1514
05:30 PM	66	**327**	65	458	34	124	105	263	97	**436**	**51**	**584**	29	110	109	248	**1553**
05:45 PM	**85**	327	**75**	**487**	**55**	**137**	80	272	**102**	373	50	525	25	**131**	104	260	1544
Total Volume	270	1254	268	1792	183	511	364	1058	386	1614	195	2195	133	431	427	991	6036
% App. Total	15.1	70	15		17.3	48.3	34.4		17.6	73.5	8.9		13.4	43.5	43.1		
PHF	.794	.959	.893	.920	.832	.932	.867	.969	.946	.925	.956	.940	.811	.823	.953	.942	.972



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: SR-55 NB RAMPS

File Name : h1405075
Site Code : 00000000
Start Date : 6/11/2014
Page No : 1

Groups Printed- Turning Movements

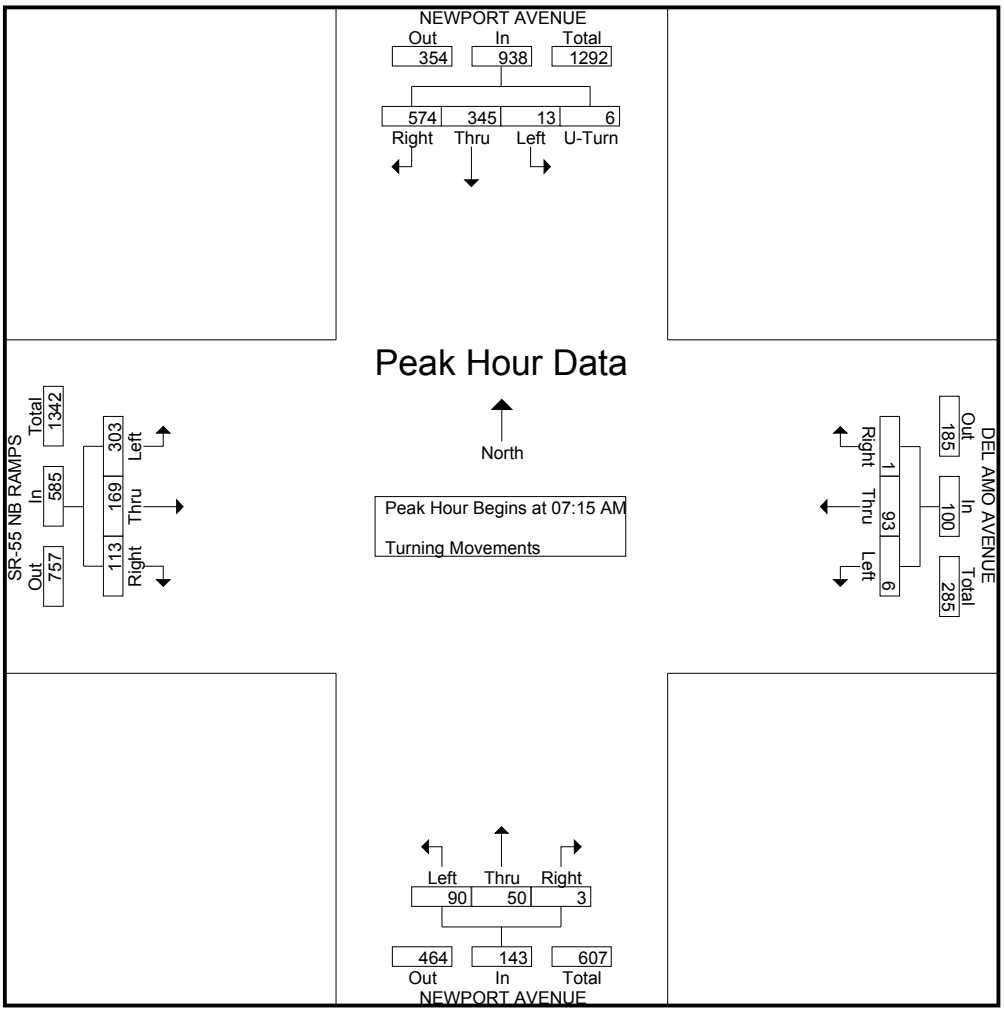
	NEWPORT AVENUE Southbound				DEL AMO AVENUE Westbound			NEWPORT AVENUE Northbound			SR-55 NB RAMPS Eastbound			
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	136	85	1	0	0	12	3	2	11	19	17	33	85	404
07:15 AM	148	90	3	1	0	17	3	1	10	18	32	45	72	440
07:30 AM	157	76	2	3	0	20	2	0	12	29	26	50	80	457
07:45 AM	131	95	5	0	0	39	1	1	10	21	26	43	76	448
Total	572	346	11	4	0	88	9	4	43	87	101	171	313	1749
08:00 AM	138	84	3	2	1	17	0	1	18	22	29	31	75	421
08:15 AM	148	70	2	0	0	31	1	1	7	27	29	50	57	423
08:30 AM	156	44	0	0	1	26	0	1	9	45	30	37	62	411
08:45 AM	134	47	2	0	1	19	0	1	11	21	22	41	76	375
Total	576	245	7	2	3	93	1	4	45	115	110	159	270	1630
*** BREAK ***														
04:00 PM	132	19	0	2	3	118	6	8	30	147	6	7	24	502
04:15 PM	115	17	1	0	4	128	3	5	32	122	2	5	17	451
04:30 PM	90	20	2	0	2	115	0	5	55	183	4	2	21	499
04:45 PM	128	15	0	1	3	103	1	7	43	126	0	4	21	452
Total	465	71	3	3	12	464	10	25	160	578	12	18	83	1904
05:00 PM	86	21	1	1	4	147	1	19	85	176	1	9	21	572
05:15 PM	82	21	3	2	4	122	1	9	42	186	1	8	13	494
05:30 PM	103	12	1	0	4	104	0	9	44	161	2	11	24	475
05:45 PM	107	25	1	1	3	101	2	4	31	156	4	5	18	458
Total	378	79	6	4	15	474	4	41	202	679	8	33	76	1999
Grand Total	1991	741	27	13	30	1119	24	74	450	1459	231	381	742	7282
Apprch %	71.8	26.7	1	0.5	2.6	95.4	2	3.7	22.7	73.6	17.1	28.1	54.8	
Total %	27.3	10.2	0.4	0.2	0.4	15.4	0.3	1	6.2	20	3.2	5.2	10.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: SR-55 NB RAMPS

File Name : h1405075
Site Code : 00000000
Start Date : 6/11/2014

	NEWPORT AVENUE Southbound					DEL AMO AVENUE Westbound				NEWPORT AVENUE Northbound				SR-55 NB RAMPS Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15 AM																		
07:15 AM	148	90	3	1	**242**	0	17	**3**	20	**1**	10	18	29	**32**	45	72	149	440
07:30 AM	**157**	76	2	**3**	238	0	20	2	22	0	12	**29**	**41**	26	**50**	**80**	**156**	**457**
07:45 AM	131	**95**	**5**	0	231	0	**39**	1	**40**	1	10	21	32	26	43	76	145	448
08:00 AM	138	84	3	2	227	**1**	17	0	18	1	**18**	22	41	29	31	75	135	421
Total Volume	574	345	13	6	938	1	93	6	100	3	50	90	143	113	169	303	585	1766
% App. Total	61.2	36.8	1.4	0.6		1	93	6		2.1	35	62.9		19.3	28.9	51.8		
PHF	.914	.908	.650	.500	.969	.250	.596	.500	.625	.750	.694	.776	.872	.883	.845	.947	.938	.966

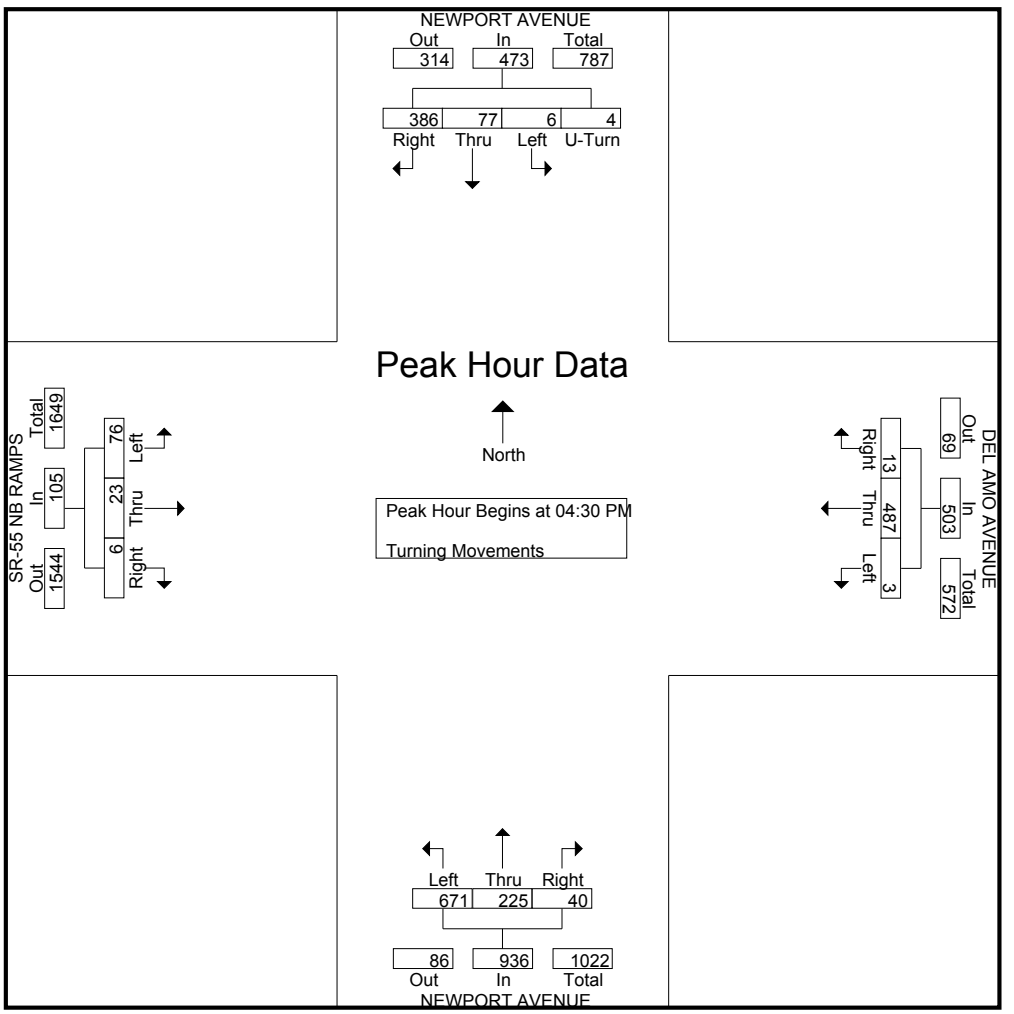


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: SR-55 NB RAMPS

File Name : h1405075
Site Code : 00000000
Start Date : 6/11/2014

	NEWPORT AVENUE Southbound					DEL AMO AVENUE Westbound				NEWPORT AVENUE Northbound				SR-55 NB RAMPS Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	90	20	2	0	112	2	115	0	117	5	55	183	243	**4**	2	**21**	27	499
04:45 PM	**128**	15	0	1	**144**	3	103	**1**	107	7	43	126	176	0	4	21	25	452
05:00 PM	86	**21**	1	1	109	**4**	**147**	1	**152**	**19**	**85**	176	**280**	1	**9**	21	**31**	**572**
05:15 PM	82	21	**3**	**2**	108	4	122	1	127	9	42	**186**	237	1	8	13	22	494
Total Volume	386	77	6	4	473	13	487	3	503	40	225	671	936	6	23	76	105	2017
% App. Total	81.6	16.3	1.3	0.8		2.6	96.8	0.6		4.3	24	71.7		5.7	21.9	72.4		
PHF	.754	.917	.500	.500	.821	.813	.828	.750	.827	.526	.662	.902	.836	.375	.639	.905	.847	.882



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S Direction: SR-55 SB RAMPS
E-W Direction: EDINGER AVENUE

File Name : H1405074
Site Code : 00000000
Start Date : 6/12/2014

Groups Printed- Turning Movements

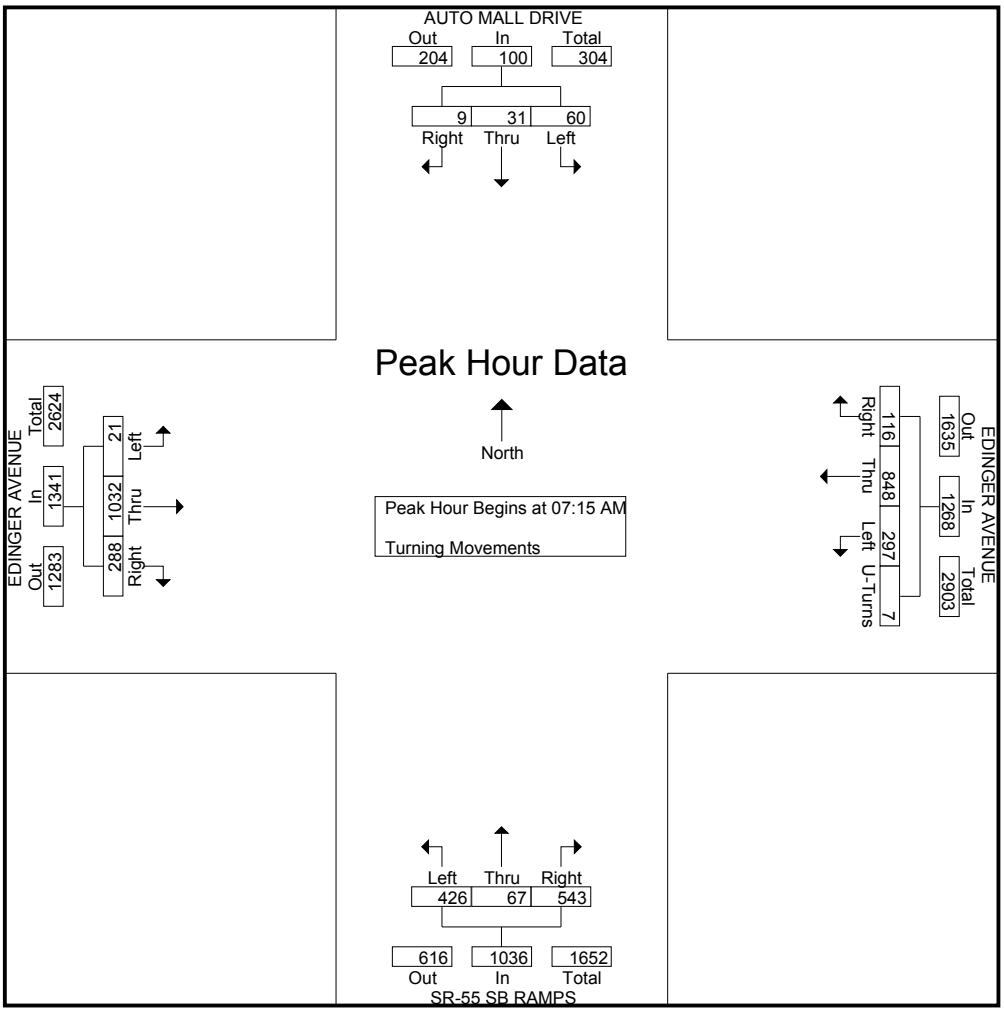
	AUTO MALL DRIVE Southbound			EDINGER AVENUE Westbound				SR-55 SB RAMPS Northbound			EDINGER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	1	3	7	23	182	55	0	119	22	123	70	239	6	850
07:15 AM	2	7	12	24	172	59	2	132	11	118	72	254	6	871
07:30 AM	2	6	17	32	230	81	1	150	12	114	82	250	5	982
07:45 AM	2	10	11	28	239	76	1	129	25	113	72	224	4	934
Total	7	26	47	107	823	271	4	530	70	468	296	967	21	3637
08:00 AM	3	8	20	32	207	81	3	132	19	81	62	304	6	958
08:15 AM	3	7	15	21	184	66	0	103	15	90	52	287	8	851
08:30 AM	10	7	12	27	202	83	0	86	20	85	56	299	5	892
08:45 AM	5	9	14	29	198	88	1	87	15	75	60	267	10	858
Total	21	31	61	109	791	318	4	408	69	331	230	1157	29	3559
*** BREAK ***														
04:00 PM	8	31	17	16	273	74	4	59	17	101	81	305	6	992
04:15 PM	11	10	22	17	226	72	2	58	12	95	76	258	6	865
04:30 PM	12	15	29	17	277	83	3	62	7	79	83	306	9	982
04:45 PM	8	14	23	23	230	75	4	49	11	106	64	259	6	872
Total	39	70	91	73	1006	304	13	228	47	381	304	1128	27	3711
05:00 PM	6	19	26	25	288	104	1	71	8	74	82	319	8	1031
05:15 PM	10	14	27	28	249	91	4	74	7	66	76	266	10	922
05:30 PM	8	13	18	18	230	91	1	58	3	61	65	277	12	855
05:45 PM	8	9	31	10	230	70	2	89	7	65	39	245	8	813
Total	32	55	102	81	997	356	8	292	25	266	262	1107	38	3621
Grand Total	99	182	301	370	3617	1249	29	1458	211	1446	1092	4359	115	14528
Apprch %	17	31.3	51.7	7	68.7	23.7	0.6	46.8	6.8	46.4	19.6	78.3	2.1	
Total %	0.7	1.3	2.1	2.5	24.9	8.6	0.2	10	1.5	10	7.5	30	0.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S Direction: SR-55 SB RAMPS
E-W Direction: EDINGER AVENUE

File Name : H1405074
Site Code : 00000000
Start Date : 6/12/2014

	AUTO MALL DRIVE Southbound				EDINGER AVENUE Westbound					SR-55 SB RAMPS Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15 AM																		
07:15 AM	2	7	12	21	24	172	59	2	257	132	11	**118**	261	72	254	**6**	332	871
07:30 AM	2	6	17	25	**32**	230	**81**	1	**344**	**150**	12	114	**276**	**82**	250	5	337	**982**
07:45 AM	2	**10**	11	23	28	**239**	76	1	344	129	**25**	113	267	72	224	4	300	934
08:00 AM	**3**	8	**20**	**31**	32	207	81	**3**	323	132	19	81	232	62	**304**	6	**372**	958
Total Volume	9	31	60	100	116	848	297	7	1268	543	67	426	1036	288	1032	21	1341	3745
% App. Total	9	31	60		9.1	66.9	23.4	0.6		52.4	6.5	41.1		21.5	77	1.6		
PHF	.750	.775	.750	.806	.906	.887	.917	.583	.922	.905	.670	.903	.938	.878	.849	.875	.901	.953

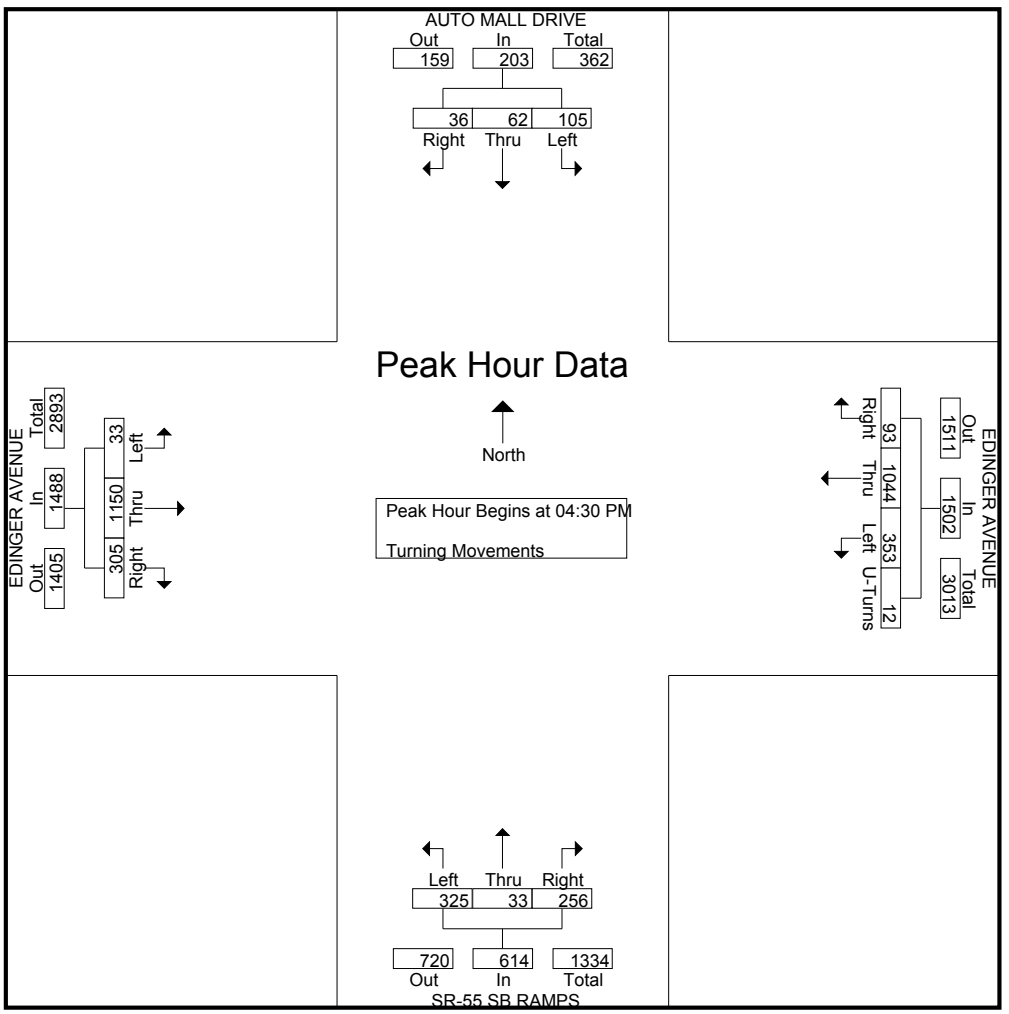


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S Direction: SR-55 SB RAMPS
E-W Direction: EDINGER AVENUE

File Name : H1405074
Site Code : 00000000
Start Date : 6/12/2014
Page No : 3

	AUTO MALL DRIVE Southbound				EDINGER AVENUE Westbound					SR-55 SB RAMPS Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	**12**	15	**29**	**56**	17	277	83	3	380	62	7	79	148	**83**	306	9	398	982
04:45 PM	8	14	23	45	23	230	75	**4**	332	49	**11**	**106**	**166**	64	259	6	329	872
05:00 PM	6	**19**	26	51	25	**288**	**104**	1	**418**	71	8	74	153	82	**319**	8	**409**	**1031**
05:15 PM	10	14	27	51	**28**	249	91	4	372	**74**	7	66	147	76	266	**10**	352	922
Total Volume	36	62	105	203	93	1044	353	12	1502	256	33	325	614	305	1150	33	1488	3807
% App. Total	17.7	30.5	51.7		6.2	69.5	23.5	0.8		41.7	5.4	52.9		20.5	77.3	2.2		
PHF	.750	.816	.905	.906	.830	.906	.849	.750	.898	.865	.750	.767	.925	.919	.901	.825	.910	.923



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405076
Site Code : 00000000
Start Date : 6/12/2014

Groups Printed- Turning Movements

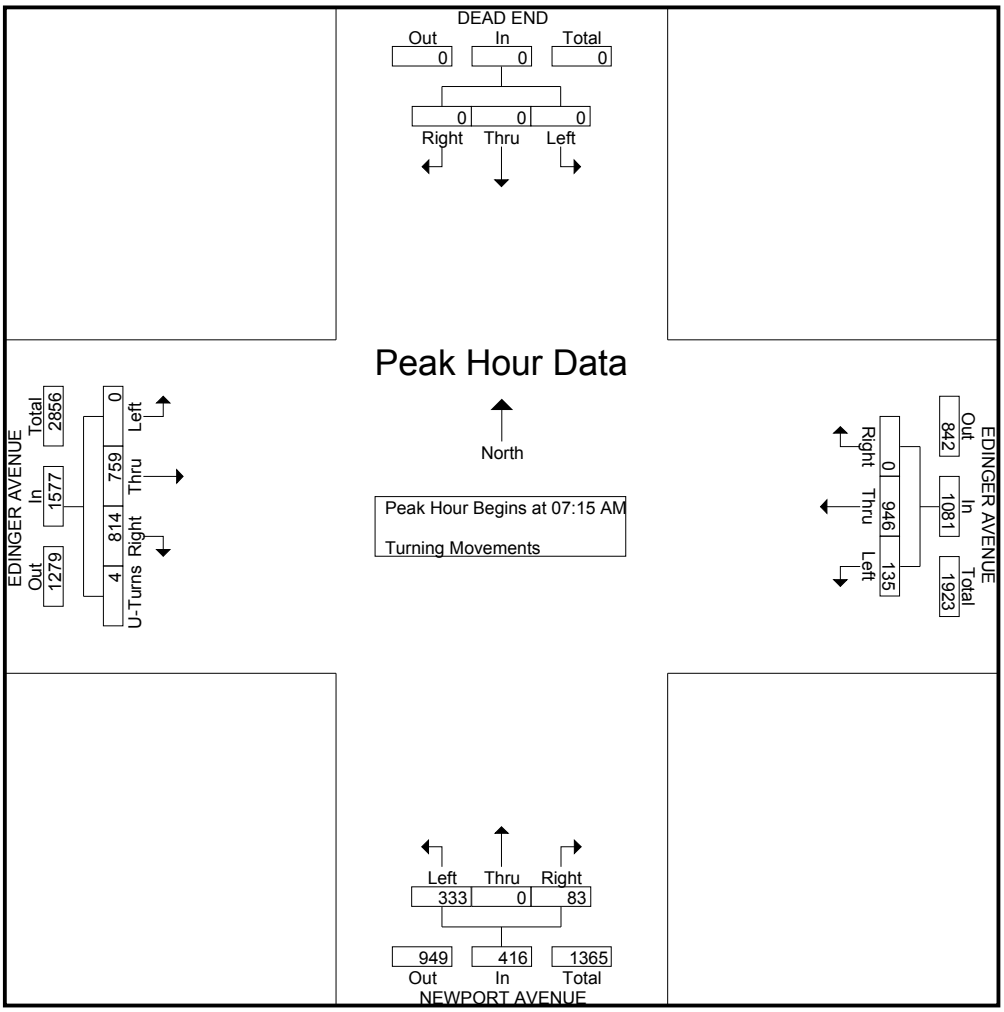
	DEAD END Southbound			EDINGER AVENUE Westbound			NEWPORT AVENUE Northbound			EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turns	Int. Total
07:00 AM	0	0	0	0	164	21	10	0	98	213	161	0	1	668
07:15 AM	0	0	0	0	198	39	24	0	70	213	182	0	1	727
07:30 AM	0	0	0	0	258	28	22	0	82	215	201	0	2	808
07:45 AM	0	0	0	0	256	28	17	0	88	185	192	0	0	766
Total	0	0	0	0	876	116	73	0	338	826	736	0	4	2969
08:00 AM	0	0	0	0	234	40	20	0	93	201	184	0	1	773
08:15 AM	0	0	0	0	212	42	12	0	64	167	180	0	1	678
08:30 AM	0	0	0	0	235	35	14	0	69	173	152	0	1	679
08:45 AM	0	0	0	0	224	38	12	0	75	440	150	0	3	942
Total	0	0	0	0	905	155	58	0	301	981	666	0	6	3072
*** BREAK ***														
04:00 PM	0	0	0	0	274	25	10	0	54	155	220	0	2	740
04:15 PM	0	0	0	0	268	17	11	0	38	111	243	0	1	689
04:30 PM	0	0	0	0	306	16	12	0	80	123	281	0	2	820
04:45 PM	0	0	0	0	291	36	7	0	60	116	201	0	1	712
Total	0	0	0	0	1139	94	40	0	232	505	945	0	6	2961
05:00 PM	0	0	0	0	307	27	19	0	106	89	317	0	1	866
05:15 PM	0	0	0	0	285	21	19	0	58	78	309	0	2	772
05:30 PM	0	0	0	0	287	21	12	0	57	88	270	0	2	737
05:45 PM	0	0	0	0	263	15	20	0	52	95	259	0	2	706
Total	0	0	0	0	1142	84	70	0	273	350	1155	0	7	3081
Grand Total	0	0	0	0	4062	449	241	0	1144	2662	3502	0	23	12083
Apprch %	0	0	0	0	90	10	17.4	0	82.6	43	56.6	0	0.4	
Total %	0	0	0	0	33.6	3.7	2	0	9.5	22	29	0	0.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405076
Site Code : 00000000
Start Date : 6/12/2014

	DEAD END Southbound				EDINGER AVENUE Westbound				NEWPORT AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15 AM																		
07:15 AM	0	0	0	0	0	198	39	237	**24**	0	70	94	213	182	0	1	396	727
07:30 AM	0	0	0	0	0	**258**	28	**286**	22	0	82	104	**215**	**201**	0	**2**	**418**	**808**
07:45 AM	0	0	0	0	0	256	28	284	17	0	88	105	185	192	0	0	377	766
08:00 AM	0	0	0	0	0	234	**40**	274	20	0	**93**	**113**	201	184	0	1	386	773
Total Volume	0	0	0	0	0	946	135	1081	83	0	333	416	814	759	0	4	1577	3074
% App. Total	0	0	0		0	87.5	12.5		20	0	80		51.6	48.1	0	0.3		
PHF	.000	.000	.000	.000	.000	.917	.844	.945	.865	.000	.895	.920	.947	.944	.000	.500	.943	.951

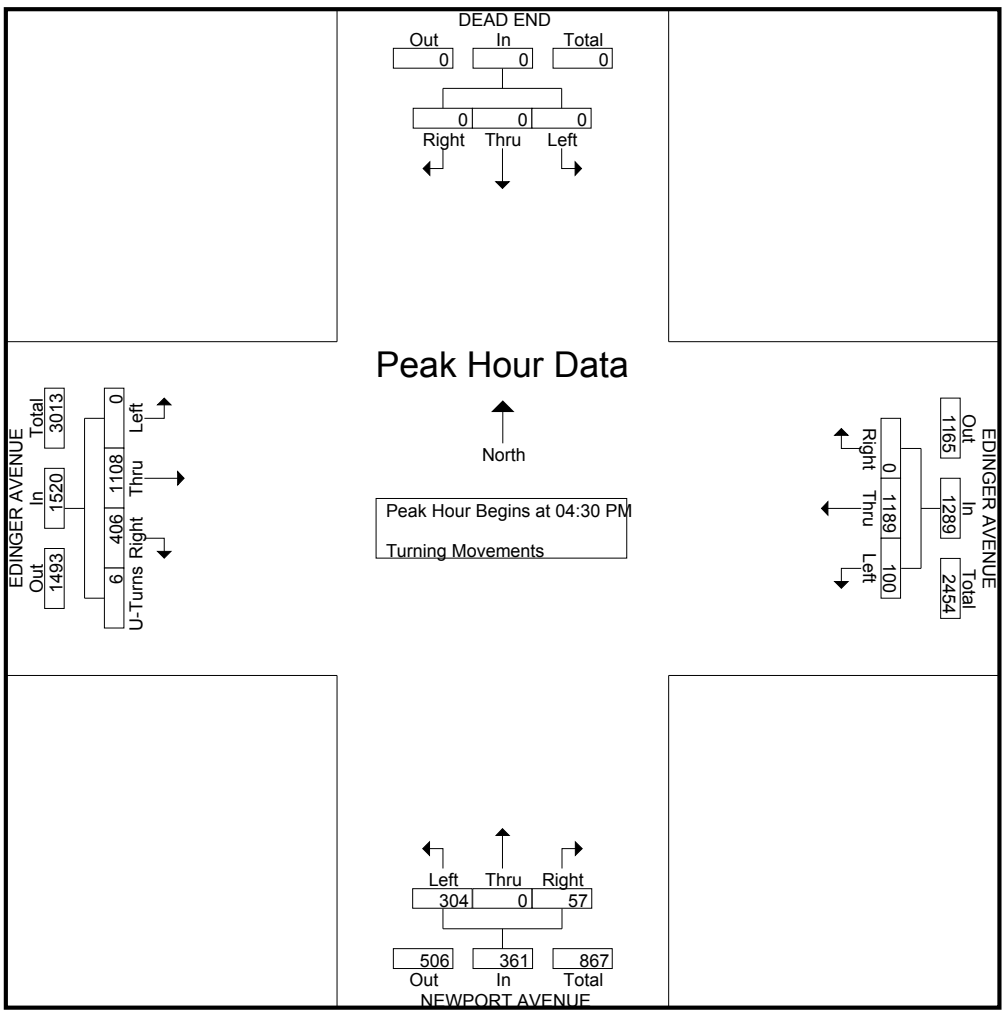


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: NEWPORT AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405076
Site Code : 00000000
Start Date : 6/12/2014

	DEAD END Southbound				EDINGER AVENUE Westbound				NEWPORT AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	0	0	0	0	0	306	16	322	12	0	80	92	**123**	281	0	**2**	406	820
04:45 PM	0	0	0	0	0	291	**36**	327	7	0	60	67	116	201	0	1	318	712
05:00 PM	0	0	0	0	0	**307**	27	**334**	**19**	0	**106**	**125**	89	**317**	0	1	**407**	**866**
05:15 PM	0	0	0	0	0	285	21	306	19	0	58	77	78	309	0	2	389	772
Total Volume	0	0	0	0	0	1189	100	1289	57	0	304	361	406	1108	0	6	1520	3170
% App. Total	0	0	0		0	92.2	7.8		15.8	0	84.2		26.7	72.9	0	0.4		
PHF	.000	.000	.000	.000	.000	.968	.694	.965	.750	.000	.717	.722	.825	.874	.000	.750	.934	.915



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: DEL AMO AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405077
Site Code : 00000000
Start Date : 6/12/2014

Groups Printed- Turning Movements

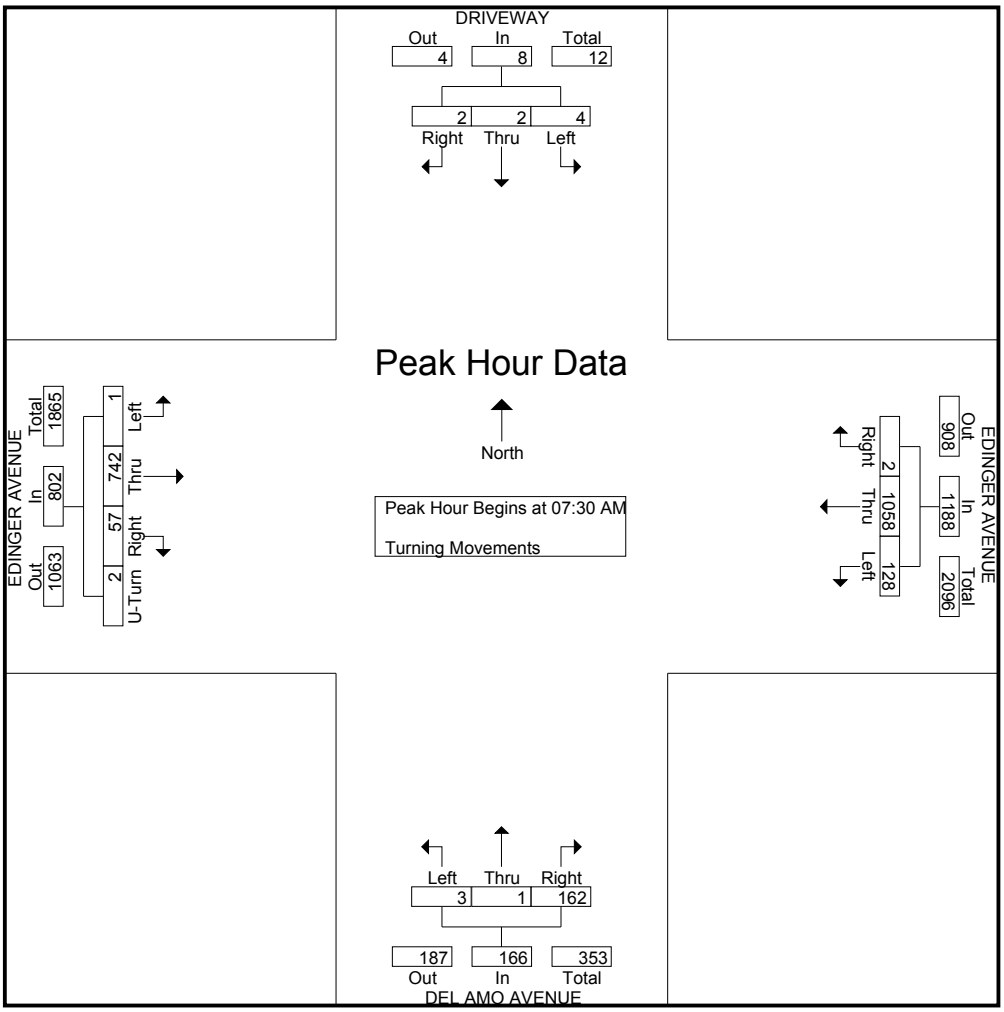
	DRIVEWAY Southbound			EDINGER AVENUE Westbound			DEL AMO AVENUE Northbound			EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	2	1	0	1	181	13	29	0	0	8	165	0	1	401
07:15 AM	0	0	0	0	241	22	48	1	0	13	182	4	0	511
07:30 AM	2	1	2	1	257	26	47	0	2	9	205	1	2	555
07:45 AM	0	0	1	0	313	45	41	1	1	14	185	0	0	601
Total	4	2	3	2	992	106	165	2	3	44	737	5	3	2068
08:00 AM	0	1	0	0	243	21	28	0	0	21	181	0	0	495
08:15 AM	0	0	1	1	245	36	46	0	0	13	171	0	0	513
08:30 AM	1	0	0	0	280	30	37	0	2	16	148	1	0	515
08:45 AM	0	1	0	0	273	26	41	2	2	9	156	1	0	511
Total	1	2	1	1	1041	113	152	2	4	59	656	2	0	2034
*** BREAK ***														
04:00 PM	0	0	1	0	283	52	20	0	16	57	179	0	1	609
04:15 PM	0	0	0	0	280	79	16	0	10	43	197	0	0	625
04:30 PM	0	1	0	1	313	75	16	0	8	41	242	0	1	698
04:45 PM	2	0	0	0	296	83	11	0	7	37	184	0	4	624
Total	2	1	1	1	1172	289	63	0	41	178	802	0	6	2556
05:00 PM	0	1	0	0	316	74	34	0	17	53	318	0	2	815
05:15 PM	0	0	0	0	277	53	21	0	12	43	297	0	2	705
05:30 PM	0	0	2	0	347	84	27	0	10	30	231	0	2	733
05:45 PM	0	0	1	0	231	79	17	0	4	14	253	0	0	599
Total	0	1	3	0	1171	290	99	0	43	140	1099	0	6	2852
Grand Total	7	6	8	4	4376	798	479	4	91	421	3294	7	15	9510
Apprch %	33.3	28.6	38.1	0.1	84.5	15.4	83.4	0.7	15.9	11.3	88.1	0.2	0.4	
Total %	0.1	0.1	0.1	0	46	8.4	5	0	1	4.4	34.6	0.1	0.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: DEL AMO AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405077
Site Code : 00000000
Start Date : 6/12/2014

	DRIVEWAY Southbound				EDINGER AVENUE Westbound				DEL AMO AVENUE Northbound				EDINGER AVENUE Eastbound						
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30 AM																		
07:30 AM	**2**	**1**	**2**	**5**	**1**	257	26	284	**47**	0	**2**	**49**	9	**205**	**1**	**2**	**217**	555
07:45 AM	0	0	1	1	0	**313**	**45**	**358**	41	**1**	1	43	14	185	0	0	199	**601**
08:00 AM	0	1	0	1	0	243	21	264	28	0	0	28	**21**	181	0	0	202	495
08:15 AM	0	0	1	1	1	245	36	282	46	0	0	46	13	171	0	0	184	513
Total Volume	2	2	4	8	2	1058	128	1188	162	1	3	166	57	742	1	2	802	2164
% App. Total	25	25	50		0.2	89.1	10.8		97.6	0.6	1.8		7.1	92.5	0.1	0.2		
PHF	.250	.500	.500	.400	.500	.845	.711	.830	.862	.250	.375	.847	.679	.905	.250	.250	.924	.900

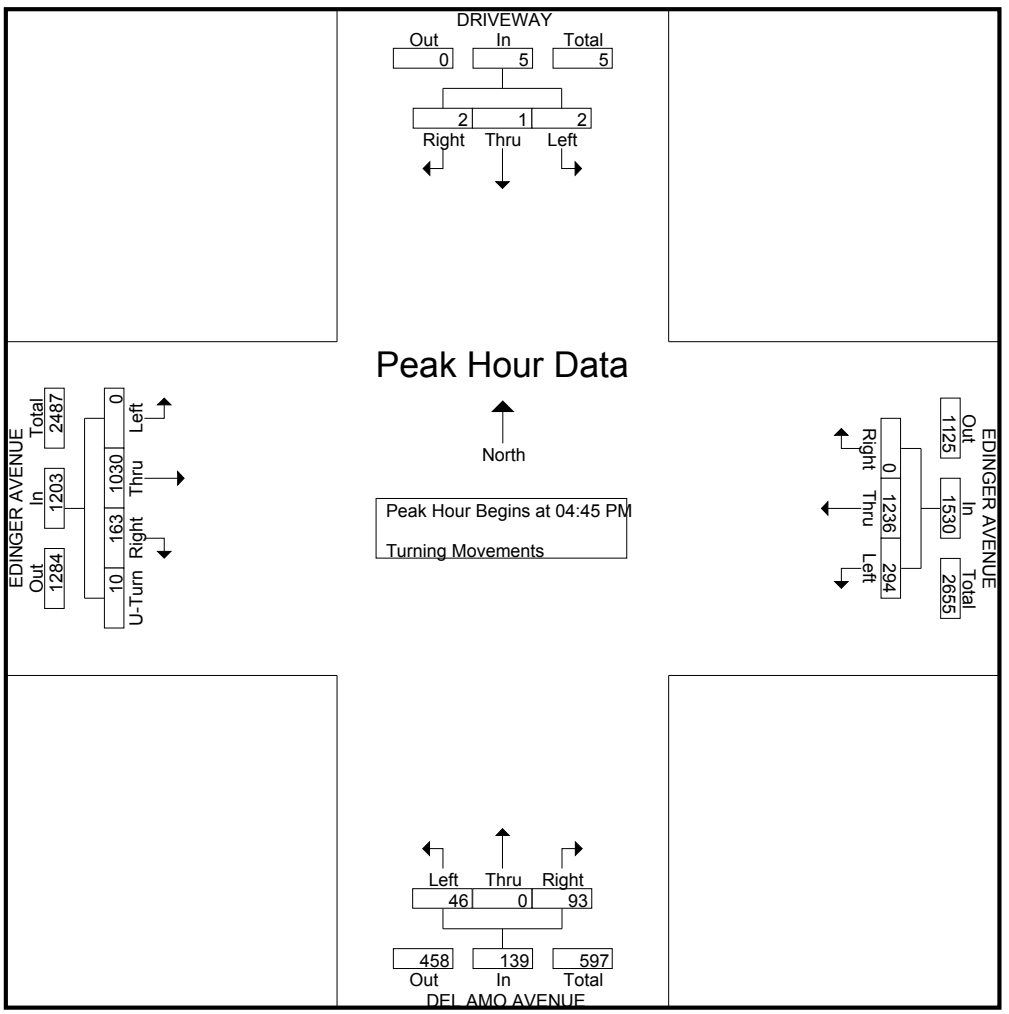


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: DEL AMO AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405077
Site Code : 00000000
Start Date : 6/12/2014

	DRIVEWAY Southbound				EDINGER AVENUE Westbound				DEL AMO AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:45 PM																		
04:45 PM	**2**	0	0	**2**	0	296	83	379	11	0	7	18	37	184	0	**4**	225	624
05:00 PM	0	**1**	0	1	0	316	74	390	**34**	0	**17**	**51**	**53**	**318**	0	2	**373**	**815**
05:15 PM	0	0	0	0	0	277	53	330	21	0	12	33	43	297	0	2	342	705
05:30 PM	0	0	**2**	2	0	**347**	**84**	**431**	27	0	10	37	30	231	0	2	263	733
Total Volume	2	1	2	5	0	1236	294	1530	93	0	46	139	163	1030	0	10	1203	2877
% App. Total	40	20	40		0	80.8	19.2		66.9	0	33.1		13.5	85.6	0	0.8		
PHF	.250	.250	.250	.625	.000	.890	.875	.887	.684	.000	.676	.681	.769	.810	.000	.625	.806	.883



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405078
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

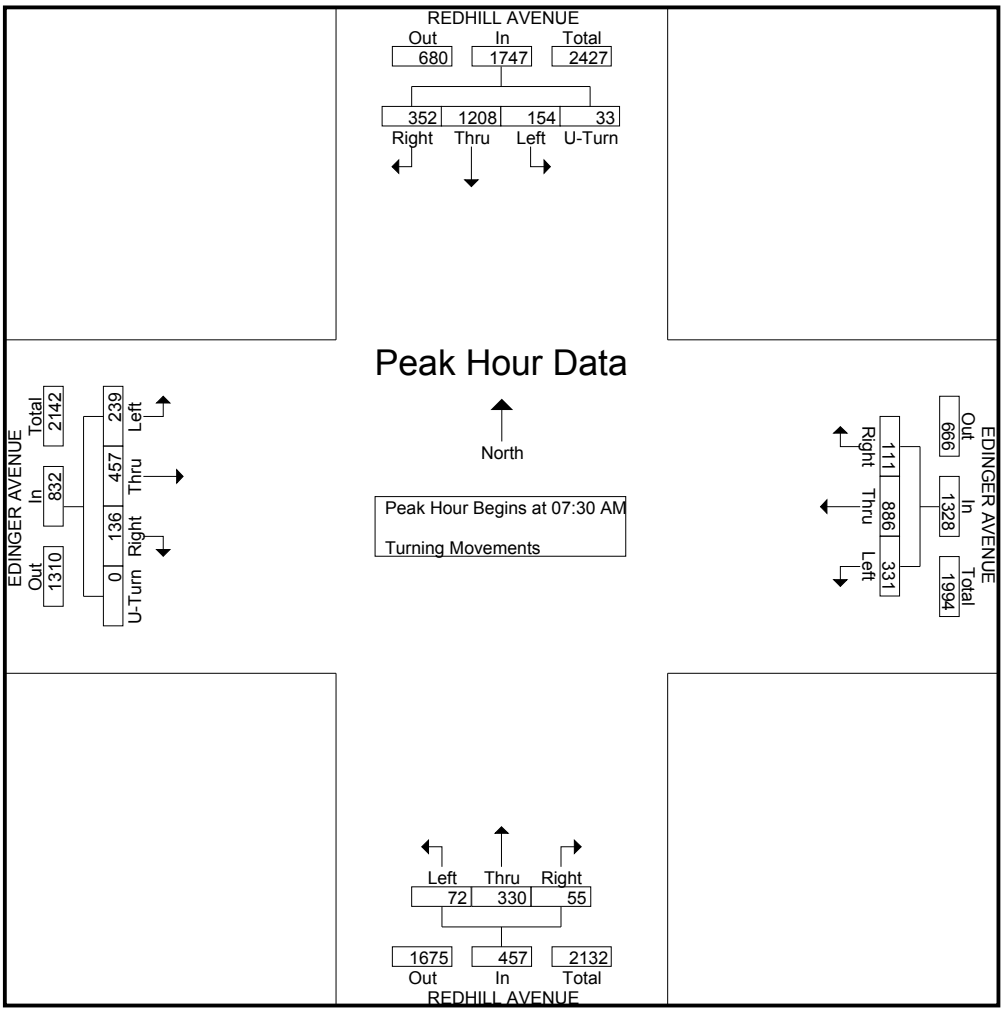
	REDHILL AVENUE Southbound				EDINGER AVENUE Westbound			REDHILL AVENUE Northbound			EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	79	189	26	9	22	73	33	9	50	11	20	79	49	0	649
07:15 AM	95	233	34	6	32	148	66	9	52	12	25	95	57	1	865
07:30 AM	100	275	36	9	35	226	75	8	80	9	32	113	65	0	1063
07:45 AM	122	350	41	8	28	224	77	14	75	24	31	95	66	0	1155
Total	396	1047	137	32	117	671	251	40	257	56	108	382	237	1	3732
08:00 AM	57	267	40	8	19	241	98	16	99	21	34	144	46	0	1090
08:15 AM	73	316	37	8	29	195	81	17	76	18	39	105	62	0	1056
08:30 AM	76	199	33	8	28	207	69	16	68	17	23	125	50	1	920
08:45 AM	70	230	34	11	25	168	67	9	67	21	46	123	46	3	920
Total	276	1012	144	35	101	811	315	58	310	77	142	497	204	4	3986
*** BREAK ***															
04:00 PM	65	100	14	2	79	263	24	37	390	44	28	93	71	11	1221
04:15 PM	54	88	45	9	98	277	34	41	350	52	26	102	74	2	1252
04:30 PM	35	91	22	3	103	257	31	44	432	46	32	122	84	8	1310
04:45 PM	67	95	34	7	93	276	23	53	415	51	29	100	66	5	1314
Total	221	374	115	21	373	1073	112	175	1587	193	115	417	295	26	5097
05:00 PM	70	93	29	6	86	232	30	47	432	57	31	205	115	4	1437
05:15 PM	62	91	32	9	120	255	28	48	448	43	20	233	104	3	1496
05:30 PM	46	101	25	8	92	263	30	48	426	54	26	196	80	2	1397
05:45 PM	69	130	19	5	88	234	27	35	446	50	13	141	62	2	1321
Total	247	415	105	28	386	984	115	178	1752	204	90	775	361	11	5651
Grand Total	1140	2848	501	116	977	3539	793	451	3906	530	455	2071	1097	42	18466
Apprch %	24.8	61.8	10.9	2.5	18.4	66.7	14.9	9.2	79.9	10.8	12.4	56.5	29.9	1.1	
Total %	6.2	15.4	2.7	0.6	5.3	19.2	4.3	2.4	21.2	2.9	2.5	11.2	5.9	0.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405078
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound					EDINGER AVENUE Westbound				REDHILL AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:30 AM																			
07:30 AM	100	275	36	**9**	420	**35**	226	75	336	8	80	9	97	32	113	65	0	210	1063
07:45 AM	**122**	**350**	**41**	8	**521**	28	224	77	329	14	75	**24**	113	31	95	**66**	0	192	**1155**
08:00 AM	57	267	40	8	372	19	**241**	**98**	**358**	16	**99**	21	**136**	34	**144**	46	0	**224**	1090
08:15 AM	73	316	37	8	434	29	195	81	305	**17**	76	18	111	**39**	105	62	0	206	1056
Total Volume	352	1208	154	33	1747	111	886	331	1328	55	330	72	457	136	457	239	0	832	4364
% App. Total	20.1	69.1	8.8	1.9		8.4	66.7	24.9		12	72.2	15.8		16.3	54.9	28.7	0		
PHF	.721	.863	.939	.917	.838	.793	.919	.844	.927	.809	.833	.750	.840	.872	.793	.905	.000	.929	.945

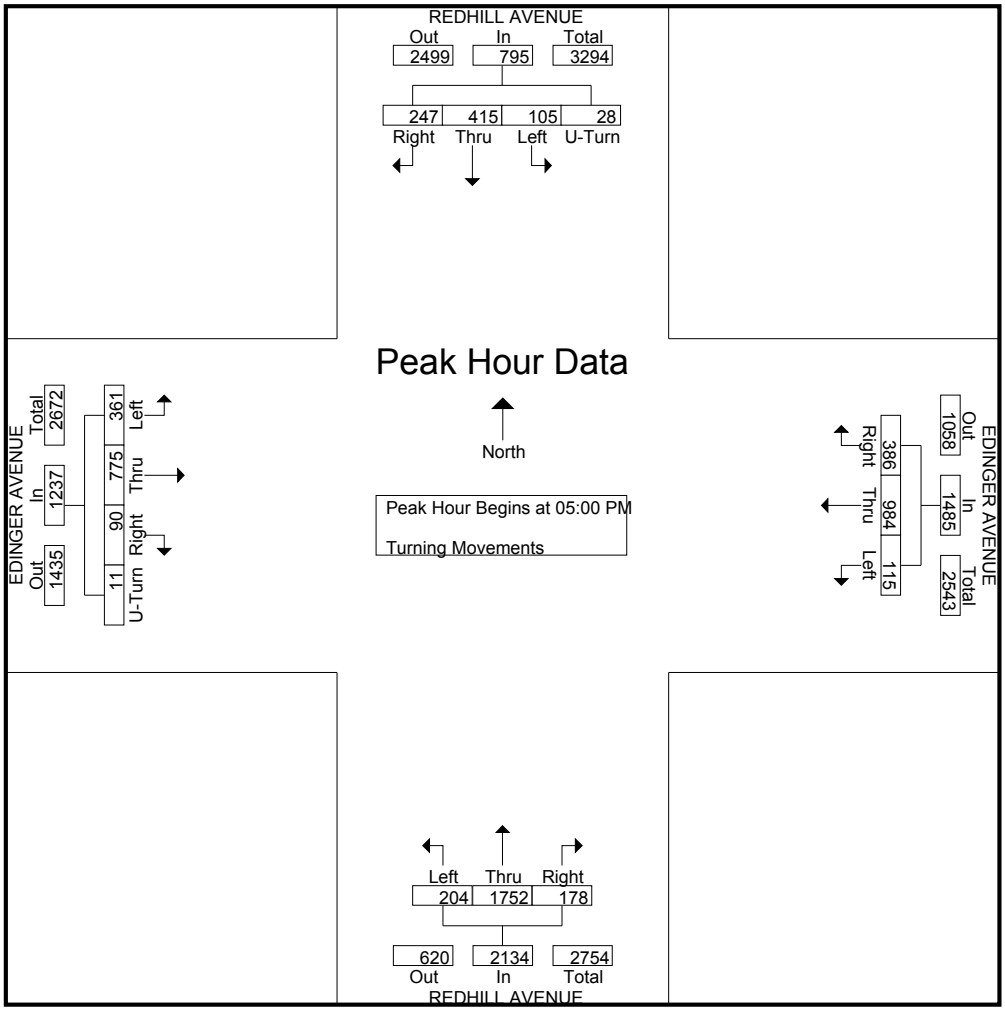


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: EDINGER AVENUE

File Name : H1405078
Site Code : 00000000
Start Date : 6/10/2014
Page No : 3

	REDHILL AVENUE Southbound					EDINGER AVENUE Westbound				REDHILL AVENUE Northbound				EDINGER AVENUE Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	**70**	93	29	6	198	86	232	**30**	348	47	432	**57**	536	**31**	205	**115**	**4**	355	1437
05:15 PM	62	91	**32**	**9**	194	**120**	255	28	**403**	**48**	**448**	43	**539**	20	**233**	104	3	**360**	**1496**
05:30 PM	46	101	25	8	180	92	**263**	30	385	48	426	54	528	26	196	80	2	304	1397
05:45 PM	69	**130**	19	5	**223**	88	234	27	349	35	446	50	531	13	141	62	2	218	1321
Total Volume	247	415	105	28	795	386	984	115	1485	178	1752	204	2134	90	775	361	11	1237	5651
% App. Total	31.1	52.2	13.2	3.5		26	66.3	7.7		8.3	82.1	9.6		7.3	62.7	29.2	0.9		
PHF	.882	.798	.820	.778	.891	.804	.935	.958	.921	.927	.978	.895	.990	.726	.832	.785	.688	.859	.944



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: KENSINGTON PARK DRIVE
E-W Direction: EDINGER AVENUE

File Name : H1405084
Site Code : 00000000
Start Date : 6/5/2014
Page No : 1

Groups Printed- Turning Movements

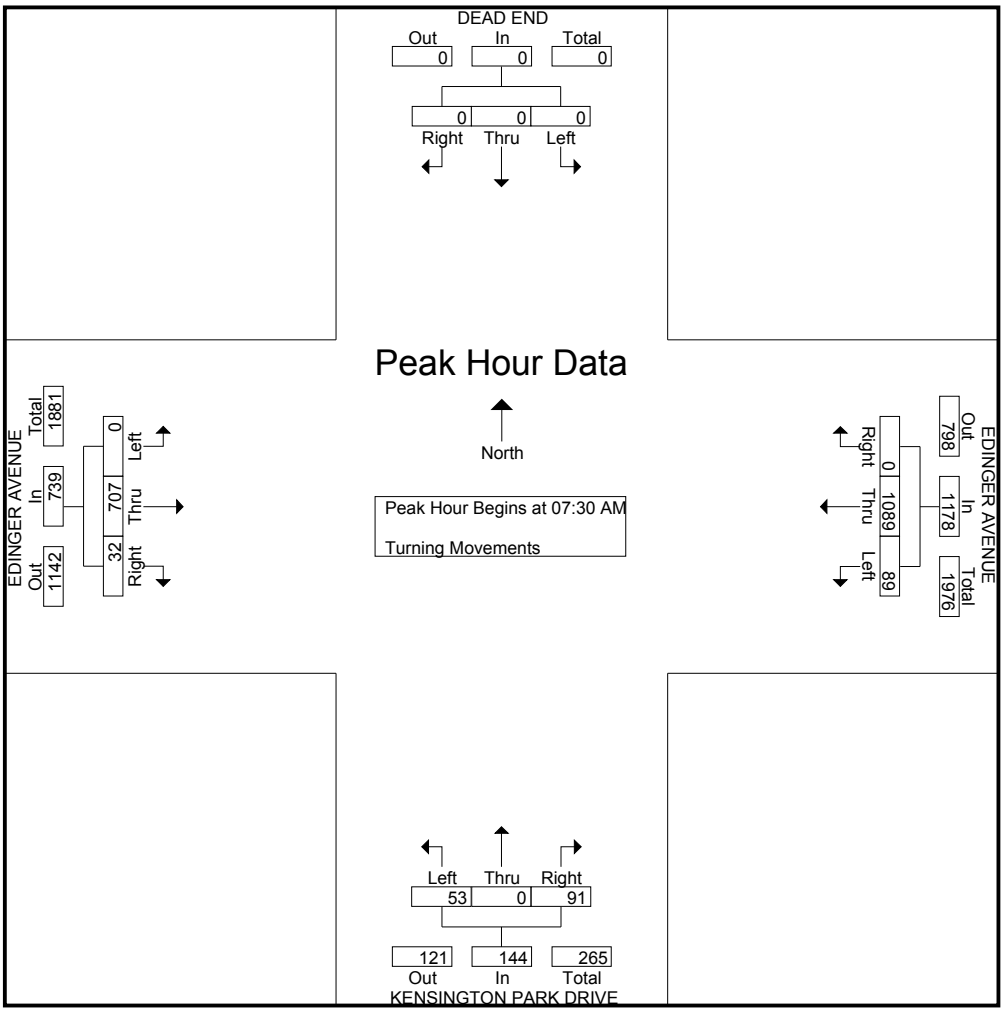
	DEAD END Southbound			EDINGER AVENUE Westbound			KENSINGTON PARK DRIVE Northbound			EDINGER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	145	12	17	0	10	3	117	0	304
07:15 AM	0	0	0	0	207	19	19	0	6	7	152	0	410
07:30 AM	0	0	0	0	254	21	24	0	13	5	186	0	503
07:45 AM	0	0	0	0	307	22	28	0	19	11	191	0	578
Total	0	0	0	0	913	74	88	0	48	26	646	0	1795
08:00 AM	0	0	0	0	258	24	19	0	8	7	164	0	480
08:15 AM	0	0	0	0	270	22	20	0	13	9	166	0	500
08:30 AM	0	0	0	0	200	24	26	0	12	10	150	0	422
08:45 AM	0	0	0	0	198	13	26	0	14	14	143	0	408
Total	0	0	0	0	926	83	91	0	47	40	623	0	1810
*** BREAK ***													
04:00 PM	0	0	0	0	283	22	22	0	12	19	134	0	492
04:15 PM	0	0	0	0	323	21	33	0	13	14	158	0	562
04:30 PM	0	0	0	0	298	33	29	0	8	13	193	0	574
04:45 PM	0	0	0	0	323	30	37	0	9	13	197	0	609
Total	0	0	0	0	1227	106	121	0	42	59	682	0	2237
05:00 PM	0	0	0	0	308	25	34	0	13	16	211	0	607
05:15 PM	0	0	0	0	369	35	37	0	9	20	252	0	722
05:30 PM	0	0	0	0	401	44	41	0	13	24	254	0	777
05:45 PM	0	0	0	0	296	39	32	0	6	26	212	0	611
Total	0	0	0	0	1374	143	144	0	41	86	929	0	2717
Grand Total	0	0	0	0	4440	406	444	0	178	211	2880	0	8559
Apprch %	0	0	0	0	91.6	8.4	71.4	0	28.6	6.8	93.2	0	
Total %	0	0	0	0	51.9	4.7	5.2	0	2.1	2.5	33.6	0	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: KENSINGTON PARK DRIVE
E-W Direction: EDINGER AVENUE

File Name : H1405084
Site Code : 00000000
Start Date : 6/5/2014

	DEAD END Southbound				EDINGER AVENUE Westbound				KENSINGTON PARK DRIVE Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	254	21	275	24	0	13	37	5	186	0	191	503
07:45 AM	0	0	0	0	0	**307**	22	**329**	**28**	0	**19**	**47**	**11**	**191**	0	**202**	**578**
08:00 AM	0	0	0	0	0	258	**24**	282	19	0	8	27	7	164	0	171	480
08:15 AM	0	0	0	0	0	270	22	292	20	0	13	33	9	166	0	175	500
Total Volume	0	0	0	0	0	1089	89	1178	91	0	53	144	32	707	0	739	2061
% App. Total	0	0	0		0	92.4	7.6		63.2	0	36.8		4.3	95.7	0		
PHF	.000	.000	.000	.000	.000	.887	.927	.895	.813	.000	.697	.766	.727	.925	.000	.915	.891

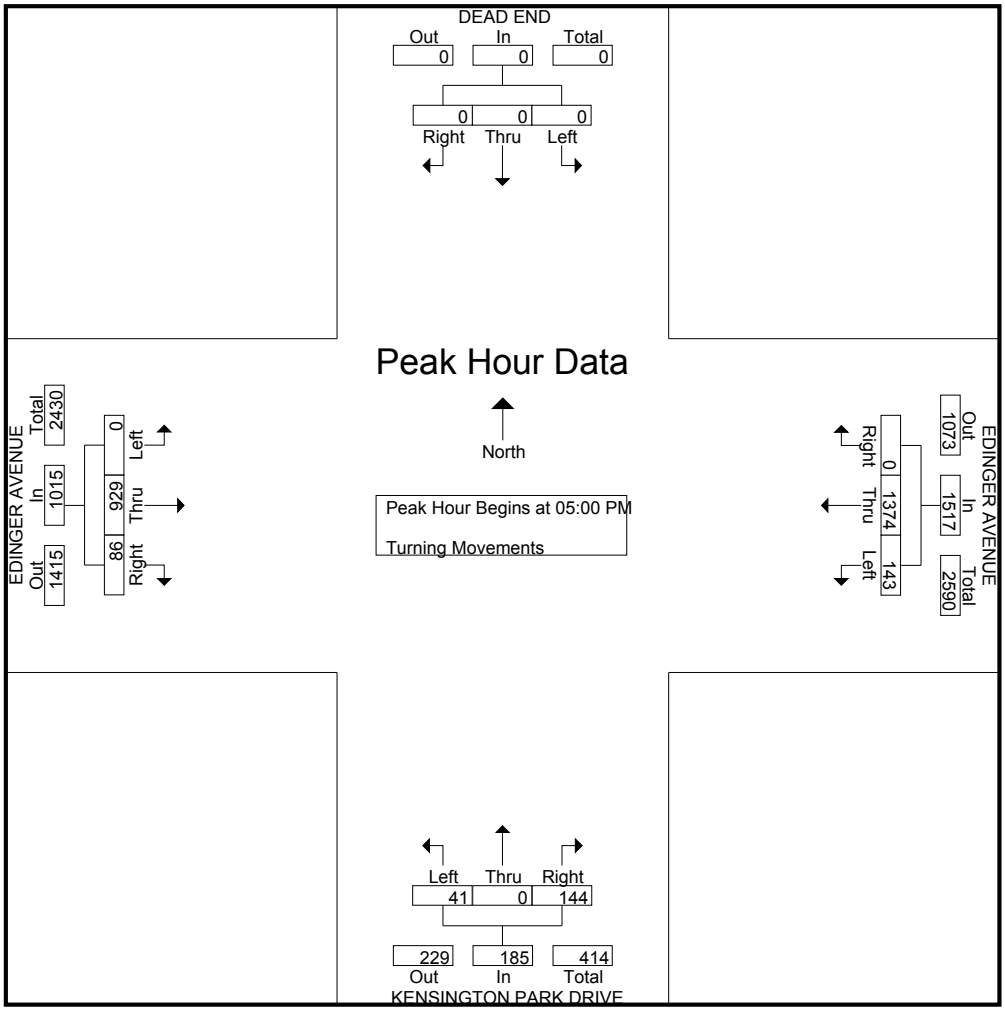


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: KENSINGTON PARK DRIVE
E-W Direction: EDINGER AVENUE

File Name : H1405084
Site Code : 00000000
Start Date : 6/5/2014

	DEAD END Southbound				EDINGER AVENUE Westbound				KENSINGTON PARK DRIVE Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	308	25	333	34	0	**13**	47	16	211	0	227	607
05:15 PM	0	0	0	0	0	369	35	404	37	0	9	46	20	252	0	272	722
05:30 PM	0	0	0	0	0	**401**	**44**	**445**	**41**	0	13	**54**	24	**254**	0	**278**	**777**
05:45 PM	0	0	0	0	0	296	39	335	32	0	6	38	**26**	212	0	238	611
Total Volume	0	0	0	0	0	1374	143	1517	144	0	41	185	86	929	0	1015	2717
% App. Total	0	0	0		0	90.6	9.4		77.8	0	22.2		8.5	91.5	0		
PHF	.000	.000	.000	.000	.000	.857	.813	.852	.878	.000	.788	.856	.827	.914	.000	.913	.874



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: JAMBOREE ROAD
E-W Direction: EDINGER AVENUE

File Name : H1404045
Site Code : 133
Start Date : 5/14/2014
Page No : 1

Groups Printed- Turning Movements

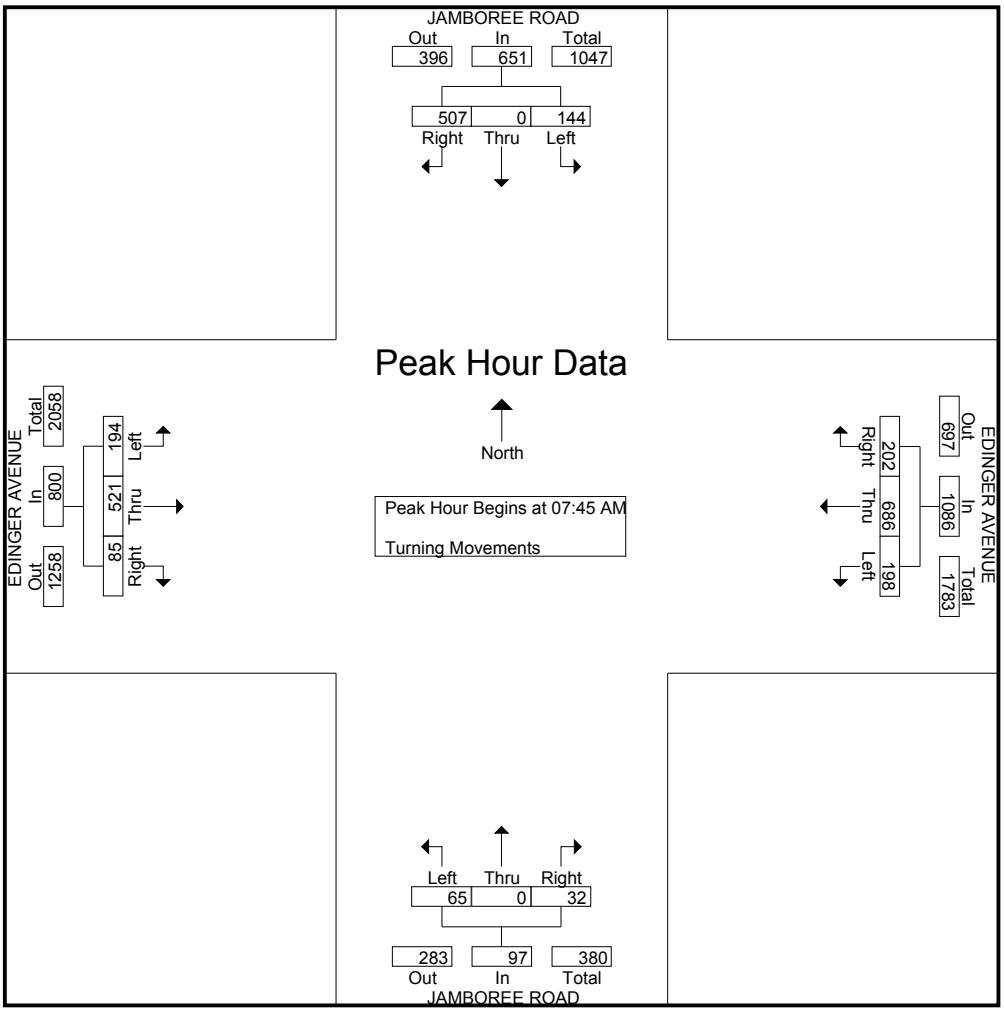
	JAMBOREE ROAD Southbound			EDINGER AVENUE Westbound			JAMBOREE ROAD Northbound			EDINGER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	109	0	15	33	109	26	9	0	14	18	90	39	462
07:15 AM	83	0	34	35	112	41	7	0	13	26	101	34	486
07:30 AM	111	0	23	43	140	39	5	0	8	21	151	45	586
07:45 AM	158	0	37	44	178	62	9	0	15	18	135	49	705
Total	461	0	109	155	539	168	30	0	50	83	477	167	2239
08:00 AM	121	0	30	60	187	51	7	0	14	17	147	56	690
08:15 AM	104	0	31	51	151	45	8	0	16	29	126	57	618
08:30 AM	124	0	46	47	170	40	8	0	20	21	113	32	621
08:45 AM	118	0	39	55	143	39	14	0	14	16	126	46	610
Total	467	0	146	213	651	175	37	0	64	83	512	191	2539
*** BREAK ***													
04:00 PM	69	0	30	27	171	22	36	0	51	15	96	67	584
04:15 PM	106	0	47	41	248	29	44	0	58	20	137	70	800
04:30 PM	80	0	55	39	244	23	35	0	52	30	64	64	686
04:45 PM	78	0	42	41	271	14	64	0	56	25	153	96	840
Total	333	0	174	148	934	88	179	0	217	90	450	297	2910
05:00 PM	73	0	62	36	215	72	45	0	50	29	193	104	879
05:15 PM	95	0	60	61	232	13	61	0	74	24	182	139	941
05:30 PM	94	0	64	56	282	23	64	0	45	29	231	93	981
05:45 PM	93	0	73	100	234	28	59	0	58	23	218	100	986
Total	355	0	259	253	963	136	229	0	227	105	824	436	3787
Grand Total	1616	0	688	769	3087	567	475	0	558	361	2263	1091	11475
Apprch %	70.1	0	29.9	17.4	69.8	12.8	46	0	54	9.7	60.9	29.4	
Total %	14.1	0	6	6.7	26.9	4.9	4.1	0	4.9	3.1	19.7	9.5	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: JAMBOREE ROAD
E-W Direction: EDINGER AVENUE

File Name : H1404045
Site Code : 133
Start Date : 5/14/2014

	JAMBOREE ROAD Southbound				EDINGER AVENUE Westbound				JAMBOREE ROAD Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**158**	0	37	**195**	44	178	**62**	284	**9**	0	15	24	18	135	49	202	**705**
08:00 AM	121	0	30	151	**60**	**187**	51	**298**	7	0	14	21	17	**147**	56	**220**	690
08:15 AM	104	0	31	135	51	151	45	247	8	0	16	24	**29**	126	**57**	212	618
08:30 AM	124	0	**46**	170	47	170	40	257	8	0	**20**	**28**	21	113	32	166	621
Total Volume	507	0	144	651	202	686	198	1086	32	0	65	97	85	521	194	800	2634
% App. Total	77.9	0	22.1		18.6	63.2	18.2		33	0	67		10.6	65.1	24.2		
PHF	.802	.000	.783	.835	.842	.917	.798	.911	.889	.000	.813	.866	.733	.886	.851	.909	.934

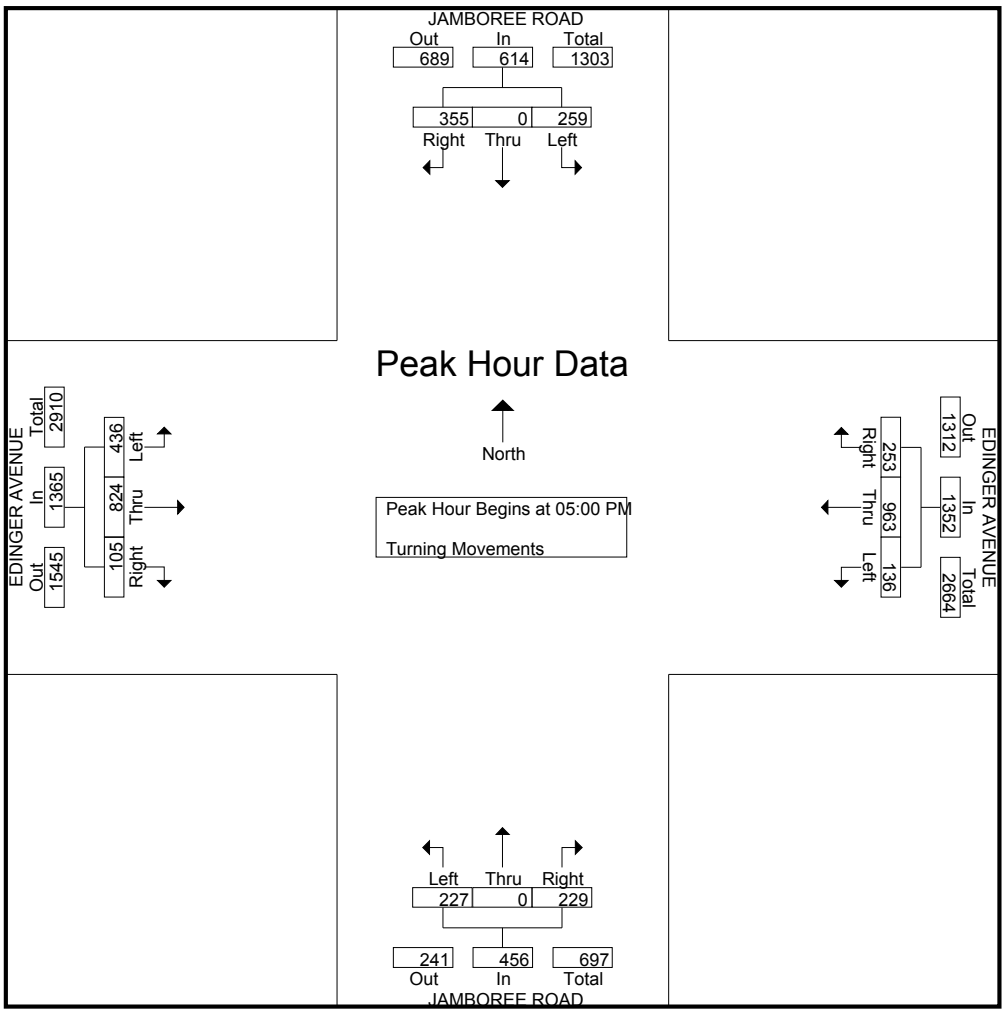


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: JAMBOREE ROAD
E-W Direction: EDINGER AVENUE

File Name : H1404045
Site Code : 133
Start Date : 5/14/2014

	JAMBOREE ROAD Southbound				EDINGER AVENUE Westbound				JAMBOREE ROAD Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	73	0	62	135	36	215	**72**	323	45	0	50	95	**29**	193	104	326	879
05:15 PM	**95**	0	60	155	61	232	13	306	61	0	**74**	**135**	24	182	**139**	345	941
05:30 PM	94	0	64	158	56	**282**	23	361	**64**	0	45	109	29	**231**	93	**353**	981
05:45 PM	93	0	**73**	**166**	**100**	234	28	**362**	59	0	58	117	23	218	100	341	**986**
Total Volume	355	0	259	614	253	963	136	1352	229	0	227	456	105	824	436	1365	3787
% App. Total	57.8	0	42.2		18.7	71.2	10.1		50.2	0	49.8		7.7	60.4	31.9		
PHF	.934	.000	.887	.925	.633	.854	.472	.934	.895	.000	.767	.844	.905	.892	.784	.967	.960



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: EDINGER AVE/ ICD

File Name : H1405097
Site Code : 00005701
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

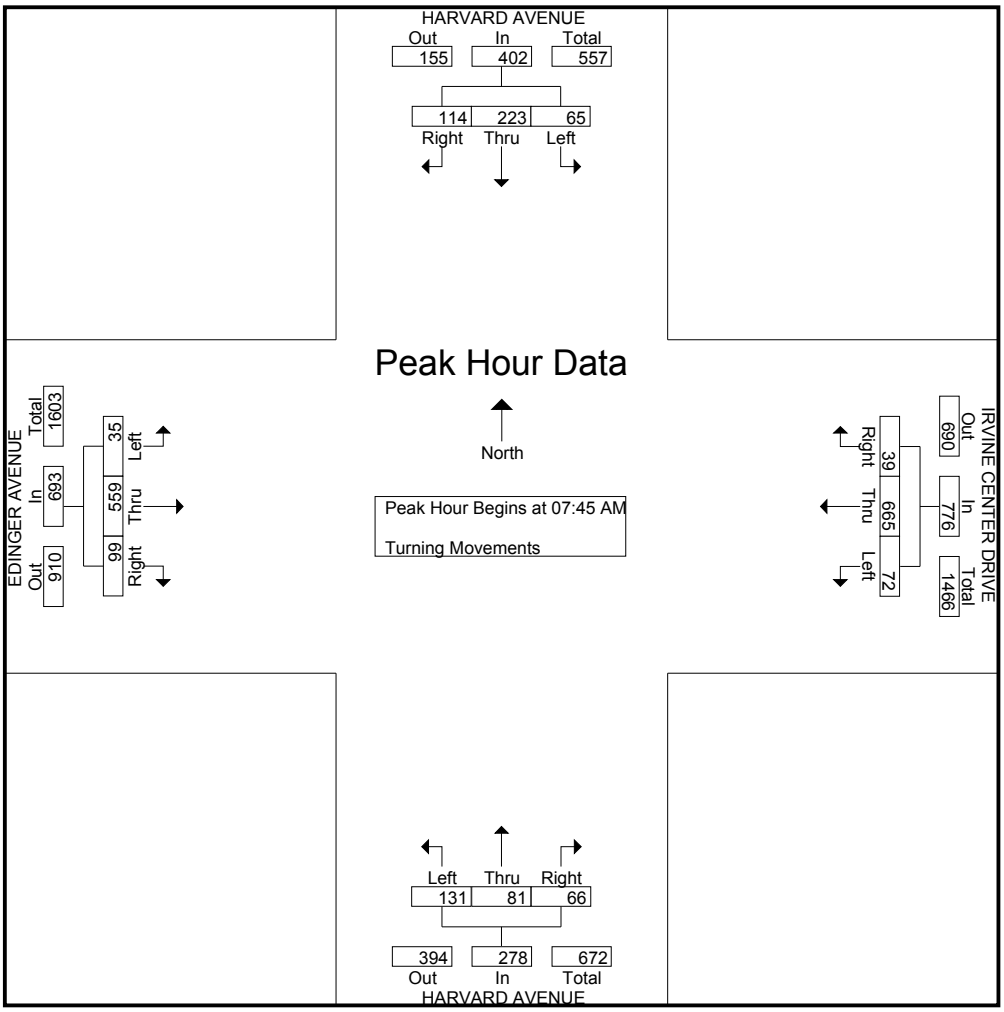
	HARVARD AVENUE Southbound			IRVINE CENTER DRIVE Westbound			HARVARD AVENUE Northbound			EDINGER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	25	12	4	10	98	9	10	6	26	16	97	11	324
07:15 AM	13	21	11	3	127	11	7	23	20	19	105	3	363
07:30 AM	37	32	10	9	128	18	22	17	23	30	153	2	481
07:45 AM	32	64	18	7	188	18	21	13	31	16	170	4	582
Total	107	129	43	29	541	56	60	59	100	81	525	20	1750
08:00 AM	28	52	8	10	182	18	19	21	41	23	145	9	556
08:15 AM	27	51	19	10	161	20	9	20	29	25	129	12	512
08:30 AM	27	56	20	12	134	16	17	27	30	35	115	10	499
08:45 AM	34	55	19	13	152	22	16	27	29	24	165	4	560
Total	116	214	66	45	629	76	61	95	129	107	554	35	2127
*** BREAK ***													
04:00 PM	17	28	8	12	177	20	21	46	48	25	134	27	563
04:15 PM	10	25	10	33	334	24	17	75	36	45	154	19	782
04:30 PM	14	26	14	13	218	20	29	92	41	34	154	43	698
04:45 PM	18	29	12	26	320	22	39	107	59	37	217	30	916
Total	59	108	44	84	1049	86	106	320	184	141	659	119	2959
05:00 PM	16	40	23	18	234	22	31	101	36	35	177	29	762
05:15 PM	12	49	16	20	357	25	52	101	48	42	241	24	987
05:30 PM	22	35	16	21	354	27	77	124	42	44	210	29	1001
05:45 PM	16	52	25	23	340	41	57	128	55	39	235	23	1034
Total	66	176	80	82	1285	115	217	454	181	160	863	105	3784
Grand Total	348	627	233	240	3504	333	444	928	594	489	2601	279	10620
Apprch %	28.8	51.9	19.3	5.9	85.9	8.2	22.6	47.2	30.2	14.5	77.2	8.3	
Total %	3.3	5.9	2.2	2.3	33	3.1	4.2	8.7	5.6	4.6	24.5	2.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: EDINGER AVE/ ICD

File Name : H1405097
Site Code : 00005701
Start Date : 6/12/2014
Page No : 2

	HARVARD AVENUE Southbound				IRVINE CENTER DRIVE Westbound				HARVARD AVENUE Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**32**	**64**	18	**114**	7	**188**	18	**213**	**21**	13	31	65	16	**170**	4	**190**	**582**
08:00 AM	28	52	8	88	10	182	18	210	19	21	**41**	**81**	23	145	9	177	556
08:15 AM	27	51	19	97	10	161	**20**	191	9	20	29	58	25	129	**12**	166	512
08:30 AM	27	56	**20**	103	**12**	134	16	162	17	**27**	30	74	**35**	115	10	160	499
Total Volume	114	223	65	402	39	665	72	776	66	81	131	278	99	559	35	693	2149
% App. Total	28.4	55.5	16.2		5	85.7	9.3		23.7	29.1	47.1		14.3	80.7	5.1		
PHF	.891	.871	.813	.882	.813	.884	.900	.911	.786	.750	.799	.858	.707	.822	.729	.912	.923

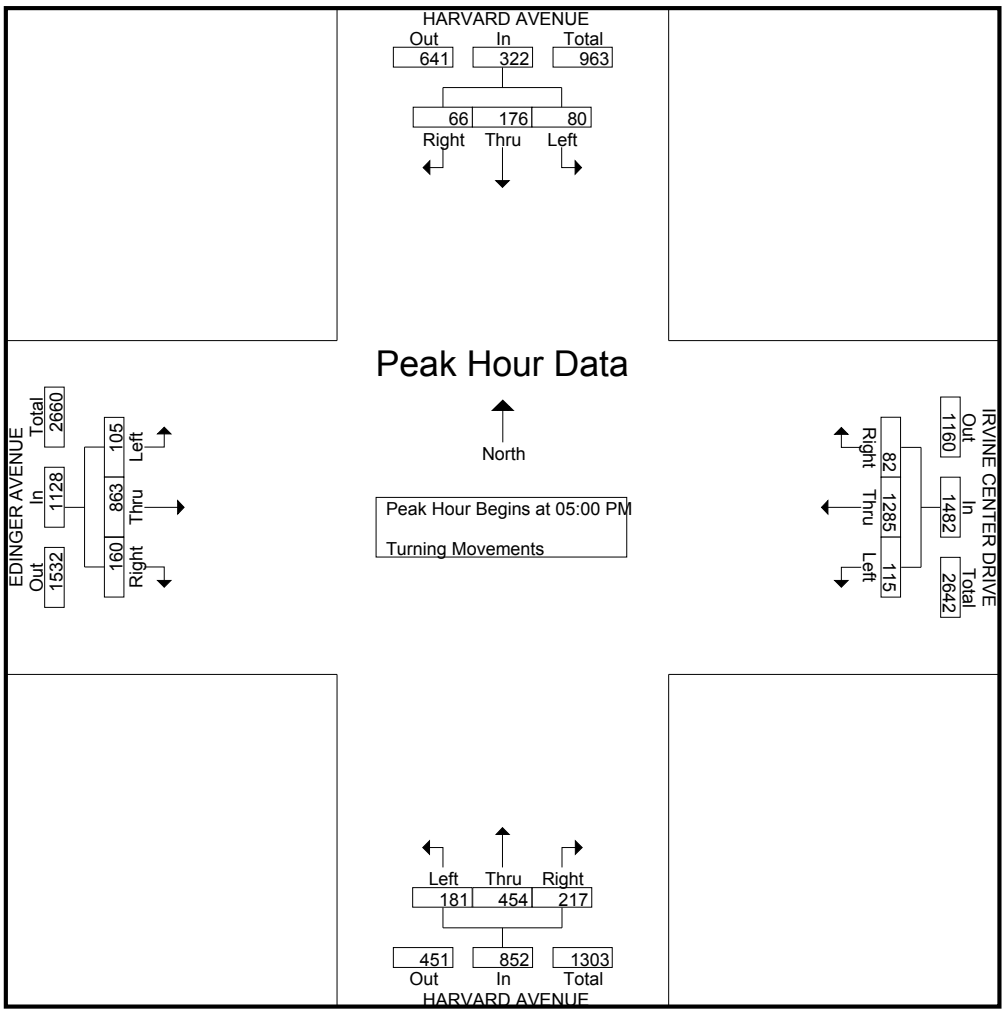


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: EDINGER AVE/ ICD

File Name : H1405097
Site Code : 00005701
Start Date : 6/12/2014
Page No : 3

	HARVARD AVENUE Southbound				IRVINE CENTER DRIVE Westbound				HARVARD AVENUE Northbound				EDINGER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	40	23	79	18	234	22	274	31	101	36	168	35	177	**29**	241	762
05:15 PM	12	49	16	77	20	**357**	25	402	52	101	48	201	42	**241**	24	**307**	987
05:30 PM	**22**	35	16	73	21	354	27	402	**77**	124	42	**243**	**44**	210	29	283	1001
05:45 PM	16	**52**	**25**	**93**	**23**	340	**41**	**404**	57	**128**	**55**	240	39	235	23	297	**1034**
Total Volume	66	176	80	322	82	1285	115	1482	217	454	181	852	160	863	105	1128	3784
% App. Total	20.5	54.7	24.8		5.5	86.7	7.8		25.5	53.3	21.2		14.2	76.5	9.3		
PHF	.750	.846	.800	.866	.891	.900	.701	.917	.705	.887	.823	.877	.909	.895	.905	.919	.915



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: IRVINE CENTER DRIVE

File Name : H1404061
Site Code : 226
Start Date : 6/3/2014

Groups Printed- Turning Movements

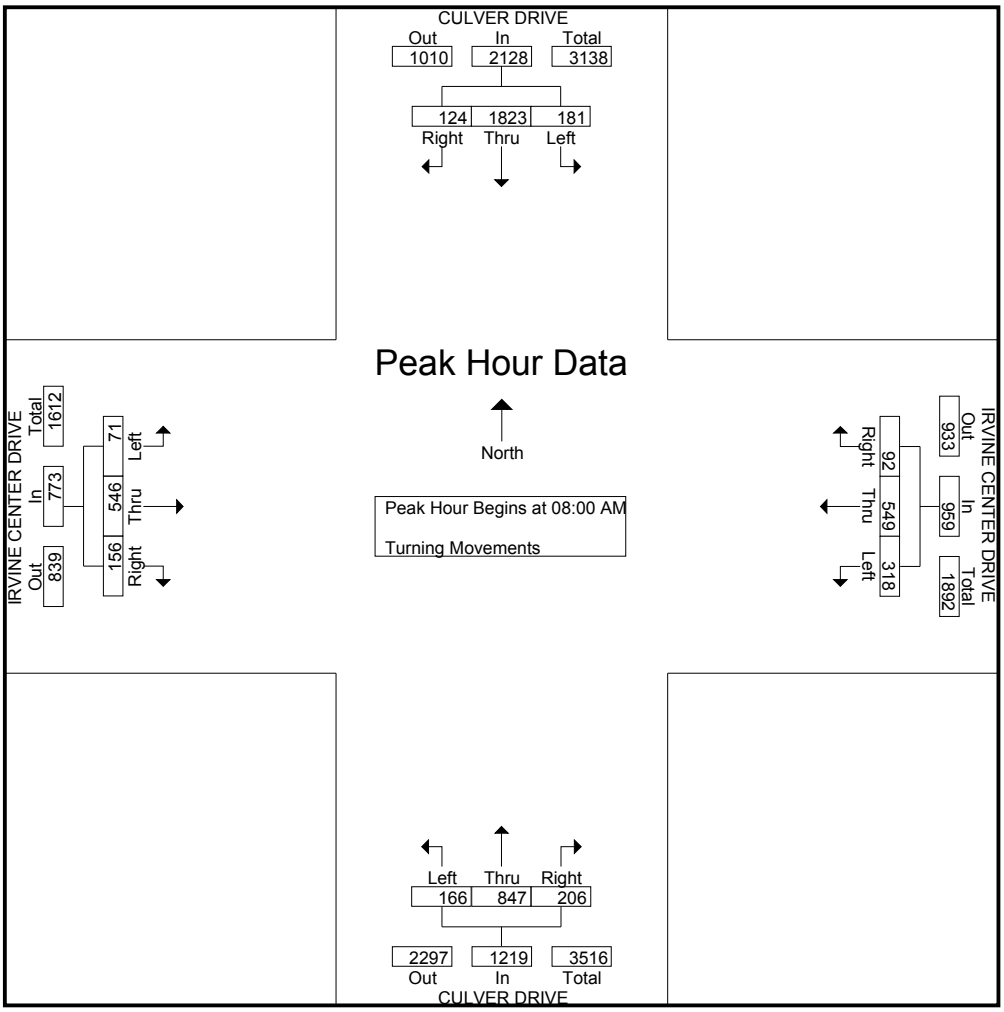
	CULVER DRIVE Southbound			IRVINE CENTER DRIVE Westbound			CULVER DRIVE Northbound			IRVINE CENTER DRIVE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	6	163	21	16	62	31	17	170	26	22	65	32	631
07:15 AM	13	247	41	27	88	50	30	278	41	25	81	27	948
07:30 AM	28	369	38	15	103	73	24	120	34	36	112	26	978
07:45 AM	33	430	37	21	158	81	38	152	48	59	136	23	1216
Total	80	1209	137	79	411	235	109	720	149	142	394	108	3773
08:00 AM	33	433	38	19	118	79	50	170	44	30	138	9	1161
08:15 AM	34	473	36	15	131	79	50	228	40	46	143	20	1295
08:30 AM	23	459	51	30	133	73	39	225	42	45	125	11	1256
08:45 AM	34	458	56	28	167	87	67	224	40	35	140	31	1367
Total	124	1823	181	92	549	318	206	847	166	156	546	71	5079
*** BREAK ***													
04:00 PM	15	240	39	84	304	85	23	198	35	22	70	28	1143
04:15 PM	33	240	50	34	218	37	20	212	31	24	98	31	1028
04:30 PM	25	258	36	42	208	33	48	322	64	32	90	23	1181
04:45 PM	23	291	55	74	193	37	74	420	41	30	134	44	1416
Total	96	1029	180	234	923	192	165	1152	171	108	392	126	4768
05:00 PM	26	296	59	36	213	76	69	429	79	50	138	30	1501
05:15 PM	28	286	52	31	287	68	103	451	93	39	169	40	1647
05:30 PM	34	295	69	46	297	83	90	479	88	52	170	46	1749
05:45 PM	40	314	81	50	214	58	84	482	86	37	171	46	1663
Total	128	1191	261	163	1011	285	346	1841	346	178	648	162	6560
Grand Total	428	5252	759	568	2894	1030	826	4560	832	584	1980	467	20180
Apprch %	6.6	81.6	11.8	12.6	64.4	22.9	13.3	73.3	13.4	19.3	65.3	15.4	
Total %	2.1	26	3.8	2.8	14.3	5.1	4.1	22.6	4.1	2.9	9.8	2.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: IRVINE CENTER DRIVE

File Name : H1404061
Site Code : 226
Start Date : 6/3/2014
Page No : 2

	CULVER DRIVE Southbound				IRVINE CENTER DRIVE Westbound				CULVER DRIVE Northbound				IRVINE CENTER DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	33	433	38	504	19	118	79	216	50	170	**44**	264	30	138	9	177	1161
08:15 AM	**34**	**473**	36	543	15	131	79	225	50	**228**	40	318	**46**	**143**	20	**209**	1295
08:30 AM	23	459	51	533	**30**	133	73	236	39	225	42	306	45	125	11	181	1256
08:45 AM	34	458	**56**	**548**	28	**167**	**87**	**282**	**67**	224	40	**331**	35	140	**31**	206	**1367**
Total Volume	124	1823	181	2128	92	549	318	959	206	847	166	1219	156	546	71	773	5079
% App. Total	5.8	85.7	8.5		9.6	57.2	33.2		16.9	69.5	13.6		20.2	70.6	9.2		
PHF	.912	.964	.808	.971	.767	.822	.914	.850	.769	.929	.943	.921	.848	.955	.573	.925	.929

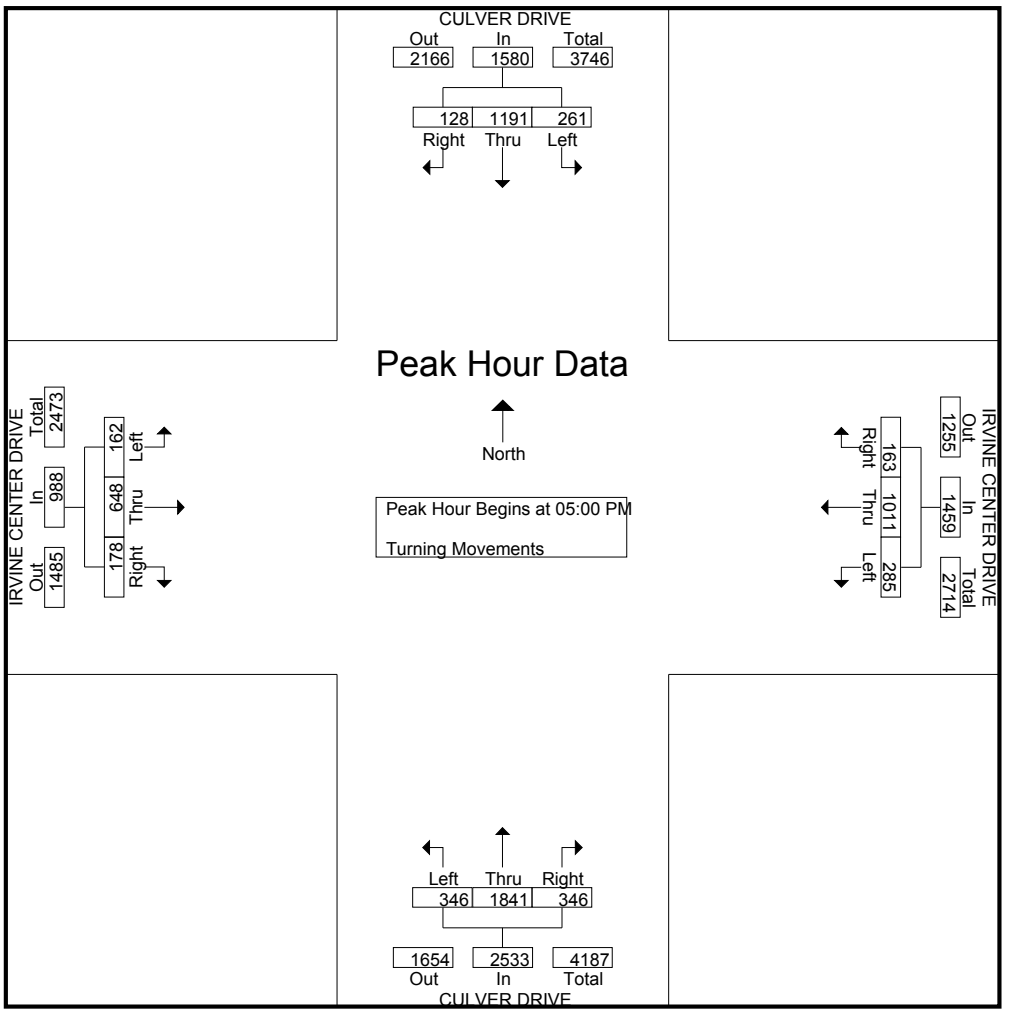


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: IRVINE CENTER DRIVE

File Name : H1404061
Site Code : 226
Start Date : 6/3/2014
Page No : 3

	CULVER DRIVE Southbound				IRVINE CENTER DRIVE Westbound				CULVER DRIVE Northbound				IRVINE CENTER DRIVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	26	296	59	381	36	213	76	325	69	429	79	577	50	138	30	218	1501
05:15 PM	28	286	52	366	31	287	68	386	**103**	451	**93**	647	39	169	40	248	1647
05:30 PM	34	295	69	398	46	**297**	**83**	**426**	90	479	88	**657**	**52**	170	**46**	**268**	**1749**
05:45 PM	**40**	**314**	**81**	**435**	**50**	214	58	322	84	**482**	86	652	37	**171**	46	254	1663
Total Volume	128	1191	261	1580	163	1011	285	1459	346	1841	346	2533	178	648	162	988	6560
% App. Total	8.1	75.4	16.5		11.2	69.3	19.5		13.7	72.7	13.7		18	65.6	16.4		
PHF	.800	.948	.806	.908	.815	.851	.858	.856	.840	.955	.930	.964	.856	.947	.880	.922	.938



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: PASEO WESTPARK

File Name : H1405098
Site Code : 00005724
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

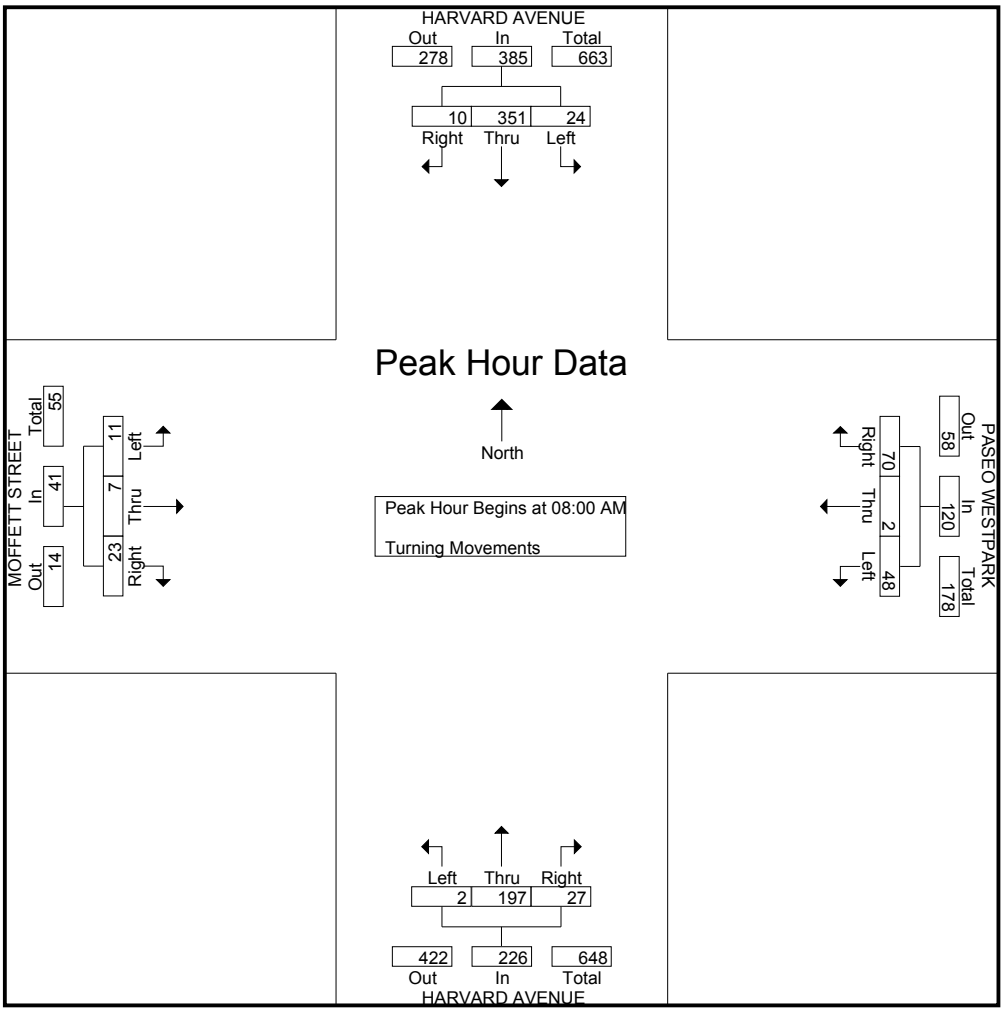
	HARVARD AVENUE Southbound			PASEO WESTPARK Westbound			HARVARD AVENUE Northbound			MOFFETT STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	31	7	5	0	4	2	35	0	1	1	0	86
07:15 AM	2	45	3	9	0	8	3	39	1	2	2	1	115
07:30 AM	3	70	4	14	0	11	0	44	1	2	1	3	153
07:45 AM	3	86	6	24	0	15	6	35	0	7	2	5	189
Total	8	232	20	52	0	38	11	153	2	12	6	9	543
08:00 AM	2	93	8	18	1	7	6	54	0	7	1	5	202
08:15 AM	2	86	4	18	1	15	5	38	0	5	1	2	177
08:30 AM	3	94	8	15	0	8	8	53	0	7	2	3	201
08:45 AM	3	78	4	19	0	18	8	52	2	4	3	1	192
Total	10	351	24	70	2	48	27	197	2	23	7	11	772
*** BREAK ***													
04:00 PM	11	61	7	12	1	3	15	99	3	0	2	2	216
04:15 PM	5	58	8	12	3	8	21	111	0	9	1	4	240
04:30 PM	6	69	5	12	2	8	10	132	1	1	1	2	249
04:45 PM	5	68	3	17	0	3	12	171	2	0	4	4	289
Total	27	256	23	53	6	22	58	513	6	10	8	12	994
05:00 PM	8	71	12	9	1	11	16	181	4	3	0	3	319
05:15 PM	11	100	3	14	3	3	13	205	4	5	3	4	368
05:30 PM	9	81	9	16	4	2	22	211	7	3	1	5	370
05:45 PM	10	111	11	19	1	6	14	202	7	5	2	6	394
Total	38	363	35	58	9	22	65	799	22	16	6	18	1451
Grand Total	83	1202	102	233	17	130	161	1662	32	61	27	50	3760
Apprch %	6	86.7	7.4	61.3	4.5	34.2	8.7	89.6	1.7	44.2	19.6	36.2	
Total %	2.2	32	2.7	6.2	0.5	3.5	4.3	44.2	0.9	1.6	0.7	1.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: PASEO WESTPARK

File Name : H1405098
Site Code : 00005724
Start Date : 6/12/2014

	HARVARD AVENUE Southbound				PASEO WESTPARK Westbound				HARVARD AVENUE Northbound				MOFFETT STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	93	**8**	103	18	**1**	7	26	6	**54**	0	60	**7**	1	**5**	**13**	**202**
08:15 AM	2	86	4	92	18	1	15	34	5	38	0	43	5	1	2	8	177
08:30 AM	**3**	**94**	8	**105**	15	0	8	23	**8**	53	0	61	7	2	3	12	201
08:45 AM	3	78	4	85	**19**	0	**18**	**37**	8	52	**2**	**62**	4	**3**	1	8	192
Total Volume	10	351	24	385	70	2	48	120	27	197	2	226	23	7	11	41	772
% App. Total	2.6	91.2	6.2		58.3	1.7	40		11.9	87.2	0.9		56.1	17.1	26.8		
PHF	.833	.934	.750	.917	.921	.500	.667	.811	.844	.912	.250	.911	.821	.583	.550	.788	.955

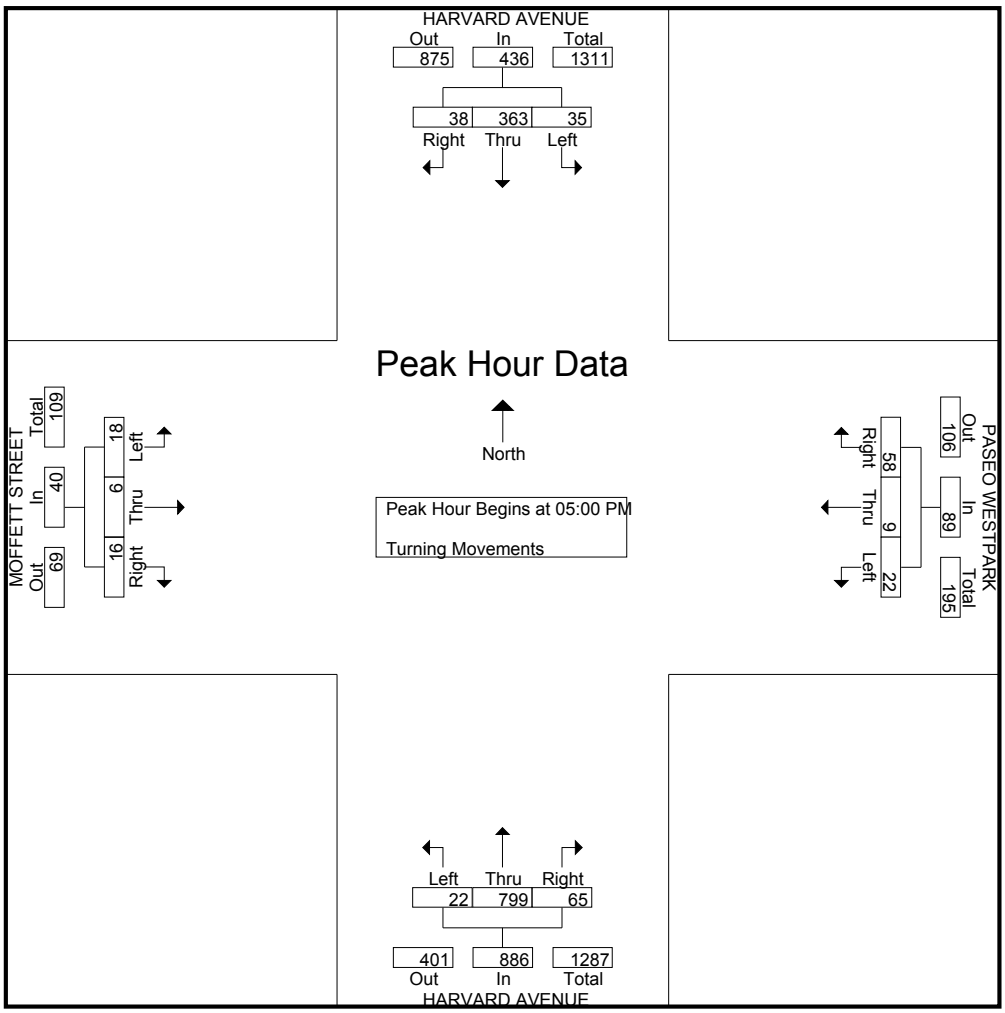


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: PASEO WESTPARK

File Name : H1405098
Site Code : 00005724
Start Date : 6/12/2014

	HARVARD AVENUE Southbound				PASEO WESTPARK Westbound				HARVARD AVENUE Northbound				MOFFETT STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	8	71	**12**	91	9	1	**11**	21	16	181	4	201	3	0	3	6	319
05:15 PM	**11**	100	3	114	14	3	3	20	13	205	4	222	**5**	**3**	4	12	368
05:30 PM	9	81	9	99	16	**4**	2	22	**22**	**211**	**7**	**240**	3	1	5	9	370
05:45 PM	10	**111**	11	**132**	**19**	1	6	**26**	14	202	7	223	5	2	**6**	**13**	**394**
Total Volume	38	363	35	436	58	9	22	89	65	799	22	886	16	6	18	40	1451
% App. Total	8.7	83.3	8		65.2	10.1	24.7		7.3	90.2	2.5		40	15	45		
PHF	.864	.818	.729	.826	.763	.563	.500	.856	.739	.947	.786	.923	.800	.500	.750	.769	.921



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405079
Site Code : 00001944
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

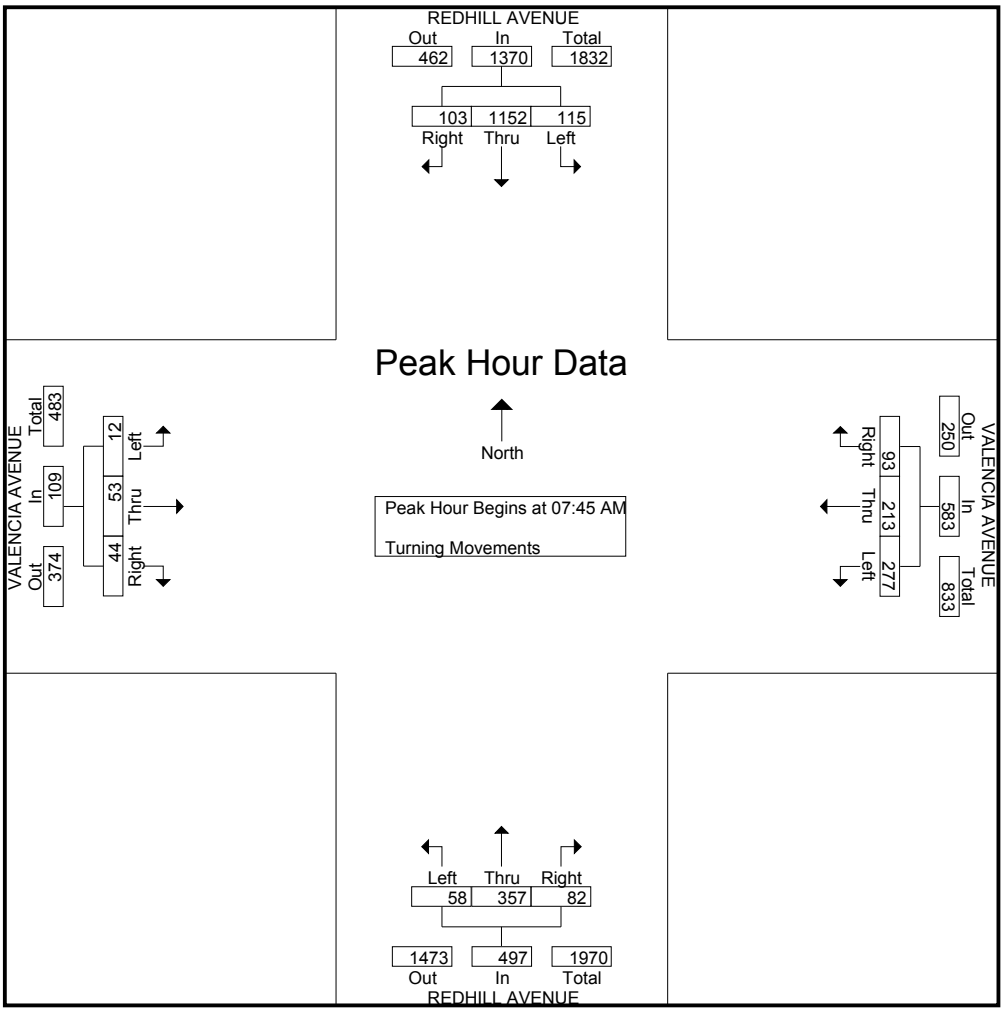
	REDHILL AVENUE Southbound			VALENCIA AVENUE Westbound			REDHILL AVENUE Northbound			VALENCIA AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	15	198	11	6	34	39	14	65	4	10	6	1	403
07:15 AM	17	220	9	18	31	36	16	60	3	15	8	4	437
07:30 AM	13	266	29	25	47	52	26	69	10	12	15	1	565
07:45 AM	16	325	36	29	54	81	22	88	12	10	17	1	691
Total	61	1009	85	78	166	208	78	282	29	47	46	7	2096
08:00 AM	20	275	43	26	67	62	22	93	23	15	13	6	665
08:15 AM	42	297	21	30	44	59	20	87	12	9	6	0	627
08:30 AM	25	255	15	8	48	75	18	89	11	10	17	5	576
08:45 AM	15	269	17	17	47	62	14	76	13	9	10	3	552
Total	102	1096	96	81	206	258	74	345	59	43	46	14	2420
*** BREAK ***													
04:00 PM	7	125	14	13	26	17	45	425	51	12	27	21	783
04:15 PM	5	97	7	14	39	39	41	433	54	8	18	18	773
04:30 PM	9	115	30	12	19	18	55	448	50	10	23	21	810
04:45 PM	8	111	14	11	11	28	74	449	41	11	28	14	800
Total	29	448	65	50	95	102	215	1755	196	41	96	74	3166
05:00 PM	14	117	23	13	13	31	73	448	48	18	39	5	842
05:15 PM	11	98	17	12	24	37	103	527	46	15	49	21	960
05:30 PM	9	112	21	12	8	23	110	534	52	14	35	13	943
05:45 PM	9	128	21	11	28	29	79	452	60	8	32	13	870
Total	43	455	82	48	73	120	365	1961	206	55	155	52	3615
Grand Total	235	3008	328	257	540	688	732	4343	490	186	343	147	11297
Apprch %	6.6	84.2	9.2	17.3	36.4	46.3	13.2	78	8.8	27.5	50.7	21.7	
Total %	2.1	26.6	2.9	2.3	4.8	6.1	6.5	38.4	4.3	1.6	3	1.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405079
Site Code : 00001944
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				VALENCIA AVENUE Westbound				REDHILL AVENUE Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	16	**325**	36	**377**	29	54	**81**	**164**	**22**	88	12	122	10	**17**	1	28	**691**
08:00 AM	20	275	**43**	338	26	**67**	62	155	22	**93**	**23**	**138**	**15**	13	**6**	**34**	665
08:15 AM	**42**	297	21	360	**30**	44	59	133	20	87	12	119	9	6	0	15	627
08:30 AM	25	255	15	295	8	48	75	131	18	89	11	118	10	17	5	32	576
Total Volume	103	1152	115	1370	93	213	277	583	82	357	58	497	44	53	12	109	2559
% App. Total	7.5	84.1	8.4		16	36.5	47.5		16.5	71.8	11.7		40.4	48.6	11		
PHF	.613	.886	.669	.908	.775	.795	.855	.889	.932	.960	.630	.900	.733	.779	.500	.801	.926

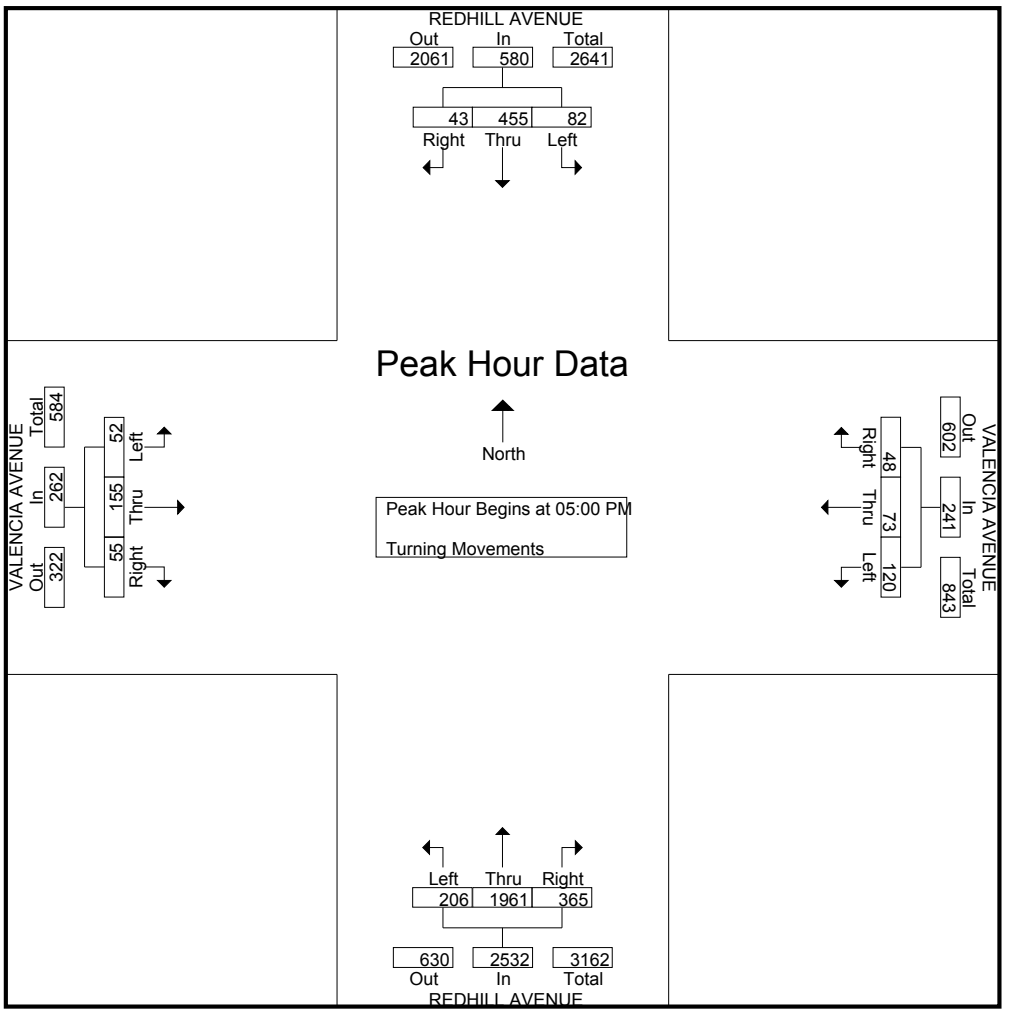


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405079
Site Code : 00001944
Start Date : 6/10/2014
Page No : 3

	REDHILL AVENUE Southbound				VALENCIA AVENUE Westbound				REDHILL AVENUE Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**14**	117	**23**	154	**13**	13	31	57	73	448	48	569	**18**	39	5	62	842
05:15 PM	11	98	17	126	12	24	**37**	**73**	103	527	46	676	15	**49**	**21**	**85**	**960**
05:30 PM	9	112	21	142	12	8	23	43	**110**	**534**	52	**696**	14	35	13	62	943
05:45 PM	9	**128**	21	**158**	11	**28**	29	68	79	452	**60**	591	8	32	13	53	870
Total Volume	43	455	82	580	48	73	120	241	365	1961	206	2532	55	155	52	262	3615
% App. Total	7.4	78.4	14.1		19.9	30.3	49.8		14.4	77.4	8.1		21	59.2	19.8		
PHF	.768	.889	.891	.918	.923	.652	.811	.825	.830	.918	.858	.909	.764	.791	.619	.771	.941



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: ARMSTRONG AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405086
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

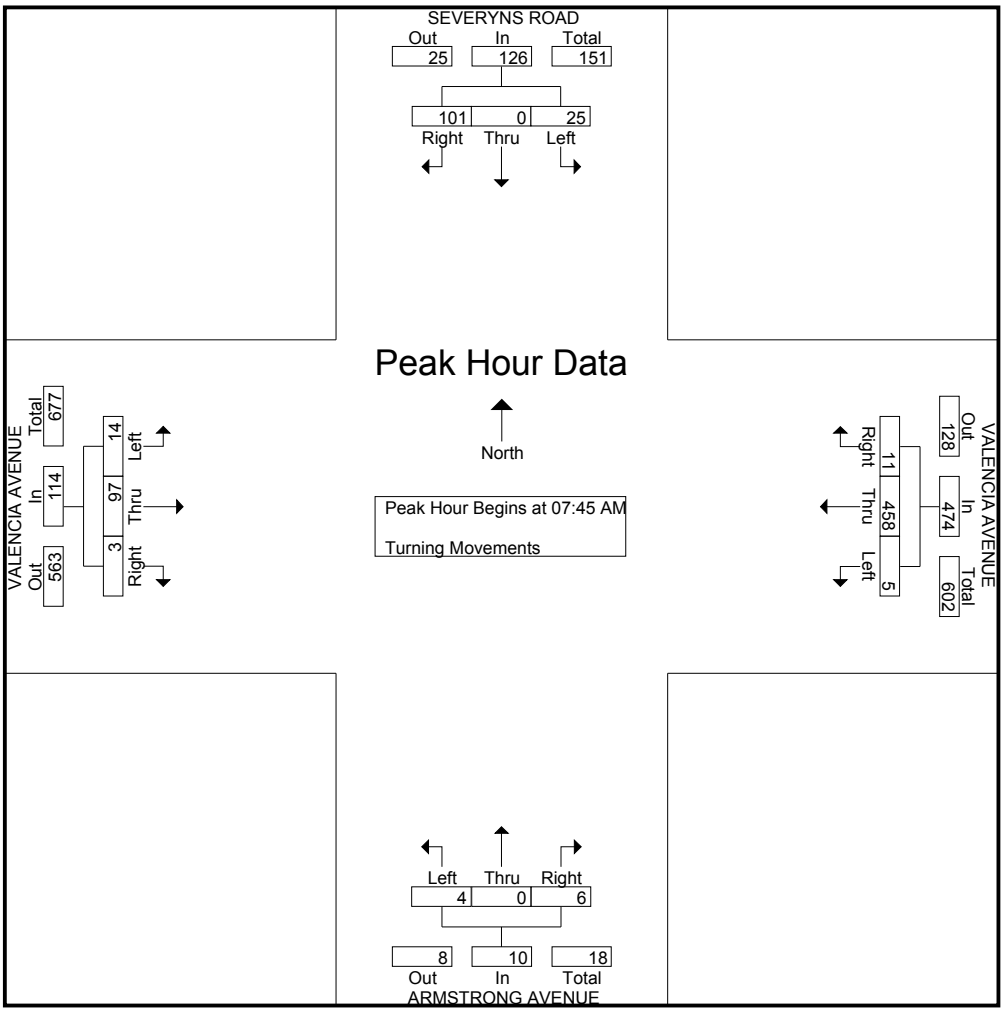
	SEVERYNS ROAD Southbound			VALENCIA AVENUE Westbound			ARMSTRONG AVENUE Northbound			VALENCIA AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	13	0	4	0	58	0	8	0	1	2	22	3	111
07:15 AM	15	0	3	1	91	0	7	0	0	4	19	3	143
07:30 AM	22	0	8	0	93	0	2	0	1	4	16	1	147
07:45 AM	33	0	7	2	145	2	1	0	0	2	38	2	232
Total	83	0	22	3	387	2	18	0	2	12	95	9	633
08:00 AM	20	0	6	1	115	2	2	0	2	0	25	4	177
08:15 AM	28	0	5	5	99	1	2	0	0	0	22	4	166
08:30 AM	20	0	7	3	99	0	1	0	2	1	12	4	149
08:45 AM	20	0	6	2	85	0	0	0	2	1	16	3	135
Total	88	0	24	11	398	3	5	0	6	2	75	15	627
*** BREAK ***													
04:00 PM	9	0	2	7	28	0	11	0	25	2	67	5	156
04:15 PM	6	0	1	5	39	0	3	0	26	1	85	10	176
04:30 PM	9	0	4	4	40	1	2	0	3	0	95	8	166
04:45 PM	6	1	3	7	34	0	0	0	1	2	93	12	159
Total	30	1	10	23	141	1	16	0	55	5	340	35	657
05:00 PM	6	0	4	2	40	0	0	1	0	2	155	13	223
05:15 PM	5	0	1	6	48	3	0	0	0	10	156	18	247
05:30 PM	6	2	3	9	42	0	0	0	1	20	134	18	235
05:45 PM	5	0	4	12	49	4	0	0	1	8	102	21	206
Total	22	2	12	29	179	7	0	1	2	40	547	70	911
Grand Total	223	3	68	66	1105	13	39	1	65	59	1057	129	2828
Apprch %	75.9	1	23.1	5.6	93.3	1.1	37.1	1	61.9	4.7	84.9	10.4	
Total %	7.9	0.1	2.4	2.3	39.1	0.5	1.4	0	2.3	2.1	37.4	4.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: ARMSTRONG AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405086
Site Code : 00000000
Start Date : 6/10/2014

	SEVERYNS ROAD Southbound				VALENCIA AVENUE Westbound				ARMSTRONG AVENUE Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**33**	0	**7**	**40**	2	**145**	**2**	**149**	1	0	0	1	**2**	**38**	2	**42**	**232**
08:00 AM	20	0	6	26	1	115	2	118	**2**	0	**2**	**4**	0	25	**4**	29	177
08:15 AM	28	0	5	33	**5**	99	1	105	2	0	0	2	0	22	4	26	166
08:30 AM	20	0	7	27	3	99	0	102	1	0	2	3	1	12	4	17	149
Total Volume	101	0	25	126	11	458	5	474	6	0	4	10	3	97	14	114	724
% App. Total	80.2	0	19.8		2.3	96.6	1.1		60	0	40		2.6	85.1	12.3		
PHF	.765	.000	.893	.788	.550	.790	.625	.795	.750	.000	.500	.625	.375	.638	.875	.679	.780

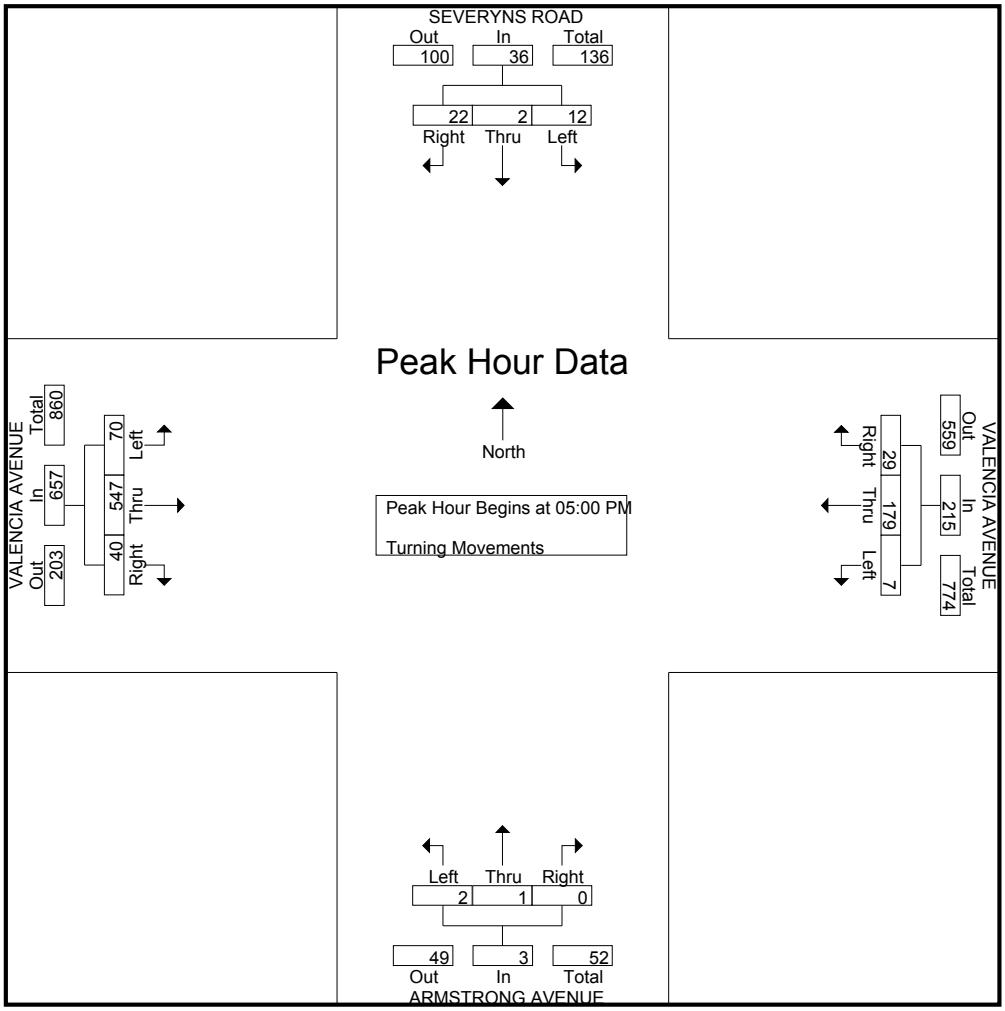


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: ARMSTRONG AVENUE
E-W Direction: VALENCIA AVENUE

File Name : H1405086
Site Code : 00000000
Start Date : 6/10/2014

	SEVERYNS ROAD Southbound				VALENCIA AVENUE Westbound				ARMSTRONG AVENUE Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**6**	0	**4**	10	2	40	0	42	0	**1**	0	**1**	2	155	13	170	223
05:15 PM	5	0	1	6	6	48	3	57	0	0	0	0	10	**156**	18	**184**	**247**
05:30 PM	6	**2**	3	**11**	9	42	0	51	0	0	**1**	1	**20**	134	18	172	235
05:45 PM	5	0	4	9	**12**	**49**	**4**	**65**	0	0	1	1	8	102	**21**	131	206
Total Volume	22	2	12	36	29	179	7	215	0	1	2	3	40	547	70	657	911
% App. Total	61.1	5.6	33.3		13.5	83.3	3.3		0	33.3	66.7		6.1	83.3	10.7		
PHF	.917	.250	.750	.818	.604	.913	.438	.827	.000	.250	.500	.750	.500	.877	.833	.893	.922



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: KENSINGTON DRIVE
E-W Direction: VALENCIA AVENUE

File Name : H1405085
Site Code : 00000000
Start Date : 6/10/2014

Groups Printed- Turning Movements

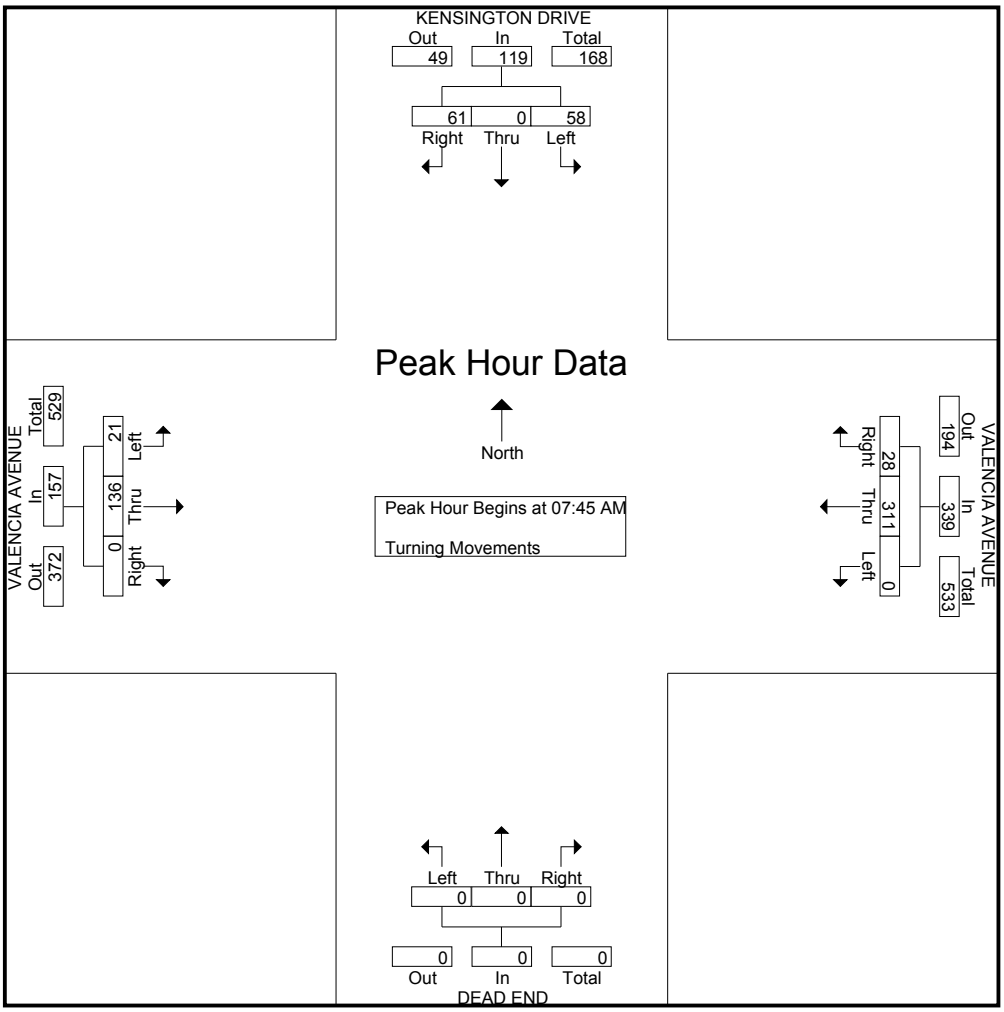
	KENSINGTON DRIVE Southbound			VALENCIA AVENUE Westbound			DEAD END Northbound			VALENCIA AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	9	0	11	3	32	0	0	0	0	0	32	6	93
07:15 AM	22	0	13	3	57	0	0	0	0	0	19	8	122
07:30 AM	18	0	21	7	59	0	0	0	0	0	34	3	142
07:45 AM	17	0	19	10	96	0	0	0	0	0	35	7	184
Total	66	0	64	23	244	0	0	0	0	0	120	24	541
08:00 AM	17	0	16	8	58	0	0	0	0	0	38	3	140
08:15 AM	18	0	12	4	78	0	0	0	0	0	26	5	143
08:30 AM	9	0	11	6	79	0	0	0	0	0	37	6	148
08:45 AM	12	0	13	11	75	0	0	0	0	0	32	4	147
Total	56	0	52	29	290	0	0	0	0	0	133	18	578
*** BREAK ***													
04:00 PM	6	0	11	21	31	0	0	0	0	0	51	15	135
04:15 PM	7	0	19	9	35	0	0	0	0	0	68	15	153
04:30 PM	6	0	13	15	41	0	0	0	0	0	80	21	176
04:45 PM	9	0	14	23	46	0	0	0	0	0	59	21	172
Total	28	0	57	68	153	0	0	0	0	0	258	72	636
05:00 PM	18	0	26	26	41	0	0	0	0	0	131	37	279
05:15 PM	23	0	29	25	47	0	0	0	0	0	102	31	257
05:30 PM	19	0	15	20	51	0	0	0	0	0	84	41	230
05:45 PM	18	0	20	25	36	0	0	0	0	0	79	32	210
Total	78	0	90	96	175	0	0	0	0	0	396	141	976
Grand Total	228	0	263	216	862	0	0	0	0	0	907	255	2731
Apprch %	46.4	0	53.6	20	80	0	0	0	0	0	78.1	21.9	
Total %	8.3	0	9.6	7.9	31.6	0	0	0	0	0	33.2	9.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: KENSINGTON DRIVE
E-W Direction: VALENCIA AVENUE

File Name : H1405085
Site Code : 00000000
Start Date : 6/10/2014

	KENSINGTON DRIVE Southbound				VALENCIA AVENUE Westbound				DEAD END Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	17	0	**19**	**36**	**10**	**96**	0	**106**	0	0	0	0	0	35	**7**	42	**184**
08:00 AM	17	0	16	33	8	58	0	66	0	0	0	0	0	**38**	3	41	140
08:15 AM	**18**	0	12	30	4	78	0	82	0	0	0	0	0	26	5	31	143
08:30 AM	9	0	11	20	6	79	0	85	0	0	0	0	0	37	6	**43**	148
Total Volume	61	0	58	119	28	311	0	339	0	0	0	0	0	136	21	157	615
% App. Total	51.3	0	48.7		8.3	91.7	0		0	0	0		0	86.6	13.4		
PHF	.847	.000	.763	.826	.700	.810	.000	.800	.000	.000	.000	.000	.000	.895	.750	.913	.836

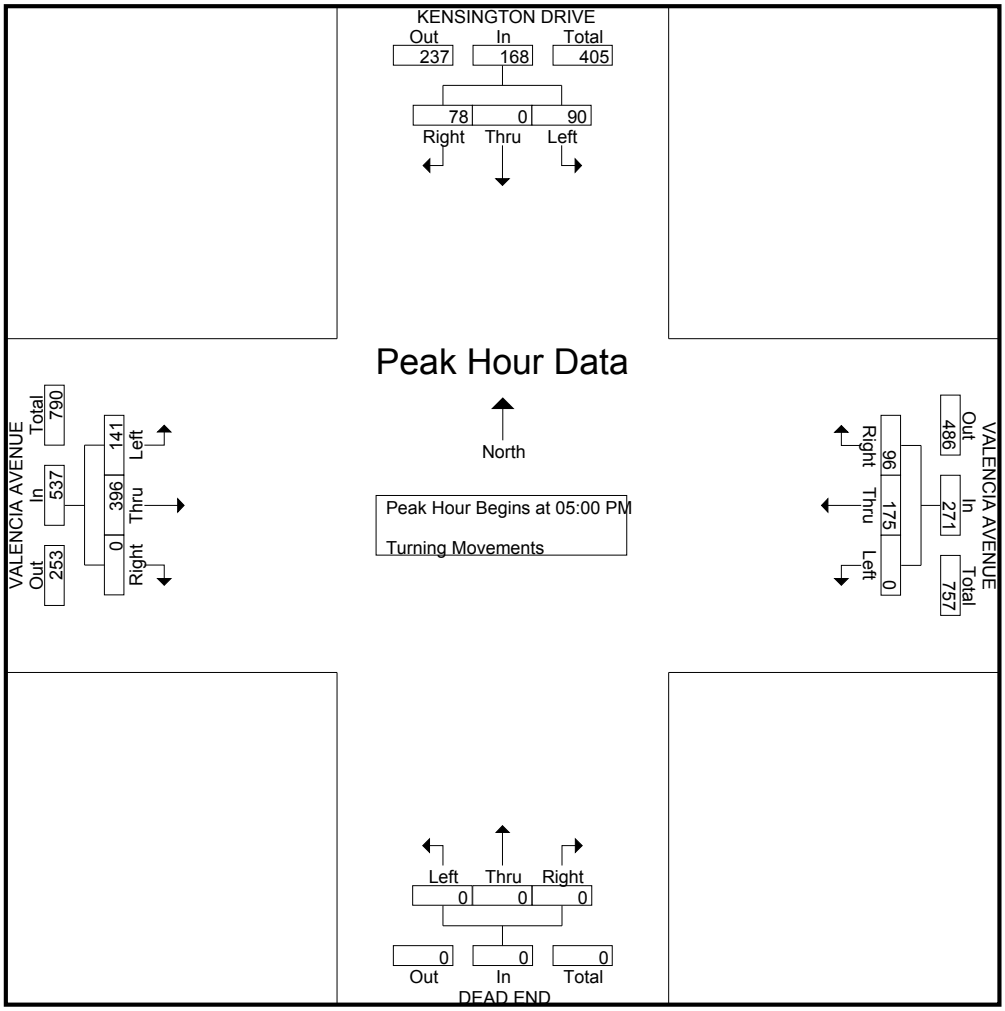


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: KENSINGTON DRIVE
E-W Direction: VALENCIA AVENUE

File Name : H1405085
Site Code : 00000000
Start Date : 6/10/2014

	KENSINGTON DRIVE Southbound				VALENCIA AVENUE Westbound				DEAD END Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	18	0	26	44	**26**	41	0	67	0	0	0	0	0	**131**	37	**168**	**279**
05:15 PM	**23**	0	**29**	**52**	25	47	0	**72**	0	0	0	0	0	102	31	133	257
05:30 PM	19	0	15	34	20	**51**	0	71	0	0	0	0	0	84	**41**	125	230
05:45 PM	18	0	20	38	25	36	0	61	0	0	0	0	0	79	32	111	210
Total Volume	78	0	90	168	96	175	0	271	0	0	0	0	0	396	141	537	976
% App. Total	46.4	0	53.6		35.4	64.6	0		0	0	0		0	73.7	26.3		
PHF	.848	.000	.776	.808	.923	.858	.000	.941	.000	.000	.000	.000	.000	.756	.860	.799	.875



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: VALENCIA AVENUE

File Name : H1405081
Site Code : 00000554
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

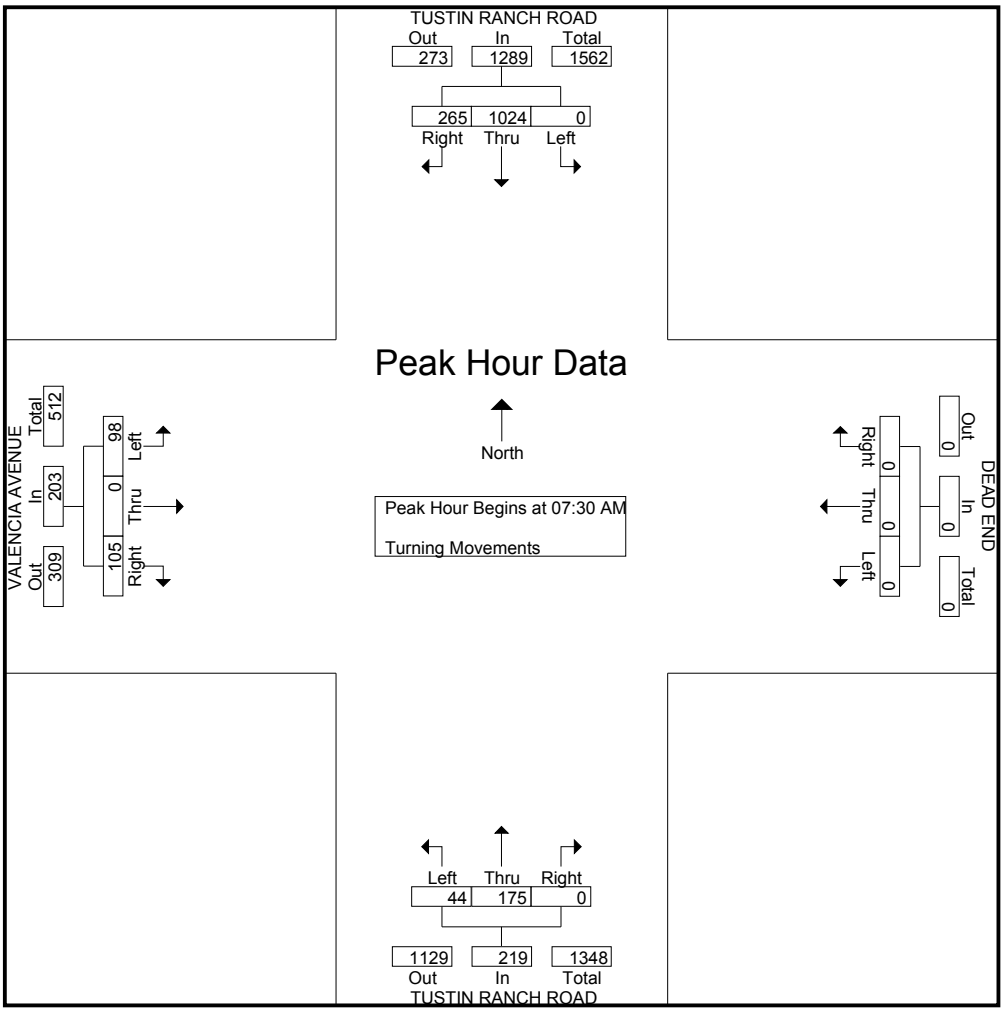
	TUSTIN RANCH ROAD Southbound			DEAD END Westbound			TUSTIN RANCH ROAD Northbound			VALENCIA AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	44	147	0	0	0	0	0	29	6	15	0	28	269
07:15 AM	33	175	0	0	0	0	0	31	6	12	0	22	279
07:30 AM	55	244	0	0	0	0	0	43	8	19	0	18	387
07:45 AM	77	299	0	0	0	0	0	42	15	37	0	23	493
Total	209	865	0	0	0	0	0	145	35	83	0	91	1428
08:00 AM	74	231	0	0	0	0	0	53	10	28	0	30	426
08:15 AM	59	250	0	0	0	0	0	37	11	21	0	27	405
08:30 AM	66	193	0	0	0	0	0	34	11	12	0	22	338
08:45 AM	71	228	0	0	0	0	0	38	9	25	0	22	393
Total	270	902	0	0	0	0	0	162	41	86	0	101	1562
*** BREAK ***													
04:00 PM	16	80	0	0	0	0	0	240	24	15	0	39	414
04:15 PM	14	90	0	0	0	0	0	309	30	21	0	58	522
04:30 PM	22	67	0	0	0	0	0	286	21	19	0	60	475
04:45 PM	19	90	0	0	0	0	0	302	35	18	0	82	546
Total	71	327	0	0	0	0	0	1137	110	73	0	239	1957
05:00 PM	31	103	0	0	0	0	0	323	32	16	0	83	588
05:15 PM	29	112	0	0	0	0	0	345	38	34	0	117	675
05:30 PM	30	106	0	0	0	0	0	319	32	20	0	77	584
05:45 PM	34	116	0	0	0	0	0	337	34	27	0	96	644
Total	124	437	0	0	0	0	0	1324	136	97	0	373	2491
Grand Total	674	2531	0	0	0	0	0	2768	322	339	0	804	7438
Apprch %	21	79	0	0	0	0	0	89.6	10.4	29.7	0	70.3	
Total %	9.1	34	0	0	0	0	0	37.2	4.3	4.6	0	10.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: VALENCIA AVENUE

File Name : H1405081
Site Code : 00000554
Start Date : 6/12/2014

	TUSTIN RANCH ROAD Southbound				DEAD END Westbound				TUSTIN RANCH ROAD Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	55	244	0	299	0	0	0	0	0	43	8	51	19	0	18	37	387
07:45 AM	**77**	**299**	0	**376**	0	0	0	0	0	42	**15**	57	**37**	0	23	**60**	**493**
08:00 AM	74	231	0	305	0	0	0	0	0	**53**	10	**63**	28	0	**30**	58	426
08:15 AM	59	250	0	309	0	0	0	0	0	37	11	48	21	0	27	48	405
Total Volume	265	1024	0	1289	0	0	0	0	0	175	44	219	105	0	98	203	1711
% App. Total	20.6	79.4	0		0	0	0		0	79.9	20.1		51.7	0	48.3		
PHF	.860	.856	.000	.857	.000	.000	.000	.000	.000	.825	.733	.869	.709	.000	.817	.846	.868

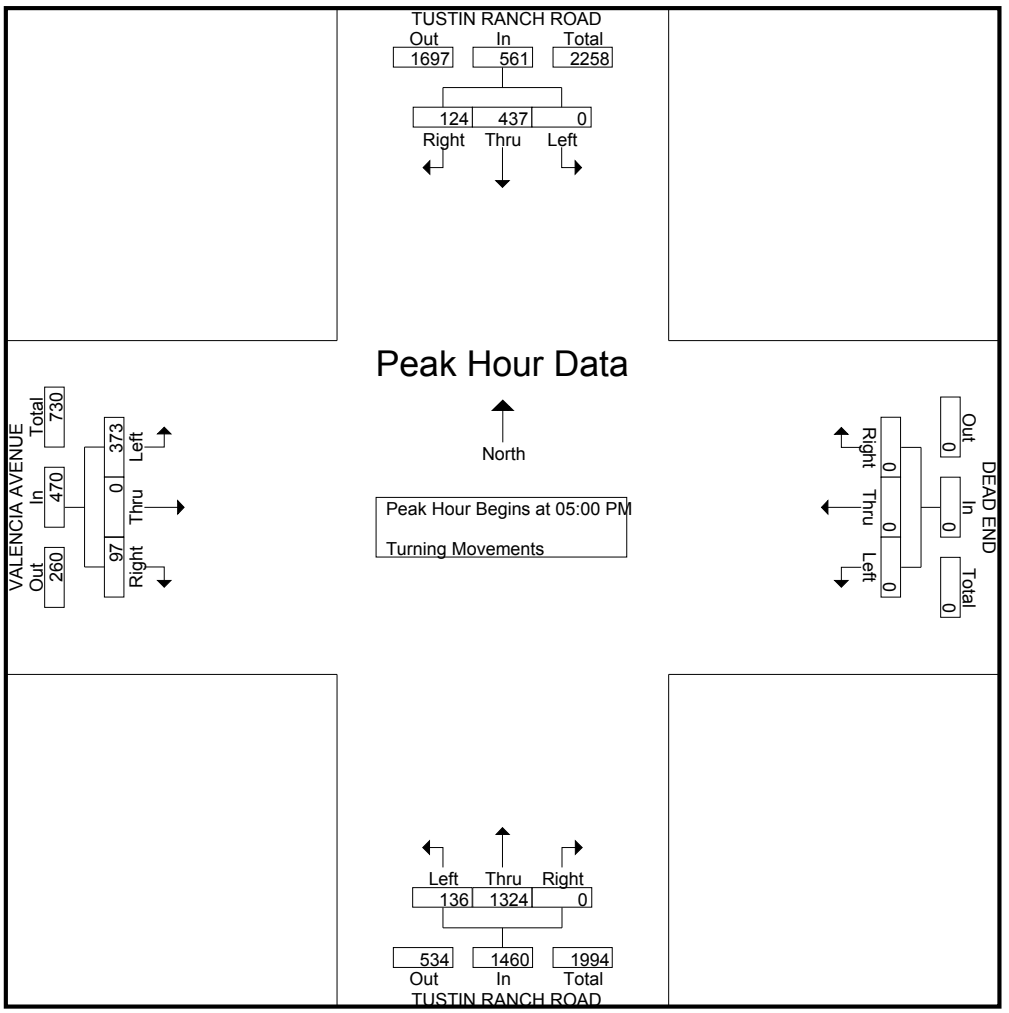


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: VALENCIA AVENUE

File Name : H1405081
Site Code : 00000554
Start Date : 6/12/2014

	TUSTIN RANCH ROAD Southbound				DEAD END Westbound				TUSTIN RANCH ROAD Northbound				VALENCIA AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	31	103	0	134	0	0	0	0	0	323	32	355	16	0	83	99	588
05:15 PM	29	112	0	141	0	0	0	0	0	**345**	**38**	**383**	**34**	0	**117**	**151**	**675**
05:30 PM	30	106	0	136	0	0	0	0	0	319	32	351	20	0	77	97	584
05:45 PM	**34**	**116**	0	**150**	0	0	0	0	0	337	34	371	27	0	96	123	644
Total Volume	124	437	0	561	0	0	0	0	0	1324	136	1460	97	0	373	470	2491
% App. Total	22.1	77.9	0		0	0	0		0	90.7	9.3		20.6	0	79.4		
PHF	.912	.942	.000	.935	.000	.000	.000	.000	.000	.959	.895	.953	.713	.000	.797	.778	.923



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405072
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

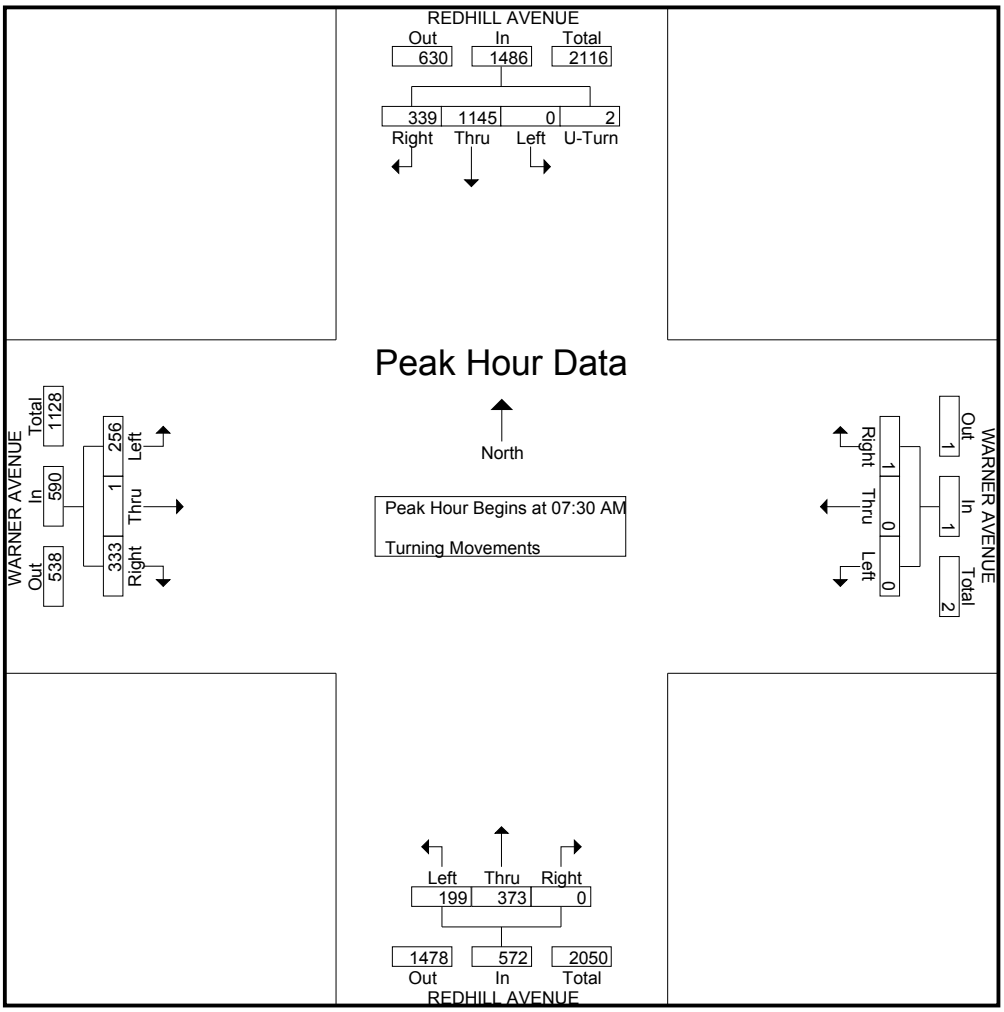
	REDHILL AVENUE Southbound				WARNER AVENUE Westbound			REDHILL AVENUE Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	59	153	1	0	0	0	0	0	56	26	50	0	51	396
07:15 AM	71	184	0	0	0	0	0	0	54	33	60	0	47	449
07:30 AM	80	227	0	0	0	0	0	0	79	48	88	0	76	598
07:45 AM	95	301	0	0	1	0	0	0	119	61	103	1	61	742
Total	305	865	1	0	1	0	0	0	308	168	301	1	235	2185
08:00 AM	80	313	0	2	0	0	0	0	95	50	64	0	59	663
08:15 AM	84	304	0	0	0	0	0	0	80	40	78	0	60	646
08:30 AM	72	262	0	1	0	0	0	0	87	38	67	0	40	567
08:45 AM	69	246	0	0	0	0	0	0	85	40	64	0	40	544
Total	305	1125	0	3	0	0	0	0	347	168	273	0	199	2420
*** BREAK ***														
04:00 PM	67	117	0	3	0	0	0	0	455	120	45	0	103	910
04:15 PM	70	112	0	0	0	0	0	0	444	78	48	0	79	831
04:30 PM	104	126	0	1	0	0	0	0	441	130	55	0	133	990
04:45 PM	62	132	0	3	0	0	0	0	505	104	55	0	90	951
Total	303	487	0	7	0	0	0	0	1845	432	203	0	405	3682
05:00 PM	103	144	0	5	0	0	0	0	491	163	76	0	138	1120
05:15 PM	70	123	0	5	0	0	0	0	512	147	59	0	139	1055
05:30 PM	83	126	0	0	0	0	0	0	522	107	70	0	106	1014
05:45 PM	55	141	0	2	0	0	0	0	513	113	46	0	76	946
Total	311	534	0	12	0	0	0	0	2038	530	251	0	459	4135
Grand Total	1224	3011	1	22	1	0	0	0	4538	1298	1028	1	1298	12422
Apprch %	28.7	70.7	0	0.5	100	0	0	0	77.8	22.2	44.2	0	55.8	
Total %	9.9	24.2	0	0.2	0	0	0	0	36.5	10.4	8.3	0	10.4	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405072
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound					WARNER AVENUE Westbound				REDHILL AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30 AM																		
07:30 AM	80	227	0	0	307	0	0	0	0	0	79	48	127	88	0	**76**	164	598
07:45 AM	**95**	301	0	0	**396**	**1**	0	0	**1**	0	**119**	**61**	**180**	**103**	**1**	61	**165**	**742**
08:00 AM	80	**313**	0	**2**	395	0	0	0	0	0	95	50	145	64	0	59	123	663
08:15 AM	84	304	0	0	388	0	0	0	0	0	80	40	120	78	0	60	138	646
Total Volume	339	1145	0	2	1486	1	0	0	1	0	373	199	572	333	1	256	590	2649
% App. Total	22.8	77.1	0	0.1		100	0	0		0	65.2	34.8		56.4	0.2	43.4		
PHF	.892	.915	.000	.250	.938	.250	.000	.000	.250	.000	.784	.816	.794	.808	.250	.842	.894	.893

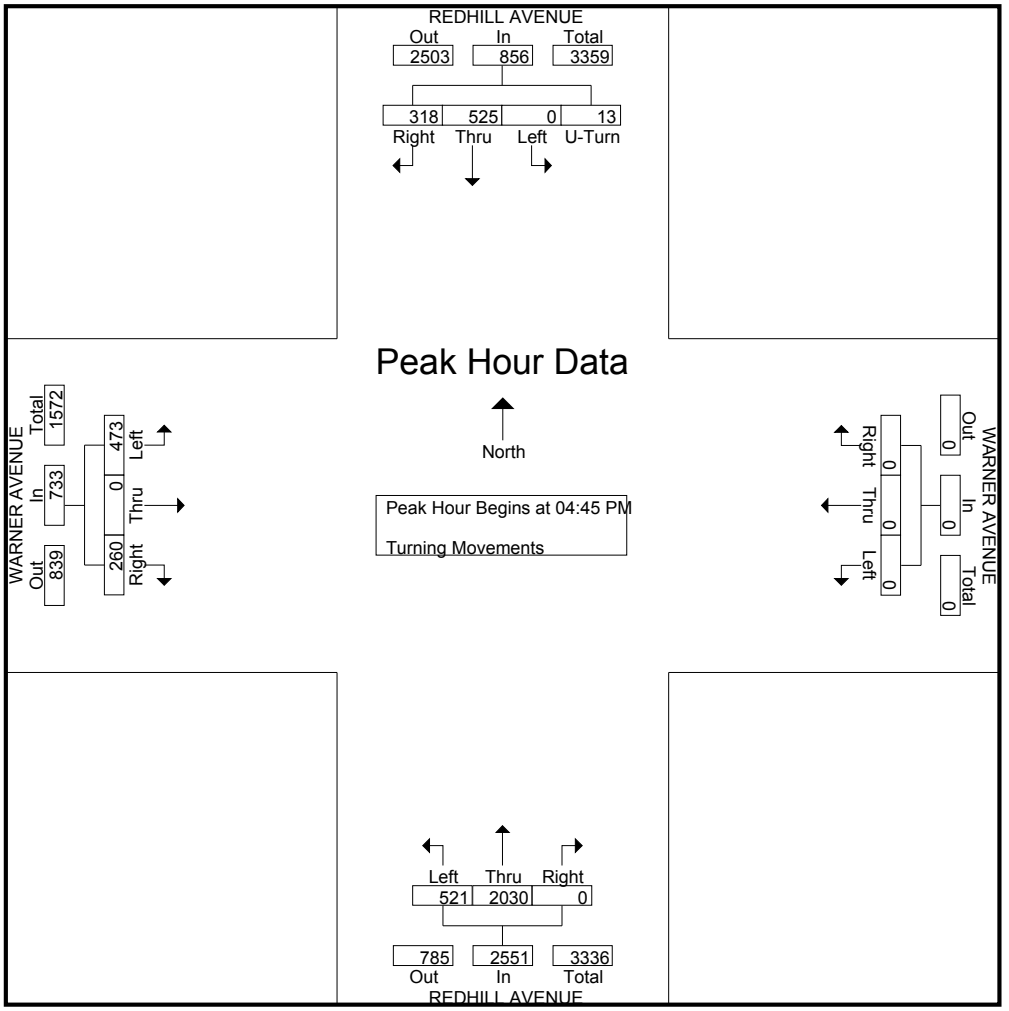


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405072
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound					WARNER AVENUE Westbound				REDHILL AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:45 PM																		
04:45 PM	62	132	0	3	197	0	0	0	0	0	505	104	609	55	0	90	145	951
05:00 PM	**103**	**144**	0	**5**	**252**	0	0	0	0	0	491	**163**	654	**76**	0	138	**214**	**1120**
05:15 PM	70	123	0	5	198	0	0	0	0	0	512	147	**659**	59	0	**139**	198	1055
05:30 PM	83	126	0	0	209	0	0	0	0	0	**522**	107	629	70	0	106	176	1014
Total Volume	318	525	0	13	856	0	0	0	0	0	2030	521	2551	260	0	473	733	4140
% App. Total	37.1	61.3	0	1.5		0	0	0		0	79.6	20.4		35.5	0	64.5		
PHF	.772	.911	.000	.650	.849	.000	.000	.000	.000	.000	.972	.799	.968	.855	.000	.851	.856	.924



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WARNER AVENUE

File Name : H1405082
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

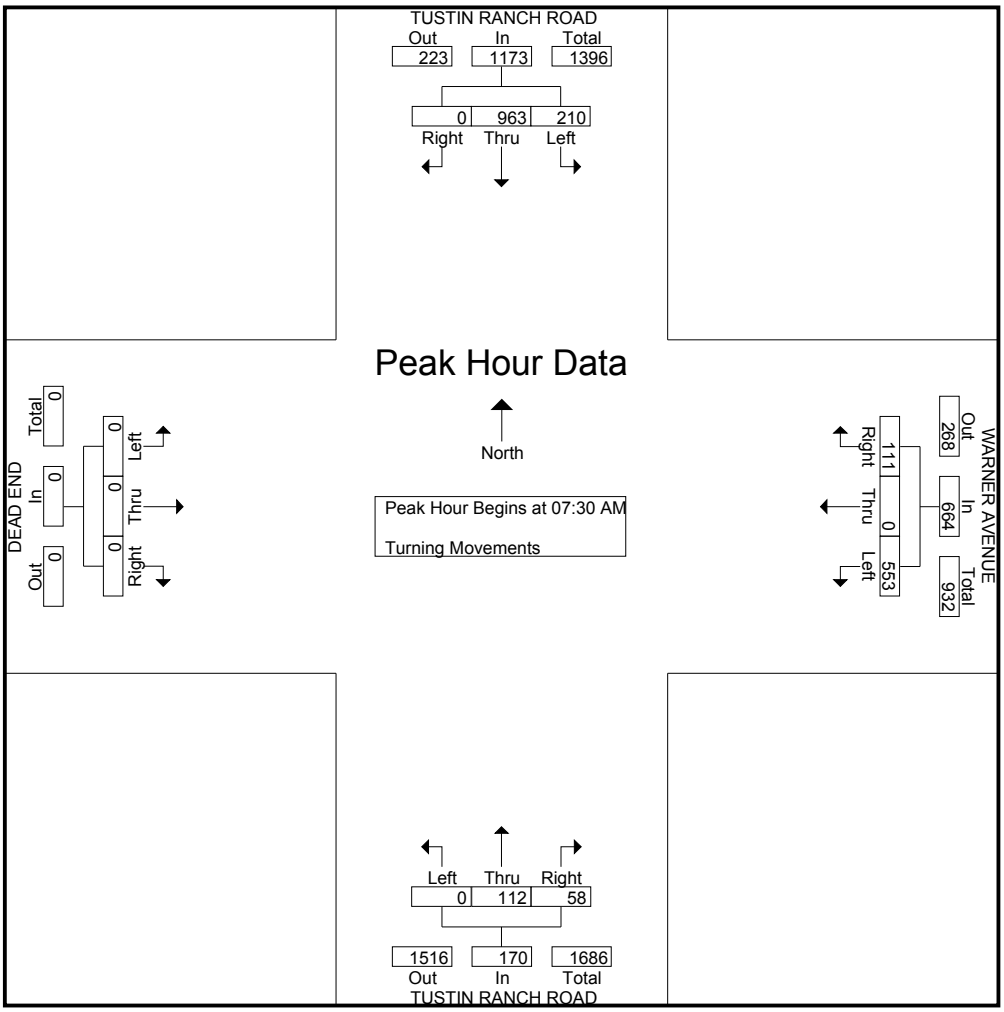
	TUSTIN RANCH ROAD Southbound			WARNER AVENUE Westbound			TUSTIN RANCH ROAD Northbound			DEAD END Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	125	42	16	0	73	15	13	0	0	0	0	284
07:15 AM	0	181	30	26	0	99	11	28	0	0	0	0	375
07:30 AM	0	260	67	29	0	124	11	17	0	0	0	0	508
07:45 AM	0	252	61	24	0	171	20	43	0	0	0	0	571
Total	0	818	200	95	0	467	57	101	0	0	0	0	1738
08:00 AM	0	234	43	22	0	131	14	27	0	0	0	0	471
08:15 AM	0	217	39	36	0	127	13	25	0	0	0	0	457
08:30 AM	0	192	31	20	0	110	16	41	0	0	0	0	410
08:45 AM	0	180	32	16	0	102	14	28	0	0	0	0	372
Total	0	823	145	94	0	470	57	121	0	0	0	0	1710
*** BREAK ***													
04:00 PM	0	75	31	57	0	36	98	225	0	0	0	0	522
04:15 PM	0	59	42	54	0	34	82	239	0	0	0	0	510
04:30 PM	0	47	43	74	0	45	94	232	0	0	0	0	535
04:45 PM	0	53	40	65	0	40	106	323	0	0	0	0	627
Total	0	234	156	250	0	155	380	1019	0	0	0	0	2194
05:00 PM	0	82	51	100	0	51	117	286	0	0	0	0	687
05:15 PM	0	96	58	97	0	39	123	288	0	0	0	0	701
05:30 PM	0	86	58	87	0	46	128	293	0	0	0	0	698
05:45 PM	0	76	56	76	0	41	89	229	0	0	0	0	567
Total	0	340	223	360	0	177	457	1096	0	0	0	0	2653
Grand Total	0	2215	724	799	0	1269	951	2337	0	0	0	0	8295
Apprch %	0	75.4	24.6	38.6	0	61.4	28.9	71.1	0	0	0	0	
Total %	0	26.7	8.7	9.6	0	15.3	11.5	28.2	0	0	0	0	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WARNER AVENUE

File Name : H1405082
Site Code : 00000000
Start Date : 6/10/2014

	TUSTIN RANCH ROAD Southbound				WARNER AVENUE Westbound				TUSTIN RANCH ROAD Northbound				DEAD END Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**260**	**67**	**327**	29	0	124	153	11	17	0	28	0	0	0	0	508
07:45 AM	0	252	61	313	24	0	**171**	**195**	**20**	**43**	0	**63**	0	0	0	0	**571**
08:00 AM	0	234	43	277	22	0	131	153	14	27	0	41	0	0	0	0	471
08:15 AM	0	217	39	256	**36**	0	127	163	13	25	0	38	0	0	0	0	457
Total Volume	0	963	210	1173	111	0	553	664	58	112	0	170	0	0	0	0	2007
% App. Total	0	82.1	17.9		16.7	0	83.3		34.1	65.9	0		0	0	0		
PHF	.000	.926	.784	.897	.771	.000	.808	.851	.725	.651	.000	.675	.000	.000	.000	.000	.879

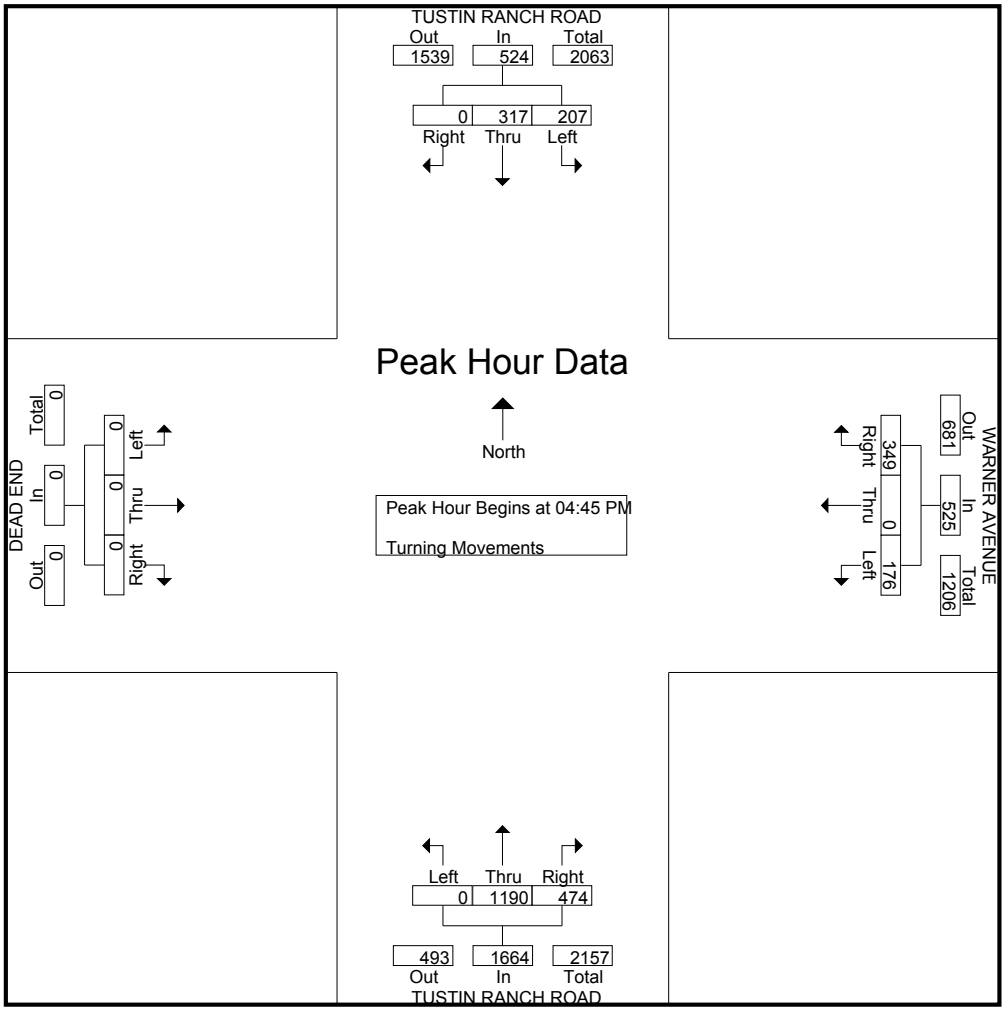


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: WARNER AVENUE

File Name : H1405082
Site Code : 00000000
Start Date : 6/10/2014

	TUSTIN RANCH ROAD Southbound				WARNER AVENUE Westbound				TUSTIN RANCH ROAD Northbound				DEAD END Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	53	40	93	65	0	40	105	106	**323**	0	**429**	0	0	0	0	627
05:00 PM	0	82	51	133	**100**	0	**51**	**151**	117	286	0	403	0	0	0	0	687
05:15 PM	0	**96**	**58**	**154**	97	0	39	136	123	288	0	411	0	0	0	0	**701**
05:30 PM	0	86	58	144	87	0	46	133	**128**	293	0	421	0	0	0	0	698
Total Volume	0	317	207	524	349	0	176	525	474	1190	0	1664	0	0	0	0	2713
% App. Total	0	60.5	39.5		66.5	0	33.5		28.5	71.5	0		0	0	0		
PHF	.000	.826	.892	.851	.873	.000	.863	.869	.926	.921	.000	.970	.000	.000	.000	.000	.968



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: PARK AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405087
Site Code : 00000562
Start Date : 6/3/2014
Page No : 1

Groups Printed- Turning Movements

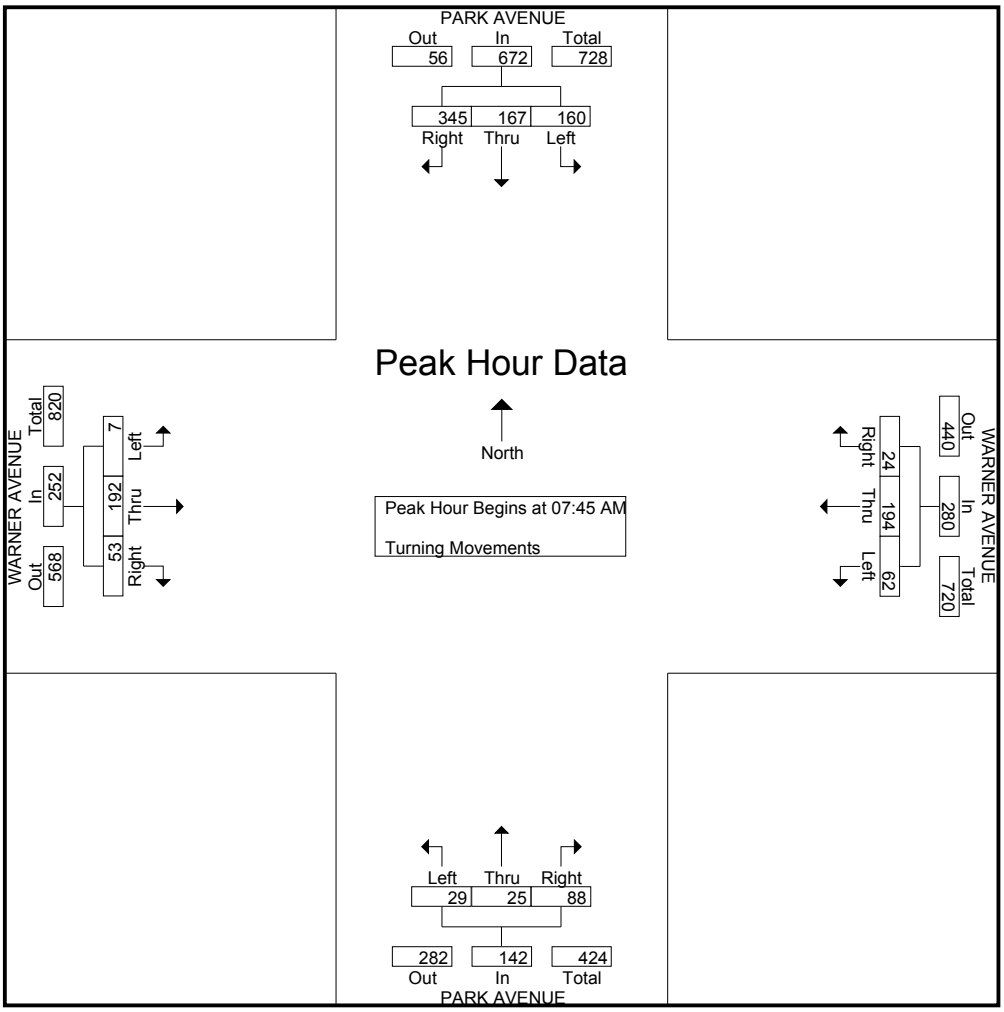
	PARK AVENUE Southbound			WARNER AVENUE Westbound			PARK AVENUE Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	53	31	28	1	29	21	20	7	10	3	31	1	235
07:15 AM	48	46	25	6	26	12	25	6	9	17	42	4	266
07:30 AM	80	42	30	6	29	8	21	2	3	10	24	1	256
07:45 AM	85	54	38	3	49	11	14	6	6	21	46	3	336
Total	266	173	121	16	133	52	80	21	28	51	143	9	1093
08:00 AM	96	44	40	10	55	14	30	8	9	11	51	3	371
08:15 AM	91	33	35	7	45	17	19	6	4	13	54	0	324
08:30 AM	73	36	47	4	45	20	25	5	10	8	41	1	315
08:45 AM	82	43	40	6	41	15	22	6	8	16	36	1	316
Total	342	156	162	27	186	66	96	25	31	48	182	5	1326
*** BREAK ***													
04:00 PM	6	61	36	5	30	47	82	9	14	14	117	0	421
04:15 PM	7	57	33	8	56	43	81	7	18	23	118	5	456
04:30 PM	6	54	45	9	43	40	75	10	17	14	94	3	410
04:45 PM	15	79	42	4	84	44	72	7	23	19	136	4	529
Total	34	251	156	26	213	174	310	33	72	70	465	12	1816
05:00 PM	7	50	43	5	58	48	80	15	17	16	110	3	452
05:15 PM	9	51	44	3	80	41	95	7	21	21	150	7	529
05:30 PM	12	69	54	2	72	52	65	14	29	20	132	2	523
05:45 PM	5	64	54	4	69	41	89	6	26	25	138	2	523
Total	33	234	195	14	279	182	329	42	93	82	530	14	2027
Grand Total	675	814	634	83	811	474	815	121	224	251	1320	40	6262
Apprch %	31.8	38.3	29.9	6.1	59.3	34.6	70.3	10.4	19.3	15.6	81.9	2.5	
Total %	10.8	13	10.1	1.3	13	7.6	13	1.9	3.6	4	21.1	0.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: PARK AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405087
Site Code : 00000562
Start Date : 6/3/2014

	PARK AVENUE Southbound				WARNER AVENUE Westbound				PARK AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	85	**54**	38	177	3	49	11	63	14	6	6	26	**21**	46	**3**	**70**	336
08:00 AM	**96**	44	40	**180**	**10**	**55**	14	**79**	**30**	**8**	9	**47**	11	51	3	65	**371**
08:15 AM	91	33	35	159	7	45	17	69	19	6	4	29	13	**54**	0	67	324
08:30 AM	73	36	**47**	156	4	45	**20**	69	25	5	**10**	40	8	41	1	50	315
Total Volume	345	167	160	672	24	194	62	280	88	25	29	142	53	192	7	252	1346
% App. Total	51.3	24.9	23.8		8.6	69.3	22.1		62	17.6	20.4		21	76.2	2.8		
PHF	.898	.773	.851	.933	.600	.882	.775	.886	.733	.781	.725	.755	.631	.889	.583	.900	.907

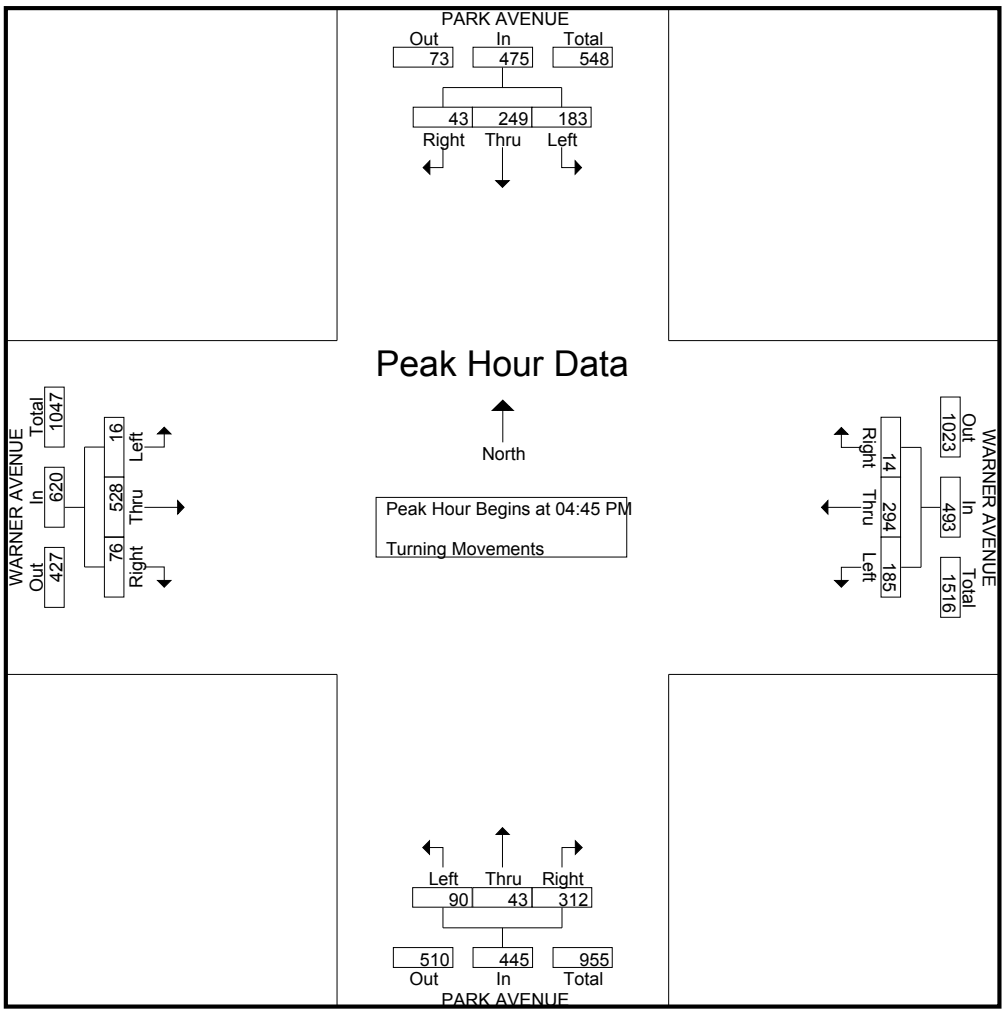


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: PARK AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405087
Site Code : 00000562
Start Date : 6/3/2014

	PARK AVENUE Southbound				WARNER AVENUE Westbound				PARK AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**15**	**79**	42	**136**	4	**84**	44	**132**	72	7	23	102	19	136	4	159	**529**
05:00 PM	7	50	43	100	**5**	58	48	111	80	**15**	17	112	16	110	3	129	452
05:15 PM	9	51	44	104	3	80	41	124	**95**	7	21	**123**	**21**	**150**	**7**	**178**	529
05:30 PM	12	69	**54**	135	2	72	**52**	126	65	14	**29**	108	20	132	2	154	523
Total Volume	43	249	183	475	14	294	185	493	312	43	90	445	76	528	16	620	2033
% App. Total	9.1	52.4	38.5		2.8	59.6	37.5		70.1	9.7	20.2		12.3	85.2	2.6		
PHF	.717	.788	.847	.873	.700	.875	.889	.934	.821	.717	.776	.904	.905	.880	.571	.871	.961



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WARNER AVENUE

File Name : H1404046
Site Code : 135
Start Date : 5/20/2014
Page No : 1

Groups Printed- Turning Movements

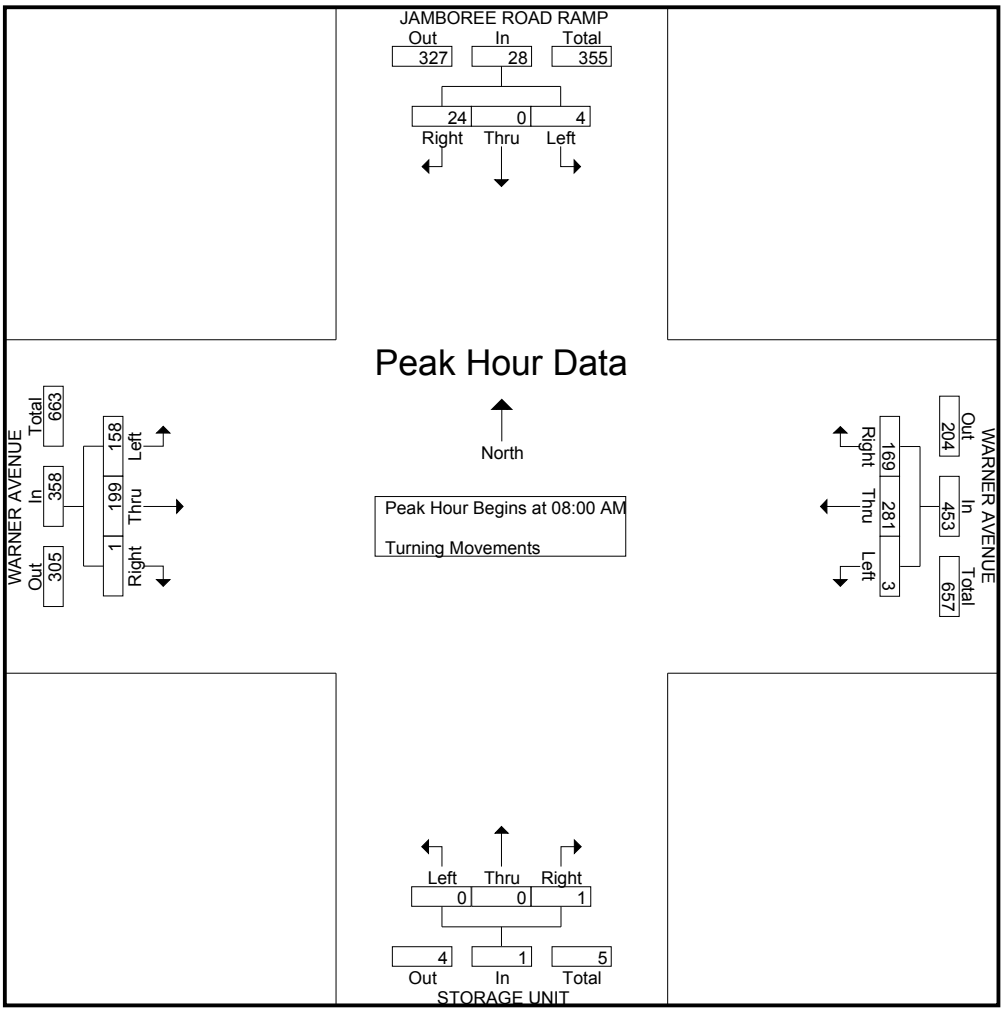
	JAMBOREE ROAD RAMP Southbound			WARNER AVENUE Westbound			STORAGE UNIT Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	0	1	22	33	2	0	1	0	0	28	35	124
07:15 AM	1	0	0	25	41	1	0	0	0	0	43	56	167
07:30 AM	3	0	1	46	39	0	0	0	0	0	46	38	173
07:45 AM	1	0	0	38	67	1	1	0	0	0	57	32	197
Total	7	0	2	131	180	4	1	1	0	0	174	161	661
08:00 AM	8	0	0	36	74	0	0	0	0	0	49	33	200
08:15 AM	4	0	1	45	64	1	0	0	0	0	60	35	210
08:30 AM	6	0	2	41	60	2	1	0	0	1	43	50	206
08:45 AM	6	0	1	47	83	0	0	0	0	0	47	40	224
Total	24	0	4	169	281	3	1	0	0	1	199	158	840
*** BREAK ***													
04:00 PM	16	0	2	28	59	1	0	2	0	0	116	124	348
04:15 PM	12	0	4	38	65	0	1	0	0	1	129	118	368
04:30 PM	12	0	2	40	80	0	1	0	0	0	138	131	404
04:45 PM	18	0	3	41	79	0	0	0	0	0	119	154	414
Total	58	0	11	147	283	1	2	2	0	1	502	527	1534
05:00 PM	16	0	0	40	97	2	0	0	0	0	143	137	435
05:15 PM	17	2	0	50	110	1	0	0	0	0	136	159	475
05:30 PM	23	0	1	38	103	2	3	0	0	0	138	166	474
05:45 PM	14	0	1	43	116	0	1	0	0	1	157	145	478
Total	70	2	2	171	426	5	4	0	0	1	574	607	1862
Grand Total	159	2	19	618	1170	13	8	3	0	3	1449	1453	4897
Apprch %	88.3	1.1	10.6	34.3	65	0.7	72.7	27.3	0	0.1	49.9	50	
Total %	3.2	0	0.4	12.6	23.9	0.3	0.2	0.1	0	0.1	29.6	29.7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WARNER AVENUE

File Name : H1404046
Site Code : 135
Start Date : 5/20/2014

	JAMBOREE ROAD RAMP Southbound				WARNER AVENUE Westbound				STORAGE UNIT Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**8**	0	0	**8**	36	74	0	110	0	0	0	0	0	49	33	82	200
08:15 AM	4	0	1	5	45	64	1	110	0	0	0	0	0	**60**	35	**95**	210
08:30 AM	6	0	**2**	8	41	60	**2**	103	**1**	0	0	**1**	**1**	43	**50**	94	206
08:45 AM	6	0	1	7	**47**	**83**	0	**130**	0	0	0	0	0	47	40	87	**224**
Total Volume	24	0	4	28	169	281	3	453	1	0	0	1	1	199	158	358	840
% App. Total	85.7	0	14.3		37.3	62	0.7		100	0	0		0.3	55.6	44.1		
PHF	.750	.000	.500	.875	.899	.846	.375	.871	.250	.000	.000	.250	.250	.829	.790	.942	.938

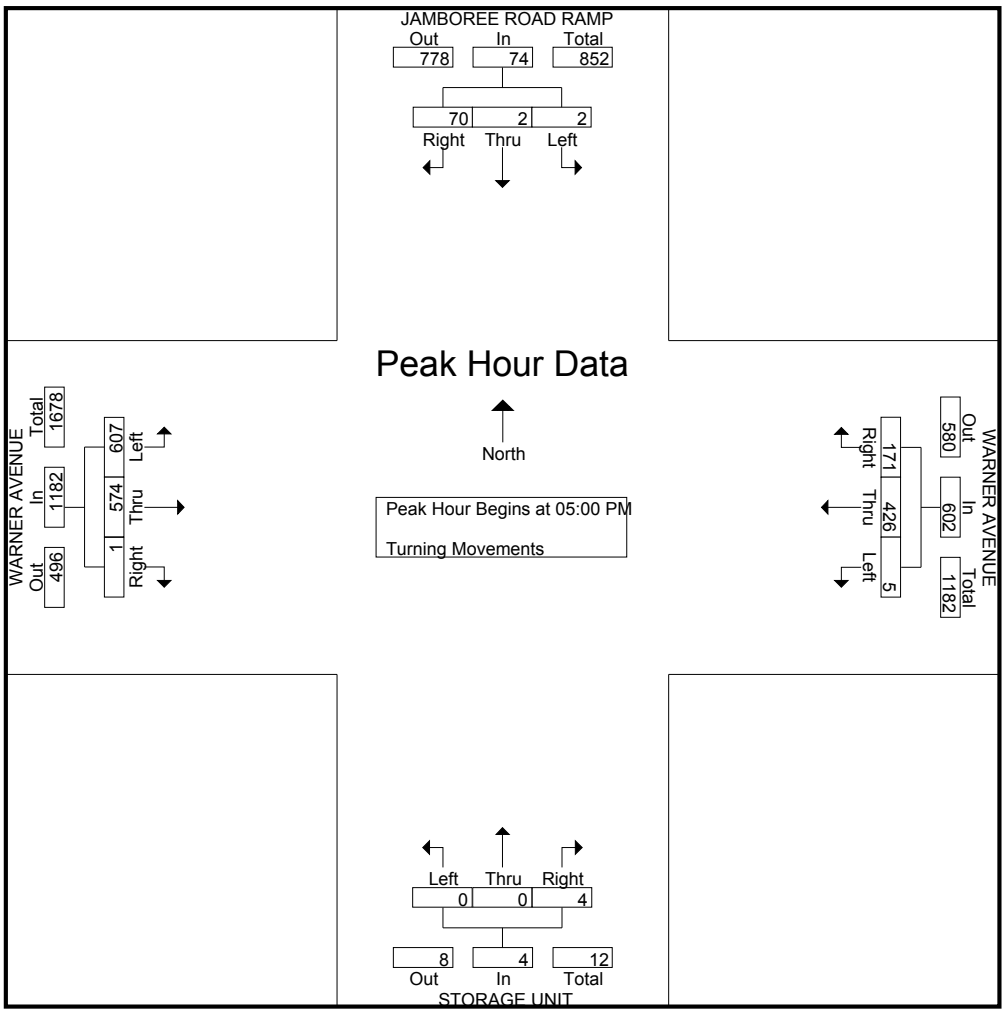


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD NB
E-W Direction: WARNER AVENUE

File Name : H1404046
Site Code : 135
Start Date : 5/20/2014

	JAMBOREE ROAD RAMP Southbound				WARNER AVENUE Westbound				STORAGE UNIT Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	0	0	16	40	97	**2**	139	0	0	0	0	0	143	137	280	435
05:15 PM	17	**2**	0	19	**50**	110	1	**161**	0	0	0	0	0	136	159	295	475
05:30 PM	**23**	0	**1**	**24**	38	103	2	143	**3**	0	0	**3**	0	138	**166**	**304**	474
05:45 PM	14	0	1	15	43	**116**	0	159	1	0	0	1	**1**	**157**	145	303	**478**
Total Volume	70	2	2	74	171	426	5	602	4	0	0	4	1	574	607	1182	1862
% App. Total	94.6	2.7	2.7		28.4	70.8	0.8		100	0	0		0.1	48.6	51.4		
PHF	.761	.250	.500	.771	.855	.918	.625	.935	.333	.000	.000	.333	.250	.914	.914	.972	.974



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405099
Site Code : 00005724
Start Date : 6/11/2014
Page No : 1

Groups Printed- Turning Movements

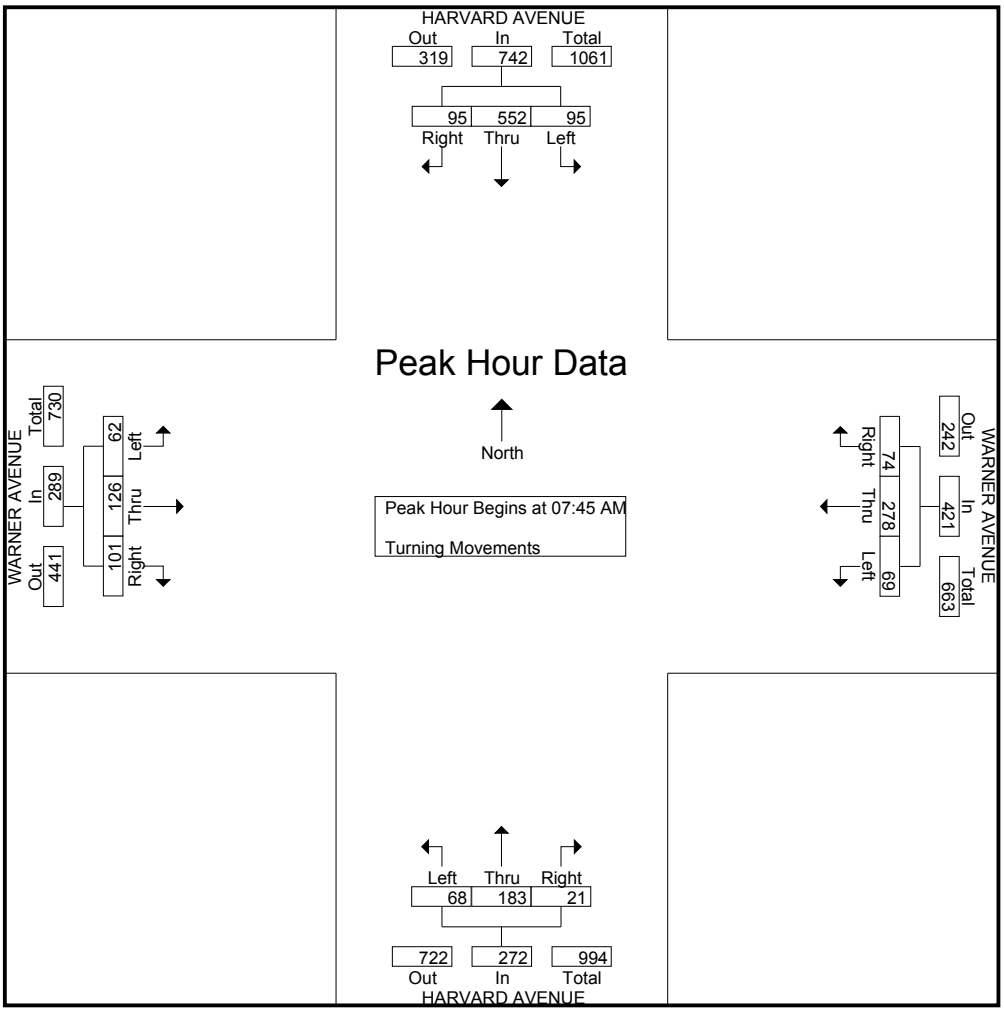
	HARVARD AVENUE Southbound			WARNER AVENUE Westbound			HARVARD AVENUE Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	8	46	4	3	53	7	1	19	9	8	15	14	187
07:15 AM	17	46	9	6	46	7	3	25	8	14	27	16	224
07:30 AM	19	95	17	5	44	6	7	43	17	19	21	18	311
07:45 AM	28	149	35	18	58	14	5	44	15	36	40	17	459
Total	72	336	65	32	201	34	16	131	49	77	103	65	1181
08:00 AM	29	156	41	25	78	19	5	44	21	29	44	16	507
08:15 AM	21	147	12	24	75	22	5	50	14	17	16	12	415
08:30 AM	17	100	7	7	67	14	6	45	18	19	26	17	343
08:45 AM	21	106	10	12	64	11	9	54	18	12	26	8	351
Total	88	509	70	68	284	66	25	193	71	77	112	53	1616
*** BREAK ***													
04:00 PM	7	58	10	7	45	4	16	82	35	20	68	24	376
04:15 PM	13	51	7	9	49	8	18	119	50	29	73	31	457
04:30 PM	13	63	7	8	44	9	13	112	41	19	75	42	446
04:45 PM	17	49	10	8	81	13	25	135	69	25	85	32	549
Total	50	221	34	32	219	34	72	448	195	93	301	129	1828
05:00 PM	17	61	9	8	55	11	16	161	74	19	75	29	535
05:15 PM	12	74	18	12	93	13	19	179	82	24	88	50	664
05:30 PM	12	72	15	10	56	5	27	206	87	23	78	36	627
05:45 PM	13	73	20	14	71	11	31	200	86	19	111	35	684
Total	54	280	62	44	275	40	93	746	329	85	352	150	2510
Grand Total	264	1346	231	176	979	174	206	1518	644	332	868	397	7135
Apprch %	14.3	73.1	12.5	13.2	73.7	13.1	8.7	64.1	27.2	20.8	54.4	24.9	
Total %	3.7	18.9	3.2	2.5	13.7	2.4	2.9	21.3	9	4.7	12.2	5.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405099
Site Code : 00005724
Start Date : 6/11/2014

	HARVARD AVENUE Southbound				WARNER AVENUE Westbound				HARVARD AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	28	149	35	212	18	58	14	90	5	44	15	64	**36**	40	**17**	**93**	459
08:00 AM	**29**	**156**	**41**	**226**	**25**	**78**	19	**122**	5	44	**21**	**70**	29	**44**	16	89	**507**
08:15 AM	21	147	12	180	24	75	**22**	121	5	**50**	14	69	17	16	12	45	415
08:30 AM	17	100	7	124	7	67	14	88	**6**	45	18	69	19	26	17	62	343
Total Volume	95	552	95	742	74	278	69	421	21	183	68	272	101	126	62	289	1724
% App. Total	12.8	74.4	12.8		17.6	66	16.4		7.7	67.3	25		34.9	43.6	21.5		
PHF	.819	.885	.579	.821	.740	.891	.784	.863	.875	.915	.810	.971	.701	.716	.912	.777	.850

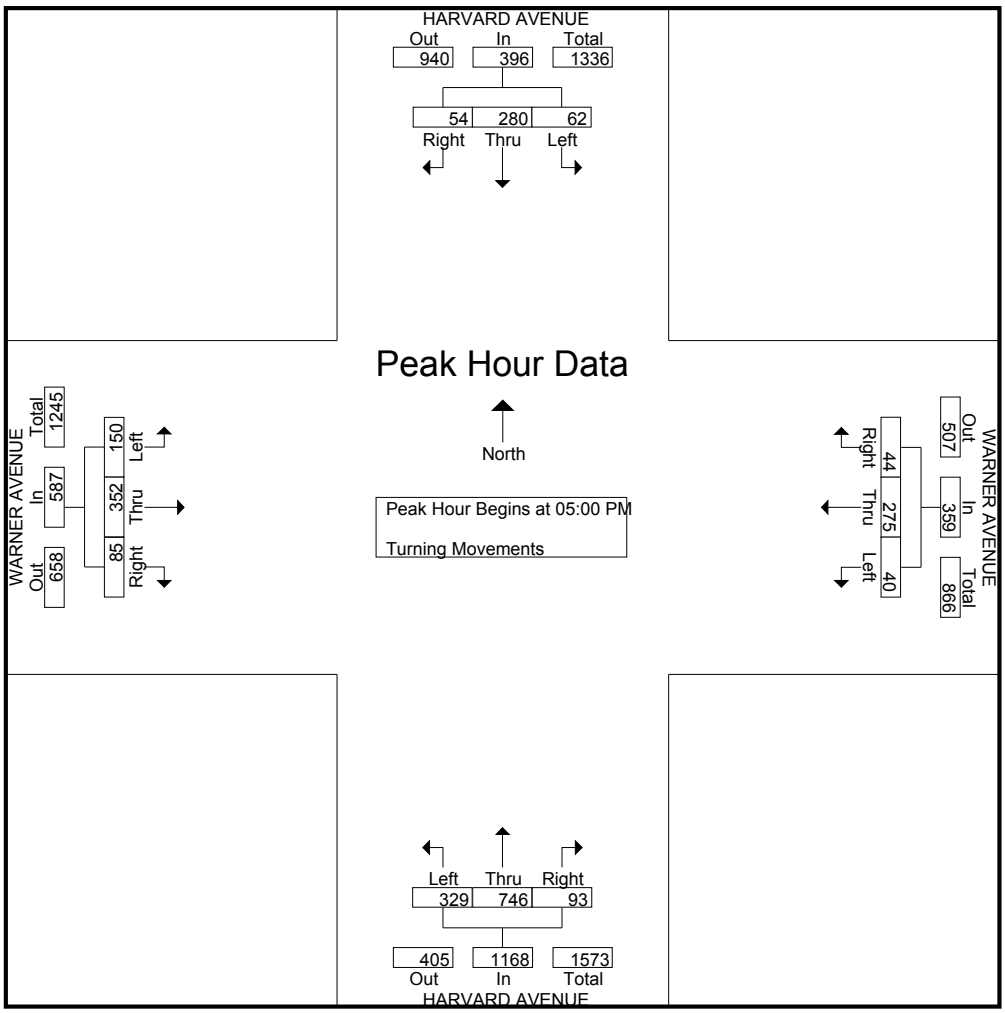


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: WARNER AVENUE

File Name : H1405099
Site Code : 00005724
Start Date : 6/11/2014

	HARVARD AVENUE Southbound				WARNER AVENUE Westbound				HARVARD AVENUE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**17**	61	9	87	8	55	11	74	16	161	74	251	19	75	29	123	535
05:15 PM	12	**74**	18	104	12	**93**	**13**	**118**	19	179	82	280	**24**	88	**50**	162	664
05:30 PM	12	72	15	99	10	56	5	71	27	**206**	**87**	**320**	23	78	36	137	627
05:45 PM	13	73	**20**	**106**	**14**	71	11	96	**31**	200	86	317	19	**111**	35	**165**	**684**
Total Volume	54	280	62	396	44	275	40	359	93	746	329	1168	85	352	150	587	2510
% App. Total	13.6	70.7	15.7		12.3	76.6	11.1		8	63.9	28.2		14.5	60	25.6		
PHF	.794	.946	.775	.934	.786	.739	.769	.761	.750	.905	.945	.913	.885	.793	.750	.889	.917



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WARNER AVENUE

File Name : H1404062
Site Code : 227
Start Date : 5/22/2014
Page No : 1

Groups Printed- Turning Movements

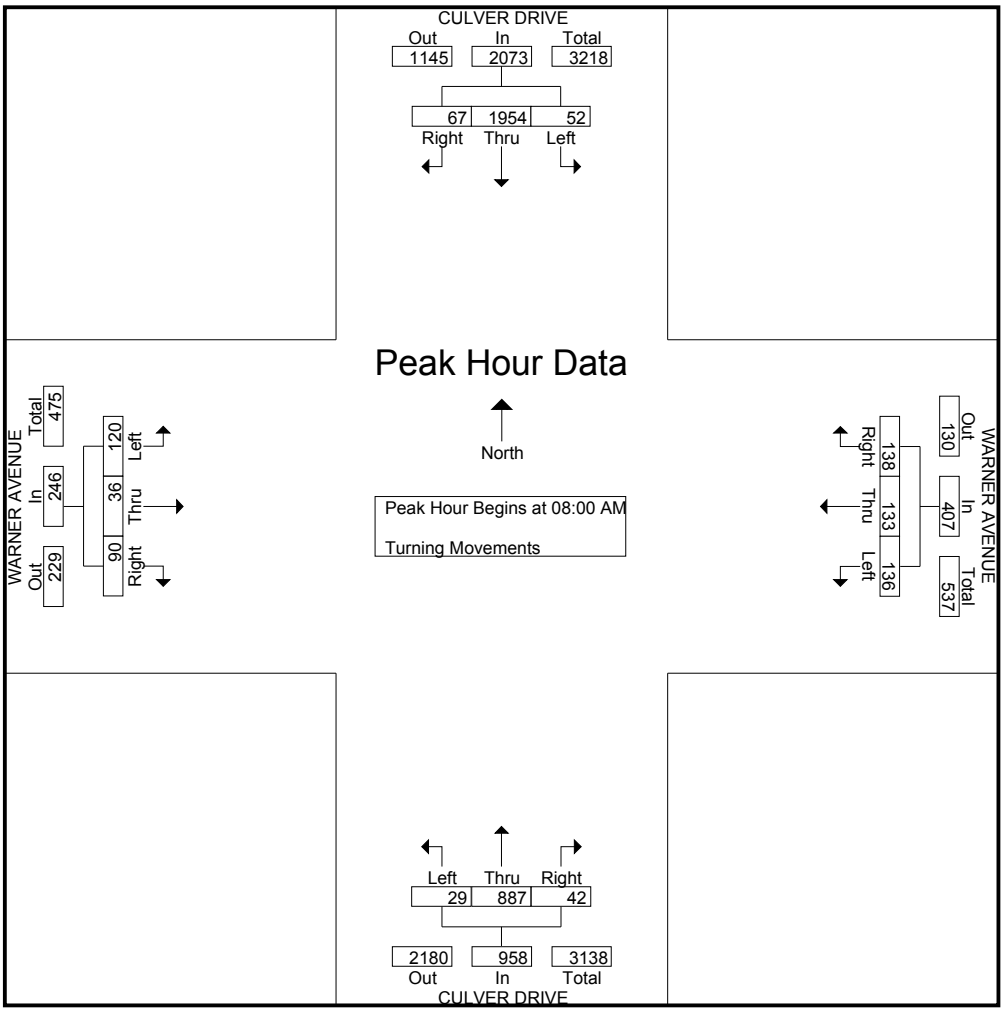
	CULVER DRIVE Southbound			WARNER AVENUE Westbound			CULVER DRIVE Northbound			WARNER AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	5	179	8	19	10	20	8	197	7	22	8	29	512
07:15 AM	19	332	9	33	12	20	6	231	4	13	4	29	712
07:30 AM	18	465	8	28	24	27	6	135	9	14	9	15	758
07:45 AM	14	458	13	26	20	36	4	169	4	20	15	31	810
Total	56	1434	38	106	66	103	24	732	24	69	36	104	2792
08:00 AM	16	478	18	31	31	32	10	189	5	19	14	31	874
08:15 AM	13	469	12	33	26	33	11	241	6	23	12	28	907
08:30 AM	19	500	12	38	39	36	10	229	10	23	6	25	947
08:45 AM	19	507	10	36	37	35	11	228	8	25	4	36	956
Total	67	1954	52	138	133	136	42	887	29	90	36	120	3684
*** BREAK ***													
04:00 PM	21	259	29	25	19	24	36	278	22	19	16	20	768
04:15 PM	25	302	26	18	18	20	29	318	19	15	29	28	847
04:30 PM	14	210	10	28	37	15	36	337	12	12	19	16	746
04:45 PM	34	320	31	20	18	13	38	397	17	17	38	35	978
Total	94	1091	96	91	92	72	139	1330	70	63	102	99	3339
05:00 PM	24	331	14	28	25	15	26	525	17	15	40	34	1094
05:15 PM	37	345	21	29	23	16	25	499	21	16	36	28	1096
05:30 PM	40	357	26	31	25	26	41	535	20	26	30	33	1190
05:45 PM	40	365	21	28	22	24	40	519	18	26	30	34	1167
Total	141	1398	82	116	95	81	132	2078	76	83	136	129	4547
Grand Total	358	5877	268	451	386	392	337	5027	199	305	310	452	14362
Apprch %	5.5	90.4	4.1	36.7	31.4	31.9	6.1	90.4	3.6	28.6	29.1	42.4	
Total %	2.5	40.9	1.9	3.1	2.7	2.7	2.3	35	1.4	2.1	2.2	3.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WARNER AVENUE

File Name : H1404062
Site Code : 227
Start Date : 5/22/2014
Page No : 2

	CULVER DRIVE Southbound				WARNER AVENUE Westbound				CULVER DRIVE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	16	478	**18**	512	31	31	32	94	10	189	5	204	19	**14**	31	64	874
08:15 AM	13	469	12	494	33	26	33	92	**11**	**241**	6	**258**	23	12	28	63	907
08:30 AM	**19**	500	12	531	**38**	**39**	**36**	**113**	10	229	**10**	249	23	6	25	54	947
08:45 AM	19	**507**	10	**536**	36	37	35	108	11	228	8	247	**25**	4	**36**	**65**	**956**
Total Volume	67	1954	52	2073	138	133	136	407	42	887	29	958	90	36	120	246	3684
% App. Total	3.2	94.3	2.5		33.9	32.7	33.4		4.4	92.6	3		36.6	14.6	48.8		
PHF	.882	.964	.722	.967	.908	.853	.944	.900	.955	.920	.725	.928	.900	.643	.833	.946	.963

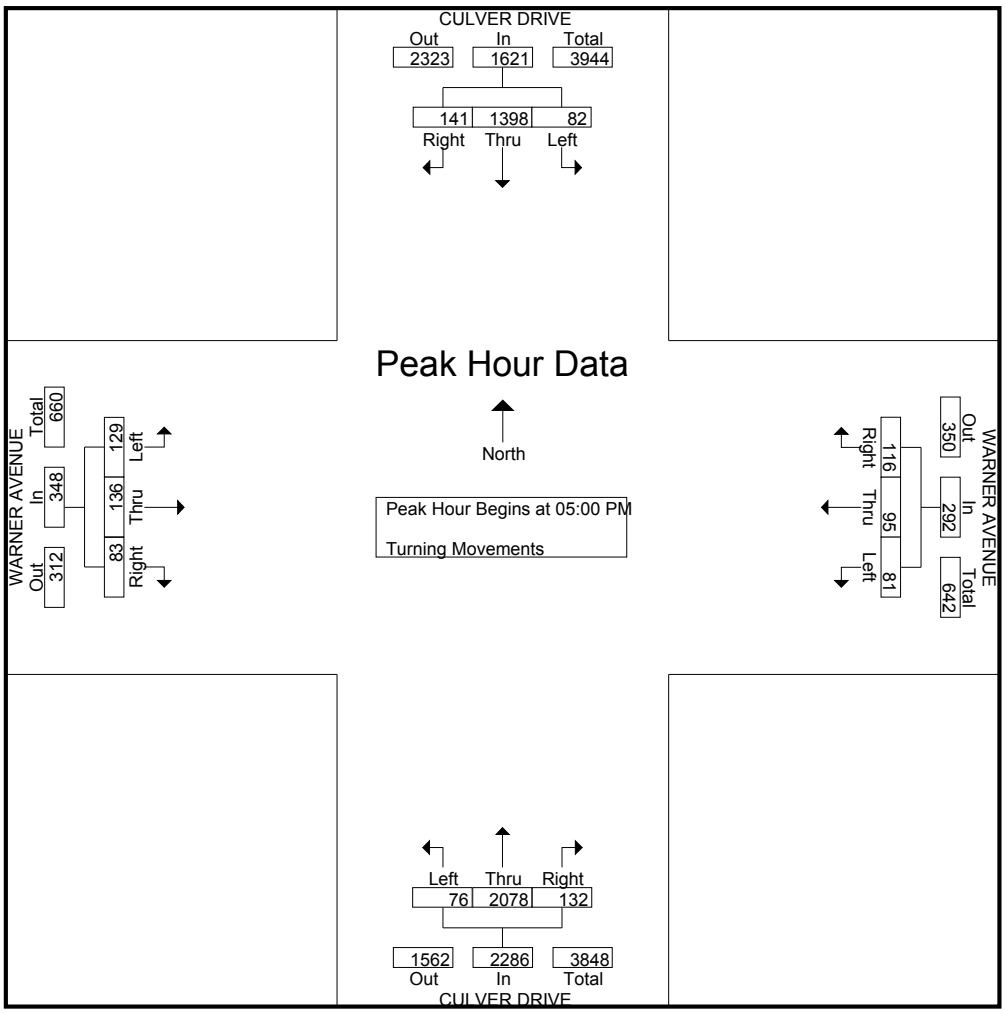


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: WARNER AVENUE

File Name : H1404062
Site Code : 227
Start Date : 5/22/2014
Page No : 3

	CULVER DRIVE Southbound				WARNER AVENUE Westbound				CULVER DRIVE Northbound				WARNER AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	24	331	14	369	28	**25**	15	68	26	525	17	568	15	**40**	**34**	89	1094
05:15 PM	37	345	21	403	29	23	16	68	25	499	**21**	545	16	36	28	80	1096
05:30 PM	**40**	357	**26**	423	**31**	25	**26**	**82**	**41**	**535**	20	**596**	**26**	30	33	89	**1190**
05:45 PM	40	**365**	21	**426**	28	22	24	74	40	519	18	577	26	30	34	**90**	1167
Total Volume	141	1398	82	1621	116	95	81	292	132	2078	76	2286	83	136	129	348	4547
% App. Total	8.7	86.2	5.1		39.7	32.5	27.7		5.8	90.9	3.3		23.9	39.1	37.1		
PHF	.881	.958	.788	.951	.935	.950	.779	.890	.805	.971	.905	.959	.798	.850	.949	.967	.955



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: CARNEGIE AVENUE

File Name : H1405073
Site Code : 00000000
Start Date : 6/10/2014

Groups Printed- Turning Movements

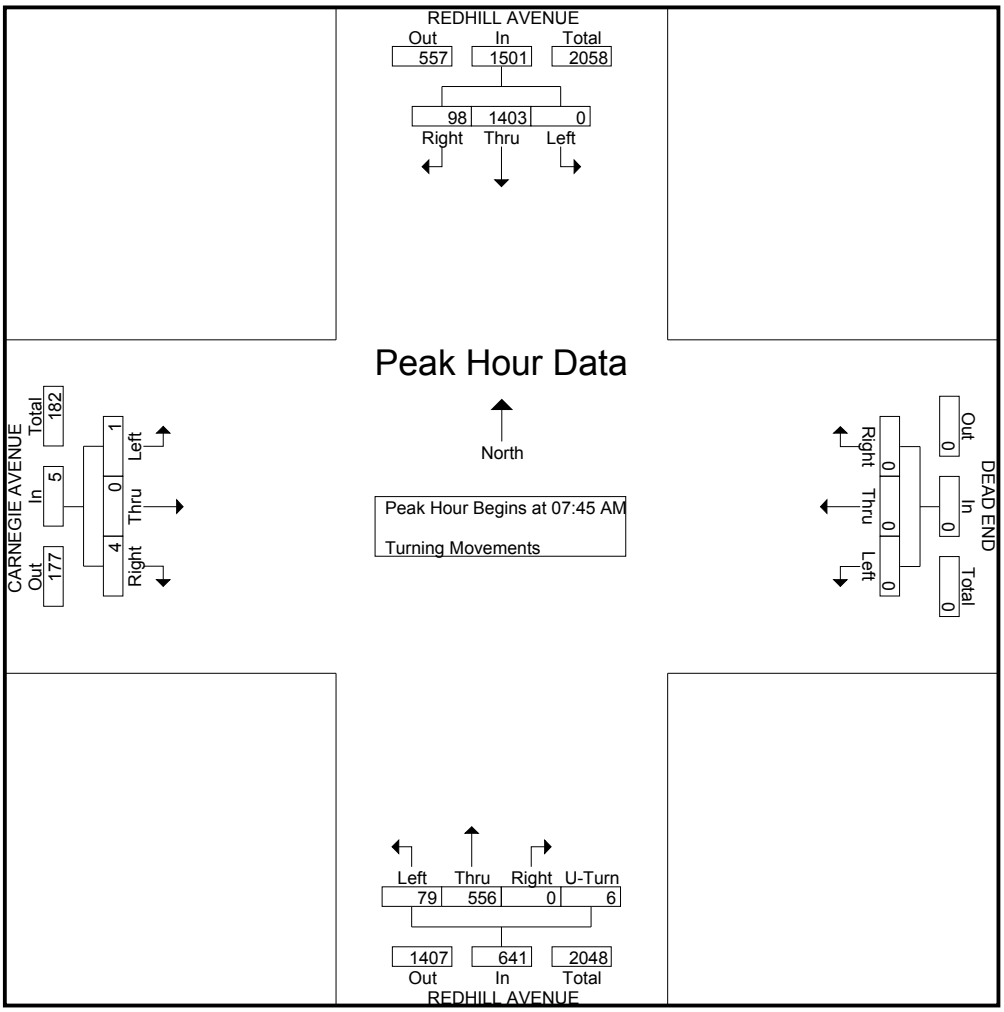
	REDHILL AVENUE Southbound			DEAD END Westbound			REDHILL AVENUE Northbound				CARNEGIE AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Int. Total
07:00 AM	11	211	0	0	0	0	0	76	10	2	1	0	1	312
07:15 AM	23	275	0	0	0	0	0	89	20	1	1	0	1	410
07:30 AM	12	292	0	0	0	0	0	123	12	2	2	0	1	444
07:45 AM	32	397	0	0	0	0	0	156	24	2	2	0	0	613
Total	78	1175	0	0	0	0	0	444	66	7	6	0	3	1779
08:00 AM	28	330	0	0	0	0	0	158	27	0	0	0	0	543
08:15 AM	22	363	0	0	0	0	0	127	15	1	0	0	1	529
08:30 AM	16	313	0	0	0	0	0	115	13	3	2	0	0	462
08:45 AM	22	287	0	0	0	0	0	122	20	4	5	0	3	463
Total	88	1293	0	0	0	0	0	522	75	8	7	0	4	1997
*** BREAK ***														
04:00 PM	3	137	0	0	0	0	0	556	8	0	15	0	27	746
04:15 PM	6	156	0	0	0	0	0	489	17	0	8	0	14	690
04:30 PM	3	155	0	0	0	0	0	560	12	0	16	0	31	777
04:45 PM	4	170	0	0	0	0	0	578	12	2	11	0	30	807
Total	16	618	0	0	0	0	0	2183	49	2	50	0	102	3020
05:00 PM	4	196	0	0	0	0	0	619	10	2	29	0	48	908
05:15 PM	3	191	0	0	0	0	0	661	10	0	24	0	18	907
05:30 PM	4	188	0	0	0	0	0	610	5	1	13	0	18	839
05:45 PM	6	167	0	0	0	0	0	586	6	1	9	0	18	793
Total	17	742	0	0	0	0	0	2476	31	4	75	0	102	3447
Grand Total	199	3828	0	0	0	0	0	5625	221	21	138	0	211	10243
Apprch %	4.9	95.1	0	0	0	0	0	95.9	3.8	0.4	39.5	0	60.5	
Total %	1.9	37.4	0	0	0	0	0	54.9	2.2	0.2	1.3	0	2.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: CARNEGIE AVENUE

File Name : H1405073
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				DEAD END Westbound				REDHILL AVENUE Northbound					CARNEGIE AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	**32**	**397**	0	**429**	0	0	0	0	0	156	24	2	182	**2**	0	0	**2**	**613**
08:00 AM	28	330	0	358	0	0	0	0	0	**158**	**27**	0	**185**	0	0	0	0	543
08:15 AM	22	363	0	385	0	0	0	0	0	127	15	1	143	0	0	**1**	1	529
08:30 AM	16	313	0	329	0	0	0	0	0	115	13	**3**	131	2	0	0	2	462
Total Volume	98	1403	0	1501	0	0	0	0	0	556	79	6	641	4	0	1	5	2147
% App. Total	6.5	93.5	0		0	0	0		0	86.7	12.3	0.9		80	0	20		
PHF	.766	.884	.000	.875	.000	.000	.000	.000	.000	.880	.731	.500	.866	.500	.000	.250	.625	.876

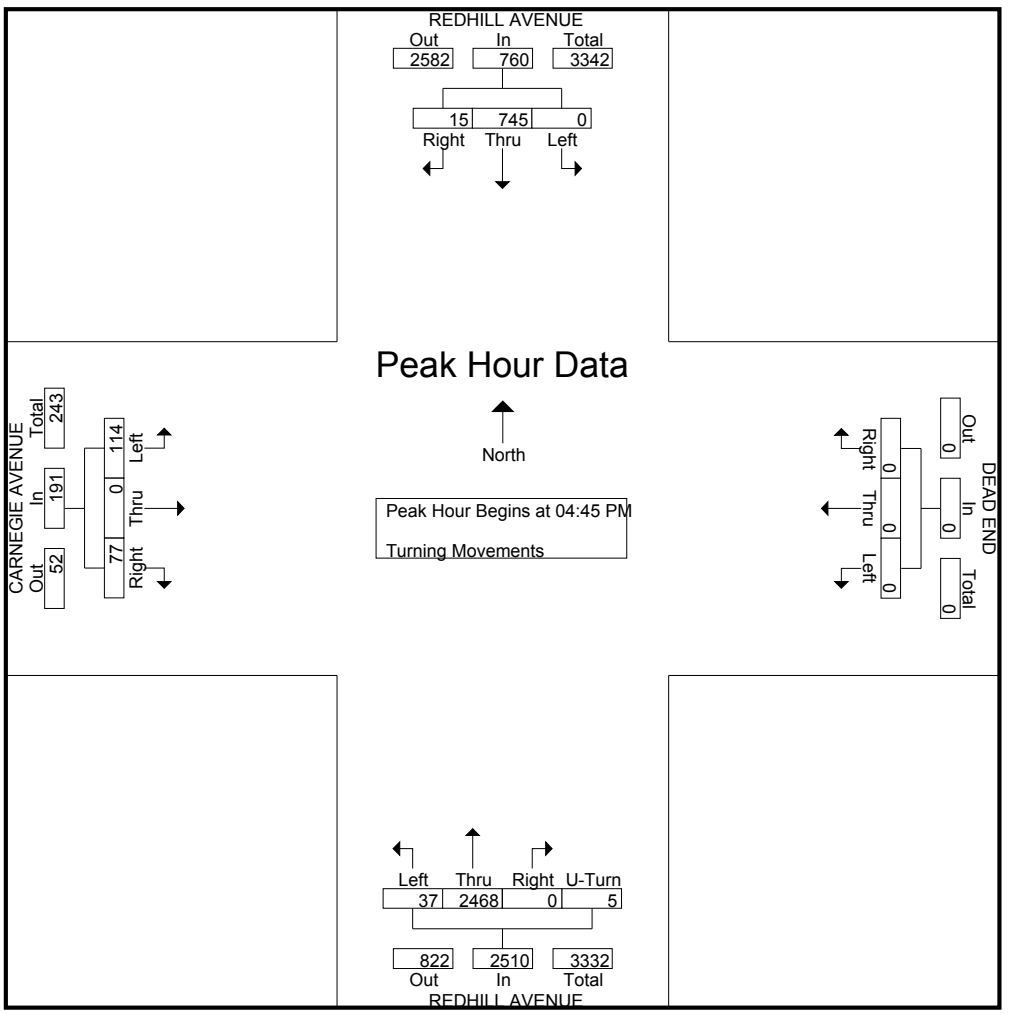


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: CARNEGIE AVENUE

File Name : H1405073
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				DEAD END Westbound				REDHILL AVENUE Northbound					CARNEGIE AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:45 PM																		
04:45 PM	**4**	170	0	174	0	0	0	0	0	578	**12**	**2**	592	11	0	30	41	807
05:00 PM	4	**196**	0	**200**	0	0	0	0	0	619	10	2	631	**29**	0	**48**	**77**	**908**
05:15 PM	3	191	0	194	0	0	0	0	0	**661**	10	0	**671**	24	0	18	42	907
05:30 PM	4	188	0	192	0	0	0	0	0	610	5	1	616	13	0	18	31	839
Total Volume	15	745	0	760	0	0	0	0	0	2468	37	5	2510	77	0	114	191	3461
% App. Total	2	98	0		0	0	0		0	98.3	1.5	0.2		40.3	0	59.7		
PHF	.938	.950	.000	.950	.000	.000	.000	.000	.000	.933	.771	.625	.935	.664	.000	.594	.620	.953



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: PARK AVENUE

File Name : H1405083
Site Code : 00000000
Start Date : 6/12/2014

Groups Printed- Turning Movments

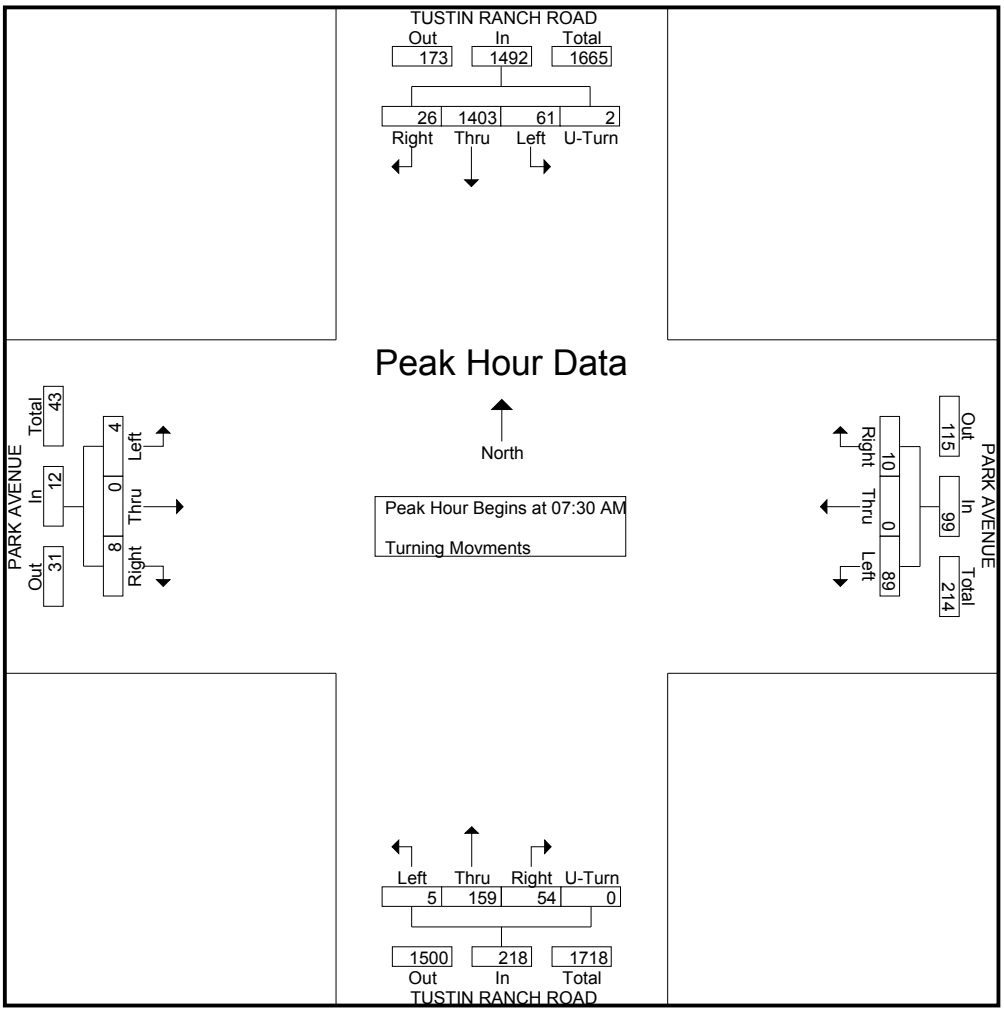
	TUSTIN RANCH ROAD Southbound				PARK AVENUE Westbound			TUSTIN RANCH ROAD Northbound				PARK AVENUE Eastbound			
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Int. Total
07:00 AM	16	188	2	0	1	0	13	9	27	11	0	1	1	0	269
07:15 AM	8	263	6	1	2	0	21	10	29	8	0	0	0	2	350
07:30 AM	6	343	13	0	1	0	18	12	37	1	0	0	0	0	431
07:45 AM	5	414	16	2	4	0	26	8	55	2	0	0	0	0	532
Total	35	1208	37	3	8	0	78	39	148	22	0	1	1	2	1582
08:00 AM	11	340	18	0	3	0	20	17	34	1	0	4	0	4	452
08:15 AM	4	306	14	0	2	0	25	17	33	1	0	4	0	0	406
08:30 AM	0	309	16	0	3	1	24	14	55	0	0	2	0	1	425
08:45 AM	6	264	13	3	11	0	23	25	29	0	0	0	0	0	374
Total	21	1219	61	3	19	1	92	73	151	2	0	10	0	5	1657
*** BREAK ***															
04:00 PM	1	70	26	6	44	0	73	62	241	0	3	14	0	3	543
04:15 PM	2	61	34	2	30	0	59	66	299	0	4	9	0	2	568
04:30 PM	1	58	31	2	29	0	75	79	253	0	8	8	0	2	546
04:45 PM	2	62	33	8	36	0	48	86	379	0	4	9	0	5	672
Total	6	251	124	18	139	0	255	293	1172	0	19	40	0	12	2329
05:00 PM	0	101	26	4	41	0	69	80	355	0	1	3	0	0	680
05:15 PM	0	97	31	2	37	0	55	88	378	0	4	2	0	0	694
05:30 PM	0	90	40	3	38	0	57	87	379	0	2	3	0	0	699
05:45 PM	0	69	54	2	48	0	54	106	301	0	6	6	0	0	646
Total	0	357	151	11	164	0	235	361	1413	0	13	14	0	0	2719
Grand Total	62	3035	373	35	330	1	660	766	2884	24	32	65	1	19	8287
Apprch %	1.8	86.6	10.6	1	33.3	0.1	66.6	20.7	77.8	0.6	0.9	76.5	1.2	22.4	
Total %	0.7	36.6	4.5	0.4	4	0	8	9.2	34.8	0.3	0.4	0.8	0	0.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: PARK AVENUE

File Name : H1405083
Site Code : 00000000
Start Date : 6/12/2014

	TUSTIN RANCH ROAD Southbound					PARK AVENUE Westbound				TUSTIN RANCH ROAD Northbound					PARK AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:30 AM																			
07:30 AM	6	343	13	0	362	1	0	18	19	12	37	1	0	50	0	0	0	0	431
07:45 AM	5	**414**	16	**2**	**437**	**4**	0	**26**	**30**	8	**55**	**2**	0	**65**	0	0	0	0	**532**
08:00 AM	**11**	340	**18**	0	369	3	0	20	23	**17**	34	1	0	52	**4**	0	**4**	**8**	452
08:15 AM	4	306	14	0	324	2	0	25	27	17	33	1	0	51	4	0	0	4	406
Total Volume	26	1403	61	2	1492	10	0	89	99	54	159	5	0	218	8	0	4	12	1821
% App. Total	1.7	94	4.1	0.1		10.1	0	89.9		24.8	72.9	2.3	0		66.7	0	33.3		
PHF	.591	.847	.847	.250	.854	.625	.000	.856	.825	.794	.723	.625	.000	.838	.500	.000	.250	.375	.856

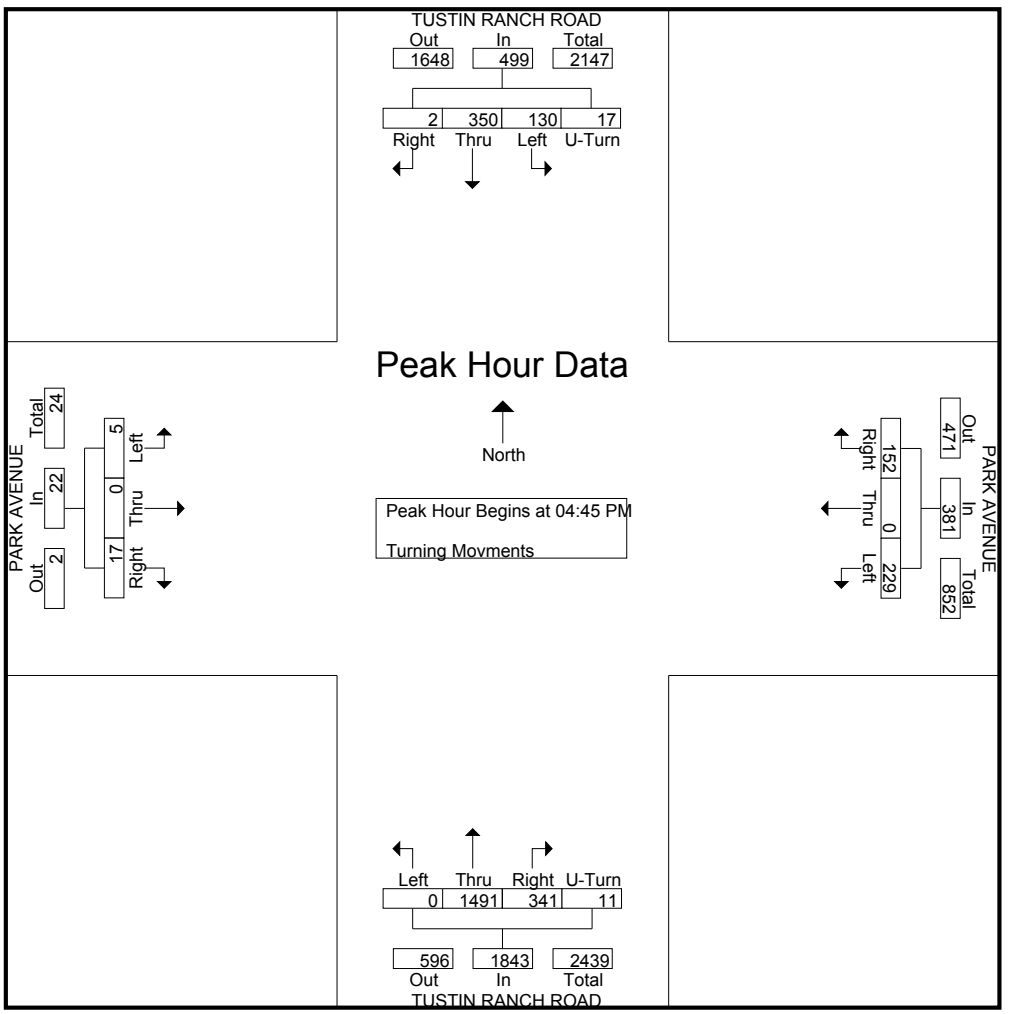


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: PARK AVENUE

File Name : H1405083
Site Code : 00000000
Start Date : 6/12/2014
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	TUSTIN RANCH ROAD Southbound					PARK AVENUE Westbound				TUSTIN RANCH ROAD Northbound					PARK AVENUE Eastbound				
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:45 PM																			
04:45 PM	**2**	62	33	**8**	105	36	0	48	84	86	**379**	0	**4**	469	**9**	0	**5**	**14**	672
05:00 PM	0	**101**	26	4	131	**41**	0	**69**	**110**	80	355	0	1	436	3	0	0	3	680
05:15 PM	0	97	31	2	130	37	0	55	92	**88**	378	0	4	**470**	2	0	0	2	694
05:30 PM	0	90	**40**	3	**133**	38	0	57	95	87	379	0	2	468	3	0	0	3	**699**
Total Volume	2	350	130	17	499	152	0	229	381	341	1491	0	11	1843	17	0	5	22	2745
% App. Total	0.4	70.1	26.1	3.4		39.9	0	60.1		18.5	80.9	0	0.6		77.3	0	22.7		
PHF	.250	.866	.813	.531	.938	.927	.000	.830	.866	.969	.984	.000	.688	.980	.472	.000	.250	.393	.982



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: PARK AVENUE

File Name : H1405088
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

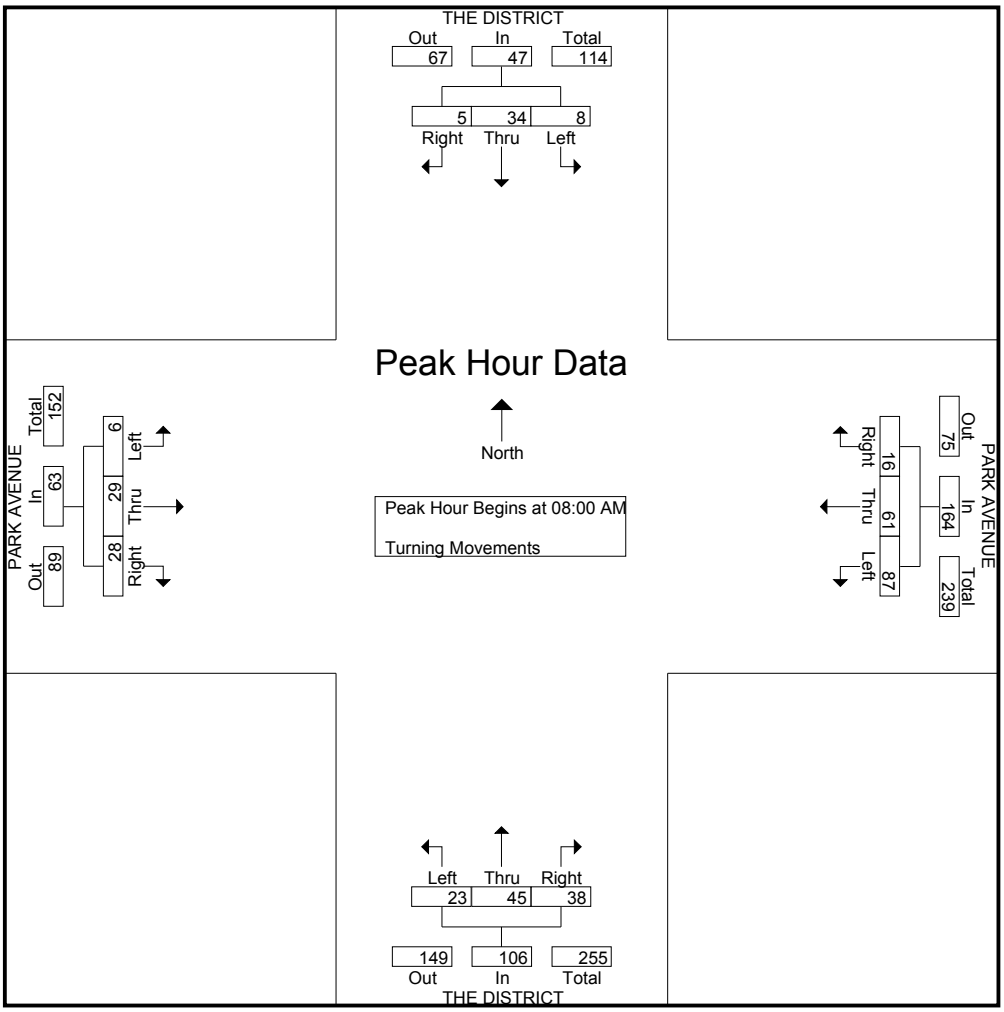
	THE DISTRICT Southbound			PARK AVENUE Westbound			THE DISTRICT Northbound			PARK AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	1	1	0	0	5	10	9	3	0	3	4	0	36
07:15 AM	0	3	0	1	10	18	5	6	3	6	9	0	61
07:30 AM	3	6	0	1	13	22	6	6	2	6	7	0	72
07:45 AM	0	6	1	2	18	21	7	6	4	7	8	0	80
Total	4	16	1	4	46	71	27	21	9	22	28	0	249
08:00 AM	4	9	0	3	18	22	11	5	4	5	6	3	90
08:15 AM	0	5	0	4	10	34	12	10	4	8	6	0	93
08:30 AM	0	7	2	5	17	14	10	13	2	9	4	1	84
08:45 AM	1	13	6	4	16	17	5	17	13	6	13	2	113
Total	5	34	8	16	61	87	38	45	23	28	29	6	380
*** BREAK ***													
04:00 PM	7	28	7	10	27	29	26	39	26	9	28	6	242
04:15 PM	4	28	4	3	27	35	37	38	21	16	21	4	238
04:30 PM	1	33	9	3	26	35	43	41	26	15	27	4	263
04:45 PM	5	33	10	8	24	30	43	44	16	19	36	3	271
Total	17	122	30	24	104	129	149	162	89	59	112	17	1014
05:00 PM	7	20	12	13	19	40	38	48	18	20	27	4	266
05:15 PM	7	21	8	9	27	38	29	34	31	23	29	7	263
05:30 PM	4	19	8	11	31	38	44	47	33	32	35	8	310
05:45 PM	3	26	4	4	44	38	39	42	25	21	33	7	286
Total	21	86	32	37	121	154	150	171	107	96	124	26	1125
Grand Total	47	258	71	81	332	441	364	399	228	205	293	49	2768
Apprch %	12.5	68.6	18.9	9.5	38.9	51.6	36.7	40.3	23	37.5	53.6	9	
Total %	1.7	9.3	2.6	2.9	12	15.9	13.2	14.4	8.2	7.4	10.6	1.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: PARK AVENUE

File Name : H1405088
Site Code : 00000000
Start Date : 6/10/2014

	THE DISTRICT Southbound				PARK AVENUE Westbound				THE DISTRICT Northbound				PARK AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**4**	9	0	13	3	**18**	22	43	11	5	4	20	5	6	**3**	14	90
08:15 AM	0	5	0	5	4	10	**34**	**48**	**12**	10	4	26	8	6	0	14	93
08:30 AM	0	7	2	9	**5**	17	14	36	10	13	2	25	**9**	4	1	14	84
08:45 AM	1	**13**	**6**	**20**	4	16	17	37	5	**17**	**13**	**35**	6	**13**	2	**21**	**113**
Total Volume	5	34	8	47	16	61	87	164	38	45	23	106	28	29	6	63	380
% App. Total	10.6	72.3	17		9.8	37.2	53		35.8	42.5	21.7		44.4	46	9.5		
PHF	.313	.654	.333	.588	.800	.847	.640	.854	.792	.662	.442	.757	.778	.558	.500	.750	.841

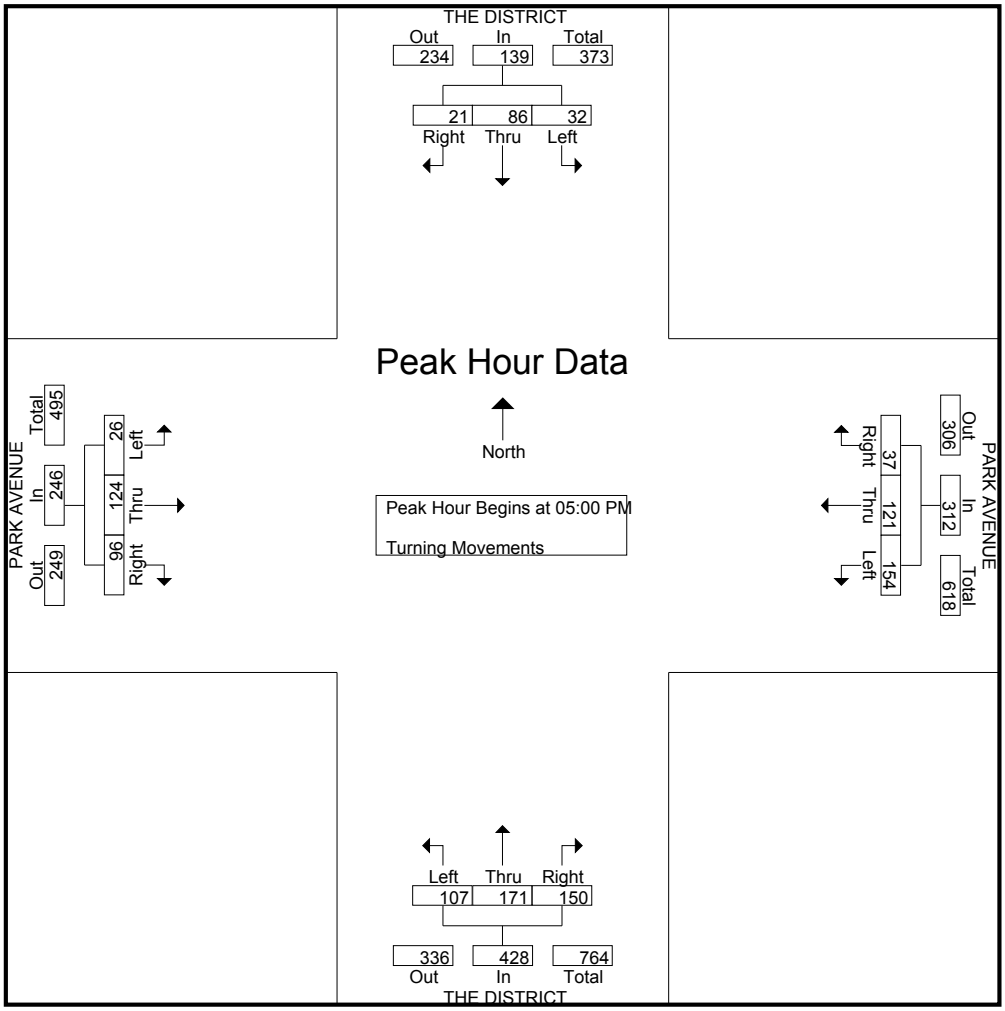


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: PARK AVENUE

File Name : H1405088
Site Code : 00000000
Start Date : 6/10/2014
Page No : 3

	THE DISTRICT Southbound				PARK AVENUE Westbound				THE DISTRICT Northbound				PARK AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**7**	20	**12**	**39**	**13**	19	**40**	72	38	**48**	18	104	20	27	4	51	266
05:15 PM	7	21	8	36	9	27	38	74	29	34	31	94	23	29	7	59	263
05:30 PM	4	19	8	31	11	31	38	80	**44**	47	**33**	**124**	**32**	**35**	**8**	**75**	**310**
05:45 PM	3	**26**	4	33	4	**44**	38	**86**	39	42	25	106	21	33	7	61	286
Total Volume	21	86	32	139	37	121	154	312	150	171	107	428	96	124	26	246	1125
% App. Total	15.1	61.9	23		11.9	38.8	49.4		35	40	25		39	50.4	10.6		
PHF	.750	.827	.667	.891	.712	.688	.963	.907	.852	.891	.811	.863	.750	.886	.813	.820	.907



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: SR-55 SB RAMPS
E-W Direction: DYER ROAD

File Name : H1409060
Site Code : 00000000
Start Date : 9/23/2014
Page No : 1

Groups Printed- Turning Movements

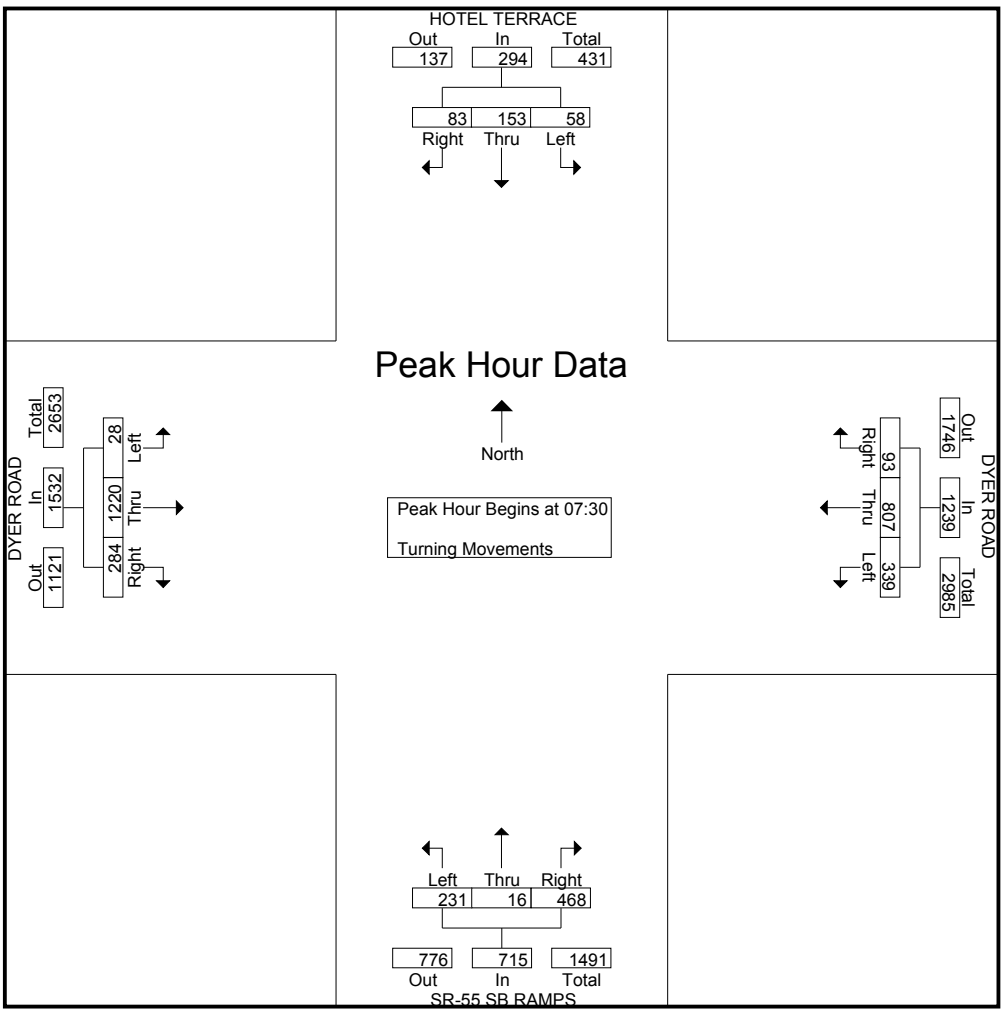
	HOTEL TERRACE Southbound			DYER ROAD Westbound			SR-55 SB RAMPS Northbound			DYER ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	18	27	10	26	159	55	138	2	69	62	229	7	802
07:15	21	45	8	25	169	80	128	7	63	68	246	9	869
07:30	27	42	13	19	181	91	113	5	81	78	287	3	940
07:45	22	49	16	21	221	77	128	4	63	65	312	11	989
Total	88	163	47	91	730	303	507	18	276	273	1074	30	3600
08:00	16	28	20	27	200	74	124	4	50	77	314	7	941
08:15	18	34	9	26	205	97	103	3	37	64	307	7	910
08:30	14	34	17	33	196	88	107	5	35	70	237	7	843
08:45	16	22	24	27	193	99	129	3	37	58	224	4	836
Total	64	118	70	113	794	358	463	15	159	269	1082	25	3530
*** BREAK ***													
16:00	27	53	38	14	257	139	56	2	55	56	308	25	1030
16:15	18	43	24	22	218	125	43	3	63	46	359	20	984
16:30	35	68	25	5	259	153	52	0	61	61	368	27	1114
16:45	27	43	24	23	243	108	54	0	62	59	375	19	1037
Total	107	207	111	64	977	525	205	5	241	222	1410	91	4165
17:00	23	70	32	20	272	143	48	3	74	65	346	19	1115
17:15	30	44	22	9	298	132	57	1	59	51	421	21	1145
17:30	18	43	20	15	242	124	44	3	70	49	361	23	1012
17:45	24	42	24	24	216	122	51	0	65	33	323	15	939
Total	95	199	98	68	1028	521	200	7	268	198	1451	78	4211
Grand Total	354	687	326	336	3529	1707	1375	45	944	962	5017	224	15506
Apprch %	25.9	50.3	23.8	6	63.3	30.6	58.2	1.9	39.9	15.5	80.9	3.6	
Total %	2.3	4.4	2.1	2.2	22.8	11	8.9	0.3	6.1	6.2	32.4	1.4	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: SR-55 SB RAMPS
E-W Direction: DYER ROAD

File Name : H1409060
Site Code : 00000000
Start Date : 9/23/2014
Page No : 2

	HOTEL TERRACE Southbound				DYER ROAD Westbound				SR-55 SB RAMPS Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	**27**	42	13	82	19	181	91	291	113	**5**	**81**	**199**	**78**	287	3	368	940
07:45	22	**49**	16	**87**	21	**221**	77	319	**128**	4	63	195	65	312	**11**	388	**989**
08:00	16	28	**20**	64	**27**	200	74	301	124	4	50	178	77	**314**	7	**398**	941
08:15	18	34	9	61	26	205	**97**	**328**	103	3	37	143	64	307	7	378	910
Total Volume	83	153	58	294	93	807	339	1239	468	16	231	715	284	1220	28	1532	3780
% App. Total	28.2	52	19.7		7.5	65.1	27.4		65.5	2.2	32.3		18.5	79.6	1.8		
PHF	.769	.781	.725	.845	.861	.913	.874	.944	.914	.800	.713	.898	.910	.971	.636	.962	.956

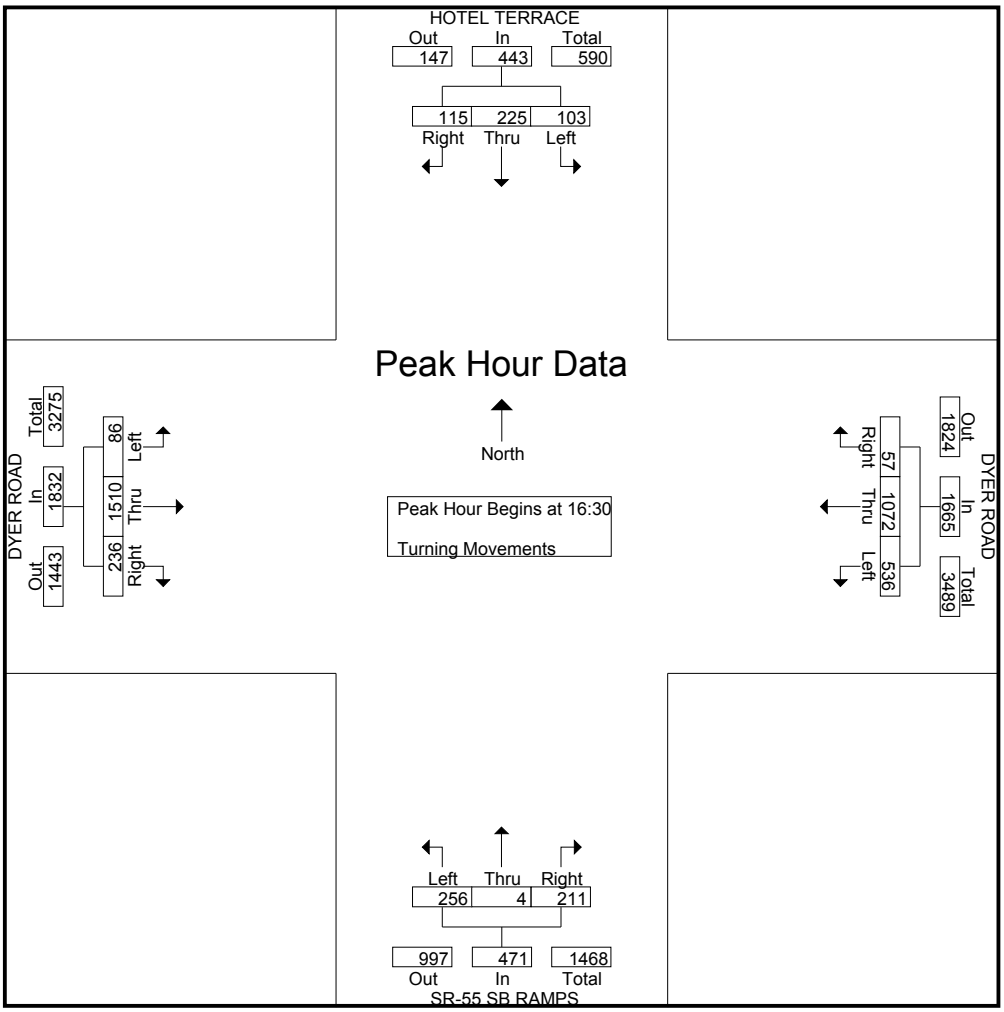


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: SR-55 SB RAMPS
E-W Direction: DYER ROAD

File Name : H1409060
Site Code : 00000000
Start Date : 9/23/2014
Page No : 3

	HOTEL TERRACE Southbound				DYER ROAD Westbound				SR-55 SB RAMPS Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	**35**	68	25	**128**	5	259	**153**	417	52	0	61	113	61	368	**27**	456	1114
16:45	27	43	24	94	**23**	243	108	374	54	0	62	116	59	375	19	453	1037
17:00	23	**70**	**32**	125	20	272	143	435	48	**3**	**74**	**125**	**65**	346	19	430	1115
17:15	30	44	22	96	9	**298**	132	**439**	**57**	1	59	117	51	**421**	21	**493**	**1145**
Total Volume	115	225	103	443	57	1072	536	1665	211	4	256	471	236	1510	86	1832	4411
% App. Total	26	50.8	23.3		3.4	64.4	32.2		44.8	0.8	54.4		12.9	82.4	4.7		
PHF	.821	.804	.805	.865	.620	.899	.876	.948	.925	.333	.865	.942	.908	.897	.796	.929	.963



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: GRAND AVENUE
E-W Direction: DYER ROAD

File Name : H1409061
Site Code : 00000000
Start Date : 9/23/2014
Page No : 1

Groups Printed- Turning Movements

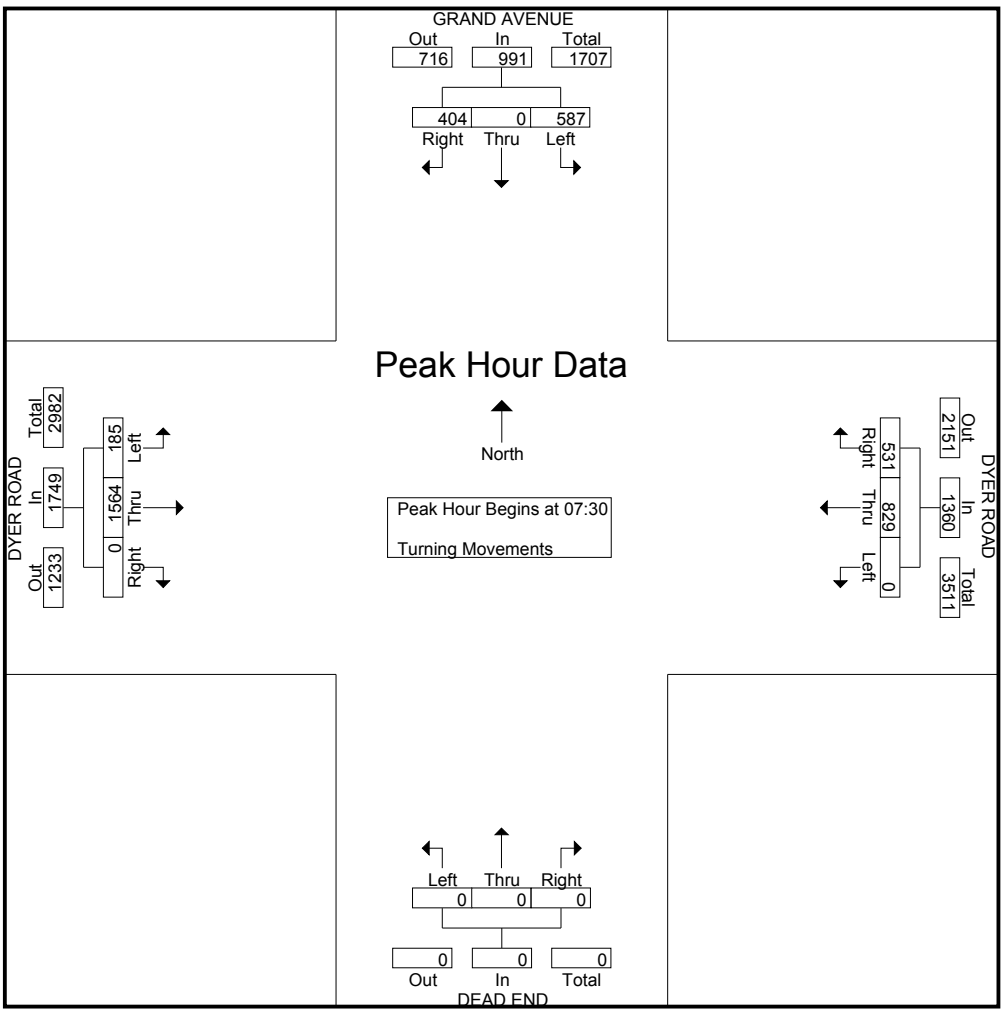
	GRAND AVENUE Southbound			DYER ROAD Westbound			DEAD END Northbound			DYER ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	84	0	150	98	176	0	0	0	0	0	334	35	877
07:15	84	0	153	126	174	0	0	0	0	0	346	26	909
07:30	116	0	154	120	186	0	0	0	0	0	376	40	992
07:45	81	0	176	156	228	0	0	0	0	0	401	61	1103
Total	365	0	633	500	764	0	0	0	0	0	1457	162	3881
08:00	109	0	146	134	193	0	0	0	0	0	405	43	1030
08:15	98	0	111	121	222	0	0	0	0	0	382	41	975
08:30	98	0	119	113	224	0	0	0	0	0	318	31	903
08:45	96	0	104	123	225	0	0	0	0	0	370	24	942
Total	401	0	480	491	864	0	0	0	0	0	1475	139	3850
*** BREAK ***													
16:00	93	0	55	101	318	0	0	0	0	0	333	75	975
16:15	110	0	67	108	253	0	0	0	0	0	337	98	973
16:30	119	0	72	106	302	0	0	0	0	0	368	71	1038
16:45	105	0	59	105	266	0	0	0	0	0	355	91	981
Total	427	0	253	420	1139	0	0	0	0	0	1393	335	3967
17:00	124	0	79	87	342	0	0	0	0	0	353	59	1044
17:15	92	0	77	106	295	0	0	0	0	0	363	106	1039
17:30	112	0	105	114	272	0	0	0	0	0	346	102	1051
17:45	85	0	67	122	285	0	0	0	0	0	356	70	985
Total	413	0	328	429	1194	0	0	0	0	0	1418	337	4119
Grand Total	1606	0	1694	1840	3961	0	0	0	0	0	5743	973	15817
Apprch %	48.7	0	51.3	31.7	68.3	0	0	0	0	0	85.5	14.5	
Total %	10.2	0	10.7	11.6	25	0	0	0	0	0	36.3	6.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: GRAND AVENUE
E-W Direction: DYER ROAD

File Name : H1409061
Site Code : 00000000
Start Date : 9/23/2014
Page No : 2

	GRAND AVENUE Southbound				DYER ROAD Westbound				DEAD END Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	**116**	0	154	**270**	120	186	0	306	0	0	0	0	0	376	40	416	992
07:45	81	0	**176**	257	**156**	**228**	0	**384**	0	0	0	0	0	401	**61**	**462**	**1103**
08:00	109	0	146	255	134	193	0	327	0	0	0	0	0	**405**	43	448	1030
08:15	98	0	111	209	121	222	0	343	0	0	0	0	0	382	41	423	975
Total Volume	404	0	587	991	531	829	0	1360	0	0	0	0	0	1564	185	1749	4100
% App. Total	40.8	0	59.2		39	61	0		0	0	0		0	89.4	10.6		
PHF	.871	.000	.834	.918	.851	.909	.000	.885	.000	.000	.000	.000	.000	.965	.758	.946	.929

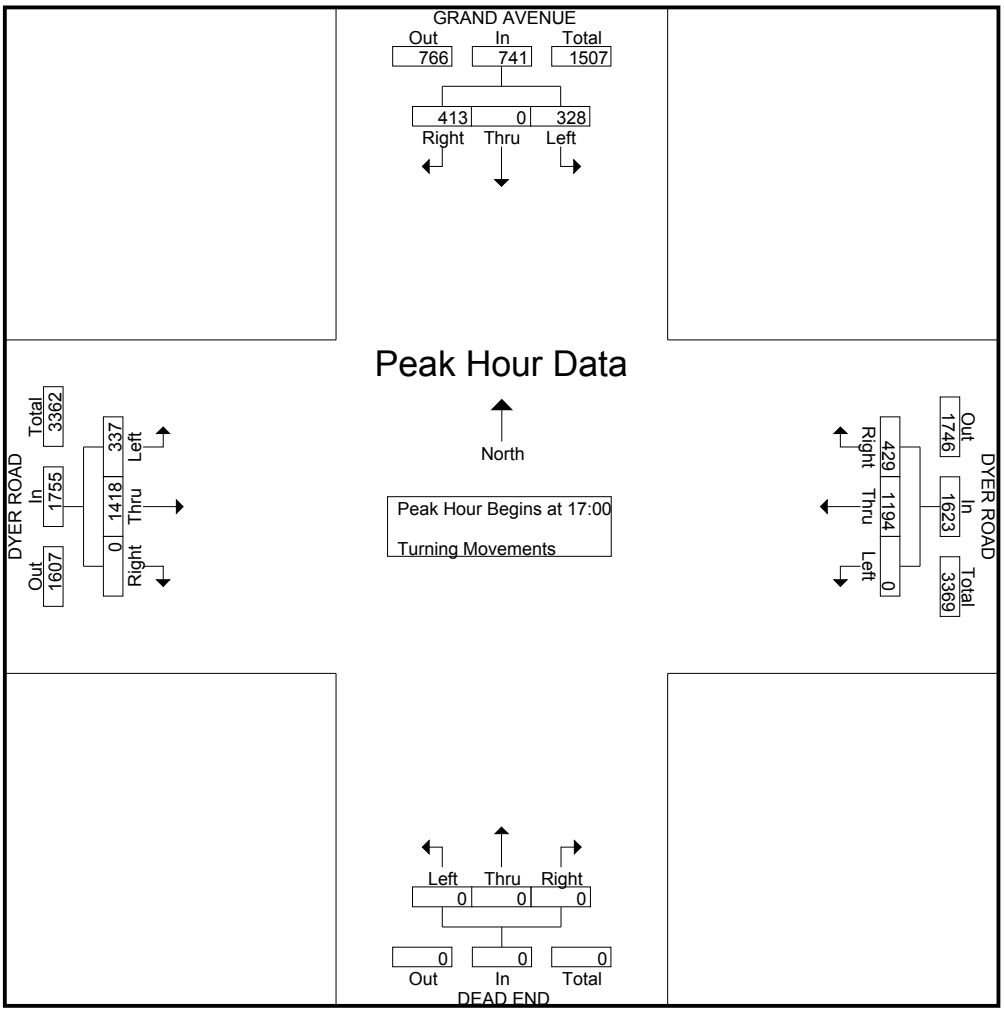


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: GRAND AVENUE
E-W Direction: DYER ROAD

File Name : H1409061
Site Code : 00000000
Start Date : 9/23/2014
Page No : 3

	GRAND AVENUE Southbound				DYER ROAD Westbound				DEAD END Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**124**	0	79	203	87	**342**	0	**429**	0	0	0	0	0	353	59	412	1044
17:15	92	0	77	169	106	295	0	401	0	0	0	0	0	**363**	**106**	**469**	1039
17:30	112	0	**105**	**217**	114	272	0	386	0	0	0	0	0	346	102	448	**1051**
17:45	85	0	67	152	**122**	285	0	407	0	0	0	0	0	356	70	426	985
Total Volume	413	0	328	741	429	1194	0	1623	0	0	0	0	0	1418	337	1755	4119
% App. Total	55.7	0	44.3		26.4	73.6	0		0	0	0		0	80.8	19.2		
PHF	.833	.000	.781	.854	.879	.873	.000	.946	.000	.000	.000	.000	.000	.977	.795	.936	.980



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: SR-55 NB RAMPS
E-W Direction: DYER ROAD

File Name : H1409062
Site Code : 00000000
Start Date : 9/23/2014
Page No : 1

Groups Printed- Turning Movements

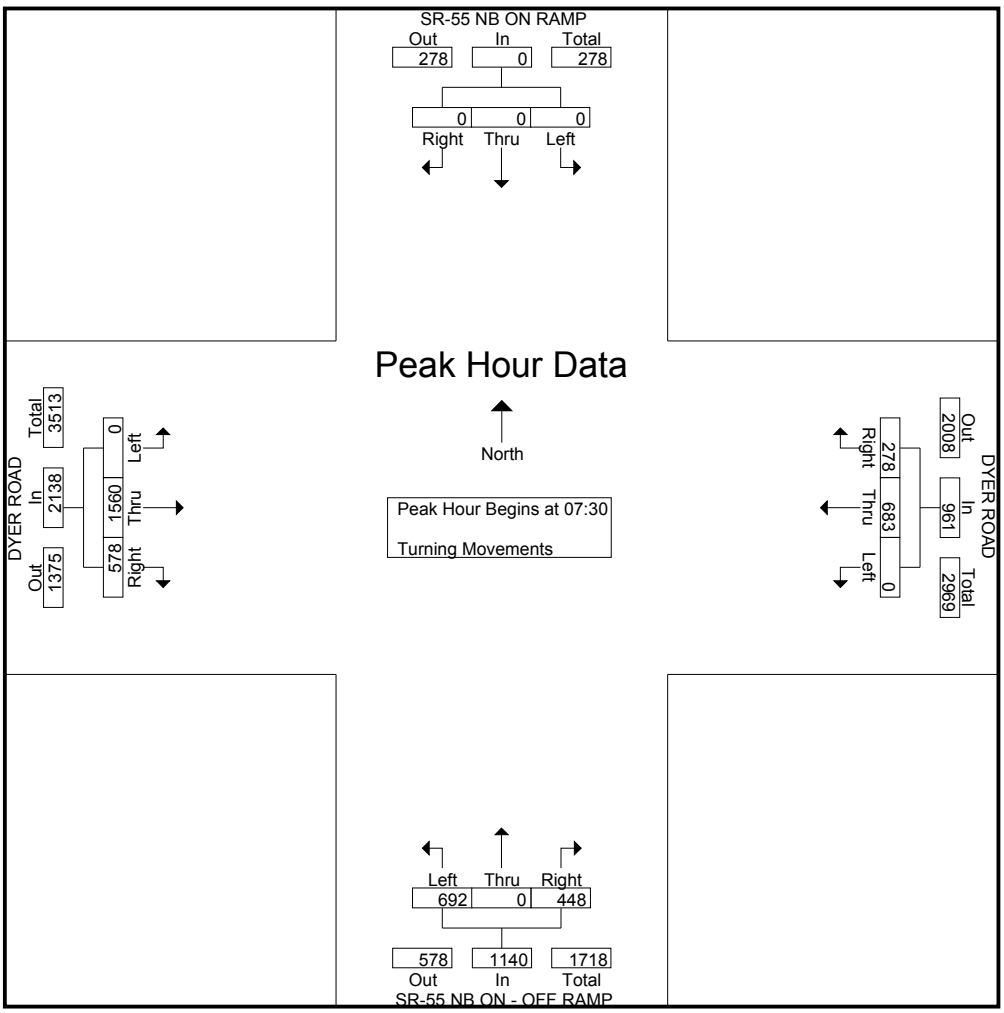
	SR-55 NB ON RAMP Southbound			DYER ROAD Westbound			SR-55 NB ON - OFF RAMP Northbound			DYER ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	0	0	0	71	102	0	101	0	164	143	367	0	948
07:15	0	0	0	63	123	0	117	0	175	125	382	0	985
07:30	0	0	0	72	147	0	94	0	153	170	364	0	1000
07:45	0	0	0	71	182	0	110	0	211	125	423	0	1122
Total	0	0	0	277	554	0	422	0	703	563	1536	0	4055
08:00	0	0	0	66	182	0	119	0	160	143	418	0	1088
08:15	0	0	0	69	172	0	125	0	168	140	355	0	1029
08:30	0	0	0	76	191	0	126	0	164	110	318	0	985
08:45	0	0	0	65	170	0	105	0	152	130	361	0	983
Total	0	0	0	276	715	0	475	0	644	523	1452	0	4085
*** BREAK ***													
16:00	0	0	0	298	346	0	32	0	64	159	228	0	1127
16:15	0	0	0	243	306	0	20	0	60	161	244	0	1034
16:30	0	0	0	261	372	0	23	0	42	164	270	0	1132
16:45	0	0	0	210	326	0	23	0	46	156	272	0	1033
Total	0	0	0	1012	1350	0	98	0	212	640	1014	0	4326
17:00	0	0	0	284	387	0	14	0	53	166	275	0	1179
17:15	0	0	0	246	378	0	21	0	40	155	319	0	1159
17:30	0	0	0	219	349	0	21	0	33	138	289	0	1049
17:45	0	0	0	185	326	0	18	0	56	129	274	0	988
Total	0	0	0	934	1440	0	74	0	182	588	1157	0	4375
Grand Total	0	0	0	2499	4059	0	1069	0	1741	2314	5159	0	16841
Apprch %	0	0	0	38.1	61.9	0	38	0	62	31	69	0	
Total %	0	0	0	14.8	24.1	0	6.3	0	10.3	13.7	30.6	0	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: SR-55 NB RAMPS
E-W Direction: DYER ROAD

File Name : H1409062
Site Code : 00000000
Start Date : 9/23/2014
Page No : 2

	SR-55 NB ON RAMP Southbound				DYER ROAD Westbound				SR-55 NB ON - OFF RAMP Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	0	0	0	**72**	147	0	219	94	0	153	247	**170**	364	0	534	1000
07:45	0	0	0	0	71	**182**	0	**253**	110	0	**211**	**321**	125	**423**	0	548	**1122**
08:00	0	0	0	0	66	182	0	248	119	0	160	279	143	418	0	**561**	1088
08:15	0	0	0	0	69	172	0	241	**125**	0	168	293	140	355	0	495	1029
Total Volume	0	0	0	0	278	683	0	961	448	0	692	1140	578	1560	0	2138	4239
% App. Total	0	0	0		28.9	71.1	0		39.3	0	60.7		27	73	0		
PHF	.000	.000	.000	.000	.965	.938	.000	.950	.896	.000	.820	.888	.850	.922	.000	.953	.945

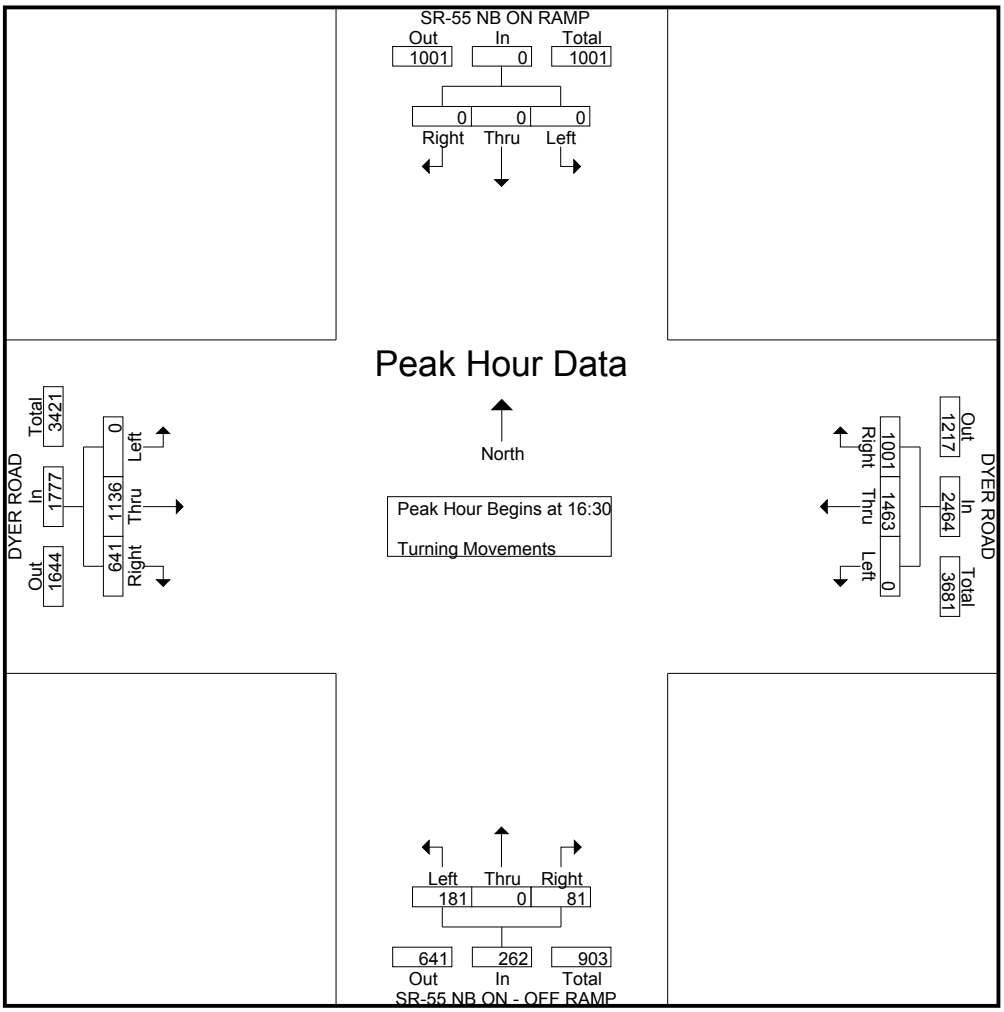


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: SANTA ANA
N-S- Direction: SR-55 NB RAMPS
E-W Direction: DYER ROAD

File Name : H1409062
Site Code : 00000000
Start Date : 9/23/2014
Page No : 3

	SR-55 NB ON RAMP Southbound				DYER ROAD Westbound				SR-55 NB ON - OFF RAMP Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	0	0	0	261	372	0	633	**23**	0	42	65	164	270	0	434	1132
16:45	0	0	0	0	210	326	0	536	23	0	46	**69**	156	272	0	428	1033
17:00	0	0	0	0	**284**	**387**	0	**671**	14	0	**53**	67	**166**	275	0	441	**1179**
17:15	0	0	0	0	246	378	0	624	21	0	40	61	155	**319**	0	**474**	1159
Total Volume	0	0	0	0	1001	1463	0	2464	81	0	181	262	641	1136	0	1777	4503
% App. Total	0	0	0		40.6	59.4	0		30.9	0	69.1		36.1	63.9	0		
PHF	.000	.000	.000	.000	.881	.945	.000	.918	.880	.000	.854	.949	.965	.890	.000	.937	.955



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: RED HILL AVENUE
E-W Direction: DYER RD / BARRANCA PKWY

File Name : H1405090
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

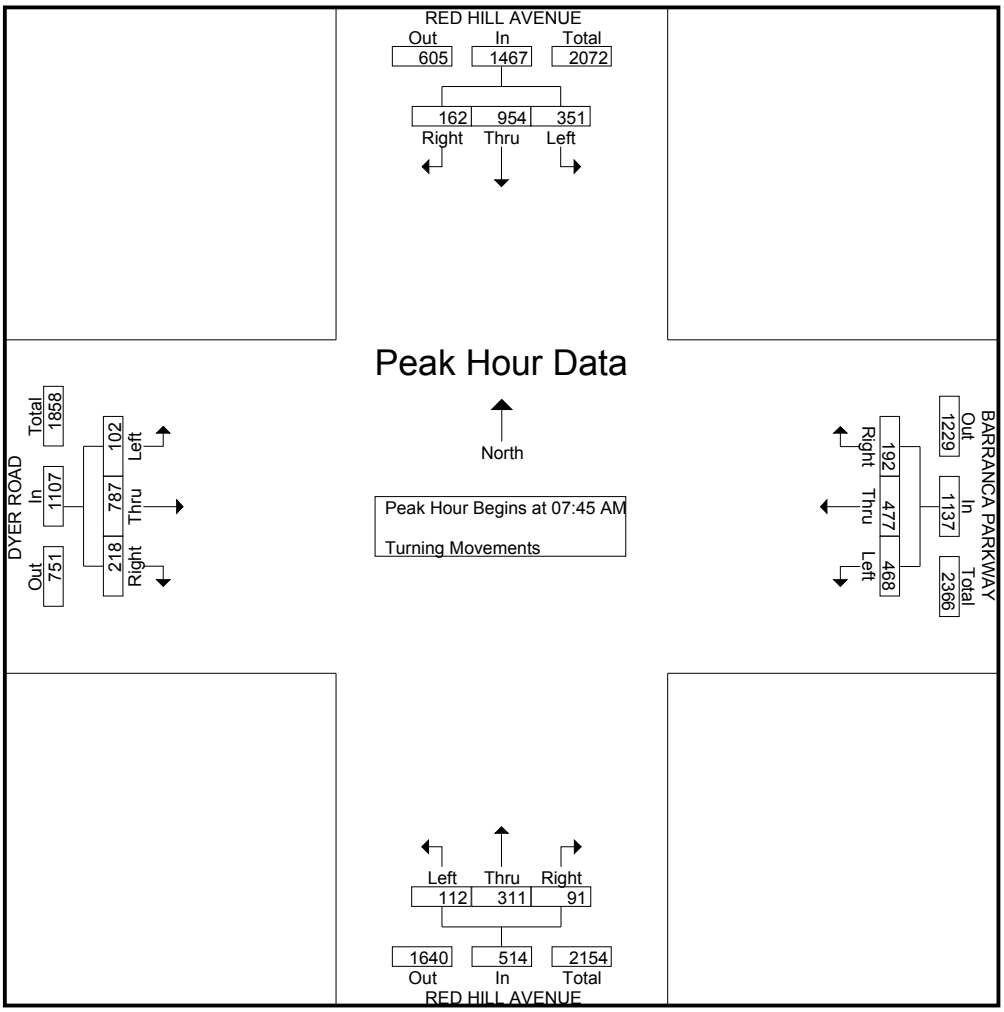
	RED HILL AVENUE Southbound			BARRANCA PARKWAY Westbound			RED HILL AVENUE Northbound			DYER ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	163	49	33	98	48	15	39	23	57	159	20	726
07:15 AM	16	155	76	42	144	61	25	67	23	47	216	22	894
07:30 AM	27	195	78	47	137	89	29	65	24	65	200	36	992
07:45 AM	32	268	113	53	110	110	23	70	29	61	239	31	1139
Total	97	781	316	175	489	308	92	241	99	230	814	109	3751
08:00 AM	29	209	79	52	119	111	23	100	25	58	177	20	1002
08:15 AM	47	265	95	41	121	119	20	70	24	54	205	22	1083
08:30 AM	54	212	64	46	127	128	25	71	34	45	166	29	1001
08:45 AM	25	157	80	50	112	163	22	65	33	54	174	25	960
Total	155	843	318	189	479	521	90	306	116	211	722	96	4046
*** BREAK ***													
04:00 PM	21	68	63	108	219	35	91	396	90	29	149	47	1316
04:15 PM	33	99	55	115	200	21	102	374	71	17	136	30	1253
04:30 PM	27	97	75	130	259	30	87	427	87	18	164	40	1441
04:45 PM	22	95	77	122	186	41	92	463	72	28	214	30	1442
Total	103	359	270	475	864	127	372	1660	320	92	663	147	5452
05:00 PM	37	136	84	130	255	33	94	447	102	31	184	62	1595
05:15 PM	34	109	94	105	187	32	94	467	93	14	279	69	1577
05:30 PM	30	114	82	115	240	29	83	452	91	15	190	54	1495
05:45 PM	18	94	54	84	189	42	109	504	79	23	188	41	1425
Total	119	453	314	434	871	136	380	1870	365	83	841	226	6092
Grand Total	474	2436	1218	1273	2703	1092	934	4077	900	616	3040	578	19341
Apprch %	11.5	59	29.5	25.1	53.3	21.5	15.8	69	15.2	14.5	71.8	13.7	
Total %	2.5	12.6	6.3	6.6	14	5.6	4.8	21.1	4.7	3.2	15.7	3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: RED HILL AVENUE
E-W Direction: DYER RD / BARRANCA PKWY

File Name : H1405090
Site Code : 00000000
Start Date : 6/10/2014

	RED HILL AVENUE Southbound				BARRANCA PARKWAY Westbound				RED HILL AVENUE Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	32	**268**	**113**	**413**	**53**	110	110	273	23	70	29	122	**61**	**239**	**31**	**331**	**1139**
08:00 AM	29	209	79	317	52	119	111	282	23	**100**	25	**148**	58	177	20	255	1002
08:15 AM	47	265	95	407	41	121	119	281	20	70	24	114	54	205	22	281	1083
08:30 AM	**54**	212	64	330	46	**127**	**128**	**301**	**25**	71	**34**	130	45	166	29	240	1001
Total Volume	162	954	351	1467	192	477	468	1137	91	311	112	514	218	787	102	1107	4225
% App. Total	11	65	23.9		16.9	42	41.2		17.7	60.5	21.8		19.7	71.1	9.2		
PHF	.750	.890	.777	.888	.906	.939	.914	.944	.910	.778	.824	.868	.893	.823	.823	.836	.927

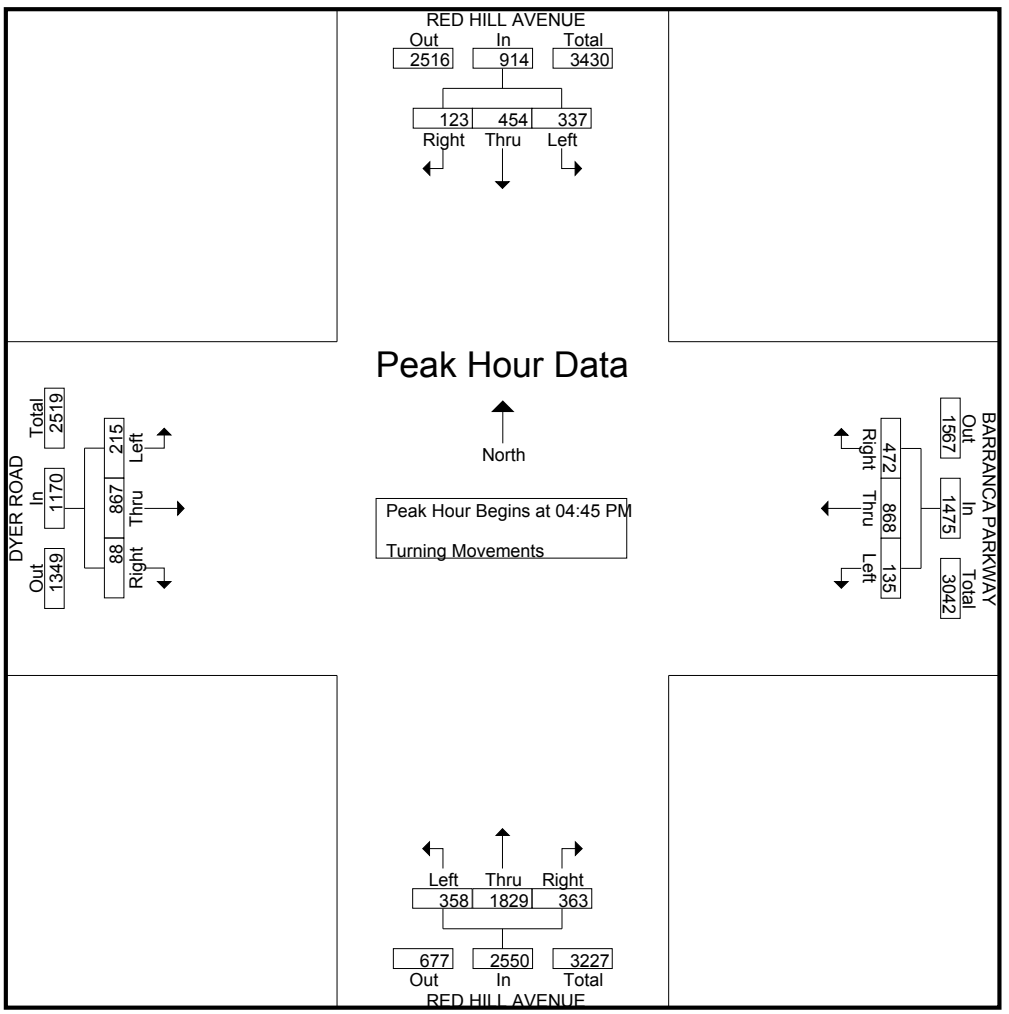


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: RED HILL AVENUE
E-W Direction: DYER RD / BARRANCA PKWY

File Name : H1405090
Site Code : 00000000
Start Date : 6/10/2014

	RED HILL AVENUE Southbound				BARRANCA PARKWAY Westbound				RED HILL AVENUE Northbound				DYER ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	22	95	77	194	122	186	**41**	349	92	463	72	627	28	214	30	272	1442
05:00 PM	**37**	**136**	84	**257**	**130**	**255**	33	**418**	**94**	447	**102**	643	**31**	184	62	277	**1595**
05:15 PM	34	109	**94**	237	105	187	32	324	94	**467**	93	**654**	14	**279**	**69**	**362**	1577
05:30 PM	30	114	82	226	115	240	29	384	83	452	91	626	15	190	54	259	1495
Total Volume	123	454	337	914	472	868	135	1475	363	1829	358	2550	88	867	215	1170	6109
% App. Total	13.5	49.7	36.9		32	58.8	9.2		14.2	71.7	14		7.5	74.1	18.4		
PHF	.831	.835	.896	.889	.908	.851	.823	.882	.965	.979	.877	.975	.710	.777	.779	.808	.958



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: ASTON STREET
E-W Direction: BARRANCA PARKWAY

File Name : H1405091
Site Code : 00005701
Start Date : 6/11/2014
Page No : 1

Groups Printed- Turning Movements

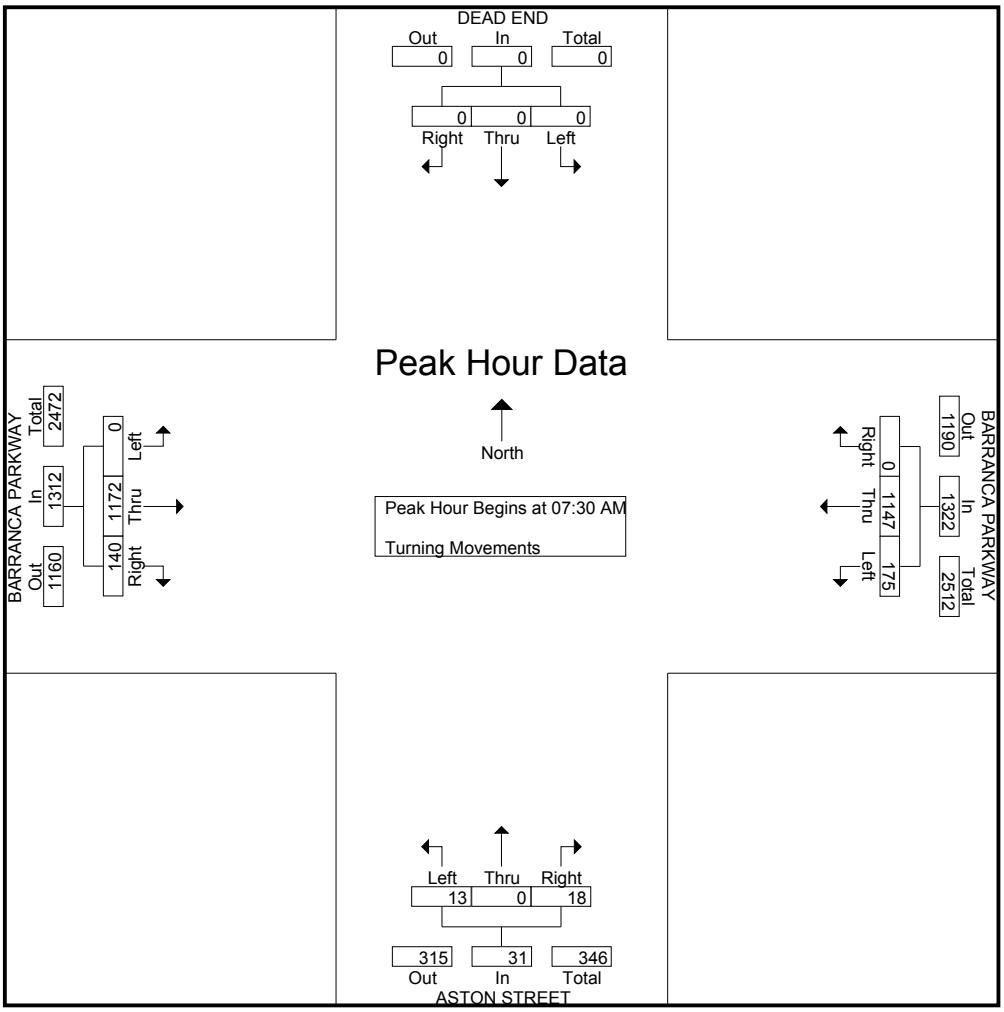
	DEAD END Southbound			BARRANCA PARKWAY Westbound			ASTON STREET Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	156	22	6	0	4	29	267	0	484
07:15 AM	0	0	0	0	205	24	4	0	13	24	268	0	538
07:30 AM	0	0	0	0	238	34	2	0	7	42	287	0	610
07:45 AM	0	0	0	0	297	42	1	0	2	33	316	0	691
Total	0	0	0	0	896	122	13	0	26	128	1138	0	2323
08:00 AM	0	0	0	0	303	53	11	0	2	42	299	0	710
08:15 AM	0	0	0	0	309	46	4	0	2	23	270	0	654
08:30 AM	0	0	0	0	285	43	3	0	2	28	233	0	594
08:45 AM	0	0	0	0	264	34	6	0	1	19	220	0	544
Total	0	0	0	0	1161	176	24	0	7	112	1022	0	2502
*** BREAK ***													
04:00 PM	0	0	0	0	338	8	18	0	7	9	222	0	602
04:15 PM	0	0	0	0	430	6	13	0	6	5	316	0	776
04:30 PM	0	0	0	0	338	5	16	0	16	3	313	0	691
04:45 PM	0	0	0	0	365	9	14	0	6	8	337	0	739
Total	0	0	0	0	1471	28	61	0	35	25	1188	0	2808
05:00 PM	0	0	0	0	402	5	34	0	8	5	350	0	804
05:15 PM	0	0	0	0	422	3	25	0	15	10	425	0	900
05:30 PM	0	0	0	0	363	2	32	0	19	29	383	0	828
05:45 PM	0	0	0	0	398	4	23	0	7	12	349	0	793
Total	0	0	0	0	1585	14	114	0	49	56	1507	0	3325
Grand Total	0	0	0	0	5113	340	212	0	117	321	4855	0	10958
Apprch %	0	0	0	0	93.8	6.2	64.4	0	35.6	6.2	93.8	0	
Total %	0	0	0	0	46.7	3.1	1.9	0	1.1	2.9	44.3	0	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: ASTON STREET
E-W Direction: BARRANCA PARKWAY

File Name : H1405091
Site Code : 00005701
Start Date : 6/11/2014

	DEAD END Southbound				BARRANCA PARKWAY Westbound				ASTON STREET Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	238	34	272	2	0	**7**	9	**42**	287	0	329	610
07:45 AM	0	0	0	0	0	297	42	339	1	0	2	3	33	**316**	0	**349**	691
08:00 AM	0	0	0	0	0	303	**53**	**356**	**11**	0	2	**13**	42	299	0	341	**710**
08:15 AM	0	0	0	0	0	**309**	46	355	4	0	2	6	23	270	0	293	654
Total Volume	0	0	0	0	0	1147	175	1322	18	0	13	31	140	1172	0	1312	2665
% App. Total	0	0	0		0	86.8	13.2		58.1	0	41.9		10.7	89.3	0		
PHF	.000	.000	.000	.000	.000	.928	.825	.928	.409	.000	.464	.596	.833	.927	.000	.940	.938

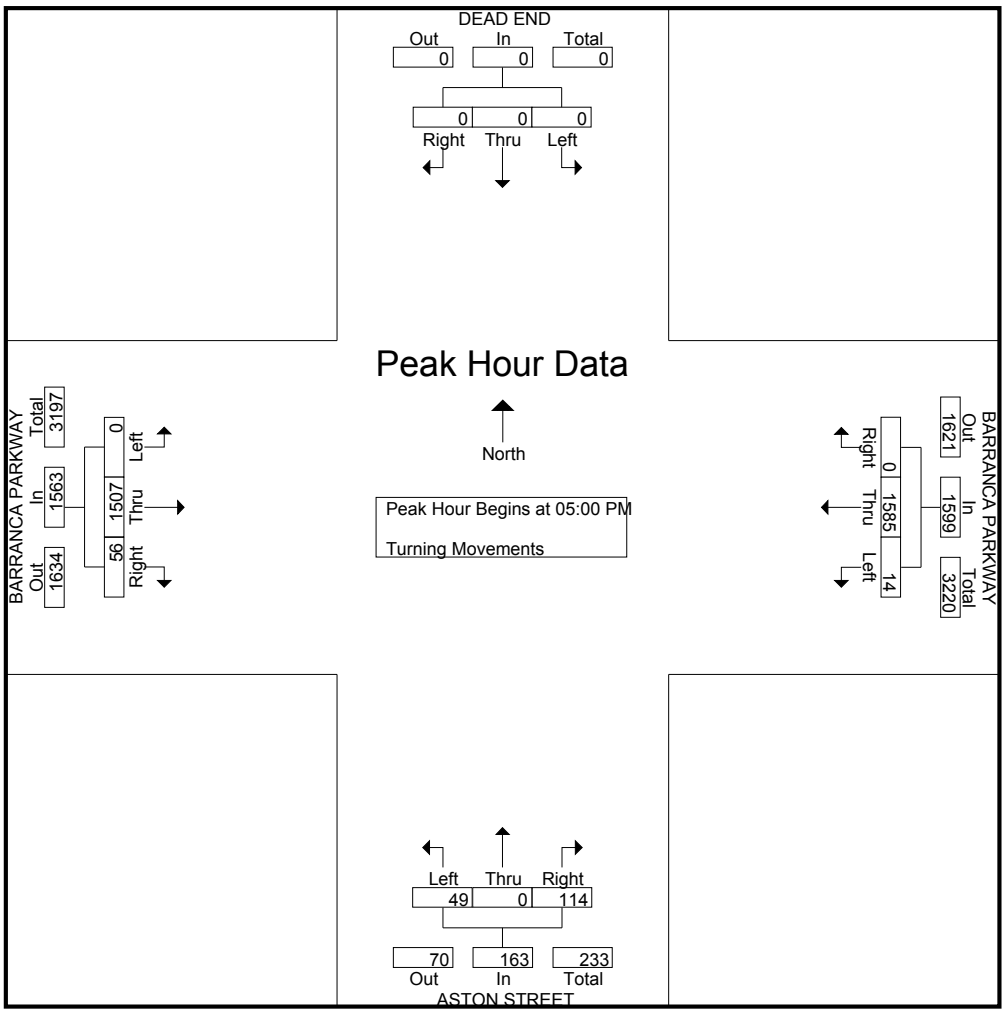


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: ASTON STREET
E-W Direction: BARRANCA PARKWAY

File Name : H1405091
Site Code : 00005701
Start Date : 6/11/2014

	DEAD END Southbound				BARRANCA PARKWAY Westbound				ASTON STREET Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	402	**5**	407	**34**	0	8	42	5	350	0	355	804
05:15 PM	0	0	0	0	0	**422**	3	**425**	25	0	15	40	10	**425**	0	**435**	**900**
05:30 PM	0	0	0	0	0	363	2	365	32	0	**19**	**51**	**29**	383	0	412	828
05:45 PM	0	0	0	0	0	398	4	402	23	0	7	30	12	349	0	361	793
Total Volume	0	0	0	0	0	1585	14	1599	114	0	49	163	56	1507	0	1563	3325
% App. Total	0	0	0		0	99.1	0.9		69.9	0	30.1		3.6	96.4	0		
PHF	.000	.000	.000	.000	.000	.939	.700	.941	.838	.000	.645	.799	.483	.886	.000	.898	.924



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: ARMSTRONG AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405092
Site Code : 00000561
Start Date : 6/3/2014

Groups Printed- Turning Movements

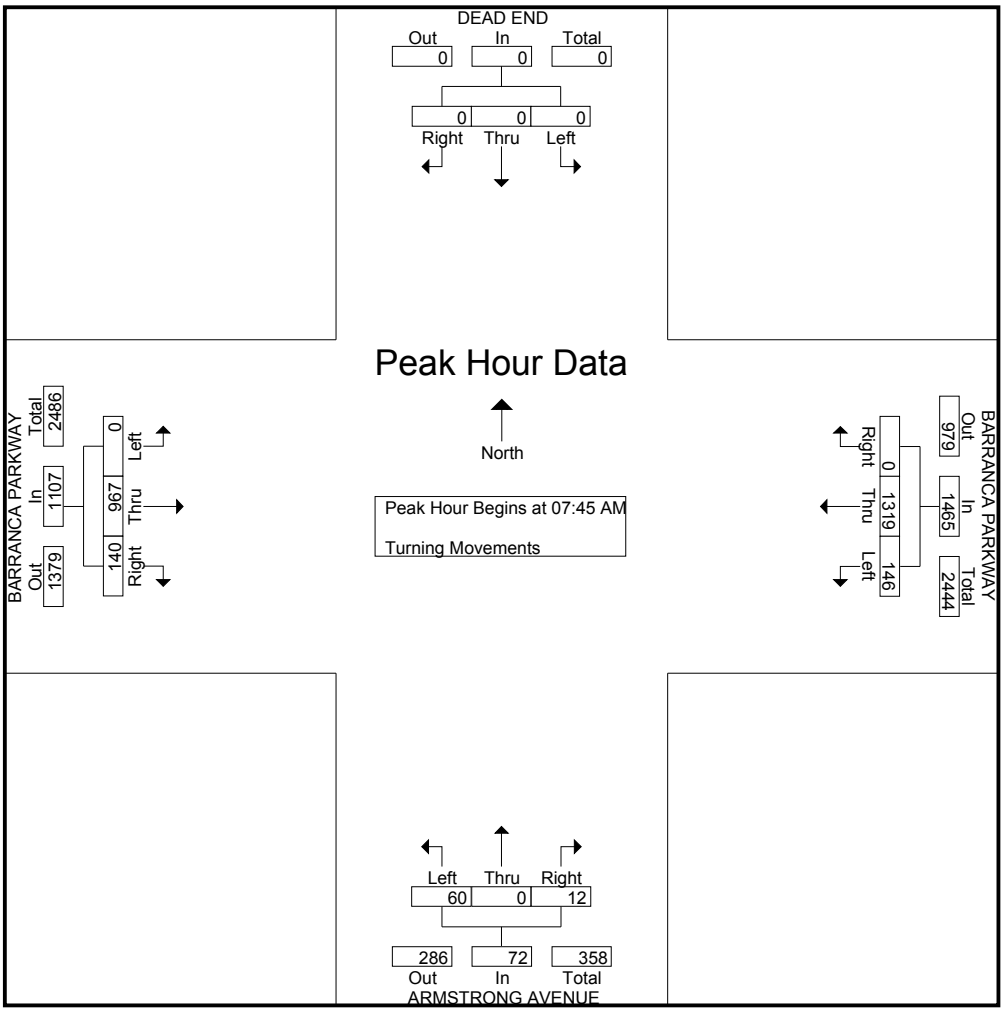
	DEAD END Southbound			BARRANCA PARKWAY Westbound			ARMSTRONG AVENUE Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	158	16	6	0	10	26	259	0	475
07:15 AM	0	0	0	0	212	12	2	0	23	35	223	0	507
07:30 AM	0	0	0	0	241	28	2	0	17	33	250	0	571
07:45 AM	0	0	0	0	330	22	1	0	13	37	275	0	678
Total	0	0	0	0	941	78	11	0	63	131	1007	0	2231
08:00 AM	0	0	0	0	339	48	2	0	10	39	248	0	686
08:15 AM	0	0	0	0	317	35	4	0	13	34	226	0	629
08:30 AM	0	0	0	0	333	41	5	0	24	30	218	0	651
08:45 AM	0	0	0	0	258	23	8	0	8	19	204	0	520
Total	0	0	0	0	1247	147	19	0	55	122	896	0	2486
*** BREAK ***													
04:00 PM	0	0	0	0	215	34	33	0	65	21	256	0	624
04:15 PM	0	0	0	0	301	27	42	0	66	24	305	0	765
04:30 PM	0	0	0	0	307	19	48	0	77	18	278	0	747
04:45 PM	0	0	0	0	314	17	42	0	89	12	377	0	851
Total	0	0	0	0	1137	97	165	0	297	75	1216	0	2987
05:00 PM	0	0	0	0	298	11	45	0	96	4	344	0	798
05:15 PM	0	0	0	0	354	10	82	0	136	19	465	0	1066
05:30 PM	0	0	0	0	303	27	70	0	107	11	350	0	868
05:45 PM	0	0	0	0	290	16	63	0	84	13	456	0	922
Total	0	0	0	0	1245	64	260	0	423	47	1615	0	3654
Grand Total	0	0	0	0	4570	386	455	0	838	375	4734	0	11358
Apprch %	0	0	0	0	92.2	7.8	35.2	0	64.8	7.3	92.7	0	
Total %	0	0	0	0	40.2	3.4	4	0	7.4	3.3	41.7	0	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: ARMSTRONG AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405092
Site Code : 00000561
Start Date : 6/3/2014

	DEAD END Southbound				BARRANCA PARKWAY Westbound				ARMSTRONG AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	330	22	352	1	0	13	14	37	**275**	0	**312**	678
08:00 AM	0	0	0	0	0	**339**	**48**	**387**	2	0	10	12	**39**	248	0	287	**686**
08:15 AM	0	0	0	0	0	317	35	352	4	0	13	17	34	226	0	260	629
08:30 AM	0	0	0	0	0	333	41	374	**5**	0	**24**	**29**	30	218	0	248	651
Total Volume	0	0	0	0	0	1319	146	1465	12	0	60	72	140	967	0	1107	2644
% App. Total	0	0	0		0	90	10		16.7	0	83.3		12.6	87.4	0		
PHF	.000	.000	.000	.000	.000	.973	.760	.946	.600	.000	.625	.621	.897	.879	.000	.887	.964

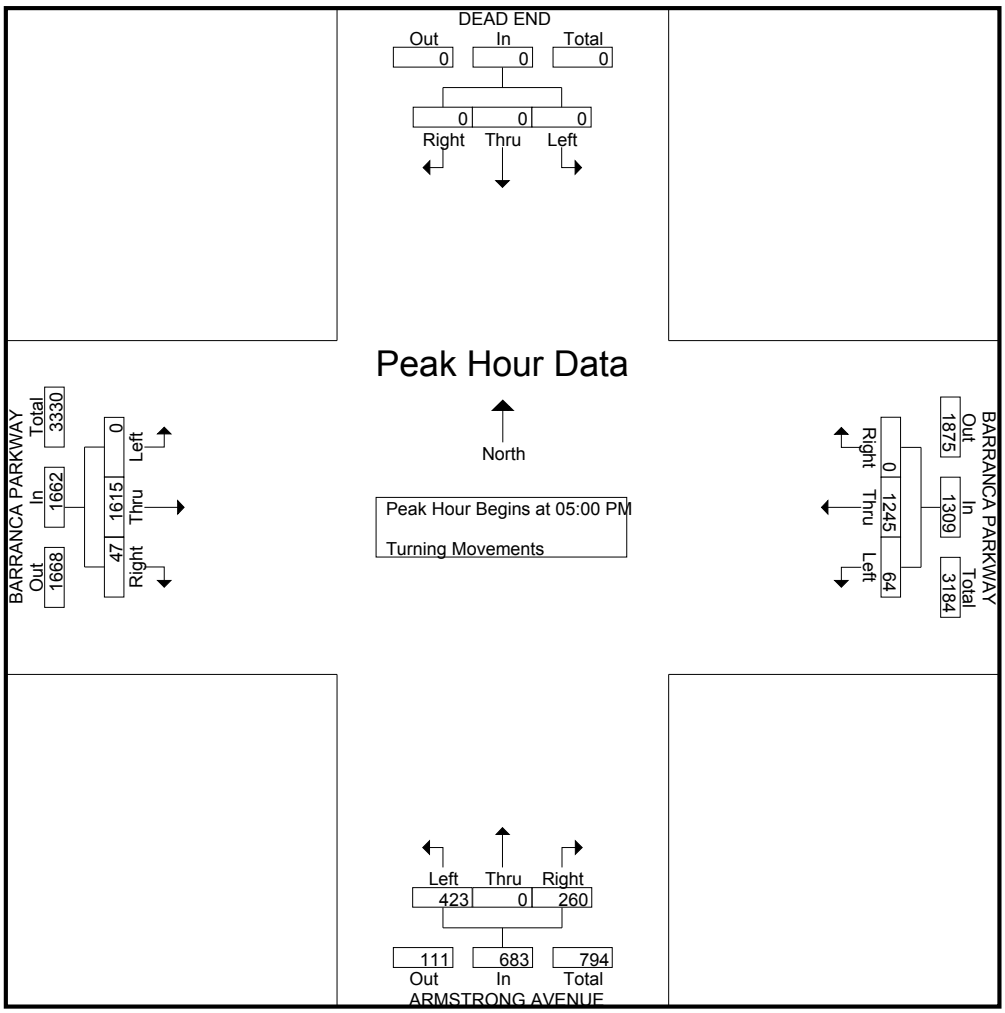


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: ARMSTRONG AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405092
Site Code : 00000561
Start Date : 6/3/2014

	DEAD END Southbound				BARRANCA PARKWAY Westbound				ARMSTRONG AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	298	11	309	45	0	96	141	4	344	0	348	798
05:15 PM	0	0	0	0	0	**354**	10	**364**	**82**	0	**136**	**218**	**19**	**465**	0	**484**	**1066**
05:30 PM	0	0	0	0	0	303	**27**	330	70	0	107	177	11	350	0	361	868
05:45 PM	0	0	0	0	0	290	16	306	63	0	84	147	13	456	0	469	922
Total Volume	0	0	0	0	0	1245	64	1309	260	0	423	683	47	1615	0	1662	3654
% App. Total	0	0	0		0	95.1	4.9		38.1	0	61.9		2.8	97.2	0		
PHF	.000	.000	.000	.000	.000	.879	.593	.899	.793	.000	.778	.783	.618	.868	.000	.858	.857



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1405093
Site Code : 00000000
Start Date : 6/12/2014

Groups Printed- Turning Movements

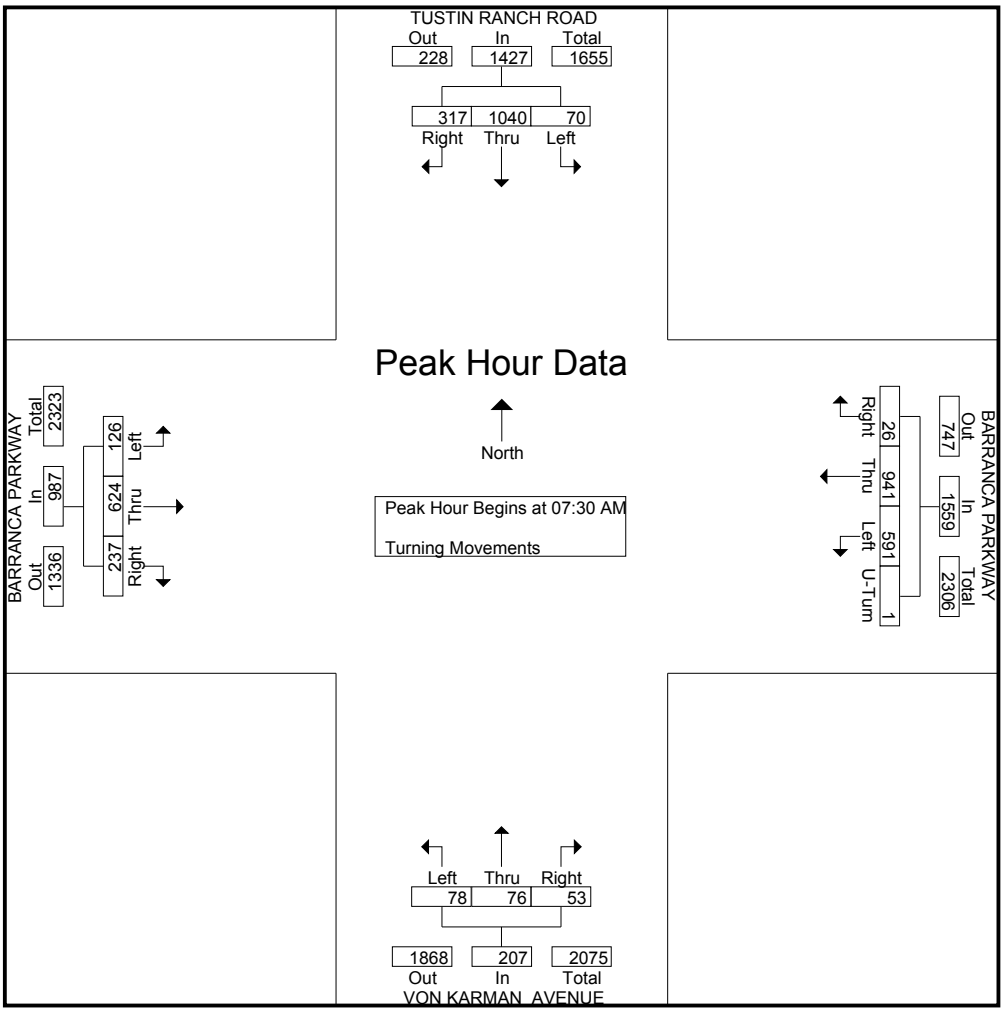
	TUSTIN RANCH ROAD Southbound			BARRANCA PARKWAY Westbound				VON KARMAN AVENUE Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	38	146	12	1	147	124	1	9	14	15	70	122	38	737
07:15 AM	35	254	15	6	215	112	0	7	17	17	88	134	28	928
07:30 AM	55	234	14	3	248	142	0	11	14	23	78	160	28	1010
07:45 AM	109	314	23	8	257	131	0	13	20	20	58	189	39	1181
Total	237	948	64	18	867	509	1	40	65	75	294	605	133	3856
08:00 AM	82	233	20	8	232	169	0	8	18	18	32	143	30	993
08:15 AM	71	259	13	7	204	149	1	21	24	17	69	132	29	996
08:30 AM	66	242	19	9	224	169	0	17	27	19	49	128	30	999
08:45 AM	60	239	15	12	202	144	1	12	18	19	43	121	31	917
Total	279	973	67	36	862	631	2	58	87	73	193	524	120	3905
*** BREAK ***														
04:00 PM	95	70	18	19	168	67	0	75	169	81	30	203	81	1076
04:15 PM	64	65	10	46	174	51	2	69	194	68	22	216	109	1090
04:30 PM	58	68	20	36	149	59	2	75	215	88	25	270	89	1154
04:45 PM	65	61	13	41	160	50	3	75	270	72	24	253	107	1194
Total	282	264	61	142	651	227	7	294	848	309	101	942	386	4514
05:00 PM	81	63	12	38	188	55	1	83	283	82	25	379	103	1393
05:15 PM	69	82	15	48	189	63	2	121	303	67	24	368	87	1438
05:30 PM	73	73	16	54	218	54	1	84	270	64	20	363	96	1386
05:45 PM	60	55	19	34	166	44	3	89	269	61	36	370	104	1310
Total	283	273	62	174	761	216	7	377	1125	274	105	1480	390	5527
Grand Total	1081	2458	254	370	3141	1583	17	769	2125	731	693	3551	1029	17802
Apprch %	28.5	64.8	6.7	7.2	61.5	31	0.3	21.2	58.6	20.2	13.1	67.3	19.5	
Total %	6.1	13.8	1.4	2.1	17.6	8.9	0.1	4.3	11.9	4.1	3.9	19.9	5.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1405093
Site Code : 00000000
Start Date : 6/12/2014

	TUSTIN RANCH ROAD Southbound				BARRANCA PARKWAY Westbound					VON KARMAN AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30 AM																		
07:30 AM	55	234	14	303	3	248	142	0	393	11	14	**23**	48	**78**	160	28	266	1010
07:45 AM	**109**	**314**	**23**	**446**	**8**	**257**	131	0	396	13	20	20	53	58	**189**	**39**	**286**	**1181**
08:00 AM	82	233	20	335	8	232	**169**	0	**409**	8	18	18	44	32	143	30	205	993
08:15 AM	71	259	13	343	7	204	149	**1**	361	**21**	**24**	17	**62**	69	132	29	230	996
Total Volume	317	1040	70	1427	26	941	591	1	1559	53	76	78	207	237	624	126	987	4180
% App. Total	22.2	72.9	4.9		1.7	60.4	37.9	0.1		25.6	36.7	37.7		24	63.2	12.8		
PHF	.727	.828	.761	.800	.813	.915	.874	.250	.953	.631	.792	.848	.835	.760	.825	.808	.863	.885

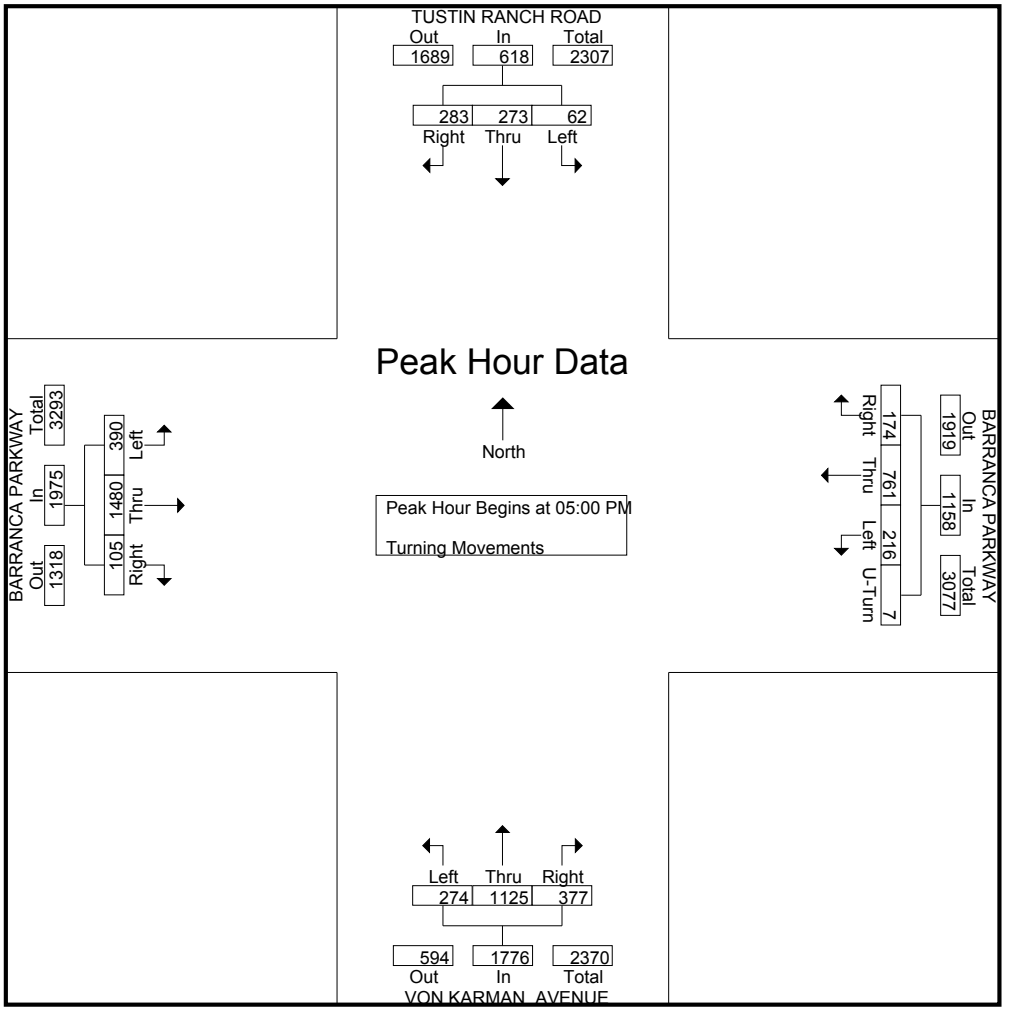


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: TUSTIN RANCH ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1405093
Site Code : 00000000
Start Date : 6/12/2014

	TUSTIN RANCH ROAD Southbound				BARRANCA PARKWAY Westbound					VON KARMAN AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	**81**	63	12	156	38	188	55	1	282	83	283	**82**	448	25	**379**	103	507	1393
05:15 PM	69	**82**	15	**166**	48	189	**63**	2	302	**121**	**303**	67	**491**	24	368	87	479	**1438**
05:30 PM	73	73	16	162	**54**	**218**	54	1	**327**	84	270	64	418	20	363	96	479	1386
05:45 PM	60	55	**19**	134	34	166	44	**3**	247	89	269	61	419	**36**	370	**104**	**510**	1310
Total Volume	283	273	62	618	174	761	216	7	1158	377	1125	274	1776	105	1480	390	1975	5527
% App. Total	45.8	44.2	10		15	65.7	18.7	0.6		21.2	63.3	15.4		5.3	74.9	19.7		
PHF	.873	.832	.816	.931	.806	.873	.857	.583	.885	.779	.928	.835	.904	.729	.976	.938	.968	.961



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: BARRANCA PARKWAY

File Name : H1405094
Site Code : 00000000
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

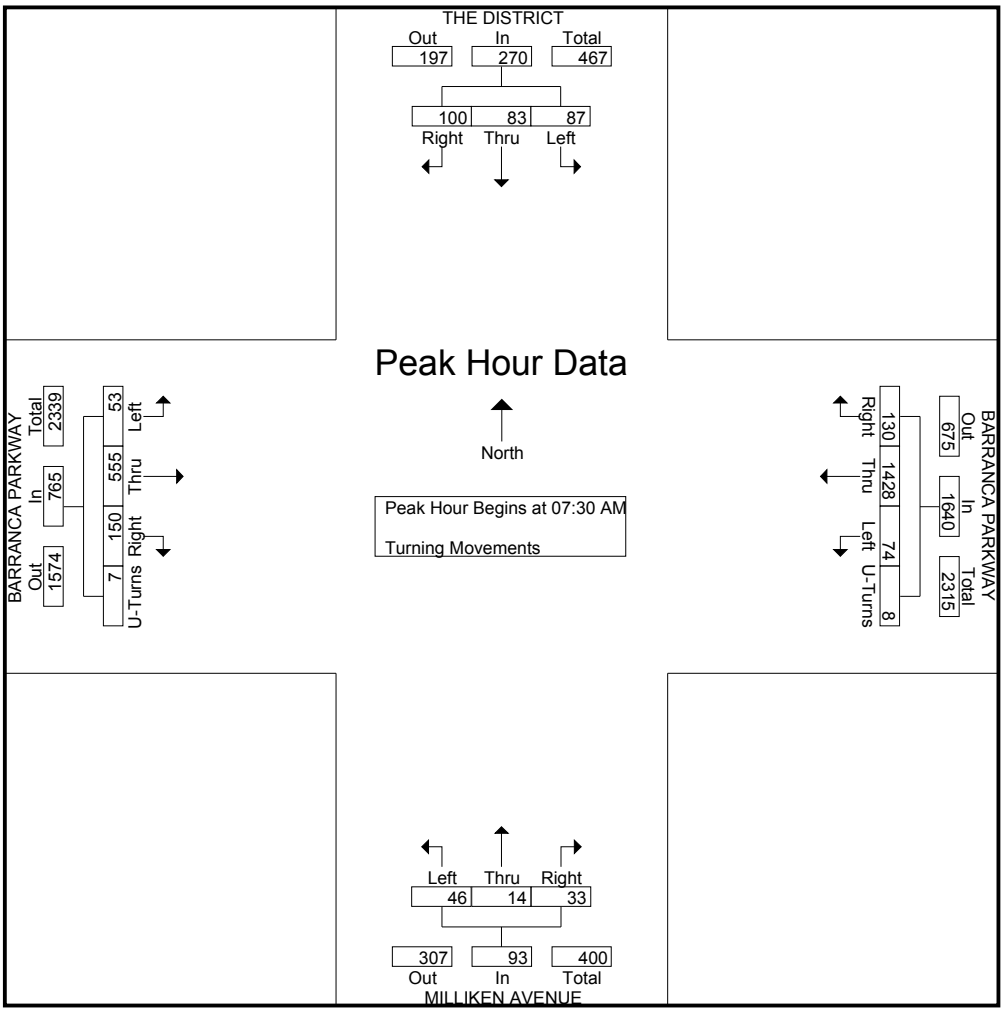
	THE DISTRICT Southbound			BARRANCA PARKWAY Westbound				MILLIKEN AVENUE Northbound			BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	U-Turns	Int. Total
07:00 AM	20	6	14	26	240	12	0	14	5	20	45	100	10	0	512
07:15 AM	21	13	13	29	315	17	3	11	3	14	37	96	16	0	588
07:30 AM	18	17	24	25	330	16	1	11	3	19	37	162	8	2	673
07:45 AM	35	30	24	32	369	23	3	7	4	12	38	141	17	1	736
Total	94	66	75	112	1254	68	7	43	15	65	157	499	51	3	2509
08:00 AM	32	17	17	43	332	16	1	6	3	10	38	142	8	1	666
08:15 AM	15	19	22	30	397	19	3	9	4	5	37	110	20	3	693
08:30 AM	33	15	21	57	329	21	1	6	2	17	30	123	14	4	673
08:45 AM	26	10	30	34	327	15	0	9	8	13	27	136	14	1	650
Total	106	61	90	164	1385	71	5	30	17	45	132	511	56	9	2682
*** BREAK ***															
04:00 PM	38	20	107	108	147	5	0	36	12	37	5	265	25	4	809
04:15 PM	54	14	64	123	171	4	0	22	23	32	13	226	41	1	788
04:30 PM	46	12	84	138	204	9	0	42	24	49	19	336	45	2	1010
04:45 PM	44	14	89	148	184	12	0	28	20	33	12	281	47	1	913
Total	182	60	344	517	706	30	0	128	79	151	49	1108	158	8	3520
05:00 PM	36	11	84	75	206	6	2	57	38	55	22	376	42	1	1011
05:15 PM	53	11	96	85	204	14	1	40	28	29	36	456	58	4	1115
05:30 PM	39	11	87	84	167	5	1	30	29	43	20	354	72	2	944
05:45 PM	58	11	86	127	207	5	1	19	32	23	22	396	45	5	1037
Total	186	44	353	371	784	30	5	146	127	150	100	1582	217	12	4107
Grand Total	568	231	862	1164	4129	199	17	347	238	411	438	3700	482	32	12818
Apprch %	34.2	13.9	51.9	21.1	75	3.6	0.3	34.8	23.9	41.3	9.4	79.5	10.4	0.7	
Total %	4.4	1.8	6.7	9.1	32.2	1.6	0.1	2.7	1.9	3.2	3.4	28.9	3.8	0.2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: BARRANCA PARKWAY

File Name : H1405094
Site Code : 00000000
Start Date : 6/12/2014
Page No : 2

	THE DISTRICT Southbound				BARRANCA PARKWAY Westbound					MILLIKEN AVENUE Northbound				BARRANCA PARKWAY Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:30 AM																			
07:30 AM	18	17	**24**	59	25	330	16	1	372	**11**	3	**19**	**33**	37	**162**	8	2	**209**	673
07:45 AM	**35**	**30**	24	**89**	32	369	**23**	**3**	427	7	**4**	12	23	**38**	141	17	1	197	**736**
08:00 AM	32	17	17	66	**43**	332	16	1	392	6	3	10	19	38	142	8	1	189	666
08:15 AM	15	19	22	56	30	**397**	19	3	**449**	9	4	5	18	37	110	**20**	**3**	170	693
Total Volume	100	83	87	270	130	1428	74	8	1640	33	14	46	93	150	555	53	7	765	2768
% App. Total	37	30.7	32.2		7.9	87.1	4.5	0.5		35.5	15.1	49.5		19.6	72.5	6.9	0.9		
PHF	.714	.692	.906	.758	.756	.899	.804	.667	.913	.750	.875	.605	.705	.987	.856	.663	.583	.915	.940

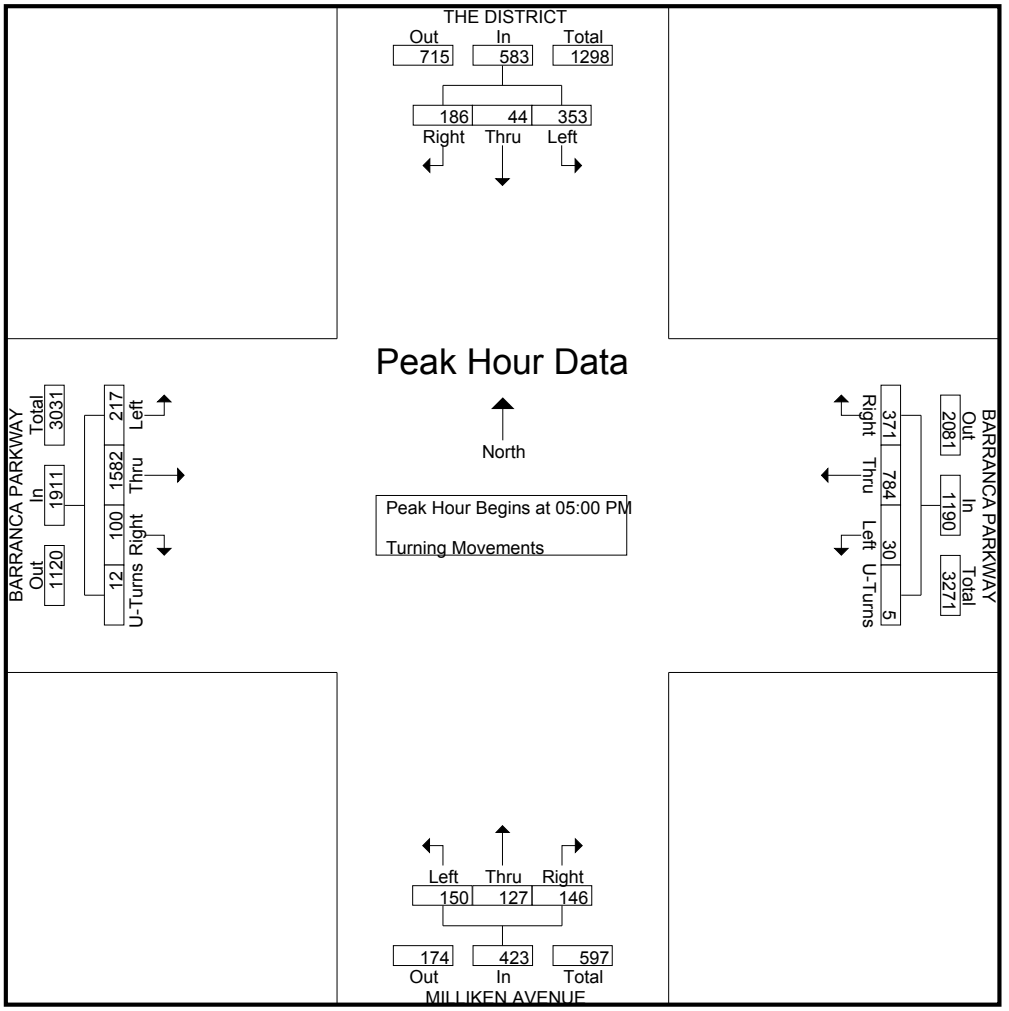


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: THE DISTRICT
E-W Direction: BARRANCA PARKWAY

File Name : H1405094
Site Code : 00000000
Start Date : 6/12/2014
Page No : 3

	THE DISTRICT Southbound				BARRANCA PARKWAY Westbound					MILLIKEN AVENUE Northbound				BARRANCA PARKWAY Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	36	**11**	84	131	75	206	6	**2**	289	**57**	**38**	**55**	**150**	22	376	42	1	441	1011
05:15 PM	53	11	**96**	**160**	85	204	**14**	1	304	40	28	29	97	**36**	**456**	58	4	**554**	**1115**
05:30 PM	39	11	87	137	84	167	5	1	257	30	29	43	102	20	354	**72**	2	448	944
05:45 PM	**58**	11	86	155	**127**	**207**	5	1	**340**	19	32	23	74	22	396	45	**5**	468	1037
Total Volume	186	44	353	583	371	784	30	5	1190	146	127	150	423	100	1582	217	12	1911	4107
% App. Total	31.9	7.5	60.5		31.2	65.9	2.5	0.4		34.5	30	35.5		5.2	82.8	11.4	0.6		
PHF	.802	1.00	.919	.911	.730	.947	.536	.625	.875	.640	.836	.682	.705	.694	.867	.753	.600	.862	.921



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1404047
Site Code : 136
Start Date : 5/21/2014
Page No : 1

Groups Printed- Turning Movements

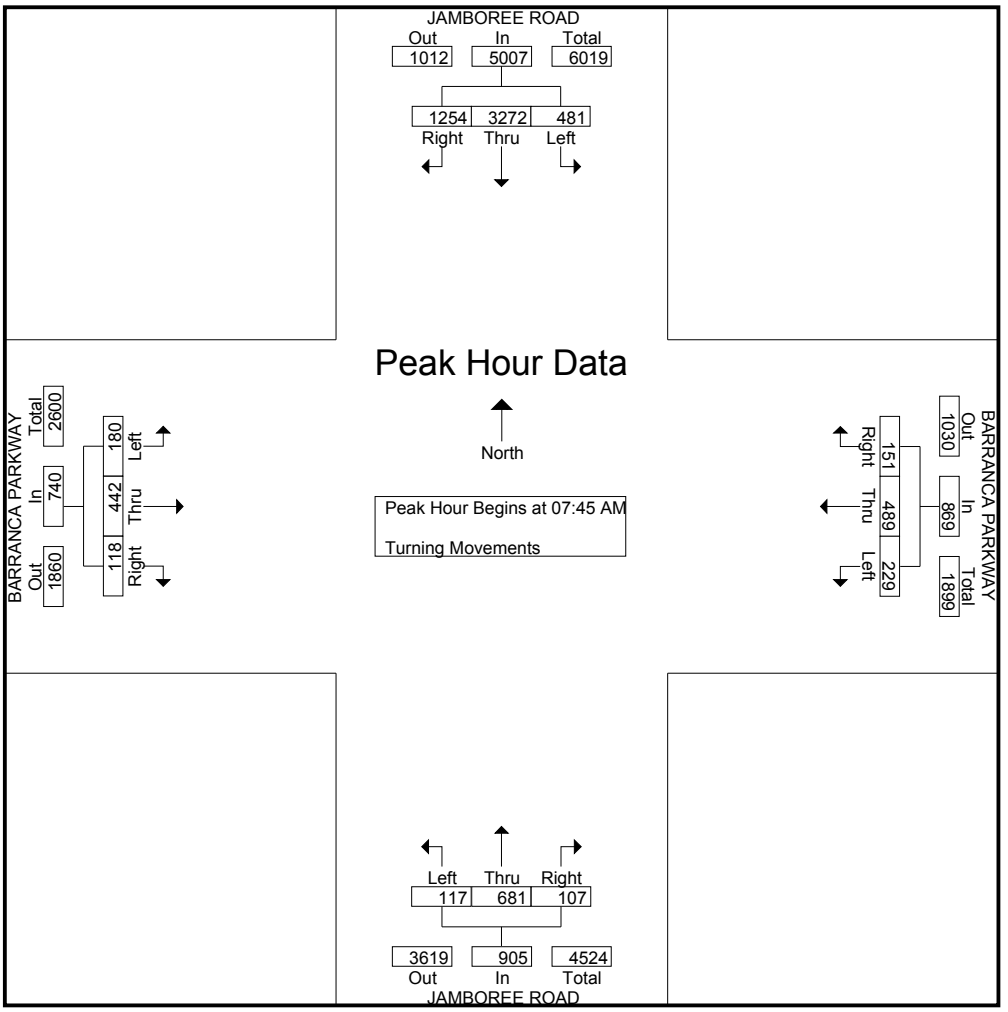
	JAMBOREE ROAD Southbound			BARRANCA PARKWAY Westbound			JAMBOREE ROAD Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	175	402	66	35	73	34	22	80	31	15	84	28	1045
07:15 AM	225	591	93	30	67	61	13	134	26	17	48	22	1327
07:30 AM	316	721	101	28	95	63	29	83	18	24	100	29	1607
07:45 AM	393	924	126	49	102	64	34	137	34	34	115	49	2061
Total	1109	2638	386	142	337	222	98	434	109	90	347	128	6040
08:00 AM	336	850	132	30	132	40	25	181	22	25	112	40	1925
08:15 AM	308	701	97	39	145	62	18	145	36	28	107	40	1726
08:30 AM	217	797	126	33	110	63	30	218	25	31	108	51	1809
08:45 AM	227	725	123	29	139	53	22	182	36	32	120	45	1733
Total	1088	3073	478	131	526	218	95	726	119	116	447	176	7193
*** BREAK ***													
04:00 PM	54	258	65	84	113	26	27	635	116	58	159	205	1800
04:15 PM	58	274	66	74	94	21	25	608	87	76	133	204	1720
04:30 PM	56	269	85	59	152	35	24	640	125	62	171	237	1915
04:45 PM	55	254	52	100	125	20	46	742	116	62	199	272	2043
Total	223	1055	268	317	484	102	122	2625	444	258	662	918	7478
05:00 PM	49	285	75	66	139	40	25	645	105	59	195	294	1977
05:15 PM	74	348	84	82	175	36	18	691	106	66	222	280	2182
05:30 PM	53	295	73	84	169	27	26	731	73	55	227	316	2129
05:45 PM	56	293	74	102	211	29	25	709	113	52	157	250	2071
Total	232	1221	306	334	694	132	94	2776	397	232	801	1140	8359
Grand Total	2652	7987	1438	924	2041	674	409	6561	1069	696	2257	2362	29070
Apprch %	22	66.1	11.9	25.4	56.1	18.5	5.1	81.6	13.3	13.1	42.5	44.4	
Total %	9.1	27.5	4.9	3.2	7	2.3	1.4	22.6	3.7	2.4	7.8	8.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1404047
Site Code : 136
Start Date : 5/21/2014

	JAMBOREE ROAD Southbound				BARRANCA PARKWAY Westbound				JAMBOREE ROAD Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**393**	**924**	126	**1443**	**49**	102	**64**	215	**34**	137	34	205	**34**	**115**	49	**198**	**2061**
08:00 AM	336	850	**132**	1318	30	132	40	202	25	181	22	228	25	112	40	177	1925
08:15 AM	308	701	97	1106	39	**145**	62	**246**	18	145	**36**	199	28	107	40	175	1726
08:30 AM	217	797	126	1140	33	110	63	206	30	**218**	25	**273**	31	108	**51**	190	1809
Total Volume	1254	3272	481	5007	151	489	229	869	107	681	117	905	118	442	180	740	7521
% App. Total	25	65.3	9.6		17.4	56.3	26.4		11.8	75.2	12.9		15.9	59.7	24.3		
PHF	.798	.885	.911	.867	.770	.843	.895	.883	.787	.781	.813	.829	.868	.961	.882	.934	.912

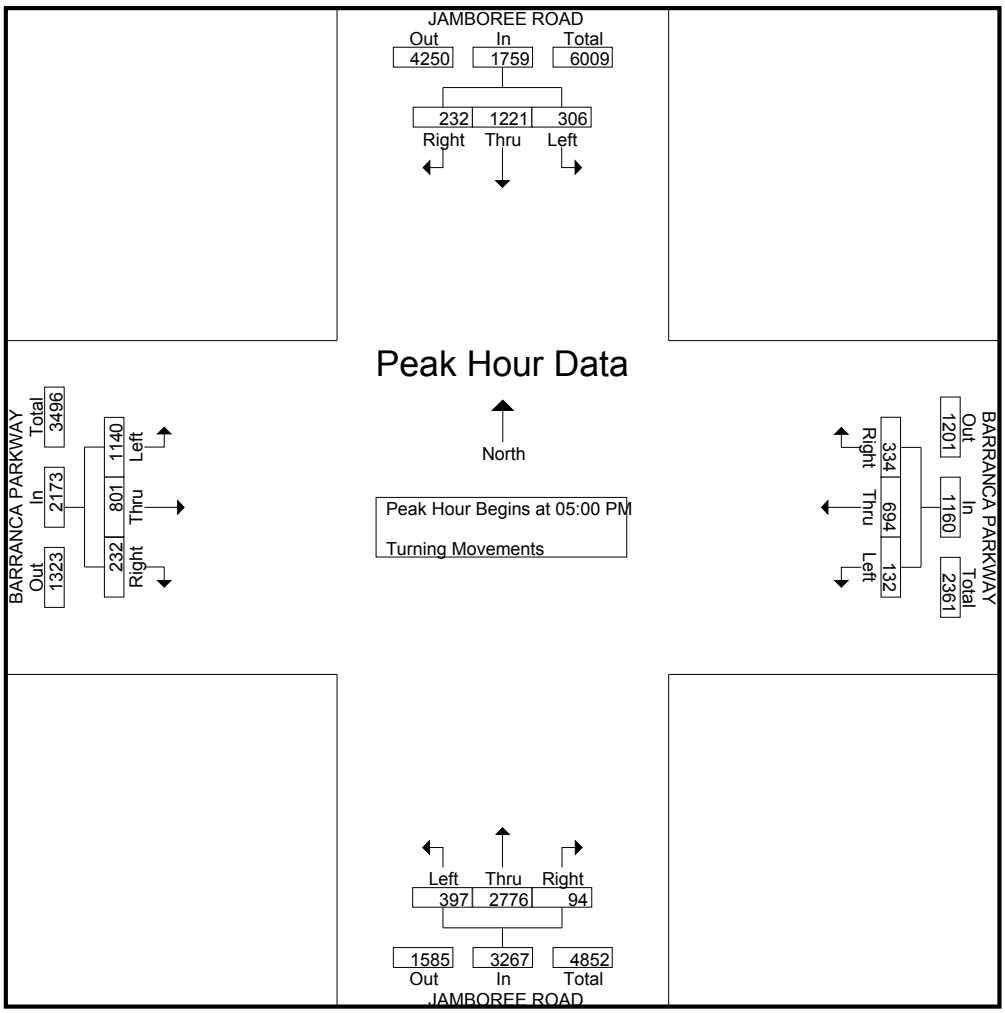


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: BARRANCA PARKWAY

File Name : h1404047
Site Code : 136
Start Date : 5/21/2014

	JAMBOREE ROAD Southbound				BARRANCA PARKWAY Westbound				JAMBOREE ROAD Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	49	285	75	409	66	139	**40**	245	25	645	105	775	59	195	294	548	1977
05:15 PM	**74**	**348**	**84**	**506**	82	175	36	293	18	691	106	815	**66**	222	280	568	**2182**
05:30 PM	53	295	73	421	84	169	27	280	**26**	**731**	73	830	55	**227**	**316**	**598**	2129
05:45 PM	56	293	74	423	**102**	**211**	29	**342**	25	709	**113**	**847**	52	157	250	459	2071
Total Volume	232	1221	306	1759	334	694	132	1160	94	2776	397	3267	232	801	1140	2173	8359
% App. Total	13.2	69.4	17.4		28.8	59.8	11.4		2.9	85	12.2		10.7	36.9	52.5		
PHF	.784	.877	.911	.869	.819	.822	.825	.848	.904	.949	.878	.964	.879	.882	.902	.908	.958



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405100
Site Code : 00005701
Start Date : 6/11/2014
Page No : 1

Groups Printed- Turning Movements

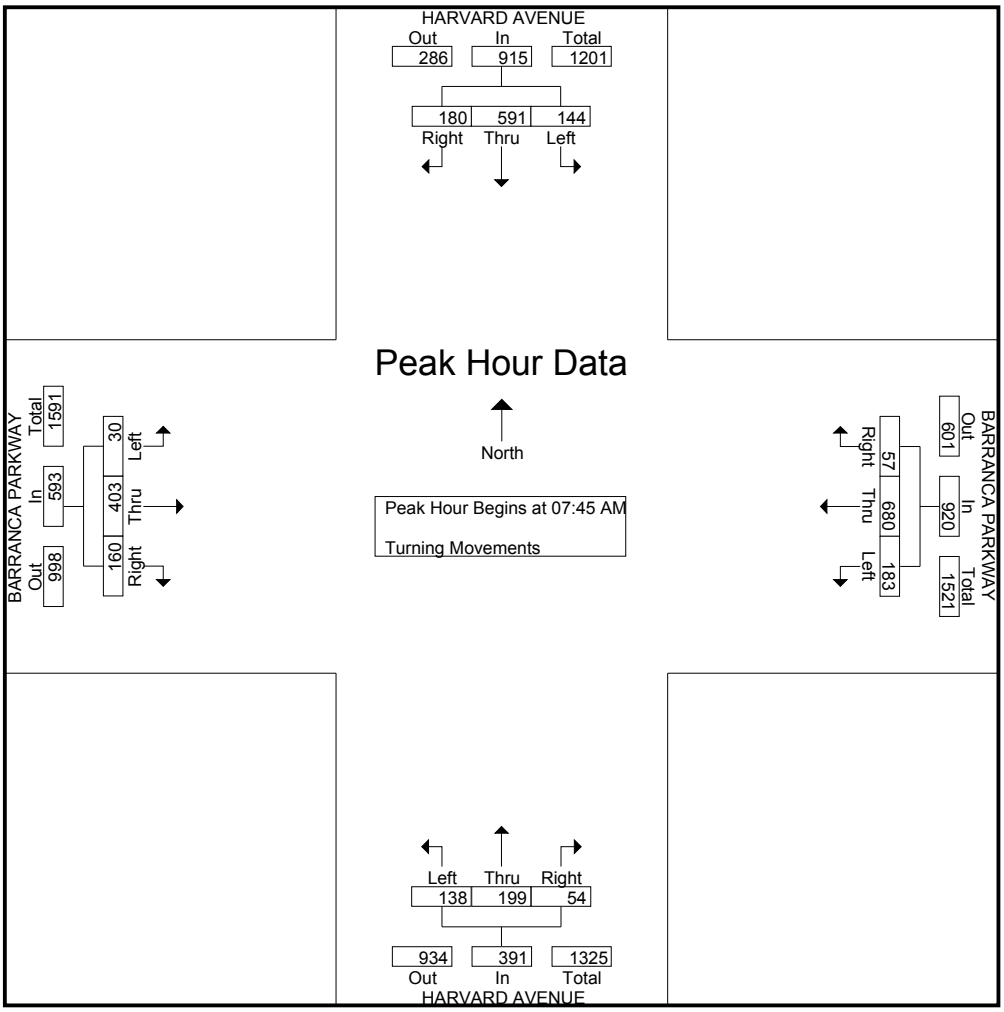
	HARVARD AVENUE Southbound			BARRANCA PARKWAY Westbound			HARVARD AVENUE Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	10	61	7	11	60	15	9	21	14	34	60	3	305
07:15 AM	23	48	7	4	75	16	7	31	15	30	70	7	333
07:30 AM	24	109	26	11	125	26	8	43	24	48	119	8	571
07:45 AM	74	125	35	11	142	34	11	54	41	51	77	13	668
Total	131	343	75	37	402	91	35	149	94	163	326	31	1877
08:00 AM	37	194	48	18	170	37	11	53	39	42	126	4	779
08:15 AM	32	134	43	11	195	51	17	34	18	31	111	8	685
08:30 AM	37	138	18	17	173	61	15	58	40	36	89	5	687
08:45 AM	27	112	28	18	153	42	9	50	38	31	117	16	641
Total	133	578	137	64	691	191	52	195	135	140	443	33	2792
*** BREAK ***													
04:00 PM	12	53	20	13	162	21	18	103	41	35	176	17	671
04:15 PM	13	71	25	20	171	27	31	180	37	50	153	29	807
04:30 PM	8	63	21	25	180	19	27	139	36	41	140	22	721
04:45 PM	12	67	24	28	185	21	33	209	52	47	185	30	893
Total	45	254	90	86	698	88	109	631	166	173	654	98	3092
05:00 PM	7	58	20	33	218	21	34	166	33	37	195	25	847
05:15 PM	23	83	32	45	181	23	41	231	67	44	184	69	1023
05:30 PM	8	67	25	25	216	30	41	213	61	62	258	33	1039
05:45 PM	9	92	29	23	182	14	49	220	54	57	216	29	974
Total	47	300	106	126	797	88	165	830	215	200	853	156	3883
Grand Total	356	1475	408	313	2588	458	361	1805	610	676	2276	318	11644
Apprch %	15.9	65.9	18.2	9.3	77	13.6	13	65	22	20.7	69.6	9.7	
Total %	3.1	12.7	3.5	2.7	22.2	3.9	3.1	15.5	5.2	5.8	19.5	2.7	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405100
Site Code : 00005701
Start Date : 6/11/2014

	HARVARD AVENUE Southbound				BARRANCA PARKWAY Westbound				HARVARD AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**74**	125	35	234	11	142	34	187	11	54	**41**	106	**51**	77	**13**	141	668
08:00 AM	37	**194**	**48**	**279**	**18**	170	37	225	11	53	39	103	42	**126**	4	**172**	**779**
08:15 AM	32	134	43	209	11	**195**	51	**257**	**17**	34	18	69	31	111	8	150	685
08:30 AM	37	138	18	193	17	173	**61**	251	15	**58**	40	**113**	36	89	5	130	687
Total Volume	180	591	144	915	57	680	183	920	54	199	138	391	160	403	30	593	2819
% App. Total	19.7	64.6	15.7		6.2	73.9	19.9		13.8	50.9	35.3		27	68	5.1		
PHF	.608	.762	.750	.820	.792	.872	.750	.895	.794	.858	.841	.865	.784	.800	.577	.862	.905

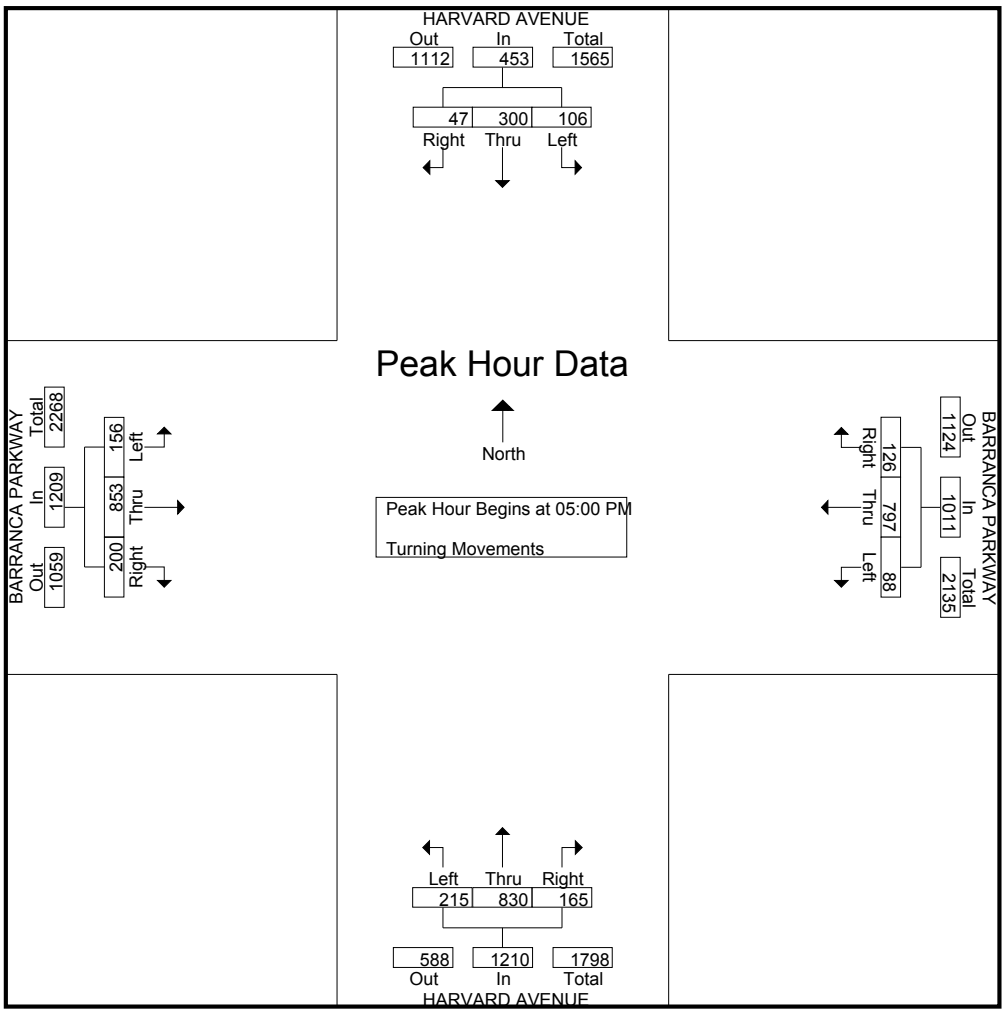


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: BARRANCA PARKWAY

File Name : H1405100
Site Code : 00005701
Start Date : 6/11/2014
Page No : 3

	HARVARD AVENUE Southbound				BARRANCA PARKWAY Westbound				HARVARD AVENUE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	7	58	20	85	33	**218**	21	**272**	34	166	33	233	37	195	25	257	847
05:15 PM	**23**	83	**32**	**138**	**45**	181	23	249	41	**231**	**67**	**339**	44	184	**69**	297	1023
05:30 PM	8	67	25	100	25	216	**30**	271	41	213	61	315	**62**	**258**	33	**353**	**1039**
05:45 PM	9	**92**	29	130	23	182	14	219	**49**	220	54	323	57	216	29	302	974
Total Volume	47	300	106	453	126	797	88	1011	165	830	215	1210	200	853	156	1209	3883
% App. Total	10.4	66.2	23.4		12.5	78.8	8.7		13.6	68.6	17.8		16.5	70.6	12.9		
PHF	.511	.815	.828	.821	.700	.914	.733	.929	.842	.898	.802	.892	.806	.827	.565	.856	.934



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: BARRANCA PARKWAY

File Name : H1404063
Site Code : 228
Start Date : 5/20/2014
Page No : 1

Groups Printed- Turning Movements

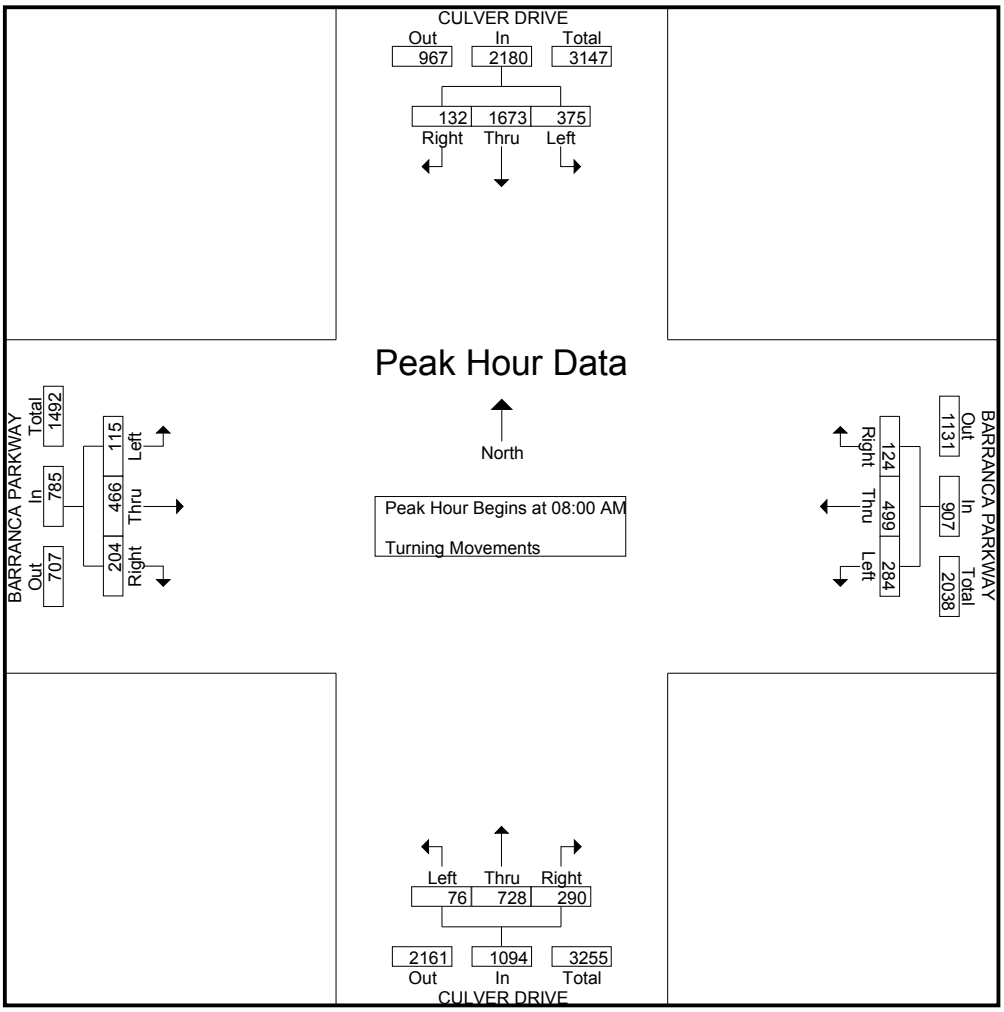
	CULVER DRIVE Southbound			BARRANCA PARKWAY Westbound			CULVER DRIVE Northbound			BARRANCA PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	161	35	28	45	27	31	168	15	32	62	25	651
07:15 AM	29	304	44	15	65	43	33	211	10	37	66	20	877
07:30 AM	45	425	53	22	102	47	46	105	12	48	74	14	993
07:45 AM	26	403	68	20	112	68	54	161	14	57	105	18	1106
Total	122	1293	200	85	324	185	164	645	51	174	307	77	3627
08:00 AM	36	419	75	27	101	59	65	183	11	57	103	24	1160
08:15 AM	35	423	92	37	138	60	68	183	25	54	132	29	1276
08:30 AM	27	425	91	32	131	80	79	176	13	50	107	29	1240
08:45 AM	34	406	117	28	129	85	78	186	27	43	124	33	1290
Total	132	1673	375	124	499	284	290	728	76	204	466	115	4966
*** BREAK ***													
04:00 PM	29	213	51	61	124	44	66	213	31	50	134	55	1071
04:15 PM	35	217	57	65	129	61	89	235	22	58	165	61	1194
04:30 PM	31	240	64	68	151	64	96	230	46	57	179	67	1293
04:45 PM	23	265	47	81	156	68	94	309	40	49	191	64	1387
Total	118	935	219	275	560	237	345	987	139	214	669	247	4945
05:00 PM	25	254	53	79	176	60	70	387	44	49	169	74	1440
05:15 PM	27	279	83	81	180	65	73	354	39	54	229	91	1555
05:30 PM	23	259	48	90	176	77	87	408	40	40	235	94	1577
05:45 PM	33	284	64	74	153	66	94	397	23	52	204	89	1533
Total	108	1076	248	324	685	268	324	1546	146	195	837	348	6105
Grand Total	480	4977	1042	808	2068	974	1123	3906	412	787	2279	787	19643
Apprch %	7.4	76.6	16	21	53.7	25.3	20.6	71.8	7.6	20.4	59.1	20.4	
Total %	2.4	25.3	5.3	4.1	10.5	5	5.7	19.9	2.1	4	11.6	4	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: BARRANCA PARKWAY

File Name : H1404063
Site Code : 228
Start Date : 5/20/2014
Page No : 2

	CULVER DRIVE Southbound				BARRANCA PARKWAY Westbound				CULVER DRIVE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**36**	419	75	530	27	101	59	187	65	183	11	259	**57**	103	24	184	1160
08:15 AM	35	423	92	550	**37**	**138**	60	235	68	183	25	276	54	**132**	29	**215**	1276
08:30 AM	27	**425**	91	543	32	131	80	**243**	**79**	176	13	268	50	107	29	186	1240
08:45 AM	34	406	**117**	**557**	28	129	**85**	242	78	**186**	**27**	**291**	43	124	**33**	200	**1290**
Total Volume	132	1673	375	2180	124	499	284	907	290	728	76	1094	204	466	115	785	4966
% App. Total	6.1	76.7	17.2		13.7	55	31.3		26.5	66.5	6.9		26	59.4	14.6		
PHF	.917	.984	.801	.978	.838	.904	.835	.933	.918	.978	.704	.940	.895	.883	.871	.913	.962

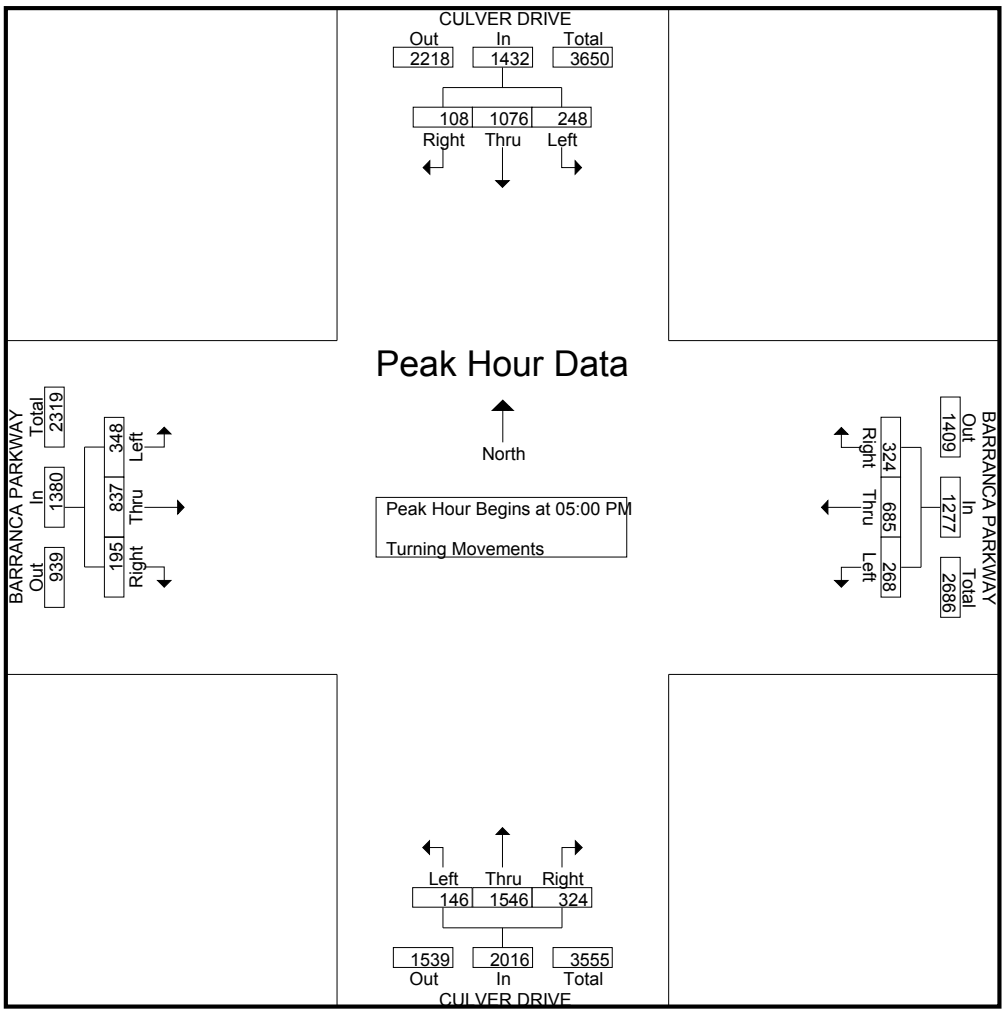


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: BARRANCA PARKWAY

File Name : H1404063
Site Code : 228
Start Date : 5/20/2014
Page No : 3

	CULVER DRIVE Southbound				BARRANCA PARKWAY Westbound				CULVER DRIVE Northbound				BARRANCA PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	25	254	53	332	79	176	60	315	70	387	**44**	501	49	169	74	292	1440
05:15 PM	27	279	**83**	**389**	81	**180**	65	326	73	354	39	466	**54**	229	91	**374**	1555
05:30 PM	23	259	48	330	**90**	176	**77**	**343**	87	**408**	40	**535**	40	**235**	**94**	369	**1577**
05:45 PM	**33**	**284**	64	381	74	153	66	293	**94**	397	23	514	52	204	89	345	1533
Total Volume	108	1076	248	1432	324	685	268	1277	324	1546	146	2016	195	837	348	1380	6105
% App. Total	7.5	75.1	17.3		25.4	53.6	21		16.1	76.7	7.2		14.1	60.7	25.2		
PHF	.818	.947	.747	.920	.900	.951	.870	.931	.862	.947	.830	.942	.903	.890	.926	.922	.968



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405102
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

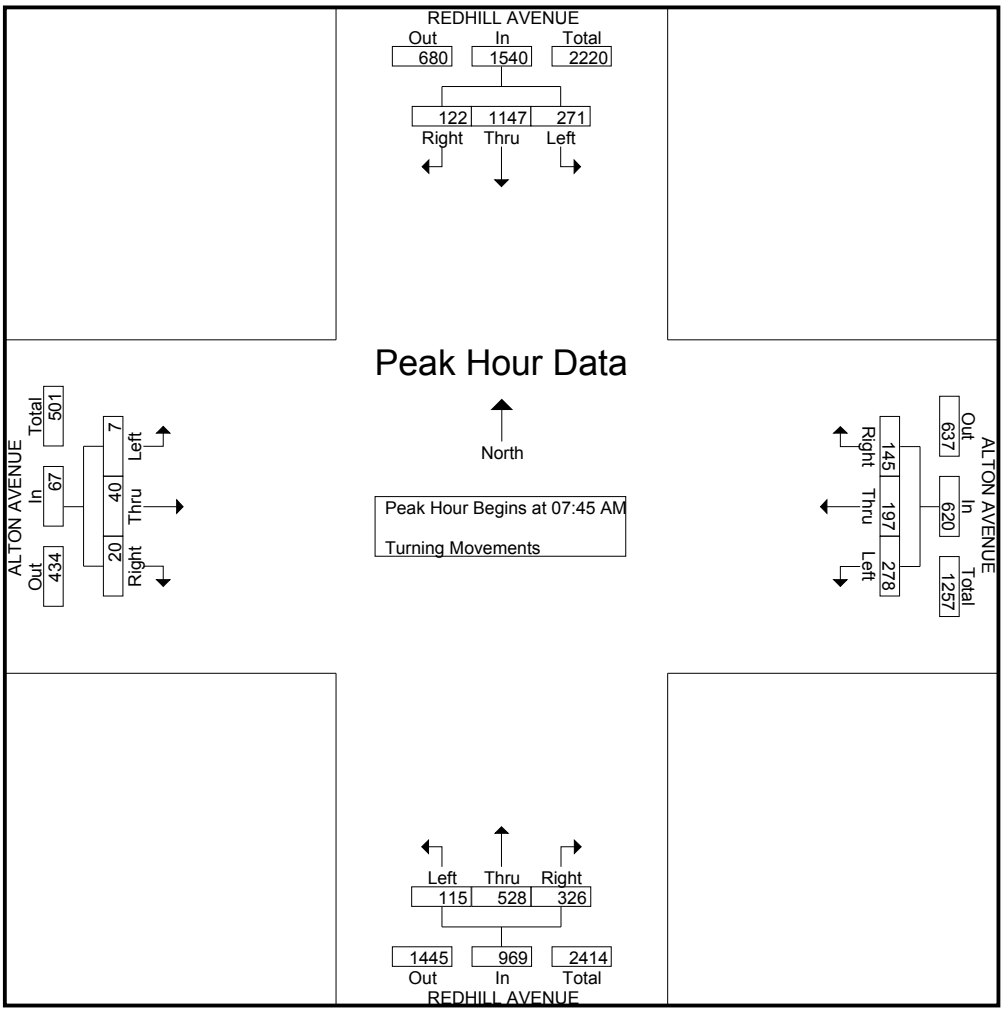
	REDHILL AVENUE Southbound			ALTON AVENUE Westbound			REDHILL AVENUE Northbound			ALTON AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	18	139	52	13	15	25	49	63	28	4	5	3	414
07:15 AM	18	191	57	22	28	31	63	79	24	0	6	2	521
07:30 AM	13	207	61	23	18	40	66	127	24	6	19	4	608
07:45 AM	20	278	64	39	39	63	86	172	38	1	9	0	809
Total	69	815	234	97	100	159	264	441	114	11	39	9	2352
08:00 AM	33	283	79	32	53	72	81	126	33	6	13	1	812
08:15 AM	38	307	68	37	56	81	87	126	29	4	9	2	844
08:30 AM	31	279	60	37	49	62	72	104	15	9	9	4	731
08:45 AM	23	248	56	26	34	83	73	135	19	6	13	2	718
Total	125	1117	263	132	192	298	313	491	96	25	44	9	3105
*** BREAK ***													
04:00 PM	5	151	28	73	15	78	45	460	20	36	30	13	954
04:15 PM	4	119	25	78	11	80	41	382	14	37	26	15	832
04:30 PM	2	122	31	111	25	123	48	413	9	32	58	12	986
04:45 PM	7	150	34	77	17	88	55	499	13	38	39	9	1026
Total	18	542	118	339	68	369	189	1754	56	143	153	49	3798
05:00 PM	1	168	47	140	35	126	58	504	11	47	68	29	1234
05:15 PM	1	162	45	122	28	132	63	462	13	33	77	19	1157
05:30 PM	3	161	33	121	22	123	51	518	11	32	66	20	1161
05:45 PM	1	170	33	78	31	101	67	487	8	20	43	10	1049
Total	6	661	158	461	116	482	239	1971	43	132	254	78	4601
Grand Total	218	3135	773	1029	476	1308	1005	4657	309	311	490	145	13856
Apprch %	5.3	76	18.7	36.6	16.9	46.5	16.8	78	5.2	32.9	51.8	15.3	
Total %	1.6	22.6	5.6	7.4	3.4	9.4	7.3	33.6	2.2	2.2	3.5	1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405102
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				ALTON AVENUE Westbound				REDHILL AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	20	278	64	362	**39**	39	63	141	86	**172**	**38**	**296**	1	9	0	10	809
08:00 AM	33	283	**79**	395	32	53	72	157	81	126	33	240	6	**13**	1	20	812
08:15 AM	**38**	**307**	68	**413**	37	**56**	**81**	**174**	**87**	126	29	242	4	9	2	15	**844**
08:30 AM	31	279	60	370	37	49	62	148	72	104	15	191	**9**	9	**4**	**22**	731
Total Volume	122	1147	271	1540	145	197	278	620	326	528	115	969	20	40	7	67	3196
% App. Total	7.9	74.5	17.6		23.4	31.8	44.8		33.6	54.5	11.9		29.9	59.7	10.4		
PHF	.803	.934	.858	.932	.929	.879	.858	.891	.937	.767	.757	.818	.556	.769	.438	.761	.947

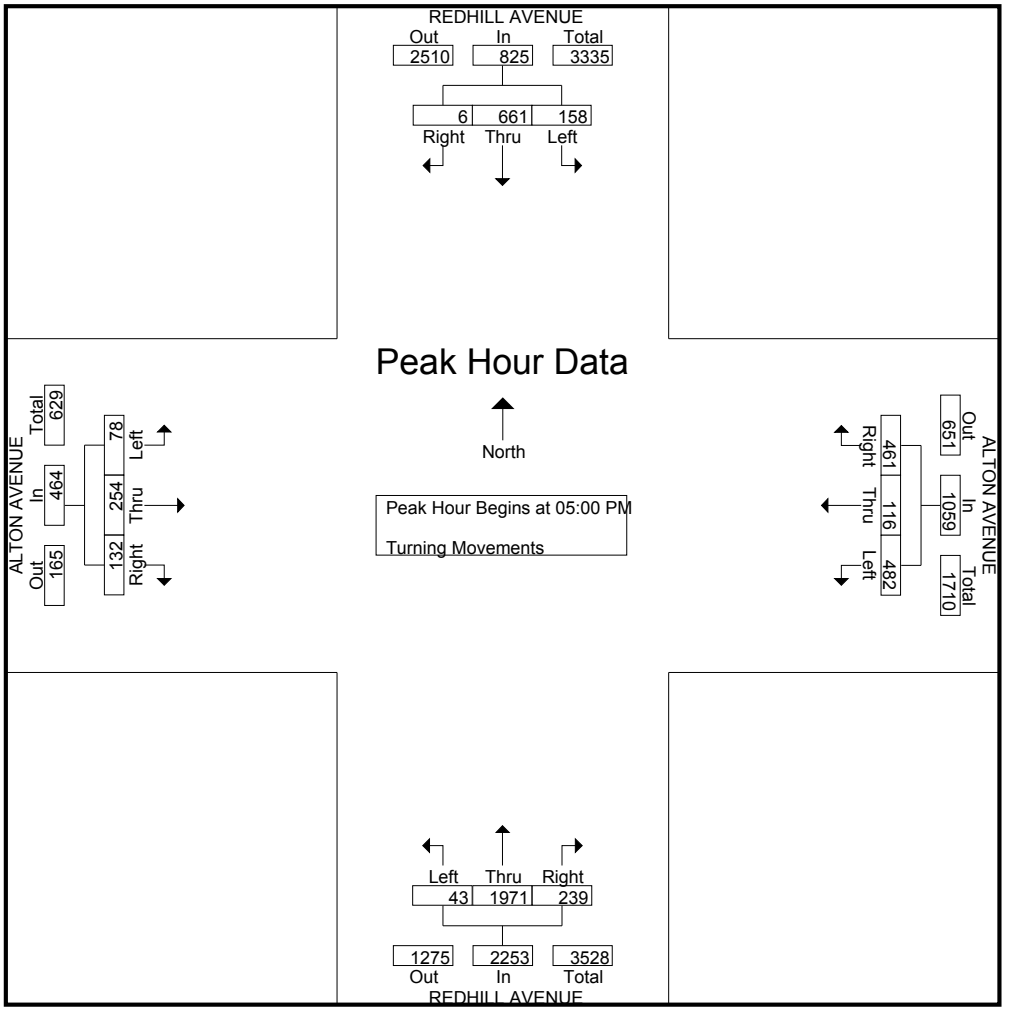


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: TUSTIN
N-S Direction: REDHILL AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405102
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				ALTON AVENUE Westbound				REDHILL AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	168	**47**	**216**	**140**	**35**	126	**301**	58	504	11	573	**47**	68	**29**	**144**	**1234**
05:15 PM	1	162	45	208	122	28	**132**	282	63	462	**13**	538	33	**77**	19	129	1157
05:30 PM	**3**	161	33	197	121	22	123	266	51	**518**	11	**580**	32	66	20	118	1161
05:45 PM	1	**170**	33	204	78	31	101	210	**67**	487	8	562	20	43	10	73	1049
Total Volume	6	661	158	825	461	116	482	1059	239	1971	43	2253	132	254	78	464	4601
% App. Total	0.7	80.1	19.2		43.5	11	45.5		10.6	87.5	1.9		28.4	54.7	16.8		
PHF	.500	.972	.840	.955	.823	.829	.913	.880	.892	.951	.827	.971	.702	.825	.672	.806	.932



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405103
Site Code : 00005163
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

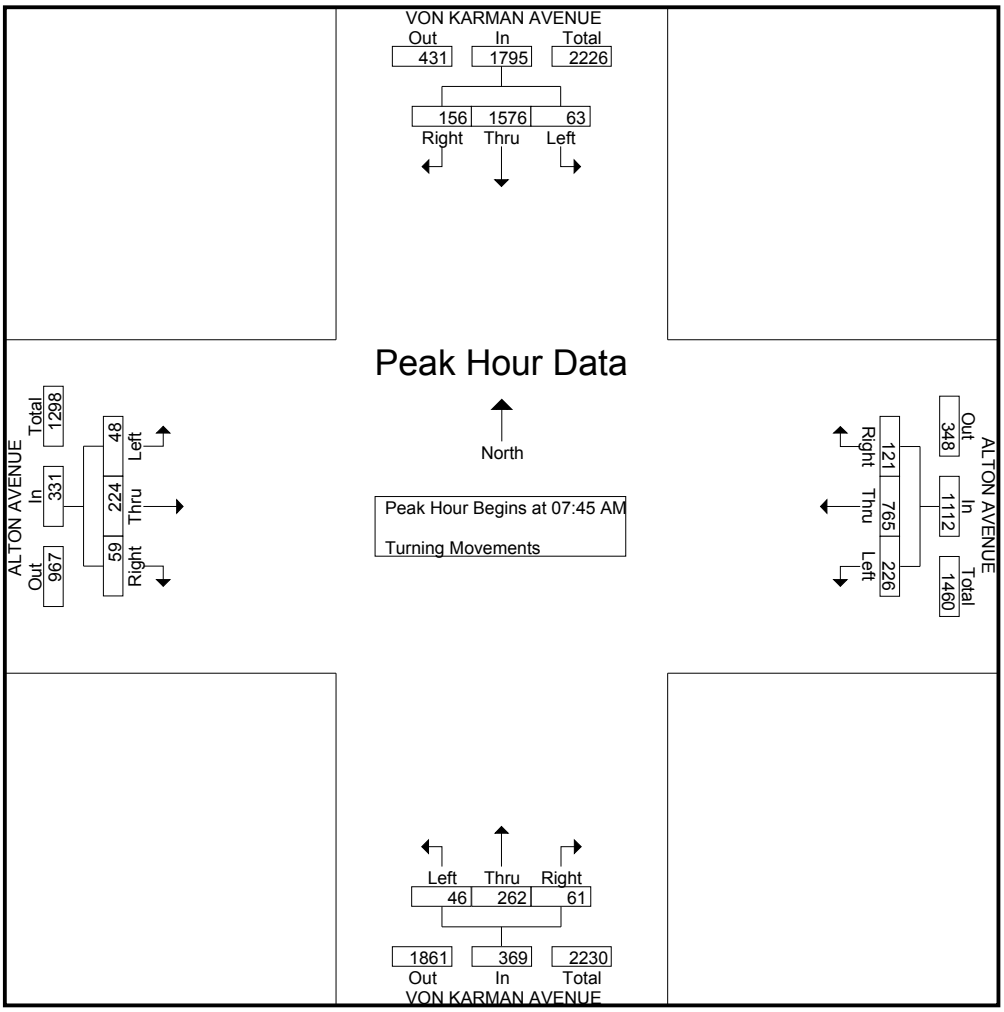
	VON KARMAN AVENUE Southbound			ALTON AVENUE Westbound			VON KARMAN AVENUE Northbound			ALTON AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	29	179	6	35	70	19	15	54	4	12	28	11	462
07:15 AM	38	214	16	31	89	22	6	46	3	16	43	6	530
07:30 AM	54	277	11	38	101	34	10	62	7	11	59	15	679
07:45 AM	28	320	9	35	187	62	10	67	12	24	68	7	829
Total	149	990	42	139	447	137	41	229	26	63	198	39	2500
08:00 AM	48	400	7	38	194	45	6	68	15	5	64	17	907
08:15 AM	36	476	26	23	199	75	13	42	6	12	48	11	967
08:30 AM	44	380	21	25	185	44	32	85	13	18	44	13	904
08:45 AM	43	351	9	31	149	38	14	49	9	6	60	7	766
Total	171	1607	63	117	727	202	65	244	43	41	216	48	3544
*** BREAK ***													
04:00 PM	25	107	37	27	98	19	23	221	17	9	119	26	728
04:15 PM	34	101	24	38	93	22	42	312	34	9	136	36	881
04:30 PM	26	110	35	34	137	17	30	268	17	13	155	27	869
04:45 PM	38	94	41	42	93	23	70	382	20	17	190	30	1040
Total	123	412	137	141	421	81	165	1183	88	48	600	119	3518
05:00 PM	43	129	40	20	137	24	64	295	22	16	209	45	1044
05:15 PM	66	121	57	25	176	22	83	313	29	17	261	58	1228
05:30 PM	46	110	31	12	208	30	77	263	13	18	306	52	1166
05:45 PM	35	115	39	21	124	24	56	323	27	15	195	57	1031
Total	190	475	167	78	645	100	280	1194	91	66	971	212	4469
Grand Total	633	3484	409	475	2240	520	551	2850	248	218	1985	418	14031
Apprch %	14	77	9	14.7	69.2	16.1	15.1	78.1	6.8	8.3	75.7	15.9	
Total %	4.5	24.8	2.9	3.4	16	3.7	3.9	20.3	1.8	1.6	14.1	3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405103
Site Code : 00005163
Start Date : 6/12/2014

	VON KARMAN AVENUE Southbound				ALTON AVENUE Westbound				VON KARMAN AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	28	320	9	357	35	187	62	284	10	67	12	89	**24**	**68**	7	**99**	829
08:00 AM	**48**	400	7	455	**38**	194	45	277	6	68	**15**	89	5	64	**17**	86	907
08:15 AM	36	**476**	**26**	**538**	23	**199**	**75**	**297**	13	42	6	61	12	48	11	71	**967**
08:30 AM	44	380	21	445	25	185	44	254	**32**	**85**	13	**130**	18	44	13	75	904
Total Volume	156	1576	63	1795	121	765	226	1112	61	262	46	369	59	224	48	331	3607
% App. Total	8.7	87.8	3.5		10.9	68.8	20.3		16.5	71	12.5		17.8	67.7	14.5		
PHF	.813	.828	.606	.834	.796	.961	.753	.936	.477	.771	.767	.710	.615	.824	.706	.836	.933

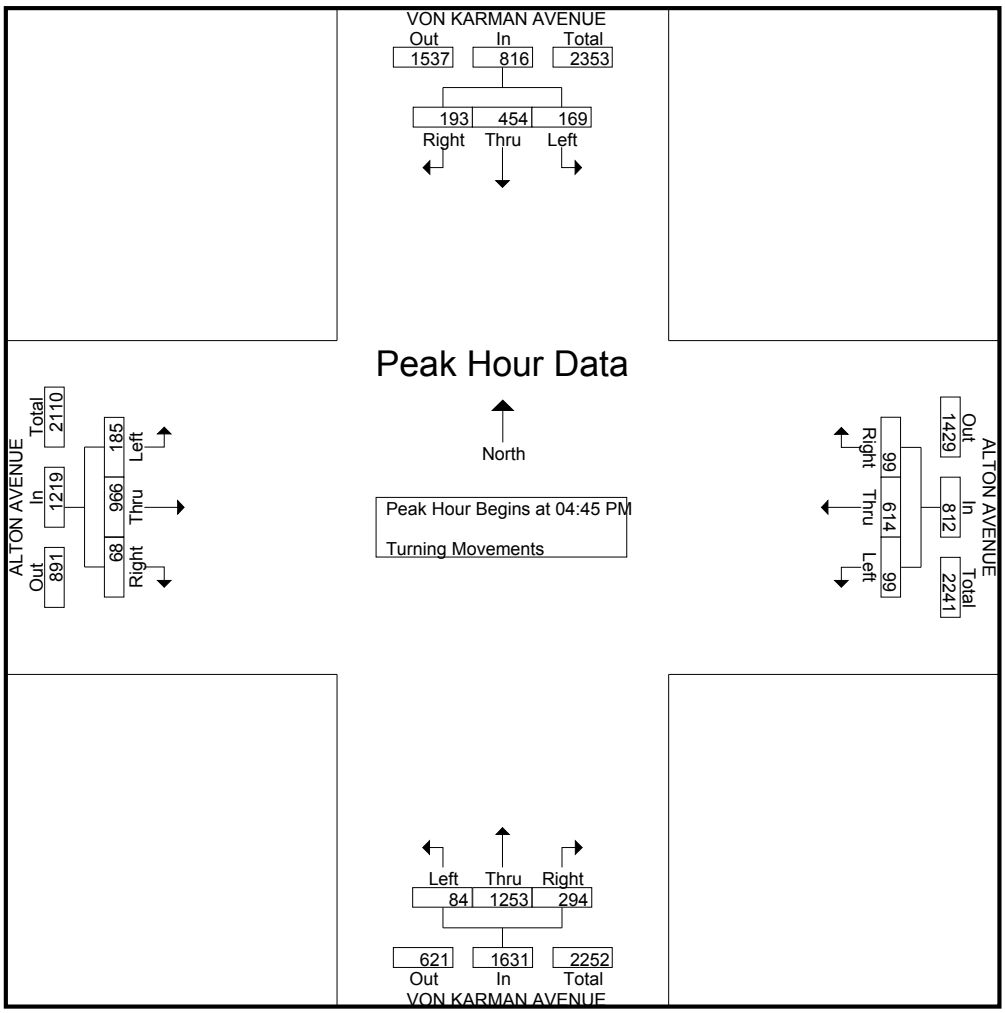


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405103
Site Code : 00005163
Start Date : 6/12/2014

	VON KARMAN AVENUE Southbound				ALTON AVENUE Westbound				VON KARMAN AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	38	94	41	173	**42**	93	23	158	70	**382**	20	**472**	17	190	30	237	1040
05:00 PM	43	**129**	40	212	20	137	24	181	64	295	22	381	16	209	45	270	1044
05:15 PM	**66**	121	**57**	**244**	25	176	22	223	**83**	313	**29**	425	17	261	**58**	336	**1228**
05:30 PM	46	110	31	187	12	**208**	**30**	**250**	77	263	13	353	**18**	**306**	52	**376**	1166
Total Volume	193	454	169	816	99	614	99	812	294	1253	84	1631	68	966	185	1219	4478
% App. Total	23.7	55.6	20.7		12.2	75.6	12.2		18	76.8	5.2		5.6	79.2	15.2		
PHF	.731	.880	.741	.836	.589	.738	.825	.812	.886	.820	.724	.864	.944	.789	.797	.811	.912



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: ALTON AVENUE

File Name : H1405095
Site Code : 00005724
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

	JAMBOREE ROAD Southbound			ALTON AVENUE Westbound			JAMBOREE ROAD Northbound			ALTON AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	27	456	30	12	55	20	26	137	45	13	25	11	857
07:15 AM	35	545	14	14	59	17	21	159	39	10	32	5	950
07:30 AM	35	639	38	15	93	44	34	191	76	15	33	7	1220
07:45 AM	63	634	59	21	228	50	34	207	46	18	46	6	1412
Total	160	2274	141	62	435	131	115	694	206	56	136	29	4439
08:00 AM	50	490	28	29	193	33	26	210	71	19	41	8	1198
08:15 AM	47	542	44	36	202	48	38	181	45	16	48	21	1268
08:30 AM	84	610	42	29	196	47	37	205	44	15	41	16	1366
08:45 AM	54	508	36	31	188	57	44	230	57	20	54	24	1303
Total	235	2150	150	125	779	185	145	826	217	70	184	69	5135
*** BREAK ***													
04:00 PM	39	226	24	50	92	36	40	580	43	54	122	51	1357
04:15 PM	34	246	45	39	84	40	28	641	54	57	130	70	1468
04:30 PM	31	301	50	68	94	48	31	680	54	73	127	62	1619
04:45 PM	28	282	41	30	119	54	38	725	47	60	181	105	1710
Total	132	1055	160	187	389	178	137	2626	198	244	560	288	6154
05:00 PM	28	334	40	78	119	56	46	679	43	47	198	104	1772
05:15 PM	54	452	53	82	137	57	46	797	53	67	216	116	2130
05:30 PM	32	316	39	59	132	49	61	699	65	48	263	130	1893
05:45 PM	52	383	48	45	123	77	66	745	58	73	221	106	1997
Total	166	1485	180	264	511	239	219	2920	219	235	898	456	7792
Grand Total	693	6964	631	638	2114	733	616	7066	840	605	1778	842	23520
Apprch %	8.4	84	7.6	18.3	60.7	21	7.2	82.9	9.9	18.8	55.1	26.1	
Total %	2.9	29.6	2.7	2.7	9	3.1	2.6	30	3.6	2.6	7.6	3.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: ALTON AVENUE

File Name : H1405095
Site Code : 00005724
Start Date : 6/10/2014

	JAMBOREE ROAD Southbound				ALTON AVENUE Westbound				JAMBOREE ROAD Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	63	**634**	**59**	**756**	21	**228**	**50**	**299**	34	207	46	287	18	46	6	70	**1412**
08:00 AM	50	490	28	568	29	193	33	255	26	**210**	**71**	**307**	**19**	41	8	68	1198
08:15 AM	47	542	44	633	**36**	202	48	286	**38**	181	45	264	16	**48**	**21**	**85**	1268
08:30 AM	**84**	610	42	736	29	196	47	272	37	205	44	286	15	41	16	72	1366
Total Volume	244	2276	173	2693	115	819	178	1112	135	803	206	1144	68	176	51	295	5244
% App. Total	9.1	84.5	6.4		10.3	73.7	16		11.8	70.2	18		23.1	59.7	17.3		
PHF	.726	.897	.733	.891	.799	.898	.890	.930	.888	.956	.725	.932	.895	.917	.607	.868	.928

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				08:00 AM				08:00 AM			
+0 mins.	63	**634**	**59**	**756**	21	**228**	**50**	**299**	26	210	**71**	307	19	41	8	68
+15 mins.	50	490	28	568	29	193	33	255	38	181	45	264	16	48	21	85
+30 mins.	47	542	44	633	**36**	202	48	286	37	205	44	286	15	41	16	72
+45 mins.	**84**	610	42	736	29	196	47	272	**44**	**230**	57	**331**	**20**	**54**	**24**	**98**
Total Volume	244	2276	173	2693	115	819	178	1112	145	826	217	1188	70	184	69	323
% App. Total	9.1	84.5	6.4		10.3	73.7	16		12.2	69.5	18.3		21.7	57	21.4	
PHF	.726	.897	.733	.891	.799	.898	.890	.930	.824	.898	.764	.897	.875	.852	.719	.824

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: ALTON AVENUE

File Name : H1405095
Site Code : 00005724
Start Date : 6/10/2014

	JAMBOREE ROAD Southbound				ALTON AVENUE Westbound				JAMBOREE ROAD Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	28	334	40	402	78	119	56	253	46	679	43	768	47	198	104	349	1772
05:15 PM	**54**	**452**	**53**	**559**	**82**	**137**	57	**276**	46	**797**	53	**896**	67	216	116	399	**2130**
05:30 PM	32	316	39	387	59	132	49	240	61	699	**65**	825	48	**263**	**130**	**441**	1893
05:45 PM	52	383	48	483	45	123	**77**	245	**66**	745	58	869	**73**	221	106	400	1997
Total Volume	166	1485	180	1831	264	511	239	1014	219	2920	219	3358	235	898	456	1589	7792
% App. Total	9.1	81.1	9.8		26	50.4	23.6		6.5	87	6.5		14.8	56.5	28.7		
PHF	.769	.821	.849	.819	.805	.932	.776	.918	.830	.916	.842	.937	.805	.854	.877	.901	.915

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM				
+0 mins.	28	334	40	402	78	119	56	253	46	679	43	768	47	198	104	349	
+15 mins.	**54**	**452**	**53**	**559**	**82**	**137**	57	**276**	46	**797**	53	**896**	67	216	116	399	
+30 mins.	32	316	39	387	59	132	49	240	61	699	**65**	825	48	**263**	**130**	**441**	
+45 mins.	52	383	48	483	45	123	**77**	245	**66**	745	58	869	**73**	221	106	400	
Total Volume	166	1485	180	1831	264	511	239	1014	219	2920	219	3358	235	898	456	1589	
% App. Total	9.1	81.1	9.8		26	50.4	23.6		6.5	87	6.5		14.8	56.5	28.7		
PHF	.769	.821	.849	.819	.805	.932	.776	.918	.830	.916	.842	.937	.805	.854	.877	.901	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405101
Site Code :
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

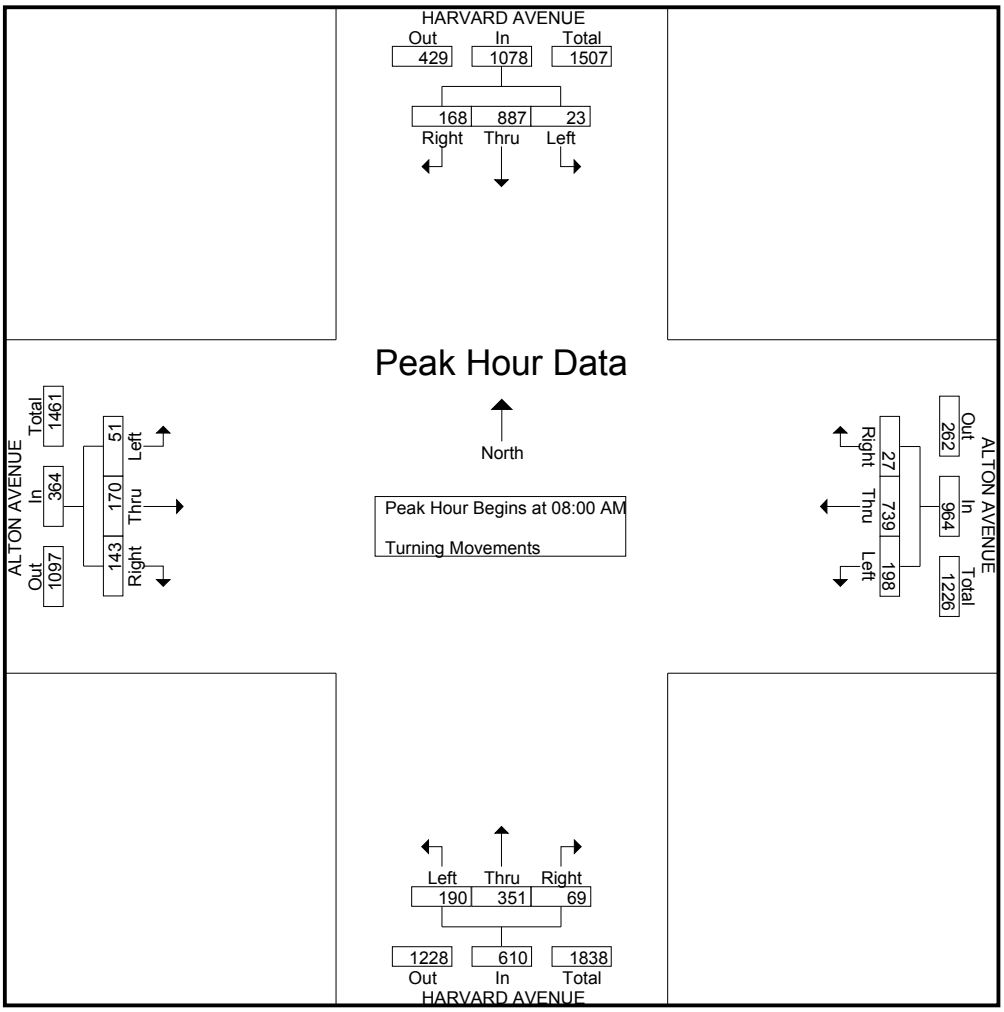
	HARVARD AVENUE Southbound			ALTON AVENUE Westbound			HARVARD AVENUE Northbound			ALTON AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	11	69	4	1	45	9	4	31	10	11	21	13	229
07:15 AM	19	86	8	8	63	15	5	39	24	17	22	5	311
07:30 AM	22	144	3	3	108	11	7	46	24	24	42	20	454
07:45 AM	31	180	8	4	131	36	12	87	38	29	43	15	614
Total	83	479	23	16	347	71	28	203	96	81	128	53	1608
08:00 AM	54	256	3	6	180	34	15	94	38	46	43	15	784
08:15 AM	38	222	6	9	194	54	19	102	55	37	36	16	788
08:30 AM	37	232	11	9	180	61	17	88	49	38	44	10	776
08:45 AM	39	177	3	3	185	49	18	67	48	22	47	10	668
Total	168	887	23	27	739	198	69	351	190	143	170	51	3016
*** BREAK ***													
04:00 PM	22	75	4	9	109	30	19	192	47	35	118	27	687
04:15 PM	15	83	15	11	122	21	26	253	37	54	147	33	817
04:30 PM	22	90	13	6	89	32	26	215	40	45	125	31	734
04:45 PM	15	96	15	8	117	24	25	248	41	56	187	34	866
Total	74	344	47	34	437	107	96	908	165	190	577	125	3104
05:00 PM	9	158	20	6	118	39	29	244	27	72	146	38	906
05:15 PM	14	118	13	9	138	15	58	323	37	96	267	44	1132
05:30 PM	4	132	15	10	134	40	67	312	48	87	264	50	1163
05:45 PM	8	155	20	22	159	30	59	363	41	104	180	60	1201
Total	35	563	68	47	549	124	213	1242	153	359	857	192	4402
Grand Total	360	2273	161	124	2072	500	406	2704	604	773	1732	421	12130
Apprch %	12.9	81.4	5.8	4.6	76.9	18.5	10.9	72.8	16.3	26.4	59.2	14.4	
Total %	3	18.7	1.3	1	17.1	4.1	3.3	22.3	5	6.4	14.3	3.5	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405101
Site Code :
Start Date : 6/12/2014

	HARVARD AVENUE Southbound				ALTON AVENUE Westbound				HARVARD AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**54**	**256**	3	**313**	6	180	34	220	15	94	38	147	**46**	43	15	**104**	784
08:15 AM	38	222	6	266	**9**	**194**	54	**257**	**19**	**102**	**55**	**176**	37	36	**16**	89	**788**
08:30 AM	37	232	**11**	280	9	180	**61**	250	17	88	49	154	38	44	10	92	776
08:45 AM	39	177	3	219	3	185	49	237	18	67	48	133	22	**47**	10	79	668
Total Volume	168	887	23	1078	27	739	198	964	69	351	190	610	143	170	51	364	3016
% App. Total	15.6	82.3	2.1		2.8	76.7	20.5		11.3	57.5	31.1		39.3	46.7	14		
PHF	.778	.866	.523	.861	.750	.952	.811	.938	.908	.860	.864	.866	.777	.904	.797	.875	.957

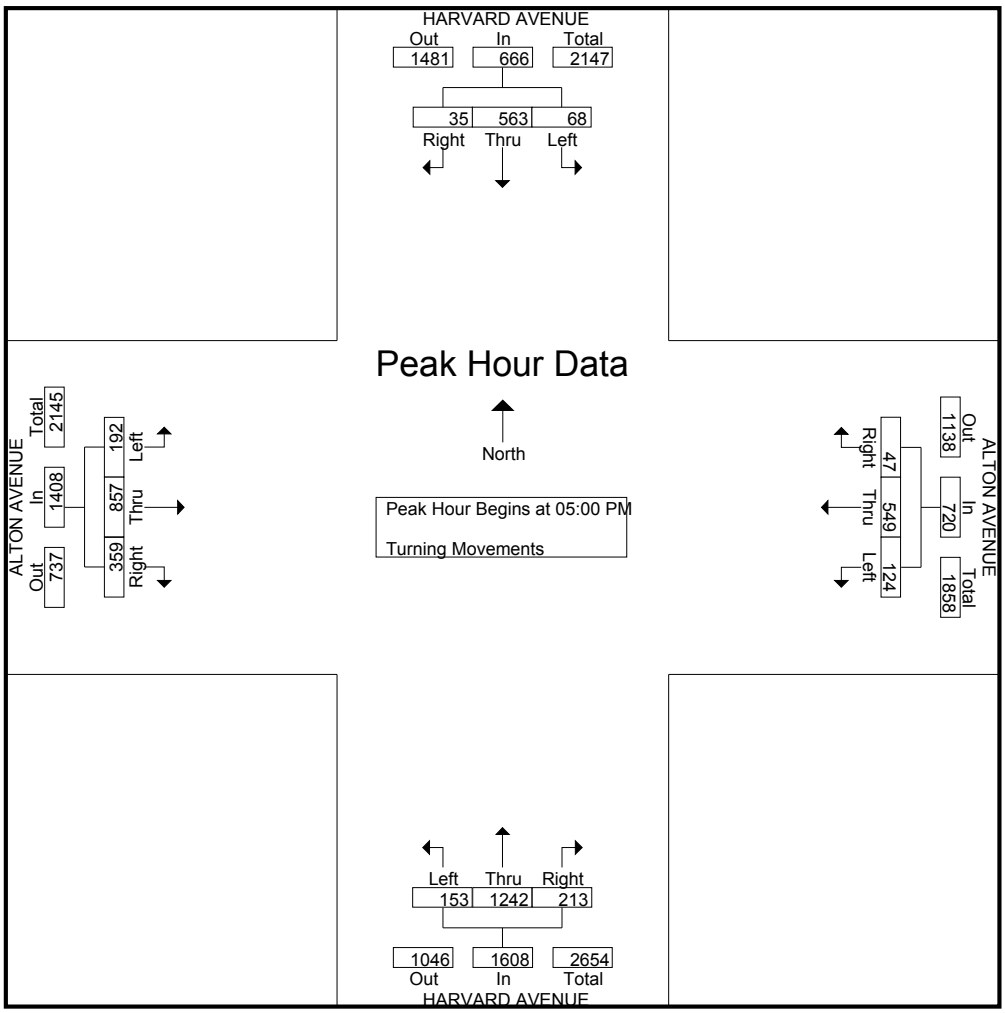


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: ALTON AVENUE

File Name : H1405101
Site Code :
Start Date : 6/12/2014

	HARVARD AVENUE Southbound				ALTON AVENUE Westbound				HARVARD AVENUE Northbound				ALTON AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	9	**158**	**20**	**187**	6	118	39	163	29	244	27	300	72	146	38	256	906
05:15 PM	**14**	118	13	145	9	138	15	162	58	323	37	418	96	**267**	44	**407**	1132
05:30 PM	4	132	15	151	10	134	**40**	184	**67**	312	**48**	427	87	264	50	401	1163
05:45 PM	8	155	20	183	**22**	**159**	30	**211**	59	**363**	41	**463**	**104**	180	**60**	344	**1201**
Total Volume	35	563	68	666	47	549	124	720	213	1242	153	1608	359	857	192	1408	4402
% App. Total	5.3	84.5	10.2		6.5	76.2	17.2		13.2	77.2	9.5		25.5	60.9	13.6		
PHF	.625	.891	.850	.890	.534	.863	.775	.853	.795	.855	.797	.868	.863	.802	.800	.865	.916



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: ALTON PARKWAY

File Name : H1404064
Site Code : 229
Start Date : 5/28/2014
Page No : 1

Groups Printed- Turning Movements

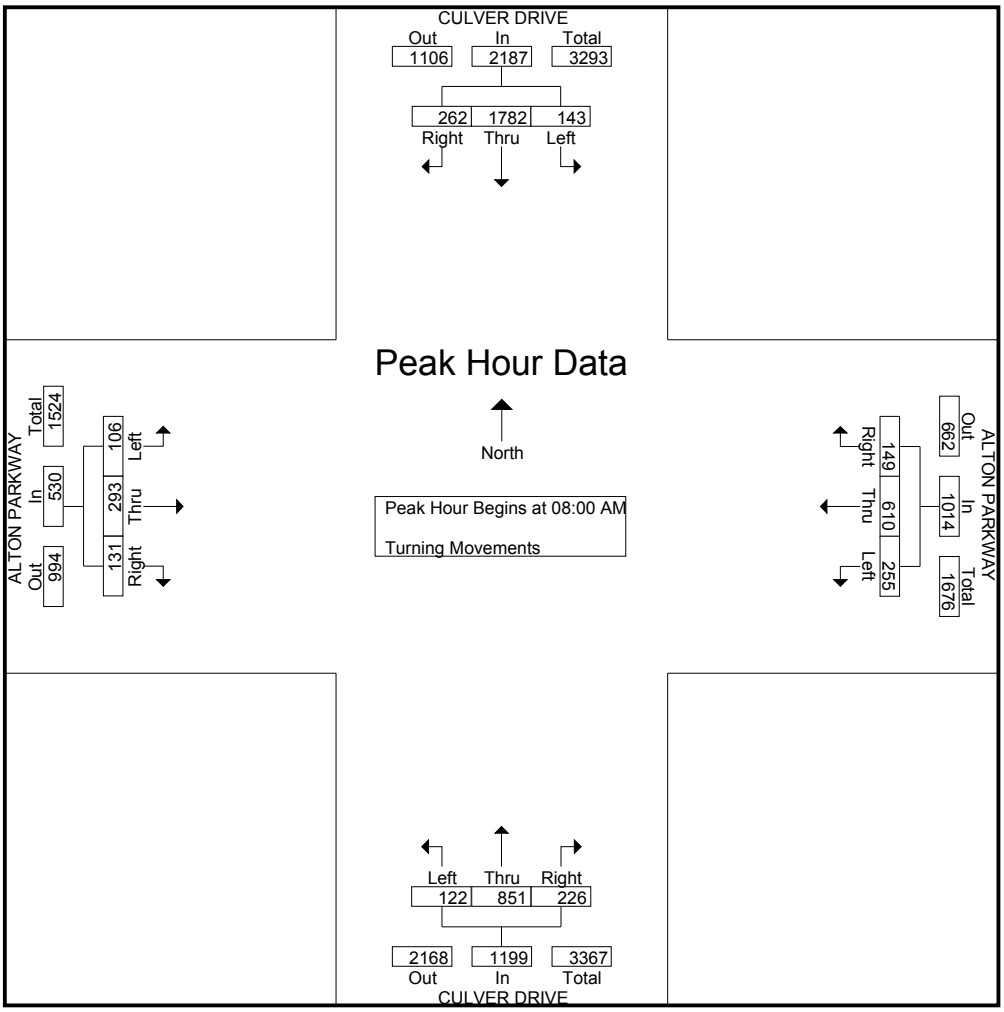
	CULVER DRIVE Southbound			ALTON PARKWAY Westbound			CULVER DRIVE Northbound			ALTON PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	31	202	15	28	53	19	12	188	21	17	29	28	643
07:15 AM	44	288	15	27	76	17	19	170	31	34	55	24	800
07:30 AM	61	424	36	28	85	36	17	131	21	39	47	22	947
07:45 AM	60	427	51	36	131	27	51	187	14	43	86	25	1138
Total	196	1341	117	119	345	99	99	676	87	133	217	99	3528
08:00 AM	56	417	37	28	129	43	49	180	29	24	77	18	1087
08:15 AM	67	436	45	45	167	67	55	232	32	35	65	28	1274
08:30 AM	80	446	21	33	150	68	64	201	33	36	67	29	1228
08:45 AM	59	483	40	43	164	77	58	238	28	36	84	31	1341
Total	262	1782	143	149	610	255	226	851	122	131	293	106	4930
*** BREAK ***													
04:00 PM	63	226	40	57	144	56	40	245	58	71	114	41	1155
04:15 PM	72	256	40	58	149	47	47	251	53	59	140	53	1225
04:30 PM	69	250	40	55	130	43	61	240	64	62	154	50	1218
04:45 PM	65	230	42	50	103	48	66	253	50	49	170	75	1201
Total	269	962	162	220	526	194	214	989	225	241	578	219	4799
05:00 PM	58	260	42	66	137	52	82	359	52	53	177	62	1400
05:15 PM	59	250	49	62	166	61	86	378	48	61	200	76	1496
05:30 PM	82	238	78	63	166	66	94	364	58	59	204	93	1565
05:45 PM	80	262	77	55	177	42	88	367	43	64	234	91	1580
Total	279	1010	246	246	646	221	350	1468	201	237	815	322	6041
Grand Total	1006	5095	668	734	2127	769	889	3984	635	742	1903	746	19298
Apprch %	14.9	75.3	9.9	20.2	58.6	21.2	16.1	72.3	11.5	21.9	56.1	22	
Total %	5.2	26.4	3.5	3.8	11	4	4.6	20.6	3.3	3.8	9.9	3.9	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: ALTON PARKWAY

File Name : H1404064
Site Code : 229
Start Date : 5/28/2014
Page No : 2

	CULVER DRIVE Southbound				ALTON PARKWAY Westbound				CULVER DRIVE Northbound				ALTON PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	56	417	37	510	28	129	43	200	49	180	29	258	24	77	18	119	1087
08:15 AM	67	436	**45**	548	**45**	**167**	67	279	55	232	32	319	35	65	28	128	1274
08:30 AM	**80**	446	21	547	33	150	68	251	**64**	201	**33**	298	**36**	67	29	132	1228
08:45 AM	59	**483**	40	**582**	43	164	**77**	**284**	58	**238**	28	**324**	36	**84**	**31**	**151**	**1341**
Total Volume	262	1782	143	2187	149	610	255	1014	226	851	122	1199	131	293	106	530	4930
% App. Total	12	81.5	6.5		14.7	60.2	25.1		18.8	71	10.2		24.7	55.3	20		
PHF	.819	.922	.794	.939	.828	.913	.828	.893	.883	.894	.924	.925	.910	.872	.855	.877	.919

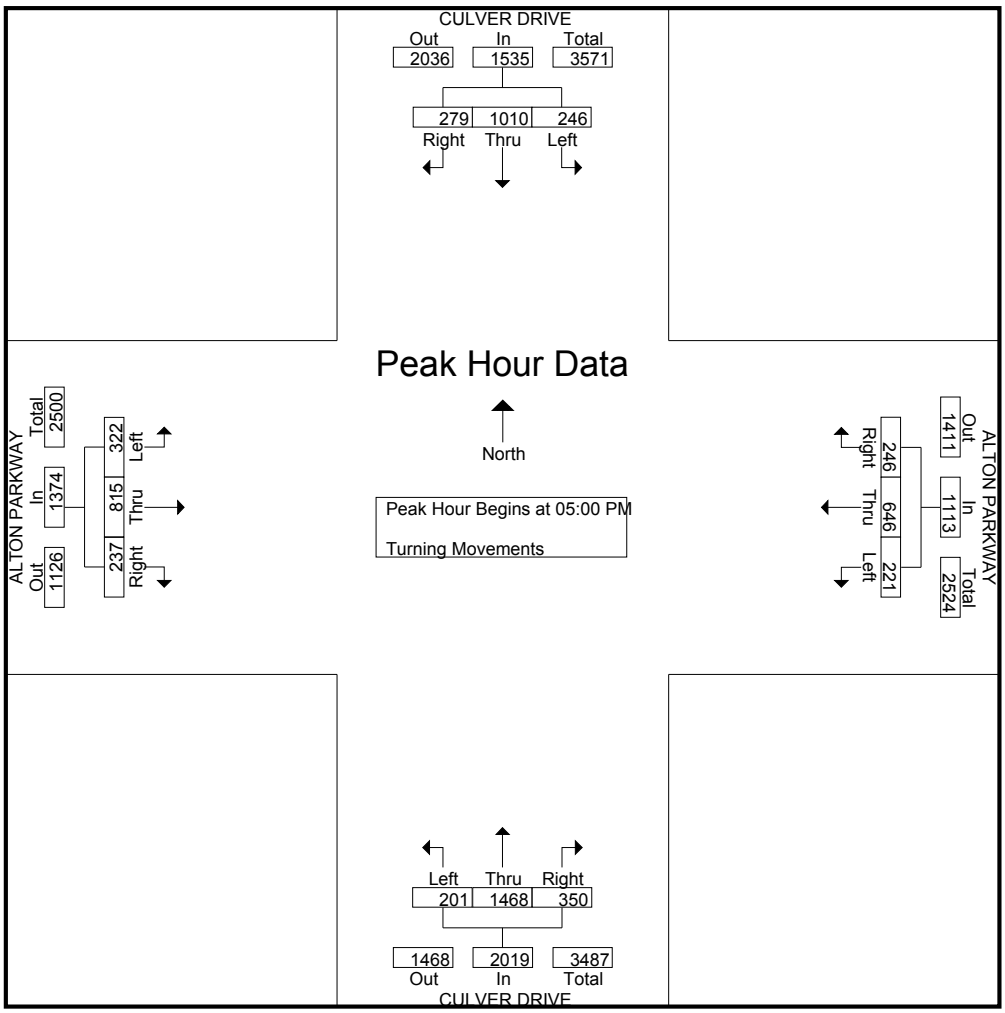


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: ALTON PARKWAY

File Name : H1404064
Site Code : 229
Start Date : 5/28/2014
Page No : 3

	CULVER DRIVE Southbound				ALTON PARKWAY Westbound				CULVER DRIVE Northbound				ALTON PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	58	260	42	360	**66**	137	52	255	82	359	52	493	53	177	62	292	1400
05:15 PM	59	250	49	358	62	166	61	289	86	**378**	48	512	61	200	76	337	1496
05:30 PM	**82**	238	**78**	398	63	166	**66**	**295**	**94**	364	**58**	**516**	59	204	**93**	356	1565
05:45 PM	80	**262**	77	**419**	55	**177**	42	274	88	367	43	498	**64**	**234**	91	**389**	**1580**
Total Volume	279	1010	246	1535	246	646	221	1113	350	1468	201	2019	237	815	322	1374	6041
% App. Total	18.2	65.8	16		22.1	58	19.9		17.3	72.7	10		17.2	59.3	23.4		
PHF	.851	.964	.788	.916	.932	.912	.837	.943	.931	.971	.866	.978	.926	.871	.866	.883	.956



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MC GAW AVENUE

File Name : H1405108
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

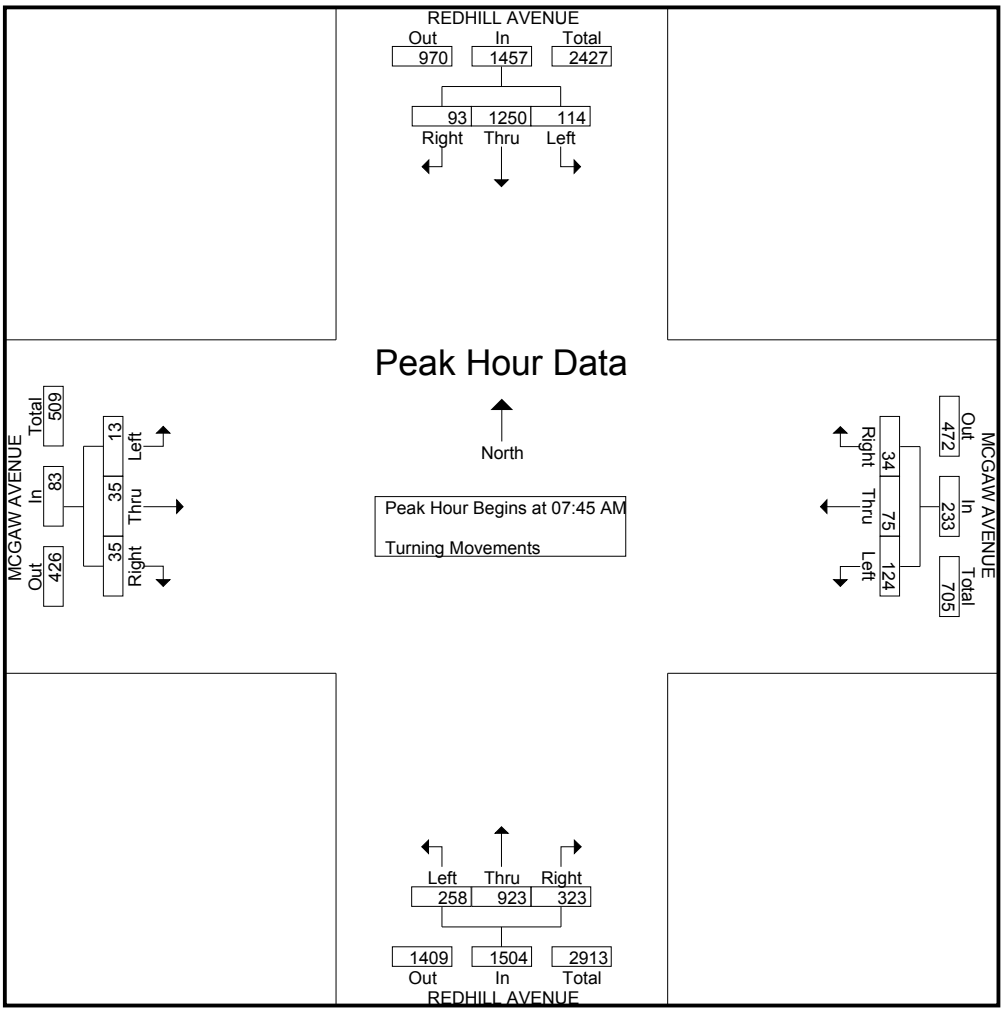
	REDHILL AVENUE Southbound			MCGAW AVENUE Westbound			REDHILL AVENUE Northbound			MCGAW AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	11	146	23	2	6	20	85	148	29	8	8	1	487
07:15 AM	14	185	27	3	14	24	61	156	50	5	11	0	550
07:30 AM	18	220	25	13	12	41	80	218	43	3	8	2	683
07:45 AM	16	287	37	11	15	20	81	289	70	11	6	1	844
Total	59	838	112	29	47	105	307	811	192	27	33	4	2564
08:00 AM	22	287	26	7	23	35	104	226	80	9	10	7	836
08:15 AM	32	348	23	6	16	31	76	227	58	5	6	1	829
08:30 AM	23	328	28	10	21	38	62	181	50	10	13	4	768
08:45 AM	36	271	31	9	12	32	63	220	38	3	7	3	725
Total	113	1234	108	32	72	136	305	854	226	27	36	15	3158
*** BREAK ***													
04:00 PM	3	237	10	39	10	120	52	474	8	67	17	19	1056
04:15 PM	5	232	8	24	18	80	39	393	7	48	10	5	869
04:30 PM	2	270	4	49	26	107	73	472	15	68	23	17	1126
04:45 PM	2	278	9	42	17	92	75	481	8	54	19	17	1094
Total	12	1017	31	154	71	399	239	1820	38	237	69	58	4145
05:00 PM	6	307	6	61	46	124	97	469	15	79	21	24	1255
05:15 PM	1	306	13	34	20	95	118	495	7	69	44	17	1219
05:30 PM	4	301	5	51	24	79	133	484	9	58	23	10	1181
05:45 PM	2	254	11	28	14	81	134	525	7	51	15	11	1133
Total	13	1168	35	174	104	379	482	1973	38	257	103	62	4788
Grand Total	197	4257	286	389	294	1019	1333	5458	494	548	241	139	14655
Apprch %	4.2	89.8	6	22.9	17.3	59.9	18.3	74.9	6.8	59.1	26	15	
Total %	1.3	29	2	2.7	2	7	9.1	37.2	3.4	3.7	1.6	0.9	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MC GAW AVENUE

File Name : H1405108
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				MCGAW AVENUE Westbound				REDHILL AVENUE Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	16	287	**37**	340	**11**	15	20	46	81	**289**	70	**440**	**11**	6	1	18	**844**
08:00 AM	22	287	26	335	7	**23**	35	65	**104**	226	**80**	410	9	10	**7**	26	836
08:15 AM	**32**	**348**	23	**403**	6	16	31	53	76	227	58	361	5	6	1	12	829
08:30 AM	23	328	28	379	10	21	**38**	**69**	62	181	50	293	10	**13**	4	**27**	768
Total Volume	93	1250	114	1457	34	75	124	233	323	923	258	1504	35	35	13	83	3277
% App. Total	6.4	85.8	7.8		14.6	32.2	53.2		21.5	61.4	17.2		42.2	42.2	15.7		
PHF	.727	.898	.770	.904	.773	.815	.816	.844	.776	.798	.806	.855	.795	.673	.464	.769	.971

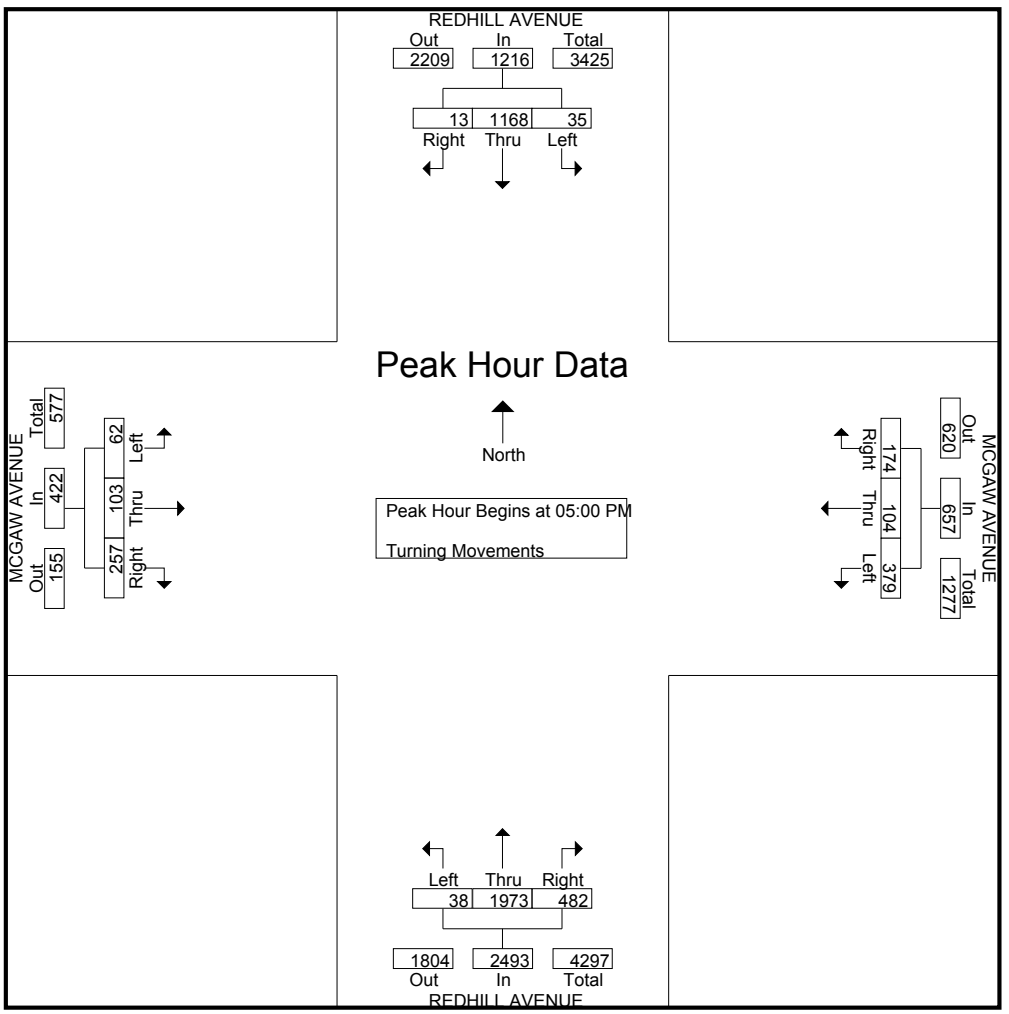


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MC GAW AVENUE

File Name : H1405108
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				MCGAW AVENUE Westbound				REDHILL AVENUE Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**6**	**307**	6	319	**61**	**46**	**124**	**231**	97	469	**15**	581	**79**	21	**24**	124	**1255**
05:15 PM	1	306	**13**	**320**	34	20	95	149	118	495	7	620	69	**44**	17	**130**	1219
05:30 PM	4	301	5	310	51	24	79	154	133	484	9	626	58	23	10	91	1181
05:45 PM	2	254	11	267	28	14	81	123	**134**	**525**	7	**666**	51	15	11	77	1133
Total Volume	13	1168	35	1216	174	104	379	657	482	1973	38	2493	257	103	62	422	4788
% App. Total	1.1	96.1	2.9		26.5	15.8	57.7		19.3	79.1	1.5		60.9	24.4	14.7		
PHF	.542	.951	.673	.950	.713	.565	.764	.711	.899	.940	.633	.936	.813	.585	.646	.812	.954



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MCGAW AVENUE

File Name : H1405112
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

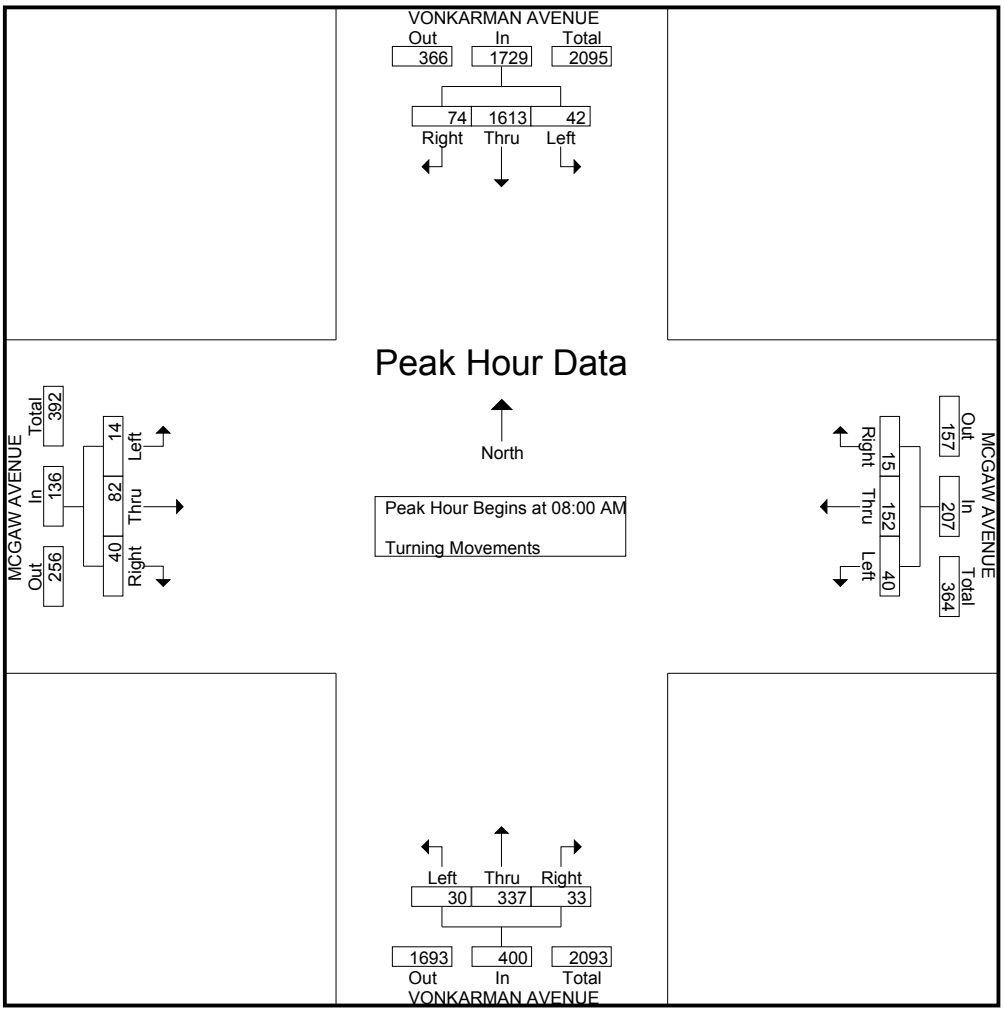
	VONKARMAN AVENUE Southbound			MCGAW AVENUE Westbound			VONKARMAN AVENUE Northbound			MCGAW AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	19	207	9	5	25	5	3	48	9	4	22	4	360
07:15 AM	22	258	9	1	43	6	3	64	5	8	22	0	441
07:30 AM	25	312	12	6	56	12	6	66	11	15	38	4	563
07:45 AM	24	381	17	9	38	9	9	101	7	5	29	5	634
Total	90	1158	47	21	162	32	21	279	32	32	111	13	1998
08:00 AM	16	360	7	4	40	13	8	88	7	8	18	4	573
08:15 AM	18	417	14	5	44	11	7	76	3	13	30	2	640
08:30 AM	15	397	12	5	37	9	7	80	12	13	17	6	610
08:45 AM	25	439	9	1	31	7	11	93	8	6	17	2	649
Total	74	1613	42	15	152	40	33	337	30	40	82	14	2472
*** BREAK ***													
04:00 PM	11	106	1	22	37	5	15	279	15	14	66	20	591
04:15 PM	5	87	7	16	27	6	16	319	10	16	46	24	579
04:30 PM	14	93	5	31	56	9	28	339	13	10	90	23	711
04:45 PM	8	125	6	12	20	5	28	361	10	14	71	20	680
Total	38	411	19	81	140	25	87	1298	48	54	273	87	2561
05:00 PM	5	168	13	20	43	12	46	356	12	21	109	34	839
05:15 PM	12	137	11	18	25	8	53	333	14	17	152	44	824
05:30 PM	4	132	12	17	23	3	67	352	27	7	100	33	777
05:45 PM	7	128	12	21	37	6	55	315	22	7	93	38	741
Total	28	565	48	76	128	29	221	1356	75	52	454	149	3181
Grand Total	230	3747	156	193	582	126	362	3270	185	178	920	263	10212
Apprch %	5.6	90.7	3.8	21.4	64.6	14	9.5	85.7	4.8	13.1	67.6	19.3	
Total %	2.3	36.7	1.5	1.9	5.7	1.2	3.5	32	1.8	1.7	9	2.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MCGAW AVENUE

File Name : H1405112
Site Code : 00000000
Start Date : 6/10/2014

	VONKARMAN AVENUE Southbound				MCGAW AVENUE Westbound				VONKARMAN AVENUE Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	16	360	7	383	4	40	**13**	57	8	88	7	103	8	18	4	30	573
08:15 AM	18	417	**14**	449	**5**	**44**	11	**60**	7	76	3	86	**13**	**30**	2	**45**	640
08:30 AM	15	397	12	424	5	37	9	51	7	80	**12**	99	13	17	**6**	36	610
08:45 AM	**25**	**439**	9	**473**	1	31	7	39	**11**	**93**	8	**112**	6	17	2	25	**649**
Total Volume	74	1613	42	1729	15	152	40	207	33	337	30	400	40	82	14	136	2472
% App. Total	4.3	93.3	2.4		7.2	73.4	19.3		8.2	84.2	7.5		29.4	60.3	10.3		
PHF	.740	.919	.750	.914	.750	.864	.769	.863	.750	.906	.625	.893	.769	.683	.583	.756	.952

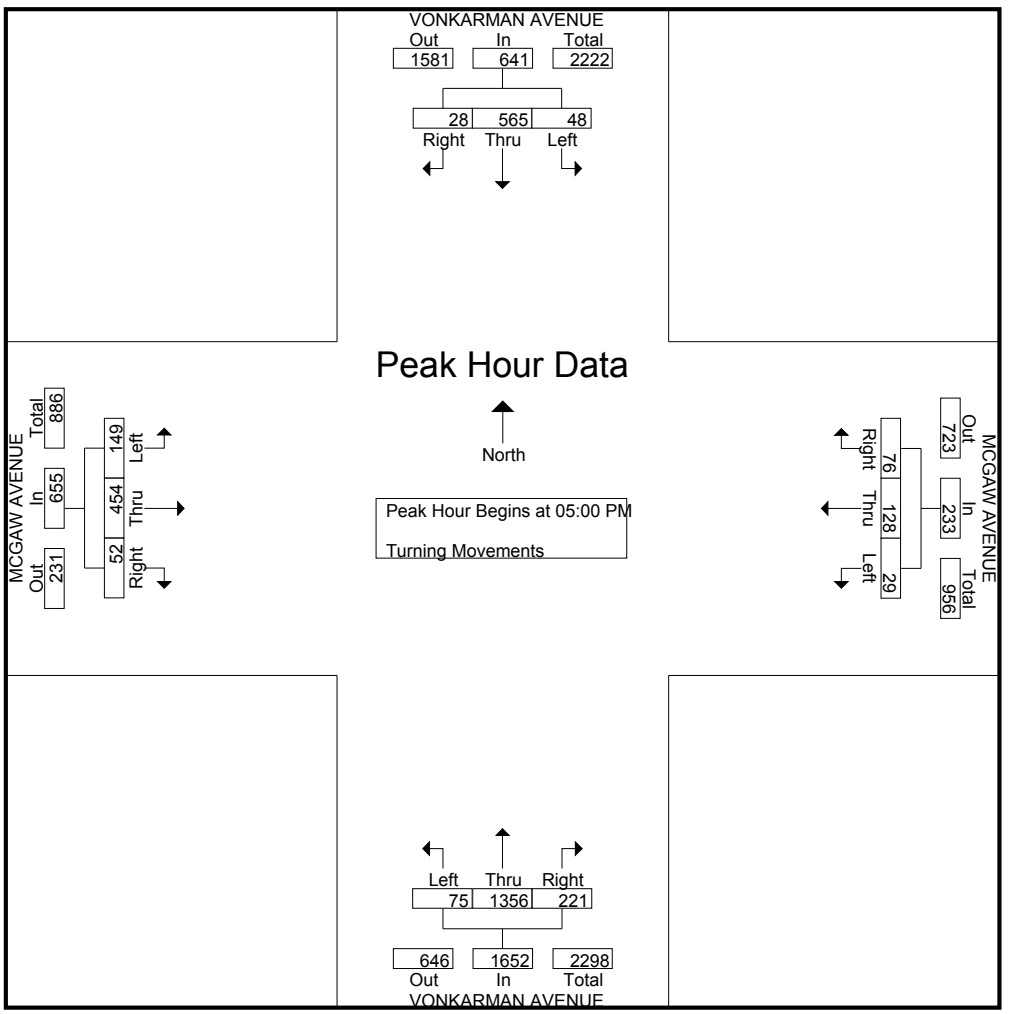


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MCGAW AVENUE

File Name : H1405112
Site Code : 00000000
Start Date : 6/10/2014

	VONKARMAN AVENUE Southbound				MCGAW AVENUE Westbound				VONKARMAN AVENUE Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	5	**168**	**13**	**186**	20	**43**	**12**	**75**	46	**356**	12	414	**21**	109	34	164	**839**
05:15 PM	**12**	137	11	160	18	25	8	51	53	333	14	400	17	**152**	**44**	**213**	824
05:30 PM	4	132	12	148	17	23	3	43	**67**	352	**27**	**446**	7	100	33	140	777
05:45 PM	7	128	12	147	**21**	37	6	64	55	315	22	392	7	93	38	138	741
Total Volume	28	565	48	641	76	128	29	233	221	1356	75	1652	52	454	149	655	3181
% App. Total	4.4	88.1	7.5		32.6	54.9	12.4		13.4	82.1	4.5		7.9	69.3	22.7		
PHF	.583	.841	.923	.862	.905	.744	.604	.777	.825	.952	.694	.926	.619	.747	.847	.769	.948



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MCGAW AVENUE

File Name : H1405104
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

	JAMBOREE ROAD Southbound			MCGAW AVENUE Westbound			JAMBOREE ROAD Northbound			MCGAW AVENUE Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	28	515	7	5	1	5	13	217	41	7	3	4	846
07:15 AM	43	643	0	2	2	4	17	236	36	8	5	2	998
07:30 AM	46	664	3	6	10	7	6	240	37	11	9	4	1043
07:45 AM	37	478	3	4	7	3	18	295	34	8	7	5	899
Total	154	2300	13	17	20	19	54	988	148	34	24	15	3786
08:00 AM	18	298	2	6	10	2	10	298	40	15	15	4	718
08:15 AM	32	689	2	1	9	8	11	292	27	15	5	5	1096
08:30 AM	34	801	3	3	5	6	1	268	36	9	1	2	1169
08:45 AM	32	697	7	2	2	7	14	346	25	10	4	3	1149
Total	116	2485	14	12	26	23	36	1204	128	49	25	14	4132
*** BREAK ***													
04:00 PM	2	306	3	7	13	13	9	593	17	40	22	38	1063
04:15 PM	11	376	1	6	7	12	8	686	19	27	12	36	1201
04:30 PM	8	323	4	8	17	6	6	641	20	54	47	60	1194
04:45 PM	10	377	2	13	15	26	4	771	16	40	20	58	1352
Total	31	1382	10	34	52	57	27	2691	72	161	101	192	4810
05:00 PM	13	454	3	12	15	18	6	754	20	61	63	84	1503
05:15 PM	11	383	1	1	6	10	5	735	16	55	68	83	1374
05:30 PM	13	412	2	4	4	8	8	811	27	40	60	65	1454
05:45 PM	15	398	5	2	5	9	6	795	31	23	58	63	1410
Total	52	1647	11	19	30	45	25	3095	94	179	249	295	5741
Grand Total	353	7814	48	82	128	144	142	7978	442	423	399	516	18469
Apprch %	4.3	95.1	0.6	23.2	36.2	40.7	1.7	93.2	5.2	31.6	29.8	38.6	
Total %	1.9	42.3	0.3	0.4	0.7	0.8	0.8	43.2	2.4	2.3	2.2	2.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MCGAW AVENUE

File Name : H1405104
Site Code : 00000000
Start Date : 6/10/2014

	JAMBOREE ROAD Southbound				MCGAW AVENUE Westbound				JAMBOREE ROAD Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	18	298	2	318	**6**	**10**	2	**18**	10	298	**40**	348	**15**	**15**	4	**34**	718
08:15 AM	32	689	2	723	1	9	**8**	18	11	292	27	330	15	5	**5**	25	1096
08:30 AM	**34**	**801**	3	**838**	3	5	6	14	1	268	36	305	9	1	2	12	**1169**
08:45 AM	32	697	**7**	736	2	2	7	11	**14**	**346**	25	**385**	10	4	3	17	1149
Total Volume	116	2485	14	2615	12	26	23	61	36	1204	128	1368	49	25	14	88	4132
% App. Total	4.4	95	0.5		19.7	42.6	37.7		2.6	88	9.4		55.7	28.4	15.9		
PHF	.853	.776	.500	.780	.500	.650	.719	.847	.643	.870	.800	.888	.817	.417	.700	.647	.884

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	18	298	2	318	**6**	**10**	7	**23**	10	298	**40**	348	11	9	4	24
+15 mins.	32	689	2	723	4	7	3	14	11	292	27	330	8	7	**5**	20
+30 mins.	**34**	**801**	3	**838**	6	10	2	18	1	268	36	305	**15**	**15**	4	**34**
+45 mins.	32	697	**7**	736	1	9	**8**	18	**14**	**346**	25	**385**	15	5	5	25
Total Volume	116	2485	14	2615	17	36	20	73	36	1204	128	1368	49	36	18	103
% App. Total	4.4	95	0.5		23.3	49.3	27.4		2.6	88	9.4		47.6	35	17.5	
PHF	.853	.776	.500	.780	.708	.900	.625	.793	.643	.870	.800	.888	.817	.600	.900	.757

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MCGAW AVENUE

File Name : H1405104
Site Code : 00000000
Start Date : 6/10/2014

	JAMBOREE ROAD Southbound				MCGAW AVENUE Westbound				JAMBOREE ROAD Northbound				MCGAW AVENUE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	**454**	3	**470**	**12**	**15**	**18**	**45**	6	754	20	780	**61**	63	**84**	**208**	**1503**
05:15 PM	11	383	1	395	1	6	10	17	5	735	16	756	55	**68**	83	206	1374
05:30 PM	13	412	2	427	4	4	8	16	**8**	**811**	27	**846**	40	60	65	165	1454
05:45 PM	**15**	398	**5**	418	2	5	9	16	6	795	**31**	832	23	58	63	144	1410
Total Volume	52	1647	11	1710	19	30	45	94	25	3095	94	3214	179	249	295	723	5741
% App. Total	3	96.3	0.6		20.2	31.9	47.9		0.8	96.3	2.9		24.8	34.4	40.8		
PHF	.867	.907	.550	.910	.396	.500	.625	.522	.781	.954	.758	.950	.734	.915	.878	.869	.955

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				05:00 PM				05:00 PM				
+0 mins.	13	**454**	3	**470**	6	7	12	25	6	754	20	780	**61**	63	**84**	**208**	
+15 mins.	11	383	1	395	8	**17**	6	31	5	735	16	756	55	**68**	83	206	
+30 mins.	13	412	2	427	**13**	15	**26**	**54**	**8**	**811**	27	**846**	40	60	65	165	
+45 mins.	**15**	398	**5**	418	12	15	18	45	6	795	**31**	832	23	58	63	144	
Total Volume	52	1647	11	1710	39	54	62	155	25	3095	94	3214	179	249	295	723	
% App. Total	3	96.3	0.6		25.2	34.8	40		0.8	96.3	2.9		24.8	34.4	40.8		
PHF	.867	.907	.550	.910	.750	.794	.596	.718	.781	.954	.758	.950	.734	.915	.878	.869	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MACARTHUR BOULEVARD

File Name : H1405109
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

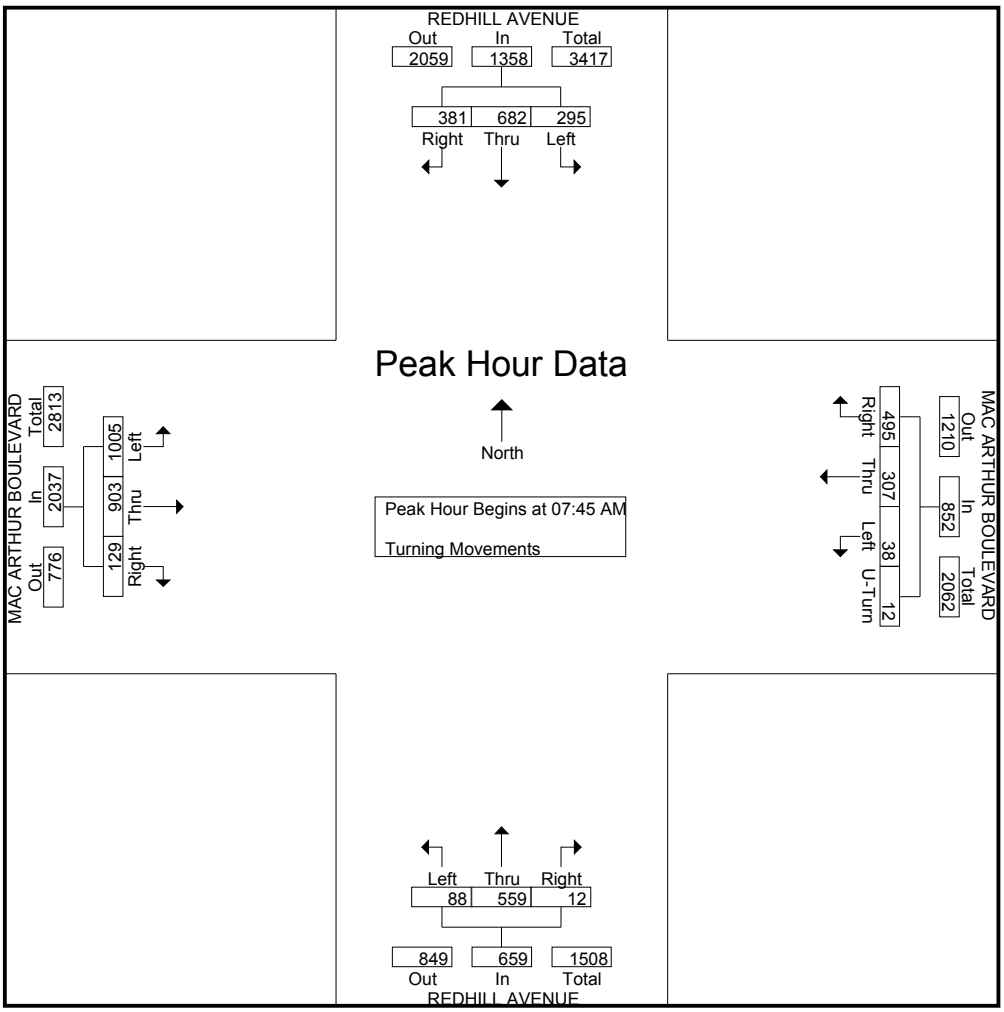
	REDHILL AVENUE Southbound			MAC ARTHUR BOULEVARD Westbound				REDHILL AVENUE Northbound			MAC ARTHUR BOULEVARD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	56	62	36	81	34	9	4	5	68	19	23	199	227	823
07:15 AM	67	108	37	110	54	5	0	3	93	13	23	169	239	921
07:30 AM	83	126	48	98	73	5	1	4	110	13	36	209	253	1059
07:45 AM	84	177	65	141	70	8	2	2	215	17	25	206	268	1280
Total	290	473	186	430	231	27	7	14	486	62	107	783	987	4083
08:00 AM	81	162	63	147	88	11	4	1	125	24	42	247	283	1278
08:15 AM	108	191	84	101	64	8	2	5	120	28	32	234	258	1235
08:30 AM	108	152	83	106	85	11	4	4	99	19	30	216	196	1113
08:45 AM	102	161	61	115	69	4	2	1	121	15	40	196	230	1117
Total	399	666	291	469	306	34	12	11	465	86	144	893	967	4743
*** BREAK ***														
04:00 PM	255	130	67	169	238	5	2	4	241	79	22	109	157	1478
04:15 PM	200	148	59	128	228	2	1	11	193	38	17	85	127	1237
04:30 PM	263	155	65	188	240	19	5	7	232	70	20	98	179	1541
04:45 PM	216	162	69	155	218	5	2	10	194	45	17	104	205	1402
Total	934	595	260	640	924	31	10	32	860	232	76	396	668	5658
05:00 PM	320	227	102	218	228	10	4	7	299	50	20	97	168	1750
05:15 PM	233	192	74	225	241	21	2	6	219	35	28	150	198	1624
05:30 PM	217	221	63	227	174	12	2	12	296	52	33	162	217	1688
05:45 PM	171	158	75	191	219	13	3	3	246	35	26	162	191	1493
Total	941	798	314	861	862	56	11	28	1060	172	107	571	774	6555
Grand Total	2564	2532	1051	2400	2323	148	40	85	2871	552	434	2643	3396	21039
Apprch %	41.7	41.2	17.1	48.9	47.3	3	0.8	2.4	81.8	15.7	6.7	40.8	52.5	
Total %	12.2	12	5	11.4	11	0.7	0.2	0.4	13.6	2.6	2.1	12.6	16.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MACARTHUR BOULEVARD

File Name : H1405109
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				MAC ARTHUR BOULEVARD Westbound					REDHILL AVENUE Northbound				MAC ARTHUR BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	84	177	65	326	141	70	8	2	221	2	**215**	17	**234**	25	206	268	499	**1280**
08:00 AM	81	162	63	306	**147**	**88**	**11**	**4**	**250**	1	125	24	150	**42**	**247**	**283**	**572**	1278
08:15 AM	**108**	**191**	**84**	**383**	101	64	8	2	175	**5**	120	**28**	153	32	234	258	524	1235
08:30 AM	108	152	83	343	106	85	11	4	206	4	99	19	122	30	216	196	442	1113
Total Volume	381	682	295	1358	495	307	38	12	852	12	559	88	659	129	903	1005	2037	4906
% App. Total	28.1	50.2	21.7		58.1	36	4.5	1.4		1.8	84.8	13.4		6.3	44.3	49.3		
PHF	.882	.893	.878	.886	.842	.872	.864	.750	.852	.600	.650	.786	.704	.768	.914	.888	.890	.958

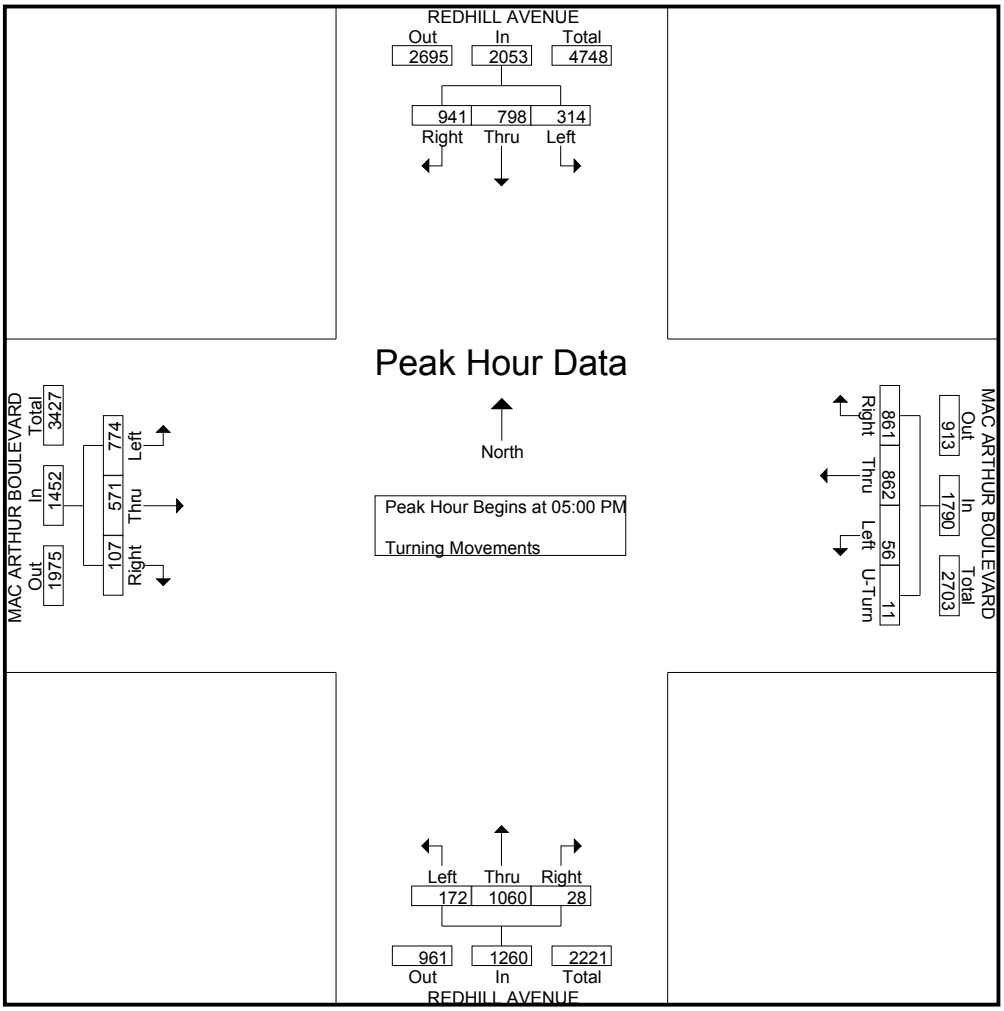


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MACARTHUR BOULEVARD

File Name : H1405109
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				MAC ARTHUR BOULEVARD Westbound					REDHILL AVENUE Northbound				MAC ARTHUR BOULEVARD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	**320**	**227**	**102**	**649**	218	228	10	**4**	460	7	**299**	50	356	20	97	168	285	**1750**
05:15 PM	233	192	74	499	225	**241**	**21**	2	**489**	6	219	35	260	28	150	198	376	1624
05:30 PM	217	221	63	501	**227**	174	12	2	415	**12**	296	**52**	**360**	**33**	**162**	**217**	**412**	1688
05:45 PM	171	158	75	404	191	219	13	3	426	3	246	35	284	26	162	191	379	1493
Total Volume	941	798	314	2053	861	862	56	11	1790	28	1060	172	1260	107	571	774	1452	6555
% App. Total	45.8	38.9	15.3		48.1	48.2	3.1	0.6		2.2	84.1	13.7		7.4	39.3	53.3		
PHF	.735	.879	.770	.791	.948	.894	.667	.688	.915	.583	.886	.827	.875	.811	.881	.892	.881	.936



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MAIN STREET

File Name : h1405110
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

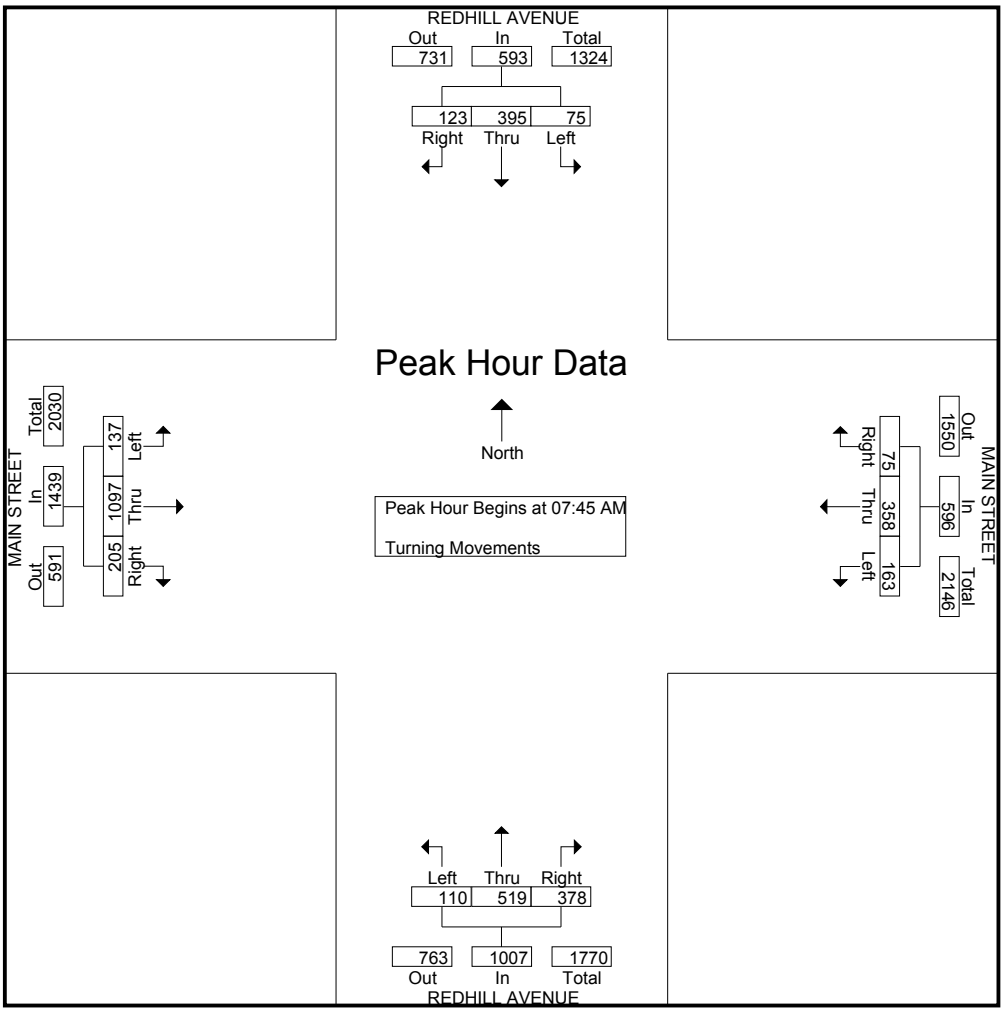
	REDHILL AVENUE Southbound			MAIN STREET Westbound			REDHILL AVENUE Northbound			MAIN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	13	36	12	13	54	28	44	65	15	24	149	11	464
07:15 AM	16	60	14	14	59	30	57	72	10	37	198	28	595
07:30 AM	28	81	24	20	67	31	77	112	18	33	238	27	756
07:45 AM	21	92	12	19	85	50	99	177	19	61	331	51	1017
Total	78	269	62	66	265	139	277	426	62	155	916	117	2832
08:00 AM	36	117	17	19	76	42	104	120	37	40	270	31	909
08:15 AM	31	92	24	18	99	38	103	120	30	64	278	28	925
08:30 AM	35	94	22	19	98	33	72	102	24	40	218	27	784
08:45 AM	34	80	12	20	105	41	75	82	42	40	231	57	819
Total	136	383	75	76	378	154	354	424	133	184	997	143	3437
*** BREAK ***													
04:00 PM	26	104	11	28	292	63	43	198	48	24	136	29	1002
04:15 PM	24	103	7	14	206	57	36	165	53	27	123	32	847
04:30 PM	45	119	16	9	343	67	54	183	57	23	116	39	1071
04:45 PM	42	130	19	14	298	67	50	180	57	36	145	31	1069
Total	137	456	53	65	1139	254	183	726	215	110	520	131	3989
05:00 PM	74	188	14	27	392	79	99	223	88	35	162	41	1422
05:15 PM	70	181	24	20	410	87	54	197	76	42	203	45	1409
05:30 PM	69	153	20	24	414	97	69	231	47	30	188	48	1390
05:45 PM	40	142	13	24	320	65	58	178	57	44	204	44	1189
Total	253	664	71	95	1536	328	280	829	268	151	757	178	5410
Grand Total	604	1772	261	302	3318	875	1094	2405	678	600	3190	569	15668
Apprch %	22.9	67.2	9.9	6.7	73.8	19.5	26.2	57.6	16.2	13.8	73.2	13.1	
Total %	3.9	11.3	1.7	1.9	21.2	5.6	7	15.3	4.3	3.8	20.4	3.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MAIN STREET

File Name : h1405110
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				MAIN STREET Westbound				REDHILL AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	21	92	12	125	**19**	85	**50**	154	99	**177**	19	**295**	61	**331**	**51**	**443**	**1017**
08:00 AM	**36**	**117**	17	**170**	19	76	42	137	**104**	120	**37**	261	40	270	31	341	909
08:15 AM	31	92	**24**	147	18	**99**	38	**155**	103	120	30	253	**64**	278	28	370	925
08:30 AM	35	94	22	151	19	98	33	150	72	102	24	198	40	218	27	285	784
Total Volume	123	395	75	593	75	358	163	596	378	519	110	1007	205	1097	137	1439	3635
% App. Total	20.7	66.6	12.6		12.6	60.1	27.3		37.5	51.5	10.9		14.2	76.2	9.5		
PHF	.854	.844	.781	.872	.987	.904	.815	.961	.909	.733	.743	.853	.801	.829	.672	.812	.894

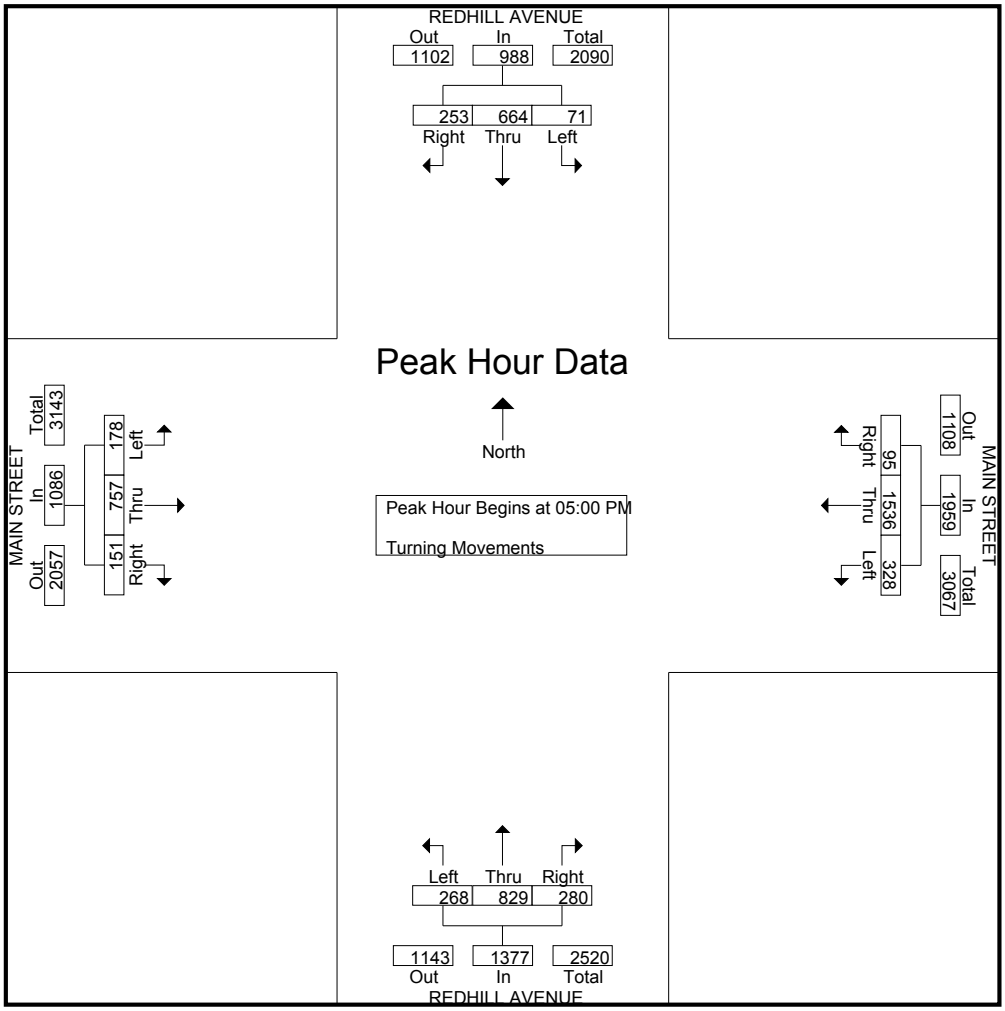


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: REDHILL AVENUE
E-W Direction: MAIN STREET

File Name : h1405110
Site Code : 00000000
Start Date : 6/10/2014

	REDHILL AVENUE Southbound				MAIN STREET Westbound				REDHILL AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**74**	**188**	14	**276**	**27**	392	79	498	**99**	223	**88**	**410**	35	162	41	238	**1422**
05:15 PM	70	181	**24**	275	20	410	87	517	54	197	76	327	42	203	45	290	1409
05:30 PM	69	153	20	242	24	**414**	**97**	**535**	69	**231**	47	347	30	188	**48**	266	1390
05:45 PM	40	142	13	195	24	320	65	409	58	178	57	293	**44**	**204**	44	**292**	1189
Total Volume	253	664	71	988	95	1536	328	1959	280	829	268	1377	151	757	178	1086	5410
% App. Total	25.6	67.2	7.2		4.8	78.4	16.7		20.3	60.2	19.5		13.9	69.7	16.4		
PHF	.855	.883	.740	.895	.880	.928	.845	.915	.707	.897	.761	.840	.858	.928	.927	.930	.951



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: MACARTHUR BOULEVARD
E-W Direction: MAIN STREET

File Name : h1405111
Site Code : 00005701
Start Date : 6/10/2014

Groups Printed- Turning Movements

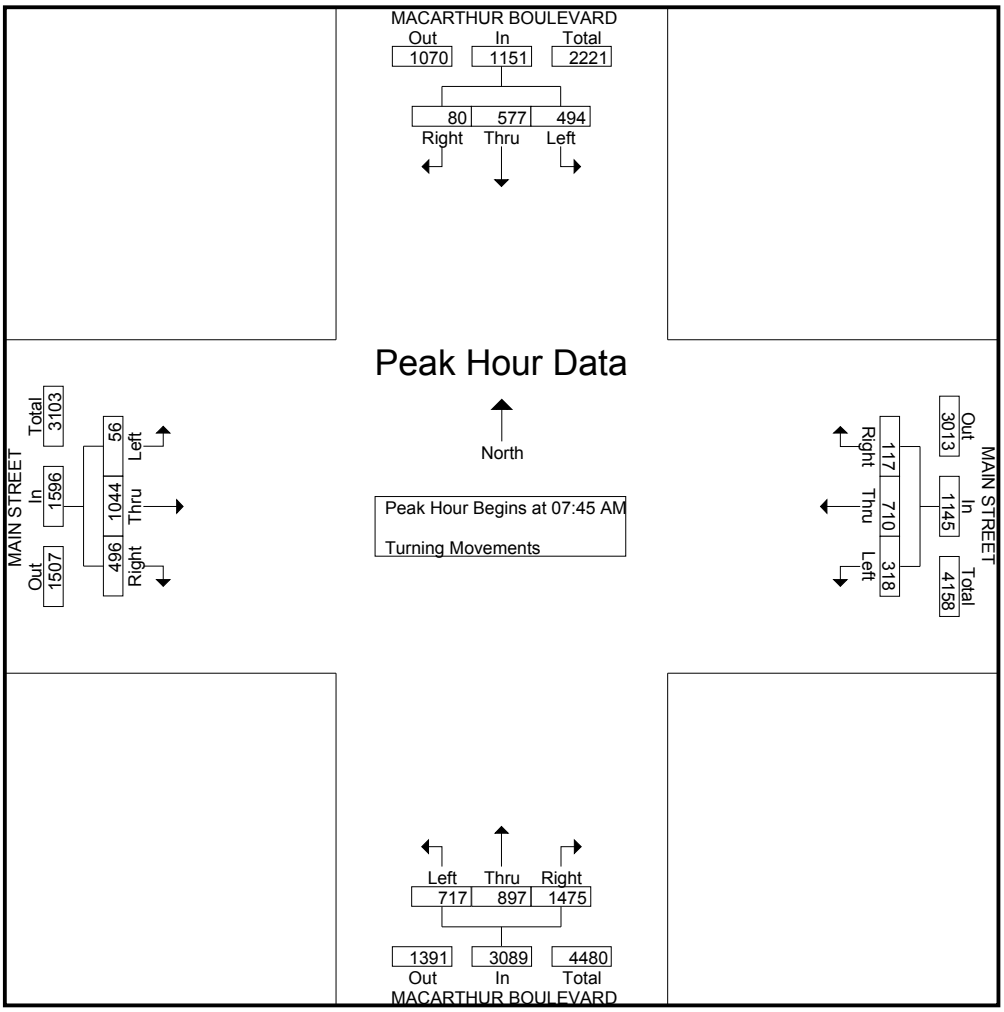
	MACARTHUR BOULEVARD Southbound			MAIN STREET Westbound			MACARTHUR BOULEVARD Northbound			MAIN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	17	89	104	29	59	33	181	159	99	87	114	7	978
07:15 AM	17	95	108	22	56	34	238	199	122	83	181	14	1169
07:30 AM	21	127	84	20	99	47	275	164	140	103	186	12	1278
07:45 AM	15	145	112	29	159	57	341	229	122	144	253	25	1631
Total	70	456	408	100	373	171	1035	751	483	417	734	58	5056
08:00 AM	25	150	139	29	200	97	388	258	191	132	262	13	1884
08:15 AM	20	150	120	30	180	74	397	164	225	110	288	9	1767
08:30 AM	20	132	123	29	171	90	349	246	179	110	241	9	1699
08:45 AM	24	121	113	14	190	74	330	277	165	111	185	13	1617
Total	89	553	495	102	741	335	1464	945	760	463	976	44	6967
*** BREAK ***													
04:00 PM	11	141	35	85	145	142	78	200	122	122	143	14	1238
04:15 PM	14	157	56	89	157	123	108	243	140	112	141	19	1359
04:30 PM	15	150	45	78	151	132	128	249	108	115	174	12	1357
04:45 PM	14	157	60	78	158	124	156	294	122	131	153	17	1464
Total	54	605	196	330	611	521	470	986	492	480	611	62	5418
05:00 PM	15	169	48	100	165	105	168	351	151	148	223	6	1649
05:15 PM	13	200	76	122	216	155	128	405	137	152	267	11	1882
05:30 PM	14	202	59	89	178	165	66	319	144	140	253	16	1645
05:45 PM	10	193	106	81	189	144	73	329	171	120	236	11	1663
Total	52	764	289	392	748	569	435	1404	603	560	979	44	6839
Grand Total	265	2378	1388	924	2473	1596	3404	4086	2338	1920	3300	208	24280
Apprch %	6.6	59	34.4	18.5	49.5	32	34.6	41.6	23.8	35.4	60.8	3.8	
Total %	1.1	9.8	5.7	3.8	10.2	6.6	14	16.8	9.6	7.9	13.6	0.9	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: MACARTHUR BOULEVARD
E-W Direction: MAIN STREET

File Name : h1405111
Site Code : 00005701
Start Date : 6/10/2014

	MACARTHUR BOULEVARD Southbound				MAIN STREET Westbound				MACARTHUR BOULEVARD Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	15	145	112	272	29	159	57	245	341	229	122	692	**144**	253	**25**	**422**	1631
08:00 AM	**25**	**150**	**139**	**314**	29	**200**	**97**	**326**	388	**258**	191	**837**	132	262	13	407	**1884**
08:15 AM	20	150	120	290	**30**	180	74	284	**397**	164	**225**	786	110	**288**	9	407	1767
08:30 AM	20	132	123	275	29	171	90	290	349	246	179	774	110	241	9	360	1699
Total Volume	80	577	494	1151	117	710	318	1145	1475	897	717	3089	496	1044	56	1596	6981
% App. Total	7	50.1	42.9		10.2	62	27.8		47.8	29	23.2		31.1	65.4	3.5		
PHF	.800	.962	.888	.916	.975	.888	.820	.878	.929	.869	.797	.923	.861	.906	.560	.945	.926

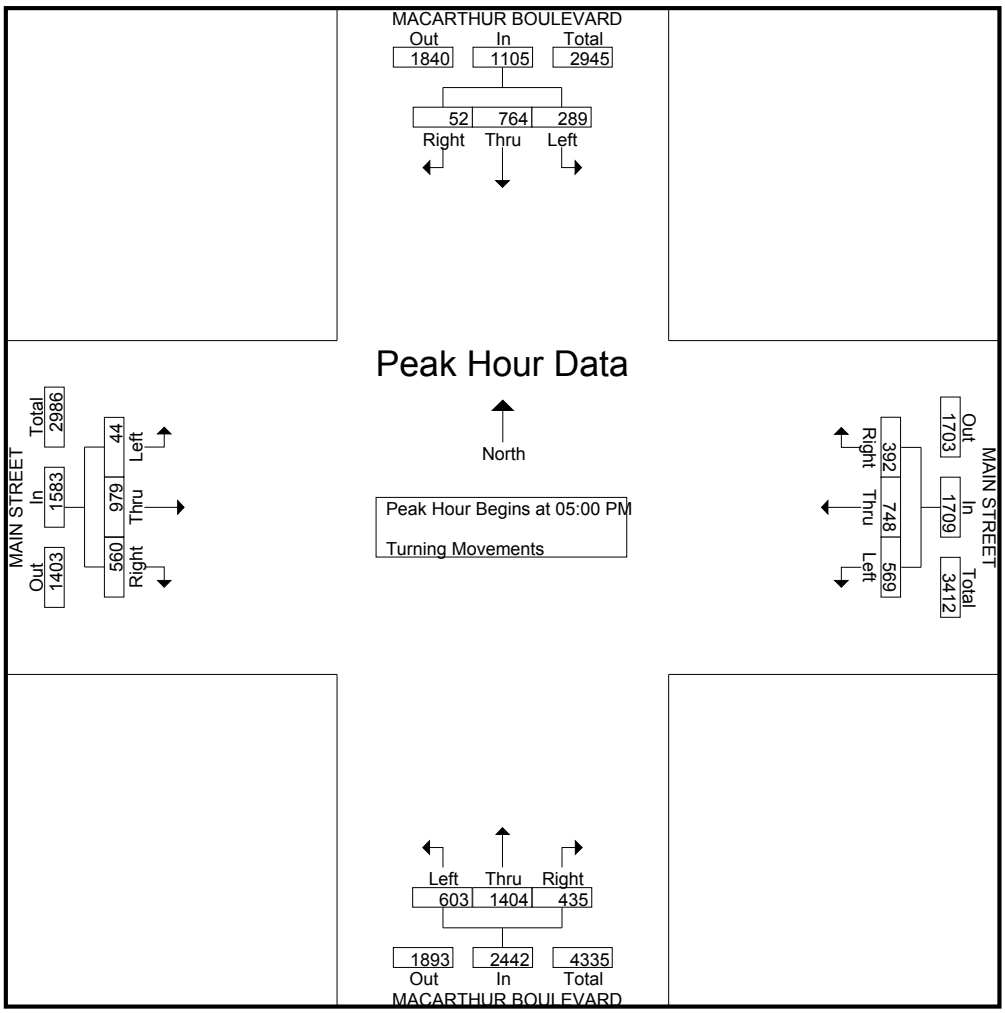


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: MACARTHUR BOULEVARD
E-W Direction: MAIN STREET

File Name : h1405111
Site Code : 00005701
Start Date : 6/10/2014

	MACARTHUR BOULEVARD Southbound				MAIN STREET Westbound				MACARTHUR BOULEVARD Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**15**	169	48	232	100	165	105	370	**168**	351	151	**670**	148	223	6	377	1649
05:15 PM	13	200	76	289	**122**	**216**	155	**493**	128	**405**	137	670	**152**	**267**	11	**430**	**1882**
05:30 PM	14	**202**	59	275	89	178	**165**	432	66	319	144	529	140	253	**16**	409	1645
05:45 PM	10	193	**106**	**309**	81	189	144	414	73	329	**171**	573	120	236	11	367	1663
Total Volume	52	764	289	1105	392	748	569	1709	435	1404	603	2442	560	979	44	1583	6839
% App. Total	4.7	69.1	26.2		22.9	43.8	33.3		17.8	57.5	24.7		35.4	61.8	2.8		
PHF	.867	.946	.682	.894	.803	.866	.862	.867	.647	.867	.882	.911	.921	.917	.688	.920	.908



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MAIN STREET

File Name : H1405113
Site Code : 00001944
Start Date : 6/12/2014
Page No : 1

Groups Printed- Turning Movements

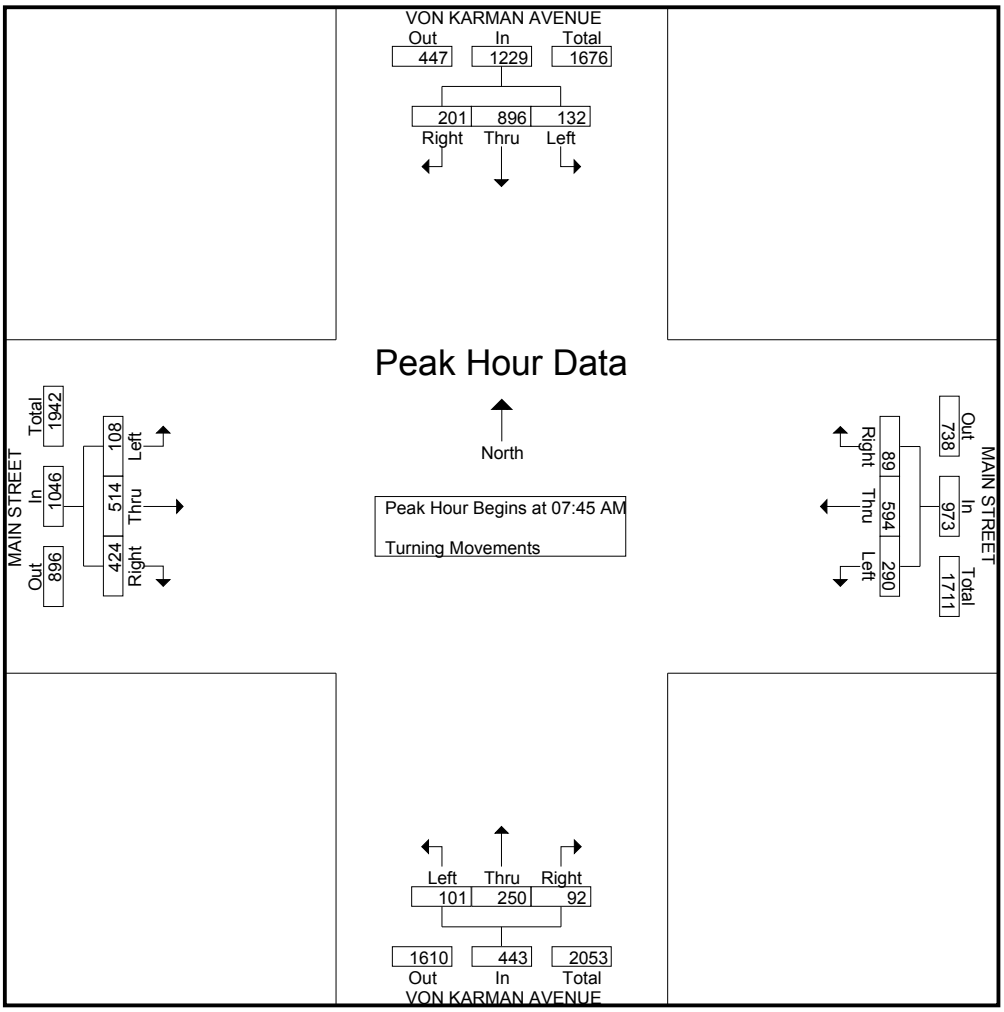
	VON KARMAN AVENUE Southbound			MAIN STREET Westbound			VON KARMAN AVENUE Northbound			MAIN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	44	101	15	21	90	24	4	22	12	91	121	36	581
07:15 AM	39	180	38	20	98	23	8	45	11	102	83	35	682
07:30 AM	47	167	18	18	97	30	11	34	15	104	110	33	684
07:45 AM	47	213	29	16	131	65	25	71	26	91	123	29	866
Total	177	661	100	75	416	142	48	172	64	388	437	133	2813
08:00 AM	64	261	34	27	135	65	19	59	26	122	142	35	989
08:15 AM	42	212	33	20	148	80	24	66	15	98	128	22	888
08:30 AM	48	210	36	26	180	80	24	54	34	113	121	22	948
08:45 AM	32	240	25	19	87	68	25	53	21	89	104	18	781
Total	186	923	128	92	550	293	92	232	96	422	495	97	3606
*** BREAK ***													
04:00 PM	44	66	35	15	90	26	31	157	98	38	129	53	782
04:15 PM	26	62	15	16	99	15	62	221	99	21	182	79	897
04:30 PM	39	75	41	19	148	35	64	185	83	40	213	92	1034
04:45 PM	24	75	27	17	97	38	69	211	75	30	161	79	903
Total	133	278	118	67	434	114	226	774	355	129	685	303	3616
05:00 PM	29	104	27	24	120	23	79	203	74	31	211	74	999
05:15 PM	16	139	41	22	145	30	127	229	87	34	246	61	1177
05:30 PM	23	101	31	19	173	33	73	163	52	25	235	68	996
05:45 PM	14	99	31	20	126	39	83	190	61	24	176	58	921
Total	82	443	130	85	564	125	362	785	274	114	868	261	4093
Grand Total	578	2305	476	319	1964	674	728	1963	789	1053	2485	794	14128
Apprch %	17.2	68.6	14.2	10.8	66.4	22.8	20.9	56.4	22.7	24.3	57.4	18.3	
Total %	4.1	16.3	3.4	2.3	13.9	4.8	5.2	13.9	5.6	7.5	17.6	5.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MAIN STREET

File Name : H1405113
Site Code : 00001944
Start Date : 6/12/2014

	VON KARMAN AVENUE Southbound				MAIN STREET Westbound				VON KARMAN AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	47	213	29	289	16	131	65	212	**25**	**71**	26	**122**	91	123	29	243	866
08:00 AM	**64**	**261**	34	**359**	**27**	135	65	227	19	59	26	104	**122**	**142**	**35**	**299**	**989**
08:15 AM	42	212	33	287	20	148	**80**	248	24	66	15	105	98	128	22	248	888
08:30 AM	48	210	**36**	294	26	**180**	80	**286**	24	54	**34**	112	113	121	22	256	948
Total Volume	201	896	132	1229	89	594	290	973	92	250	101	443	424	514	108	1046	3691
% App. Total	16.4	72.9	10.7		9.1	61	29.8		20.8	56.4	22.8		40.5	49.1	10.3		
PHF	.785	.858	.917	.856	.824	.825	.906	.851	.920	.880	.743	.908	.869	.905	.771	.875	.933

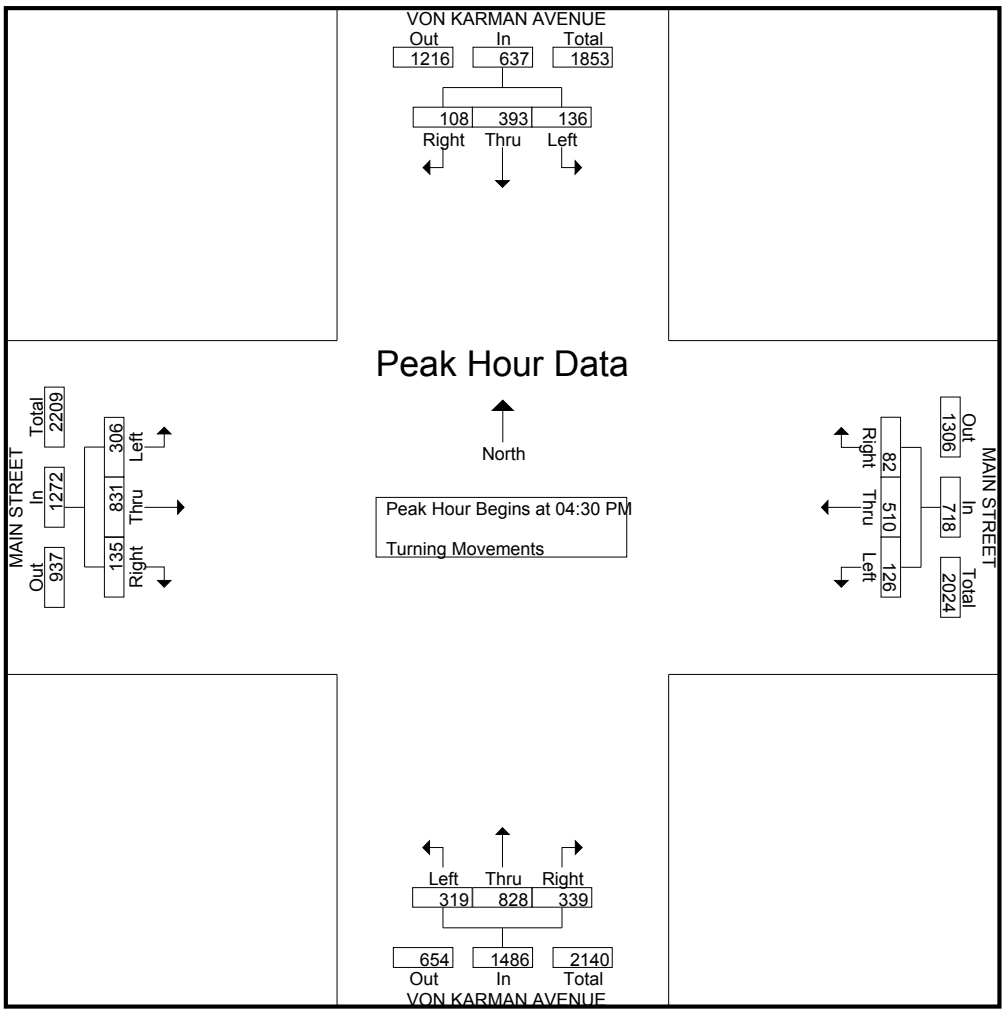


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: VON KARMAN AVENUE
E-W Direction: MAIN STREET

File Name : H1405113
Site Code : 00001944
Start Date : 6/12/2014
Page No : 3

	VON KARMAN AVENUE Southbound				MAIN STREET Westbound				VON KARMAN AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**39**	75	**41**	155	19	**148**	35	**202**	64	185	83	332	**40**	213	**92**	**345**	1034
04:45 PM	24	75	27	126	17	97	**38**	152	69	211	75	355	30	161	79	270	903
05:00 PM	29	104	27	160	**24**	120	23	167	79	203	74	356	31	211	74	316	999
05:15 PM	16	**139**	41	**196**	22	145	30	197	**127**	**229**	**87**	**443**	34	**246**	61	341	**1177**
Total Volume	108	393	136	637	82	510	126	718	339	828	319	1486	135	831	306	1272	4113
% App. Total	17	61.7	21.4		11.4	71	17.5		22.8	55.7	21.5		10.6	65.3	24.1		
PHF	.692	.707	.829	.813	.854	.861	.829	.889	.667	.904	.917	.839	.844	.845	.832	.922	.874



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MAIN STREET

File Name : h1405105
Site Code : 00000000
Start Date : 6/10/2014

Groups Printed- Turning Movements

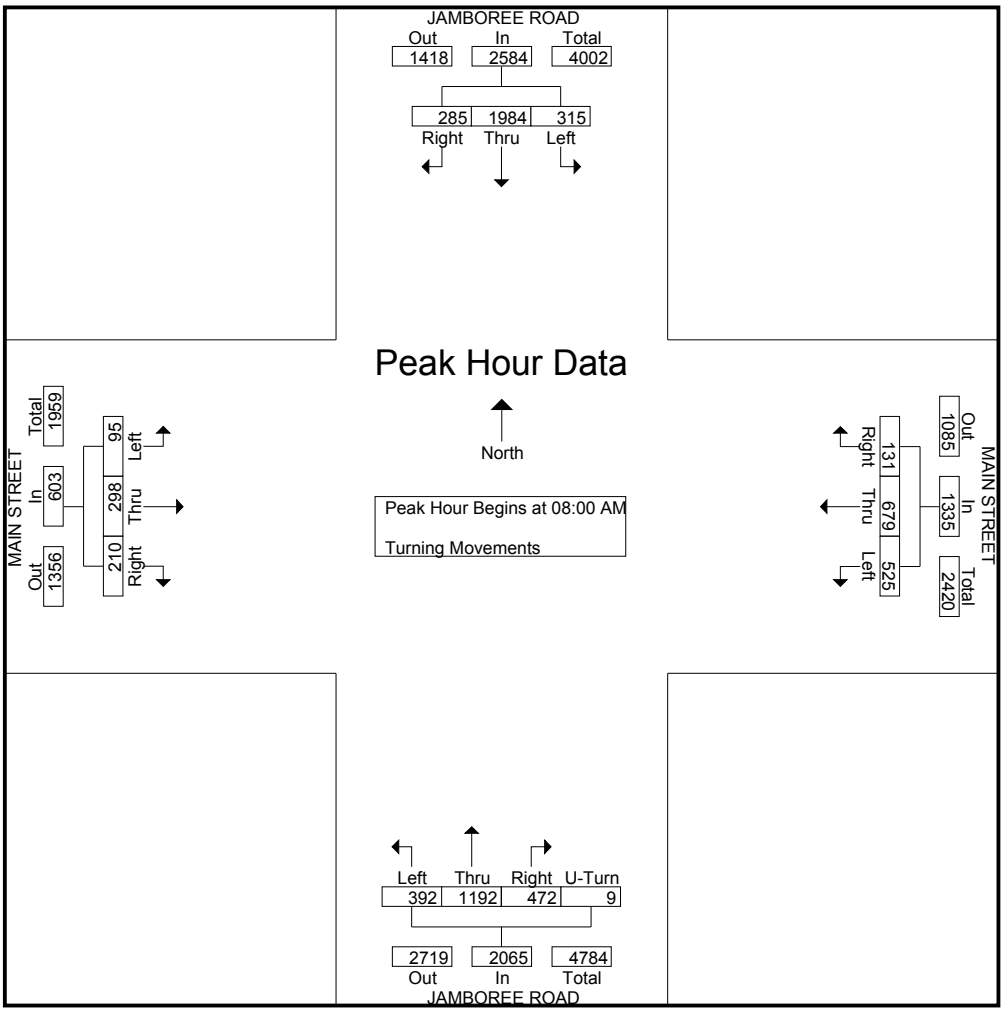
	JAMBOREE ROAD Southbound			MAIN STREET Westbound			JAMBOREE ROAD Northbound				MAIN STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Int. Total
07:00 AM	48	424	36	19	62	75	67	251	88	2	45	41	14	1172
07:15 AM	62	533	72	28	85	109	71	257	75	1	45	38	18	1394
07:30 AM	86	585	57	28	135	125	71	275	93	2	59	64	19	1599
07:45 AM	45	373	68	36	157	142	84	276	94	2	54	78	27	1436
Total	241	1915	233	111	439	451	293	1059	350	7	203	221	78	5601
08:00 AM	43	308	42	34	139	129	108	342	101	4	61	70	22	1403
08:15 AM	74	486	91	26	211	152	111	271	101	2	57	67	17	1666
08:30 AM	93	630	91	37	138	121	128	290	96	2	43	81	28	1778
08:45 AM	75	560	91	34	191	123	125	289	94	1	49	80	28	1740
Total	285	1984	315	131	679	525	472	1192	392	9	210	298	95	6587
*** BREAK ***														
04:00 PM	29	349	32	60	66	96	85	571	49	4	151	110	58	1660
04:15 PM	32	323	47	50	66	98	107	542	54	5	90	104	90	1608
04:30 PM	40	394	36	53	78	101	87	605	24	2	186	159	96	1861
04:45 PM	45	350	33	74	80	125	133	608	65	5	148	169	117	1952
Total	146	1416	148	237	290	420	412	2326	192	16	575	542	361	7081
05:00 PM	50	467	55	70	118	141	137	593	46	3	205	290	137	2312
05:15 PM	62	411	46	72	97	129	162	630	87	2	181	304	132	2315
05:30 PM	42	342	55	69	104	128	173	554	83	1	157	334	151	2193
05:45 PM	46	344	54	63	98	119	171	622	85	3	143	284	132	2164
Total	200	1564	210	274	417	517	643	2399	301	9	686	1212	552	8984
Grand Total	872	6879	906	753	1825	1913	1820	6976	1235	41	1674	2273	1086	28253
Apprch %	10.1	79.5	10.5	16.8	40.6	42.6	18.1	69.3	12.3	0.4	33.3	45.2	21.6	
Total %	3.1	24.3	3.2	2.7	6.5	6.8	6.4	24.7	4.4	0.1	5.9	8	3.8	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MAIN STREET

File Name : h1405105
Site Code : 00000000
Start Date : 6/10/2014

	JAMBOREE ROAD Southbound				MAIN STREET Westbound				JAMBOREE ROAD Northbound					MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	43	308	42	393	34	139	129	302	108	**342**	**101**	**4**	**555**	**61**	70	22	153	1403
08:15 AM	74	486	**91**	651	26	**211**	**152**	**389**	111	271	101	2	485	57	67	17	141	1666
08:30 AM	**93**	**630**	91	**814**	**37**	138	121	296	**128**	290	96	2	516	43	**81**	**28**	152	**1778**
08:45 AM	75	560	91	726	34	191	123	348	125	289	94	1	509	49	80	28	**157**	1740
Total Volume	285	1984	315	2584	131	679	525	1335	472	1192	392	9	2065	210	298	95	603	6587
% App. Total	11	76.8	12.2		9.8	50.9	39.3		22.9	57.7	19	0.4		34.8	49.4	15.8		
PHF	.766	.787	.865	.794	.885	.805	.863	.858	.922	.871	.970	.563	.930	.861	.920	.848	.960	.926

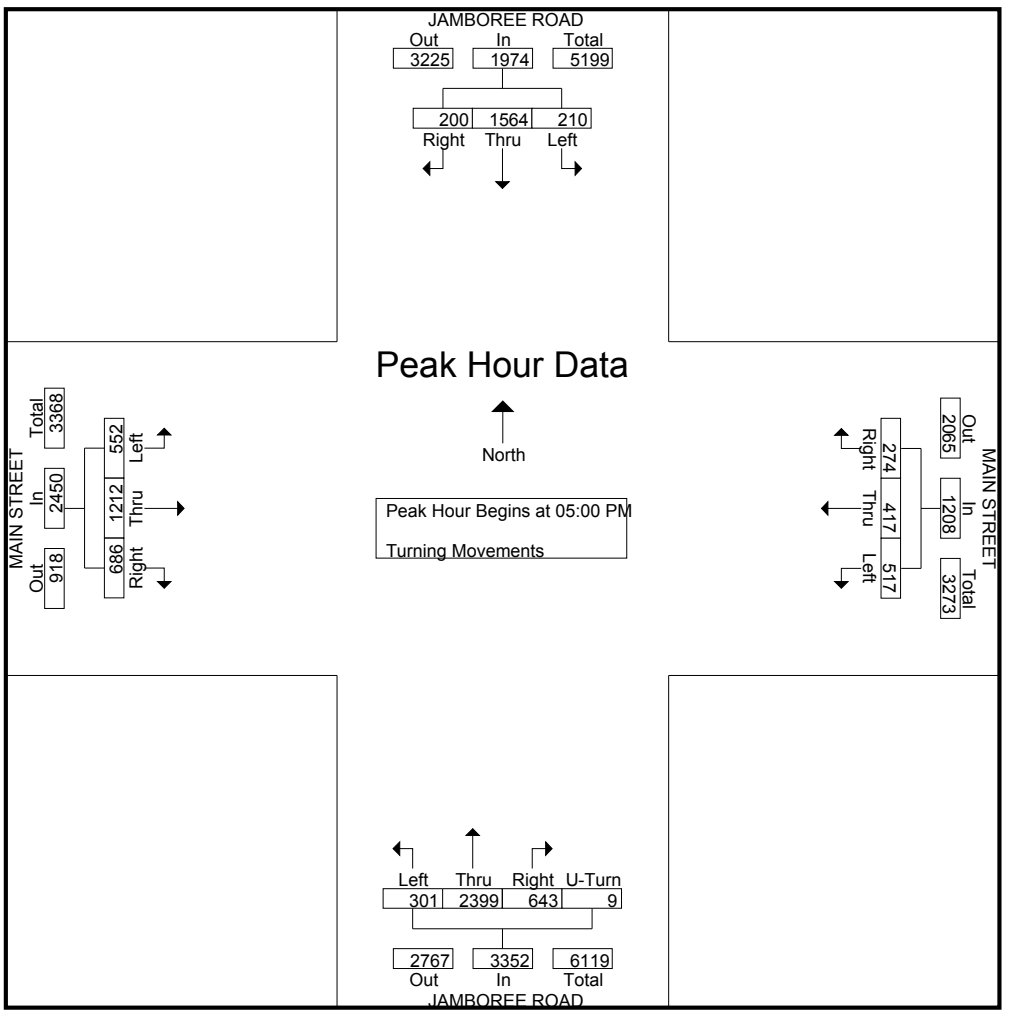


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JAMBOREE ROAD
E-W Direction: MAIN STREET

File Name : h1405105
Site Code : 00000000
Start Date : 6/10/2014

	JAMBOREE ROAD Southbound				MAIN STREET Westbound				JAMBOREE ROAD Northbound					MAIN STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	50	**467**	**55**	**572**	70	**118**	**141**	**329**	137	593	46	**3**	779	**205**	290	137	632	2312
05:15 PM	**62**	411	46	519	**72**	97	129	298	162	**630**	**87**	2	**881**	181	304	132	617	**2315**
05:30 PM	42	342	55	439	69	104	128	301	**173**	554	83	1	811	157	**334**	**151**	**642**	2193
05:45 PM	46	344	54	444	63	98	119	280	171	622	85	3	881	143	284	132	559	2164
Total Volume	200	1564	210	1974	274	417	517	1208	643	2399	301	9	3352	686	1212	552	2450	8984
% App. Total	10.1	79.2	10.6		22.7	34.5	42.8		19.2	71.6	9	0.3		28	49.5	22.5		
PHF	.806	.837	.955	.863	.951	.883	.917	.918	.929	.952	.865	.750	.951	.837	.907	.914	.954	.970



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: MAIN STREET

File Name : H1405106
Site Code : 00000000
Start Date : 6/10/2014
Page No : 1

Groups Printed- Turning Movements

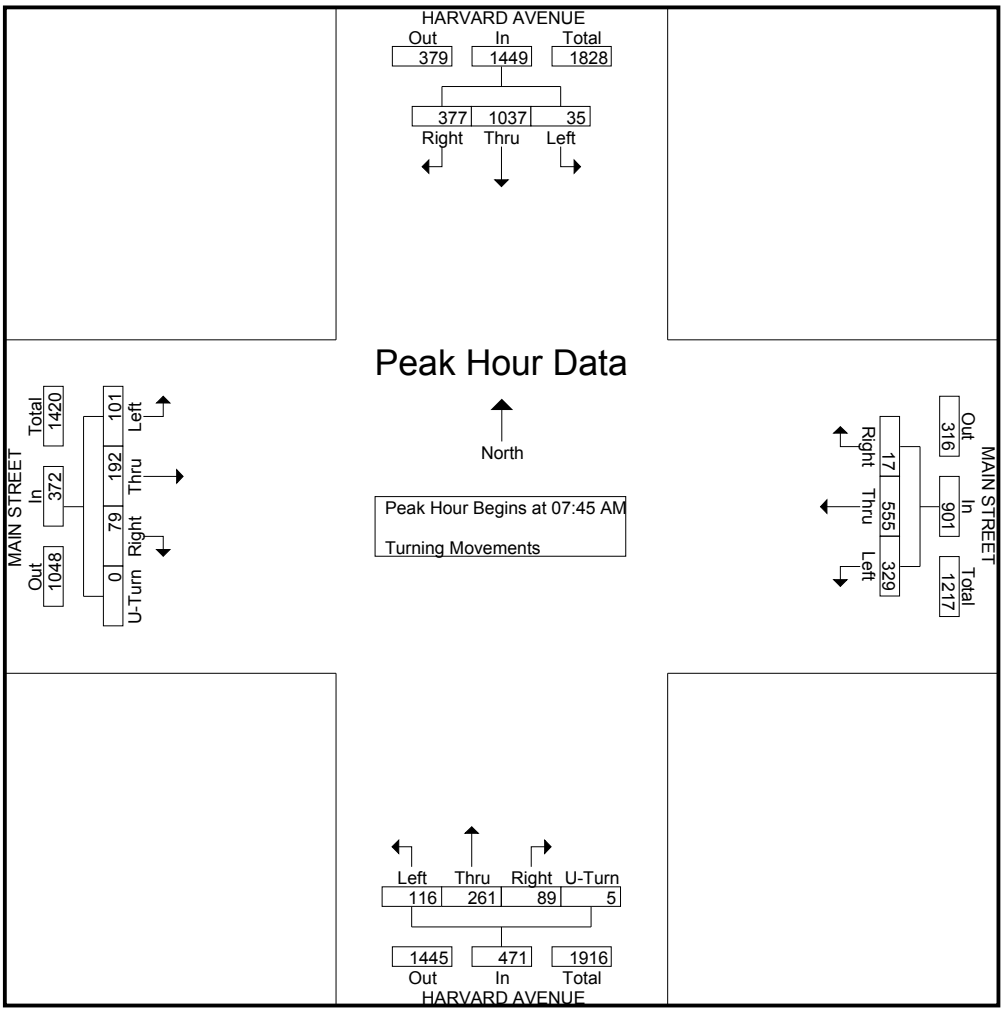
	HARVARD AVENUE Southbound			MAIN STREET Westbound			HARVARD AVENUE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	36	133	3	4	54	30	4	40	13	1	20	24	19	1	382
07:15 AM	57	124	1	2	64	39	8	65	27	1	25	32	16	0	461
07:30 AM	75	160	10	2	100	54	21	68	20	1	23	50	18	0	602
07:45 AM	80	228	13	3	105	64	52	74	32	1	22	56	28	0	758
Total	248	645	27	11	323	187	85	247	92	4	90	162	81	1	2203
08:00 AM	106	267	7	7	148	101	22	60	34	1	12	44	28	0	837
08:15 AM	102	282	6	6	162	80	6	71	27	2	21	48	19	0	832
08:30 AM	89	260	9	1	140	84	9	56	23	1	24	44	26	0	766
08:45 AM	74	213	9	4	120	62	16	70	20	4	32	54	20	2	700
Total	371	1022	31	18	570	327	53	257	104	8	89	190	93	2	3135
*** BREAK ***															
04:00 PM	25	98	4	4	22	13	28	182	19	2	31	106	68	2	604
04:15 PM	22	110	4	2	33	23	34	139	22	1	33	152	76	0	651
04:30 PM	26	105	12	1	28	25	29	191	27	4	37	160	78	0	723
04:45 PM	18	109	9	3	40	34	47	203	24	1	29	169	80	0	766
Total	91	422	29	10	123	95	138	715	92	8	130	587	302	2	2744
05:00 PM	27	152	12	2	29	19	53	291	26	0	55	275	126	2	1069
05:15 PM	33	141	3	1	45	25	59	337	23	3	50	336	131	3	1190
05:30 PM	34	136	9	7	41	32	73	301	26	2	47	342	148	1	1199
05:45 PM	30	139	2	5	59	26	60	269	15	1	52	309	122	4	1093
Total	124	568	26	15	174	102	245	1198	90	6	204	1262	527	10	4551
Grand Total	834	2657	113	54	1190	711	521	2417	378	26	513	2201	1003	15	12633
Apprch %	23.1	73.7	3.1	2.8	60.9	36.4	15.6	72.3	11.3	0.8	13.7	59	26.9	0.4	
Total %	6.6	21	0.9	0.4	9.4	5.6	4.1	19.1	3	0.2	4.1	17.4	7.9	0.1	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: MAIN STREET

File Name : H1405106
Site Code : 00000000
Start Date : 6/10/2014

	HARVARD AVENUE Southbound				MAIN STREET Westbound				HARVARD AVENUE Northbound					MAIN STREET Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:45 AM																			
07:45 AM	80	228	**13**	321	3	105	64	172	**52**	**74**	32	1	**159**	22	**56**	**28**	0	**106**	758
08:00 AM	**106**	267	7	380	**7**	148	**101**	**256**	22	60	**34**	1	117	12	44	28	0	84	**837**
08:15 AM	102	**282**	6	**390**	6	**162**	80	248	6	71	27	**2**	106	21	48	19	0	88	832
08:30 AM	89	260	9	358	1	140	84	225	9	56	23	1	89	**24**	44	26	0	94	766
Total Volume	377	1037	35	1449	17	555	329	901	89	261	116	5	471	79	192	101	0	372	3193
% App. Total	26	71.6	2.4		1.9	61.6	36.5		18.9	55.4	24.6	1.1		21.2	51.6	27.2	0		
PHF	.889	.919	.673	.929	.607	.856	.814	.880	.428	.882	.853	.625	.741	.823	.857	.902	.000	.877	.954

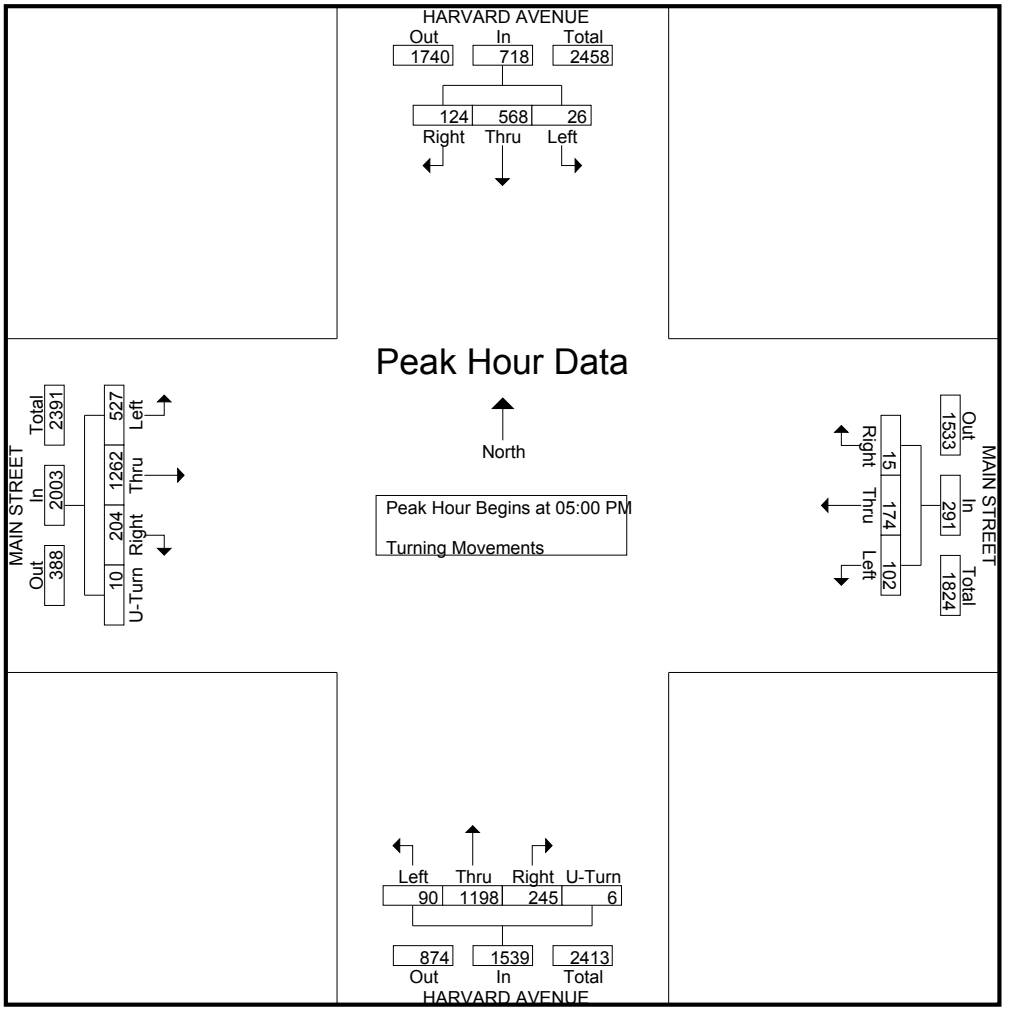


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: HARVARD AVENUE
E-W Direction: MAIN STREET

File Name : H1405106
Site Code : 00000000
Start Date : 6/10/2014

	HARVARD AVENUE Southbound				MAIN STREET Westbound				HARVARD AVENUE Northbound					MAIN STREET Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	27	**152**	**12**	**191**	2	29	19	50	53	291	**26**	0	370	**55**	275	126	2	458	1069
05:15 PM	33	141	3	177	1	45	25	71	59	**337**	23	**3**	**422**	50	336	131	3	520	1190
05:30 PM	**34**	136	9	179	**7**	41	**32**	80	**73**	301	26	2	402	47	**342**	**148**	1	**538**	**1199**
05:45 PM	30	139	2	171	5	**59**	26	**90**	60	269	15	1	345	52	309	122	**4**	487	1093
Total Volume	124	568	26	718	15	174	102	291	245	1198	90	6	1539	204	1262	527	10	2003	4551
% App. Total	17.3	79.1	3.6		5.2	59.8	35.1		15.9	77.8	5.8	0.4		10.2	63	26.3	0.5		
PHF	.912	.934	.542	.940	.536	.737	.797	.808	.839	.889	.865	.500	.912	.927	.923	.890	.625	.931	.949



Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: MAIN STREET

File Name : H1405107
Site Code : 00000000
Start Date : 6/10/2014

Groups Printed- Turning Movements

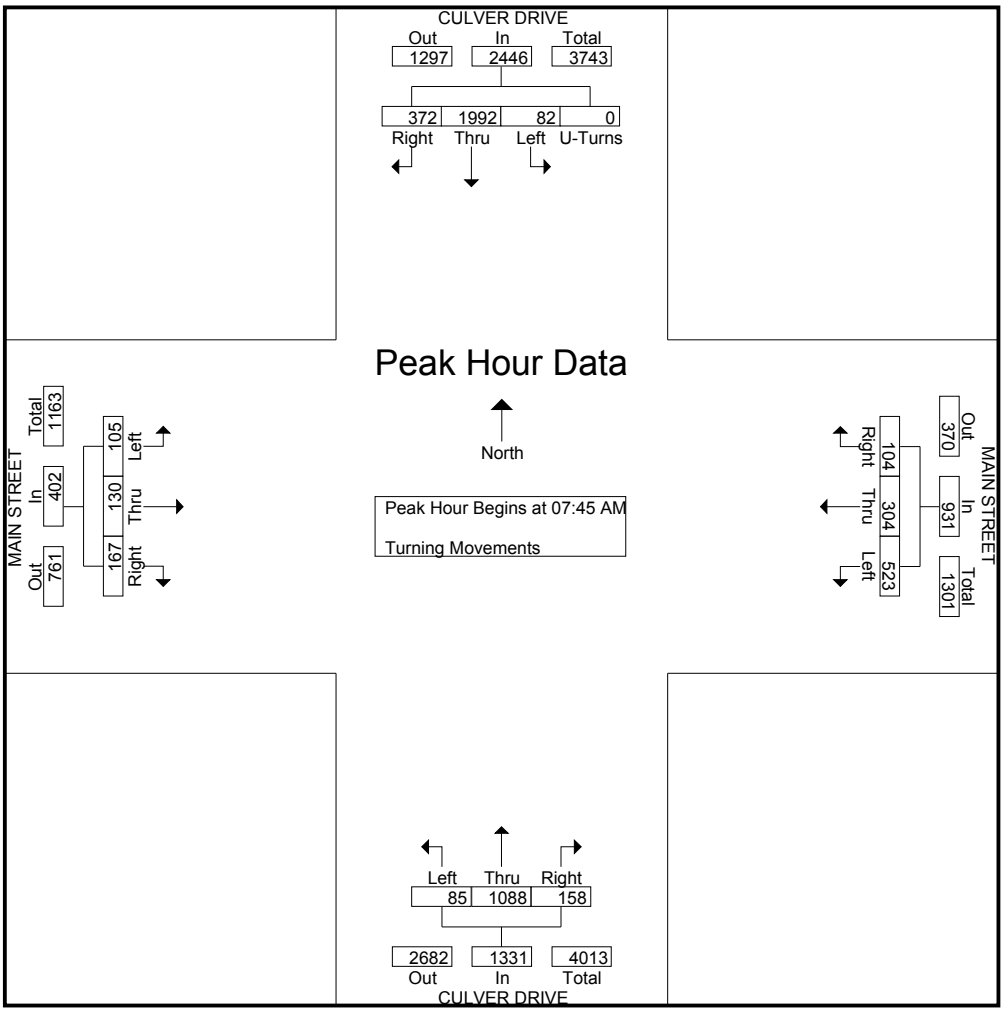
	CULVER DRIVE Southbound				MAIN STREET Westbound			CULVER DRIVE Northbound			MAIN STREET Eastbound			
Start Time	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	340	9	0	17	32	77	19	146	14	45	8	10	739
07:15 AM	40	327	9	0	13	43	101	35	197	30	33	8	11	847
07:30 AM	68	420	20	0	25	58	133	39	226	31	50	20	18	1108
07:45 AM	76	519	24	0	24	79	149	50	245	29	46	29	31	1301
Total	206	1606	62	0	79	212	460	143	814	104	174	65	70	3995
08:00 AM	106	525	15	0	28	73	126	40	261	19	42	28	28	1291
08:15 AM	102	501	17	0	30	96	139	31	289	21	43	42	24	1335
08:30 AM	88	447	26	0	22	56	109	37	293	16	36	31	22	1183
08:45 AM	67	399	32	1	25	71	111	40	303	20	38	54	29	1190
Total	363	1872	90	1	105	296	485	148	1146	76	159	155	103	4999
*** BREAK ***														
04:00 PM	18	281	19	1	17	14	34	65	428	24	39	47	28	1015
04:15 PM	29	284	30	0	22	12	40	58	417	22	32	49	61	1056
04:30 PM	25	282	23	2	20	15	53	80	420	19	57	63	62	1121
04:45 PM	30	288	30	3	19	23	53	85	404	20	46	70	63	1134
Total	102	1135	102	6	78	64	180	288	1669	85	174	229	214	4326
05:00 PM	19	278	37	0	21	13	46	83	461	35	83	82	76	1234
05:15 PM	31	318	37	3	13	15	49	87	501	25	73	127	129	1408
05:30 PM	38	281	28	1	18	17	54	111	496	54	71	124	138	1431
05:45 PM	36	277	41	0	17	17	37	97	458	36	61	129	132	1338
Total	124	1154	143	4	69	62	186	378	1916	150	288	462	475	5411
Grand Total	795	5767	397	11	331	634	1311	957	5545	415	795	911	862	18731
Apprch %	11.4	82.7	5.7	0.2	14.5	27.9	57.6	13.8	80.2	6	31	35.5	33.6	
Total %	4.2	30.8	2.1	0.1	1.8	3.4	7	5.1	29.6	2.2	4.2	4.9	4.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: MAIN STREET

File Name : H1405107
Site Code : 00000000
Start Date : 6/10/2014

	CULVER DRIVE Southbound					MAIN STREET Westbound				CULVER DRIVE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	76	519	24	0	619	24	79	**149**	252	**50**	245	**29**	324	**46**	29	**31**	106	1301
08:00 AM	**106**	**525**	15	0	**646**	28	73	126	227	40	261	19	320	42	28	28	98	1291
08:15 AM	102	501	17	0	620	**30**	**96**	139	**265**	31	289	21	341	43	**42**	24	**109**	**1335**
08:30 AM	88	447	**26**	0	561	22	56	109	187	37	**293**	16	**346**	36	31	22	89	1183
Total Volume	372	1992	82	0	2446	104	304	523	931	158	1088	85	1331	167	130	105	402	5110
% App. Total	15.2	81.4	3.4	0		11.2	32.7	56.2		11.9	81.7	6.4		41.5	32.3	26.1		
PHF	.877	.949	.788	.000	.947	.867	.792	.878	.878	.790	.928	.733	.962	.908	.774	.847	.922	.957

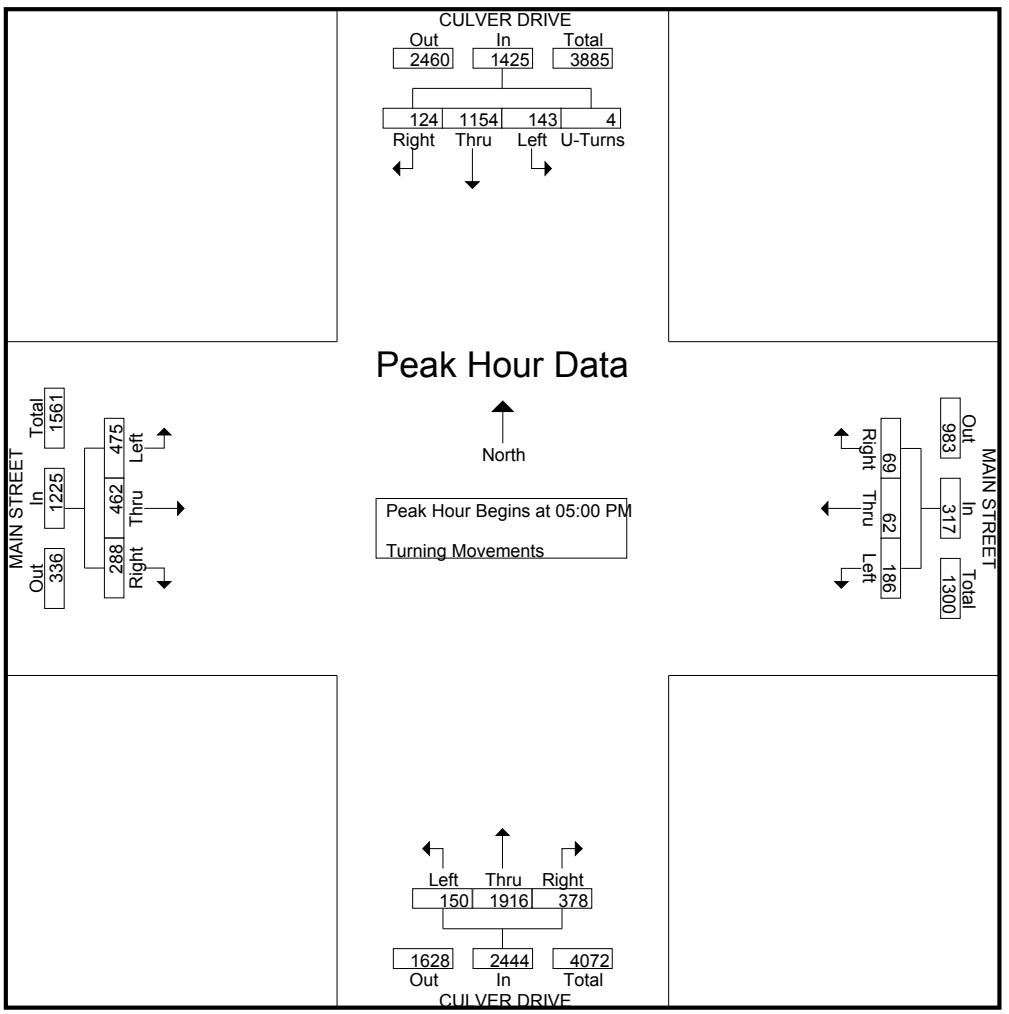


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: CULVER DRIVE
E-W Direction: MAIN STREET

File Name : H1405107
Site Code : 00000000
Start Date : 6/10/2014

	CULVER DRIVE Southbound					MAIN STREET Westbound				CULVER DRIVE Northbound				MAIN STREET Eastbound				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	19	278	37	0	334	**21**	13	46	80	83	461	35	579	**83**	82	76	241	1234
05:15 PM	31	**318**	37	**3**	**389**	13	15	49	77	87	**501**	25	613	73	127	129	329	1408
05:30 PM	**38**	281	28	1	348	18	**17**	**54**	**89**	**111**	496	**54**	**661**	71	124	**138**	**333**	**1431**
05:45 PM	36	277	**41**	0	354	17	17	37	71	97	458	36	591	61	**129**	132	322	1338
Total Volume	124	1154	143	4	1425	69	62	186	317	378	1916	150	2444	288	462	475	1225	5411
% App. Total	8.7	81	10	0.3		21.8	19.6	58.7		15.5	78.4	6.1		23.5	37.7	38.8		
PHF	.816	.907	.872	.333	.916	.821	.912	.861	.890	.851	.956	.694	.924	.867	.895	.861	.920	.945



Appendix D HCM WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	620	231	142	63	86	9	84	207	64	0	937	198
Future Volume (veh/h)	620	231	142	63	86	9	84	207	64	0	937	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	674	251	36	68	93	0	91	225	25	0	1018	50
Adj No. of Lanes	2	2	0	1	2	1	2	3	1	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	817	865	123	86	314	141	187	2194	683	3	1507	469
Arrive On Green	0.24	0.28	0.28	0.05	0.09	0.00	0.05	0.43	0.43	0.00	0.30	0.30
Sat Flow, veh/h	3442	3113	441	1774	3539	1583	3442	5085	1583	1774	5085	1583
Grp Volume(v), veh/h	674	141	146	68	93	0	91	225	25	0	1018	50
Grp Sat Flow(s),veh/h/ln	1721	1770	1785	1774	1770	1583	1721	1695	1583	1774	1695	1583
Q Serve(g_s), s	10.3	3.5	3.6	2.1	1.4	0.0	1.4	1.5	0.5	0.0	9.8	1.3
Cycle Q Clear(g_c), s	10.3	3.5	3.6	2.1	1.4	0.0	1.4	1.5	0.5	0.0	9.8	1.3
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	817	492	496	86	314	141	187	2194	683	3	1507	469
V/C Ratio(X)	0.83	0.29	0.29	0.79	0.30	0.00	0.49	0.10	0.04	0.00	0.68	0.11
Avail Cap(c_a), veh/h	958	782	789	220	1017	455	247	2194	683	127	1507	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	15.8	15.8	26.2	23.7	0.0	25.6	9.4	9.1	0.0	17.2	14.2
Incr Delay (d2), s/veh	5.2	0.3	0.3	14.9	0.5	0.0	2.0	0.1	0.1	0.0	2.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	1.7	1.8	1.4	0.7	0.0	0.7	0.7	0.2	0.0	4.9	0.6
LnGrp Delay(d),s/veh	25.4	16.1	16.1	41.2	24.3	0.0	27.5	9.5	9.2	0.0	19.7	14.7
LnGrp LOS	C	B	B	D	C		C	A	A		B	B
Approach Vol, veh/h		961			161			341			1068	
Approach Delay, s/veh		22.6			31.4			14.3			19.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	28.5	7.2	20.0	7.5	21.0	17.7	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	4.0	16.5	6.9	24.6	4.0	16.5	15.5	16.0
Max Q Clear Time (g_c+I1), s	0.0	3.5	4.1	5.6	3.4	11.8	12.3	3.4
Green Ext Time (p_c), s	0.0	6.6	0.0	1.9	0.0	3.0	0.9	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	1949	362	581	1685	103	377	41	485	76	27	28
Future Volume (veh/h)	46	1949	362	581	1685	103	377	41	485	76	27	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	50	2118	0	632	1832	107	442	0	37	83	29	2
Adj No. of Lanes	1	3	1	2	3	0	2	0	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	2093	652	627	2741	160	513	0	458	218	229	195
Arrive On Green	0.04	0.41	0.00	0.18	0.56	0.56	0.14	0.00	0.14	0.12	0.12	0.12
Sat Flow, veh/h	1774	5085	1583	3442	4916	287	3548	0	3167	1774	1863	1583
Grp Volume(v), veh/h	50	2118	0	632	1262	677	442	0	37	83	29	2
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1812	1774	0	1583	1774	1863	1583
Q Serve(g_s), s	3.6	53.5	0.0	23.7	34.1	34.3	15.8	0.0	1.3	5.6	1.8	0.1
Cycle Q Clear(g_c), s	3.6	53.5	0.0	23.7	34.1	34.3	15.8	0.0	1.3	5.6	1.8	0.1
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	2093	652	627	1890	1010	513	0	458	218	229	195
V/C Ratio(X)	0.78	1.01	0.00	1.01	0.67	0.67	0.86	0.00	0.08	0.38	0.13	0.01
Avail Cap(c_a), veh/h	126	2093	652	627	1890	1010	513	0	458	218	229	195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.1	38.3	0.0	53.2	20.3	20.3	54.3	0.0	48.1	52.4	50.8	50.0
Incr Delay (d2), s/veh	17.7	22.7	0.0	37.7	0.9	1.7	17.1	0.0	0.3	5.0	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	29.4	0.0	14.5	16.2	17.6	9.0	0.0	0.6	3.0	1.0	0.1
LnGrp Delay(d),s/veh	79.9	60.9	0.0	90.9	21.2	22.0	71.4	0.0	48.5	57.4	51.9	50.1
LnGrp LOS	E	F		F	C	C	E		D	E	D	D
Approach Vol, veh/h		2168			2571			479			114	
Approach Delay, s/veh		61.4			38.5			69.7			55.9	
Approach LOS		E			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.3	28.2	58.0		20.5	9.2	77.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.8	23.7	53.5		16.0	9.2	68.0
Max Q Clear Time (g_c+I1), s		17.8	25.7	55.5		7.6	5.6	36.3
Green Ext Time (p_c), s		0.2	0.0	0.0		0.2	0.0	30.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.0
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1053	360	477	719	180	187	14	369	88	174	34
Future Volume (veh/h)	66	1053	360	477	719	180	187	14	369	88	174	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	72	1145	59	518	782	46	214	0	52	96	189	5
Adj No. of Lanes	1	3	1	2	3	1	2	0	2	0	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	1112	346	495	1578	491	710	0	633	243	517	336
Arrive On Green	0.05	0.22	0.22	0.14	0.31	0.31	0.20	0.00	0.20	0.21	0.21	0.21
Sat Flow, veh/h	1774	5085	1583	3442	5085	1583	3548	0	3167	1142	2433	1583
Grp Volume(v), veh/h	72	1145	59	518	782	46	214	0	52	152	133	5
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1583	1774	0	1583	1806	1770	1583
Q Serve(g_s), s	3.2	17.5	2.4	11.5	10.0	1.7	4.1	0.0	1.1	5.8	5.1	0.2
Cycle Q Clear(g_c), s	3.2	17.5	2.4	11.5	10.0	1.7	4.1	0.0	1.1	5.8	5.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.63		1.00
Lane Grp Cap(c), veh/h	93	1112	346	495	1578	491	710	0	633	384	376	336
V/C Ratio(X)	0.78	1.03	0.17	1.05	0.50	0.09	0.30	0.00	0.08	0.40	0.35	0.01
Avail Cap(c_a), veh/h	188	1112	346	495	1578	491	710	0	633	384	376	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	31.3	25.4	34.3	22.5	19.6	27.2	0.0	26.0	27.1	26.8	24.9
Incr Delay (d2), s/veh	12.9	34.8	1.1	48.9	0.9	0.3	1.1	0.0	0.3	3.0	2.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	11.7	1.2	8.8	4.8	0.8	2.1	0.0	0.5	3.2	2.8	0.1
LnGrp Delay(d),s/veh	50.3	66.0	26.4	83.1	23.4	19.9	28.3	0.0	26.3	30.1	29.4	25.0
LnGrp LOS	D	F	C	F	C	B	C		C	C	C	C
Approach Vol, veh/h		1276			1346			266			290	
Approach Delay, s/veh		63.3			46.2			27.9			29.7	
Approach LOS		E			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.5	16.0	22.0		21.5	8.7	29.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		16.0	11.5	17.5		17.0	8.5	20.5
Max Q Clear Time (g_c+I1), s		6.1	13.5	19.5		7.8	5.2	12.0
Green Ext Time (p_c), s		0.6	0.0	0.0		0.9	0.0	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	50.0
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	155	1385	974	815	815	389
Future Volume (veh/h)	155	1385	974	815	815	389
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	168	1505	1059	0	886	112
Adj No. of Lanes	2	3	3	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	273	2670	1886	587	1119	515
Arrive On Green	0.08	0.52	0.37	0.00	0.32	0.32
Sat Flow, veh/h	3442	5253	5253	1583	3442	1583
Grp Volume(v), veh/h	168	1505	1059	0	886	112
Grp Sat Flow(s),veh/h/ln	1721	1695	1695	1583	1721	1583
Q Serve(g_s), s	2.8	12.0	9.9	0.0	14.0	3.1
Cycle Q Clear(g_c), s	2.8	12.0	9.9	0.0	14.0	3.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	273	2670	1886	587	1119	515
V/C Ratio(X)	0.62	0.56	0.56	0.00	0.79	0.22
Avail Cap(c_a), veh/h	602	2670	1886	587	1119	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.35	0.35	0.76	0.00	0.93	0.93
Uniform Delay (d), s/veh	26.7	9.6	15.0	0.0	18.4	14.7
Incr Delay (d2), s/veh	0.8	0.3	0.9	0.0	5.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.6	4.8	0.0	7.5	3.2
LnGrp Delay(d),s/veh	27.5	9.9	15.9	0.0	23.8	15.6
LnGrp LOS	C	A	B		C	B
Approach Vol, veh/h		1673	1059		998	
Approach Delay, s/veh		11.7	15.9		22.9	
Approach LOS		B	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				36.0		24.0	9.3	26.7
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				31.5		19.5	10.5	16.5
Max Q Clear Time (g_c+I1), s				14.0		16.0	4.8	11.9
Green Ext Time (p_c), s				14.2		1.4	0.2	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑	↱	↰	↕	↱			
Traffic Volume (veh/h)	0	2458	550	0	1054	370	756	0	822	0	0	0
Future Volume (veh/h)	0	2458	550	0	1054	370	756	0	822	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	0	2672	0	0	1146	0	1105	0	578			
Adj No. of Lanes	0	3	1	0	3	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2718	846	0	2718	846	1297	0	579			
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.00	0.37	0.00	0.37			
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	0	2672	0	0	1146	0	1105	0	578			
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	46.4	0.0	0.0	12.2	0.0	25.8	0.0	32.8			
Cycle Q Clear(g_c), s	0.0	46.4	0.0	0.0	12.2	0.0	25.8	0.0	32.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2718	846	0	2718	846	1297	0	579			
V/C Ratio(X)	0.00	0.98	0.00	0.00	0.42	0.00	0.85	0.00	1.00			
Avail Cap(c_a), veh/h	0	2718	846	0	2718	846	1297	0	579			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.71	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	20.6	0.0	0.0	12.6	0.0	26.3	0.0	28.5			
Incr Delay (d2), s/veh	0.0	11.2	0.0	0.0	0.5	0.0	7.2	0.0	37.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	24.3	0.0	0.0	5.7	0.0	13.9	0.0	20.3			
LnGrp Delay(d),s/veh	0.0	31.7	0.0	0.0	13.1	0.0	33.5	0.0	65.6			
LnGrp LOS		C			B		C		E			
Approach Vol, veh/h		2672			1146			1683				
Approach Delay, s/veh		31.7			13.1			44.5				
Approach LOS		C			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		37.4		52.6				52.6
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		32.9		48.1				48.1
Max Q Clear Time (g_c+I1), s		34.8		48.4				14.2
Green Ext Time (p_c), s		0.0		0.0				31.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.8
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	339	1350	2260	291
Future Volume (Veh/h)	0	0	339	1350	2260	291
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	368	1467	2457	316
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				358		
pX, platoon unblocked	0.74					
vC, conflicting volume	3840	977	2773			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3610	977	2773			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	0			
cM capacity (veh/h)	0	250	140			

Direction, Lane #	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	368	489	489	489	983	983	807
Volume Left	368	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	316
cSH	140	1700	1700	1700	1700	1700	1700
Volume to Capacity	2.64	0.29	0.29	0.29	0.58	0.58	0.47
Queue Length 95th (ft)	819	0	0	0	0	0	0
Control Delay (s)	807.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F						
Approach Delay (s)	161.9				0.0		
Approach LOS							

Intersection Summary				
Average Delay	64.5			
Intersection Capacity Utilization	75.6%	ICU Level of Service		D
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	79	526	56	0	144	0	1292	88	203	1998	0
Future Volume (veh/h)	405	79	526	56	0	144	0	1292	88	203	1998	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	501	0	477	61	0	0	0	1404	89	221	2172	0
Adj No. of Lanes	2	0	1	1	0	1	0	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	1163	0	519	0	0	0	0	1967	125	252	2985	0
Arrive On Green	0.33	0.00	0.33	0.00	0.00	0.00	0.00	0.40	0.40	0.14	0.59	0.00
Sat Flow, veh/h	3548	0	1583		0		0	5056	310	1774	5253	0
Grp Volume(v), veh/h	501	0	477		0.0		0	974	519	221	2172	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1808	1774	1695	0
Q Serve(g_s), s	11.7	0.0	30.6				0.0	25.4	25.4	12.9	32.5	0.0
Cycle Q Clear(g_c), s	11.7	0.0	30.6				0.0	25.4	25.4	12.9	32.5	0.0
Prop In Lane	1.00		1.00				0.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	1163	0	519				0	1364	727	252	2985	0
V/C Ratio(X)	0.43	0.00	0.92				0.00	0.71	0.71	0.88	0.73	0.00
Avail Cap(c_a), veh/h	1293	0	577				0	1364	727	287	2985	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.8	0.0	34.2				0.0	26.5	26.5	44.4	15.7	0.0
Incr Delay (d2), s/veh	0.3	0.0	18.9				0.0	3.2	5.9	23.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	16.1				0.0	12.5	13.9	7.9	15.5	0.0
LnGrp Delay(d),s/veh	28.0	0.0	53.0				0.0	29.7	32.4	67.4	17.3	0.0
LnGrp LOS	C		D					C	C	E	B	
Approach Vol, veh/h		978						1493			2393	
Approach Delay, s/veh		40.2						30.6			21.9	
Approach LOS		D						C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.5	47.0		39.1		66.5		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	17.1	40.4		38.5		62.0		
Max Q Clear Time (g_c+I1), s	14.9	27.4		32.6		34.5		
Green Ext Time (p_c), s	0.1	12.4		2.0		25.4		

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	446	3	389	411	901	0	0	1404	616
Future Volume (veh/h)	0	0	0	446	3	389	411	901	0	0	1404	616
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				487	0	280	447	979	0	0	1526	299
Adj No. of Lanes				2	0	1	1	3	0	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				710	0	317	483	3495	0	0	1825	568
Arrive On Green				0.20	0.00	0.20	0.27	0.69	0.00	0.00	0.36	0.36
Sat Flow, veh/h				3548	0	1583	1774	5253	0	0	5253	1583
Grp Volume(v), veh/h				487	0	280	447	979	0	0	1526	299
Grp Sat Flow(s),veh/h/ln				1774	0	1583	1774	1695	0	0	1695	1583
Q Serve(g_s), s				10.2	0.0	13.7	19.6	6.0	0.0	0.0	22.0	11.9
Cycle Q Clear(g_c), s				10.2	0.0	13.7	19.6	6.0	0.0	0.0	22.0	11.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				710	0	317	483	3495	0	0	1825	568
V/C Ratio(X)				0.69	0.00	0.88	0.93	0.28	0.00	0.00	0.84	0.53
Avail Cap(c_a), veh/h				732	0	327	499	3495	0	0	1825	568
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.54	0.54	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				29.7	0.0	31.1	28.3	4.8	0.0	0.0	23.5	20.3
Incr Delay (d2), s/veh				2.6	0.0	23.2	14.6	0.1	0.0	0.0	4.7	3.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.3	0.0	8.0	11.5	2.8	0.0	0.0	11.0	5.8
LnGrp Delay(d),s/veh				32.2	0.0	54.2	42.9	5.0	0.0	0.0	28.2	23.7
LnGrp LOS				C		D	D	A			C	C
Approach Vol, veh/h					767			1426			1825	
Approach Delay, s/veh					40.3			16.9			27.5	
Approach LOS					D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.5			26.3	33.2		20.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			22.5	27.5		16.5
Max Q Clear Time (g_c+I1), s		8.0			21.6	24.0		15.7
Green Ext Time (p_c), s		30.8			0.2	3.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	0	444	0	0	0	0	1078	574	473	1384	0
Future Volume (veh/h)	236	0	444	0	0	0	0	1078	574	473	1384	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	257	0	408				0	1172	146	514	1504	0
Adj No. of Lanes	0	1	1				0	4	1	1	4	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	479	0	427				0	1510	373	535	3854	0
Arrive On Green	0.27	0.00	0.27				0.00	0.24	0.24	0.30	0.60	0.00
Sat Flow, veh/h	1774	0	1583				0	6669	1583	1774	6669	0
Grp Volume(v), veh/h	257	0	408				0	1172	146	514	1504	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1602	1583	1774	1602	0
Q Serve(g_s), s	8.7	0.0	17.7				0.0	12.0	5.4	19.9	8.6	0.0
Cycle Q Clear(g_c), s	8.7	0.0	17.7				0.0	12.0	5.4	19.9	8.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	479	0	427				0	1510	373	535	3854	0
V/C Ratio(X)	0.54	0.00	0.95				0.00	0.78	0.39	0.96	0.39	0.00
Avail Cap(c_a), veh/h	479	0	427				0	1510	373	535	3854	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.46	0.46	0.00
Uniform Delay (d), s/veh	21.8	0.0	25.1				0.0	25.0	22.5	24.0	7.3	0.0
Incr Delay (d2), s/veh	1.2	0.0	32.0				0.0	4.0	3.1	17.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	11.5				0.0	5.7	2.7	12.4	3.8	0.0
LnGrp Delay(d),s/veh	23.0	0.0	57.1				0.0	29.0	25.6	41.9	7.4	0.0
LnGrp LOS	C		E					C	C	D	A	
Approach Vol, veh/h		665						1318			2018	
Approach Delay, s/veh		43.9						28.6			16.2	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	25.6	21.0		23.4		46.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	21.1	16.5		18.9		42.1		
Max Q Clear Time (g_c+I1), s	21.9	14.0		19.7		10.6		
Green Ext Time (p_c), s	0.0	2.4		0.0		24.0		

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	187	344	353	893	1936	57
Future Volume (veh/h)	187	344	353	893	1936	57
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	264	134	384	971	2104	0
Adj No. of Lanes	2	1	2	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	424	189	468	3868	2871	894
Arrive On Green	0.12	0.12	0.14	0.76	0.56	0.00
Sat Flow, veh/h	3548	1583	3442	5253	5253	1583
Grp Volume(v), veh/h	264	134	384	971	2104	0
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1695	1695	1583
Q Serve(g_s), s	5.3	6.1	8.1	4.2	23.0	0.0
Cycle Q Clear(g_c), s	5.3	6.1	8.1	4.2	23.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	424	189	468	3868	2871	894
V/C Ratio(X)	0.62	0.71	0.82	0.25	0.73	0.00
Avail Cap(c_a), veh/h	757	338	482	3868	2871	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.66	0.66	1.00	0.00
Uniform Delay (d), s/veh	31.4	31.8	31.5	2.7	12.1	0.0
Incr Delay (d2), s/veh	1.5	4.8	7.3	0.1	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	5.5	4.3	2.0	11.2	0.0
LnGrp Delay(d),s/veh	32.9	36.6	38.8	2.8	13.8	0.0
LnGrp LOS	C	D	D	A	B	
Approach Vol, veh/h	398			1355	2104	
Approach Delay, s/veh	34.2			13.0	13.8	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		61.5		13.5	14.7	46.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		50.0		16.0	10.5	35.0		
Max Q Clear Time (g_c+I1), s		6.2		8.1	10.1	25.0		
Green Ext Time (p_c), s		34.8		0.9	0.1	9.3		

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	881	679	129	841	1705	574
Future Volume (veh/h)	881	679	129	841	1705	574
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	1008	506	140	914	1853	357
Adj No. of Lanes	2	1	2	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1209	540	213	2844	2275	708
Arrive On Green	0.34	0.34	0.06	0.56	0.45	0.45
Sat Flow, veh/h	3548	1583	3442	5253	5253	1583
Grp Volume(v), veh/h	1008	506	140	914	1853	357
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1695	1695	1583
Q Serve(g_s), s	23.5	27.9	3.6	8.7	28.5	14.5
Cycle Q Clear(g_c), s	23.5	27.9	3.6	8.7	28.5	14.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1209	540	213	2844	2275	708
V/C Ratio(X)	0.83	0.94	0.66	0.32	0.81	0.50
Avail Cap(c_a), veh/h	1226	547	402	2844	2275	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.53	0.53
Uniform Delay (d), s/veh	27.3	28.7	41.3	10.7	21.6	17.7
Incr Delay (d2), s/veh	5.0	23.9	3.4	0.3	1.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	24.4	1.8	4.1	13.6	6.6
LnGrp Delay(d),s/veh	32.3	52.6	44.7	11.0	23.4	19.1
LnGrp LOS	C	D	D	B	C	B
Approach Vol, veh/h	1514			1054	2210	
Approach Delay, s/veh	39.1			15.4	22.7	
Approach LOS	D			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		54.8		35.2	10.1	44.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		49.9		31.1	10.5	34.9		
Max Q Clear Time (g_c+I1), s		10.7		29.9	5.6	30.5		
Green Ext Time (p_c), s		30.7		0.8	0.2	4.2		

Intersection Summary	
HCM 2010 Ctrl Delay	26.3
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1076	0	357	0	1213	600	0	2354	600
Future Volume (veh/h)	0	0	0	1076	0	357	0	1213	600	0	2354	600
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				1285	0	246	0	1318	0	0	2559	0
Adj No. of Lanes				2	0	1	0	4	1	0	4	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				1379	0	615	0	2869	709	0	2869	709
Arrive On Green				0.39	0.00	0.39	0.00	0.45	0.00	0.00	0.45	0.00
Sat Flow, veh/h				3548	0	1583	0	6669	1583	0	6669	1583
Grp Volume(v), veh/h				1285	0	246	0	1318	0	0	2559	0
Grp Sat Flow(s),veh/h/ln				1774	0	1583	0	1602	1583	0	1602	1583
Q Serve(g_s), s				19.1	0.0	6.2	0.0	7.9	0.0	0.0	20.2	0.0
Cycle Q Clear(g_c), s				19.1	0.0	6.2	0.0	7.9	0.0	0.0	20.2	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1379	0	615	0	2869	709	0	2869	709
V/C Ratio(X)				0.93	0.00	0.40	0.00	0.46	0.00	0.00	0.89	0.00
Avail Cap(c_a), veh/h				1387	0	619	0	2869	709	0	2869	709
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.90	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.1	0.0	12.2	0.0	10.6	0.0	0.0	14.0	0.0
Incr Delay (d2), s/veh				11.5	0.0	0.4	0.0	0.5	0.0	0.0	4.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.5	0.0	2.7	0.0	3.6	0.0	0.0	9.6	0.0
LnGrp Delay(d),s/veh				27.6	0.0	12.6	0.0	11.0	0.0	0.0	18.7	0.0
LnGrp LOS				C		B		B			B	
Approach Vol, veh/h					1531			1318			2559	
Approach Delay, s/veh					25.2			11.0			18.7	
Approach LOS					C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		29.1				29.1		25.9
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		24.5				24.5		21.5
Max Q Clear Time (g_c+I1), s		9.9				22.2		21.1
Green Ext Time (p_c), s		14.2				2.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	414	0	946	0	0	0	0	1349	300	0	2609	841
Future Volume (veh/h)	414	0	946	0	0	0	0	1349	300	0	2609	841
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	450	0	1011				0	1466	0	0	2836	0
Adj No. of Lanes	2	0	2				0	4	1	0	4	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	1297	0	1050				0	3105	767	0	3105	767
Arrive On Green	0.38	0.00	0.38				0.00	0.48	0.00	0.00	0.48	0.00
Sat Flow, veh/h	3442	0	2787				0	6669	1583	0	6669	1583
Grp Volume(v), veh/h	450	0	1011				0	1466	0	0	2836	0
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1602	1583	0	1602	1583
Q Serve(g_s), s	6.1	0.0	23.1				0.0	9.9	0.0	0.0	26.6	0.0
Cycle Q Clear(g_c), s	6.1	0.0	23.1				0.0	9.9	0.0	0.0	26.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1297	0	1050				0	3105	767	0	3105	767
V/C Ratio(X)	0.35	0.00	0.96				0.00	0.47	0.00	0.00	0.91	0.00
Avail Cap(c_a), veh/h	1297	0	1050				0	3105	767	0	3105	767
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.31	0.00
Uniform Delay (d), s/veh	14.5	0.0	19.8				0.0	11.2	0.0	0.0	15.5	0.0
Incr Delay (d2), s/veh	0.2	0.0	19.3				0.0	0.5	0.0	0.0	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	11.5				0.0	4.5	0.0	0.0	12.0	0.0
LnGrp Delay(d),s/veh	14.7	0.0	39.1				0.0	11.7	0.0	0.0	17.3	0.0
LnGrp LOS	B		D					B			B	
Approach Vol, veh/h		1461						1466			2836	
Approach Delay, s/veh		31.6						11.7			17.3	
Approach LOS		C						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		36.0		29.0		36.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		31.5		24.5		31.5		
Max Q Clear Time (g_c+I1), s		11.9		25.1		28.6		
Green Ext Time (p_c), s		19.2		0.0		2.9		

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	493	351	959	0	0	697
Future Volume (veh/h)	493	351	959	0	0	697
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	0	1863
Adj Flow Rate, veh/h	536	350	1042	0	0	758
Adj No. of Lanes	2	1	2	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	1019	469	1705	0	0	2449
Arrive On Green	0.30	0.30	0.48	0.00	0.00	0.48
Sat Flow, veh/h	3442	1583	3725	0	0	5421
Grp Volume(v), veh/h	536	350	1042	0	0	758
Grp Sat Flow(s),veh/h/ln	1721	1583	1770	0	0	1695
Q Serve(g_s), s	5.3	8.1	8.8	0.0	0.0	3.7
Cycle Q Clear(g_c), s	5.3	8.1	8.8	0.0	0.0	3.7
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	1019	469	1705	0	0	2449
V/C Ratio(X)	0.53	0.75	0.61	0.00	0.00	0.31
Avail Cap(c_a), veh/h	1403	645	1705	0	0	2449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	12.9	7.7	0.0	0.0	6.4
Incr Delay (d2), s/veh	0.4	3.1	1.6	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	3.9	4.6	0.0	0.0	1.8
LnGrp Delay(d),s/veh	12.3	16.0	9.4	0.0	0.0	6.7
LnGrp LOS	B	B	A			A
Approach Vol, veh/h	886		1042			758
Approach Delay, s/veh	13.8		9.4			6.7
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		24.0				24.0		16.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		19.5				19.5		16.5
Max Q Clear Time (g_c+I1), s		10.8				5.7		10.1
Green Ext Time (p_c), s		6.4				9.2		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑	↱				↰↰		↱↱
Traffic Volume (veh/h)	0	1197	717	0	1124	143	0	0	0	1181	0	977
Future Volume (veh/h)	0	1197	717	0	1124	143	0	0	0	1181	0	977
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	1301	0	0	1222	0				1284	0	1044
Adj No. of Lanes	0	3	1	0	3	1				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	1894	590	0	1894	590				1540	0	1247
Arrive On Green	0.00	0.37	0.00	0.00	0.37	0.00				0.45	0.00	0.45
Sat Flow, veh/h	0	5253	1583	0	5253	1583				3442	0	2787
Grp Volume(v), veh/h	0	1301	0	0	1222	0				1284	0	1044
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583				1721	0	1393
Q Serve(g_s), s	0.0	10.8	0.0	0.0	9.9	0.0				16.4	0.0	16.5
Cycle Q Clear(g_c), s	0.0	10.8	0.0	0.0	9.9	0.0				16.4	0.0	16.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1894	590	0	1894	590				1540	0	1247
V/C Ratio(X)	0.00	0.69	0.00	0.00	0.65	0.00				0.83	0.00	0.84
Avail Cap(c_a), veh/h	0	1894	590	0	1894	590				1618	0	1310
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.64	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.2	0.0	0.0	13.0	0.0				12.2	0.0	12.2
Incr Delay (d2), s/veh	0.0	2.1	0.0	0.0	1.1	0.0				3.8	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.3	0.0	0.0	4.8	0.0				8.5	0.0	7.1
LnGrp Delay(d),s/veh	0.0	15.3	0.0	0.0	14.0	0.0				15.9	0.0	17.0
LnGrp LOS		B			B					B		B
Approach Vol, veh/h		1301			1222						2328	
Approach Delay, s/veh		15.3			14.0						16.4	
Approach LOS		B			B						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				23.1		26.9		23.1
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				17.5		23.5		17.5
Max Q Clear Time (g_c+I1), s				12.8		18.5		11.9
Green Ext Time (p_c), s				4.3		3.8		5.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1624	730	0	318	230	913	0	826	0	0	0
Future Volume (veh/h)	0	1624	730	0	318	230	913	0	826	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1765	0	0	346	0	992	0	0			
Adj No. of Lanes	0	2	2	0	3	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1974	1554	0	2837	883	1079	0	497			
Arrive On Green	0.00	0.56	0.00	0.00	0.56	0.00	0.31	0.00	0.00			
Sat Flow, veh/h	0	3632	2787	0	5253	1583	3442	0	1583			
Grp Volume(v), veh/h	0	1765	0	0	346	0	992	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1393	0	1695	1583	1721	0	1583			
Q Serve(g_s), s	0.0	30.8	0.0	0.0	2.3	0.0	19.5	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	30.8	0.0	0.0	2.3	0.0	19.5	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1974	1554	0	2837	883	1079	0	497			
V/C Ratio(X)	0.00	0.89	0.00	0.00	0.12	0.00	0.92	0.00	0.00			
Avail Cap(c_a), veh/h	0	1974	1554	0	2837	883	1106	0	509			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.56	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	13.7	0.0	0.0	7.3	0.0	23.2	0.0	0.0			
Incr Delay (d2), s/veh	0.0	4.0	0.0	0.0	0.1	0.0	11.9	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	15.8	0.0	0.0	1.1	0.0	11.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	17.6	0.0	0.0	7.4	0.0	35.1	0.0	0.0			
LnGrp LOS		B			A		D					
Approach Vol, veh/h		1765			346			992				
Approach Delay, s/veh		17.6			7.4			35.1				
Approach LOS		B			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		26.5		43.5				43.5
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		22.5		38.5				38.5
Max Q Clear Time (g_c+I1), s		21.5		32.8				4.3
Green Ext Time (p_c), s		0.5		4.9				21.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	896	1184	2312	446	195	1477
Future Volume (veh/h)	896	1184	2312	446	195	1477
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	974	1091	2513	485	212	1605
Adj No. of Lanes	2	2	4	2	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1304	1056	2563	1115	245	3339
Arrive On Green	0.38	0.38	0.80	0.80	0.07	0.52
Sat Flow, veh/h	3442	2787	6669	2787	3442	6669
Grp Volume(v), veh/h	974	1091	2513	485	212	1605
Grp Sat Flow(s),veh/h/ln	1721	1393	1602	1393	1721	1602
Q Serve(g_s), s	22.1	34.1	32.7	4.8	5.5	14.4
Cycle Q Clear(g_c), s	22.1	34.1	32.7	4.8	5.5	14.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1304	1056	2563	1115	245	3339
V/C Ratio(X)	0.75	1.03	0.98	0.44	0.87	0.48
Avail Cap(c_a), veh/h	1304	1056	2563	1115	245	3339
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.59	0.59	1.00	1.00
Uniform Delay (d), s/veh	24.2	28.0	8.7	5.9	41.4	13.8
Incr Delay (d2), s/veh	2.4	36.6	9.8	0.7	26.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	18.4	15.0	1.9	3.5	6.5
LnGrp Delay(d),s/veh	26.6	64.6	18.5	6.6	67.6	14.3
LnGrp LOS	C	F	B	A	E	B
Approach Vol, veh/h	2065		2998			1817
Approach Delay, s/veh	46.7		16.6			20.5
Approach LOS	D		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.9	40.5				51.4		38.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	6.4	36.0				46.9		34.1
Max Q Clear Time (g_c+I1), s	7.5	34.7				16.4		36.1
Green Ext Time (p_c), s	0.0	1.3				29.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1082	143	836	0	1814	443	137	1778	477
Future Volume (veh/h)	0	0	0	1082	143	836	0	1814	443	137	1778	477
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	0	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h				1176	155	0	0	1972	427	149	1933	251
Adj No. of Lanes				2	1	1	0	4	1	2	4	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	0	2	2	2	2	2
Cap, veh/h				1269	687	584	0	2664	1242	225	3404	841
Arrive On Green				0.37	0.37	0.00	0.00	0.42	0.42	0.02	0.18	0.18
Sat Flow, veh/h				3442	1863	1583	0	6669	1583	3442	6408	1583
Grp Volume(v), veh/h				1176	155	0	0	1972	427	149	1933	251
Grp Sat Flow(s),veh/h/ln				1721	1863	1583	0	1602	1583	1721	1602	1583
Q Serve(g_s), s				29.5	5.2	0.0	0.0	23.4	7.2	3.9	24.9	12.4
Cycle Q Clear(g_c), s				29.5	5.2	0.0	0.0	23.4	7.2	3.9	24.9	12.4
Prop In Lane				1.00		1.00	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h				1269	687	584	0	2664	1242	225	3404	841
V/C Ratio(X)				0.93	0.23	0.00	0.00	0.74	0.34	0.66	0.57	0.30
Avail Cap(c_a), veh/h				1319	714	607	0	2664	1242	402	3404	841
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)				1.00	1.00	0.00	0.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh				27.2	19.6	0.0	0.0	22.2	2.9	43.0	27.7	22.5
Incr Delay (d2), s/veh				11.1	0.2	0.0	0.0	1.9	0.8	2.6	0.5	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				15.8	2.7	0.0	0.0	10.6	3.3	1.9	11.1	5.6
LnGrp Delay(d),s/veh				38.3	19.7	0.0	0.0	24.1	3.6	45.7	28.2	23.2
LnGrp LOS				D	B			C	A	D	C	C
Approach Vol, veh/h					1331			2399			2333	
Approach Delay, s/veh					36.2			20.4			28.8	
Approach LOS					D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.4	41.9				52.3		37.7
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	10.5	31.5				46.5		34.5
Max Q Clear Time (g_c+I1), s	5.9	25.4				26.9		31.5
Green Ext Time (p_c), s	0.2	6.1				19.2		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	27.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1494	0	877	0	2333	640	0	2156	1180
Future Volume (veh/h)	0	0	0	1494	0	877	0	2333	640	0	2156	1180
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				1624	0	0	0	2536	0	0	2343	0
Adj No. of Lanes				3	0	1	0	3	1	0	4	2
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1701	0	538	0	2702	841	0	3405	1481
Arrive On Green				0.34	0.00	0.00	0.00	0.53	0.00	0.00	0.53	0.00
Sat Flow, veh/h				5003	0	1583	0	5253	1583	0	6669	2787
Grp Volume(v), veh/h				1624	0	0	0	2536	0	0	2343	0
Grp Sat Flow(s),veh/h/ln				1668	0	1583	0	1695	1583	0	1602	1393
Q Serve(g_s), s				22.2	0.0	0.0	0.0	32.6	0.0	0.0	18.9	0.0
Cycle Q Clear(g_c), s				22.2	0.0	0.0	0.0	32.6	0.0	0.0	18.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1701	0	538	0	2702	841	0	3405	1481
V/C Ratio(X)				0.95	0.00	0.00	0.00	0.94	0.00	0.00	0.69	0.00
Avail Cap(c_a), veh/h				1701	0	538	0	2702	841	0	3405	1481
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.53	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				22.6	0.0	0.0	0.0	15.3	0.0	0.0	12.1	0.0
Incr Delay (d2), s/veh				12.8	0.0	0.0	0.0	4.6	0.0	0.0	1.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				12.1	0.0	0.0	0.0	16.2	0.0	0.0	8.6	0.0
LnGrp Delay(d),s/veh				35.3	0.0	0.0	0.0	19.9	0.0	0.0	13.3	0.0
LnGrp LOS				D				B			B	
Approach Vol, veh/h					1624			2536			2343	
Approach Delay, s/veh					35.3			19.9			13.3	
Approach LOS					D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		41.7				41.7		28.3
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		37.2				37.2		23.8
Max Q Clear Time (g_c+I1), s		34.6				20.9		24.2
Green Ext Time (p_c), s		2.6				16.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1101	0	1889	0	0	0	0	1862	701	0	3407	230
Future Volume (veh/h)	1101	0	1889	0	0	0	0	1862	701	0	3407	230
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	1579	0	1637				0	2024	0	0	3703	0
Adj No. of Lanes	2	0	2				0	4	1	0	4	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	1584	0	1414				0	3135	775	0	3135	775
Arrive On Green	0.45	0.00	0.45				0.00	0.49	0.00	0.00	0.49	0.00
Sat Flow, veh/h	3548	0	3167				0	6669	1583	0	6669	1583
Grp Volume(v), veh/h	1579	0	1637				0	2024	0	0	3703	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1602	1583	0	1602	1583
Q Serve(g_s), s	62.1	0.0	62.5				0.0	33.0	0.0	0.0	68.5	0.0
Cycle Q Clear(g_c), s	62.1	0.0	62.5				0.0	33.0	0.0	0.0	68.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1584	0	1414				0	3135	775	0	3135	775
V/C Ratio(X)	1.00	0.00	1.16				0.00	0.65	0.00	0.00	1.18	0.00
Avail Cap(c_a), veh/h	1584	0	1414				0	3135	775	0	3135	775
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.50	0.00
Uniform Delay (d), s/veh	38.7	0.0	38.8				0.0	26.7	0.0	0.0	35.8	0.0
Incr Delay (d2), s/veh	21.8	0.0	79.4				0.0	1.0	0.0	0.0	83.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	35.1	0.0	42.9				0.0	14.8	0.0	0.0	48.4	0.0
LnGrp Delay(d),s/veh	60.5	0.0	118.2				0.0	27.7	0.0	0.0	119.1	0.0
LnGrp LOS	E		F					C			F	
Approach Vol, veh/h		3216						2024			3703	
Approach Delay, s/veh		89.9						27.7			119.1	
Approach LOS		F						C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		73.0		67.0		73.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		68.5		62.5		68.5		
Max Q Clear Time (g_c+I1), s		35.0		64.5		70.5		
Green Ext Time (p_c), s		33.4		0.0		0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	87.9
HCM 2010 LOS	F

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	749	0	179	0	1481	790	0	1661	1060
Future Volume (veh/h)	0	0	0	749	0	179	0	1481	790	0	1661	1060
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				814	0	178	0	1610	0	0	1805	0
Adj No. of Lanes				2	0	1	0	3	1	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1009	0	464	0	2678	834	0	2678	834
Arrive On Green				0.29	0.00	0.29	0.00	0.53	0.00	0.00	0.53	0.00
Sat Flow, veh/h				3442	0	1583	0	5253	1583	0	5253	1583
Grp Volume(v), veh/h				814	0	178	0	1610	0	0	1805	0
Grp Sat Flow(s),veh/h/ln				1721	0	1583	0	1695	1583	0	1695	1583
Q Serve(g_s), s				10.9	0.0	4.5	0.0	11.0	0.0	0.0	13.0	0.0
Cycle Q Clear(g_c), s				10.9	0.0	4.5	0.0	11.0	0.0	0.0	13.0	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1009	0	464	0	2678	834	0	2678	834
V/C Ratio(X)				0.81	0.00	0.38	0.00	0.60	0.00	0.00	0.67	0.00
Avail Cap(c_a), veh/h				1205	0	554	0	2678	834	0	2678	834
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.70	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.4	0.0	14.1	0.0	8.2	0.0	0.0	8.7	0.0
Incr Delay (d2), s/veh				3.5	0.0	0.5	0.0	0.7	0.0	0.0	1.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.7	0.0	2.0	0.0	5.2	0.0	0.0	6.4	0.0
LnGrp Delay(d),s/veh				19.9	0.0	14.6	0.0	8.9	0.0	0.0	10.1	0.0
LnGrp LOS				B		B		A			B	
Approach Vol, veh/h					992			1610			1805	
Approach Delay, s/veh					18.9			8.9			10.1	
Approach LOS					B			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		30.8				30.8		19.2
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		23.5				23.5		17.5
Max Q Clear Time (g_c+I1), s		13.0				15.0		12.9
Green Ext Time (p_c), s		10.0				8.1		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	564	0	417	0	0	0	0	1616	330	0	2103	380
Future Volume (veh/h)	564	0	417	0	0	0	0	1616	330	0	2103	380
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	747	0	287				0	1757	0	0	2286	0
Adj No. of Lanes	2	0	1				0	3	1	0	3	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	925	0	413				0	2927	911	0	2927	911
Arrive On Green	0.26	0.00	0.26				0.00	0.58	0.00	0.00	0.58	0.00
Sat Flow, veh/h	3548	0	1583				0	5253	1583	0	5253	1583
Grp Volume(v), veh/h	747	0	287				0	1757	0	0	2286	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1583	0	1695	1583
Q Serve(g_s), s	10.8	0.0	9.0				0.0	12.3	0.0	0.0	19.1	0.0
Cycle Q Clear(g_c), s	10.8	0.0	9.0				0.0	12.3	0.0	0.0	19.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	925	0	413				0	2927	911	0	2927	911
V/C Ratio(X)	0.81	0.00	0.70				0.00	0.60	0.00	0.00	0.78	0.00
Avail Cap(c_a), veh/h	1064	0	475				0	2927	911	0	2927	911
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.62	0.00
Uniform Delay (d), s/veh	19.0	0.0	18.4				0.0	7.6	0.0	0.0	9.0	0.0
Incr Delay (d2), s/veh	4.1	0.0	3.7				0.0	0.9	0.0	0.0	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	4.3				0.0	5.9	0.0	0.0	9.0	0.0
LnGrp Delay(d),s/veh	23.2	0.0	22.0				0.0	8.5	0.0	0.0	10.3	0.0
LnGrp LOS	C		C					A			B	
Approach Vol, veh/h		1034						1757			2286	
Approach Delay, s/veh		22.9						8.5			10.3	
Approach LOS		C						A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		36.2		18.8		36.2		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		29.5		16.5		29.5		
Max Q Clear Time (g_c+I1), s		14.3		12.8		21.1		
Green Ext Time (p_c), s		14.8		1.5		8.3		

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	17	25	77	268	59	455	974	47	16	227	958
Future Volume (veh/h)	417	17	25	77	268	59	455	974	47	16	227	958
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	453	18	1	84	291	2	495	1059	30	17	247	852
Adj No. of Lanes	2	2	0	1	2	1	2	3	1	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	578	32	104	342	153	490	3238	1008	24	2583	804
Arrive On Green	0.13	0.17	0.17	0.06	0.10	0.10	0.14	0.64	0.64	0.01	0.51	0.51
Sat Flow, veh/h	3442	3411	188	1774	3539	1583	3442	5085	1583	1774	5085	1583
Grp Volume(v), veh/h	453	9	10	84	291	2	495	1059	30	17	247	852
Grp Sat Flow(s),veh/h/ln	1721	1770	1830	1774	1770	1583	1721	1695	1583	1774	1695	1583
Q Serve(g_s), s	19.5	0.6	0.7	6.9	12.0	0.2	21.1	14.2	1.0	1.4	3.7	75.3
Cycle Q Clear(g_c), s	19.5	0.6	0.7	6.9	12.0	0.2	21.1	14.2	1.0	1.4	3.7	75.3
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	453	300	310	104	342	153	490	3238	1008	24	2583	804
V/C Ratio(X)	1.00	0.03	0.03	0.81	0.85	0.01	1.01	0.33	0.03	0.71	0.10	1.06
Avail Cap(c_a), veh/h	453	300	310	175	384	172	490	3238	1008	68	2583	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	51.4	51.4	68.9	65.9	60.6	63.6	12.4	10.0	72.8	18.9	36.5
Incr Delay (d2), s/veh	42.4	0.0	0.0	13.4	15.1	0.0	43.3	0.3	0.1	31.3	0.1	48.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	0.3	0.3	3.8	6.6	0.1	12.9	6.7	0.5	0.9	1.8	43.7
LnGrp Delay(d),s/veh	106.8	51.4	51.4	82.3	81.0	60.6	106.9	12.6	10.0	104.1	18.9	85.1
LnGrp LOS	F	D	D	F	F	E	F	B	B	F	B	F
Approach Vol, veh/h		472			377			1584			1116	
Approach Delay, s/veh		104.6			81.2			42.0			70.7	
Approach LOS		F			F			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	98.9	13.2	29.6	25.6	79.8	24.0	18.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.7	90.7	14.6	21.0	21.1	75.3	19.5	16.1
Max Q Clear Time (g_c+I1), s	3.4	16.2	8.9	2.7	23.1	77.3	21.5	14.0
Green Ext Time (p_c), s	0.0	21.7	0.1	1.6	0.0	0.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	63.5
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1767	340	378	1622	88	373	40	158	136	79	75
Future Volume (veh/h)	66	1767	340	378	1622	88	373	40	158	136	79	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	72	1921	0	411	1763	89	436	0	15	148	86	7
Adj No. of Lanes	1	3	1	2	3	0	2	0	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	1876	584	430	2192	111	589	0	526	284	298	253
Arrive On Green	0.05	0.37	0.00	0.13	0.44	0.44	0.17	0.00	0.17	0.16	0.16	0.16
Sat Flow, veh/h	1774	5085	1583	3442	4959	250	3548	0	3167	1774	1863	1583
Grp Volume(v), veh/h	72	1921	0	411	1205	647	436	0	15	148	86	7
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1819	1774	0	1583	1774	1863	1583
Q Serve(g_s), s	4.0	36.9	0.0	11.9	30.8	30.8	11.7	0.0	0.4	7.6	4.1	0.4
Cycle Q Clear(g_c), s	4.0	36.9	0.0	11.9	30.8	30.8	11.7	0.0	0.4	7.6	4.1	0.4
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	1876	584	430	1498	804	589	0	526	284	298	253
V/C Ratio(X)	0.78	1.02	0.00	0.96	0.80	0.81	0.74	0.00	0.03	0.52	0.29	0.03
Avail Cap(c_a), veh/h	122	1876	584	430	1498	804	589	0	526	284	298	253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	31.6	0.0	43.5	24.2	24.2	39.7	0.0	34.9	38.5	37.0	35.4
Incr Delay (d2), s/veh	20.3	27.0	0.0	32.1	3.3	6.0	8.1	0.0	0.1	6.7	2.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	21.9	0.0	7.6	15.1	16.8	6.4	0.0	0.2	4.3	2.3	0.2
LnGrp Delay(d),s/veh	67.1	58.6	0.0	75.5	27.4	30.2	47.8	0.0	35.0	45.2	39.4	35.6
LnGrp LOS	E	F		E	C	C	D		D	D	D	D
Approach Vol, veh/h		1993			2263			451			241	
Approach Delay, s/veh		58.9			37.0			47.4			42.9	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.1	17.0	41.4		20.5	9.7	48.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		16.6	12.5	36.9		16.0	6.9	42.5
Max Q Clear Time (g_c+I1), s		13.7	13.9	38.9		9.6	6.0	32.8
Green Ext Time (p_c), s		0.5	0.0	0.0		0.4	0.0	9.4

Intersection Summary	
HCM 2010 Ctrl Delay	47.0
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	823	142	704	979	57	186	14	98	90	465	125
Future Volume (veh/h)	123	823	142	704	979	57	186	14	98	90	465	125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	134	895	21	765	1064	17	213	0	11	98	505	16
Adj No. of Lanes	1	3	1	2	3	1	2	0	2	0	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	1045	325	784	1730	539	631	0	563	106	575	299
Arrive On Green	0.09	0.21	0.21	0.23	0.34	0.34	0.18	0.00	0.18	0.19	0.19	0.19
Sat Flow, veh/h	1774	5085	1583	3442	5085	1583	3548	0	3167	559	3045	1583
Grp Volume(v), veh/h	134	895	21	765	1064	17	213	0	11	321	282	16
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1583	1774	0	1583	1835	1770	1583
Q Serve(g_s), s	6.7	15.3	1.0	19.9	15.7	0.6	4.7	0.0	0.3	15.5	13.8	0.7
Cycle Q Clear(g_c), s	6.7	15.3	1.0	19.9	15.7	0.6	4.7	0.0	0.3	15.5	13.8	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.30		1.00
Lane Grp Cap(c), veh/h	165	1045	325	784	1730	539	631	0	563	347	334	299
V/C Ratio(X)	0.81	0.86	0.06	0.98	0.62	0.03	0.34	0.00	0.02	0.93	0.84	0.05
Avail Cap(c_a), veh/h	187	1045	325	784	1730	539	631	0	563	347	334	299
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.50	0.50	0.50	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	34.5	28.8	34.5	24.8	19.8	32.4	0.0	30.5	35.9	35.2	29.9
Incr Delay (d2), s/veh	20.7	9.0	0.4	17.4	0.8	0.1	1.4	0.0	0.1	33.0	22.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	8.0	0.5	11.3	7.4	0.3	2.4	0.0	0.1	11.0	8.8	0.4
LnGrp Delay(d),s/veh	60.8	43.5	29.2	51.9	25.6	19.9	33.8	0.0	30.6	68.9	57.2	30.2
LnGrp LOS	E	D	C	D	C	B	C		C	E	E	C
Approach Vol, veh/h		1050			1846			224			619	
Approach Delay, s/veh		45.4			36.4			33.7			62.6	
Approach LOS		D			D			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.5	25.0	23.0		21.5	12.9	35.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		16.0	20.5	18.5		17.0	9.5	29.5
Max Q Clear Time (g_c+I1), s		6.7	21.9	17.3		17.5	8.7	17.7
Green Ext Time (p_c), s		0.5	0.0	1.1		0.0	0.0	8.6

Intersection Summary	
HCM 2010 Ctrl Delay	43.1
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	304	776	1468	433	737	362
Future Volume (veh/h)	304	776	1468	433	737	362
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	330	843	1596	0	801	125
Adj No. of Lanes	2	3	3	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	439	3012	2012	626	927	426
Arrive On Green	0.13	0.59	0.40	0.00	0.27	0.27
Sat Flow, veh/h	3442	5253	5253	1583	3442	1583
Grp Volume(v), veh/h	330	843	1596	0	801	125
Grp Sat Flow(s),veh/h/ln	1721	1695	1695	1583	1721	1583
Q Serve(g_s), s	6.0	5.3	18.0	0.0	14.4	4.1
Cycle Q Clear(g_c), s	6.0	5.3	18.0	0.0	14.4	4.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	439	3012	2012	626	927	426
V/C Ratio(X)	0.75	0.28	0.79	0.00	0.86	0.29
Avail Cap(c_a), veh/h	556	3012	2012	626	927	426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.60	0.00	0.94	0.94
Uniform Delay (d), s/veh	27.4	6.5	17.3	0.0	22.6	18.8
Incr Delay (d2), s/veh	2.3	0.1	2.0	0.0	10.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.5	8.7	0.0	8.1	4.1
LnGrp Delay(d),s/veh	29.7	6.6	19.3	0.0	32.7	20.5
LnGrp LOS	C	A	B		C	C
Approach Vol, veh/h		1173	1596		926	
Approach Delay, s/veh		13.1	19.3		31.0	
Approach LOS		B	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				43.0		22.0	12.8	30.2
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				38.5		17.5	10.5	23.5
Max Q Clear Time (g_c+I1), s				7.3		16.4	8.0	20.0
Green Ext Time (p_c), s				21.4		0.5	0.3	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑	↱	↰	✣	↱			
Traffic Volume (veh/h)	0	1094	1020	0	1799	1360	211	0	116	0	0	0
Future Volume (veh/h)	0	1094	1020	0	1799	1360	211	0	116	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	0	1189	0	0	1955	0	258	0	62			
Adj No. of Lanes	0	3	1	0	3	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2543	792	0	2543	792	1135	0	507			
Arrive On Green	0.00	0.50	0.00	0.00	0.50	0.00	0.32	0.00	0.32			
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	0	1189	0	0	1955	0	258	0	62			
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	7.6	0.0	0.0	15.6	0.0	2.7	0.0	1.4			
Cycle Q Clear(g_c), s	0.0	7.6	0.0	0.0	15.6	0.0	2.7	0.0	1.4			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2543	792	0	2543	792	1135	0	507			
V/C Ratio(X)	0.00	0.47	0.00	0.00	0.77	0.00	0.23	0.00	0.12			
Avail Cap(c_a), veh/h	0	2543	792	0	2543	792	1135	0	507			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.80	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	8.2	0.0	0.0	10.2	0.0	12.5	0.0	12.0			
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	2.3	0.0	0.5	0.0	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.6	0.0	0.0	7.6	0.0	1.4	0.0	0.7			
LnGrp Delay(d),s/veh	0.0	8.7	0.0	0.0	12.5	0.0	12.9	0.0	12.5			
LnGrp LOS		A			B		B		B			
Approach Vol, veh/h		1189			1955			320				
Approach Delay, s/veh		8.7			12.5			12.9				
Approach LOS		A			B			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.5		29.5				29.5
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		16.0		25.0				25.0
Max Q Clear Time (g_c+I1), s		4.7		9.6				17.6
Green Ext Time (p_c), s		0.8		14.1				7.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	389	2190	1570	441
Future Volume (Veh/h)	0	0	389	2190	1570	441
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	423	2380	1707	479
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				358		
pX, platoon unblocked	0.64					
vC, conflicting volume	3586	808	2186			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3062	808	2186			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	0			
cM capacity (veh/h)	0	324	239			

Direction, Lane #	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	423	793	793	793	683	683	820
Volume Left	423	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	479
cSH	239	1700	1700	1700	1700	1700	1700
Volume to Capacity	1.77	0.47	0.47	0.47	0.40	0.40	0.48
Queue Length 95th (ft)	714	0	0	0	0	0	0
Control Delay (s)	398.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F						
Approach Delay (s)	60.1				0.0		
Approach LOS							

Intersection Summary				
Average Delay	33.7			
Intersection Capacity Utilization	68.4%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	46	635	80	0	169	0	2016	97	260	1397	0
Future Volume (veh/h)	380	46	635	80	0	169	0	2016	97	260	1397	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	449	0	626	87	0	0	0	2191	102	283	1518	0
Adj No. of Lanes	2	0	1	1	0	1	0	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	1192	0	532	0	0	0	0	2077	96	253	3024	0
Arrive On Green	0.34	0.00	0.34	0.00	0.00	0.00	0.00	0.42	0.42	0.14	0.59	0.00
Sat Flow, veh/h	3548	0	1583		0		0	5149	231	1774	5253	0
Grp Volume(v), veh/h	449	0	626		0.0		0	1488	805	283	1518	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1822	1774	1695	0
Q Serve(g_s), s	12.5	0.0	43.5				0.0	54.0	54.0	18.5	22.3	0.0
Cycle Q Clear(g_c), s	12.5	0.0	43.5				0.0	54.0	54.0	18.5	22.3	0.0
Prop In Lane	1.00		1.00				0.00		0.13	1.00		0.00
Lane Grp Cap(c), veh/h	1192	0	532				0	1414	760	253	3024	0
V/C Ratio(X)	0.38	0.00	1.18				0.00	1.05	1.06	1.12	0.50	0.00
Avail Cap(c_a), veh/h	1192	0	532				0	1414	760	253	3024	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.7	0.0	43.0				0.0	37.8	37.8	55.5	15.2	0.0
Incr Delay (d2), s/veh	0.2	0.0	98.0				0.0	39.0	49.7	91.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	33.4				0.0	32.8	37.5	15.5	10.6	0.0
LnGrp Delay(d),s/veh	32.9	0.0	141.0				0.0	76.8	87.5	147.0	15.8	0.0
LnGrp LOS	C		F					F	F	F	B	
Approach Vol, veh/h		1075						2293			1801	
Approach Delay, s/veh		95.8						80.5			36.4	
Approach LOS		F						F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	23.0	58.5		48.0		81.5		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	18.5	54.0		43.5		77.0		
Max Q Clear Time (g_c+I1), s	20.5	56.0		45.5		24.3		
Green Ext Time (p_c), s	0.0	0.0		0.0		46.7		

Intersection Summary	
HCM 2010 Ctrl Delay	68.3
HCM 2010 LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	410	43	487	457	1133	0	0	860	311
Future Volume (veh/h)	0	0	0	410	43	487	457	1133	0	0	860	311
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				480	0	463	497	1232	0	0	935	52
Adj No. of Lanes				2	0	1	1	3	0	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1069	0	477	530	2943	0	0	1119	348
Arrive On Green				0.30	0.00	0.30	0.30	0.58	0.00	0.00	0.22	0.22
Sat Flow, veh/h				3548	0	1583	1774	5253	0	0	5253	1583
Grp Volume(v), veh/h				480	0	463	497	1232	0	0	935	52
Grp Sat Flow(s),veh/h/ln				1774	0	1583	1774	1695	0	0	1695	1583
Q Serve(g_s), s				8.2	0.0	21.7	20.5	10.1	0.0	0.0	13.2	2.0
Cycle Q Clear(g_c), s				8.2	0.0	21.7	20.5	10.1	0.0	0.0	13.2	2.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1069	0	477	530	2943	0	0	1119	348
V/C Ratio(X)				0.45	0.00	0.97	0.94	0.42	0.00	0.00	0.84	0.15
Avail Cap(c_a), veh/h				1069	0	477	530	2943	0	0	1119	348
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.43	0.43	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.2	0.0	25.9	25.6	8.8	0.0	0.0	28.0	23.6
Incr Delay (d2), s/veh				0.3	0.0	33.5	13.4	0.2	0.0	0.0	7.4	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.0	0.0	13.8	11.9	4.7	0.0	0.0	6.9	1.0
LnGrp Delay(d),s/veh				21.5	0.0	59.4	39.0	9.0	0.0	0.0	35.4	24.5
LnGrp LOS				C		E	D	A			D	C
Approach Vol, veh/h					943			1729			987	
Approach Delay, s/veh					40.1			17.6			34.8	
Approach LOS					D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		47.9			26.9	21.0		27.1
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		43.4			22.4	16.5		22.6
Max Q Clear Time (g_c+I1), s		12.1			22.5	15.2		23.7
Green Ext Time (p_c), s		19.0			0.0	1.2		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		28.0
HCM 2010 LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	0	293	0	0	0	0	1203	528	440	829	0
Future Volume (veh/h)	418	0	293	0	0	0	0	1203	528	440	829	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	454	0	202				0	1308	101	478	901	0
Adj No. of Lanes	0	1	1				0	4	1	1	4	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	493	0	440				0	1530	378	516	3805	0
Arrive On Green	0.28	0.00	0.28				0.00	0.24	0.24	0.29	0.59	0.00
Sat Flow, veh/h	1774	0	1583				0	6669	1583	1774	6669	0
Grp Volume(v), veh/h	454	0	202				0	1308	101	478	901	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1602	1583	1774	1602	0
Q Serve(g_s), s	17.4	0.0	7.4				0.0	13.7	3.6	18.3	4.7	0.0
Cycle Q Clear(g_c), s	17.4	0.0	7.4				0.0	13.7	3.6	18.3	4.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	493	0	440				0	1530	378	516	3805	0
V/C Ratio(X)	0.92	0.00	0.46				0.00	0.85	0.27	0.93	0.24	0.00
Avail Cap(c_a), veh/h	494	0	441				0	1530	378	520	3805	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.57	0.57	0.00
Uniform Delay (d), s/veh	24.5	0.0	20.9				0.0	25.5	21.7	24.1	6.7	0.0
Incr Delay (d2), s/veh	22.8	0.0	0.7				0.0	6.3	1.7	15.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	0.0	3.3				0.0	6.7	1.8	11.1	2.0	0.0
LnGrp Delay(d),s/veh	47.3	0.0	21.7				0.0	31.8	23.4	39.2	6.8	0.0
LnGrp LOS	D		C					C	C	D	A	
Approach Vol, veh/h		656						1409			1379	
Approach Delay, s/veh		39.4						31.2			18.0	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	24.8	21.2		23.9		46.1		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	20.5	16.5		19.5		41.5		
Max Q Clear Time (g_c+I1), s	20.3	15.7		19.4		6.7		
Green Ext Time (p_c), s	0.0	0.8		0.0		21.0		

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	297	251	627	1333	899	493
Future Volume (veh/h)	297	251	627	1333	899	493
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	323	109	682	1449	977	0
Adj No. of Lanes	2	1	2	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	484	216	802	3628	2061	642
Arrive On Green	0.14	0.14	0.08	0.24	0.41	0.00
Sat Flow, veh/h	3548	1583	3442	5253	5253	1583
Grp Volume(v), veh/h	323	109	682	1449	977	0
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1695	1695	1583
Q Serve(g_s), s	5.2	3.8	11.7	14.4	8.5	0.0
Cycle Q Clear(g_c), s	5.2	3.8	11.7	14.4	8.5	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	484	216	802	3628	2061	642
V/C Ratio(X)	0.67	0.50	0.85	0.40	0.47	0.00
Avail Cap(c_a), veh/h	946	422	832	3628	2061	642
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.75	0.75	1.00	0.00
Uniform Delay (d), s/veh	24.6	24.0	26.7	12.1	13.1	0.0
Incr Delay (d2), s/veh	1.6	1.8	6.3	0.2	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.5	6.3	6.9	4.0	0.0
LnGrp Delay(d),s/veh	26.2	25.8	32.9	12.3	13.9	0.0
LnGrp LOS	C	C	C	B	B	
Approach Vol, veh/h	432			2131	977	
Approach Delay, s/veh	26.1			18.9	13.9	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.3		12.7	18.5	28.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		35.0		16.0	14.5	16.0		
Max Q Clear Time (g_c+I1), s		16.4		7.2	13.7	10.5		
Green Ext Time (p_c), s		14.4		1.0	0.2	4.9		

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	714	366	168	1300	754	398
Future Volume (veh/h)	714	366	168	1300	754	398
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	776	162	183	1413	820	78
Adj No. of Lanes	2	1	2	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	924	412	291	2999	2187	681
Arrive On Green	0.26	0.26	0.08	0.59	0.43	0.43
Sat Flow, veh/h	3548	1583	3442	5253	5253	1583
Grp Volume(v), veh/h	776	162	183	1413	820	78
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1695	1695	1583
Q Serve(g_s), s	12.4	5.1	3.1	9.5	6.6	1.8
Cycle Q Clear(g_c), s	12.4	5.1	3.1	9.5	6.6	1.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	924	412	291	2999	2187	681
V/C Ratio(X)	0.84	0.39	0.63	0.47	0.37	0.11
Avail Cap(c_a), veh/h	1035	462	602	2999	2187	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.80	0.80
Uniform Delay (d), s/veh	21.0	18.3	26.5	7.0	11.6	10.2
Incr Delay (d2), s/veh	5.8	0.6	2.2	0.5	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	4.7	1.6	4.5	3.1	0.8
LnGrp Delay(d),s/veh	26.8	18.9	28.8	7.5	12.0	10.5
LnGrp LOS	C	B	C	A	B	B
Approach Vol, veh/h	938			1596	898	
Approach Delay, s/veh	25.4			10.0	11.9	
Approach LOS	C			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		39.9		20.1	9.6	30.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.5		17.5	10.5	18.5		
Max Q Clear Time (g_c+I1), s		11.5		14.4	5.1	8.6		
Green Ext Time (p_c), s		15.6		1.2	0.2	8.2		

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	523	0	923	0	2727	560	0	1627	480
Future Volume (veh/h)	0	0	0	523	0	923	0	2727	560	0	1627	480
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				379	0	1188	0	2964	0	0	1768	0
Adj No. of Lanes				1	0	2	0	4	1	0	4	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				647	0	1155	0	3184	787	0	3184	787
Arrive On Green				0.36	0.00	0.36	0.00	0.50	0.00	0.00	0.50	0.00
Sat Flow, veh/h				1774	0	3167	0	6669	1583	0	6669	1583
Grp Volume(v), veh/h				379	0	1188	0	2964	0	0	1768	0
Grp Sat Flow(s),veh/h/ln				1774	0	1583	0	1602	1583	0	1602	1583
Q Serve(g_s), s				11.2	0.0	23.7	0.0	28.1	0.0	0.0	12.5	0.0
Cycle Q Clear(g_c), s				11.2	0.0	23.7	0.0	28.1	0.0	0.0	12.5	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				647	0	1155	0	3184	787	0	3184	787
V/C Ratio(X)				0.59	0.00	1.03	0.00	0.93	0.00	0.00	0.56	0.00
Avail Cap(c_a), veh/h				647	0	1155	0	3184	787	0	3184	787
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.49	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.7	0.0	20.6	0.0	15.3	0.0	0.0	11.4	0.0
Incr Delay (d2), s/veh				1.4	0.0	34.1	0.0	3.4	0.0	0.0	0.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.7	0.0	15.7	0.0	12.9	0.0	0.0	5.6	0.0
LnGrp Delay(d),s/veh				18.1	0.0	54.8	0.0	18.7	0.0	0.0	12.1	0.0
LnGrp LOS				B		F		B			B	
Approach Vol, veh/h					1567			2964			1768	
Approach Delay, s/veh					45.9			18.7			12.1	
Approach LOS					D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		36.8				36.8		28.2
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		32.3				32.3		23.7
Max Q Clear Time (g_c+I1), s		30.1				14.5		25.7
Green Ext Time (p_c), s		2.2				17.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	516	0	806	0	0	0	0	2569	1012	0	1561	516
Future Volume (veh/h)	516	0	806	0	0	0	0	2569	1012	0	1561	516
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	561	0	854				0	2792	0	0	1697	0
Adj No. of Lanes	2	0	2				0	4	1	0	4	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	1151	0	932				0	3216	795	0	3216	795
Arrive On Green	0.33	0.00	0.33				0.00	0.50	0.00	0.00	0.50	0.00
Sat Flow, veh/h	3442	0	2787				0	6669	1583	0	6669	1583
Grp Volume(v), veh/h	561	0	854				0	2792	0	0	1697	0
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1602	1583	0	1602	1583
Q Serve(g_s), s	7.1	0.0	16.2				0.0	21.2	0.0	0.0	9.9	0.0
Cycle Q Clear(g_c), s	7.1	0.0	16.2				0.0	21.2	0.0	0.0	9.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1151	0	932				0	3216	795	0	3216	795
V/C Ratio(X)	0.49	0.00	0.92				0.00	0.87	0.00	0.00	0.53	0.00
Avail Cap(c_a), veh/h	1158	0	937				0	3216	795	0	3216	795
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.75	0.00
Uniform Delay (d), s/veh	14.6	0.0	17.6				0.0	12.1	0.0	0.0	9.3	0.0
Incr Delay (d2), s/veh	0.3	0.0	13.4				0.0	3.5	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	7.9				0.0	9.9	0.0	0.0	4.3	0.0
LnGrp Delay(d),s/veh	14.9	0.0	31.0				0.0	15.6	0.0	0.0	9.7	0.0
LnGrp LOS	B		C					B			A	
Approach Vol, veh/h		1415						2792			1697	
Approach Delay, s/veh		24.6						15.6			9.7	
Approach LOS		C						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		32.1		22.9		32.1		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		27.5		18.5		27.5		
Max Q Clear Time (g_c+I1), s		23.2		18.2		11.9		
Green Ext Time (p_c), s		4.3		0.2		15.4		

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	321	248	731	0	0	810
Future Volume (veh/h)	321	248	731	0	0	810
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	0	1863
Adj Flow Rate, veh/h	349	194	795	0	0	880
Adj No. of Lanes	2	1	2	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	708	325	1924	0	0	2764
Arrive On Green	0.21	0.21	0.54	0.00	0.00	0.54
Sat Flow, veh/h	3442	1583	3725	0	0	5421
Grp Volume(v), veh/h	349	194	795	0	0	880
Grp Sat Flow(s),veh/h/ln	1721	1583	1770	0	0	1695
Q Serve(g_s), s	3.2	4.0	4.7	0.0	0.0	3.4
Cycle Q Clear(g_c), s	3.2	4.0	4.7	0.0	0.0	3.4
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	708	325	1924	0	0	2764
V/C Ratio(X)	0.49	0.60	0.41	0.00	0.00	0.32
Avail Cap(c_a), veh/h	1583	728	1924	0	0	2764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	12.9	4.8	0.0	0.0	4.5
Incr Delay (d2), s/veh	0.5	1.7	0.7	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.9	2.4	0.0	0.0	1.6
LnGrp Delay(d),s/veh	13.1	14.6	5.5	0.0	0.0	4.8
LnGrp LOS	B	B	A			A
Approach Vol, veh/h	543		795			880
Approach Delay, s/veh	13.7		5.5			4.8
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		24.0				24.0		11.9
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		19.5				19.5		16.5
Max Q Clear Time (g_c+I1), s		6.7				5.4		6.0
Green Ext Time (p_c), s		8.1				8.7		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	7.2
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑	↱				↰↰		↱↱
Traffic Volume (veh/h)	0	1131	950	0	1622	690	0	0	0	329	0	778
Future Volume (veh/h)	0	1131	950	0	1622	690	0	0	0	329	0	778
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	1229	0	0	1763	0				358	0	821
Adj No. of Lanes	0	3	1	0	3	1				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2310	719	0	2310	719				1190	0	963
Arrive On Green	0.00	0.45	0.00	0.00	0.45	0.00				0.35	0.00	0.35
Sat Flow, veh/h	0	5253	1583	0	5253	1583				3442	0	2787
Grp Volume(v), veh/h	0	1229	0	0	1763	0				358	0	821
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583				1721	0	1393
Q Serve(g_s), s	0.0	7.8	0.0	0.0	13.0	0.0				3.4	0.0	12.3
Cycle Q Clear(g_c), s	0.0	7.8	0.0	0.0	13.0	0.0				3.4	0.0	12.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2310	719	0	2310	719				1190	0	963
V/C Ratio(X)	0.00	0.53	0.00	0.00	0.76	0.00				0.30	0.00	0.85
Avail Cap(c_a), veh/h	0	2310	719	0	2310	719				1277	0	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.70	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.8	0.0	0.0	10.3	0.0				10.7	0.0	13.7
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	1.7	0.0				0.1	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.8	0.0	0.0	6.4	0.0				1.6	0.0	5.6
LnGrp Delay(d),s/veh	0.0	9.7	0.0	0.0	12.0	0.0				10.9	0.0	20.3
LnGrp LOS		A			B					B		C
Approach Vol, veh/h		1229			1763						1179	
Approach Delay, s/veh		9.7			12.0						17.4	
Approach LOS		A			B						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.9		20.1		24.9
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				19.3		16.7		19.3
Max Q Clear Time (g_c+I1), s				9.8		14.3		15.0
Green Ext Time (p_c), s				8.8		1.3		4.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1014	1026	0	1154	791	897	0	455	0	0	0
Future Volume (veh/h)	0	1014	1026	0	1154	791	897	0	455	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1102	0	0	1254	0	975	0	0			
Adj No. of Lanes	0	2	2	0	3	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1653	1301	0	2374	739	1146	0	527			
Arrive On Green	0.00	0.78	0.00	0.00	0.47	0.00	0.33	0.00	0.00			
Sat Flow, veh/h	0	3632	2787	0	5253	1583	3442	0	1583			
Grp Volume(v), veh/h	0	1102	0	0	1254	0	975	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1393	0	1695	1583	1721	0	1583			
Q Serve(g_s), s	0.0	6.4	0.0	0.0	7.9	0.0	11.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	6.4	0.0	0.0	7.9	0.0	11.9	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1653	1301	0	2374	739	1146	0	527			
V/C Ratio(X)	0.00	0.67	0.00	0.00	0.53	0.00	0.85	0.00	0.00			
Avail Cap(c_a), veh/h	0	1653	1301	0	2374	739	1262	0	581			
HCM Platoon Ratio	1.00	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.86	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	3.3	0.0	0.0	8.5	0.0	14.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	1.8	0.0	0.0	0.8	0.0	5.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.2	0.0	0.0	3.8	0.0	6.4	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	5.2	0.0	0.0	9.3	0.0	19.3	0.0	0.0			
LnGrp LOS		A			A		B					
Approach Vol, veh/h		1102			1254			975				
Approach Delay, s/veh		5.2			9.3			19.3				
Approach LOS		A			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		19.5		25.5				25.5
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		16.5		19.5				19.5
Max Q Clear Time (g_c+I1), s		13.9		8.4				9.9
Green Ext Time (p_c), s		1.1		9.2				8.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	524	407	2323	1248	502	2076
Future Volume (veh/h)	524	407	2323	1248	502	2076
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	570	47	2525	1357	546	2257
Adj No. of Lanes	2	2	4	2	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	612	495	3218	1400	585	4628
Arrive On Green	0.18	0.18	0.50	0.50	0.17	0.72
Sat Flow, veh/h	3442	2787	6669	2787	3442	6669
Grp Volume(v), veh/h	570	47	2525	1357	546	2257
Grp Sat Flow(s),veh/h/ln	1721	1393	1602	1393	1721	1602
Q Serve(g_s), s	14.7	1.3	29.1	42.5	14.1	13.6
Cycle Q Clear(g_c), s	14.7	1.3	29.1	42.5	14.1	13.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	612	495	3218	1400	585	4628
V/C Ratio(X)	0.93	0.09	0.78	0.97	0.93	0.49
Avail Cap(c_a), veh/h	612	495	3218	1400	585	4628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.28	0.28	1.00	1.00
Uniform Delay (d), s/veh	36.5	30.9	18.4	21.7	36.8	5.4
Incr Delay (d2), s/veh	21.2	0.1	0.6	7.5	22.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.5	12.9	17.7	8.5	6.1
LnGrp Delay(d),s/veh	57.6	31.0	19.0	29.2	59.0	5.7
LnGrp LOS	E	C	B	C	E	A
Approach Vol, veh/h	617		3882			2803
Approach Delay, s/veh	55.6		22.6			16.1
Approach LOS	E		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.8	49.7				69.5		20.5
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.3	45.2				65.0		16.0
Max Q Clear Time (g_c+I1), s	16.1	44.5				15.6		16.7
Green Ext Time (p_c), s	0.0	0.7				49.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	564	163	388	0	3192	690	440	1806	377
Future Volume (veh/h)	0	0	0	564	163	388	0	3192	690	440	1806	377
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	0	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h				613	177	0	0	3470	746	478	1963	317
Adj No. of Lanes				2	1	1	0	4	1	2	4	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	0	2	2	2	2	2
Cap, veh/h				637	345	293	0	3492	1156	465	4646	1148
Arrive On Green				0.19	0.19	0.00	0.00	0.55	0.55	0.14	0.73	0.73
Sat Flow, veh/h				3442	1863	1583	0	6669	1583	3442	6408	1583
Grp Volume(v), veh/h				613	177	0	0	3470	746	478	1963	317
Grp Sat Flow(s),veh/h/ln				1721	1863	1583	0	1602	1583	1721	1602	1583
Q Serve(g_s), s				17.7	8.6	0.0	0.0	53.7	24.1	13.5	12.1	6.9
Cycle Q Clear(g_c), s				17.7	8.6	0.0	0.0	53.7	24.1	13.5	12.1	6.9
Prop In Lane				1.00		1.00	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h				637	345	293	0	3492	1156	465	4646	1148
V/C Ratio(X)				0.96	0.51	0.00	0.00	0.99	0.65	1.03	0.42	0.28
Avail Cap(c_a), veh/h				637	345	293	0	3492	1156	465	4646	1148
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00	0.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh				40.4	36.7	0.0	0.0	22.6	6.9	43.3	5.5	4.7
Incr Delay (d2), s/veh				26.6	1.3	0.0	0.0	13.8	2.8	44.7	0.2	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.7	4.5	0.0	0.0	27.0	11.3	9.3	5.4	3.1
LnGrp Delay(d),s/veh				67.0	38.0	0.0	0.0	36.4	9.7	87.9	5.7	5.2
LnGrp LOS				E	D			D	A	F	A	A
Approach Vol, veh/h					790			4216			2758	
Approach Delay, s/veh					60.5			31.7			19.9	
Approach LOS					E			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	18.0	59.0				77.0		23.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	13.5	54.5				72.5		18.5
Max Q Clear Time (g_c+I1), s	15.5	55.7				14.1		19.7
Green Ext Time (p_c), s	0.0	0.0				58.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	832	0	382	0	3248	970	0	2318	1000
Future Volume (veh/h)	0	0	0	832	0	382	0	3248	970	0	2318	1000
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				904	0	0	0	3530	0	0	2520	0
Adj No. of Lanes				3	0	1	0	3	1	0	4	2
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				962	0	304	0	3599	1121	0	4535	1972
Arrive On Green				0.19	0.00	0.00	0.00	0.71	0.00	0.00	0.71	0.00
Sat Flow, veh/h				5003	0	1583	0	5253	1583	0	6669	2787
Grp Volume(v), veh/h				904	0	0	0	3530	0	0	2520	0
Grp Sat Flow(s),veh/h/ln				1668	0	1583	0	1695	1583	0	1602	1393
Q Serve(g_s), s				16.0	0.0	0.0	0.0	59.7	0.0	0.0	17.0	0.0
Cycle Q Clear(g_c), s				16.0	0.0	0.0	0.0	59.7	0.0	0.0	17.0	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				962	0	304	0	3599	1121	0	4535	1972
V/C Ratio(X)				0.94	0.00	0.00	0.00	0.98	0.00	0.00	0.56	0.00
Avail Cap(c_a), veh/h				962	0	304	0	3599	1121	0	4535	1972
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.09	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				35.8	0.0	0.0	0.0	12.6	0.0	0.0	6.3	0.0
Incr Delay (d2), s/veh				16.5	0.0	0.0	0.0	1.9	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.8	0.0	0.0	0.0	28.1	0.0	0.0	7.5	0.0
LnGrp Delay(d),s/veh				52.3	0.0	0.0	0.0	14.5	0.0	0.0	6.8	0.0
LnGrp LOS				D				B			A	
Approach Vol, veh/h					904			3530			2520	
Approach Delay, s/veh					52.3			14.5			6.8	
Approach LOS					D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		68.2				68.2		21.8
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		63.7				63.7		17.3
Max Q Clear Time (g_c+I1), s		61.7				19.0		18.0
Green Ext Time (p_c), s		2.0				44.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1034	0	1040	0	0	0	0	3106	1300	0	2510	730
Future Volume (veh/h)	1034	0	1040	0	0	0	0	3106	1300	0	2510	730
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	1332	0	894				0	3376	0	0	2728	0
Adj No. of Lanes	2	0	2				0	4	1	0	4	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	1321	0	1179				0	3382	836	0	3382	836
Arrive On Green	0.37	0.00	0.37				0.00	0.53	0.00	0.00	0.53	0.00
Sat Flow, veh/h	3548	0	3167				0	6669	1583	0	6669	1583
Grp Volume(v), veh/h	1332	0	894				0	3376	0	0	2728	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1602	1583	0	1602	1583
Q Serve(g_s), s	33.5	0.0	22.2				0.0	47.3	0.0	0.0	31.5	0.0
Cycle Q Clear(g_c), s	33.5	0.0	22.2				0.0	47.3	0.0	0.0	31.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1321	0	1179				0	3382	836	0	3382	836
V/C Ratio(X)	1.01	0.00	0.76				0.00	1.00	0.00	0.00	0.81	0.00
Avail Cap(c_a), veh/h	1321	0	1179				0	3382	836	0	3382	836
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.70	0.00
Uniform Delay (d), s/veh	28.3	0.0	24.7				0.0	21.2	0.0	0.0	17.5	0.0
Incr Delay (d2), s/veh	26.9	0.0	2.9				0.0	15.1	0.0	0.0	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.3	0.0	10.2				0.0	24.2	0.0	0.0	14.2	0.0
LnGrp Delay(d),s/veh	55.1	0.0	27.6				0.0	36.3	0.0	0.0	19.0	0.0
LnGrp LOS	F		C					D			B	
Approach Vol, veh/h		2226						3376			2728	
Approach Delay, s/veh		44.1						36.3			19.0	
Approach LOS		D						D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		52.0		38.0		52.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		47.5		33.5		47.5		
Max Q Clear Time (g_c+I1), s		49.3		35.5		33.5		
Green Ext Time (p_c), s		0.0		0.0		14.0		

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	495	0	362	0	2548	350	0	1615	510
Future Volume (veh/h)	0	0	0	495	0	362	0	2548	350	0	1615	510
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				538	0	372	0	2770	0	0	1755	0
Adj No. of Lanes				2	0	1	0	3	1	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				874	0	402	0	3090	962	0	3090	962
Arrive On Green				0.25	0.00	0.25	0.00	0.61	0.00	0.00	0.61	0.00
Sat Flow, veh/h				3442	0	1583	0	5253	1583	0	5253	1583
Grp Volume(v), veh/h				538	0	372	0	2770	0	0	1755	0
Grp Sat Flow(s),veh/h/ln				1721	0	1583	0	1695	1583	0	1695	1583
Q Serve(g_s), s				9.0	0.0	14.9	0.0	30.5	0.0	0.0	13.4	0.0
Cycle Q Clear(g_c), s				9.0	0.0	14.9	0.0	30.5	0.0	0.0	13.4	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				874	0	402	0	3090	962	0	3090	962
V/C Ratio(X)				0.62	0.00	0.93	0.00	0.90	0.00	0.00	0.57	0.00
Avail Cap(c_a), veh/h				874	0	402	0	3090	962	0	3090	962
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.32	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				21.4	0.0	23.7	0.0	11.0	0.0	0.0	7.6	0.0
Incr Delay (d2), s/veh				1.3	0.0	27.2	0.0	1.6	0.0	0.0	0.8	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	9.5	0.0	14.3	0.0	0.0	6.4	0.0
LnGrp Delay(d),s/veh				22.8	0.0	50.8	0.0	12.6	0.0	0.0	8.4	0.0
LnGrp LOS				C		D		B			A	
Approach Vol, veh/h					910			2770			1755	
Approach Delay, s/veh					34.2			12.6			8.4	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		44.0				44.0		21.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		39.5				39.5		16.5
Max Q Clear Time (g_c+I1), s		32.5				15.4		16.9
Green Ext Time (p_c), s		6.9				23.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1005	0	665	0	0	0	0	1894	853	0	1702	391
Future Volume (veh/h)	1005	0	665	0	0	0	0	1894	853	0	1702	391
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	1312	0	471				0	2059	0	0	1850	0
Adj No. of Lanes	2	0	1				0	3	1	0	3	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	1422	0	634				0	2343	730	0	2343	730
Arrive On Green	0.40	0.00	0.40				0.00	0.46	0.00	0.00	0.46	0.00
Sat Flow, veh/h	3548	0	1583				0	5253	1583	0	5253	1583
Grp Volume(v), veh/h	1312	0	471				0	2059	0	0	1850	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1583	0	1695	1583
Q Serve(g_s), s	22.9	0.0	16.5				0.0	23.8	0.0	0.0	20.0	0.0
Cycle Q Clear(g_c), s	22.9	0.0	16.5				0.0	23.8	0.0	0.0	20.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1422	0	634				0	2343	730	0	2343	730
V/C Ratio(X)	0.92	0.00	0.74				0.00	0.88	0.00	0.00	0.79	0.00
Avail Cap(c_a), veh/h	1447	0	646				0	2343	730	0	2343	730
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.79	0.00
Uniform Delay (d), s/veh	18.5	0.0	16.6				0.0	15.9	0.0	0.0	14.9	0.0
Incr Delay (d2), s/veh	10.0	0.0	4.5				0.0	5.1	0.0	0.0	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.1	0.0	8.0				0.0	12.2	0.0	0.0	9.7	0.0
LnGrp Delay(d),s/veh	28.5	0.0	21.1				0.0	21.0	0.0	0.0	17.1	0.0
LnGrp LOS	C		C					C			B	
Approach Vol, veh/h		1783						2059			1850	
Approach Delay, s/veh		26.6						21.0			17.1	
Approach LOS		C						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		34.5		30.5		34.5		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		29.5		26.5		29.5		
Max Q Clear Time (g_c+I1), s		25.8		24.9		22.0		
Green Ext Time (p_c), s		3.6		1.2		7.3		

Intersection Summary	
HCM 2010 Ctrl Delay	21.5
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	616	181	179	63	89	7	147	270	66	0	918	205
Future Volume (veh/h)	616	181	179	63	89	7	147	270	66	0	918	205
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	670	197	44	68	97	0	160	293	29	0	998	53
Adj No. of Lanes	2	2	0	1	2	1	2	3	1	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	812	776	170	86	288	129	251	2340	729	3	1593	496
Arrive On Green	0.24	0.27	0.27	0.05	0.08	0.00	0.07	0.46	0.46	0.00	0.31	0.31
Sat Flow, veh/h	3442	2889	632	1774	3539	1583	3442	5085	1583	1774	5085	1583
Grp Volume(v), veh/h	670	119	122	68	97	0	160	293	29	0	998	53
Grp Sat Flow(s),veh/h/ln	1721	1770	1751	1774	1770	1583	1721	1695	1583	1774	1695	1583
Q Serve(g_s), s	11.2	3.2	3.3	2.3	1.6	0.0	2.7	2.0	0.6	0.0	10.2	1.4
Cycle Q Clear(g_c), s	11.2	3.2	3.3	2.3	1.6	0.0	2.7	2.0	0.6	0.0	10.2	1.4
Prop In Lane	1.00		0.36	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	812	475	470	86	288	129	251	2340	729	3	1593	496
V/C Ratio(X)	0.83	0.25	0.26	0.79	0.34	0.00	0.64	0.13	0.04	0.00	0.63	0.11
Avail Cap(c_a), veh/h	993	770	762	208	933	418	255	2340	729	117	1593	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	17.4	17.4	28.6	26.3	0.0	27.3	9.4	9.0	0.0	17.8	14.8
Incr Delay (d2), s/veh	4.8	0.3	0.3	14.5	0.7	0.0	5.1	0.1	0.1	0.0	1.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	1.6	1.6	1.5	0.8	0.0	1.5	0.9	0.3	0.0	5.0	0.7
LnGrp Delay(d),s/veh	26.8	17.7	17.7	43.1	27.0	0.0	32.4	9.5	9.1	0.0	19.7	15.2
LnGrp LOS	C	B	B	D	C		C	A	A		B	B
Approach Vol, veh/h		911			165			482			1051	
Approach Delay, s/veh		24.4			33.6			17.1			19.5	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	32.4	7.5	20.8	8.9	23.5	18.8	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	4.0	19.5	7.1	26.4	4.5	19.0	17.5	16.0
Max Q Clear Time (g_c+I1), s	0.0	4.0	4.3	5.3	4.7	12.2	13.2	3.6
Green Ext Time (p_c), s	0.0	7.5	0.0	1.7	0.0	4.3	1.1	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	1935	356	568	1771	103	390	41	470	75	26	29
Future Volume (veh/h)	47	1935	356	568	1771	103	390	41	470	75	26	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	51	2103	0	617	1925	107	456	0	36	82	28	2
Adj No. of Lanes	1	3	1	2	3	0	2	0	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	2093	652	622	2738	152	519	0	463	218	229	195
Arrive On Green	0.04	0.41	0.00	0.18	0.56	0.56	0.15	0.00	0.15	0.12	0.12	0.12
Sat Flow, veh/h	1774	5085	1583	3442	4931	273	3548	0	3167	1774	1863	1583
Grp Volume(v), veh/h	51	2103	0	617	1322	710	456	0	36	82	28	2
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1815	1774	0	1583	1774	1863	1583
Q Serve(g_s), s	3.7	53.5	0.0	23.3	36.9	37.2	16.4	0.0	1.3	5.5	1.7	0.1
Cycle Q Clear(g_c), s	3.7	53.5	0.0	23.3	36.9	37.2	16.4	0.0	1.3	5.5	1.7	0.1
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	66	2093	652	622	1882	1007	519	0	463	218	229	195
V/C Ratio(X)	0.78	1.00	0.00	0.99	0.70	0.70	0.88	0.00	0.08	0.38	0.12	0.01
Avail Cap(c_a), veh/h	127	2093	652	622	1882	1007	519	0	463	218	229	195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.1	38.3	0.0	53.2	21.1	21.1	54.4	0.0	47.9	52.4	50.7	50.0
Incr Delay (d2), s/veh	17.4	20.8	0.0	33.9	1.2	2.3	18.8	0.0	0.3	4.9	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	29.0	0.0	14.0	17.6	19.2	9.4	0.0	0.6	3.0	1.0	0.1
LnGrp Delay(d),s/veh	79.5	59.1	0.0	87.0	22.3	23.4	73.2	0.0	48.3	57.3	51.8	50.1
LnGrp LOS	E	F		F	C	C	E		D	E	D	D
Approach Vol, veh/h		2154			2649			492			112	
Approach Delay, s/veh		59.6			37.7			71.3			55.8	
Approach LOS		E			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.5	28.0	58.0		20.5	9.3	76.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		19.0	23.5	53.5		16.0	9.3	67.7
Max Q Clear Time (g_c+I1), s		18.4	25.3	55.5		7.5	5.7	39.2
Green Ext Time (p_c), s		0.1	0.0	0.0		0.2	0.0	27.3

Intersection Summary	
HCM 2010 Ctrl Delay	49.8
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1044	363	482	718	180	188	15	369	87	176	34
Future Volume (veh/h)	65	1044	363	482	718	180	188	15	369	87	176	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	71	1135	59	524	780	47	215	0	52	95	191	5
Adj No. of Lanes	1	3	1	2	3	1	2	0	2	0	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	1112	346	495	1581	492	710	0	633	239	520	336
Arrive On Green	0.05	0.22	0.22	0.14	0.31	0.31	0.20	0.00	0.20	0.21	0.21	0.21
Sat Flow, veh/h	1774	5085	1583	3442	5085	1583	3548	0	3167	1127	2449	1583
Grp Volume(v), veh/h	71	1135	59	524	780	47	215	0	52	152	134	5
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1583	1774	0	1583	1806	1770	1583
Q Serve(g_s), s	3.2	17.5	2.4	11.5	10.0	1.7	4.1	0.0	1.1	5.8	5.2	0.2
Cycle Q Clear(g_c), s	3.2	17.5	2.4	11.5	10.0	1.7	4.1	0.0	1.1	5.8	5.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.62		1.00
Lane Grp Cap(c), veh/h	91	1112	346	495	1581	492	710	0	633	384	376	336
V/C Ratio(X)	0.78	1.02	0.17	1.06	0.49	0.10	0.30	0.00	0.08	0.40	0.36	0.01
Avail Cap(c_a), veh/h	188	1112	346	495	1581	492	710	0	633	384	376	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	31.3	25.4	34.3	22.4	19.6	27.3	0.0	26.0	27.1	26.8	24.9
Incr Delay (d2), s/veh	13.1	32.2	1.1	52.5	0.9	0.3	1.1	0.0	0.3	3.0	2.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	11.5	1.2	9.0	4.8	0.8	2.1	0.0	0.5	3.2	2.8	0.1
LnGrp Delay(d),s/veh	50.6	63.5	26.4	86.8	23.3	19.9	28.4	0.0	26.3	30.1	29.5	25.0
LnGrp LOS	D	F	C	F	C	B	C		C	C	C	C
Approach Vol, veh/h		1265			1351			267			291	
Approach Delay, s/veh		61.0			47.8			27.9			29.7	
Approach LOS		E			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.5	16.0	22.0		21.5	8.6	29.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		16.0	11.5	17.5		17.0	8.5	20.5
Max Q Clear Time (g_c+I1), s		6.1	13.5	19.5		7.8	5.2	12.0
Green Ext Time (p_c), s		0.6	0.0	0.0		0.9	0.0	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	49.7
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	144	1368	1006	866	812	354
Future Volume (veh/h)	144	1368	1006	866	812	354
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	157	1487	1093	0	883	102
Adj No. of Lanes	2	3	3	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	258	2670	1906	594	1119	515
Arrive On Green	0.08	0.52	0.37	0.00	0.32	0.32
Sat Flow, veh/h	3442	5253	5253	1583	3442	1583
Grp Volume(v), veh/h	157	1487	1093	0	883	102
Grp Sat Flow(s),veh/h/ln	1721	1695	1695	1583	1721	1583
Q Serve(g_s), s	2.7	11.8	10.3	0.0	14.0	2.8
Cycle Q Clear(g_c), s	2.7	11.8	10.3	0.0	14.0	2.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	258	2670	1906	594	1119	515
V/C Ratio(X)	0.61	0.56	0.57	0.00	0.79	0.20
Avail Cap(c_a), veh/h	602	2670	1906	594	1119	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	0.75	0.00	0.93	0.93
Uniform Delay (d), s/veh	26.9	9.6	14.9	0.0	18.4	14.6
Incr Delay (d2), s/veh	0.8	0.3	0.9	0.0	5.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	5.4	4.9	0.0	7.5	2.9
LnGrp Delay(d),s/veh	27.7	9.9	15.9	0.0	23.7	15.4
LnGrp LOS	C	A	B		C	B
Approach Vol, veh/h		1644	1093		985	
Approach Delay, s/veh		11.6	15.9		22.9	
Approach LOS		B	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				36.0		24.0	9.0	27.0
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				31.5		19.5	10.5	16.5
Max Q Clear Time (g_c+I1), s				13.8		16.0	4.7	12.3
Green Ext Time (p_c), s				14.4		1.4	0.2	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑	↱	↰	✣	↱			
Traffic Volume (veh/h)	0	2429	550	0	1159	390	751	0	801	0	0	0
Future Volume (veh/h)	0	2429	550	0	1159	390	751	0	801	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	0	2640	0	0	1260	0	1089	0	565			
Adj No. of Lanes	0	3	1	0	3	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2740	853	0	2740	853	1281	0	572			
Arrive On Green	0.00	0.54	0.00	0.00	0.54	0.00	0.36	0.00	0.36			
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	0	2640	0	0	1260	0	1089	0	565			
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	44.8	0.0	0.0	13.7	0.0	25.5	0.0	31.9			
Cycle Q Clear(g_c), s	0.0	44.8	0.0	0.0	13.7	0.0	25.5	0.0	31.9			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2740	853	0	2740	853	1281	0	572			
V/C Ratio(X)	0.00	0.96	0.00	0.00	0.46	0.00	0.85	0.00	0.99			
Avail Cap(c_a), veh/h	0	2740	853	0	2740	853	1281	0	572			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.72	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	19.9	0.0	0.0	12.7	0.0	26.5	0.0	28.6			
Incr Delay (d2), s/veh	0.0	8.3	0.0	0.0	0.6	0.0	7.2	0.0	34.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	22.9	0.0	0.0	6.4	0.0	13.7	0.0	19.3			
LnGrp Delay(d),s/veh	0.0	28.2	0.0	0.0	13.3	0.0	33.7	0.0	63.4			
LnGrp LOS		C			B		C		E			
Approach Vol, veh/h		2640			1260			1654				
Approach Delay, s/veh		28.2			13.3			43.8				
Approach LOS		C			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		37.0		53.0				53.0
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		32.5		48.5				48.5
Max Q Clear Time (g_c+I1), s		33.9		46.8				15.7
Green Ext Time (p_c), s		0.0		1.7				31.1

Intersection Summary	
HCM 2010 Ctrl Delay	29.5
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	326	1390	2190	304
Future Volume (Veh/h)	0	0	326	1390	2190	304
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	354	1511	2380	330
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				358		
pX, platoon unblocked	0.74					
vC, conflicting volume	3757	958	2710			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3501	958	2710			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	0			
cM capacity (veh/h)	0	257	148			

Direction, Lane #	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	354	504	504	504	952	952	806
Volume Left	354	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	330
cSH	148	1700	1700	1700	1700	1700	1700
Volume to Capacity	2.39	0.30	0.30	0.30	0.56	0.56	0.47
Queue Length 95th (ft)	754	0	0	0	0	0	0
Control Delay (s)	695.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F						
Approach Delay (s)	132.1				0.0		
Approach LOS							

Intersection Summary			
Average Delay	53.8		
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	400	68	492	51	0	138	0	1322	79	183	1947	0
Future Volume (veh/h)	400	68	492	51	0	138	0	1322	79	183	1947	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	488	0	401	55	0	1	0	1437	79	199	2116	0
Adj No. of Lanes	2	0	1	1	0	1	0	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	1008	0	450	0	0	0	0	2106	116	235	3111	0
Arrive On Green	0.28	0.00	0.28	0.00	0.00	0.00	0.00	0.43	0.43	0.13	0.61	0.00
Sat Flow, veh/h	3548	0	1583		0		0	5101	271	1774	5253	0
Grp Volume(v), veh/h	488	0	401		0.0		0	987	529	199	2116	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1815	1774	1695	0
Q Serve(g_s), s	9.9	0.0	21.0				0.0	20.3	20.3	9.5	23.9	0.0
Cycle Q Clear(g_c), s	9.9	0.0	21.0				0.0	20.3	20.3	9.5	23.9	0.0
Prop In Lane	1.00		1.00				0.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	1008	0	450				0	1447	775	235	3111	0
V/C Ratio(X)	0.48	0.00	0.89				0.00	0.68	0.68	0.85	0.68	0.00
Avail Cap(c_a), veh/h	1139	0	508				0	1447	775	271	3111	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.7	0.0	29.6				0.0	20.0	20.0	36.6	11.1	0.0
Incr Delay (d2), s/veh	0.4	0.0	16.5				0.0	2.6	4.8	19.1	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	11.2				0.0	10.0	11.2	5.9	11.3	0.0
LnGrp Delay(d),s/veh	26.0	0.0	46.1				0.0	22.6	24.8	55.7	12.4	0.0
LnGrp LOS	C		D					C	C	E	B	
Approach Vol, veh/h		889						1516			2315	
Approach Delay, s/veh		35.1						23.4			16.1	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	16.0	41.3		29.0		57.3		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	13.2	35.1		27.7		52.8		
Max Q Clear Time (g_c+I1), s	11.5	22.3		23.0		25.9		
Green Ext Time (p_c), s	0.1	12.2		1.6		24.8		

Intersection Summary	
HCM 2010 Ctrl Delay	22.0
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	439	3	392	405	918	0	0	1431	623
Future Volume (veh/h)	0	0	0	439	3	392	405	918	0	0	1431	623
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				479	0	288	440	998	0	0	1555	306
Adj No. of Lanes				2	0	1	1	3	0	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				722	0	322	474	3478	0	0	1834	571
Arrive On Green				0.20	0.00	0.20	0.27	0.68	0.00	0.00	0.36	0.36
Sat Flow, veh/h				3548	0	1583	1774	5253	0	0	5253	1583
Grp Volume(v), veh/h				479	0	288	440	998	0	0	1555	306
Grp Sat Flow(s),veh/h/ln				1774	0	1583	1774	1695	0	0	1695	1583
Q Serve(g_s), s				9.9	0.0	14.2	19.3	6.2	0.0	0.0	22.5	12.3
Cycle Q Clear(g_c), s				9.9	0.0	14.2	19.3	6.2	0.0	0.0	22.5	12.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				722	0	322	474	3478	0	0	1834	571
V/C Ratio(X)				0.66	0.00	0.89	0.93	0.29	0.00	0.00	0.85	0.54
Avail Cap(c_a), veh/h				732	0	327	477	3478	0	0	1834	571
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.54	0.54	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				29.3	0.0	31.0	28.6	5.0	0.0	0.0	23.6	20.3
Incr Delay (d2), s/veh				2.2	0.0	25.0	15.8	0.1	0.0	0.0	5.1	3.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.1	0.0	8.4	11.5	2.9	0.0	0.0	11.4	5.9
LnGrp Delay(d),s/veh				31.5	0.0	56.0	44.4	5.1	0.0	0.0	28.7	23.9
LnGrp LOS				C		E	D	A			C	C
Approach Vol, veh/h					767			1438			1861	
Approach Delay, s/veh					40.7			17.1			27.9	
Approach LOS					D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.2			25.9	33.3		20.8
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			21.5	28.5		16.5
Max Q Clear Time (g_c+I1), s		8.2			21.3	24.5		16.2
Green Ext Time (p_c), s		31.4			0.0	3.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.5
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	0	445	0	0	0	0	1073	579	483	1395	0
Future Volume (veh/h)	235	0	445	0	0	0	0	1073	579	483	1395	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	255	0	416				0	1166	153	525	1516	0
Adj No. of Lanes	0	1	1				0	4	1	1	4	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	485	0	433				0	1495	369	556	3887	0
Arrive On Green	0.27	0.00	0.27				0.00	0.23	0.23	0.31	0.61	0.00
Sat Flow, veh/h	1774	0	1583				0	6669	1583	1774	6669	0
Grp Volume(v), veh/h	255	0	416				0	1166	153	525	1516	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1602	1583	1774	1602	0
Q Serve(g_s), s	9.1	0.0	19.4				0.0	12.8	6.2	21.6	9.1	0.0
Cycle Q Clear(g_c), s	9.1	0.0	19.4				0.0	12.8	6.2	21.6	9.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	485	0	433				0	1495	369	556	3887	0
V/C Ratio(X)	0.53	0.00	0.96				0.00	0.78	0.41	0.94	0.39	0.00
Avail Cap(c_a), veh/h	485	0	433				0	1495	369	556	3887	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.46	0.46	0.00
Uniform Delay (d), s/veh	23.1	0.0	26.9				0.0	26.9	24.4	25.1	7.6	0.0
Incr Delay (d2), s/veh	1.1	0.0	33.3				0.0	4.1	3.4	14.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	12.4				0.0	6.1	3.0	12.7	4.0	0.0
LnGrp Delay(d),s/veh	24.2	0.0	60.2				0.0	31.0	27.8	39.7	7.7	0.0
LnGrp LOS	C		E					C	C	D	A	
Approach Vol, veh/h		671						1319			2041	
Approach Delay, s/veh		46.5						30.7			16.0	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	28.0	22.0		25.0		50.0		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	23.5	17.5		20.5		45.5		
Max Q Clear Time (g_c+I1), s	23.6	14.8		21.4		11.1		
Green Ext Time (p_c), s	0.0	2.6		0.0		25.7		

Intersection Summary	
HCM 2010 Ctrl Delay	25.8
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	188	362	357	954	2004	54
Future Volume (veh/h)	188	362	357	954	2004	54
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	271	138	388	1037	2178	0
Adj No. of Lanes	2	1	2	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	433	193	471	3854	2853	888
Arrive On Green	0.12	0.12	0.14	0.76	0.56	0.00
Sat Flow, veh/h	3548	1583	3442	5253	5253	1583
Grp Volume(v), veh/h	271	138	388	1037	2178	0
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1695	1695	1583
Q Serve(g_s), s	5.4	6.3	8.2	4.7	24.7	0.0
Cycle Q Clear(g_c), s	5.4	6.3	8.2	4.7	24.7	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	433	193	471	3854	2853	888
V/C Ratio(X)	0.63	0.71	0.82	0.27	0.76	0.00
Avail Cap(c_a), veh/h	757	338	482	3854	2853	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.63	0.63	1.00	0.00
Uniform Delay (d), s/veh	31.3	31.7	31.5	2.8	12.6	0.0
Incr Delay (d2), s/veh	1.5	4.8	7.2	0.1	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.6	4.4	2.2	11.8	0.0
LnGrp Delay(d),s/veh	32.8	36.5	38.7	2.9	14.6	0.0
LnGrp LOS	C	D	D	A	B	
Approach Vol, veh/h	409			1425	2178	
Approach Delay, s/veh	34.0			12.6	14.6	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		61.3		13.7	14.8	46.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		50.0		16.0	10.5	35.0		
Max Q Clear Time (g_c+I1), s		6.7		8.3	10.2	26.7		
Green Ext Time (p_c), s		35.9		0.9	0.0	7.9		

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	909	652	125	896	1775	583
Future Volume (veh/h)	909	652	125	896	1775	583
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	1011	506	136	974	1929	373
Adj No. of Lanes	2	1	2	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1171	522	208	2899	2337	728
Arrive On Green	0.33	0.33	0.06	0.57	0.46	0.46
Sat Flow, veh/h	3548	1583	3442	5253	5253	1583
Grp Volume(v), veh/h	1011	506	136	974	1929	373
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1695	1695	1583
Q Serve(g_s), s	24.0	28.3	3.5	9.2	29.7	15.0
Cycle Q Clear(g_c), s	24.0	28.3	3.5	9.2	29.7	15.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1171	523	208	2899	2337	728
V/C Ratio(X)	0.86	0.97	0.65	0.34	0.83	0.51
Avail Cap(c_a), veh/h	1171	523	402	2899	2337	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.49	0.49
Uniform Delay (d), s/veh	28.3	29.7	41.4	10.3	21.2	17.2
Incr Delay (d2), s/veh	6.9	31.3	3.5	0.3	1.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	25.5	1.8	4.3	14.1	6.8
LnGrp Delay(d),s/veh	35.1	61.0	44.8	10.6	22.9	18.5
LnGrp LOS	D	E	D	B	C	B
Approach Vol, veh/h	1517			1110	2302	
Approach Delay, s/veh	43.8			14.8	22.2	
Approach LOS	D			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		55.8		34.2	9.9	45.9		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.3		29.7	10.5	36.3		
Max Q Clear Time (g_c+I1), s		11.2		30.3	5.5	31.7		
Green Ext Time (p_c), s		32.6		0.0	0.2	4.4		

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1087	0	356	0	1214	630	0	2353	600
Future Volume (veh/h)	0	0	0	1087	0	356	0	1214	630	0	2353	600
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				1297	0	246	0	1320	0	0	2558	0
Adj No. of Lanes				2	0	1	0	4	1	0	4	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				1414	0	631	0	2892	715	0	2892	715
Arrive On Green				0.40	0.00	0.40	0.00	0.45	0.00	0.00	0.45	0.00
Sat Flow, veh/h				3548	0	1583	0	6669	1583	0	6669	1583
Grp Volume(v), veh/h				1297	0	246	0	1320	0	0	2558	0
Grp Sat Flow(s),veh/h/ln				1774	0	1583	0	1602	1583	0	1602	1583
Q Serve(g_s), s				20.8	0.0	6.6	0.0	8.5	0.0	0.0	21.9	0.0
Cycle Q Clear(g_c), s				20.8	0.0	6.6	0.0	8.5	0.0	0.0	21.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1414	0	631	0	2892	715	0	2892	715
V/C Ratio(X)				0.92	0.00	0.39	0.00	0.46	0.00	0.00	0.88	0.00
Avail Cap(c_a), veh/h				1449	0	647	0	2892	715	0	2892	715
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.89	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				17.1	0.0	12.8	0.0	11.4	0.0	0.0	15.0	0.0
Incr Delay (d2), s/veh				9.4	0.0	0.4	0.0	0.5	0.0	0.0	4.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.9	0.0	2.9	0.0	3.9	0.0	0.0	10.5	0.0
LnGrp Delay(d),s/veh				26.5	0.0	13.2	0.0	11.8	0.0	0.0	19.4	0.0
LnGrp LOS				C		B		B			B	
Approach Vol, veh/h					1543			1320			2558	
Approach Delay, s/veh					24.4			11.8			19.4	
Approach LOS					C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		31.6				31.6		28.4
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		26.5				26.5		24.5
Max Q Clear Time (g_c+I1), s		10.5				23.9		22.8
Green Ext Time (p_c), s		15.5				2.6		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.0
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	406	0	954	0	0	0	0	1395	302	0	2618	845
Future Volume (veh/h)	406	0	954	0	0	0	0	1395	302	0	2618	845
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	441	0	1020				0	1516	0	0	2846	0
Adj No. of Lanes	2	0	2				0	4	1	0	4	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	1308	0	1059				0	3086	762	0	3086	762
Arrive On Green	0.38	0.00	0.38				0.00	0.48	0.00	0.00	0.48	0.00
Sat Flow, veh/h	3442	0	2787				0	6669	1583	0	6669	1583
Grp Volume(v), veh/h	441	0	1020				0	1516	0	0	2846	0
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1602	1583	0	1602	1583
Q Serve(g_s), s	5.9	0.0	23.3				0.0	10.4	0.0	0.0	26.9	0.0
Cycle Q Clear(g_c), s	5.9	0.0	23.3				0.0	10.4	0.0	0.0	26.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1308	0	1059				0	3086	762	0	3086	762
V/C Ratio(X)	0.34	0.00	0.96				0.00	0.49	0.00	0.00	0.92	0.00
Avail Cap(c_a), veh/h	1308	0	1059				0	3086	762	0	3086	762
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.33	0.00
Uniform Delay (d), s/veh	14.3	0.0	19.7				0.0	11.4	0.0	0.0	15.7	0.0
Incr Delay (d2), s/veh	0.2	0.0	19.3				0.0	0.6	0.0	0.0	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	11.6				0.0	4.6	0.0	0.0	12.1	0.0
LnGrp Delay(d),s/veh	14.5	0.0	39.1				0.0	12.0	0.0	0.0	17.9	0.0
LnGrp LOS	B		D					B			B	
Approach Vol, veh/h		1461						1516			2846	
Approach Delay, s/veh		31.6						12.0			17.9	
Approach LOS		C						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		35.8		29.2		35.8		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		31.3		24.7		31.3		
Max Q Clear Time (g_c+I1), s		12.4		25.3		28.9		
Green Ext Time (p_c), s		18.5		0.0		2.4		

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	471	350	1005	0	0	704
Future Volume (veh/h)	471	350	1005	0	0	704
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	0	1863
Adj Flow Rate, veh/h	512	344	1092	0	0	765
Adj No. of Lanes	2	1	2	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	976	449	1833	0	0	2634
Arrive On Green	0.28	0.28	0.52	0.00	0.00	0.52
Sat Flow, veh/h	3442	1583	3725	0	0	5421
Grp Volume(v), veh/h	512	344	1092	0	0	765
Grp Sat Flow(s),veh/h/ln	1721	1583	1770	0	0	1695
Q Serve(g_s), s	5.7	9.0	9.8	0.0	0.0	3.9
Cycle Q Clear(g_c), s	5.7	9.0	9.8	0.0	0.0	3.9
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	976	449	1833	0	0	2634
V/C Ratio(X)	0.52	0.77	0.60	0.00	0.00	0.29
Avail Cap(c_a), veh/h	1328	611	1833	0	0	2634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	14.9	7.6	0.0	0.0	6.2
Incr Delay (d2), s/veh	0.4	4.0	1.4	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.4	5.1	0.0	0.0	1.8
LnGrp Delay(d),s/veh	14.1	18.9	9.1	0.0	0.0	6.5
LnGrp LOS	B	B	A			A
Approach Vol, veh/h	856		1092			765
Approach Delay, s/veh	16.0		9.1			6.5
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		28.0				28.0		17.4
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		23.5				23.5		17.5
Max Q Clear Time (g_c+I1), s		11.8				5.9		11.0
Green Ext Time (p_c), s		8.3				11.2		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑	↱				↰↰		↱↱
Traffic Volume (veh/h)	0	1209	705	0	1127	141	0	0	0	1139	0	939
Future Volume (veh/h)	0	1209	705	0	1127	141	0	0	0	1139	0	939
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	1314	0	0	1225	0				1238	0	999
Adj No. of Lanes	0	3	1	0	3	1				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	1901	592	0	1901	592				1467	0	1188
Arrive On Green	0.00	0.37	0.00	0.00	0.37	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	5253	1583	0	5253	1583				3442	0	2787
Grp Volume(v), veh/h	0	1314	0	0	1225	0				1238	0	999
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583				1721	0	1393
Q Serve(g_s), s	0.0	9.8	0.0	0.0	8.9	0.0				14.5	0.0	14.4
Cycle Q Clear(g_c), s	0.0	9.8	0.0	0.0	8.9	0.0				14.5	0.0	14.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1901	592	0	1901	592				1467	0	1188
V/C Ratio(X)	0.00	0.69	0.00	0.00	0.64	0.00				0.84	0.00	0.84
Avail Cap(c_a), veh/h	0	1901	592	0	1901	592				1522	0	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.60	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.9	0.0	0.0	11.6	0.0				11.6	0.0	11.5
Incr Delay (d2), s/veh	0.0	2.1	0.0	0.0	1.0	0.0				4.4	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.9	0.0	0.0	4.3	0.0				7.6	0.0	6.3
LnGrp Delay(d),s/veh	0.0	14.0	0.0	0.0	12.7	0.0				16.0	0.0	16.8
LnGrp LOS		B			B					B		B
Approach Vol, veh/h		1314			1225						2237	
Approach Delay, s/veh		14.0			12.7						16.4	
Approach LOS		B			B						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.3		23.7		21.3
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				16.1		19.9		16.1
Max Q Clear Time (g_c+I1), s				11.8		16.5		10.9
Green Ext Time (p_c), s				3.9		2.7		4.7

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1645	730	0	302	230	946	0	805	0	0	0
Future Volume (veh/h)	0	1645	730	0	302	230	946	0	805	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1788	0	0	328	0	1028	0	0			
Adj No. of Lanes	0	2	2	0	3	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1978	1557	0	2842	885	1106	0	509			
Arrive On Green	0.00	0.56	0.00	0.00	0.56	0.00	0.32	0.00	0.00			
Sat Flow, veh/h	0	3632	2787	0	5253	1583	3442	0	1583			
Grp Volume(v), veh/h	0	1788	0	0	328	0	1028	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1393	0	1695	1583	1721	0	1583			
Q Serve(g_s), s	0.0	33.8	0.0	0.0	2.3	0.0	21.7	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	33.8	0.0	0.0	2.3	0.0	21.7	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1978	1557	0	2842	885	1106	0	509			
V/C Ratio(X)	0.00	0.90	0.00	0.00	0.12	0.00	0.93	0.00	0.00			
Avail Cap(c_a), veh/h	0	1978	1557	0	2842	885	1124	0	517			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.55	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	14.8	0.0	0.0	7.8	0.0	24.6	0.0	0.0			
Incr Delay (d2), s/veh	0.0	4.3	0.0	0.0	0.1	0.0	13.2	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	17.3	0.0	0.0	1.1	0.0	12.3	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	19.1	0.0	0.0	7.9	0.0	37.8	0.0	0.0			
LnGrp LOS		B			A		D					
Approach Vol, veh/h		1788			328			1028				
Approach Delay, s/veh		19.1			7.9			37.8				
Approach LOS		B			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		28.6		46.4				46.4
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		24.5		41.5				41.5
Max Q Clear Time (g_c+I1), s		23.7		35.8				4.3
Green Ext Time (p_c), s		0.4		5.0				22.3

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	905	1179	2301	451	199	1505
Future Volume (veh/h)	905	1179	2301	451	199	1505
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	984	1083	2501	490	216	1636
Adj No. of Lanes	2	2	4	2	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1296	1050	2570	1118	249	3353
Arrive On Green	0.38	0.38	0.40	0.40	0.07	0.52
Sat Flow, veh/h	3442	2787	6669	2787	3442	6669
Grp Volume(v), veh/h	984	1083	2501	490	216	1636
Grp Sat Flow(s),veh/h/ln	1721	1393	1602	1393	1721	1602
Q Serve(g_s), s	22.5	33.9	34.5	11.5	5.6	14.7
Cycle Q Clear(g_c), s	22.5	33.9	34.5	11.5	5.6	14.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1296	1050	2570	1118	249	3353
V/C Ratio(X)	0.76	1.03	0.97	0.44	0.87	0.49
Avail Cap(c_a), veh/h	1296	1050	2570	1118	249	3353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.57	0.57	1.00	1.00
Uniform Delay (d), s/veh	24.5	28.0	26.5	19.6	41.3	13.7
Incr Delay (d2), s/veh	2.7	36.3	8.5	0.7	26.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	18.3	16.6	4.5	3.6	6.6
LnGrp Delay(d),s/veh	27.1	64.3	35.0	20.3	67.7	14.2
LnGrp LOS	C	F	C	C	E	B
Approach Vol, veh/h	2067		2991			1852
Approach Delay, s/veh	46.6		32.6			20.5
Approach LOS	D		C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.0	40.6				51.6		38.4
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	6.5	36.1				47.1		33.9
Max Q Clear Time (g_c+I1), s	7.6	36.5				16.7		35.9
Green Ext Time (p_c), s	0.0	0.0				29.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1063	137	841	0	1807	440	141	1805	474
Future Volume (veh/h)	0	0	0	1063	137	841	0	1807	440	141	1805	474
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	0	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h				1155	149	0	0	1964	406	153	1962	253
Adj No. of Lanes				2	1	1	0	4	1	2	4	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	0	2	2	2	2	2
Cap, veh/h				1220	660	561	0	2619	1208	235	3416	844
Arrive On Green				0.35	0.35	0.00	0.00	0.41	0.41	0.07	0.53	0.53
Sat Flow, veh/h				3442	1863	1583	0	6669	1583	3442	6408	1583
Grp Volume(v), veh/h				1155	149	0	0	1964	406	153	1962	253
Grp Sat Flow(s),veh/h/ln				1721	1863	1583	0	1602	1583	1721	1602	1583
Q Serve(g_s), s				26.1	4.5	0.0	0.0	20.9	6.5	3.5	16.5	7.1
Cycle Q Clear(g_c), s				26.1	4.5	0.0	0.0	20.9	6.5	3.5	16.5	7.1
Prop In Lane				1.00		1.00	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h				1220	660	561	0	2619	1208	235	3416	844
V/C Ratio(X)				0.95	0.23	0.00	0.00	0.75	0.34	0.65	0.57	0.30
Avail Cap(c_a), veh/h				1226	664	564	0	2619	1208	452	3416	844
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00	0.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh				25.1	18.1	0.0	0.0	20.2	3.0	36.3	12.6	10.4
Incr Delay (d2), s/veh				14.8	0.2	0.0	0.0	2.0	0.8	2.4	0.6	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				14.9	2.3	0.0	0.0	9.5	3.1	1.7	7.4	3.3
LnGrp Delay(d),s/veh				39.9	18.3	0.0	0.0	22.2	3.8	38.7	13.1	11.1
LnGrp LOS				D	B			C	A	D	B	B
Approach Vol, veh/h					1304			2370			2368	
Approach Delay, s/veh					37.4			19.0			14.6	
Approach LOS					D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.0	37.2				47.2		32.8
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	10.5	27.5				42.5		28.5
Max Q Clear Time (g_c+I1), s	5.5	22.9				18.5		28.1
Green Ext Time (p_c), s	0.2	4.6				23.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1510	0	871	0	2333	651	0	2205	1191
Future Volume (veh/h)	0	0	0	1510	0	871	0	2333	651	0	2205	1191
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				1641	0	0	0	2536	0	0	2397	0
Adj No. of Lanes				3	0	1	0	3	1	0	4	2
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1746	0	553	0	2656	827	0	3347	1456
Arrive On Green				0.35	0.00	0.00	0.00	0.52	0.00	0.00	0.52	0.00
Sat Flow, veh/h				5003	0	1583	0	5253	1583	0	6669	2787
Grp Volume(v), veh/h				1641	0	0	0	2536	0	0	2397	0
Grp Sat Flow(s),veh/h/ln				1668	0	1583	0	1695	1583	0	1602	1393
Q Serve(g_s), s				22.2	0.0	0.0	0.0	33.3	0.0	0.0	20.0	0.0
Cycle Q Clear(g_c), s				22.2	0.0	0.0	0.0	33.3	0.0	0.0	20.0	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1746	0	553	0	2656	827	0	3347	1456
V/C Ratio(X)				0.94	0.00	0.00	0.00	0.95	0.00	0.00	0.72	0.00
Avail Cap(c_a), veh/h				1751	0	554	0	2656	827	0	3347	1456
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.53	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				22.1	0.0	0.0	0.0	15.9	0.0	0.0	12.8	0.0
Incr Delay (d2), s/veh				10.5	0.0	0.0	0.0	5.8	0.0	0.0	1.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.9	0.0	0.0	0.0	16.7	0.0	0.0	9.0	0.0
LnGrp Delay(d),s/veh				32.5	0.0	0.0	0.0	21.8	0.0	0.0	14.1	0.0
LnGrp LOS				C				C			B	
Approach Vol, veh/h					1641			2536			2397	
Approach Delay, s/veh					32.5			21.8			14.1	
Approach LOS					C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		41.1				41.1		28.9
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		36.5				36.5		24.5
Max Q Clear Time (g_c+I1), s		35.3				22.0		24.2
Green Ext Time (p_c), s		1.2				14.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1100	0	1859	0	0	0	0	1873	701	0	3467	230
Future Volume (veh/h)	1100	0	1859	0	0	0	0	1873	701	0	3467	230
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	1571	0	1606				0	2036	0	0	3768	0
Adj No. of Lanes	2	0	2				0	4	1	0	4	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	1559	0	1391				0	3181	786	0	3181	786
Arrive On Green	0.44	0.00	0.44				0.00	0.50	0.00	0.00	0.50	0.00
Sat Flow, veh/h	3548	0	3167				0	6669	1583	0	6669	1583
Grp Volume(v), veh/h	1571	0	1606				0	2036	0	0	3768	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1602	1583	0	1602	1583
Q Serve(g_s), s	61.5	0.0	61.5				0.0	32.8	0.0	0.0	69.5	0.0
Cycle Q Clear(g_c), s	61.5	0.0	61.5				0.0	32.8	0.0	0.0	69.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1559	0	1391				0	3181	786	0	3181	786
V/C Ratio(X)	1.01	0.00	1.15				0.00	0.64	0.00	0.00	1.18	0.00
Avail Cap(c_a), veh/h	1559	0	1391				0	3181	786	0	3181	786
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.49	0.00
Uniform Delay (d), s/veh	39.3	0.0	39.2				0.0	26.0	0.0	0.0	35.2	0.0
Incr Delay (d2), s/veh	24.7	0.0	78.1				0.0	1.0	0.0	0.0	84.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	35.4	0.0	42.0				0.0	14.6	0.0	0.0	49.4	0.0
LnGrp Delay(d),s/veh	64.0	0.0	117.4				0.0	27.0	0.0	0.0	120.0	0.0
LnGrp LOS	F		F					C			F	
Approach Vol, veh/h		3177						2036			3768	
Approach Delay, s/veh		91.0						27.0			120.0	
Approach LOS		F						C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		74.0		66.0		74.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		69.5		61.5		69.5		
Max Q Clear Time (g_c+I1), s		34.8		63.5		71.5		
Green Ext Time (p_c), s		34.6		0.0		0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	88.7
HCM 2010 LOS	F

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	730	0	177	0	1493	790	0	1690	1060
Future Volume (veh/h)	0	0	0	730	0	177	0	1493	790	0	1690	1060
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				793	0	175	0	1623	0	0	1837	0
Adj No. of Lanes				2	0	1	0	3	1	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				992	0	456	0	2705	842	0	2705	842
Arrive On Green				0.29	0.00	0.29	0.00	0.53	0.00	0.00	0.53	0.00
Sat Flow, veh/h				3442	0	1583	0	5253	1583	0	5253	1583
Grp Volume(v), veh/h				793	0	175	0	1623	0	0	1837	0
Grp Sat Flow(s),veh/h/ln				1721	0	1583	0	1695	1583	0	1695	1583
Q Serve(g_s), s				10.7	0.0	4.4	0.0	11.0	0.0	0.0	13.2	0.0
Cycle Q Clear(g_c), s				10.7	0.0	4.4	0.0	11.0	0.0	0.0	13.2	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				992	0	456	0	2705	842	0	2705	842
V/C Ratio(X)				0.80	0.00	0.38	0.00	0.60	0.00	0.00	0.68	0.00
Avail Cap(c_a), veh/h				1205	0	554	0	2705	842	0	2705	842
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.70	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.5	0.0	14.2	0.0	8.0	0.0	0.0	8.6	0.0
Incr Delay (d2), s/veh				3.2	0.0	0.5	0.0	0.7	0.0	0.0	1.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.4	0.0	2.0	0.0	5.3	0.0	0.0	6.5	0.0
LnGrp Delay(d),s/veh				19.7	0.0	14.8	0.0	8.7	0.0	0.0	10.0	0.0
LnGrp LOS				B		B		A			A	
Approach Vol, veh/h					968			1623			1837	
Approach Delay, s/veh					18.8			8.7			10.0	
Approach LOS					B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		31.1				31.1		18.9
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		23.5				23.5		17.5
Max Q Clear Time (g_c+I1), s		13.0				15.2		12.7
Green Ext Time (p_c), s		10.1				8.0		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	561	0	400	0	0	0	0	1629	330	0	2110	380
Future Volume (veh/h)	561	0	400	0	0	0	0	1629	330	0	2110	380
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	738	0	275				0	1771	0	0	2293	0
Adj No. of Lanes	2	0	1				0	3	1	0	3	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	917	0	409				0	2938	915	0	2938	915
Arrive On Green	0.26	0.00	0.26				0.00	0.58	0.00	0.00	0.58	0.00
Sat Flow, veh/h	3548	0	1583				0	5253	1583	0	5253	1583
Grp Volume(v), veh/h	738	0	275				0	1771	0	0	2293	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1583	0	1695	1583
Q Serve(g_s), s	10.7	0.0	8.6				0.0	12.4	0.0	0.0	19.1	0.0
Cycle Q Clear(g_c), s	10.7	0.0	8.6				0.0	12.4	0.0	0.0	19.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	917	0	409				0	2938	915	0	2938	915
V/C Ratio(X)	0.80	0.00	0.67				0.00	0.60	0.00	0.00	0.78	0.00
Avail Cap(c_a), veh/h	1064	0	475				0	2938	915	0	2938	915
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.62	0.00
Uniform Delay (d), s/veh	19.1	0.0	18.3				0.0	7.5	0.0	0.0	8.9	0.0
Incr Delay (d2), s/veh	4.0	0.0	3.0				0.0	0.9	0.0	0.0	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	4.1				0.0	6.0	0.0	0.0	9.1	0.0
LnGrp Delay(d),s/veh	23.1	0.0	21.3				0.0	8.4	0.0	0.0	10.3	0.0
LnGrp LOS	C		C					A			B	
Approach Vol, veh/h		1013						1771			2293	
Approach Delay, s/veh		22.6						8.4			10.3	
Approach LOS		C						A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		36.3		18.7		36.3		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		29.5		16.5		29.5		
Max Q Clear Time (g_c+I1), s		14.4		12.7		21.1		
Green Ext Time (p_c), s		14.7		1.5		8.3		

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	435	18	35	95	241	56	423	949	46	16	310	957
Future Volume (veh/h)	435	18	35	95	241	56	423	949	46	16	310	957
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	473	20	1	103	262	2	460	1032	29	17	337	827
Adj No. of Lanes	2	2	0	1	2	1	2	3	1	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	477	544	27	126	322	144	467	3176	989	25	2557	796
Arrive On Green	0.14	0.16	0.16	0.07	0.09	0.09	0.14	0.62	0.62	0.01	0.50	0.50
Sat Flow, veh/h	3442	3432	170	1774	3539	1583	3442	5085	1583	1774	5085	1583
Grp Volume(v), veh/h	473	10	11	103	262	2	460	1032	29	17	337	827
Grp Sat Flow(s),veh/h/ln	1721	1770	1833	1774	1770	1583	1721	1695	1583	1774	1695	1583
Q Serve(g_s), s	18.7	0.7	0.7	7.8	9.9	0.2	18.2	13.0	1.0	1.3	4.8	68.6
Cycle Q Clear(g_c), s	18.7	0.7	0.7	7.8	9.9	0.2	18.2	13.0	1.0	1.3	4.8	68.6
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	477	280	290	126	322	144	467	3176	989	25	2557	796
V/C Ratio(X)	0.99	0.04	0.04	0.82	0.81	0.01	0.99	0.32	0.03	0.69	0.13	1.04
Avail Cap(c_a), veh/h	477	280	290	203	415	186	467	3176	989	73	2557	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	48.6	48.6	62.5	60.9	56.4	58.8	12.1	9.8	67.0	18.1	33.9
Incr Delay (d2), s/veh	39.1	0.1	0.1	12.5	9.2	0.0	37.8	0.3	0.1	28.8	0.1	42.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	0.3	0.3	4.3	5.3	0.1	11.1	6.2	0.4	0.8	2.3	39.2
LnGrp Delay(d),s/veh	97.7	48.6	48.6	75.0	70.1	56.5	96.6	12.3	9.9	95.8	18.2	76.3
LnGrp LOS	F	D	D	E	E	E	F	B	A	F	B	F
Approach Vol, veh/h		494			367			1521			1181	
Approach Delay, s/veh		95.7			71.4			37.8			60.0	
Approach LOS		F			E			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	89.7	14.2	26.1	23.0	73.1	23.4	16.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.6	81.5	15.6	19.3	18.5	68.6	18.9	16.0
Max Q Clear Time (g_c+I1), s	3.3	15.0	9.8	2.7	20.2	70.6	20.7	11.9
Green Ext Time (p_c), s	0.0	21.9	0.1	1.4	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	56.6
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	1825	328	395	1599	90	359	40	172	143	77	70
Future Volume (veh/h)	64	1825	328	395	1599	90	359	40	172	143	77	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	70	1984	0	429	1738	91	421	0	19	155	84	6
Adj No. of Lanes	1	3	1	2	3	0	2	0	2	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1856	578	430	2174	114	603	0	538	284	298	253
Arrive On Green	0.05	0.37	0.00	0.13	0.44	0.44	0.17	0.00	0.17	0.16	0.16	0.16
Sat Flow, veh/h	1774	5085	1583	3442	4948	259	3548	0	3167	1774	1863	1583
Grp Volume(v), veh/h	70	1984	0	429	1190	639	421	0	19	155	84	6
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1817	1774	0	1583	1774	1863	1583
Q Serve(g_s), s	3.9	36.5	0.0	12.5	30.3	30.4	11.2	0.0	0.5	8.0	4.0	0.3
Cycle Q Clear(g_c), s	3.9	36.5	0.0	12.5	30.3	30.4	11.2	0.0	0.5	8.0	4.0	0.3
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	1856	578	430	1490	798	603	0	538	284	298	253
V/C Ratio(X)	0.78	1.07	0.00	1.00	0.80	0.80	0.70	0.00	0.04	0.55	0.28	0.02
Avail Cap(c_a), veh/h	119	1856	578	430	1490	798	603	0	538	284	298	253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	31.8	0.0	43.7	24.2	24.2	39.1	0.0	34.7	38.7	36.9	35.4
Incr Delay (d2), s/veh	20.8	42.1	0.0	42.6	3.2	5.8	6.6	0.0	0.1	7.4	2.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	24.2	0.0	8.4	14.7	16.4	6.0	0.0	0.2	4.5	2.2	0.2
LnGrp Delay(d),s/veh	67.7	73.8	0.0	86.3	27.4	30.1	45.7	0.0	34.8	46.0	39.3	35.6
LnGrp LOS	E	F		F	C	C	D		C	D	D	D
Approach Vol, veh/h		2054			2258			440			245	
Approach Delay, s/veh		73.6			39.3			45.2			43.5	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.5	17.0	41.0		20.5	9.6	48.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		17.0	12.5	36.5		16.0	6.7	42.3
Max Q Clear Time (g_c+I1), s		13.2	14.5	38.5		10.0	5.9	32.4
Green Ext Time (p_c), s		0.6	0.0	0.0		0.4	0.0	9.6

Intersection Summary	
HCM 2010 Ctrl Delay	54.2
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	824	143	676	948	55	200	15	105	89	465	125
Future Volume (veh/h)	124	824	143	676	948	55	200	15	105	89	465	125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	135	896	22	735	1030	17	228	0	12	97	505	16
Adj No. of Lanes	1	3	1	2	3	1	2	0	2	0	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1074	334	746	1698	529	631	0	563	108	593	308
Arrive On Green	0.09	0.21	0.21	0.22	0.33	0.33	0.18	0.00	0.18	0.19	0.19	0.19
Sat Flow, veh/h	1774	5085	1583	3442	5085	1583	3548	0	3167	555	3050	1583
Grp Volume(v), veh/h	135	896	22	735	1030	17	228	0	12	321	281	16
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1583	1774	0	1583	1835	1770	1583
Q Serve(g_s), s	6.7	15.2	1.0	19.1	15.2	0.7	5.1	0.0	0.3	15.4	13.7	0.7
Cycle Q Clear(g_c), s	6.7	15.2	1.0	19.1	15.2	0.7	5.1	0.0	0.3	15.4	13.7	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.30		1.00
Lane Grp Cap(c), veh/h	166	1074	334	746	1698	529	631	0	563	357	344	308
V/C Ratio(X)	0.81	0.83	0.07	0.99	0.61	0.03	0.36	0.00	0.02	0.90	0.82	0.05
Avail Cap(c_a), veh/h	187	1074	334	746	1698	529	631	0	563	357	344	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.55	0.55	0.55	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	34.0	28.4	35.1	25.0	20.2	32.5	0.0	30.5	35.4	34.7	29.5
Incr Delay (d2), s/veh	21.0	7.7	0.4	21.0	0.9	0.1	1.6	0.0	0.1	27.9	19.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	7.8	0.5	11.3	7.2	0.3	2.6	0.0	0.1	10.5	8.5	0.3
LnGrp Delay(d),s/veh	61.0	41.7	28.8	56.1	25.9	20.2	34.1	0.0	30.6	63.3	53.7	29.8
LnGrp LOS	E	D	C	E	C	C	C		C	E	D	C
Approach Vol, veh/h		1053			1782			240			618	
Approach Delay, s/veh		43.9			38.3			33.9			58.1	
Approach LOS		D			D			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.5	24.0	23.5		22.0	12.9	34.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		16.0	19.5	19.0		17.5	9.5	29.0
Max Q Clear Time (g_c+I1), s		7.1	21.1	17.2		17.4	8.7	17.2
Green Ext Time (p_c), s		0.5	0.0	1.6		0.1	0.0	8.5

Intersection Summary	
HCM 2010 Ctrl Delay	42.9
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	295	786	1425	455	753	327
Future Volume (veh/h)	295	786	1425	455	753	327
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	321	854	1549	0	818	85
Adj No. of Lanes	2	3	3	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	430	3012	2024	630	927	426
Arrive On Green	0.12	0.59	0.40	0.00	0.27	0.27
Sat Flow, veh/h	3442	5253	5253	1583	3442	1583
Grp Volume(v), veh/h	321	854	1549	0	818	85
Grp Sat Flow(s),veh/h/ln	1721	1695	1695	1583	1721	1583
Q Serve(g_s), s	5.9	5.3	17.1	0.0	14.8	2.7
Cycle Q Clear(g_c), s	5.9	5.3	17.1	0.0	14.8	2.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	430	3012	2024	630	927	426
V/C Ratio(X)	0.75	0.28	0.77	0.00	0.88	0.20
Avail Cap(c_a), veh/h	556	3012	2024	630	927	426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.62	0.00	0.94	0.94
Uniform Delay (d), s/veh	27.4	6.5	16.9	0.0	22.8	18.3
Incr Delay (d2), s/veh	2.3	0.1	1.8	0.0	11.4	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.5	8.2	0.0	8.4	2.7
LnGrp Delay(d),s/veh	29.7	6.6	18.7	0.0	34.1	19.3
LnGrp LOS	C	A	B		C	B
Approach Vol, veh/h		1175	1549		903	
Approach Delay, s/veh		12.9	18.7		32.7	
Approach LOS		B	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				43.0		22.0	12.6	30.4
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				38.5		17.5	10.5	23.5
Max Q Clear Time (g_c+I1), s				7.3		16.8	7.9	19.1
Green Ext Time (p_c), s				21.1		0.3	0.3	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑	↱	↰	↕	↱			
Traffic Volume (veh/h)	0	1148	1020	0	1765	1380	215	0	132	0	0	0
Future Volume (veh/h)	0	1148	1020	0	1765	1380	215	0	132	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	0	1248	0	0	1918	0	270	0	76			
Adj No. of Lanes	0	3	1	0	3	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2543	792	0	2543	792	1135	0	507			
Arrive On Green	0.00	0.50	0.00	0.00	0.50	0.00	0.32	0.00	0.32			
Sat Flow, veh/h	0	5253	1583	0	5253	1583	3548	0	1583			
Grp Volume(v), veh/h	0	1248	0	0	1918	0	270	0	76			
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	8.1	0.0	0.0	15.1	0.0	2.8	0.0	1.7			
Cycle Q Clear(g_c), s	0.0	8.1	0.0	0.0	15.1	0.0	2.8	0.0	1.7			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2543	792	0	2543	792	1135	0	507			
V/C Ratio(X)	0.00	0.49	0.00	0.00	0.75	0.00	0.24	0.00	0.15			
Avail Cap(c_a), veh/h	0	2543	792	0	2543	792	1135	0	507			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.79	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	8.3	0.0	0.0	10.0	0.0	12.5	0.0	12.1			
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	2.1	0.0	0.5	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.8	0.0	0.0	7.4	0.0	1.4	0.0	0.8			
LnGrp Delay(d),s/veh	0.0	8.8	0.0	0.0	12.2	0.0	13.0	0.0	12.8			
LnGrp LOS		A			B		B		B			
Approach Vol, veh/h		1248			1918			346				
Approach Delay, s/veh		8.8			12.2			13.0				
Approach LOS		A			B			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.5		29.5				29.5
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		16.0		25.0				25.0
Max Q Clear Time (g_c+I1), s		4.8		10.1				17.1
Green Ext Time (p_c), s		0.9		13.7				7.5

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	359	2190	1560	471
Future Volume (Veh/h)	0	0	359	2190	1560	471
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	390	2380	1696	512
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				358		
pX, platoon unblocked	0.64					
vC, conflicting volume	3525	821	2208			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2967	821	2208			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	0			
cM capacity (veh/h)	0	317	234			

Direction, Lane #	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	390	793	793	793	678	678	851
Volume Left	390	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	512
cSH	234	1700	1700	1700	1700	1700	1700
Volume to Capacity	1.66	0.47	0.47	0.47	0.40	0.40	0.50
Queue Length 95th (ft)	631	0	0	0	0	0	0
Control Delay (s)	353.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F						
Approach Delay (s)	49.8				0.0		
Approach LOS							

Intersection Summary				
Average Delay	27.7			
Intersection Capacity Utilization	67.2%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	371	46	644	82	0	167	0	1992	98	256	1392	0
Future Volume (veh/h)	371	46	644	82	0	167	0	1992	98	256	1392	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	439	0	637	89	0	0	0	2165	103	278	1513	0
Adj No. of Lanes	2	0	1	1	0	1	0	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	1219	0	544	0	0	0	0	2075	98	240	2984	0
Arrive On Green	0.34	0.00	0.34	0.00	0.00	0.00	0.00	0.42	0.42	0.14	0.59	0.00
Sat Flow, veh/h	3548	0	1583		0		0	5143	236	1774	5253	0
Grp Volume(v), veh/h	439	0	637		0.0		0	1472	796	278	1513	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1821	1774	1695	0
Q Serve(g_s), s	12.0	0.0	44.5				0.0	54.0	54.0	17.5	22.7	0.0
Cycle Q Clear(g_c), s	12.0	0.0	44.5				0.0	54.0	54.0	17.5	22.7	0.0
Prop In Lane	1.00		1.00				0.00		0.13	1.00		0.00
Lane Grp Cap(c), veh/h	1219	0	544				0	1414	759	240	2984	0
V/C Ratio(X)	0.36	0.00	1.17				0.00	1.04	1.05	1.16	0.51	0.00
Avail Cap(c_a), veh/h	1219	0	544				0	1414	759	240	2984	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.8	0.0	42.5				0.0	37.8	37.8	56.0	15.7	0.0
Incr Delay (d2), s/veh	0.2	0.0	95.2				0.0	35.4	46.0	108.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	33.7				0.0	32.1	36.7	15.7	10.7	0.0
LnGrp Delay(d),s/veh	32.0	0.0	137.7				0.0	73.1	83.8	164.1	16.4	0.0
LnGrp LOS	C		F					F	F	F	B	
Approach Vol, veh/h		1076						2268			1791	
Approach Delay, s/veh		94.6						76.9			39.3	
Approach LOS		F						E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	22.0	58.5		49.0		80.5		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	17.5	54.0		44.5		76.0		
Max Q Clear Time (g_c+I1), s	19.5	56.0		46.5		24.7		
Green Ext Time (p_c), s	0.0	0.0		0.0		45.4		

Intersection Summary	
HCM 2010 Ctrl Delay	67.5
HCM 2010 LOS	E

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	419	42	489	458	1171	0	0	901	310
Future Volume (veh/h)	0	0	0	419	42	489	458	1171	0	0	901	310
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				488	0	466	498	1273	0	0	979	51
Adj No. of Lanes				2	0	1	1	3	0	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1074	0	479	530	2936	0	0	1112	346
Arrive On Green				0.30	0.00	0.30	0.30	0.58	0.00	0.00	0.22	0.22
Sat Flow, veh/h				3548	0	1583	1774	5253	0	0	5253	1583
Grp Volume(v), veh/h				488	0	466	498	1273	0	0	979	51
Grp Sat Flow(s),veh/h/ln				1774	0	1583	1774	1695	0	0	1695	1583
Q Serve(g_s), s				8.3	0.0	21.8	20.5	10.6	0.0	0.0	14.0	2.0
Cycle Q Clear(g_c), s				8.3	0.0	21.8	20.5	10.6	0.0	0.0	14.0	2.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1074	0	479	530	2936	0	0	1112	346
V/C Ratio(X)				0.45	0.00	0.97	0.94	0.43	0.00	0.00	0.88	0.15
Avail Cap(c_a), veh/h				1074	0	479	530	2936	0	0	1112	346
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.43	0.43	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.1	0.0	25.8	25.6	8.9	0.0	0.0	28.4	23.7
Incr Delay (d2), s/veh				0.3	0.0	33.9	13.8	0.2	0.0	0.0	10.0	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	0.0	14.0	12.0	4.9	0.0	0.0	7.6	0.9
LnGrp Delay(d),s/veh				21.4	0.0	59.8	39.4	9.1	0.0	0.0	38.4	24.6
LnGrp LOS				C		E	D	A			D	C
Approach Vol, veh/h					954			1771			1030	
Approach Delay, s/veh					40.2			17.7			37.7	
Approach LOS					D			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		47.8			26.9	20.9		27.2
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		43.3			22.4	16.4		22.7
Max Q Clear Time (g_c+I1), s		12.6			22.5	16.0		23.8
Green Ext Time (p_c), s		19.6			0.0	0.4		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		28.9
HCM 2010 LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	0	297	0	0	0	0	1248	562	456	864	0
Future Volume (veh/h)	413	0	297	0	0	0	0	1248	562	456	864	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	449	0	210				0	1357	136	496	939	0
Adj No. of Lanes	0	1	1				0	4	1	1	4	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	485	0	432				0	1588	392	530	3889	0
Arrive On Green	0.27	0.00	0.27				0.00	0.25	0.25	0.30	0.61	0.00
Sat Flow, veh/h	1774	0	1583				0	6669	1583	1774	6669	0
Grp Volume(v), veh/h	449	0	210				0	1357	136	496	939	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1602	1583	1774	1602	0
Q Serve(g_s), s	18.5	0.0	8.3				0.0	15.2	5.3	20.4	5.1	0.0
Cycle Q Clear(g_c), s	18.5	0.0	8.3				0.0	15.2	5.3	20.4	5.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	485	0	432				0	1588	392	530	3889	0
V/C Ratio(X)	0.93	0.00	0.49				0.00	0.85	0.35	0.94	0.24	0.00
Avail Cap(c_a), veh/h	485	0	433				0	1588	392	532	3889	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.51	0.51	0.00
Uniform Delay (d), s/veh	26.5	0.0	22.8				0.0	26.9	23.2	25.6	6.8	0.0
Incr Delay (d2), s/veh	24.0	0.0	0.8				0.0	6.1	2.4	14.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	0.0	3.7				0.0	7.4	2.6	12.1	2.2	0.0
LnGrp Delay(d),s/veh	50.5	0.0	23.7				0.0	33.0	25.6	40.3	6.9	0.0
LnGrp LOS	D		C					C	C	D	A	
Approach Vol, veh/h		659						1493			1435	
Approach Delay, s/veh		42.0						32.3			18.4	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	26.9	23.1		25.0		50.0		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	22.5	18.5		20.5		45.5		
Max Q Clear Time (g_c+I1), s	22.4	17.2		20.5		7.1		
Green Ext Time (p_c), s	0.0	1.3		0.0		23.5		

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	308	303	640	1332	997	480
Future Volume (veh/h)	308	303	640	1332	997	480
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	335	146	696	1448	1084	0
Adj No. of Lanes	2	1	2	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	502	224	812	3603	2021	629
Arrive On Green	0.14	0.14	0.08	0.23	0.40	0.00
Sat Flow, veh/h	3548	1583	3442	5253	5253	1583
Grp Volume(v), veh/h	335	146	696	1448	1084	0
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1695	1695	1583
Q Serve(g_s), s	5.4	5.2	12.0	14.4	9.8	0.0
Cycle Q Clear(g_c), s	5.4	5.2	12.0	14.4	9.8	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	502	224	812	3603	2021	629
V/C Ratio(X)	0.67	0.65	0.86	0.40	0.54	0.00
Avail Cap(c_a), veh/h	946	422	832	3603	2021	629
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.74	0.74	1.00	0.00
Uniform Delay (d), s/veh	24.4	24.4	26.7	12.2	13.8	0.0
Incr Delay (d2), s/veh	1.5	3.2	6.7	0.2	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.7	6.5	6.8	4.7	0.0
LnGrp Delay(d),s/veh	25.9	27.5	33.3	12.5	14.9	0.0
LnGrp LOS	C	C	C	B	B	
Approach Vol, veh/h	481			2144	1084	
Approach Delay, s/veh	26.4			19.2	14.9	
Approach LOS	C			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.0		13.0	18.7	28.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		35.0		16.0	14.5	16.0		
Max Q Clear Time (g_c+I1), s		16.4		7.4	14.0	11.8		
Green Ext Time (p_c), s		14.8		1.1	0.2	3.9		

Intersection Summary	
HCM 2010 Ctrl Delay	18.9
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	670	409	195	1351	873	431
Future Volume (veh/h)	670	409	195	1351	873	431
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	728	172	212	1468	949	91
Adj No. of Lanes	2	1	2	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	887	396	326	3052	2189	682
Arrive On Green	0.25	0.25	0.09	0.60	0.43	0.43
Sat Flow, veh/h	3548	1583	3442	5253	5253	1583
Grp Volume(v), veh/h	728	172	212	1468	949	91
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1695	1695	1583
Q Serve(g_s), s	11.6	5.5	3.6	9.7	7.8	2.1
Cycle Q Clear(g_c), s	11.6	5.5	3.6	9.7	7.8	2.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	887	396	326	3052	2189	682
V/C Ratio(X)	0.82	0.43	0.65	0.48	0.43	0.13
Avail Cap(c_a), veh/h	1035	462	602	3052	2189	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.72	0.72
Uniform Delay (d), s/veh	21.2	18.9	26.2	6.7	12.0	10.3
Incr Delay (d2), s/veh	4.7	0.8	2.2	0.5	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	5.1	1.8	4.6	3.7	1.0
LnGrp Delay(d),s/veh	26.0	19.7	28.4	7.3	12.4	10.6
LnGrp LOS	C	B	C	A	B	B
Approach Vol, veh/h	900			1680	1040	
Approach Delay, s/veh	24.8			10.0	12.3	
Approach LOS	C			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.5		19.5	10.2	30.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.5		17.5	10.5	18.5		
Max Q Clear Time (g_c+I1), s		11.7		13.6	5.6	9.8		
Green Ext Time (p_c), s		16.5		1.4	0.3	7.5		

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	530	0	924	0	2726	580	0	1690	480
Future Volume (veh/h)	0	0	0	530	0	924	0	2726	580	0	1690	480
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				384	0	1192	0	2963	0	0	1837	0
Adj No. of Lanes				1	0	2	0	4	1	0	4	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				650	0	1159	0	3174	784	0	3174	784
Arrive On Green				0.37	0.00	0.37	0.00	0.50	0.00	0.00	0.50	0.00
Sat Flow, veh/h				1774	0	3167	0	6669	1583	0	6669	1583
Grp Volume(v), veh/h				384	0	1192	0	2963	0	0	1837	0
Grp Sat Flow(s),veh/h/ln				1774	0	1583	0	1602	1583	0	1602	1583
Q Serve(g_s), s				11.4	0.0	23.8	0.0	28.2	0.0	0.0	13.2	0.0
Cycle Q Clear(g_c), s				11.4	0.0	23.8	0.0	28.2	0.0	0.0	13.2	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				650	0	1159	0	3174	784	0	3174	784
V/C Ratio(X)				0.59	0.00	1.03	0.00	0.93	0.00	0.00	0.58	0.00
Avail Cap(c_a), veh/h				650	0	1159	0	3174	784	0	3174	784
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.45	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.7	0.0	20.6	0.0	15.4	0.0	0.0	11.6	0.0
Incr Delay (d2), s/veh				1.4	0.0	33.8	0.0	3.3	0.0	0.0	0.8	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	0.0	15.8	0.0	13.1	0.0	0.0	5.9	0.0
LnGrp Delay(d),s/veh				18.1	0.0	54.4	0.0	18.6	0.0	0.0	12.4	0.0
LnGrp LOS				B		F		B			B	
Approach Vol, veh/h					1576			2963			1837	
Approach Delay, s/veh					45.6			18.6			12.4	
Approach LOS					D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		36.7				36.7		28.3
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		32.2				32.2		23.8
Max Q Clear Time (g_c+I1), s		30.2				15.2		25.8
Green Ext Time (p_c), s		2.0				16.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	469	0	856	0	0	0	0	2607	1019	0	1645	514
Future Volume (veh/h)	469	0	856	0	0	0	0	2607	1019	0	1645	514
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	510	0	908				0	2834	0	0	1788	0
Adj No. of Lanes	2	0	2				0	4	1	0	4	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	1183	0	958				0	3157	780	0	3157	780
Arrive On Green	0.34	0.00	0.34				0.00	0.49	0.00	0.00	0.49	0.00
Sat Flow, veh/h	3442	0	2787				0	6669	1583	0	6669	1583
Grp Volume(v), veh/h	510	0	908				0	2834	0	0	1788	0
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1602	1583	0	1602	1583
Q Serve(g_s), s	6.3	0.0	17.4				0.0	22.1	0.0	0.0	10.8	0.0
Cycle Q Clear(g_c), s	6.3	0.0	17.4				0.0	22.1	0.0	0.0	10.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1183	0	958				0	3157	780	0	3157	780
V/C Ratio(X)	0.43	0.00	0.95				0.00	0.90	0.00	0.00	0.57	0.00
Avail Cap(c_a), veh/h	1183	0	958				0	3157	780	0	3157	780
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.73	0.00
Uniform Delay (d), s/veh	13.9	0.0	17.6				0.0	12.7	0.0	0.0	9.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	17.9				0.0	4.5	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	9.1				0.0	10.6	0.0	0.0	4.8	0.0
LnGrp Delay(d),s/veh	14.2	0.0	35.5				0.0	17.2	0.0	0.0	10.4	0.0
LnGrp LOS	B		D					B			B	
Approach Vol, veh/h		1418						2834			1788	
Approach Delay, s/veh		27.8						17.2			10.4	
Approach LOS		C						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		31.6		23.4		31.6		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		27.1		18.9		27.1		
Max Q Clear Time (g_c+I1), s		24.1		19.4		12.8		
Green Ext Time (p_c), s		3.0		0.0		14.2		

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	322	248	741	0	0	809
Future Volume (veh/h)	322	248	741	0	0	809
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	0	1863
Adj Flow Rate, veh/h	350	196	805	0	0	879
Adj No. of Lanes	2	1	2	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	0	0	2
Cap, veh/h	712	327	1921	0	0	2760
Arrive On Green	0.21	0.21	0.54	0.00	0.00	0.54
Sat Flow, veh/h	3442	1583	3725	0	0	5421
Grp Volume(v), veh/h	350	196	805	0	0	879
Grp Sat Flow(s),veh/h/ln	1721	1583	1770	0	0	1695
Q Serve(g_s), s	3.2	4.0	4.8	0.0	0.0	3.4
Cycle Q Clear(g_c), s	3.2	4.0	4.8	0.0	0.0	3.4
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	712	327	1921	0	0	2760
V/C Ratio(X)	0.49	0.60	0.42	0.00	0.00	0.32
Avail Cap(c_a), veh/h	1581	727	1921	0	0	2760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	12.9	4.9	0.0	0.0	4.5
Incr Delay (d2), s/veh	0.5	1.8	0.7	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.9	2.5	0.0	0.0	1.6
LnGrp Delay(d),s/veh	13.1	14.7	5.5	0.0	0.0	4.8
LnGrp LOS	B	B	A			A
Approach Vol, veh/h	546		805			879
Approach Delay, s/veh	13.7		5.5			4.8
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		24.0				24.0		11.9
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		19.5				19.5		16.5
Max Q Clear Time (g_c+I1), s		6.8				5.4		6.0
Green Ext Time (p_c), s		8.1				8.7		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	7.3
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑	↱				↰↰		↱↱
Traffic Volume (veh/h)	0	1144	950	0	1621	700	0	0	0	326	0	779
Future Volume (veh/h)	0	1144	950	0	1621	700	0	0	0	326	0	779
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863				1863	0	1863
Adj Flow Rate, veh/h	0	1243	0	0	1762	0				354	0	824
Adj No. of Lanes	0	3	1	0	3	1				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2422	754	0	2422	754				1183	0	958
Arrive On Green	0.00	0.48	0.00	0.00	0.48	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5253	1583	0	5253	1583				3442	0	2787
Grp Volume(v), veh/h	0	1243	0	0	1762	0				354	0	824
Grp Sat Flow(s),veh/h/ln	0	1695	1583	0	1695	1583				1721	0	1393
Q Serve(g_s), s	0.0	8.5	0.0	0.0	13.9	0.0				3.8	0.0	13.8
Cycle Q Clear(g_c), s	0.0	8.5	0.0	0.0	13.9	0.0				3.8	0.0	13.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2422	754	0	2422	754				1183	0	958
V/C Ratio(X)	0.00	0.51	0.00	0.00	0.73	0.00				0.30	0.00	0.86
Avail Cap(c_a), veh/h	0	2422	754	0	2422	754				1273	0	1031
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.1	0.0	0.0	10.5	0.0				12.0	0.0	15.3
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	1.4	0.0				0.1	0.0	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0	0.0	6.7	0.0				1.8	0.0	6.2
LnGrp Delay(d),s/veh	0.0	9.9	0.0	0.0	11.9	0.0				12.1	0.0	22.4
LnGrp LOS		A			B					B		C
Approach Vol, veh/h		1243			1762						1178	
Approach Delay, s/veh		9.9			11.9						19.3	
Approach LOS		A			B						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				28.3		21.7		28.3
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				22.5		18.5		22.5
Max Q Clear Time (g_c+I1), s				10.5		15.8		15.9
Green Ext Time (p_c), s				11.0		1.4		6.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1028	1005	0	1116	794	897	0	437	0	0	0
Future Volume (veh/h)	0	1028	1005	0	1116	794	897	0	437	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1117	0	0	1213	0	975	0	0			
Adj No. of Lanes	0	2	2	0	3	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1653	1301	0	2374	739	1146	0	527			
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.00	0.33	0.00	0.00			
Sat Flow, veh/h	0	3632	2787	0	5253	1583	3442	0	1583			
Grp Volume(v), veh/h	0	1117	0	0	1213	0	975	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1393	0	1695	1583	1721	0	1583			
Q Serve(g_s), s	0.0	11.1	0.0	0.0	7.5	0.0	11.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	11.1	0.0	0.0	7.5	0.0	11.9	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1653	1301	0	2374	739	1146	0	527			
V/C Ratio(X)	0.00	0.68	0.00	0.00	0.51	0.00	0.85	0.00	0.00			
Avail Cap(c_a), veh/h	0	1653	1301	0	2374	739	1262	0	581			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.87	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	9.3	0.0	0.0	8.4	0.0	14.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.8	0.0	5.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.7	0.0	0.0	3.7	0.0	6.4	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	11.3	0.0	0.0	9.2	0.0	19.3	0.0	0.0			
LnGrp LOS		B			A		B					
Approach Vol, veh/h		1117			1213			975				
Approach Delay, s/veh		11.3			9.2			19.3				
Approach LOS		B			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		19.5		25.5				25.5
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		16.5		19.5				19.5
Max Q Clear Time (g_c+I1), s		13.9		13.1				9.5
Green Ext Time (p_c), s		1.1		5.6				8.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	529	412	2302	1239	504	2075
Future Volume (veh/h)	529	412	2302	1239	504	2075
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	575	48	2502	1347	548	2255
Adj No. of Lanes	2	2	4	2	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	616	499	3197	1390	593	4621
Arrive On Green	0.18	0.18	0.50	0.50	0.17	0.72
Sat Flow, veh/h	3442	2787	6669	2787	3442	6669
Grp Volume(v), veh/h	575	48	2502	1347	548	2255
Grp Sat Flow(s),veh/h/ln	1721	1393	1602	1393	1721	1602
Q Serve(g_s), s	14.8	1.3	28.9	42.2	14.1	13.6
Cycle Q Clear(g_c), s	14.8	1.3	28.9	42.2	14.1	13.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	616	499	3197	1390	593	4621
V/C Ratio(X)	0.93	0.10	0.78	0.97	0.92	0.49
Avail Cap(c_a), veh/h	616	499	3197	1390	593	4621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.35	0.35	1.00	1.00
Uniform Delay (d), s/veh	36.4	30.9	18.5	21.9	36.7	5.4
Incr Delay (d2), s/veh	21.5	0.1	0.7	8.7	20.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.5	12.8	17.8	8.4	6.1
LnGrp Delay(d),s/veh	57.9	31.0	19.2	30.6	57.1	5.8
LnGrp LOS	E	C	B	C	E	A
Approach Vol, veh/h	623		3849			2803
Approach Delay, s/veh	55.8		23.2			15.8
Approach LOS	E		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	49.4				69.4		20.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	44.9				64.9		16.1
Max Q Clear Time (g_c+I1), s	16.1	44.2				15.6		16.8
Green Ext Time (p_c), s	0.0	0.7				48.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	569	164	392	0	3158	694	446	1801	376
Future Volume (veh/h)	0	0	0	569	164	392	0	3158	694	446	1801	376
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	1863	0	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h				618	178	0	0	3433	750	485	1958	317
Adj No. of Lanes				2	1	1	0	4	1	2	4	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	0	2	2	2	2	2
Cap, veh/h				641	347	295	0	3583	1180	454	4689	1159
Arrive On Green				0.19	0.19	0.00	0.00	0.56	0.56	0.13	0.73	0.73
Sat Flow, veh/h				3442	1863	1583	0	6669	1583	3442	6408	1583
Grp Volume(v), veh/h				618	178	0	0	3433	750	485	1958	317
Grp Sat Flow(s),veh/h/ln				1721	1863	1583	0	1602	1583	1721	1602	1583
Q Serve(g_s), s				19.6	9.5	0.0	0.0	56.0	25.2	14.5	13.0	7.4
Cycle Q Clear(g_c), s				19.6	9.5	0.0	0.0	56.0	25.2	14.5	13.0	7.4
Prop In Lane				1.00		1.00	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h				641	347	295	0	3583	1180	454	4689	1159
V/C Ratio(X)				0.96	0.51	0.00	0.00	0.96	0.64	1.07	0.42	0.27
Avail Cap(c_a), veh/h				641	347	295	0	3583	1180	454	4689	1159
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00	0.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh				44.4	40.3	0.0	0.0	23.0	6.8	47.7	5.7	4.9
Incr Delay (d2), s/veh				26.6	1.3	0.0	0.0	8.1	2.6	57.3	0.2	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.6	5.0	0.0	0.0	26.6	11.7	10.5	5.8	3.3
LnGrp Delay(d),s/veh				71.0	41.5	0.0	0.0	31.1	9.4	105.1	5.9	5.4
LnGrp LOS				E	D			C	A	F	A	A
Approach Vol, veh/h					796			4183			2760	
Approach Delay, s/veh					64.4			27.2			23.3	
Approach LOS					E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	66.0				85.0		25.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	14.5	61.5				80.5		20.5
Max Q Clear Time (g_c+I1), s	16.5	58.0				15.0		21.6
Green Ext Time (p_c), s	0.0	3.5				65.1		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		29.6
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	818	0	384	0	3296	960	0	2352	1000
Future Volume (veh/h)	0	0	0	818	0	384	0	3296	960	0	2352	1000
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				889	0	0	0	3583	0	0	2557	0
Adj No. of Lanes				3	0	1	0	3	1	0	4	2
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				917	0	290	0	3644	1135	0	4592	1997
Arrive On Green				0.18	0.00	0.00	0.00	0.72	0.00	0.00	0.72	0.00
Sat Flow, veh/h				5003	0	1583	0	5253	1583	0	6669	2787
Grp Volume(v), veh/h				889	0	0	0	3583	0	0	2557	0
Grp Sat Flow(s),veh/h/ln				1668	0	1583	0	1695	1583	0	1602	1393
Q Serve(g_s), s				15.9	0.0	0.0	0.0	60.8	0.0	0.0	16.9	0.0
Cycle Q Clear(g_c), s				15.9	0.0	0.0	0.0	60.8	0.0	0.0	16.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				917	0	290	0	3644	1135	0	4592	1997
V/C Ratio(X)				0.97	0.00	0.00	0.00	0.98	0.00	0.00	0.56	0.00
Avail Cap(c_a), veh/h				917	0	290	0	3644	1135	0	4592	1997
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.10	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				36.5	0.0	0.0	0.0	12.2	0.0	0.0	6.0	0.0
Incr Delay (d2), s/veh				22.5	0.0	0.0	0.0	2.2	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.2	0.0	0.0	0.0	28.3	0.0	0.0	7.4	0.0
LnGrp Delay(d),s/veh				59.0	0.0	0.0	0.0	14.4	0.0	0.0	6.5	0.0
LnGrp LOS				E				B			A	
Approach Vol, veh/h					889			3583			2557	
Approach Delay, s/veh					59.0			14.4			6.5	
Approach LOS					E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		69.0				69.0		21.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		64.5				64.5		16.5
Max Q Clear Time (g_c+I1), s		62.8				18.9		17.9
Green Ext Time (p_c), s		1.7				45.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1043	0	1041	0	0	0	0	3137	1310	0	2529	730
Future Volume (veh/h)	1043	0	1041	0	0	0	0	3137	1310	0	2529	730
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	1343	0	896				0	3410	0	0	2749	0
Adj No. of Lanes	2	0	2				0	4	1	0	4	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	1331	0	1188				0	3428	847	0	3428	847
Arrive On Green	0.38	0.00	0.38				0.00	0.54	0.00	0.00	0.54	0.00
Sat Flow, veh/h	3548	0	3167				0	6669	1583	0	6669	1583
Grp Volume(v), veh/h	1343	0	896				0	3410	0	0	2749	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1602	1583	0	1602	1583
Q Serve(g_s), s	37.5	0.0	24.7				0.0	52.9	0.0	0.0	34.9	0.0
Cycle Q Clear(g_c), s	37.5	0.0	24.7				0.0	52.9	0.0	0.0	34.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1331	0	1188				0	3428	847	0	3428	847
V/C Ratio(X)	1.01	0.00	0.75				0.00	0.99	0.00	0.00	0.80	0.00
Avail Cap(c_a), veh/h	1331	0	1188				0	3428	847	0	3428	847
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.70	0.00
Uniform Delay (d), s/veh	31.3	0.0	27.2				0.0	23.1	0.0	0.0	18.9	0.0
Incr Delay (d2), s/veh	27.0	0.0	2.8				0.0	14.2	0.0	0.0	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.3	0.0	11.2				0.0	26.6	0.0	0.0	15.6	0.0
LnGrp Delay(d),s/veh	58.2	0.0	30.0				0.0	37.3	0.0	0.0	20.4	0.0
LnGrp LOS	F		C					D			C	
Approach Vol, veh/h		2239						3410			2749	
Approach Delay, s/veh		47.0						37.3			20.4	
Approach LOS		D						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		58.0		42.0		58.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		53.5		37.5		53.5		
Max Q Clear Time (g_c+I1), s		54.9		39.5		36.9		
Green Ext Time (p_c), s		0.0		0.0		16.5		

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	497	0	370	0	2590	340	0	1653	510
Future Volume (veh/h)	0	0	0	497	0	370	0	2590	340	0	1653	510
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h				540	0	388	0	2815	0	0	1797	0
Adj No. of Lanes				2	0	1	0	3	1	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				884	0	407	0	3075	957	0	3075	957
Arrive On Green				0.26	0.00	0.26	0.00	0.60	0.00	0.00	0.60	0.00
Sat Flow, veh/h				3442	0	1583	0	5253	1583	0	5253	1583
Grp Volume(v), veh/h				540	0	388	0	2815	0	0	1797	0
Grp Sat Flow(s),veh/h/ln				1721	0	1583	0	1695	1583	0	1695	1583
Q Serve(g_s), s				9.0	0.0	15.7	0.0	31.9	0.0	0.0	14.0	0.0
Cycle Q Clear(g_c), s				9.0	0.0	15.7	0.0	31.9	0.0	0.0	14.0	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				884	0	407	0	3075	957	0	3075	957
V/C Ratio(X)				0.61	0.00	0.95	0.00	0.92	0.00	0.00	0.58	0.00
Avail Cap(c_a), veh/h				884	0	407	0	3075	957	0	3075	957
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.30	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				21.3	0.0	23.8	0.0	11.4	0.0	0.0	7.9	0.0
Incr Delay (d2), s/veh				1.2	0.0	32.8	0.0	1.8	0.0	0.0	0.8	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	10.5	0.0	15.1	0.0	0.0	6.7	0.0
LnGrp Delay(d),s/veh				22.5	0.0	56.6	0.0	13.2	0.0	0.0	8.7	0.0
LnGrp LOS				C		E		B			A	
Approach Vol, veh/h					928			2815			1797	
Approach Delay, s/veh					36.8			13.2			8.7	
Approach LOS					D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		43.8				43.8		21.2
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		39.3				39.3		16.7
Max Q Clear Time (g_c+I1), s		33.9				16.0		17.7
Green Ext Time (p_c), s		5.4				22.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1014	0	656	0	0	0	0	1924	855	0	1759	382
Future Volume (veh/h)	1014	0	656	0	0	0	0	1924	855	0	1759	382
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	1319	0	464				0	2091	0	0	1912	0
Adj No. of Lanes	2	0	1				0	3	1	0	3	1
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	1425	0	636				0	2339	728	0	2339	728
Arrive On Green	0.40	0.00	0.40				0.00	0.46	0.00	0.00	0.46	0.00
Sat Flow, veh/h	3548	0	1583				0	5253	1583	0	5253	1583
Grp Volume(v), veh/h	1319	0	464				0	2091	0	0	1912	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1695	1583	0	1695	1583
Q Serve(g_s), s	23.0	0.0	16.1				0.0	24.5	0.0	0.0	21.1	0.0
Cycle Q Clear(g_c), s	23.0	0.0	16.1				0.0	24.5	0.0	0.0	21.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1425	0	636				0	2339	728	0	2339	728
V/C Ratio(X)	0.93	0.00	0.73				0.00	0.89	0.00	0.00	0.82	0.00
Avail Cap(c_a), veh/h	1447	0	646				0	2339	728	0	2339	728
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.78	0.00
Uniform Delay (d), s/veh	18.5	0.0	16.5				0.0	16.1	0.0	0.0	15.2	0.0
Incr Delay (d2), s/veh	10.4	0.0	4.1				0.0	5.8	0.0	0.0	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.2	0.0	7.7				0.0	12.5	0.0	0.0	10.3	0.0
LnGrp Delay(d),s/veh	28.9	0.0	20.6				0.0	21.9	0.0	0.0	17.8	0.0
LnGrp LOS	C		C					C			B	
Approach Vol, veh/h		1783						2091			1912	
Approach Delay, s/veh		26.7						21.9			17.8	
Approach LOS		C						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		34.4		30.6		34.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		29.5		26.5		29.5		
Max Q Clear Time (g_c+I1), s		26.5		25.0		23.1		
Green Ext Time (p_c), s		3.0		1.1		6.3		

Intersection Summary	
HCM 2010 Ctrl Delay	22.0
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Appendix F Water Supply Assessment

Appendices

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TUSTIN PUBLIC WORKS DEPT.

IRVINE RANCH WATER DISTRICT 15600 Sand Canyon Ave., P.O. Box 57000, Irvine, CA 92619-7000 (949) 453-5300

July 16, 2015

Mr. Ken Nishikawa
Deputy Director of Public Works/Engineering
City of Tustin
300 Centennial Way
Tustin, CA 92780

Subject: Water Supply Assessment for Tustin Legacy Specific Plan Amendment

Dear Mr. Nishikawa:

In response to the City's request, Irvine Ranch Water District has prepared and approved an assessment of water supplies for the above-stated project in accordance with Government Code §10910.

The Irvine Ranch Water District Board of Directors approved the assessment on July 13, 2015, and an executed copy is enclosed for your use and information for the project.

Should you have any questions or require further information, please contact Kellie Welch at (949) 453-5604.

Sincerely,

Paul Weghorst
Executive Director of Water Policy

PW/kw

cc: Kellie Welch

IRVINE RANCH WATER DISTRICT
ASSESSMENT OF WATER SUPPLY
Water Code §10910 *et seq.*

To: (*Lead Agency*)

City of Tustin
300 Centennial Way
Tustin, CA 92780

(*Applicant*)
City of Tustin
300 Centennial Way
Tustin, CA 92780

Project Information

Project Title: Tustin Legacy Specific Plan Amendment (Exhibit A)

☐ *Residential*: No. of dwelling units: _____
☐ *Shopping center or business*: No. of employees_____ Sq. ft. of floor space _____
☐ *Commercial office*: No. of employees_____ Sq. ft. of floor space _____
☐ *Hotel or motel*: No. of rooms _____
☐ *Industrial, manufacturing or processing*: No. of employees_____ No. of acres _____
Sq. ft. of floor space _____
☒ *Mixed use* (check and complete all above that apply) (see Exhibit B)
☐ *Other*: _____

Assessment of Availability of Water Supply

On July 13, 2015, the Board of Directors of the Irvine Ranch Water District (IRWD) approved the within assessment and made the following determination regarding the above-described Project:

☐ The projected water demand for the Project ☐ was ☐ was not included in IRWD's most recently adopted urban water management plan.

☒ A sufficient water supply is available for the Project.
The total water supplies available to IRWD during normal, single-dry and multiple-dry years within a 20-year projection will meet the projected water demand of the Project in addition to the demand of existing and other planned future uses, including, but not limited to, agricultural and manufacturing uses.

☐ A sufficient water supply is not available for the Project. *[Plan for acquiring and developing sufficient supply attached. Water Code § 10911(a)]*

The foregoing determination is based on the following Water Supply Assessment Information and supporting information in the records of IRWD.

Leslie Bonkowski 7/15/15 District Secretary

Signature *Date* *Title*

Water Supply Assessment Information

Purpose of Assessment

Irvine Ranch Water District ("IRWD") has been identified by the City as a public water system that will supply water service (both potable and nonpotable) to the project identified on the cover page of this assessment (the "Project"). As the public water system, IRWD is required by Section 10910 *et seq.* of the Water Code to provide the City with an assessment of water supply availability ("assessment") for defined types of projects. The Project has been found by the City to be a project requiring an assessment. The City is required to include this assessment in the environmental document for the Project, and, based on the record, make a determination whether projected water supplies are sufficient for the Project and existing and planned uses.

Water Code Section 10910 (the "Assessment Law") contains the requirements for the information to be set forth in the assessment.

Prior Water Supply Assessments

IRWD does not allocate particular supplies to any project, but identifies total supplies for its service area. Because of IRWD's aggregation of demands and supplies, each assessment completed by IRWD is expected to be generally similar to the most recent assessment, with changes as needed to take into account changes, if any, in demands and supplies, and any updated and corrected information obtained by IRWD. Previously assessed projects' water demands will be included in the baseline. A newly assessed project's water demand will have been included in previous water supply assessments for other projects (as part of IRWD's "full build-out" demand) to the extent of any land use planning or other water demand information for the project that was available to IRWD.

The Project's water demand was included (as part of IRWD's "full build-out" demand) in previous water supply assessments performed by IRWD, based on land use planning information then available to IRWD. In this water supply assessment, the Project demand will be revised in accordance with updated information provided by the applicant and included in the "with project" demand.

Supporting Documentation

IRWD prepares two planning documents to guide water supply decision-making. IRWD's principal planning document is IRWD's "Water Resources Master Plan" ("WRMP"). The WRMP is a comprehensive document compiling data and analyses that IRWD considers necessary for its planning needs. IRWD also prepares an Urban Water Management Plan ("UWMP"), a document required by statute. The UWMP is based on the WRMP, but contains defined elements as listed in the statute (Water Code Section 10631, *et seq.*), and, as a result, is more limited than the WRMP in the treatment of supply and demand issues. Therefore, IRWD primarily relies on its most recent WRMP. The UWMP is required to be updated in years ending with "five" and "zero," and IRWD's most recent update of that document was adopted June 13, 2011.

In addition to the WRMP and the 2010 UWMP mentioned above, other supporting documentation referenced herein is found in Section 6 of this assessment.

Due to the number of contracts, statutes and other documents comprising IRWD's written proof of entitlement to its water supplies, in lieu of attachment of such items, they are identified by title and summarized in Section 2(b) of this assessment (written contracts/proof of entitlement). Copies of the summarized items can be obtained from IRWD.

Assessment Methodology

Water use factors; dry-year increases. IRWD employs water use factors to enable it to assign water demands to the various land use types and aggregate the demands. The water use factors are based on average water use and incorporate the effect of IRWD's tiered-rate conservation pricing and its other water conservation programs. The factors are derived from historical usage (billing data) and a detailed review of water use factors within the IRWD service areas conducted as a part of the WRMP. System losses at a rate of approximately 5% are built into the water use factors. Water demands also reflect normal hydrologic conditions (precipitation). Lower levels of precipitation and higher temperatures will result in higher water demands, due primarily to the need for additional water for irrigation. To reflect this, base (normal) WRMP water demands have been increased 7% in the assessment during both "single-dry" and "multiple-dry" years. This is consistent with IRWD's 2010 UWMP and historical regional demand variation as documented in the Metropolitan Water District of Southern California's ("MWD's") Integrated Resources Plan (1996) (Volume 1, page 2-10).

Planning horizon. For consistency with IRWD's WRMP, the assessment reviews demands and supplies through the year 2035, which is considered to represent build-out or "ultimate development".

Assessment of demands. Water demands are reviewed in this assessment for three development projections (to 2035):

- Existing and committed demand (without the Project) ("baseline"). This provides a baseline condition as of the date of this assessment, consisting of demand from existing development, plus demand from development that has both approved zoning and (if required by the Assessment Law) an adopted water supply assessment.

- Existing and committed demand, plus the Project ("with-project"). This projection adds the Project water demands to the baseline demands.

- Full WRMP build-out ("full build-out"). In addition to the Project, this projection adds potential demands for all presently undeveloped areas of IRWD based on current general plan information, modified by more specific information available to IRWD, as more fully described in Chapter 2 of the WRMP.

Assessment of supplies. For comparison with demands, water supplies are classified as *currently available* or *under development*:

- *Currently available* supplies include those that are presently operational, and those that will be operational within the next several years. Supplies expected to be operational in the next several years are those having completed or substantially completed the environmental and regulatory review process, as well as having necessary contracts (if any) in place to move forward. These supplies are in various stages of planning, design, or construction.

- In general, supplies *under development* may necessitate the preparation and completion of environmental documents, regulatory approvals, and/or contracts prior to full construction and implementation.

IRWD is also evaluating the development of additional supplies that are not included in either *currently available* or *under-development* supplies for purposes of this assessment. As outlined in the WRMP, prudent water supply and financial planning dictates that development of supplies be phased over time consistent with the growth in demand.

Water supplies available to IRWD include several sources: groundwater pumped from the Orange County groundwater basin (including the Irvine Subbasin); captured local (native) surface water; recycled wastewater, and supplemental imported water supplied by MWD through the Municipal Water District of Orange County ("MWDOC"). The supply-demand comparisons in this assessment are broken down among the various sources, and are further separated into potable and nonpotable water sources.

Comparison of demand and supply. The three demand projections noted above (baseline, with-project and full build-out) are compared with supplies in the following ways:

- On a total *annual* quantity basis (stated in acre-feet per year (AFY)).

- On a *peak-flow* (maximum day) basis (stated in cubic feet per second (cfs)).

- Under three climate conditions: base (normal) conditions and single-dry and multiple-dry year conditions. (Note: These conditions are compared for *annual* demands and not for *peak-flow* demands. *Peak-flow* is a measure of a water delivery system's ability to meet the highest day's demand of the fluctuating demands that will be experienced in a year's time. Peak demands occur during the hot, dry season and as a result are not appreciably changed by dry-year conditions; dry-year conditions do affect *annual* demand by increasing the quantity of water needed to supplement normal wet-season precipitation.)

Summary of Results of Demand-Supply Comparisons

Listed below are Figures provided in this assessment, comparing projected potable and nonpotable water supplies and demands under the three development projections:

Figure 1: Normal Year Supply and Demand – Potable Water
Figure 2: Single Dry-Year Supply and Demand – Potable Water
Figure 3: Multiple Dry-Year Supply and Demand – Potable Water
Figure 4: Maximum-Day Supply and Demand – Potable Water
Figure 5: Normal Year Supply and Demand – Nonpotable Water
Figure 6: Single Dry-Year Supply and Demand – Nonpotable Water
Figure 7: Multiple Dry-Year Supply and Demand – Nonpotable Water
Figure 8: Maximum-Day Supply and Demand – Nonpotable Water

It can be observed in the Figures that IRWD's *supplies* remain essentially constant between normal, single-dry and multiple-dry years. This result is due to the fact that groundwater and MWD imported water account for all of IRWD's potable supply, and recycled water, groundwater and imported water comprise most of IRWD's nonpotable supply. Groundwater production typically remains constant or increases in cycles of dry years, even if

overdraft of the basin temporarily increases, as groundwater producers reduce their demand on imported supplies to secure reliability. (See Section 4 herein.) As to imported water, MWD's 2010 Regional Urban Water Management Plan (RUWMP) shows that MWD can maintain reliable supplies under the conditions that have existed in past dry periods through 2035, including a repeat of the 1990-1992 multiple dry-year hydrology and the 1977 single dry-year hydrology. (See Section 2(b) (1) "IMPORTED SUPPLY - ADDITIONAL INFORMATION," below, for a summary of information provided by MWD.) Recycled water production also remains constant, and is considered "drought-proof" as a result of the fact that sewage flows remain virtually unaffected by dry years. Only a small portion of IRWD's nonpotable supply, native water captured in Irvine Lake, is reduced in single-dry and multiple-dry years. The foregoing factors also serve to explain why there is no difference in IRWD's supplies between single-dry and multiple-dry years.

A review of the Figures indicates the following:

- *Currently available* supplies of potable water are adequate to meet projected annual demands for both the *baseline* and *with-project* demand projections under the normal year conditions through the year 2035. (Figures 1, 2 and 3.)

- Meeting both single- and multiple-dry-year annual demands for *full build-out* will require the completion of *under-development* supplies. (Figures 2 and 3.)

- Adequate *currently available* potable water supply capacity is available to meet *peak-flow* (maximum day) demands for all demand projections through the year 2035. (Figure 4.)

- With respect to nonpotable water, *currently available* supplies are adequate to meet projected annual demands for both the *baseline* and *with-project* demand projections under both dry-year conditions through the year 2035. (Figures 5, 6, 7 and 8). IRWD has proceeded with the implementation of future nonpotable supplies, as shown in the Figures, to improve local reliability during dry-year conditions.

The foregoing Figures provide an overview of IRWD potable and nonpotable water supply capabilities. More detailed information on the anticipated development and use of supplies, which incorporates source costs and reliability issues, is provided in the WRMP.

Margins of safety. The Figures and other information described in this assessment show that IRWD's assessment of supply availability contains several margins of safety or buffers:

- "Reserve" water supplies (excess of supplies over demands) will be available to serve as a buffer against inaccuracies in demand projections, future changes in land use, or alterations in supply availability.

- Conservative estimates of annual potable and nonpotable *imported* supplies have been made based on connected delivery capacity (by application of peaking factors as described below in Section 2, footnote 1); additional supplies are expected to be available from these sources, based on legal entitlements, historical uses and information provided by MWD. In addition to MWD's existing regional supply assessments, this assessment has considered MWD information concerning recent events. See ***"Recent Actions on Delta Pumping,"*** below.

- Information provided by MWD, as the imported water supplier, concerning the adequacy of its regional supplies, summarized herein, demonstrates MWD's inclusion of reserves in its regional supply assessments. In addition to MWD's existing regional supply assessments, this assessment has considered MWD information concerning recent events. See ***"Recent Actions on Delta Pumping,"*** below.

- Although groundwater supply amounts shown in this assessment assume production levels within applicable basin production percentages described herein, production of groundwater can exceed applicable basin production percentages on a short-term basis, providing additional reliability during dry years or emergencies.

Recent Actions on Delta Pumping. The Sacramento/San Joaquin Delta (Delta) is a vulnerable component in both the State and Federal systems to convey water from northern portions of California to areas south of the Delta. Issues associated with the Delta have generally been known for years; however, most recently, the continuing decline in the number of endangered Delta smelt resulted in the filing of litigation challenging permits for the operation of the Delta pumping facilities. On August 31, 2007, a Federal court ordered interim protective measures for the endangered Delta smelt, including operational limits on Delta pumping, which have an effect on State Water Project (SWP) operations and supplies. On June 4, 2009, a federal biological opinion imposed rules that further restrict water diversions from the Delta to protect endangered salmon and other endangered fish species. At present, several proceedings concerning Delta operations are ongoing to evaluate options to address Delta smelt impacts and other environmental concerns. In addition to the regulatory and judicial proceedings to address immediate environmental concerns, the Delta Vision process and Bay-Delta Conservation Plan process are defining long-term solutions for the Delta (MWD 2010 IRP Update). Prior to the 2007 court decision, MWD's Board approved a Delta Action Plan in May 2007 that described short, mid and long-term conditions and the actions to mitigate potential supply shortages and to develop and implement long-term solutions. To comprehensively address the impacts of the SWP cut back on MWD's water supply development targets, MWD brought to its Board a strategy and work plan to update the long-term Integrated Resources Plan (IRP) in December 2007. As part of the IRP Update, MWD developed a region-wide collaborative process that included a broad-based stakeholder involvement. MWD held several stakeholder forums in 2008 and 2009 and the MWD Board adopted the 2010 IRP Update on October 12, 2010. In the 2010 IRP Update, MWD identified changes to the long-term plan and established direction to address the range of potential changes in water supply planning. The IRP also discusses dealing with uncertainties related to impacts of climate change (see additional discussion of this below) as well as actions to protect endangered fisheries. Based on MWD's Findings and Conclusions as stated in the MWD 2010 IRP Update, MWD's reliability goal that full-service demands at the retail level will be satisfied for all foreseeable hydrologic conditions remains unchanged in the 2010 IRP Update, and MWD will accomplish this through its core resources strategies. The 2010 IRP Update emphasizes an evolving approach and suite of actions to address the water supply challenges that are posed by uncertain weather patterns, regulatory and environmental restrictions, water quality impacts and changes in the state and the region. MWD's Adaptive Resource Management Strategy includes three components: Core Resources Strategy, Supply Buffer Implementation and Foundational Actions which together provides the basis for the 2010 IRP Update. The 2010 IRP Update expands the concept of developing a planning buffer from the 2004 IRP Update by implementing a supply buffer equal to 10 percent of the total retail demand. MWD will collaborate with the member agencies to implement this buffer through complying with Senate Bill 7 which calls for the state to reduce per capita water use 20 percent by the year 2020. MWD is in the process of updating

its 2010 IRP. MWD plans to review and update IRP resource targets, and assess strategy for managing short and long term uncertainty. MWD's schedule shows a published report would be available in February 2016.

IRWD's Evaluation of Effect of Reduced MWD Supplies to IRWD: MWD states it is sufficiently reliable to meet full-service demands at the retail level for all foreseeable hydrologic conditions. For purposes of ensuring a conservative analysis, IRWD has compiled information from the prior "MWD IRP Implementation Report" (October 2010) and MWD's RUWMP (November 2010), to provide information in this assessment relative to how reduced SWP supplies could potentially affect IRWD's supplies from MWD.

Based on IRWD's evaluation of MWD's SWP supplies, IRWD estimates that the 22% used by MWD's October 2007 IRP Implementation Report as a potential reduction of MWD's SWP supplies conservatively translates to approximately 16% reduction in all of MWD's imported supplies over the years 2015 through 2035.[1] For this purpose it is assumed that MWD's total supplies consist only of imported SWP and Colorado deliveries. As shown in MWD's RUWMP (Tables A.3-7), SWP deliveries on average over the 20-year period are 1,682,000 acre-feet and Colorado base average supplies are 656,000 acre-feet. A 22% reduction of SWP supplies equates to 370,000 acre-feet which is approximately 16% of MWD's total imported supplies. Based on this estimate, this assessment projects a 16% reduction in MWD supplies available to IRWD for the years 2015 through 2035, using IRWD's connected capacity without any water supply allocation imposed by MWD. This reduction in MWD supplies is reflected in Figures 1, 2, 3, 5, 6, and 7.

As an alternative means of analyzing the 22% stated reduction, Figures 1a, 2a, and 3a show IRWD estimated supplies in all of the 5-year increments (average and single and multiple dry years) under a short-term MWD allocation scenario whereby MWD declares a shortage stage under its Water Supply Allocation Plan, adopted in February, 2009and a cutback is applied to IRWD's actual usage rather than its connected capacity. IRWD's evaluation of reduced MWD supplies to IRWD as shown in Figures 1a, 2a and 3a conservatively analyzes the effect of up to a MWD level 5 Regional Shortage Level. In February 2009, IRWD updated Section 15 of its Rules and Regulations – Water Conservation and Water Supply Shortage Program and also updated its Water Shortage Contingency Plan which is a supporting document for Section 15. Section 15 of the Rules and Regulations serves as IRWD's "conservation ordinance". As stated in IRWD's Water Shortage Contingency Plan, use of local supplies, storage and other supply augmentation measures can mitigate shortages, and are assumed to be in use to the maximum extent possible during declared shortage levels. On April 14, 2015, MWD approved the implementation of its Water Supply Allocation Plan at a level 3 Regional Shortage Level and a 15% reduction in regional deliveries effective July 1, 2015, through June 30, 2016. As a result of IRWD's diversified water supplies, IRWD is reliant on MWD for only 20% of its total supplies. IRWD's evaluation of reduced MWD supplies to IRWD as shown in Figures 1a, 2a and 3a for a MWD level 5 Regional Shortage Level would include MWD's 2015 actions to implement a level 3 Regional Shortage Level and 15% reduction.

[1] MWD's 2010 RUWMP cites to DWR's Water Allocation Analysis dated March 22, 2010, which incorporated the Delta smelt biological opinion's effect on SWP operations, export restrictions could reduce deliveries to MWD by 150 to 200 thousand acre-feet for 2010. DWR estimated that approximately 520,000 AF had been lost to the SWP for 2010 of which nearly 240,000 AF would have been available to MWD. This amount is equivalent to about 16% reduction in SWP supplies, a smaller percentage reduction than MWD's 2007 figure of 22% that was used by IRWD for purposes of this analysis.

Under shortage scenarios, IRWD may need to supplement supplies with production of groundwater, which can exceed the applicable basin production percentage on a short-term basis, providing additional reliability during dry years or emergencies.[2] In addition, IRWD has developed water banking projects in Kern County, California which may be called upon for delivery of supplemental banked water to IRWD under a short-term MWD allocation.[3] IRWD may also convert non-potable water uses to recycled water as a way to conserve potable water. In addition, if needed resultant net shortage levels can be addressed by demand reduction programs as described in IRWD's Water Shortage Contingency Plan.

Listed below are Figures provided comparing projected potable water supplies and demands in all of the five year increments, under a temporary MWD allocation scenario:

Figure 1a: Normal Year Supply and Demand (MWD Allocated) – Potable Water
Figure 2a: Single Dry-Year Supply and Demand (MWD Allocated) – Potable Water
Figure 3a: Multiple Dry-Year Supply and Demand (MWD Allocated) – Potable Water

It can be noted that IRWD's above approach is conservative, in that IRWD evaluates the effect of the 16% reduction through 2035 and shows the effect of current allocation scenarios in all of the five-year increments but MWD reports that it has made significant progress in other water resource categories such as transfers, groundwater storage and developing other local resources, and supplies will be available from these resources over the long-term.

Climate Change. The California Department of Water Resources ("DWR") released a report "Progress on Incorporating Climate Change into Management of California's Water Resources" (July 2006), considering the impacts of climate change on the State's water supply. DWR emphasizes that "the report represents an example of an impacts assessment based on four scenarios defining an expected range of potential climate change impacts." DWR's major goal is to extend the analysis for long-term water resource planning from "assessing impacts" to "assessing risk." The report presents directions for further work in incorporating climate change into the management of California's water resources. Emphasis is placed on associating probability estimates with potential climate change scenarios in order to provide policymakers with both ranges of impacts and the likelihoods associated with those impacts. DWR's report acknowledges "that all results presented in this report are preliminary, incorporate several assumptions, reflect a limited number of climate change scenarios, and do not address the

[2] In these scenarios, it is anticipated that other water suppliers who produce water from the Orange County Basin will also experience cutbacks of imported supplies and will increase groundwater production and that Orange County Water District (OCWD) imported replenishment water may also be cutback. The OCWD's "2013-2014 Engineer's Report on the groundwater conditions, water supply and basin utilization" references a report (OCWD Report on Evaluation of Orange County Groundwater Basin Storage and Operational Strategy) which recommends a basin management strategy that provides general guidelines for annual basin refill or storage decrease based on the level of accumulated overdraft. It states, "Although it is considered to be generally acceptable to allow the basin to decline to 500,000 AF overdraft for brief periods due to severe drought conditions and lack of supplemental water…an accumulated overdraft of 100,000 AF best represents an optimal basin management target. This optimal target level provides sufficient storage space to accommodate anticipated recharge from a single wet year while also providing water in storage for at least 2 or 3 consecutive years of drought." MWD replenishment water is a supplemental source of recharge water and OCWD estimates other main supply sources for recharge are available.

[3] IRWD has developed water banking projects (Water Bank) in Kern County, California and has entered into a 30-year water banking partnership with Rosedale-Rio Bravo Water Storage District (RRB) to operate IRWD's Strand Ranch portion of the Water Bank. The Water Bank can improve IRWD's water supply reliability by capturing lower cost water available during wet hydrologic periods for use during dry periods. The Water Bank can enhance IRWD's ability to respond to drought conditions and potential water supply interruptions.

likelihood of each scenario. Therefore, these results are not sufficient by themselves to make policy decisions."

In MWD's 2010 IRP Update, MWD recognizes there is a significant uncertainty in the impact of climate change on water supply and changes in weather patterns could significantly affect water supply reliability. MWD plans to hedge against supply and environmental uncertainties by implementing a supply buffer equivalent to 10 percent of total retail demand. This buffer will be implemented through meeting the Senate Bill 7 water use efficiency goals, implementing aggressive adaptive actions, development of local supplies and transfers.

Per MWD's RUWMP, MWD continues to incorporate current climate change science into its planning efforts. As stated in MWD's RUWMP, the 2010 IRP Update supports the MWD Board adopted principles on climate change by: 1) Supporting reasonable, economically viable, and technologically feasible management strategies for reducing impacts on water supply, 2) Supporting flexible "no regret" solutions that provide water supply and quality benefits while increasing the ability to manage future climate change impacts, and 3) Evaluating staff recommendations regarding climate change and water resources against the California Environmental Quality Act to avoid adverse effects on the environment. Potential climate change impacts on state, regional and local water supplies and relevant information for the Orange County hydrologic basin and Santa Ana Watershed have not been sufficiently developed at this time to permit IRWD to assess and quantify the effect of any such impact on its conclusions in the Assessment.

Catastrophic Supply Interruption Planning. MWD has developed Emergency Storage Requirements (2010 RUWMP) to safeguard the region from catastrophic loss of water supply. MWD has made substantial investments in emergency storage and has based its planning on a 100% reduction in its supplies for a period of six months. The emergency plan outlines that under such a catastrophe, non-firm service deliveries would be suspended, and firm supplies would be restricted by a mandatory cutback of 25 percent from normal year demand deliveries. In addition, MWD discusses the long term Delta plan in its 2010 RUWMP (pages 3-18 to 3-21). IRWD has also addressed supply interruption planning in its WRMP and UWMP.

Recent Actions Related to Drought Conditions. In response to the historically dry conditions throughout the state of California, on April 1, 2015, Governor Brown issued an Executive Order directing the State Water Resources Control Board (SWRCB) to impose restrictions to achieve an aggregate statewide 25 percent reduction in potable water use through February 2016. The Governor's Order also includes mandatory actions aimed at reducing water demands, with a particular focus on outdoor water use. On May 5, 2015, the SWRCB adopted regulations which require that IRWD achieve a 16% reduction in potable water use. On April 14, 2015, MWD approved actions to implement the Water Supply Allocation Plan at a level 3 Regional Shortage Level and a 15% reduction in regional deliveries effective July 1, 2015, through June 30, 2016. IRWD will implement actions to reduce potable water demands during the drought; however, this does not affect IRWD's long-term supply capability to meet the demands. As discussed under "IRWD's Evaluation of Effect of Reduced MWD Supplies to IRWD" (page 7), IRWD has effectively analyzed an imported water supply reduction up to a level 5 Regional Shortage Stage in Figures 1a, 2a, 3a. These Figures do not reflect a reduction in demands thus representing a more conservative view of IRWD's supply capability. In particular, the reduction in demand mandated by Senate Bill 7 in 2010, requiring urban retail water suppliers to establish water use targets to achieve a 20% reduction in daily per capita water use by 2020, has not been factored into the demands in this analysis. Similarly,

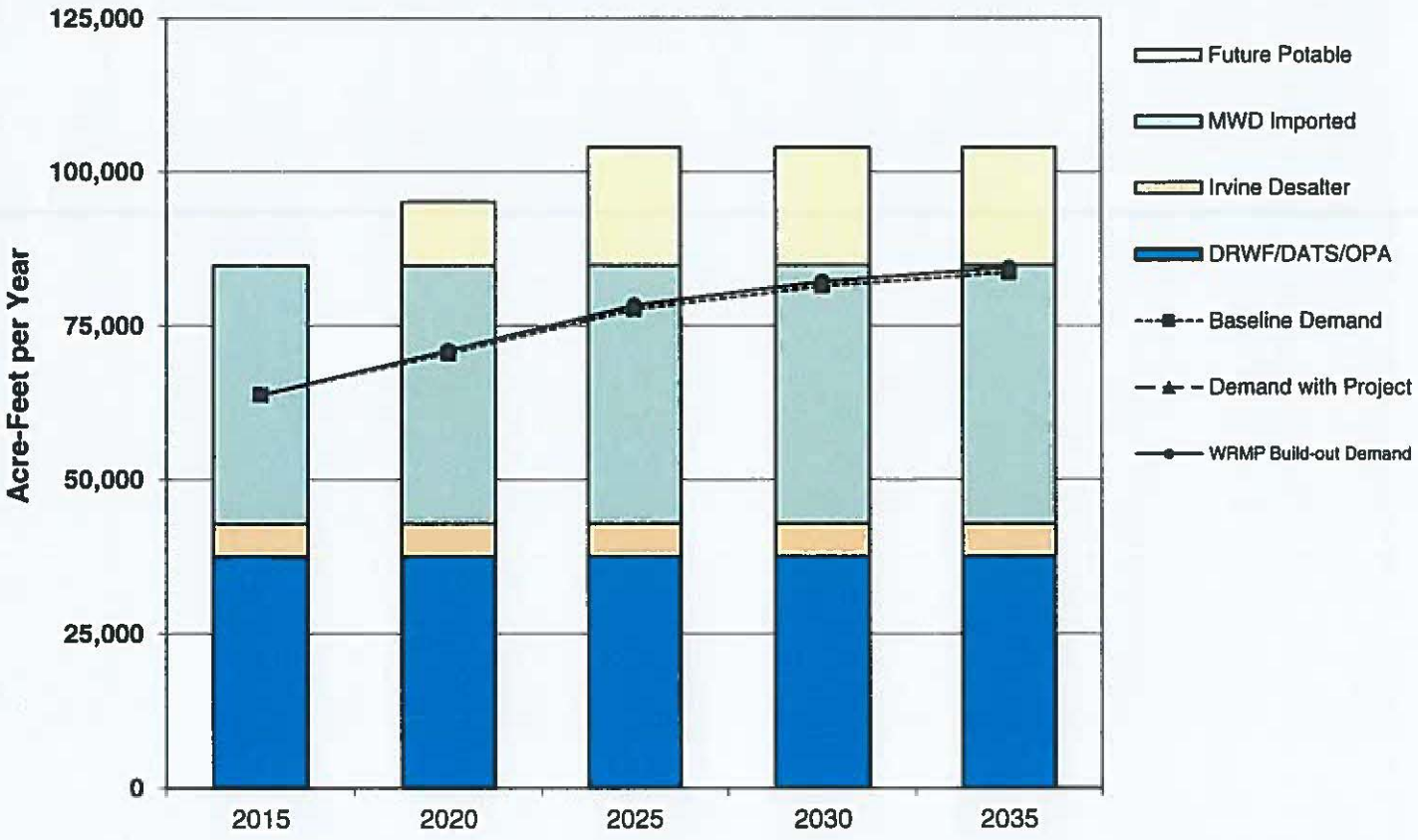
notwithstanding the Governor's order, IRWD's conservative supply-sufficiency analysis in Figures 1a, 2a and 3a does not include the ordered reduction in potable demands.

Detailed Assessment

1. Supply and demand comparison

Comparisons of IRWD's average annual and peak (maximum day) demands and supplies, under *baseline* (existing and committed demand, without the Project), *with-project* (baseline plus Project), and *full build-out* development projections, are shown in the following Figures 1-4 (potable water), Figures 5-8 (nonpotable water) and Figures 1a, 2a, and 3a (short term MWD allocation potable water). See also the "Recent Actions on Delta Pumping" above.

Figure 1
IRWD Normal-Year Supply & Demand - Potable Water

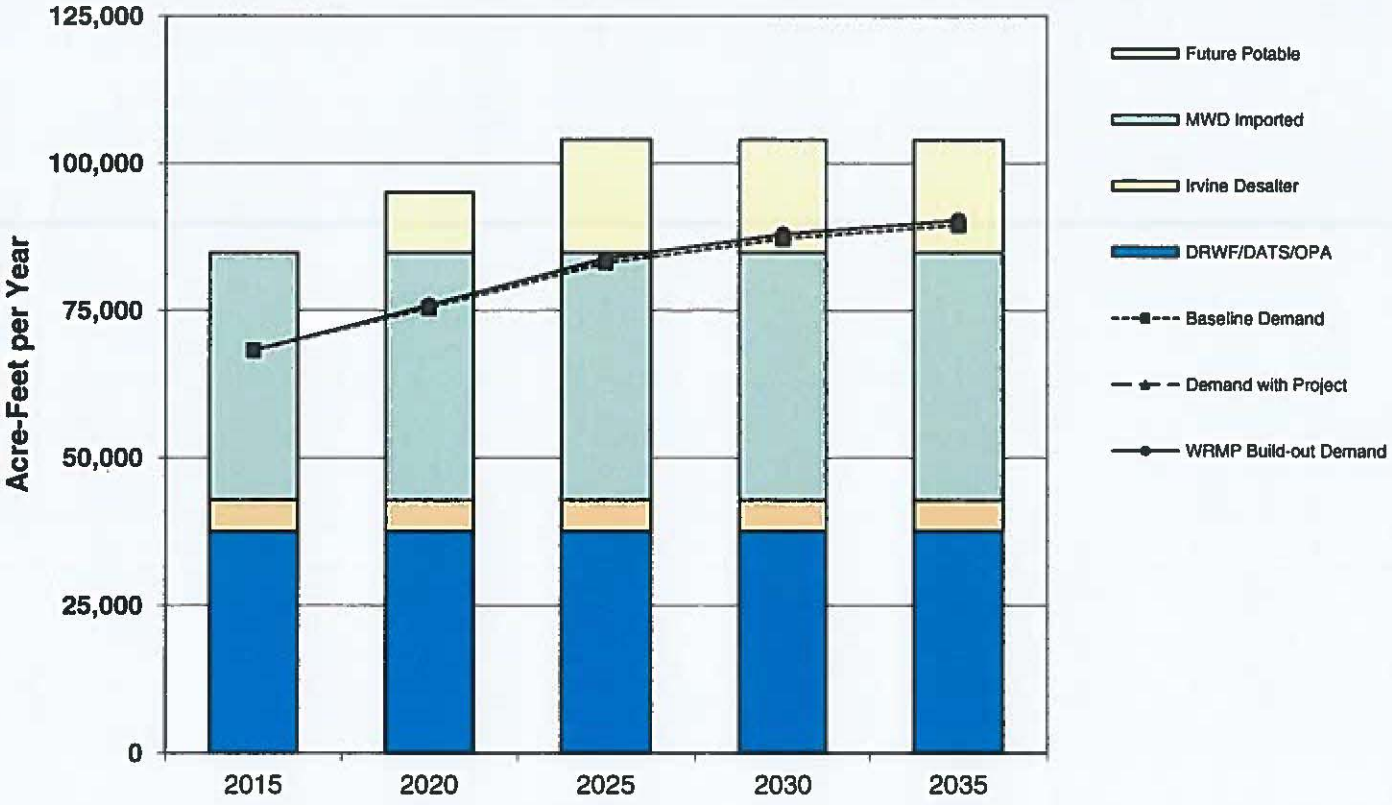


(in acre-feet per year)	2015	2020	2025	2030	2035
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	41,929	41,929	41,929	41,929	41,929
DRWF/DATS/OPA	37,533	37,533	37,533	37,533	37,533
Irvine Desalter	5,309	5,309	5,309	5,309	5,309
Wells 21 & 22	6,329	6,329	6,329	6,329	6,329
Supplies Under Development					
Future Potable	-	10,328	19,211	19,211	19,211
Maximum Supply Capability	91,100	101,427	110,311	110,311	110,311
Baseline Demand	63,762	70,487	77,658	81,470	83,657
Demand with Project	63,762	70,970	78,347	82,191	84,444
WRMP Build-out Demand	63,762	70,970	78,347	82,191	84,444
Reserve Supply with Project	27,338	30,458	31,964	28,120	25,866

Notes: By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

Figure 2
IRWD Single Dry-Year Supply & Demand - Potable Water

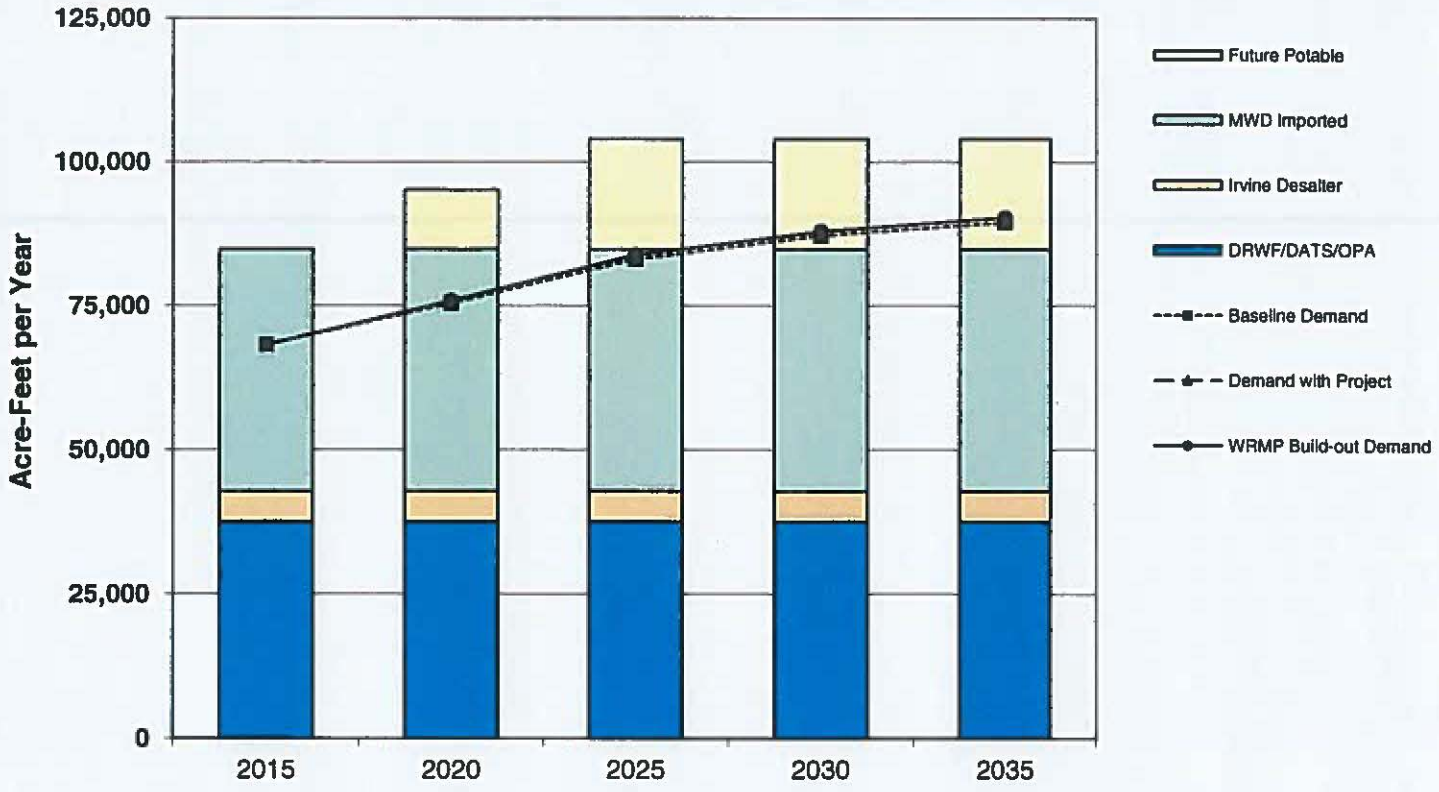


(in acre-feet per year)	2015	2020	2025	2030	2035
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MWD Imported (EOCF#2, AMP, OCF)	41,929	41,929	41,929	41,929	41,929
DRWF/DATS/OPA	37,533	37,533	37,533	37,533	37,533
Irvine Desalter	5,309	5,309	5,309	5,309	5,309
Wells 21 & 22	6,329	6,329	6,329	6,329	6,329
Supplies Under Development					
Future Potable	-	10,328	19,211	19,211	19,211
Maximum Supply Capability	91,100	101,427	110,311	110,311	110,311
Baseline Demand	68,225	75,421	83,095	87,173	89,513
Demand with Project	68,225	75,937	83,831	87,944	90,355
WRMP Build-out Demand	68,225	75,937	83,831	87,944	90,355
Reserve Supply with Project	22,875	25,490	26,480	22,367	19,955

Notes: Supplies identical to Normal-Year based on Metropolitan's Regional Urban Water Management Plan (11/8/05) and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

Figure 3
IRWD Multiple Dry-Year Supply & Demand - Potable Water

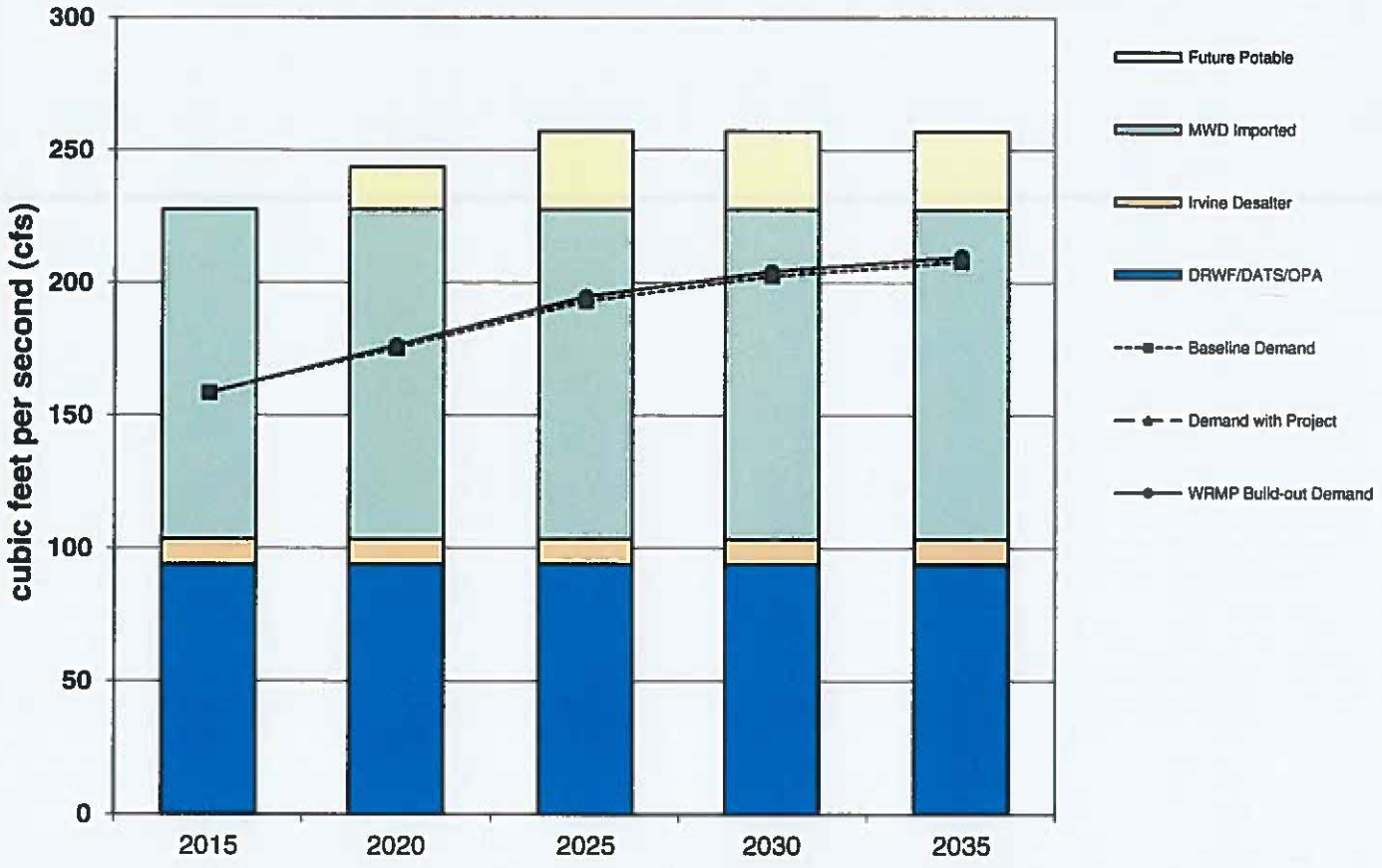


(in acre-feet per year)	2015	2020	2025	2030	2035
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	41,929	41,929	41,929	41,929	41,929
DRWF/DATS/OPA	37,533	37,533	37,533	37,533	37,533
Irvine Desalter	5,309	5,309	5,309	5,309	5,309
Wells 21 & 22	6,329	6,329	6,329	6,329	6,329
Supplies Under Development					
Future Potable	-	10,328	19,211	19,211	19,211
Maximum Supply Capability	91,100	101,427	110,311	110,311	110,311
Baseline Demand	68,225	75,421	83,095	87,173	89,513
Demand with Project	68,225	75,937	83,831	87,944	90,355
WRMP Build-out Demand	68,225	75,937	83,831	87,944	90,355
Reserve Supply with Project	22,875	25,490	26,480	22,367	19,955

Notes: Supplies identical to Normal-Year based on Metropolitan's Regional Urban Water Management Plan (11/8/05) and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

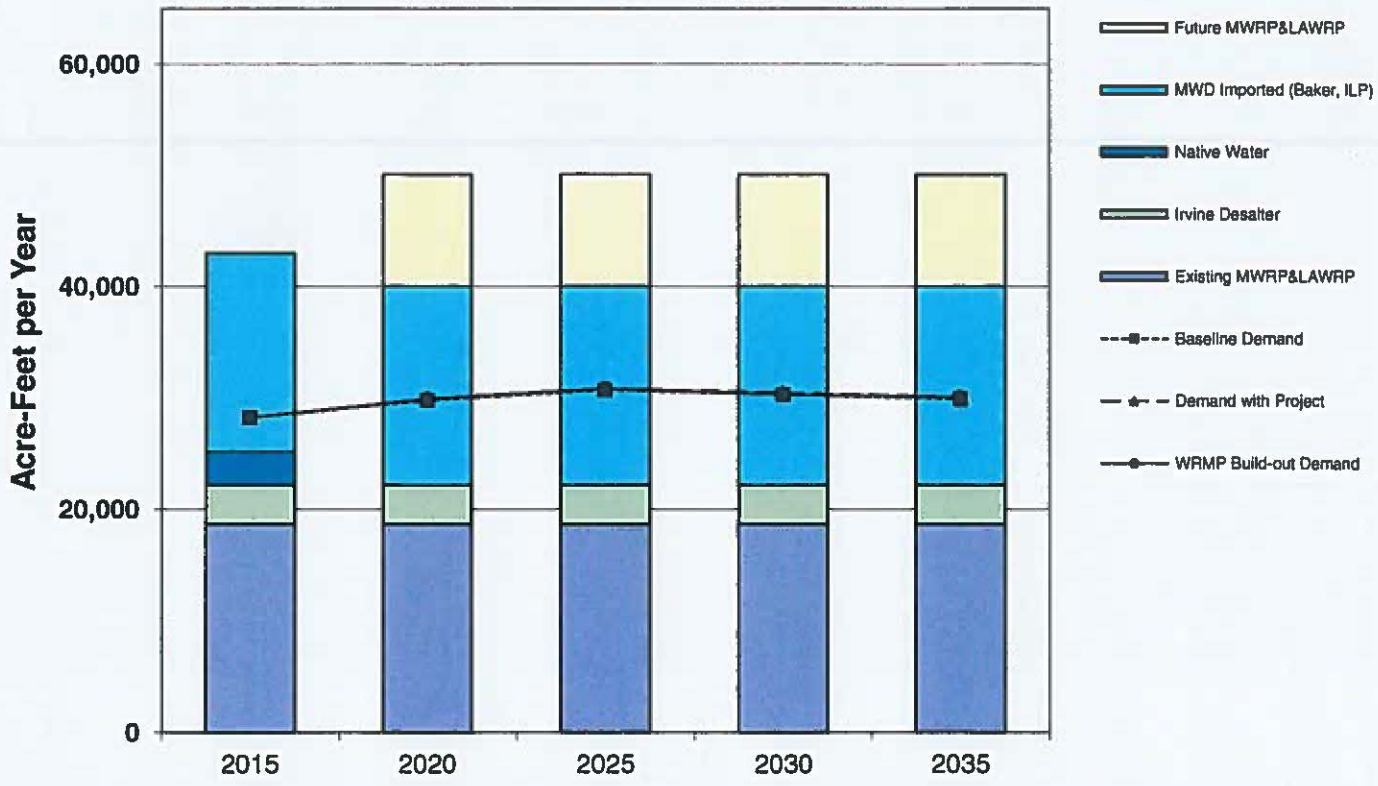
MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

Figure 4
IRWD Maximum-Day Supply & Demand - Potable Water



(in cfs)	2015	2020	2025	2030	2035
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	124.1	124.1	124.1	124.1	124.1
DRWF/DATS/OPA	93.9	93.9	93.9	93.9	93.9
Irvine Desalter	9.5	9.5	9.5	9.5	9.5
Wells 21 & 22	10.9	10.9	10.9	10.9	10.9
Supplies Under Development					
Future Potable	-	16.1	29.7	29.7	29.7
Maximum Supply Capability	238.4	254.5	268.1	268.1	268.1
Baseline Demand	158.5	175.2	193.1	202.5	208.0
Demand with Project	158.5	176.4	194.8	204.3	209.9
WRMP Build-out Demand	158.5	176.4	194.8	204.3	209.9
Reserve Supply with Project	79.9	78.1	73.3	63.8	58.2

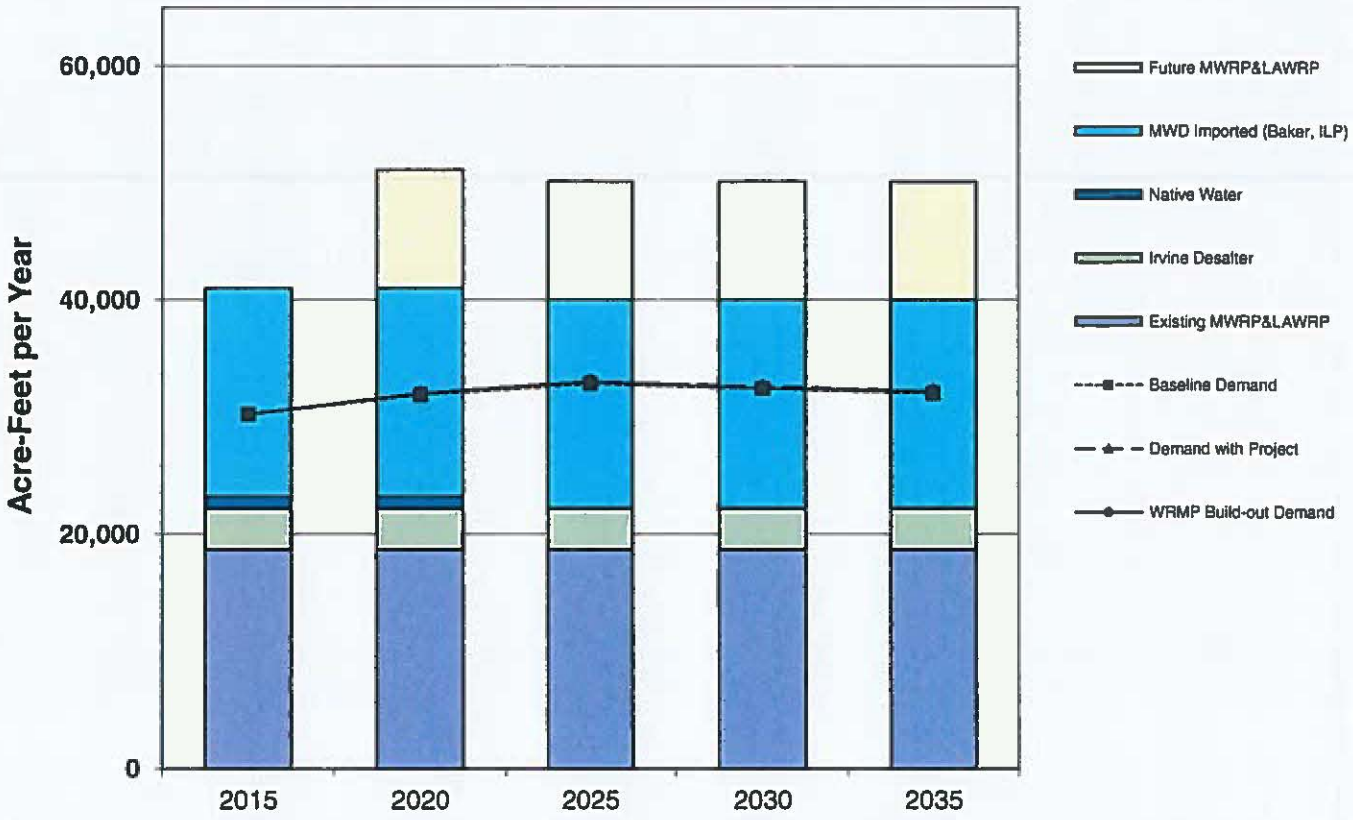
Figure 5
IRWD Normal-Year Supply & Demand - Nonpotable Water



(in acre-feet per year)	2015	2020	2025	2030	2035
Current Nonpotable Supplies					
Existing MWRP&LAWRP	18,657	18,657	18,657	18,657	18,657
Future MWRP&LAWRP	-	10,100	10,100	10,100	10,100
MWD Imported (Baker, ILP)	17,826	17,826	17,826	17,826	17,826
Irvine Desalter	3,514	3,514	3,514	3,514	3,514
Native Water	3,000	-	-	-	-
Maximum Supply Capability	42,997	50,097	50,097	50,097	50,097
Baseline Demand	28,239	29,785	30,690	30,294	29,896
Demand with Project	28,239	29,903	30,854	30,469	30,081
WRMP Build-out Demand	28,239	29,903	30,854	30,294	30,081
Reserve Supply with Project	14,758	20,193	19,243	19,803	20,015

Note: Downward trend reflects reduction in agricultural use over time.
Native water will be treated to potable through the Baker Water Treatment Plant after 2016.
MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

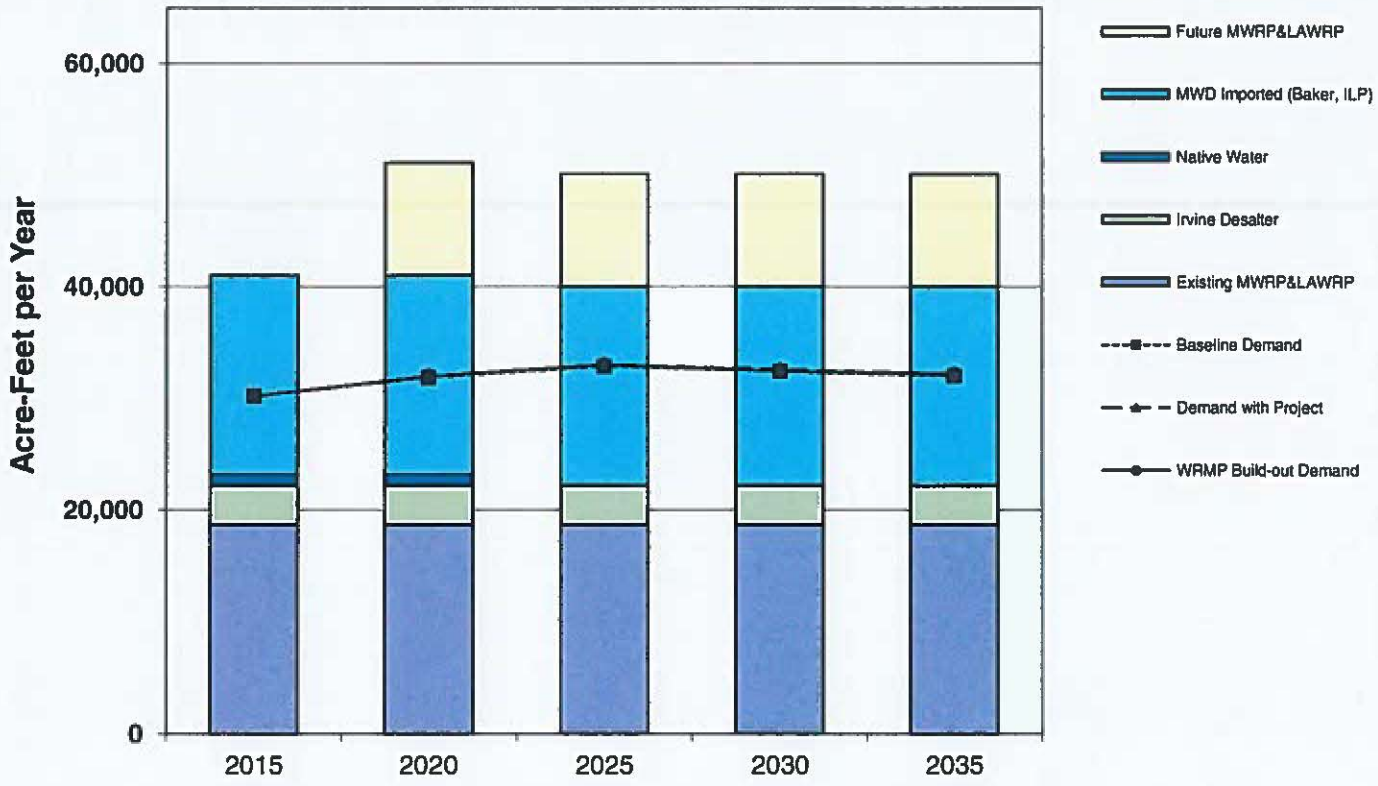
Figure 6
IRWD Single Dry-Year Supply & Demand - Nonpotable Water



(in acre-feet per year)	2015	2020	2025	2030	2035
Current Nonpotable Supplies					
Existing MWRP&LAWRP	18,657	18,657	18,657	18,657	18,657
Future MWRP&LAWRP	-	10,100	10,100	10,100	10,100
MWD Imported (Baker, ILP)	17,826	17,826	17,826	17,826	17,826
Irvine Desalter	3,514	3,514	3,514	3,514	3,514
Native Water	1,000	1,000	-	-	-
Maximum Supply Capability	40,997	51,097	50,097	50,097	50,097
Baseline Demand	30,215	31,870	32,838	32,415	31,988
Demand with Project	30,215	31,997	33,014	32,602	32,187
WRMP Build-out Demand	30,215	31,997	33,014	32,415	32,187
Reserve Supply with Project	10,781	19,100	17,083	17,495	17,910

Note: Downward trend reflects reduction in agricultural use over time.
Native water will be treated to potable through the Baker Water Treatment Plant after 2016.
MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

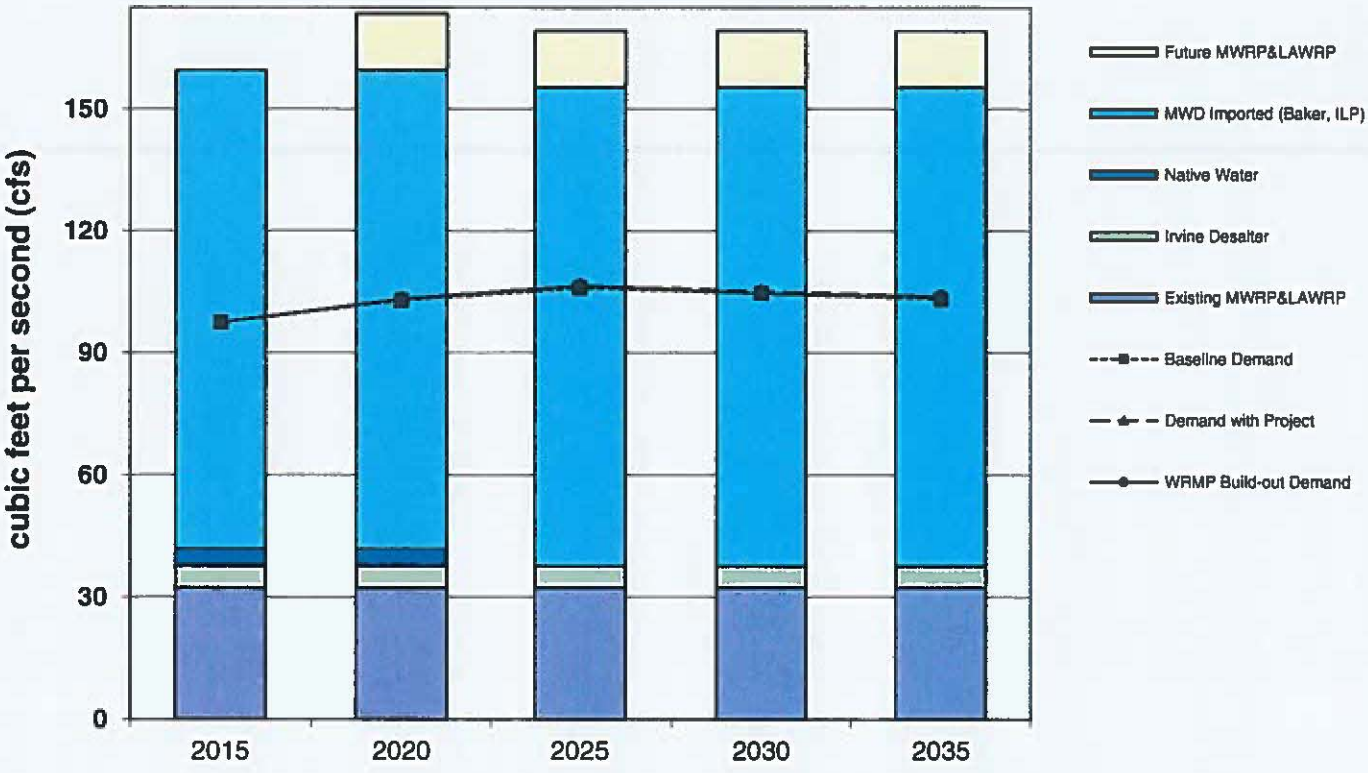
Figure 7
IRWD Multiple Dry-Year Supply & Demand - Nonpotable Water



(in acre-feet per year)	2015	2020	2025	2030	2035
Current Nonpotable Supplies					
Existing MWRP&LAWRP	18,657	18,657	18,657	18,657	18,657
Future MWRP&LAWRP	-	10,100	10,100	10,100	10,100
MWD Imported (Baker, ILP)	17,826	17,826	17,826	17,826	17,826
Irvine Desalter	3,514	3,514	3,514	3,514	3,514
Native Water	1,000	1,000	-	-	-
Maximum Supply Capability	40,997	51,097	50,097	50,097	50,097
Baseline Demand	30,215	31,870	32,838	32,415	31,988
Demand with Project	30,215	31,997	33,014	32,602	32,187
WRMP Build-out Demand	30,215	31,997	33,014	32,415	32,187
Reserve Supply with Project	10,781	19,100	17,083	17,495	17,910

Note: Downward trend reflects reduction in agricultural use over time.
Native water will be treated to potable through the Baker Water Treatment Plant after 2016.
MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

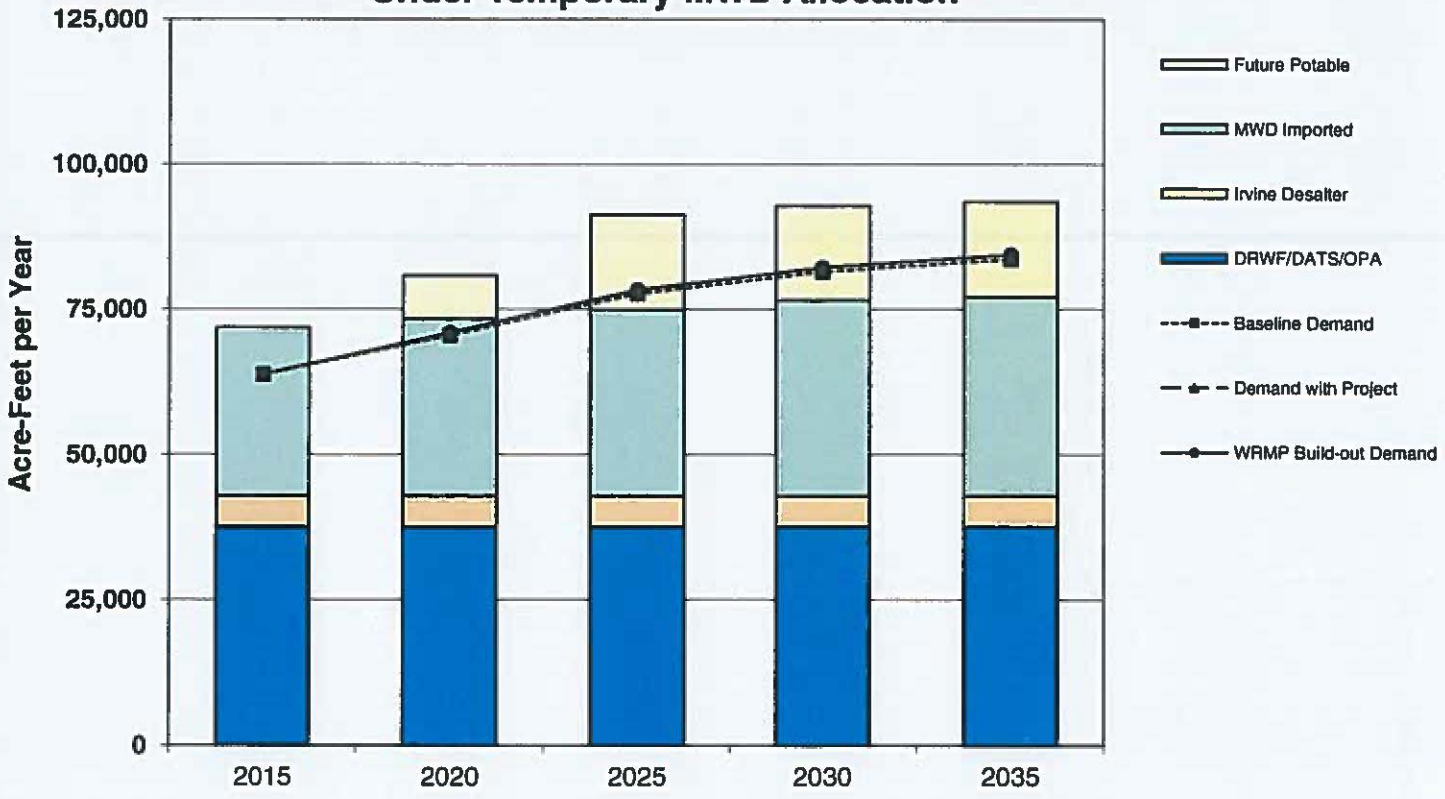
Figure 8
IRWD Maximum-Dry Supply & Demand - Nonpotable Water



(in cfs)	2015	2020	2025	2030	2035
Current Nonpotable Supplies					
Existing MWRP&LAWRP	32.2	32.2	32.2	32.2	32.2
Future MWRP&LAWRP	-	14.0	14.0	14.0	14.0
MWD Imported (Baker, ILP)	117.7	117.7	117.7	117.7	117.7
Irvine Desalter	5.4	5.4	5.4	5.4	5.4
Native Water	4.2	4.2	-	-	-
Maximum Supply Capability	159.5	173.4	169.2	169.2	169.2
Baseline Demand	97.5	102.8	106.0	104.6	103.2
Demand with Project	97.5	103.3	106.5	105.2	103.9
WRMP Build-out Demand	97.5	103.3	106.5	104.6	103.9
Reserve Supply with Project	62.0	70.2	62.7	64.6	65.4

Note: Downward trend reflects reduction in agricultural use over time.
Native water will be treated to potable through the Baker Water Treatment Plant after 2016.

Figure 1a
IRWD Normal-Year Supply & Demand - Potable Water
Under Temporary MWD Allocation*

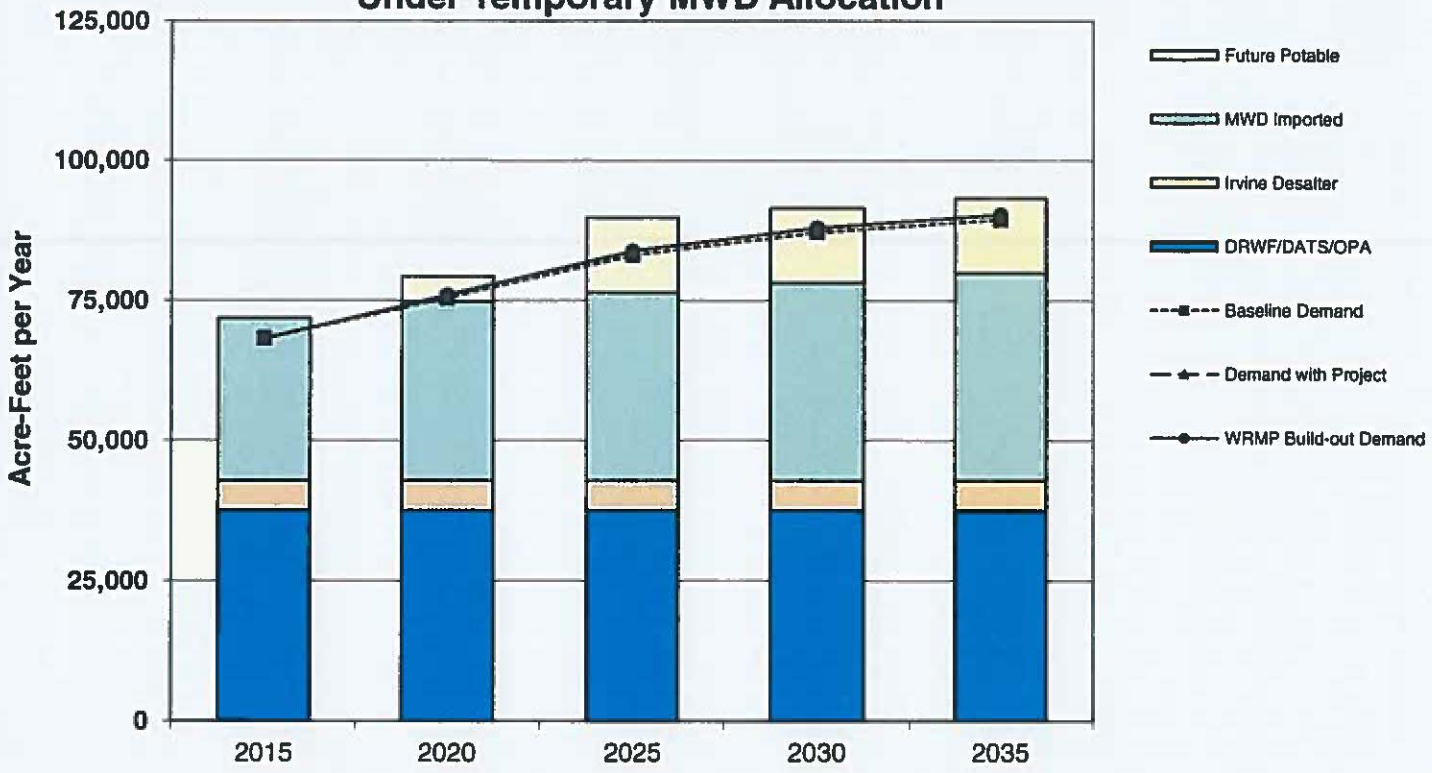


(in acre-feet per year)	2015	2020	2025	2030	2035
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	29,000	30,479	32,034	33,668	34,345
DRWF/DATS/OPA	37,533	37,533	37,533	37,533	37,533
Irvine Desalter	5,309	5,309	5,309	5,309	5,309
Wells 21 & 22	6,329	6,329	6,329	6,329	6,329
Supplies Under Development					
Future Potable	-	7,469	16,352	16,352	16,352
Maximum Supply Capability	78,170	87,119	97,557	99,191	99,868
Baseline Demand	63,762	70,487	77,658	81,470	83,657
Demand with Project	63,762	70,970	78,347	82,191	84,444
WRMP Build-out Demand	63,762	70,970	78,347	82,191	84,444
Reserve Supply with Project	14,409	16,149	19,210	17,000	15,423

Notes: By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a short-term 10% allocation, Shortage Stage 2 in all of the 5-year increments. However, it is likely that such a scenario would only be temporary. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis or transfer water from IRWD's water bank. IRWD may also reduce demands by implementing shortage contingency measures as described in the UWMP. Under a MWD allocation, the Baker WTP supplies (under "Future Potable") will be limited to available MWD and native water only.

Figure 2a
IRWD Single Dry-Year Supply & Demand - Potable Water
Under Temporary MWD Allocation*

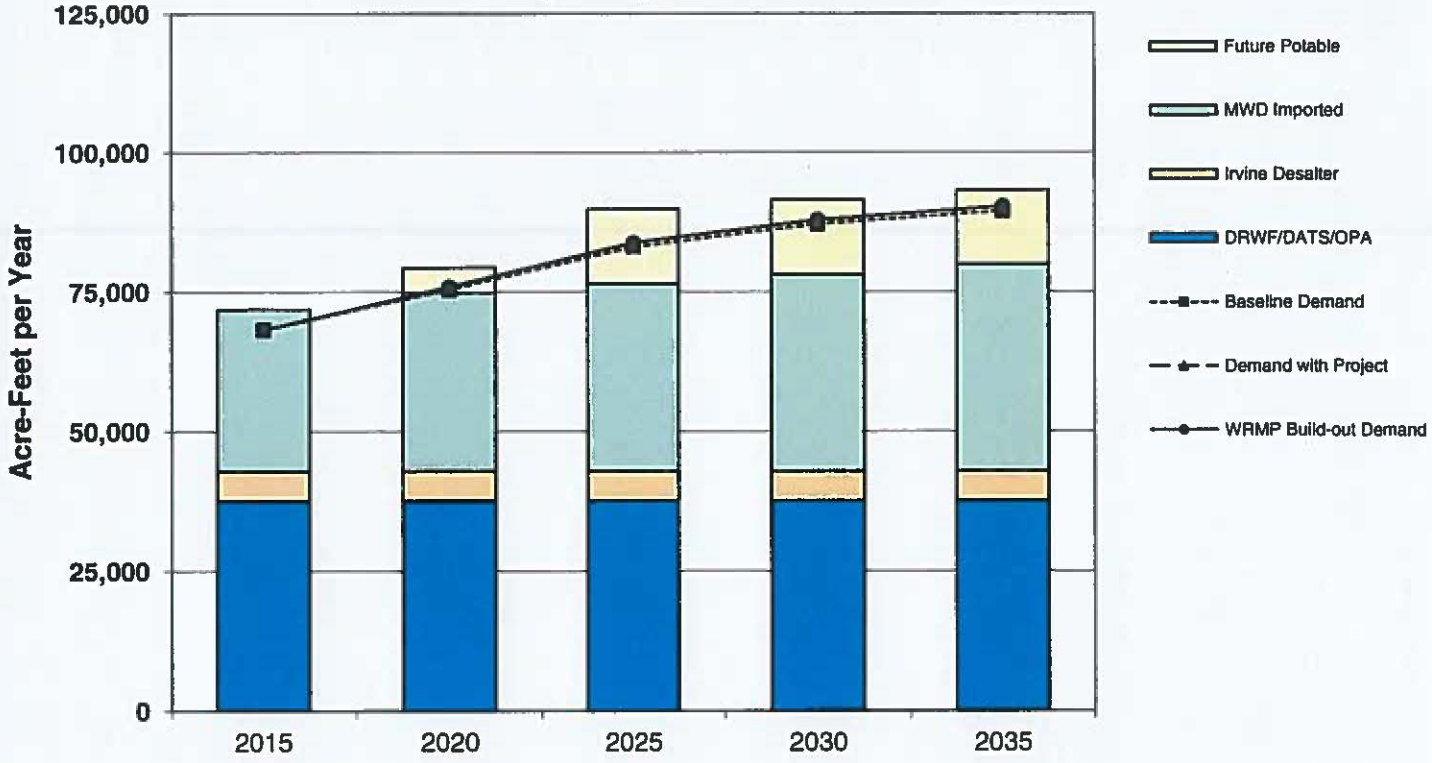


(in acre-feet per year)	2015	2020	2025	2030	2035
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	29,000	32,003	33,603	35,284	37,048
DRWF/DATS/OPA	37,533	37,533	37,533	37,533	37,533
Irvine Desalter	5,309	5,309	5,309	5,309	5,309
Wells 21 & 22	6,329	6,329	6,329	6,329	6,329
Supplies Under Development					
Future Potable	-	4,469	13,352	13,352	13,352
Maximum Supply Capability	78,170	85,643	96,126	97,806	99,571
Baseline Demand	68,225	75,421	83,095	87,173	89,513
Demand with Project	68,225	75,937	83,831	87,944	90,355
WRMP Build-out Demand	68,225	75,937	83,831	87,944	90,355
Reserve Supply with Project	9,946	9,705	12,295	9,862	9,215

Notes: Supplies identical to Normal-Year based on Metropolitan's Regional Urban Water Management Plan and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a short-term 10% allocation, Shortage Stage 2 in all of the 5-year increments. However, it is likely that such a scenario would only be temporary. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis or transfer water from IRWD's water bank. IRWD may also reduce demands by implementing shortage contingency measures as described in the UWMP. Under a MWD allocation, the Baker WTP supplies (under "Future Potable") will be limited to available MWD and native water only.

Figure 3a
IRWD Multiple Dry-Year Supply & Demand - Potable Water Under Temporary MWD Allocation*



(in acre-feet per year)	2015	2020	2025	2030	2035
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	29,000	32,003	33,603	35,284	37,048
DRWF/DATS/OPA	37,533	37,533	37,533	37,533	37,533
Irvine Desalter	5,309	5,309	5,309	5,309	5,309
Wells 21 & 22	6,329	6,329	6,329	6,329	6,329
Supplies Under Development					
Future Potable	-	4,469	13,352	13,352	13,352
Maximum Supply Capability	78,170	85,643	96,126	97,806	99,571
Baseline Demand	68,225	75,421	83,095	87,173	89,513
Demand with Project	68,225	75,937	83,831	87,944	90,355
WRMP Build-out Demand	68,225	75,937	83,831	87,944	90,355
Reserve Supply with Project	9,946	9,705	12,295	9,862	9,215

Notes: Supplies identical to Normal-Year based on Metropolitan's Regional Urban Water Management Plan and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a short-term 10% allocation, Shortage Stage 2 in all of the 5-year increments. However, it is likely that such a scenario would only be temporary. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis or transfer water from IRWD's water bank. IRWD may also reduce demands by implementing shortage contingency measures as described in the UWMP. Under a MWD allocation, the Baker WTP supplies (under "Future Potable") will be limited to available MWD and native water only.

2. Information concerning supplies

(a)(1) Existing sources of identified water supply for the proposed project: IRWD does not allocate particular supplies to any project, but identifies total supplies for its service area, as updated in the following table:

	Max Day (cfs)	Avg. Annual (AFY)		Annual by Category (AFY)
Current Supplies				
Potable - Imported				
East Orange County Feeder No. 2	41.4	16,652	1	
Allen-McColloch Pipeline*	64.7	26,024	1	
Orange County Feeder	18.0	7,240	1	49,916
Potable - Groundwater				
Dyer Road Wellfield	80.0	28,000	2	
OPA Well	1.4	914		
Deep Aquifer Treatment System-DATS	12.5	8,618	2	
Wells 21 & 22	10.9	6,329	2	
Irvine Desalter	9.5	5,309	3	49,170
Total Potable Current Supplies	238.4			99,086
Nonpotable - Recycled Water				
MWRP (18 mgd)	23.9	17,340	4	
LAWRP (5.5 mgd)	8.3	5,975	4	
Future MWRP & LAWRP	20.0	14,450	5	37,765
Nonpotable - Imported				
Baker Aqueduct	52.7	12,221	6	
Irvine Lake Pipeline	65.0	9,000	7	21,221
Nonpotable - Groundwater				
Irvine Desalter-Nonpotable	5.4	3,514	8	3,514
Nonpotable Native				
Irvine Lake	4.2	3,048	9	3,048
Total Nonpotable Current Supplies	179.5			65,548
Total Combined Current Supplies	417.9			164,635
Supplies Under Development				
Potable Supplies				
Well 106	2.0	1,118		
Well 53	5.6	3,658		
Future OPA Wells	8.0	5,225		
Baker Water Treatment Plant	10.5	6,858		
Wells 51 & 52	3.6	2,351		
Total Potable Under Development Supplies	29.7	19,211		19,211
Total Under Development	29.7			19,211
Total Supplies				
Potable Supplies	268.1			118,297
Nonpotable Supplies	179.5			65,548
Total Supplies (Current and Under Development)	447.6			183,846

1 Based on converting maximum day capacity to average by dividing the capacity by a peaking factor of 1.8 (see Footnote 4, page 22).

2 Contract amount - See Potable Supply-Groundwater(iii).

3 Contract amount - See Potable Supply-Groundwater (iv) and (v). Maximum day well capacity is compatible with contract amount.

4 MWRP 18.0 mgd treatment capacity (17,400 AFY RW production) and LAWRP 5.5 mgd tertiary treatment capacity (5,975 AFY)

5 Future estimated MWRP & LAWRP recycled water production.

6 By 2020, Baker capacity will be allocated to Baker Water Treatment Plant (WTP) participants and IRWD will own 46.50 cfs in Baker Aqueduct after Baker WTP, of which 10.5 cfs will be for potable treatment. IRWD will have 35 cfs remaining capacity for non-potable uses. The nonpotable average use is based on converting maximum day capacity to average by dividing the capacity by a peaking factor of 2.5 (see Footnote 8, page 25).

7 Based on IRWD's proportion of Irvine Lake imported water storage; Actual ILP capacity would allow the use of additional imported water from MWD through the Santiago Lateral.

8 Contract amount - See Nonpotable Supply-Groundwater (i) and (ii). Maximum day well capacity (cfs) is compatible with contract amount.

9 Based on 70+ years historical average of Santiago Creek Inflow into Irvine Lake. By 2020, native water will be treated through Baker WTP.

*64.7 cfs is current assigned capacity; based on increased peak flow, IRWD can purchase 10 cfs more (see page 23 (b)(1)(iii))

(b) Required information concerning currently available and under-development water supply entitlements, water rights and water service contracts:

(1) Written contracts or other proof of entitlement.[4] [5]

•POTABLE SUPPLY - IMPORTED[6]

Potable imported water service connections (currently available).

(i) Potable imported water is delivered to IRWD at various service connections to the imported water delivery system of The Metropolitan Water District of Southern California ("MWD"): service connections CM-01A and OC-7 (Orange County Feeder); CM-10, CM-12, OC-38, OC-39, OC-57, OC-58, OC-63 (East Orange County Feeder No. 2); and OC-68, OC-71, OC-72, OC-73/73A, OC-74, OC-75, OC-83, OC-84, OC-87 (Allen-McColloch Pipeline). IRWD's entitlements regarding service from the MWD delivery system facilities are described in the following paragraphs and summarized in the above Table ((2)(a)(1)). IRWD receives imported water service through Municipal Water District of Orange County ("MWDOC"), a member agency of MWD.

Allen-McColloch Pipeline ("AMP") (currently available).

(ii) Agreement For Sale and Purchase of Allen-McColloch Pipeline, dated as of July 1, 1994 (Metropolitan Water District Agreement No. 4623) ("AMP Sale Agreement"). Under the AMP Sale Agreement, MWD purchased the Allen-McColloch Pipeline (formerly known as the "Diemer Intertie") from MWDOC, the MWDOC Water Facilities Corporation and certain agencies, including IRWD and Los Alisos Water District ("LAWD"),[7] identified as "Participants" therein. Section 5.02 of the AMP Sale Agreement obligates MWD to meet IRWD's and the other Participants' requests for deliveries and specified minimum hydraulic grade lines at each connection serving a Participant, subject to availability of water. MWD agrees to operate the AMP as any other MWD pipeline. MWD has the right to

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[4] In some instances, the contractual and other legal entitlements referred to in the following descriptions are stated in terms of flow capacities, in cubic feet per second ("cfs"). In such instances, the cfs flows are converted to volumes of AFY for purposes of analyzing supply sufficiency in this assessment, by dividing the capacity by a peaking factor of 1.8 (potable) or 2.5 (nonpotable), consistent with maximum day peaking factors used in the WRMP. The resulting reduction in assumed available annual AFY volumes through the application of these factors recognizes that connected capacity is provided to meet peak demands and that seasonal variation in demand and limitations in local storage prevent these capacities from being utilized at peak capacity on a year-round basis. However, the application of these factors produces a conservatively low estimate of annual AFY volumes from these connections; additional volumes of water are expected to be available from these sources.

[5] In the following discussion, contractual and other legal entitlements are characterized as either potable or nonpotable, according to the characterization of the source of supply. Some of the nonpotable supplies surplus to nonpotable demand could potentially be rendered potable by the addition of treatment facilities; however, except where otherwise noted, IRWD has no current plans to do so.

[6] See Imported Supply - Additional Information, below, for information concerning the availability of the MWD supply.

[7] IRWD has succeeded to LAWD's interests in the AMP and other LAWD water supply facilities and rights mentioned in this assessment, by virtue of the consolidation of IRWD and LAWD on December 31, 2000.

operate the AMP on a "utility basis," meaning that MWD need not observe capacity allocations of the Participants but may use available capacity to meet demand at any service connection.

The AMP Sale Agreement obligates MWD to monitor and project AMP demands and to construct specified pump facilities or make other provision for augmenting MWD's capacity along the AMP, at MWD's expense, should that be necessary to meet demands of all of the Participants (Section 5.08).

(iii) Agreement For Allocation of Proceeds of Sale of Allen-McColloch Pipeline, dated as of July 1, 1994 ("AMP Allocation Agreement"). This agreement, entered into concurrently with the AMP Sale Agreement, provided each Participant, including IRWD, with a capacity allocation in the AMP, for the purpose of allocating the sale proceeds among the Participants in accordance with their prior contractual capacities adjusted to conform to their respective future demands. IRWD's capacity under the AMP Allocation Agreement (including its capacity as legal successor agency to LAWD) is 64.69 cfs at IRWD's first four AMP connections, 49.69 cfs at IRWD's next five downstream AMP connections and 35.01 and 10.00 cfs, respectively at IRWD's remaining two downstream connections. The AMP Allocation Agreement further provides that if a Participant's peak flow exceeds its capacity, the Participant shall "purchase" additional capacity from the other Participants who are using less than their capacity, until such time as MWD augments the capacity of the AMP. The foregoing notwithstanding, as mentioned in the preceding paragraph, the allocated capacities do not alter MWD's obligation under the AMP Sale Agreement to meet all Participants' demands along the AMP, and to augment the capacity of the AMP if necessary. Accordingly, under these agreements, IRWD can legally increase its use of the AMP beyond the above-stated capacities, but would be required to reimburse other Participants from a portion of the proceeds IRWD received from the sale of the AMP.

(iv) Improvement Subleases (or "FAP" Subleases) [MWDOC and LAWD; MWDOC and IRWD], dated August 1, 1989; 1996 Amended and Restated Allen-McColloch Pipeline Subleases [MWDOC and LAWD; MWDOC and IRWD], dated March 1, 1996. IRWD subleases its AMP capacity, including the capacity it acquired as successor to LAWD. To facilitate bond financing for the construction of the AMP, it was provided that the MWDOC Water Facilities Corporation, and subsequently MWDOC, would have ownership of the pipeline, and the Participants would be sublessees. As is the case with the AMP Sale Agreement, the subleases similarly provide that water is subject to availability.

East Orange County Feeder No. 2 ("EOCF#2") (currently available).

(v) Agreement For Joint Exercise of Powers For Construction, Operation and Maintenance of East Orange County Feeder No. 2, dated July 11, 1961, as amended on July 25, 1962 and April 26, 1965; Agreement Re Capacity Rights In Proposed Water Line, dated September 11, 1961 ("IRWD MWDOC Assignment Agreement"); Agreement Regarding Capacity Rights In the East Orange County Feeder No. 2, dated August 28, 2000 ("IRWD Coastal Assignment Agreement"). East Orange County Feeder No. 2 ("EOCF#2"), a feeder linking Orange County with MWD's feeder system, was constructed pursuant to a joint powers

agreement among MWDOC (then called Orange County Municipal Water District), MWD, Coastal Municipal Water District ("Coastal"), Anaheim and Santa Ana. A portion of IRWD's territory is within MWDOC and the remainder is within the former Coastal (which was consolidated with MWDOC in 2001). Under the IRWD MWDOC Assignment Agreement, MWDOC assigned 41 cfs of capacity to IRWD in the reaches of EOCF#2 upstream of the point known as Coastal Junction (reaches 1 through 3), and 27 cfs in reach 4, downstream of Coastal Junction. Similarly, under the IRWD Coastal Assignment Agreement, prior to Coastal's consolidation with MWDOC, Coastal assigned to IRWD 0.4 cfs of capacity in reaches 1 through 3 and 0.6 cfs in reach 4 of EOCF#2. Delivery of water through EOCF#2 is subject to the rules and regulations of MWD and MWDOC, and is further subject to application and agreement of IRWD respecting turnouts.

Orange County Feeder (currently available)

(vi) Agreement, dated March 13, 1956. This 1956 Agreement between MWDOC's predecessor district and the Santa Ana Heights Water Company ("SAHWC") provides for delivery of MWD imported supply to the former SAHWC service area. SAHWC's interests were acquired on behalf of IRWD through a stock purchase and IRWD annexation of the SAHWC service area in 1997. The supply is delivered through a connection to MWD's Orange County Feeder designated as OC-7.

(vii) Agreement For Transfer of Interest In Pacific Coast Highway Water Transmission and Storage Facilities From The Irvine Company To the Irvine Ranch Water District, dated April 23, 1984; Joint Powers Agreement For the Construction, Operation and Maintenance of Sections 1a, 1b and 2 of the Coast Supply Line, dated June 9, 1989; Agreement, dated January 13, 1955 ("1955 Agreement"). The jointly constructed facility known as the Coast Supply Line ("CSL"), extending southward from a connection with MWD's Orange County Feeder at Fernleaf Street in Newport Beach, was originally constructed pursuant to a 1952 agreement among Laguna Beach County Water District ("LBCWD"), The Irvine Company (TIC) and South Coast County Water District. Portions were later reconstructed. Under the above-referenced transfer agreement in 1984, IRWD succeeded to TIC's interests in the CSL. The CSL is presently operated under the above-referenced 1989 joint powers agreement, which reflects IRWD's ownership of 10 cfs of capacity. The 1989 agreement obligates LBCWD, as the managing agent and trustee for the CSL, to purchase water and deliver it into the CSL for IRWD. LBCWD purchases such supply, delivered by MWD to the Fernleaf connection, pursuant to the 1955 Agreement with Coastal (now MWDOC).

Baker Water Treatment Plant (currently available)

IRWD is currently constructing the Baker Water Treatment Plant project (the Baker WTP) in partnership with El Toro Water District, Moulton-Niguel Water District, Santa Margarita Water District and Trabuco Canyon Water District. The Baker WTP will be supplied with untreated imported water from MWD and native Irvine Lake water supply. IRWD will own 10.5 cfs of treatment capacity rights in

the Baker WTP.[8]

•POTABLE SUPPLY - GROUNDWATER

(i) Orange County Water District Act, Water Code App., Ch. 40 ("Act"). IRWD is an operator of groundwater-producing facilities in the Orange County Groundwater Basin (the "Basin"). Although the rights of the producers within the Basin vis a vis one another have not been adjudicated, they nevertheless exist and have not been abrogated by the Act (§40-77). The rights consist of municipal appropriators' rights and may include overlying and riparian rights. The Basin is managed by OCWD under the Act, which functions as a statutorily-imposed physical solution. The Act empowers OCWD to impose replenishment assessments and basin equity assessments on production and to require registration of water-producing facilities and the filing of certain reports; however, OCWD is expressly prohibited from limiting extraction unless a producer agrees (§ 40-2(6) (c)) and from impairing vested rights to the use of water (§ 40-77). Thus, producers may install and operate production facilities under the Act; OCWD approval is not required. OCWD is required to annually investigate the condition of the Basin, assess overdraft and accumulated overdraft, and determine the amount of water necessary for replenishment (§40-26). OCWD has studied the Basin replenishment needs and potential projects to address growth in demand through 2035 in its Final Draft Long-Term Facilities Plan (January, 2006), last updated November 19, 2014. The Long-Term Facilities Plan is updated approximately every five years.

(ii) Irvine Ranch Water District v. Orange County Water District, OCSC No. 795827. A portion of IRWD is outside the jurisdictional boundary of OCWD. IRWD is eligible to annex the Santa Ana River Watershed portion of this territory to OCWD, under OCWD's current annexation policy (Resolution No. 86-2-15, adopted on February 19, 1986 and reaffirmed on June 2, 1999), and anticipates doing so. However, this September 29, 1998, Superior Court ruling indicates that IRWD is entitled to deliver groundwater from the Basin to the IRWD service area irrespective of whether such area is also within OCWD.

Dyer Road Wellfield (DWRF) / Deep Aquifer Treatment System (DATS) (currently available)

(iii) Agreement For Water Production and Transmission Facilities, dated March 18, 1981, as amended May 2, 1984, September 19, 1990 and November 3, 1999 (the "DRWF Agreement"). The DRWF Agreement, among IRWD, OCWD and Santa Ana, concerns the development of IRWD's Dyer Road Wellfield ("DRWF"), within the Basin. The DRWF consists of 16 wells pumping from the non-colored water zone of the Basin and 2 wells (with colored-water treatment facilities) pumping from the deep, colored-water zone of the Basin (the colored-water portion of the DRWF is sometimes referred to as the Deep Aquifer Treatment

[8] The Baker WTP shall be supplied nonpotable imported water through the existing Baker Pipeline. IRWD's existing Baker Pipeline capacity (see Section 2(b)(1) NONPOTABLE SUPPLY – IMPORTED) shall be apportioned to the Baker WTP participants based on Baker WTP capacity ownership, and IRWD shall retain 10.5 cfs of pipeline capacity through the Baker WTP for potable supply and shall retain 36 cfs in Reach 1U of the Baker Pipeline capacity for nonpotable supply.

System or "DATS".) Under the DRWF Agreement, an "equivalent" basin production percentage (BPP) has been established for the DRWF, currently 28,000 AFY of non-colored water and 8,000 AFY of colored water, provided any amount of the latter 8,000 AFY not produced results in a matching reduction of the 28,000 AFY BPP. Although typically IRWD production from the DRWF does not materially exceed the equivalent BPP, the equivalent BPP is not an extraction limitation; it results in imposition of monetary assessments on the excess production. The DRWF Agreement also establishes monthly pumping amounts for the DRWF. With the addition of the Concentrated Treatment System (CATS), IRWD has increased the yield of DATS.

Irvine Subbasin / Irvine Desalter (currently available)

(iv) First Amended and Restated Agreement, dated March 11, 2002, as amended June 15, 2006, restating May 5, 1988 agreement ("Irvine Subbasin Agreement"). TIC has historically pumped agricultural water from the Irvine Subbasin. (As in the rest of the Basin of which this subbasin is a part, the groundwater rights have not been adjudicated, and OCWD provides governance and management under the Act.) The 1988 agreement between IRWD and TIC provided for the joint use and management of the Irvine Subbasin. The 1988 agreement further provided that the 13,000 AFY annual yield of the Irvine Subbasin would be allocated 1,000 AFY to IRWD and 12,000 AFY to TIC. Under the restated Irvine Subbasin Agreement, the foregoing allocations were superseded as a result of TIC's commencement of the building its Northern Sphere Area project, with the effect that the Subbasin production capability, wells and other facilities, and associated rights have been transferred from TIC to IRWD, and IRWD has assumed the production from the Subbasin. In consideration of the transfer, IRWD is required to count the supplies attributable to the transferred Subbasin production in calculating available supplies for the Northern Sphere Area project and other TIC development and has agreed that they will not be counted toward non-TIC development.

A portion of the existing Subbasin water production facilities produce water which is of potable quality. IRWD could treat some of the water produced from the Subbasin for potable use, by means of the Desalter and other projects. Although, as noted above, the Subbasin has not been adjudicated and is managed by OCWD, TIC reserved water rights from conveyances of its lands as development over the Subbasin has occurred, and under the Irvine Subbasin Agreement TIC has transferred its rights to IRWD.

(v) Second Amended and Restated Agreement Between Orange County Water District and Irvine Ranch Water District Regarding the Irvine Desalter Project, dated June 11, 2001, and other agreements referenced therein. This agreement provides for the extraction and treatment of subpotable groundwater from the Irvine Subbasin, a portion of the Basin. As is the case with the remainder of the Basin, IRWD's entitlement to extract this water is not adjudicated, but the use of the entitlement is governed by the OCWD Act. (See also, discussion of Irvine Subbasin in the preceding paragraph.) A portion of the product water has been delivered into the IRWD potable system, and the remainder has been delivered into the IRWD nonpotable system.

Orange Park Acres (currently available)

On June 1, 2008, through annexation and merger, IRWD acquired the water system of the former Orange Park Acres Mutual Water company, including well [OPA Well]. The well is operated within the Orange County Groundwater Basin.

Wells 21 and 22 (currently available)

IRWD completed construction of treatment facilities, pipelines and wellhead facilities for Wells 21 and 22. Water supplied through this project became available in 2013. The wells are operated within the Orange County Groundwater Basin.

Irvine Wells (under development)

(vi) IRWD is pursuing the installation of production facilities in the west Irvine, Tustin Legacy and Tustin Ranch portions of the Basin. These groundwater supplies are considered to be under development; however, four wells have been drilled and have previously produced groundwater, three wells have been drilled but have not been used as production wells to date, a site for an additional well and treatment facility has been acquired by IRWD. The production facilities can be constructed and operated under the Act; no statutory or contractual approval is required to do so. Appropriate environmental review would be conducted for each facility. See discussion of the Act under Potable Supply - Groundwater, paragraph (i), above.

•NONPOTABLE SUPPLY - RECYCLED

Water Recycling Plants (currently available)

Water Code Section 1210. IRWD supplies its own recycled water from wastewater collected by IRWD and delivered to IRWD's Michelson Water Recycling Plant (MWRP) and Los Alisos Water Recycling Plant (LAWRP). MWRP currently has a permitted capacity of 18 million gallons per day (MGD) and LAWRP currently has a permitted capacity of 5.5 MGD. Water Code Section 1210 provides that the owner of a wastewater treatment plant operated for the purposes of treating wastes from a sanitary sewer system holds the exclusive right to the treated effluent as against anyone who has supplied the water discharged into the sewer system. IRWD's permits for the operation of MWRP and LAWRP allow only irrigation and other customer uses of recycled water, and do not permit stream discharge of recycled water; thus, no issue of downstream appropriation arises, and IRWD is entitled to deliver all of the effluent to meet contractual and customer demands.

Water Reclamation Plant Expansion (currently available)

IRWD is completing construction of the Michelson Water Reclamation Plant Phase 2 Capacity Expansion Project later in 2015. With this expansion, IRWD will increase its capacity on the existing MWRP site to produce sufficient recycled water to meet the projected demand in the year 2035. Additional reclamation

capacity will augment local nonpotable supplies and improve reliability.

•NONPOTABLE SUPPLY - IMPORTED[9]

Baker Pipeline (currently available)

Santiago Aqueduct Commission Joint Powers Agreement, dated September 11, 1961, as amended December 20, 1974, January 13, 1978, November 1, 1978, September 1, 1981, October 22, 1986, and July 8, 1999 (the "SAC Agreement"); Agreement Between Irvine Ranch Water District and Carma-Whiting Joint Venture Relative to Proposed Annexation of Certain Property to Irvine Ranch Water District, dated May 26, 1981 (the "Whiting Annexation Agreement"). Service connections OC-13/13A, OC-33/33A. The imported untreated water pipeline initially known as the Santiago Aqueduct and now known as the Baker Pipeline was constructed under the SAC Agreement, a joint powers agreement. The Baker Pipeline is connected to MWD's Santiago Lateral. IRWD's capacity in the Baker Pipeline includes the capacity it subleases as successor to LAWD, as well as capacity rights IRWD acquired through the Whiting Annexation Agreement. (To finance the construction of AMP parallel untreated reaches which were incorporated into the Baker Pipeline, replacing original SAC untreated reaches that were made a part of the AMP potable system, it was provided that the MWDOC Water Facilities Corporation, and subsequently MWDOC, would have ownership, and the participants would be sublessees.) IRWD has 52.70 cfs in the first reach, 12.50 cfs in each of the second, third and fourth reaches and 7.51 cfs in the fifth reach of the Baker Pipeline. Water is subject to availability from MWD.

•NONPOTABLE SUPPLY - NATIVE

Irvine Lake (currently available)

(i) Permit For Diversion and Use of Water (Permit No. 19306) issued pursuant to Application No. 27503; License For Diversion and Use of Water (License 2347) resulting from Application No. 4302 and Permit No. 3238; License For Diversion and Use of Water (License 2348) resulting from Application No. 9005 and Permit No. 5202. The foregoing permit and licenses, jointly held by IRWD (as successor to The Irvine Company (TIC) and Carpenter Irrigation District (CID)) and Serrano Water District (SWD), secure appropriative rights to the flows of Santiago Creek. Under Licenses 2347 and 2348, IRWD and SWD have the right to diversion by storage at Santiago Dam (Irvine Lake) and a submerged dam, of a total of 25,000 AFY. Under Permit No. 19306, IRWD and SWD have the right to diversion by storage of an additional 3,000 AFY by flashboards at Santiago Dam (Irvine Lake). (Rights under Permit No. 19306 may be junior to an OCWD permit to divert up to 35,000 AFY of Santiago Creek flows to spreading pits downstream of Santiago Dam.) The combined total of native water that may be diverted to storage under these licenses and permit is 28,000 AFY. A 1996 amendment to License Nos. 2347, 2348 and 2349 [replaced by Permit No. 19306 in 1984] limits

[9] See Imported Supply - Additional Information, below, for information concerning the availability of the MWD supply.

the withdrawal of water from the Lake to 15,483 AFY under the licenses. This limitation specifically references the licenses and doesn't reference water stored pursuant to other legal entitlements. The use and allocation of the native water is governed by the agreements described in the next paragraph.

(ii) Agreement, dated February 6, 1928 ("1928 Agreement"); Agreement, dated May 15, 1956, as amended November 12, 1973 ("1956 Agreement"); Agreement, dated as of December 21, 1970 ("1970 Agreement"); Agreement Between Irvine Ranch Water District and The Irvine Company Relative to Irvine Lake and the Acquisition of Water Rights In and To Santiago Creek, As Well As Additional Storage Capacity in Irvine Lake, dated as of May 31, 1974 ("1974 Agreement"). The 1928 Agreement was entered into among SWD, CID and TIC, providing for the use and allocation of native water in Irvine Lake. Through the 1970 Agreement and the 1974 Agreement, IRWD acquired the interests of CID and TIC, leaving IRWD and SWD as the two co-owners. TIC retains certain reserved rights. The 1928 Agreement divides the stored native water by a formula which allocates to IRWD one-half of the first 1,000 AF, plus increments that generally yield three-fourths of the amount over 1,000 AF.[10] The agreements also provide for evaporation and spill losses and carryover water remaining in the Lake at the annual allocation dates. Given the dependence of native water on rainfall, for purposes of this assessment only a small portion of IRWD's share of the 28,000 AFY of native water rights (4,000 AFY in normal years and 1,000 AFY in single and multiple-dry years) is shown in currently available supplies, based on averaging of historical data. However, IRWD's ability to supplement Irvine Lake storage with its imported untreated water supplies, described herein, offsets the uncertainty associated with the native water supply.

•NONPOTABLE SUPPLY - GROUNDWATER

Irvine Subbasin / Irvine Desalter (currently available)

(i) IRWD's entitlement to produce nonpotable water from the Irvine Subbasin is included within the Irvine Subbasin Agreement. See discussion of the Irvine Subbasin Agreement under Potable Supply - Groundwater; paragraph (iv), above.

(ii) See discussion of the Irvine Desalter project under Potable Supply - Groundwater, paragraph (v), above. The Irvine Desalter project will produce nonpotable as well as potable water.

•IMPORTED SUPPLY - ADDITIONAL INFORMATION

[10] The 1956 Agreement provides for facilities to deliver MWD imported water into the Lake, and grants storage capacity for the imported water. By succession, IRWD owns 9,000 AFY of this 12,000 AFY imported water storage capacity. This storage capacity does not affect availability of the imported supply, which can be either stored or delivered for direct use by customers.

As described above, the imported supply from MWD is contractually subject to availability. To assist local water providers in assessing the adequacy of local water supplies that are reliant in whole or in part on MWD's imported supply; MWD has provided information concerning the availability of the supplies to its entire service area. In its most recently adopted RUWMP, MWD has extended its planning timeframe out through 2035 to ensure that MWD's 2010 RUWMP may be used as a source document for meeting requirements for sufficient supplies. In addition, the RUWMP includes "Justifications for Supply Projections" (Appendix A-3) that details the planning, legal, financial, and regulatory basis for including each source of supply in the plan. The RUWMP summarizes MWD's planning initiatives over the past ten years, which includes the Integrated Resources Plan (IRP), the IRP Update, the Water Surplus and Drought Management Plan, Strategic Plan and Rate Structure. The reliability analysis in MWD's IRP Update (October 2010) showed that MWD can maintain reliable supplies under the conditions that have existed in past dry periods throughout the period 2015 through 2035. The RUWMP includes tables that show the region can provide reliable supplies under both the single driest year (1977) and multiple dry years (1990-92) through 2035. MWD has also identified buffer supplies, including additional State Water Project groundwater storage and transfers that could serve to supply the additional water needed.

It is anticipated that MWD will revise its regional supply availability analysis periodically, if needed, to supplement its RUWMP in years when the RUWMP is not being updated.

IRWD is permitted by the statute to rely upon the water supply information provided by the wholesaler concerning a wholesale water supply source, for use in preparing its UWMPs. In turn, the statute provides for the use of UWMP information to support water supply assessments and verifications. In accordance with these provisions, IRWD is entitled to rely upon the conclusions of the MWD RUWMP. As referenced above under Summary of Results of Demand-Supply Comparisons - ***Recent Actions on Delta Pumping,*** MWD has provided additional information on its imported water supply.

MWD's reserve supplies, together with the fact that IRWD relies on MWD supplies as supplemental supplies that need not be used to the extent IRWD operates currently available and under-development local supplies, build a margin of safety into IRWD's supply availability.

(2) Adopted capital outlay program to finance delivery of the water supplies.

All necessary delivery facilities currently exist for the use of the *currently available* and *under-development* supplies assessed herein, with the exception of future groundwater wells, and IRWD sub-regional and developer-dedicated conveyance facilities necessary to complete the local distribution systems for the Project. IRWD's turnout at each MWD connection and IRWD's regional delivery facilities are sufficiently sized to deliver all of the supply to the sub-regional and local distribution systems.

With respect to future groundwater wells (PR No. 11881) and Baker WTP (PR

No. 11747), IRWD adopted its fiscal year 2015-16 capital budget on June 8, 2015 (Resolution No. 2015-13), budgeting portions of the funds for such projects. (A copy is available from IRWD on request.) For these facilities, as well as unbuilt IRWD sub-regional conveyance facilities, the sources of funding are previously authorized general obligation bonds, revenue-supported certificates of participation and/or capital funds held by IRWD Improvement Districts. IRWD has maintained a successful program for the issuance of general obligation bonds and certificates of participation on favorable borrowing terms, and IRWD has received AAA public bond ratings. IRWD has approximately $615.2 million (water) and $784.8 million (wastewater) of unissued, voter-approved bond authorization. Certificates of participation do not require voter approval. Proceeds of bonds and available capital funds are expected to be sufficient to fund all IRWD facilities for delivery of the supplies under development. Tract-level conveyance facilities are required to be donated to IRWD by the Applicant or its successor(s) at time of development.

See also *MWD's RUWMP*, Appendix A.3 Justifications for Supply Projections with respect to capital outlay programs related to MWD's supplies.

(3) Federal, state and local permits for construction of delivery infrastructure.

Most IRWD delivery facilities are constructed in public right-of-way or future right-of-way. State statute confers on IRWD the right to construct works along, under or across any stream of water, watercourse, street, avenue, highway, railway, canal, ditch or flume (Water Code Section 35603). Although this right cannot be denied, local agencies may require encroachment permits when work is to be performed within a street. If easements are necessary for delivery infrastructure, IRWD requires the developer to provide them. The crossing of watercourses or areas with protected species requires federal and/or state permits as applicable.

See also *MWD's RUWMP*, Appendix A.3 Justifications for Supply Projections with respect to permits related to MWD's supplies.

(4) Regulatory approvals for conveyance or delivery of the supplies.

See response to preceding item (3).

See also *MWD's RUWMP*, Appendix A.3 Justifications for Supply Projections with respect to regulatory approvals related to MWD's supplies.

3. Other users and contractholders (identified supply not previously used).

For each of the water supply sources identified by IRWD, if no water has been received from that source(s), IRWD is required to identify other public water systems or water service contractholders that receive a water supply from, or have existing water supply entitlements, water rights and water service contracts to, that source(s):

Water has been received from all listed sources. A small quantity of Subbasin water is used by Woodbridge Village Association for the purpose of supplying its North and South Lakes. There are no other public water systems or water

service contractholders that receive a water supply from, or have existing water supply entitlements, water rights and water service contracts to, the Irvine Subbasin.

4. Information concerning groundwater included in the supply identified for the Project:

(a) Relevant information in the Urban Water Management Plan (UWMP):

See Irvine Ranch Water District 2010 UWMP, sections 4-D through 4-J.

(b) Description of the groundwater basin(s) from which the Project will be supplied:

The Orange County Groundwater Basin ("Basin") is described in the Groundwater Management Plan ("GMP") 2015 Update Final Draft, dated June 17, 2015[11]. The rights of the producers within the Basin vis a vis one another have not been adjudicated. The Basin is managed by the Orange County Water District (OCWD) for the benefit of municipal, agricultural and private groundwater producers. OCWD is responsible for the protection of water rights to the Santa Ana River in Orange County as well as the management and replenishment of the Basin. Current production from the Basin is approximately 331,000 AFY.

The Department of Water Resources has not identified the Basin as overdrafted in its most current bulletin that characterizes the condition of the Basin, Bulletin 118 (2003). The efforts being undertaken by OCWD to eliminate long-term overdraft in the Basin are described in the OCWD MPR, including in particular, Chapters 4, 5, 6, 14 and 15 of the MPR. In addition to Orange County Water District (OCWD) reports listed in the Assessment Reference List, OCWD has also prepared a Long Term Facilities Plan ("LTFP") which was received by the OCWD Board in July 2009, and was last updated in November 2014. The LTFP Chapter 3 describes the efforts being undertaken by OCWD to eliminate long-term overdraft in the Basin.

Although the water supply assessment statute (Water Code Section 10910(f)) refers to elimination of "long-term overdraft," overdraft includes conditions which may be managed for optimum basin storage, rather than eliminated. OCWD's Act defines annual groundwater overdraft to be the quantity by which production exceeds the natural replenishment of the Basin. Accumulated overdraft is defined in the OCWD Act to be the quantity of water needed in the groundwater basin forebay to prevent landward movement of seawater into the fresh groundwater body. However, seawater intrusion control facilities have been constructed by OCWD since the Act was written, and have been effective in preventing landward movement of seawater. These facilities allow greater utilization of the storage capacity of the Basin.

OCWD has invested over $250 million in seawater intrusion control (injection barriers), recharge facilities, laboratories, and Basin monitoring to effectively manage the Basin. Consequently, although the Basin is defined to be in an

[11] OCWD has also prepared a Long-Term Facilities Plan which was received and filed by its Board in July 2009, and last updated in November 2014.

"overdraft" condition, it is actually managed to allow utilization of up to 500,000 acre-feet of storage capacity of the basin during dry periods, acting as an underground reservoir and buffer against drought. OCWD has an optimal basin management target of 100,000 acre-feet of accumulated overdraft provides sufficient storage space to accommodate increased supplies from one wet year while also provide enough water in storage to offset decreased supplies during a two- to three year drought. If the Basin is too full, artesian conditions can occur along the coastal area, causing rising water and water logging, an adverse condition. Since the formation of OCWD in 1933, OCWD has made substantial investment in facilities, Basin management and water rights protection, resulting in the elimination and prevention of adverse long-term "mining" overdraft conditions. OCWD continues to develop new replenishment supplies, recharge capacity and basin protection measures to meet projected production from the basin during normal rainfall and drought periods. (OCWD MPR and LTFP)

OCWD's efforts include ongoing replenishment programs and planned capital improvements. It should be noted under OCWD's management of overdraft to maximize its use for annual production and recharge operations, overdraft varies over time as the Basin is managed to keep it in balance over the long term. The Basin is not operated on an annual safe-yield basis. (OCWD MPR, section 3.2 and LTFP, section 6)

(c) Description and analysis of the amount and location of groundwater pumped by IRWD from the Basin for the past five years:

The following table shows the amounts pumped, by groundwater source:

(In AFY)

Year (ending 6/30)	DRWF/DATS/ OPA/21-22	Irvine Subbasin (IRWD)	Irvine Subbasin (TIC)	LAWD[12]
2014	42,424	10,995	0	376
2013	38,617	8,629	0	282
2012	37,059	7,059	0	0
2011	34,275	7,055	0	0
2010	37,151	8,695	0	3
2009	38,140	7,614	0	0
2008	36,741	4,539	0	16
2007	37,864	5,407	0	6
2006	37,046	2,825	0	268
2005	36,316	2,285	628	357

[12] The water produced from IRWD's Los Alisos wells is not included in this assessment. IRWD is presently evaluating the future use of these wells.

2004	30,265	1,938	3,079	101
2003	24,040	2,132	4,234	598
2002	25,855	2,533	5,075	744

(d) Description and analysis of the amount and location of groundwater projected to be pumped by IRWD from the Basin:

IRWD has a developed groundwater supply of 35,200 AFY from its Dyer Road Wellfield (including the Deep Aquifer Treatment System), in the main portion of the Basin.

Although TIC's historical production from the Subbasin declined as its use of the Subbasin for agricultural water diminished, OCWD's and other historical production records for the Subbasin show that production has been as high as 13,000 AFY. Plans are also underway to expand IRWD's main Orange County Groundwater Basin supply (characterized as *under-development* supplies herein). (See Section 2 (a) (1) herein). IRWD anticipates the development of additional production facilities within both the main Basin and the Irvine Subbasin. However, such additional facilities have not been included or relied upon in this assessment. Additional groundwater development will provide an additional margin of safety as well as reduce future water supply costs to IRWD.

The following table summarizes future IRWD groundwater production from currently available and under-development supplies.

(In AFY)

Year (ending 6/30)	DRWF[13]	Future GW[14]	IDP (Potable)	IDP (Nonpotable)
2015	43,300	0	5,640	3,898
2020	43,300	3,469	5,640	3,898
2025	43,300	12,352	5,640	3,898
2035	43,300	12,352	5,640	3,898

(e) If not included in the UWMP, analysis of the sufficiency of groundwater projected to be pumped by IRWD from the Basin to meet to meet the projected water demand of the Project:

See responses to 4(b) and 4(d).

The OCWD MPR and LTFP examined future Basin conditions and capabilities,

[13] See Potable Supply - Groundwater, paragraph (iii), above. DRWF non-colored production above 28,000 AFY and colored water production above 8,000 AFY are subject to contractually-imposed assessments. In addition, seasonal production amounts apply. This also includes 1,000 AFY for the OPA well and 6,300 for Wells 21&22.

[14] Under development.

water supply and demand, and identified projects to meet increased replenishment needs of the basin. With the implementation of OCWD's preferred projects, the Basin yield in the year 2025 would be up to 500,000 AF. The amount that can be produced will be a function of which projects will be implemented by OCWD and how much increased recharge capacity is created by those projects, total demands by all producers, and the resulting Basin Production Percentage ("BPP") that OCWD sets based on these factors.[15] Sufficient replenishment supplies are projected by the OCWD MPR to be available to OCWD to meet the increasing demand on the Basin. These supplies include capture of increasing Santa Ana River flows, purchases of replenishment water from MWD, and development of new local supplies. OCWD has completed its replenishment supply project, the Groundwater Replenishment System project ("GWRS"). The OCWD MPR indicates that the GWRS will produce over 100,000 AFY of new replenishment supply from recycled water.

Production of groundwater can exceed applicable basin production percentages on a short-term basis, providing additional reliability during dry years or emergencies. Additional groundwater production is anticipated by OCWD in the Basin in dry years, as producers reduce their use of imported supplies, and the Basin is "mined" in anticipation of the eventual availability of replenishment water. (OCWD MPR, section 14.6.)

See also, Figures 1-8. IRWD assesses sufficiency of supplies on an aggregated basis, as neither groundwater nor other supply sources are allocated to particular projects or customers. Under the Irvine Subbasin Agreement, IRWD is contractually obligated to attribute the Subbasin supply only to TIC development projects for assessment purposes; however, the agreement does not allocate or assign rights in the Subbasin supply to any project.

Sustainable Groundwater Management Act. Pursuant to the Sustainable Groundwater Management Act (SGMA), the DWR has designated the Orange County groundwater basin as a medium priority basin for purposes of groundwater management. By January 31, 2017, local groundwater producers must establish or designate an entity (referred to as a groundwater sustainability agency, or "GSA"), subject to DWR's approval, to manage each high and medium priority groundwater basin. The SGMA specifically calls for OCWD, which regulates the Orange County groundwater basin, to serve as the GSA for such basin.

5. ☐ This Water Supply Assessment is being completed for a project included in a prior water supply assessment. Check all of the following that

[15] OCWD has adopted a basin production percentage of 70% for 2015-16. In prior years OCWD has maintained a basin production percentage that is higher than the current percentage, and IRWD anticipates that such reductions may occur from time to time as a temporary measure employed by OCWD to encourage lower pumping levels as OCWD implements other measures to reduce the current accumulated overdraft in the Basin. Any such reductions are not expected to affect any of IRWD's currently available groundwater supplies listed in this assessment, which are subject to a contractually-set equivalent basin production percentage as described, or are exempt from the basin production percentage.

apply:

☐ Changes in the Project have substantially increased water demand.

☐ Changes in circumstances or conditions have substantially affected IRWD's ability to provide a sufficient water supply for the Project.

☐ Significant new information has become available which was not known and could not have been known at the date of the prior Water Supply Assessment.

6. References

Water Resources Master Plan, Irvine Ranch Water District, March, 2002 (supplemented January, 2004)

Section 15 of the Rules and Regulations – Water Conservation and Water Supply Shortage Program, Irvine Ranch Water District, February 2009

Water Shortage Contingency Plan, Irvine Ranch Water District, February 2009

2010 Urban Water Management Plan, Irvine Ranch Water District, June, 2011

Integrated Water Resources Plan Update, Metropolitan Water District of Southern California, July, 2004

Proposed Framework for Metropolitan Water District's Delta Action Plan, Metropolitan Water District of Southern California, May 8, 2007

Board Information Report, Metropolitan Water District of Southern California, October 9, 2007

2007 IRP Implementation Report, Metropolitan Water District of Southern California, October, 2007

2010 Integrated Resources Plan Update, Metropolitan Water District of Southern California, October 2010

Regional Urban Water Management Plan, Metropolitan Water District of Southern California, November 2010

Master Plan Report, Orange County Water District, April, 1999

Groundwater Management Plan, Orange County Water District, March, 2004

Final Draft Long-Term Facilities Plan, Orange County Water District, January 2006

Long-Term Facilities Plan 2014 Update, Orange County Water District, November 2014

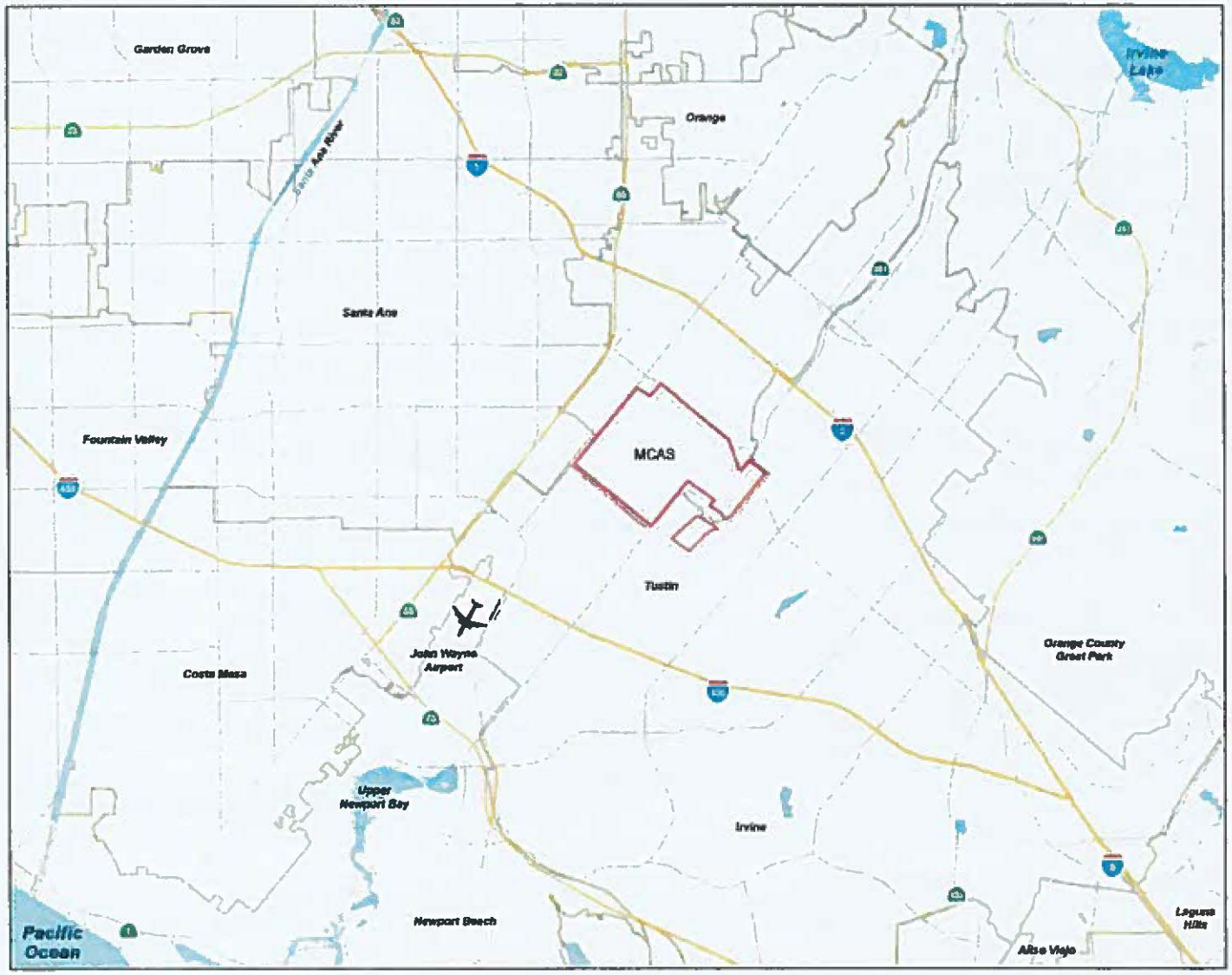
2013-2014 Engineer's Report on Groundwater Conditions, Water Supply and Basin Utilization in

the Orange County Water District, Orange County Water District, February 2015

Progress on Incorporating Climate Change into Management of California's Water Resources, California Department of Water Resources, July 2006

Exhibit A

Depiction of Project Area



Local Vicinity

MCAS Boundary

CITY OF TUSTIN
TUSTIN LEGACY SPECIFIC PLAN

TUS 11-3
9/8/2014

0 1
Scale (Miles)

PLACEWORKS



3. Project Description
Figure 4

Proposed Land Use Plan

CITY OF TUSTIN
TUSTIN LEGACY SPECIFIC PLAN
INITIAL STUDY

Exhibit B

Uses Included in Project

Department of Public Works
Douglas S. Stack, P.E.
Director

April 16, 2015

Ms. Kelly Lew, P.E.
Principal Engineer, Development & Inspection Services
Irvine Ranch Water District
15600 Sand Canyon Avenue
P.O. Box 57000
Irvine, CA 92619-7000

Re: Request for Water Supply Availability Assessment for Tustin Legacy Specific Plan Amendment located in the City of Tustin, California

Dear Ms. Lew,

The City of Tustin hereby requests an assessment of water supply availability for the below-described project in accordance with Water Code §10910 et seq. The City has determined that the project is a "project" as defined in Water Code §10912, and has determined that a supplemental environmental impact report is required for the project.

Proposed Project Information

Project Title: Tustin Legacy Specific Plan Amendment

Location of Project: The Tustin Legacy Specific Plan (former MCAS Tustin) is generally bounded by Red Hill Avenue on the west, Edinger Avenue on the north, Harvard Avenue on the east, and Barranca Parkway on the south. Jamboree Road transects the site.

☒ (For projects requiring a new assessment under Water Code §10910 (h).) Previous Water Supply Assessment including this project was prepared on: N/A. This application requests a new Water Supply Assessment, due to the following (check all that apply):

☒ Changes in the project have substantially increased water demand

☐ Changes in circumstances or conditions have substantially affected IRWD's ability to provide a sufficient water supply for the project

☐ Significant new information has become available which was not known and could not have been known at the date of the prior Water Supply Assessment

(Enclose maps and exhibits of the project)

Type of Development:

Plus 3 TU density bonus units included in total but not previously accounted for

☒ Residential: No. of dwelling units: 2,212 additional units (7,183 units total)
☒ Shopping center or business: No. of employees N/A Sq. ft. of floor space Reduction of 1,755,306 square feet (9,532,419 square feet total)
☐ Commercial office: No. of employees N/A Sq. ft. of floor space N/A
☐ Hotel or motel: No. of rooms N/A
☐ Industrial, manufacturing, processing or industrial park: No. of employees N/A No. of acres N/A Sq. ft. of floor space N/A
☒ Mixed use (check and complete all above that apply)
☐ Other: N/A

Total acreage of project: 1,606-acre project area includes 1,511 acres in Tustin and approximately 95 acres in Irvine

Acreage devoted to landscape:
greenbelt N/A golf course N/A parks 170 acres
agriculture N/A other landscaped areas N/A

Number of schools: two elementary schools and one high school in TUSD

Number of public facilities: five

Other factors or uses that would affect the quantity of water needed, such as peak flow requirements or potential uses to be added to the project to reduce or mitigate environmental impacts: None

What is the current land use of the area subject to a land use change under the project?
The Tustin Legacy Specific Plan area contains existing residential, commercial, and institutional development and vacant land.

Is the project included in the existing General Plan? Yes
If no, describe the existing General Plan Designation. N/A

The City acknowledges that IRWD's assessment will be based on the information hereby provided to IRWD concerning the project. If it is necessary for corrected or additional information to be submitted to enable IRWD to complete the assessment, the request will be considered incomplete until IRWD's receipt of the corrected or additional information. If the project, circumstances or conditions change or new information becomes available after the issuance of a Water Supply Assessment, the Water Supply Assessment may no longer be valid. The City will request a new Water Supply Assessment if it determines that one is required.

The City acknowledges that the Water Supply Assessment shall not constitute a "will- serve" or in any way entitle the project applicant to service or to any right, priority or allocation in any supply, capacity or facility, and that the issuance of the Water Supply Assessment shall not affect IRWD's obligation to provide service to its existing customers or any potential future customers including the project applicant. In order to receive service, the project applicant shall be required to file a completed Application(s) for Service and Agreement with the Irvine Ranch Water District on IRWD's forms, together with all fees and charges, plans and specifications, bonds and conveyance of necessary easements, and meet all other requirement as specified therein.

City of Tustin

By: _____
Ken Nishikawa,
Deputy Director of Public Works/Engineering

REQUEST RECEIVED: and approved.

Date: April 17, 2015

By: _____
Irvine Ranch Water District

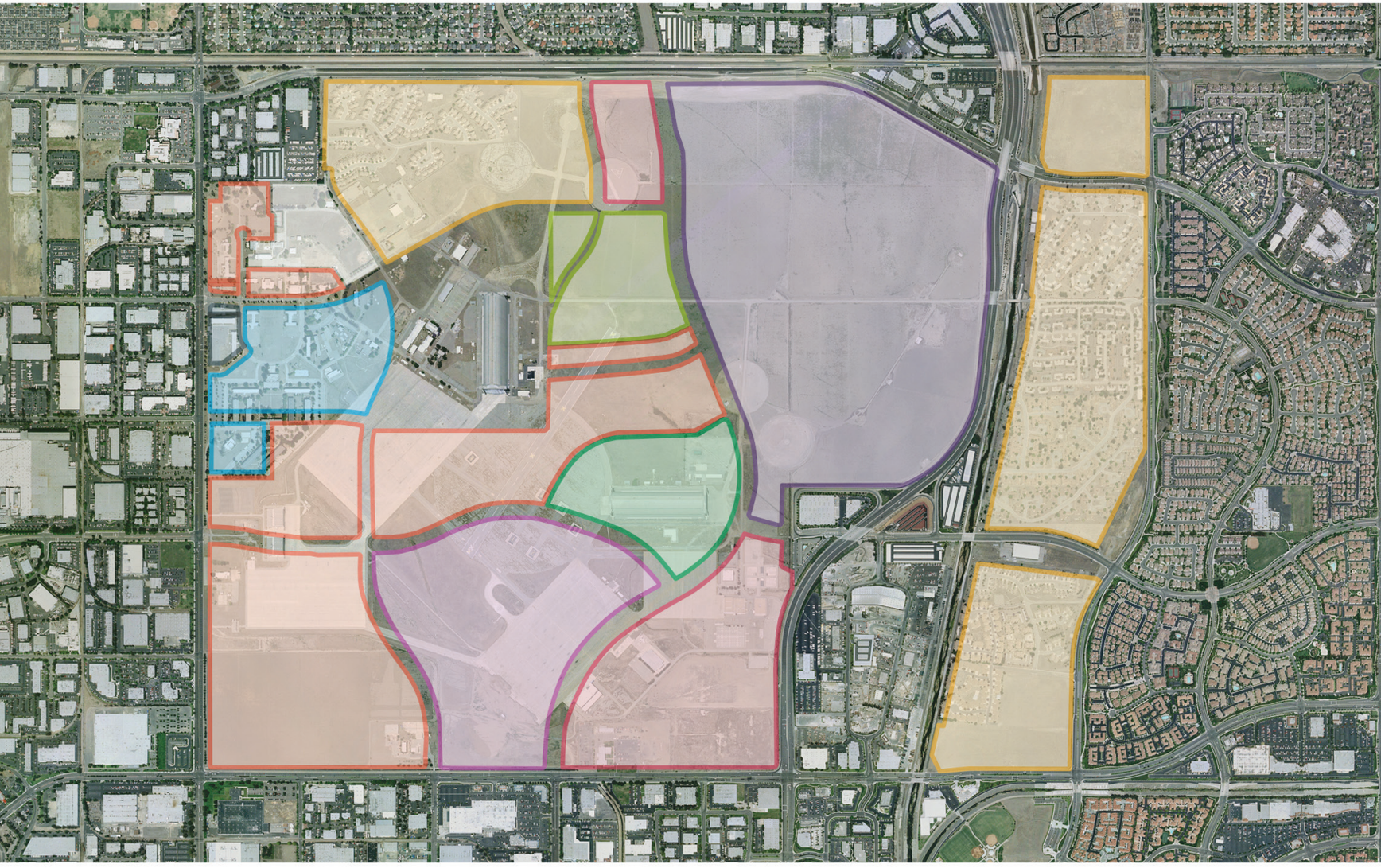
Appendix G Sub Area Master Plan

Appendices

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Irvine Ranch
WATER DISTRICT

Tustin Legacy
SUB AREA MASTER PLAN UPDATE



Michael Baker
INTERNATIONAL

Tustin Legacy Specific Plan Amendment
SUB AREA MASTER PLAN

Project Number 148275

Prepared for:
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Prepared by:
Michael Baker International
14725 Alton Parkway
Irvine, CA 92618

March 16, 2017

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Acronyms and Abbreviations

AATS – Armstrong Avenue Trunk Sewer
Ac – Acre
AMSL, amsl – Above Mean Sea Level
ATEP – Advanced Technology and Education Park
Bldg – Building
cfs – Cubic Feet per Second
City – City of Tustin
Comm. – Community
CO – Carve Out Area
CSD – County Sanitation District
DA – Disposition Area
District – Irvine Ranch Water District
DU, du – Dwellling Unit
FF – Fire Flow
fps, ft/s – Feet per Second
ft – Feet
gpd – Gallons per Day
gpm – Gallons per Minute
HATS – Harvard Avenue Trunk Sewer
HGL – Hydraulic Grade Line
HWL – High Water Level
IRWD – Irvine Ranch Water District
IS – Initial Study
ksf – One-Thousand Square Feet
LF – Linear Feet
LIFOC – Lease in Furtherance of Conveyance
MCAS – Marine Corps Air Station
MFR, MF Residential – Multi-Family Residential
MGD, mgd – Million Gallons per Day
MS4 – Municipal Separate Storm Sewer System
MU – Mixed Use
MWRP – Michaelson Water Reclamation Plant\
NPDES – National Pollution Discharge Elimination System

Acronyms and Abbreviations (cont.)

NTS – Natural Treatment System
OCSD – Orange County Sanitation District
PA – Planning Area
PLC – Programmable Logic Controller
por. - Portion
PRV – Pressure Reducing Station/Valve
psi – Pounds per Square Inch
Res - Residential
R&D – Research & Development
SAMP – Sub Area Master Plan
SCSMP – Sewer Collection System Master Plan
SF – Square Feet
SFR, SF Residential – Single Family Residential
SOCCCD – South Orange County Community College District
TLSP – Tustin Legacy Specific Plan
TMDL – Total Maximum Daily Load
TO – Transit Oriented
TRR – Tustin Ranch Road
TUSD – Tustin Unified School District
TTM – Tentative Tract Map
UFC – Uniform Fire Code
VOC – Volatile Organic Compound
WQT – Water Quality Treatment
WQMP – Water Quality Management Plan
WRMP – Water Resources Master Plan

EXECUTIVE SUMMARY

Introduction and Land Use

The MCAS Tustin Specific Plan was adopted by City Council in 2003 (Ordinance 1257), establishing the zoning designation, development standards, and entitlement framework for future development of Tustin Legacy within the City of Tustin. Since that time, the City has taken ownership of the Legacy Park portion of the MCAS Tustin Legacy Specific Plan area comprising "Disposition Areas", and includes most of the remaining undeveloped land within the MCAS Tustin Specific Plan. Specific Plan areas outside of City ownership include much of the currently developed areas, such as Education Village (PA-1), Community Park (PA-2), Transitional/Emergency Housing (PA-3), Columbus Square (PA-4 and PA-5, Tract 16581), Urban Regional Park (PA-6), The District (PA-16 through PA-19, Parcel Map 2003-41), Tustin Field I and Tustin Field II (PA-20, Tracts 16474 and 16507), Columbus Grove – Tustin (PA-21, Tract 16582), and Columbus Grove – Irvine (PA-22, Tract 16580).

In 2013, a General Plan Amendment, Specific Plan Amendment, and Development Agreement were finalized, as well as an agreement to exchange 22 acres of property between the City of Tustin and the South Orange County Community College District (SOCCCD), and the extension of Victory Avenue (Formerly 'Bell') into Planning Area 1 at the northwest end of the project boundary is now proposed as part of the project study area known as the Tustin Legacy Specific Plan. The overarching goal of the Specific Plan Amendment is to reposition the City's remaining undeveloped lands within the project site in light of current and future market conditions in residential, office, and commercial development; changing demographics and consumer preferences in the Orange County market; and new opportunities to attract uses and create places that will benefit the greater Tustin community.

The Tustin Legacy Specific Plan (TLSP) is located in an urbanized area in the southern portion of the City of Tustin and the northwest portion of the City of Irvine in Orange County, California. It covers a total area of 1,606 acres, including 1,511 acres in Tustin and approximately 95 acres in Irvine. The major roadways that border the site are Red Hill Avenue on the northwest side, Edinger Avenue on the northeast side, Harvard Avenue to the southeast, and Barranca Parkway to the southwest. The "Disposition Areas" of Legacy Park replace the "Neighborhoods" that guided the redevelopment plan under previous (private) ownership of Legacy Park, which was also the basis of IRWD's 2008 Revised SAMP. The Disposition Areas define Legacy Park, and are cross-referenced as follows:

Neighborhood "B" = Disposition Area 1C

Neighborhood "D/North" (and High School) = Disposition Area 7B (and High School)

Neighborhood "D/South" = Disposition Areas 2A, 2B, 2C and 8

Neighborhood "E" = Disposition Areas 4 and 5

Neighborhood "G" = Disposition Areas 1A (north), 1A (south), 1B, 6A, 6B, and 7A

Existing development within the Specific Plan area and the City of Tustin consists of The District regional shopping center; institutional uses including Heritage School, law enforcement

training, an Army Reserve Center, transitional housing and emergency shelter facilities, SOCCCD's first phase of the Advanced Technology & Education Park (ATEP), and the Irvine Unified School District's Creekside Education Center, administration facilities, and the Creekside High School and Irvine Adult School. Approximately 867 acres of the Specific Plan area are vacant or contain unoccupied buildings from the former Marine Corps Air Station (MCAS).

The Disposition Areas of Legacy Park include the vast majority of the undeveloped area within the TLSP. The proposed land uses of undeveloped area outside of Legacy Park remain unchanged but are carried through for this SAMP Update. The following planning areas, and proposed land uses, are cross-referenced with the City's Disposition Areas:

- **Planning Area 7 (not part of Initial Study, but within Disposition Area).**

  Commercial

- **Planning Area 8 (Disposition Areas 3, 7B, and HS).**

  Recreation/entertainment Core, including Linear Park, hotel, commercial retail, commercial entertainment, public recreation, TUSD high school, and mixed-use with commercial retail, service commercial retail, service, and/or office uses.

- **Planning Area 9-12 (Disposition Areas 4 and 5).**

  Commercial/Business and Linear Park

- **Planning Area 13-14 (Disposition Areas 2A, 2B, 2C, and 8)**.

  Mixed-Use Urban, residential, commercial/business, and Linear Park

- **Planning Area 15 (Disposition Areas 1AN, 1AS, 1B, 6A, 6B, and 7A)**.

  Transit-oriented Mixed-Use, including residential, office, commercial, retail, linear park, and a senior community with congregate care facilities. *It should be noted that the various land uses are not yet delineated; therefore, the SAMP Update utilizes a conservative approach to water demand and sewerage flow loadings. Any final land use configuration deemed not within the assumptions used for this analysis would warrant an addendum to this SAMP Update.*

Potable Water System

The City of Tustin has indicated that all candidate indoor uses for toilet flushing in non-residential buildings, pursuant to current IRWD standards of serving non-potable water for in-door uses, will be dual-plumbed for non-potable water service. Based on discussions with IRWD, the SAMP Update assumes 75 percent of all non-residential in-door water demand is proposed to be served with non-potable water.

For the purposes of the SAMP Update, analysis of the potable and non-potable water systems includes 'standard' and 'sensitivity'. 'Standard' is based on all in-door water demands, including non-residential structures, served by the potable water system. 'Sensitivity' analysis is based on in-door toilet-flushing water demands for non-residential structures on the non-potable

water system. **Table ES-1** summarizes the TLSP dwelling units and non-residential building area, and estimated total non-irrigation water demand for the Tustin Legacy Specific Plan study area.

Table ES-1
Total Non-Irrigation Water Demand

Item	Units	Average	Max-day
Dwelling Units	7,190 DUs	-	-
Non-residential Bldg Area	9,678,139 sf	-	-
Non-Irrigation Water Demand from Potable Water	-	1.938 MGD	4.360 MGD
Non-Irrigation Water Demand from Non-potable Water	-	0.511 MGD	1.149 MGD
Total Non-Irrigation Water Demand	**-**	**2.448 MGD**	**5.509 MGD**

The District's multiple potable water sources include pumping directly from the groundwater basin and importation sources to Zone I, and serve the entire TLSP service area.

The ultimate backbone potable water distribution system proposed for the TLSP service area is based on a computer hydraulic model simulation. Most of the on-site backbone system has been constructed to date. The ultimate distribution system proposes to add service pipelines within Planning Areas 8, 9-12, 13-14, and 15A, which will also provide additional looping that will enhance system reliability and maximize capacity of the potable water system.

Development phasing is not known at this time. Possible phasing of development could create interim operating conditions serving increased demands without full circulation. Future development includes the vast majority of the City's Disposition Areas, with separate major regions requiring water facilities that could impact system capacity depending on development timing. Through meetings and coordination with IRWD, and for the purposes of the SAMP Update, "Stages" of water system operation were assumed as a conservative approach for potential interim system operation that could be critical prior to buildout of TLSP. This is particularly necessary for evaluating the potable water system and its fire flow capacity for the North and South blimp hangars. **Exhibit 2-1** illustrates the proposed ultimate system for serving the TLSP study area. Based on the analysis conducted for this SAMP Update, no off-site potable water system improvements are required.

The City is in the process of re-purposing the blimp hangars in consideration of their historic significance and the unique opportunities within the overall TLSP land use plan. The U.S. Navy currently owns the hangars and the water systems serving the structures. Recent condition assessments of the existing private system pipelines have shown the systems to be in disrepair and may be insufficient to provide the required fire flow. Required improvements for the District's system to provide the required fire flow to the point of connection with the private system at all stages of development are detailed in Section 2.3.2. The potential staged water systems are evaluated for the SAMP Update using the District's computer model.

Therefore, the potable water system operating "stages" are summarized as follows in **Table ES-2**. Note that Stage 3 is an alternative phasing condition to Stage 2, and that both Stage 2 and 3 represent a different sequencing of future construction.

Table ES-2
TLSP Potable Water System Operating Stages

Development Phase	Specific Areas	Operating Stage
Existing	PA 1 (por.), PA 3, PA 4-5, PA 7, PA 13-14 (por.), Cornerstone, PA 16-19, PA 15-B, PA 15-C, PA 20, PA 21 and PA 22	1
Near-Term	PA 1 remainder, PA 2, and PA 9-12 portion (Cornerstone)	
Future	High School, PA6, PA 8, PA 9-12 remainder only	2
	Future PAs EXCEPT High School, PA 6, PA 8, and PA 9-12 remainder	3

All stages of operation (Stage 1, 2, and 3) have sufficient capacity for meeting normal daily demands as well as fire flow demands based on proposed infrastructure sizing presented in this SAMP. **Exhibits 8-1, 8-2, and 8-3** illustrate the proposed system serving the TLSP study area for each stage of development. In the case of the north and south hangars, these results are based on simulation to the proposed point of connection from the District's potable water system to private fire system connections. A hydraulic analysis shows the District's system is capable of delivering 8,000 gpm to each hangar with a residual pressure greater than 20 psi at the connections points to the private system. A hydraulic analysis was not performed for the private system itself.

It is recommended that the Department of the Navy coordinate with IRWD on the design and construction of new private fire connections (refer to Section 2.3.2 for details) and evaluate if any private improvements are needed to achieve a minimum residual pressure of 20 psi at private hydrants serving the north and south hangars.

These stages of water system operation have been established based on foreseeable worst-case development phasing. If actual development phasing could pose additional operating constraints not foreseen here, then an addendum to the SAMP Update may be required.

Wastewater Collection System

The majority of the on-site flows will be served by the Armstrong Avenue Trunk Sewer system, including all of the City's Disposition Areas. On-site drainage basins further subdivide the Armstrong Avenue sewershed within TLSP into six basins:

1. Tustin Ranch Road North
2. Tustin Ranch Road Central

3. Tustin Ranch Road South
4. Armstrong North
5. Armstrong East
6. Armstrong West

A peak flow for each drainage basin was estimated using the pertinent peaking factor for each at any given time of day. Based on the given diurnal flow variations in the hydraulic model, residential land uses peak at 08:00, and non-residential uses peak at 12:00. Peak flow for each drainage basin, and corresponding time of day, is summarized in **Table ES-3**.

Table ES-3
Summary of Peak Wastewater Flows

Drainage Basin	Peak Flow		
Armstrong North	561	gpm	@12:00
Tustin Ranch Road North	333	gpm	@12:00
Tustin Ranch Road Central	845	gpm	@ 08:00
Tustin Ranch Road South	166	gpm	@12:00
Armstrong West	516	gpm	@ 08:00
Armstrong East	178	gpm	@12:00

The majority of the on-site sewer collection system's trunk facilities for the TLSP service area are constructed and in operation. Proposed development and roadway patterns are in the early planning stages for Planning Area 15A, as well as PA 8 and PA 13-14. The relatively flat topography of these future planning areas could result in multiple sewering options for these in-tract sewer systems in PAs, and provide the opportunity to optimize sewer flows through existing trunk sewer systems.

If unforeseen conditions require the collection of future flows in a manner inconsistent with the assumptions made for the SAMP Update, portions of this SAMP may require preparing a SAMP addendum to support the changes. In addition, interim flows may warrant regular flushing or other temporary method of maintenance or operation until natural flushing velocities are developed in the gravity-flow systems. The existing and proposed sewer collection facilities within the TLSP study area are shown in **Exhibit 3-3**. There are no off-site collection system improvements required.

Non-Potable Water System

In addition to serving public irrigation areas (parks, golf courses, slopes, road medians, etc.), the Irvine Ranch Water District, in coordination with Health Department officials and other regulatory jurisdictions, has established standards for serving non-potable water for in-building uses for toilet flushing and other approved uses for non-residential structures. As described above in *Potable Water System*, the SAMP Update includes analysis of the potable and non-potable water systems 'standard' and 'sensitivity' conditions. 'Standard' is based on non-

potable water service exclusively for irrigation demands. 'Sensitivity' analysis is based on the non-potable water system serving the additional daily water demands for non-residential in-door toilet-flushing.

The City of Tustin has requested that this SAMP Update consider all proposed structures planned for non-residential land uses within the TLSP study area to be dual-plumbed for both potable and non-potable water service. The non-residential indoor water demand for toilet-flushing is assumed at 75 percent. Adding this to the normal irrigation demands for the 'sensitivity' condition is the total non-potable water system loading used for SAMP Update analysis in order to determine the impacts the additional toilet-flushing water demands will have on the non-potable system. **Table ES-4** is a summary of the non-potable water demands.

Table ES-4
Non-Potable Water Demand

Non-Potable Water Demand	Average	Max-day	Peak hour
Landscape Irrigation Water Demands on Non-potable Water System	1,087,079 gpd	2,989,467 gpd	7,308 gpm
Commercial Buildings (Indoor dual plumbing served by Non-potable Water System)	510,668 gpd	1,149,004 gpd	1,396 gpm
Total	**1,597,747 gpd**	**4,138,471 gpd**	**7,308 gpm [1]**

[1] Irrigation and Commercial uses do not peak at the same time.

Construction phasing of Disposition Areas of TLSP is not known at this time. Interim operating conditions may exist for many years until ultimate buildout. Construction timing of regional looping within the study area, primarily proposed piping systems through Disposition Area 7A (formerly Planning Area 15-A) will impact interim system operation. Therefore, planned roadways through the proposed TUSD High School and Disposition Area 7B (formerly Planning Area 8) may be utilized for interim regional looping of the non-potable water system if high school construction precedes development of Disposition Area 7A. For the purposes of the SAMP Update this critical 'staging' of the non-potable water system is analyzed in order to understand how system sizing and configuration may need to dictate the ultimate distribution system. **Exhibit 4-2** illustrates the proposed ultimate on-site non-potable water system for serving the TLSP study area. There are no off-site non-potable water distribution system improvements required.

Interim operation of the non-potable water system is critical because there is a necessary, but unfinished (currently constructed through the intersection of Moffett Drive and Park Avenue) 16-inch segment of pipeline proposed to be aligned from Moffett Drive to Valencia Avenue through PA 15-A as shown in Section 4.0. Because this remaining regional circulating pipeline will benefit the entire region (TLSP and surrounding areas are served directly from the Zone A system), any City disposition area developed before PA 15-A will not have the benefit of the ultimate circulation.

As with the potable system interim analysis, without the regional transmission pipeline in place through PA 15-A, the TLSP non-potable water system capacity would be reduced as compared

to the ultimate configuration and is analyzed for the SAMP Update to determine if interim operation can meet District standards. Stage 1 and Stage 2, as identified in **Table ES-5**, were analyzed as part of the SAMP Update to determine if proposed non-potable pipe sizing is impacted by interim operation. Note that Stage 2 is a potential sequencing of future construction.

Table ES-5
TLSP Non-Potable Water System Operating Stages

Development Phase	Specific Areas	Operating Stage
Existing	PA 1 (por.), PA 3, PA 4-5, PA 7, PA 13-14 (por.), Cornerstone, PA 16-19, PA 15-B, PA 15-C, PA 20, PA 21 and PA 22	1
Near-Term	PA 1 remainder, PA 2, and PA 9-12 portion (Cornerstone)	
Potential next phase	High School (por.), PA6 (por.), PA 8 (por.), PA 9-12 remainder, PA 13-14 (por.) only	2

Table ES-6 summarizes the estimated Stage 1, Stage 2, and ultimate irrigation and in-door non-residential water demands for service from the non-potable water system.

Table ES-6
Non-Potable Water Demand by Stages

Stage	Average	Maximum-Day	Peak-hour
Stage 1 - Irrigation	639,764 gpd	1,759,350 gpd	4,301 gpm
Stage 2 - Irrigation	858,799 gpd	2,361,698 gpd	5,773 gpm
Ultimate - Irrigation	1,087,079 gpd	2,989,467 gpd	7,308 gpm
Stage 1 – In-door non-resid.	376,960 gpd	848,159 gpd	1,031 gpm
Stage 2 - In-door non-resid.	442,863 gpd	996,442 gpd	1,211 gpm
Ultimate - In-door non-resid.	510,668 gpd	1,149,004 gpd	1,396 gpm
Stage 1 - Total	1,016,723 gpd	2,607,509 gpd	- [1]
Stage 2 - Total	1,301,662 gpd	3,358,140 gpd	- [1]
Ultimate - Total	1,597,747 gpd	4,138,471 gpd	- [1]

[1] Irrigation and in-door uses do not occur at the same time; therefore peak would be less than total.

The proposed Stage 1 non-potable water system has sufficient capacity to meet the demands of Stage 1 if proposed pipelines are upsized as shown in Exhibit 8-5, specifically in the proposed

extension of Moffett Drive to Tustin Ranch Road, which is under construction. In this road extension, the analysis in this SAMP Update shows that it must be a 16-inch pipeline since PA 15-A is not developed.

The proposed Stage 2 non-potable water system has sufficient capacity to meet the demands of Stage 2 if proposed pipelines are upsized as shown in Exhibit 8-6, specifically the proposed circulating system through the TUSD High School and PA 8. These upsized pipelines are required without the benefit of the regional transmission system proposed through Planning Area 15-A.

These stages of non-potable water system operation have been established based on foreseeable worst-case development phasing. If actual development phasing could pose additional operating constraints not foreseen here, then an addendum to the SAMP Update may be required.

Natural Treatment System

The development is implementing WQT facilities which will serve a similar role to what the NTS Plan designated as "local" facilities. All of the current and planned WQT systems to be constructed as part of the TLSP planned communities are proposed to be designed and constructed to comply with MS4 permit requirements for new development activities and provide adequate water quality treatment. Compliance with local MS4 permit requires new developments to develop Water Quality Management Plans (WQMP) which prescribe WQT measures to be implemented throughout the development in order to mitigate the adverse impacts land development projects have on water quality.

Soil conditions within the development area have predominately poor infiltration capabilities. High ground water levels and historic soil and ground water contamination within the area are additional factors that won't allow for infiltration to take place. Due to these conditions each of the WQT systems are constructed with underdrains to allow for the treated runoff to discharge from the subsurface of the WQT system. The current and proposed on-site or local WQT systems to be implemented within the development are vegetated strips and swales, bioretention systems, and biofiltration planter boxes and basins. Both of their configurations would consist of a Type I Facility.

Additionally, located within the southeast corner of the development is a larger WQT system that is a Type III Facility, i.e. designed as a larger detention basin with a low flow water quality vegetated swale. The swale is located within the invert of the basin and will provide treatment similar to a Type I Facility. This Type III Facility serves as more of a regional basin within the development by attenuating and treating runoff from adjacent off-site streets as well as area within the TLSP Development.

Easements

All required IRWD pipelines or facilities outside of the public rights-of-way will require easements within the individual tracts or parcels. It is understood that easements for all IRWD maintained facilities will be required in accordance with IRWD criteria. Where a proposed easement is required over private roads or driveways for more than one property, a separate

permanent easement will be necessary from each property owner. Temporary construction easements may also be required for construction of water or sewer facilities, depending on construction needs and timing.

For most of the unimproved planning areas within the TLSP study area, there is not enough information available to determine where all easements will be required. However, it is currently known that the ATEP/Education Village outside of Victory Road as well as Flight at Tustin Legacy will both be privately owned and all IRWD facilities in those areas will require permanent easements. Furthermore, easements for proposed facilities within the Department of the Navy Carve-Out areas will be subject to the LIFOC agreement as described in Appendix F.

Telemetry

There are no water or sewer facilities identified in this SAMP Update that require monitoring or communication through the District's SCADA system. Therefore, no telemetry improvements are proposed for the TLSP study area. However, temporary or other unforeseen circumstances may call for such signal sites for data collection. If warranted, the design engineer will be required to apply to the City of Tustin for electrical utility service addresses for any necessary telemetry panels. The latest updates to the IRWD Construction Manual Standard Drawing E-series would be the source for telemetry standards and requirements for any such facility.

Phasing and Construction Schedule

Known construction phasing at this time is based on that which is existing or currently under construction (*existing*); those planning areas which are mostly outside the City of Tustin's purview and currently in some phase of the design process, and have begun submitting preliminary site designs for City and/or IRWD review (*near-term*); and the Disposition Areas under City purview that have completed planning concepts but have yet to begin the site design process (*future*). **Table ES-7** is a summary of the general development phasing the SAMP Update is based on:

Table ES-7
TLSP Construction Phasing

Construction Phase	Planning Areas
Existing	PA 1 (por.), PA 3, PA 4-5, PA 7, PA 13-14 (por.), Cornerstone, PA 16-19, PA 15-B, PA 15-C, PA 20, PA 21 and PA 22
Near-Term	PA 1 remainder, PA 2 and PA 9-12 por. (Cornerstone)
Future	High School, PA 6, PA 8, PA 9-12 remainder, PA 13-14 remainder, PA 15 remainder

The specific "staging" of water system construction is based on the assumed development phasing and represents foreseeable critical operating conditions for each of the water systems planned within the SAMP Update. These are described in the pertinent sections above and detailed in Section 8.0.

Cost Analysis

Total project costs are detailed in Section 9.0 and summarized in **Table ES-8** below.

Table ES-8
Summary of Project Costs

Proposed Backbone System	Total Estimated Project Cost	Estimated Capital Facilities	Estimated Developer Facilities
Potable Water System	$ 2,969,000	$ 1,090,500	$ 1,878,500
Non-Potable Water System	$ 2,052,000	$ 1,592,000	$ 460,000
Sewer Collection System	$ 1,284,000	$ 66,000	$ 1,218,000
Subtotal Construction	**$ 6,305,000**	**$ 2,748,500**	**$ 3,556,500**
Technical Services, Engineering, Contingencies (50%)	$ 3,153,000	$ 1,375,000	$ 1,779,000
Total Cost	**$ 9,458,000**	**$ 4,123,500**	**$ 5,335,500**

SECTION 1.0 INTRODUCTION and LAND USE

1.1 Background

Development of the MCAS Tustin was initiated in 1942 to support U.S. Navy lighter-than-air aircraft (blimps) used to conduct anti-submarine patrol off the California coast during World War II. The MCAS Tustin was selected for closure as a result of the Defense Base Closure and Realignment Act of 1991 (Base Closure Law). Closure date for the facility was effective July 1, 1999. In accordance with the Base Closure Law, the City of Tustin (City) was designated as the lead agency for preparation of a Reuse Plan for MCAS Tustin in order to facilitate base closure. The MCAS Tustin Reuse Plan was originally developed and adopted by the Tustin City Council in 1996, and amended in 1998. In support of the Reuse Plan, the Marine Corps Air Facility Tustin Redevelopment Sub Area Master Plan (1999 SAMP) was prepared by Daniel Boyle Engineering (DBE) to address potable water, non-potable water, and sewer infrastructure requirements.

In 2001, the City of Tustin adopted a General Plan land use designation (MCAS Tustin Specific Plan) for the "Legacy Park", which was that portion of the former MCAS Tustin facility within the City of Tustin. Subsequently, the MCAS Tustin Specific Plan was adopted by City Council in 2003 (Ordinance 1257), establishing the zoning designation, development standards, and entitlement framework for future development of Tustin Legacy within the City of Tustin.

Since that time, the City has taken ownership of the Legacy Park portion of the MCAS Tustin Legacy Specific Plan area comprising "Disposition Areas", and includes most of the remaining undeveloped land within the MCAS Tustin Specific Plan. Specific Plan areas outside of City ownership include much of the currently developed areas, such as Education Village (PA-1), Community Park (PA-2), Transitional/Emergency Housing (PA-3), Columbus Square (PA-4 and PA-5, Tract 16581), Urban Regional Park (PA-6), The District (PA-16 through PA-19, Parcel Map 2003-41), Tustin Field I and Tustin Field II (PA-20, Tracts 16474 and 16507), Columbus Grove – Tustin (PA-21, Tract 16582), and Columbus Grove – Irvine (PA-22, Tract 16580).

In 2006, the City certified the MCAS Tustin Zone Change. The resulting Disposition and Development Agreement and specific plan amendment was made to facilitate the sale, leasing and development of the MCAS Tustin Specific Plan. The Irvine Ranch Water District (IRWD) finalized a Revised Sub Area Master Plan for domestic water, wastewater and non-domestic water systems for the MCAS Tustin/Legacy Park in April 2008. The Revised SAMP underwent two subsequent addendums -- in September 2008 and January 2013. In 2013, a General Plan Amendment, Specific Plan Amendment, and Development Agreement were finalized, as well as an agreement to exchange 22 acres of property between the City of Tustin and the South Orange County Community College District (SOCCCD), and the extension of Victory Avenue (Formerly 'Bell') into Planning Area 1 at the northwest end of the project boundary is now proposed as part of the project study area known as the Tustin Legacy Specific Plan.

1.2 Current Specific Plan

The overall project area was amended in early 2015 and, for the purposes of this SAMP Update, referred to as the Tustin Legacy Specific Plan. The purpose of the 2015 Specific Plan Amendment was to provide comprehensive direction, i.e. revisions to development regulations, design guidance, and implementation of open space, circulation, and other infrastructure for the remaining undeveloped project area within the specific plan currently owned by the City of Tustin, while implementing the goals and policies of the City of Tustin General Plan. The overarching goal of the Specific Plan Amendment is to reposition the City's remaining undeveloped lands within the project site in light of current and future market conditions in residential, office, and commercial development; changing demographics and consumer preferences in the Orange County market; and new opportunities to attract uses and create places that will benefit the greater Tustin community.

1.3 Project Location

The Tustin Legacy Specific Plan (former MCAS Tustin) is located in an urbanized area in the southern portion of the City of Tustin and the northwest portion of the City of Irvine in Orange County, California, as shown in **Exhibit 1-1**. The site vicinity within the Irvine Ranch Water District is shown in **Exhibit 1-2**. The former MCAS Tustin facility covers a total area of 1,606 acres, including 1,511 acres in Tustin and approximately 95 acres in Irvine. The major roadways that border the site are Red Hill Avenue on the northwest side, Edinger Avenue on the northeast side, Harvard Avenue to the southeast, and Barranca Parkway to the southwest, as shown in **Exhibit 1-3**. Jamboree Road transects the site providing direct access to State Route 261 (SR-261). The "Disposition Areas" of Legacy Park replace the "Neighborhoods" that guided the redevelopment plan under previous (private) ownership of Legacy Park, which was also the basis of IRWD's 2008 Revised SAMP. The Disposition Areas define Legacy Park, as shown in **Exhibit 1-4**, and are cross-referenced as follows:

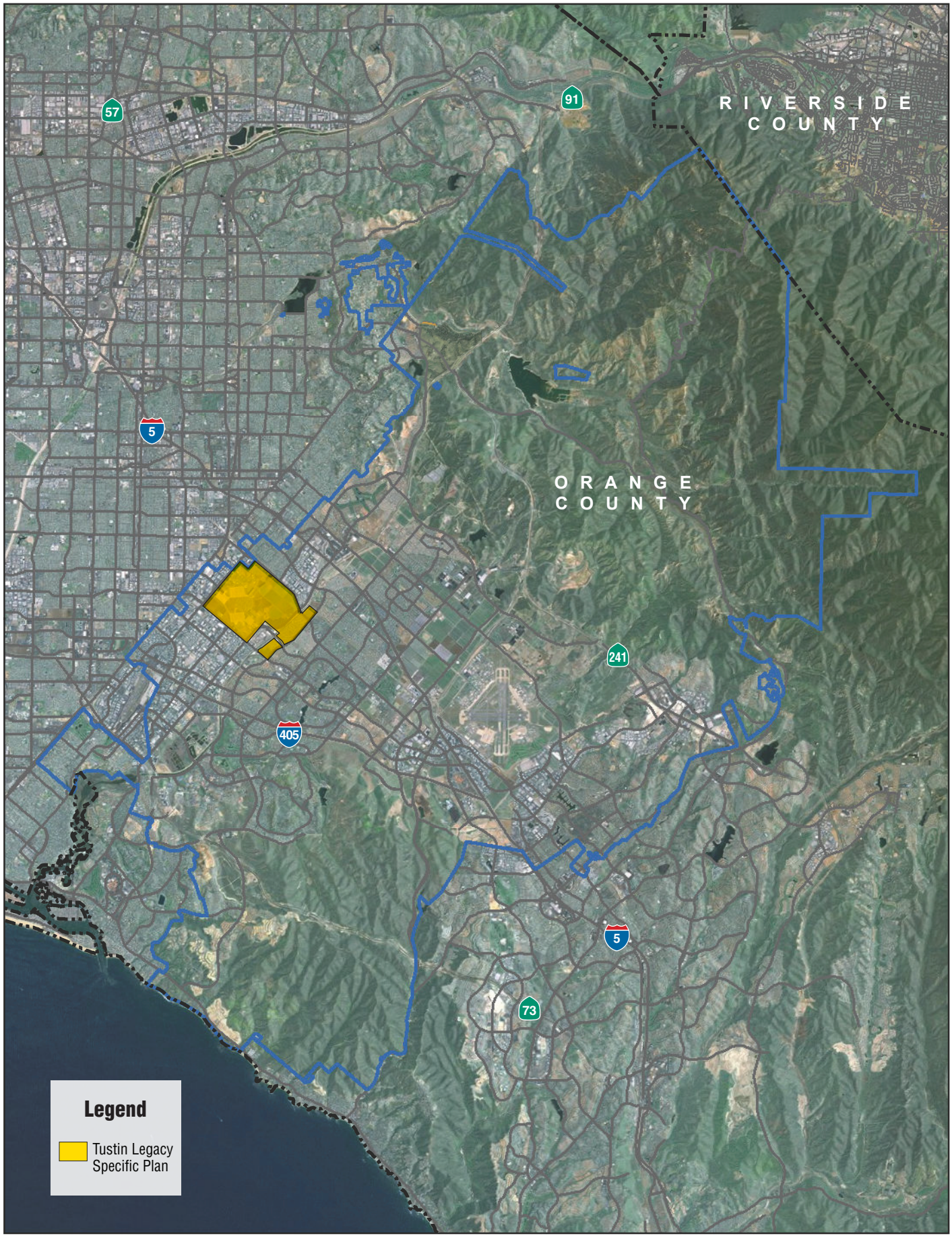
Neighborhood "B" = Disposition Area 1C

Neighborhood "D/North" (and High School) = Disposition Area 7B (and High School)

Neighborhood "D/South" = Disposition Areas 2A, 2B, 2C and 8

Neighborhood "E" = Disposition Areas 4 and 5

Neighborhood "G" = Disposition Areas 1A(north), 1A(south), 1B, 6A, 6B, and 7A



Source: IRWD, County of Orange, ArcGIS Online

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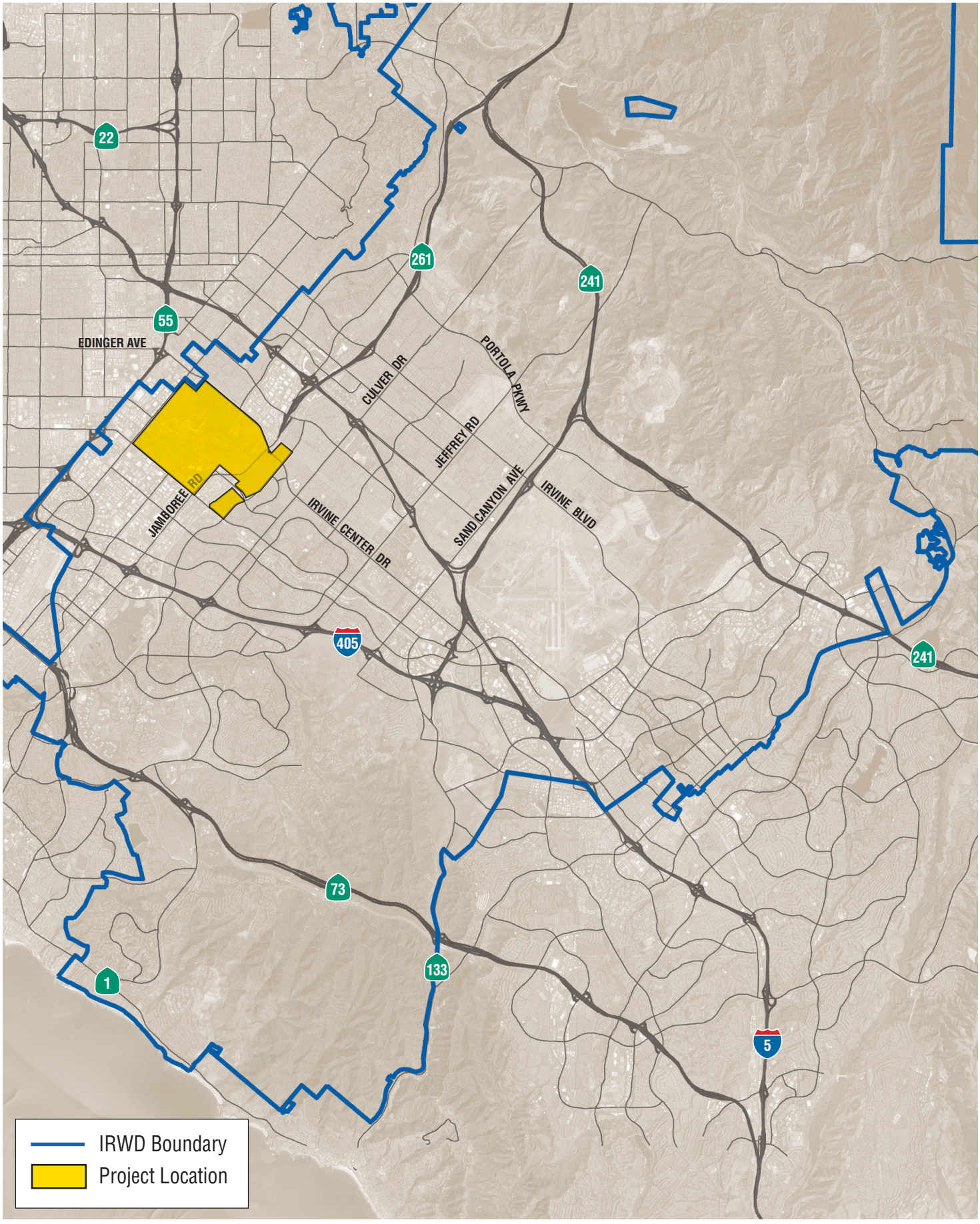
0 7,500 15,000 30,000 Feet

03/01/17 JN148275-21408 MAS

IRVINE RANCH WATER DISTRICT
TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Regional Location Map

Exhibit 1-1



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NOT TO SCALE

IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Site Vicinity Map

05/20/16 JN148275-21408 MAS

Exhibit 1-2



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0 450' 900'

08/03/16 JN148275-21408 MAS-SD

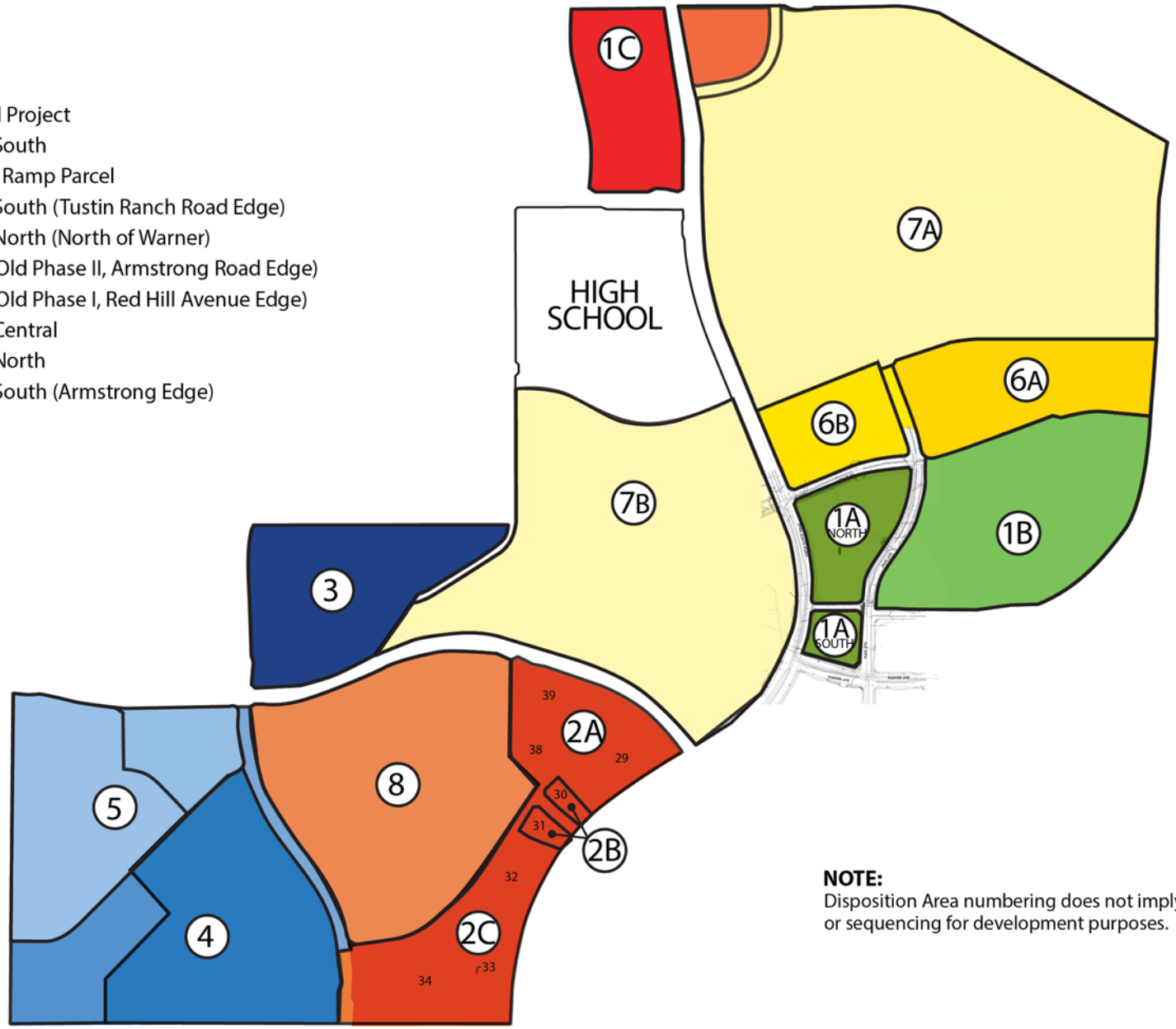
IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Proposed Land Use Plan

Exhibit 1-3

Disposition Areas

1A Tustin Ranch Road Project
1B Neighborhood G South
1C Neighborhood B / Ramp Parcel
2 Neighborhood D South (Tustin Ranch Road Edge)
3 Neighborhood D North (North of Warner)
4 Neighborhood E (Old Phase II, Armstrong Road Edge)
5 Neighborhood E (Old Phase I, Red Hill Avenue Edge)
6 Neighborhood G Central
7 Neighborhood G North
8 Neighborhood D South (Armstrong Edge)



NOTE:
Disposition Area numbering does not imply phasing or sequencing for development purposes.

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0 600' 1200'
APPROXIMATE

08/10/16 JN148275-21408 MAS-SD

IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Disposition Area Index Map

Exhibit 1-4

I.4 Completed Development and Land Use Plan

Much development construction has been completed pursuant to the 2006 Addendum, and 2008 Revised Sub Area Master Plan. In 2011, the City of Tustin developed a Disposition Strategy as a recommended framework for future development in the Project area. Most recently, the City used the Strategy to facilitate three projects in the area with The Irvine Company, Saint Anton, and Standard Pacific, resulting in the development of market rate and affordable apartments.

The Tustin Legacy Specific Plan area contains existing residential, commercial, and institutional development and vacant land. Existing residential development consists of four neighborhoods —Tustin Field, Columbus Square, Columbus Grove Tustin, and Columbus Grove Irvine. These neighborhoods were built during the last decade and along with the new projects will total 3,114 units which include a wide range of single-family and multi-family housing types (409 units in Irvine and 2,705 in Tustin) with recreation facilities and parkland. The new residential projects that were recently completed or are currently under construction within the Specific Plan area will total approximately 915 affordable for-rent attached dwelling units, and 375 for-sale single-family dwelling units.

Existing commercial development within the Specific Plan area and the City of Tustin consists of The District, which is a large regional shopping center with over 75 businesses for products and services. Existing institutional uses with a total building area of approximately 450,825 square feet include Heritage School, law enforcement training, an Army Reserve Center, transitional housing and emergency shelter facilities, and SOCCCD's first phase of the Advanced Technology & Education Park (ATEP). In the City of Irvine, the Irvine Unified School District has completed construction of the Creekside Education Center. Approximately eight acres of the 20-acre site have been developed on the site with administration facilities, Creekside High School, and Irvine Adult School. Approximately 867 acres of the Specific Plan area are vacant or contain unoccupied buildings from the former Marine Corps Air Station (MCAS). **Exhibit 1-5** illustrates the construction status (as of March 2017) of Tustin Legacy Specific Plan study area.

The Disposition Areas of Legacy Park include the vast majority of the undeveloped area within the MCAS Tustin Legacy Specific Plan. The proposed land uses of undeveloped area outside of Legacy Park remain unchanged but are carried through for this SAMP Update. The Initial Study for TLSP divided the study area into 14 segments. Legacy Park encompasses segments 7 through 19. The IS further defines "Planning Areas" based on these segments (except for segment 7), or combinations thereof. The following outlines the Planning Areas of Legacy Park:

- **Planning Area 7 (not part of Initial Study, but within Disposition Area).** This planning area was not analyzed as part of the Initial Study because its proposed land uses have not changed. The proposed land uses remain Commercial proposed with 248,292 square feet.



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0 450' 900'

03/01/17 JN148275-21408 MAS

IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Construction Status

Exhibit 1-5

- **Planning Area 8 (Disposition Areas 3, 7B, and HS).** This Planning Area would comprise 190 acres of the project area. The land use designation Recreation/entertainment Core would apply to this area, providing flexibility for a range of uses, including hotel, commercial retail, commercial entertainment, public recreation, and a high school. Mixed-use development configurations would be permitted for commercial retail, service commercial retail, service, and/or office uses. A maximum of 1,643,010 square feet would be developed in Planning Area 8. This area would also contain a connecting portion of the Linear Park. Tustin Unified School district requires a 40-acre portion of the planning Area for a high school.
- **Planning Area 9-12 (Disposition Areas 4 and 5).** Planning Area 9-12 would comprise 117 acres of the project area. Ninety-four acres of the site would be designated as Commercial/Business use with a maximum of 1,588,198 of developable building square footage. An entrance to the Linear Park from Barranca Parkway would be provided in this Planning Area.
- **Planning Area 13-14 (Disposition Areas 2A, 2B, 2C, and 8)**. This Planning Area would comprise 124 acres of the project area. A land use designation of Mixed-Use Urban allows for a variety of residential and commercial/business uses on 117 acres. A maximum of 1,672 plus 157 density bonus units for a total of 1,829 dwelling units and 606,000 square feet would be developed in Planning Area 13-14. This includes a 533-unit multifamily residential project that was recently completed. The Linear Park in this Planning Area would connect adjacent sections of the Linear Park in Planning Areas 8 and 9-12.
- **Planning Area 15 (Disposition Areas 1AN, 1AS, 1B, 6A, 6B, and 7A)**. Planning Area 15 would comprise 271 acres of the project area. This Planning Area would consist of 184 acres of Mixed-Used Transit-oriented development and 86 acres of residential use. A maximum of 2,814 plus 33 density bonus units for a total of 2,847 dwelling units and 1,095,200 square feet would be developed in Planning Area 15. The Mixed-Used Transit designation provides flexibility for residential, office commercial retail, and commercial service uses in a vertical or horizontal configuration. This Planning area would also contain a portion of the Linear Park. This area includes a senior community, a 375-unit single-family residential project that is nearly completed and a 225-unit affordable housing community that was recently completed. *It should be noted that the various land uses are not yet delineated; therefore, the SAMP Update utilizes a conservative approach to water demand sewerage flow loadings. Any final land use configuration deemed not within the assumptions used for this analysis would warrant an addendum to this SAMP Update.*
- **Planning Area 16-19 (not included in Disposition Areas).** This Planning Area currently comprises 103 acres of the project area, including 85 acres of commercial retail and 14 acres of military/government use. The Planning Area currently allows for a maximum of 1,483,553 square feet of development. Existing development accounts for 992,260 square feet of regional commercial retail and entertainment uses as well as 40,846 square feet of military/government use. The current military operations would be relocated to a parcel in Planning Area 1, and the site would be designated for

commercial use, allowing for an expansion of the adjacent commercial retail development.

Table 1-1 tabulates this updated land use information proposed for Legacy Park and the Disposition areas.

Table 1-1
Land Use Summary By Disposition Area

City of Tustin Disposition Area	Planning Area	2015 Initial Study (Section 3. Project Description) [1]			
		Land Use	Net Area (acres)	DU	Non-Res. Net Building Area (SF)
1A North, 1A South, 1B, 6A, 6B and 7A	15	SF Residential	86	611	-
		Affordable		225	-
		MF Residential		2,011	-
		Mixed-Use TO	184		-
		Commercial/Office		-	95,200
		Congregate Care Facility		-	1,000,000
		Linear Park (por.)		-	-
		PA 15 Subtotal	**271 Ac**	**2,847**	**1,095,200**
1C	7	Comm. Commercial	21	-	103,460
		General Office		-	144,832
		PA 7 Subtotal	**21 Ac**	**0**	**248,292**
7B	8, HS	High School	40	-	1,547,690
		Hotel	150	-	
		Retail		-	
		Entertainment		-	
		Recreation		-	
		Linear Park (por.)		-	
		PA 8, HS Subtotal	**190 Ac**	**0**	**1,547,690**
2A, 2B, 2C and 8	13-14	MF Residential	124	690	
		MU Residential		1,139	
		MU Commercial			186,000
		MU Retail			
		Office / R&D			420,000
		PA 13-14 Subtotal	**124 Ac**	**1,829**	**606,000**
4, 5	9-12	General Office	94		1,588,198
		Linear Park (por.)	23	-	-
		PA 9-12 Subtotal	**117**	**0**	**1,588,198**
			723	**4,676**	**5,085,380**

[1] Based on Project Description in Initial Study (Placeworks, March 2015) for Tustin Legacy Disposition Areas, as described in Section 3.2.2.1 Land Use Plan for PA 8, 9-12, 13-14, and 15.

The IRWD land use designations pertinent to Legacy Park are summarized in **Table 1-2**.

Table 1-2
IRWD LAND USE DESIGNATIONS [1]

IRWD Land Use		Average Density	Density Range
Code	**Residential**	**DU/Ac[2]**	**DU/Ac**
1132	Res - Low Density	3	1.75 - 5.25
1162	Res - Medium Density	7.5	5.25 - 12.5
1172	Res - Medium-High Density	17.5	12.5 - 25.0
1182	Res - High Density	32.5	25.0 - 36.25
Code	**Commercial**	**KSF/Ac**	
1210	General Office	20	
1221	Community Commercial	9	
1230	Commercial Recreation	8	
1240	Institutional	8	
1244	Hospital [2]	9	
1260	School	10	
Code	**Open Space & Other**	**Ac/Ac**	
1820	Community Park	1	
1830	Regional Park	1	

[1] Based on Table 3-1 Land Use and Water Use Factors (September 2012).

[2] Average land use densities in Irvine, California

As part of the SAMP Update, a comparison of land uses was prepared to show the previously adopted SAMP (April 2008 plus addendums) land uses and the buildout assumptions for the disposition areas. **Table 1-3** summarizes the changes and a detailed comparison between the proposed land uses of the April 2008 SAMP and the current land uses proposed for the disposition areas. **Table 1-4** expands the comparison to the remaining areas of the Tustin Legacy Specific Plan.

Table 1-3
Legacy Park Neighborhoods - Land Use Comparison

	2008 SAMP					2015 Initial Study (Section 3. Project Description) [1]					
Planning Area	Neighborhood	Net Area (acres)	DU	DU Density	Non-Res. Net Building Area (SF)	City of Tustin Dispostion Area	Land Use	Net Area (acres)	DU	DU Density	Non-Res. Net Building Area (SF)
15	G	4.9	34	6.94	-	1A North [3]	SF Residential	8	-	-	-
	G	7.9	47	5.95	-		Affordable		-	-	-
	G	6.2	38	6.13	-		MF Residential		921	-	-
	G	5.4	37	6.85	-		Mixed-Use TO				
	G	10.2	65	6.37	-		Commerical/Office		-	-	-
	G	7.5	38	5.07	-		Congregate Care Facility		-	-	-
	G	14.7	61	4.15	-		Linear Park (por.)		-	-	-
	G	8.5	44	5.18	-	1A South [3]	SF Residential		-	-	-
	G	3.5	23	6.57	-		Affordable		-	-	-
	G	6.1	68	11.15	-		MF Residential		-	-	-
	G	5.6	70	12.50	-		Mixed-Use TO				
	G	5	75	15.00	-		Commerical/Office		-	-	22,372
	G	1.9	38	20.00	-		Congregate Care Facility		-	-	-
	G	5.8	154	26.55	-		Linear Park (por.)		-	-	-
	G	3.6	-		29,988	1B [3]	SF Residential	78	148	-	-
	G	10	-		133,300		Affordable			-	-
	G	12	-		-		MF Residential		519	-	-
	G	7.2	-		-		Mixed-Use TO				
	G	3.4	-		-		Commerical/Office		-	-	-
	G	5	-		-		Congregate Care Facility		-	-	-
	G	3.6	-		-		Linear Park (por.)		-	-	-
	G	2.1	-		-	6A [3]	SF Residential		57	-	-
	G	1.4	-		-		Affordable			-	-
	G	8.1	-		-		MF Residential		571	-	-
	G	4.6	-		-		Mixed-Use TO				
	G	5.2	31	5.96	-		Commerical/Office		-	-	-
	G	9.9	40	4.04	-		Congregate Care Facility		-	-	-
	G	4	20	5.00	-		Linear Park (por.)		-	-	-
	G	1.3	9	6.92	-	6B [3]	SF Residential	184	-	-	-
	G	7.6	44	5.79	-		Affordable		-	-	-
	G	7.9	55	6.96	-		MF Residential		-	-	-
	G	8.7	61	7.01	-		Mixed-Use TO				
	G	9	108	12.00	-		Commerical/Office		-	-	72,828
	G	5.4	54	10.00	-		Congregate Care Facility		-	-	-
	G	1.7	-		26,681		Linear Park (por.)		-	-	-
	G	1.8	-		45,738	7A [3]	SF Residential		406	-	-
	G	4	-		104,544		Affordable		225	-	-
	G	10.7	-		130,680		MF Residential		-	-	-
	G	8.3	-		158,994		Mixed-Use TO				
	G	1.5	-		-		Commerical/Office		-	-	-
	G	4.4	-		-		Congregate Care Facility		-	-	1,000,000
	G	3.9	-		-		Linear Park (por.)		-	-	-
	G	5.9	-		-						
	G Subtotal	**255**	**1,214**		**629,925**	**PA 15 Subtotal**		**270**	**2,847**		**1,095,200**
7	B	2.4	-		35,828	1C	Comm. Commercial	21	-		103,460
	B	2.4	-		36,590		General Office		-		144,832
	B	2.4	-		35,828						
	B	2.4	-		36,590						
	B	2.4	-		25592						
	B	2.4	-		26136						
	B	2.4	-		25592						
	B	2.4	-		26136						
	B Subtotal	**19**	**0**		**248,292**	**PA 7 Subtotal**		**21**	**0**		**248,292**
8, HS	D/North	40	-		533,200	7B	High School	40	-		1,547,690
	D/North	46	-		-		Hotel	150	-		
	D/North	8.7	-		-		Retail		-		
	D/North	1.6	-		-		Entertainment		-		
	D/North	46.0	-		383,180		Recreation		-		
	D/North	0.2	-		7,187		Linear Park (por.)		-		
	D/North	3.1	-		135,100						
	D/North	0.6	-		27,443						
	D/North	12	-		522,720						
	D/North	0.4	-		17,206						
	D/North	7.5	-		326,700						
	D/North	0.1	-		5,227						
	D/North	2.3	-		100,200						
	D/North	0.4	-		8,625						
	D/North	1.5	-		34,500						
	D/North	8.8	-		172,498						
	D/North	8.3	-		162,697						
	D/North	8	-		156,816						
	D/North [2]	15	-		299,074						
	DN Subtotal	**211**	**0**		**2,892,373**	**PA 8, HS Subtotal**		**190**	**0**		**1,547,690**

Table 1-3 (cont.)
Legacy Park Neighborhoods - Land Use Comparison

13, 14	D/South	1.3	28	21.54	-	2A, 2B, 2C and 8	MF Residential	124		690		
	D/South	2.7	54	20.00	-		MU Residential			1,139		
	D/South	1	22	22.00	-		MU Commercial					186,000
	D/South	0.8	18	22.50	-		MU Retail					
	D/South	3.1	48	15.48	-		Office / R&D					420,000
	D/South	4.5	17	3.78	-							
	D/South	3.6	9	2.50	-							
	D/South	3.3	106	32.12	-							
	D/South	3.9	129	33.08	-							
	D/South	5.2	242	46.54	-							
	D/South	3	96	32.00	-							
	D/South	2.9	96	33.10	-							
	D/South	3.1	-		125,000							
	D/South	2.4	-		177,600							
	D/South	7.2	-		269,600							
	D/South	4.5	-		141,000							
	D/South	3.6	-		178,000							
	D/South	1	-		194,600							
	D/South	4.7	-		107,500							
	D/South	0	-		6,000							
	D/South	3.3	-		26,000							
	D/South	3.1	-		22,000							
	D/South	3	-		27,000							
	D/South	2.9	-		31,000							
	D/South	4.5	-		73,000							
	D/South	3.6	-		18,000							
	D/South	…	-		28,000							
	D/South	1.0	-		8,330							
	D/South	1.2	-		190,000							
	D/South	4.5	-		20,000							
	D/South	12	-		-							
	D/South	0.3	-		-							
	D/South	0.5	-		-							
	D/South	1	-		-							
	D/South	1	-		-							
	D/South	1.4	26	18.57	-							
	D/South	2.8	-		9,757							
	D/South	…	-		39,030							
	D/South	3.1	-		127,680							
	D/South	1.3	-		100,000							
	D/South	4.4	-		125,000							
	D/South	12.2	-		37,400							
	D/South	…	-		321,450							
	D/South	6	-		181,181							
	D/South	1.3	-		7,000							
	D/South	12.2	-		8,000							
	D/South	4.4	-		190,000							
	DS Subtotal	**153**	**891**		**2,789,128**	**PA 13-14 Subtotal**		**124**		**1,829**		**606,000**
9-12	E	7.3	-		150,087	4, 5	Commercial/Business	94				1,588,198
	E	2.9	-		60,892		Linear Park (por.)	23		-		
	E	6.3	-		126,000							
	E	9.5	-		196,897							
	E	3.9	-		79,884							
	E	10.1	-		-							
	E	16.2	-		-							
	E	3	-		-							
	E	5.1	-		97,574							
	E	1	-		8,712							
	E	1.3	-		35,000							
	E	0.5	-		5,881							
	E	3.2	-		72,048							
	E	0.4	-		3,539							
	E	4.4	-		87,557							
	E	5.3	-		91,894							
	E	3.8	-		64,468							
	E	3.6	-		73,635							
	E	6	-		113256							
	E	8	-		-							
	E	0.5	-		-							
	E Subtotal	**102**	**0**		**1,267,324**	**PA 9-12 Subtotal**		**117**		**0**		**1,588,198**
	Total	**740**	**2,105**		**7,827,042**			**722**	**[1]**	**4,676**		**5,085,380**

[1] Based on Project Description in Initial Study (Placeworks, March 2015) for Tustin Legacy Disposition Areas, as described in Section 3.2.2.1 Land Use Plan for PA 8, 9-12, 13-14, and 15, and revisions provided by City of Tustin (Dec 2015).
[2] Represents south blimp hangar, as identified in Table A of the2008 SAMP for Traffic Area Zone 28.
[3] Land Use breakdown prorated based on information provided by the City of Tustin

Table 1-4
TLSP - Land Use Comparison

Planning Area	City Land Use (Tract)	IRWD Land Use		Net Area[1] (acres)		Density		Dwelling Units		Building Area	
		Code	Type					SAMP Update [1]	2008 SAMP [2]	SAMP Update [1] (SF)	2008 SAMP [2] (SF)
1	Education Village	1260	School (16,048 students & staff per SOCCCD)	100	[5]	18.4	ksf/acre	-	-	1,836,200	1,412,651
1	Commercial/Office	1222	Regional Commercial (per LPA)	20		20.9	ksf/acre	-	-	418,000	-
2	Community Park	1820	Community Park	29		-		-	-	1,000	40,531
3	Transitional/ Emergency Housing	1210	General Office	5		26.7	ksf/acre	-	-	133,294	133,294
4	Low Density (TTM 16581)	1162	Res- Medium Density	54	[3]	6.2	du/acre	335	304	-	-
5	Medium Density (TTM 16581)	1172	Res- Medium-High Density	52	[3]	14.2	du/acre	740	621	-	-
6	Urban Regional Park	1830	Regional Park	84.5		-		-	-	574,992	-
1 thru 6				**345**				**1,075**	**925**	**2,963,486**	**1,586,476**

Table 1-4 (cont.)
TLSP - Land Use Comparison

Planning Area	City Land Use (Tract)	IRWD Land Use		Net Area[1] (acres)		Density		Dwelling Units		Building Area			
		Code	Type					SAMP Update [1]	2008 SAMP [2]	SAMP Update [1] (SF)		2008 SAMP [2] (SF)	
7	Comm. Commercial	1221	Community Commercial	10.5	[5]	9.9	ksf/acre	-	-	103,460	[4]	248,292	
7	Office	1210	General Office	10.5		13.8	ksf/acre	-	-	144,832			
8, HS	High School	1260	School	40		10.0	ksf/acre	-	-	400,000	[4]	2,892,373	
8, HS	Recreation/Entertainment Core	1230	Commercial Recreation	75	[5]					1,243,010			
8, HS	Linear Park	1830	Regional Park	75			-	-		-		-	
9-12	Commercial/Business	1210	General Office	94		16.9	ksf/acre	-	-	1,588,198	[4]	1,267,324	
9-12	Linear Park	1830	Regional Park	23			-	-		-		-	
13-14	MFR/MU	1182	Res - High Density	62	[5]	29.5	du/acre	1,829	891	-		-	
13-14	Retail	1221	Community Commercial	31		9.8	ksf/acre	-	-	606,000	[4]	2,789,128	
13-14	Office/R&D	1240	Institutional	31				-	-				
15	SFR/Affordable	1162	Res - Medium Density	86	[5]	9.7	du/acre	836	1,214	-		-	
15	MFR	1172	Res - Medium High Density	100		20.1	du/acre	2,011		-		-	
15	Commercial/Office	1210	General Office	84		-		-	-	95,200	[4]	629,925	
15	Congregate Care	1244	Hospital							1,000,000			
15	Linear Park	1830	Regional Park				-	-		-		-	
7 thru 15	**LEGACY PARK [4]**			**723**			**-**	**4,676**	**2,105**	**5,180,700**		**7,827,042**	

Table 1-4 (cont.)
TLSP - Land Use Comparison

Planning Area	City Land Use (Tract)	IRWD Land Use		Net Area[1] (acres)	Density	Dwelling Units		Building Area	
		Code	Type			SAMP Update [1]	2008 SAMP [2]	SAMP Update [1] (SF)	2008 SAMP [2] (SF)
16	Commercial/ Business (TTM 16695)	1210	General Office						486,130
17	Commercial/ Business (TTM 16695)	`	General Office	103 [6]	14.4 ksf/acre	-	-	1,483,553	284,011
18	Commercial (TTM 16695)	1210	General Office						40,846
19	Commercial (TTM 16695)	1210	General Office						672,566
20	Tustin Field I (Tract 16474)	1172	Res - Medium-High Density	29	13.0 du/acre	376	588	-	-
21	Tustin Field II (Tract 16507)	1132	Res- Low Density	127	5.1 du/acre	654	805	-	-
21	Columbus Grove Tustin (Tract 16582)								
22	Columbus Grove Irvine (Tract 16580)	1162	Res- Medium Density	47	8.7 du/acre	409	402	-	-
22	K-8 School	1260	School	20	-	-	-	50,400	266,000
22	Neighborhood Park	1820	Park - Community	6 [7]	-	-	-	-	-
16 thru 22				**332**	**-**	**1,439**	**1,795**	**1,533,953**	**1,749,553**
			TOTAL			**7,190**	**4,825**	**9,678,139**	**11,163,071**

[1] Land use statistics are based on Table 2 Land Use Statistical Summary of the TLSP Amendment Initial Study (March 2015), and revisions provided by City of Tustin (Dec 2015).
[2] April 2008 Revised Sub Area Master Plan for MCAS/Tustin Legacy Park, Table II-4.
[3] Includes 10.2 acres formerly within PA 7, as depicted in Exhibit II-3 of IRWD Revised SAMP (April 2008).
[4] Table 1-1.
[5] Assumed acreage split, based on building square-footage.
[6] Includes 14 acres of temporary military/government use, which will relocate to PA-1.
[7] According to Table 2 of the Initial Study (March 2015) PA-22 gross area is 73 acres. Gross area of Tract 16580 is 47 acres. Neighborhood Park represents the remainder.

1.5 Project Phasing

The remaining undeveloped areas of Tustin Legacy are expected to be developed in phases triggered by implementation requirements. As stated in the Specific Plan, phasing triggers include thresholds for traffic circulation, bikeways/trails, water, sewer, storm drain, other utilities and parks. Market demand and timing of environmental cleanup efforts may also factor into phasing.

Because no specific construction phasing of the remaining undeveloped areas within Tustin Legacy Specific Plan has been identified, the SAMP Update includes "staged" system operation that could result in a worst-case scenario for systems operation.

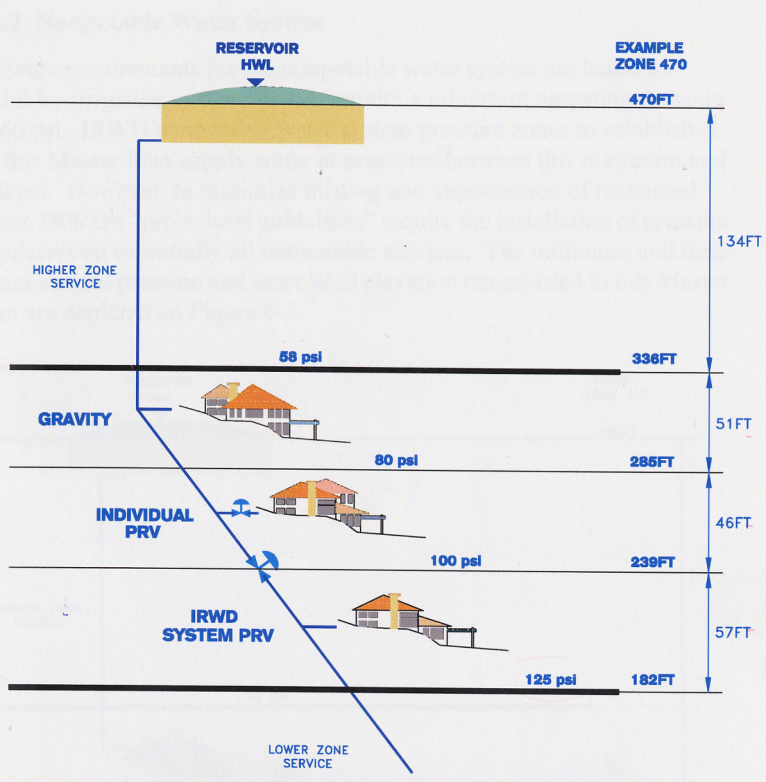
1.6 SAMP Update Objective

The purpose of the SAMP Update is to provide a comprehensive potable water, wastewater collection and non-potable water distribution, and sewer infrastructure analysis in support of the existing land that has been developed within the study area and the revised development plan of the remaining areas in the Amended Specific Plan of 2015. The SAMP Update objective includes revising the systems proposed in the 2008 SAMP, and to comply with the current SAMP guidelines of the Irvine Ranch Water District.

SECTION 2.0 POTABLE WATER SYSTEM

2.1 Potable Water Pressure Zone Service Area

The MCAS Tustin Study Area is located within IRWD's Potable Water Pressure Zone I. Primary water supply for Zone I is from the District's Dyer Road wellfield and treatment system, and supplemented with imported water from Municipal Water District of Orange County and the Metropolitan Water District of Southern California. Zone I has a defined service elevation of 0 to 156 feet above mean sea level (amsl) with a high water hydraulic grade line (HGL) of 291 feet. The ground elevation of the study area ranges from approximately 45 feet to 70 feet above mean sea level. The general service elevation criterion, as standardized in the IRWD WRMP, is shown in the following diagram.



Therefore, in a standard pressure zone, the highest allowable service elevation is determined by subtracting 134 feet (58 psi) from the full reservoir level. The lowest allowable service level is determined by subtracting 231 feet (100 psi) from the reservoir high water level (HWL).

Pressures falling between 80 and 100 psi, based on the IRWD's established reservoir elevations, will be regulated by individual pressure regulators. Where system pressures exceed 100 psi, system pressure reducing stations (PRV) will be installed to create pressure reduced sub-zones, limiting maximum line pressures to 100 psi, where practical.

Based on these service criteria and the ground elevations of the Tustin Legacy Specific Plan, the proposed IRWD pressure service zone is Zone 1 (HWL = 291 feet). It should be noted that

regional supply and transmission facilities are located immediately adjacent to Tustin Legacy which could impact service pressures. Based on low- and high-water levels of the IRWD 15.0 million-gallon Zone 1 Central Reservoir, normal service pressures could range from 82 psi to 106 psi. **Table 2-1** summarizes the pressure zone service area, HGL, upper and lower service pad elevations, and static pressures.

Table 2-1
Potable Water System Pressure Zone Summary

Facility	PRV	HGL (HWL), ft	Pad Elevations Served[1], ft		Minimum Static Pressure [2]	Maximum Static Pressure
			Upper	Lower		
Zone 1 Central Reservoir	-	291	70	45	82 psi	106 psi

[1] As of the date of the SAMP Update, grading plans have not been approved for all or portions of PA 1, PA 8, PA 9-12, PA 13-14, PA 15. Pad elevations may be updated pursuant to the final grading.

[2] Central Reservoir has a 31-foot maximum water height, with possible low-water level at 260. Minimum static pressure is calculated from possible low-water level.

2.2 Projected Potable Water Demands

2.2.1 Potable Water Use Demand Factors

The potable water duty factors used for the Tustin Legacy SAMP Update include 'low' to 'high' density residential, commercial, and park irrigation. The Irvine Ranch Water District recently updated Table 3-1 Land Use Factors (September 2012) water usage factors for planning purposes. The pertinent water usage factors are listed in **Table 2-2**. For the Education Village area, a more conservative factor than IRWD's "School" land use was used. Based on prior experience, a demand factor of 10 gpd per student (or staff member) is more appropriate for planning purposes.

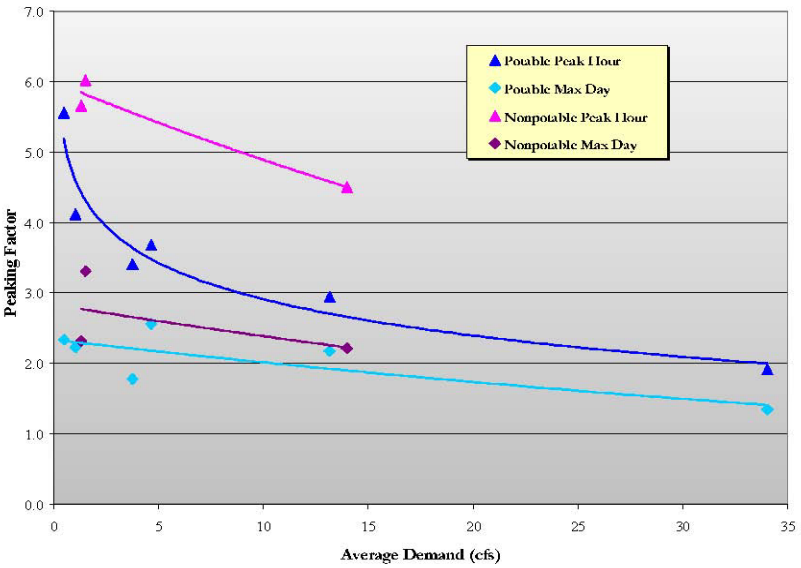
Table 2-2
Potable Water Demand Factors

Code	IRWD Land Use	Local Interior	Local Exterior	Demand Factor
1100	**Residential** [1]			
1132	Res - Low Density	225 gpd/du	180 gpd/du	405 gpd/du
1162	Res - Medium Density	200 gpd/du	100 gpd/du	300 gpd/du
1172	Res - Medium-High Density	130 gpd/du	30 gpd/du	160 gpd/du
1182	Res - High Density	130 gpd/du	13 gpd/du	143 gpd/du
1200	**Commercial**			
1210	General Office	62 gpd/ksf	10 gpd/ksf	72 gpd/ksf
1221	Community Commercial	142 gpd/ksf	33 gpd/ksf	175 gpd/ksf
1222	Regional Commercial	130 gpd/ksf	10 gpd/ksf	140 gpd/ksf
1230	Commercial Recreation	41 gpd/ksf	20 gpd/ksf	60 gpd/ksf
1240	Institutional	30 gpd/ksf	15 gpd/ksf	45 gpd/ksf
1244	Hospital	165 gpd/ksf	65 gpd/ksf	230 gpd/ksf
1260	School	20 gpd/ksf	8 gpd/ksf	28 gpd/ksf
	Open Space & Other			
1820	Community Park	0	0	-
1830	Regional Park	0	0	-

[1] Based on IRWD Table 3-1 Land Use and Water Use Factors (September 2012), and City of Irvine residential factors.

2.2.2 Potable Water Peaking Factors

Potable water system peak demands are based on IRWD WRMP Figure 3-6, as shown below:



For an average potable water demand for the Tustin Legacy Specific Plan of 2.45 MGD, or 3.79 cfs, the peaking factors are estimated to be approximately 2.25 times the average demands for maximum day demand, and 3.75 times the average demands for peak-hour demand. IRWD has recently completed a potable water computer model study which developed diurnal demand curves for its separate service regions. The region selected for Tustin Legacy is the 'Irvine' region which shows that potable water demands during a maximum day peak at 1.75 (times maximum-day) and 2.2 for commercial and residential land uses, respectively. The potable water system peaking factors are summarized as follows:

- Maximum-day demand = 2.25 x Average
- Peak-hour Residential demand = 2.2 x maximum-day (which occurs at 07:00 to 08:00)
- Peak-hour Non-residential demand = 1.75 x maximum-day (which occurs at 11:15 to 12:00

2.2.3 Daily demands

The overall Tustin Legacy Specific Plan study area non-irrigation water demands (exclusive of regional parks, common area landscapes, street medians, and other public open space irrigation area) were estimated using the Specific Plan land uses identified in the Initial Study Tustin Legacy Specific Plan Amendment (March 2015). **Table 2-3a** estimates the total non-irrigation water demands of the TLSP in a detailed breakdown by Planning Area. (Note: For ease of reference, the original Planning Area designations from Exhibit 1-3 are used for the City's Disposition Areas, and can be cross-referenced using Exhibit 1-4.)

Table 2-3a
TLSP Estimated Water Demands

Planning Area	City Land Use (Tract)	IRWD Land Use Code	IRWD Land Use Type	Net Area[1] (acres)		Density	DUs, SAMP Update [1]	Building Area, SAMP Update [1] (SF)	Water Demand Factor [2]	Average Day Demand (GPD)	Average Day Demand (GPM)	Maximum Day Demand [3] (GPD)	Peak Hour Demand [3] (GPM)
1	Education Village	1260	School (16,048 students & staff per SOCCCD)	100	[4]	18.4 ksf/acre	-	1,836,200	10 gpd/stu	160,480	111	361,080	439
1	Commercial/Office	1222	Regional Commercial (per LPA)	20		20.9 ksf/acre	-	418,000	140 gpd/sf	58,520	41	131,670	160
2	Community Park	1230	Community Park	29		0.0 ksf/acre	-	1,000	60 gpd/ksf	60	0	135	0
2	Community Park - irrigation	1820	Community Park			-	-	-	-	-		-	-
3	Transitional/ Emergency Housing	1210	General Office	5		26.7 ksf/acre	-	133,294	72 gpd/ksf	9,597	7	21,594	26
4	Low Density (TTM 16581)	1132	Res- Low Density	54	[4]	6.2 du/acre	335	-	405 gpd/DU	135,675	94	305,269	466
5	Medium Density (TTM 16581)	1172	Res- Medium-High Density	52	[4]	14.2 du/acre	740	-	160 gpd/DU	118,400	82	266,400	407
6	Urban Regional Park - irrigation	1830	Regional Park	84.5		-	-		-	-		-	-
6	Urban Regional Park	1230	Commercial Recreation			6.8 ksf/acre	-	574,992	60 gpd/ksf	34,500	24	77,624	94
1 thru 6				**345**			**1,075**	**2,963,486**		**517,232**	**359**	**1,163,771**	**-**
7	Comm. Commercial	1221	Community Commercial	10.5	[5]	9.9 ksf/acre	-	103,460	175 gpd/ksf	18,106	13	40,737	50
7	Office	1210	General Office	10.5		13.8 ksf/acre	-	144,832	72 gpd/ksf	10,428	7	23,463	29
8, HS	High School	1260	School (assume 2,000 students)	40		10.0 ksf/acre	-	400,000	10 gpd/stu	20,000	14	45,000	55
8, HS	High School - irrigation	1830	Regional Park			-	-	-	-	-		-	-
8, HS	Recreation/Entertainment Core	1230	Commercial Recreation	75	[5]			1,243,010	60 gpd/ksf	74,581	52	167,806	204
8, HS	Linear Park	1830	Regional Park	75		-	-	-	-	-		-	-
9-12	Commercial/Business	1210	General Office	94		16.9 ksf/acre	-	1,588,198	72 gpd/ksf	114,350	79	257,288	313
9-12	Linear Park	1830	Regional Park	23		-	-	-	-	-		-	-
13-14	MFR/MU	1182	Res - High Density	62		29.5 du/acre	1,829	-	143 gpd/DU	261,547	182	588,481	899
13-14	Retail	1221	Community Commercial	31	[5]	9.8 ksf/acre	-	606,000	175 gpd/ksf	53,025	37	119,306	145
13-14	Office/R&D	1240	Institutional	31			-		45 gpd/ksf	13,635	9	30,679	37
15	SFR/Affordable	1162	Res - Medium Density	86		9.7 du/acre	836	-	300 gpd/DU	250,800	174	564,300	862
15	MFR	1172	Res - Medium High Density	100		20.1 du/acre	2,011	-	160 gpd/DU	321,760	223	723,960	1,106
15	Commercial/Office	1210	General Office	84	[5]	-	-	95,200	72 gpd/ksf	6,854	5	15,422	19
15	Congregate Care	1244	Hospital					1,000,000	230 gpd/ksf	230,000	160	517,500	791
15	Linear Park	1830	Regional Park			-	-	-	-	-		-	-
7 thru 15	**LEGACY PARK**			**723**		**-**	**4,676**	**5,180,700**		**1,375,086**	**955**	**3,093,943**	**-**
16-19	Commercial/ Business (TTM 16695)	1210	General Office	103	[6]	14.4 ksf/acre	-	1,483,553	72 gpd/ksf	26,704	19	60,084	73
16-19	Commercial/ Business (TTM 16695)	1210	General Office						72 gpd/ksf	26,704	19	60,084	73
16-19	Commercial (TTM 16695)	1210	General Office						72 gpd/ksf	26,704	19	60,084	73
16-19	Commercial (TTM 16695)	1210	General Office						72 gpd/ksf	26,704	19	60,084	73
20	Tustin Field I (Tract 16474)	1172	Res - Medium-High Density	29		13.0 du/acre	376	-	160 gpd/DU	60,160	42	135,360	207
21	Tustin Field II (Tract 16507)	1132	Res- Low Density	127		5.1 du/acre	654	-	405 gpd/du	264,870	184	595,958	910
21	Columbus Grove Tustin (Tract 16582)												
22	Columbus Grove Irvine (Tract 16580)	1162	Res- Medium Density	47		8.7 du/acre	409	-	300 gpd/DU	122,700	85	276,075	422
22	K-8 School	1260	School	20		-	-	50,400	28 gpd/ksf	1,411	1	3,175	4
22	K-8 School - irrigation	1830	School			-	-	-	-	-		-	-
22	Neighborhood Park	1820	Park - Community	6	[7]	-	-	-	-	-		-	-
16 thru 22				**332**		**-**	**1,439**	**1,533,953**		**555,957**	**386**	**1,250,903**	**-**
			TOTAL				**7,190**	**9,678,139**		**2,448,274**	**1,700**	**5,508,617**	**-**

[1] Land use statistics are based on Table 2 Land Use Statistical Summary of the TLSP Amendment Initial Study (March 2015), and revisions from the City of Tustin (Dec 2015).

[2] Table 2-2.

[3] MD peaking factor based on IRWD Figure 3-6 using 2.57 MGD average demand (3.98 cfs) shows MD pf = 2.25. Peak hour demands are determined using the IRWD's diurnal curves from the Potable Water System Model Report (AKM, 2014). Residential peaking occurs between 07:00 and 08:00, with a peaking factor = 2.2, and non-residential peaking occurs at 11:00 to 12:00noon, with a peaking factor = 1.75.

[4] Includes 10.2 acres formerly within PA 7, as depicted in Exhibit II-3 of IRWD Revised SAMP (April 2008).

[5] Assumed acreage split.

[6] Includes 14 acres of temporary military/government use, which will relocate to PA-1.

[7] According to Table 2 of the Initial Study (March 2015) PA-22 gross area is 73 acres. Area of Tract 16580 is 47 acres. Neighborhood Park represents the remainder.

The City has indicated that all candidate indoor uses for toilet flushing in non-residential buildings, pursuant to current IRWD standards of serving non-potable water for in-door uses, will be dual-plumbed for non-potable water service. Based on discussions with IRWD, the SAMP Update assumes 75 percent of all non-residential in-door water demand is used for toilet flushing and therefore proposed to be served with non-potable water.

For the purposes of the SAMP Update, analysis of the potable and non-potable water systems includes 'standard' and 'sensitivity'. 'Standard' is based on all in-door water demands, including non-residential structures, served by the potable water system. 'Sensitivity' analysis is presented in Section 4.0, which plans for water demands from in-door toilet-flushing in non-residential structures to be met by the non-potable water system. **Table 2-3b** further breaks down the total non-irrigation demands by water source.

Table 2-3b
TLSP Estimated Water Demands Served with Potable and Non-Potable Water

Planning Area	City Land Use (Tract)	Average Demand (gpd)	Max Day Demand (gpd)	Peak Hour Demand (gpm) [1]	Average Demand (gpd)	Max Day Demand (gpd)	Peak Hour Demand (gpm) [1]	Average Demand (gpd)	Max Day Demand (gpd)	Peak Hour Demand (gpm) [1]
		TOTAL			POTABLE WATER [2]			NON-POTABLE WATER [2]		
1	Education Village	160,480	361,080	439	*40,120*	*90,270*	*110*	*120,360*	*270,810*	*329*
1	Commercial/Office	58,520	131,670	160	*14,630*	*32,918*	*40*	*43,890*	*98,753*	*120*
2	Community Park	60	135	0	60	135	0	0	0	0
2	Community Park - irrigation	-	-	-	-	-	-	-	-	-
3	*Transitional/ Emergency Housing*	*9,597*	*21,594*	*26*	*2,399*	*5,398*	*7*	*7,198*	*16,195*	*20*
4	Low Density (TTM 16581)	135,675	305,269	466	135,675	305,269	466	0	0	0
5	Medium Density (TTM 16581)	118,400	266,400	407	118,400	266,400	407	0	0	0
6	Urban Regional Park - irrigation	-	-	-	-	-	-	-	-	-
6	*Urban Regional Park*	*34,500*	*77,624*	*94*	*8,625*	*19,406*	*24*	*25,875*	*58,218*	*71*
1 thru 6		517,232	1,163,771	- [3]	319,909	719,796	- [3]	197,323	443,976	540
7	*Comm. Commercial*	*18,106*	*40,737*	*50*	*4,526*	*10,184*	*12*	*13,579*	*30,553*	*37*
7	*Office*	*10,428*	*23,463*	*29*	*2,607*	*5,866*	*7*	*7,821*	*17,597*	*21*
8, HS	High School	20,000	45,000	55	5,000	11,250	14	15,000	33,750	41
8, HS	High School - irrigation	-	-	-	-	-	-	-	-	-
8, HS	*Recreation/Entertainment Core*	*74,581*	*167,806*	*204*	*18,645*	*41,952*	*51*	*55,935*	*125,855*	*153*
8, HS	Linear Park	-	-	-	-	-	-	-	-	-
9-12	*Commercial/Business*	*114,350*	*257,288*	*313*	*28,588*	*64,322*	*78*	*85,763*	*192,966*	*235*
9-12	Linear Park	-	-	-	-	-	-	-	-	-
13-14	MFR/MU	261,547	588,481	899	261,547	588,481	899	0	0	0
13-14	*Retail*	*53,025*	*119,306*	*145*	*13,256*	*29,827*	*36*	*39,769*	*89,480*	*109*
13-14	*Office/R&D*	*13,635*	*30,679*	*37*	*3,409*	*7,670*	*9*	*10,226*	*23,009*	*28*
15	SFR/Affordable	250,800	564,300	862	250,800	564,300	862	0	0	0
15	MFR	321,760	723,960	1,106	321,760	723,960	1,106	0	0	0
15	*Commercial/Office*	*6,854*	*15,422*	*19*	*1,714*	*3,856*	*5*	*5,141*	*11,567*	*14*
15	Congregate Care	230,000	517,500	791	230,000	517,500	791	0	0	0
15	Linear Park	-	-	-	-	-	-	-	-	-
7 thru 15	LEGACY PARK	1,375,086	3,093,943	- [3]	1,141,852	2,569,166	- [3]	233,234	524,776	638
16-19	*Commercial/ Business (TTM 16695)*	*26,704*	*60,084*	*73*	*6,676*	*15,021*	*18*	*20,028*	*45,063*	*55*
16-19	*Commercial/ Business (TTM 16695)*	*26,704*	*60,084*	*73*	*6,676*	*15,021*	*18*	*20,028*	*45,063*	*55*
16-19	*Commercial (TTM 16695)*	*26,704*	*60,084*	*73*	*6,676*	*15,021*	*18*	*20,028*	*45,063*	*55*
16-19	*Commercial (TTM 16695)*	*26,704*	*60,084*	*73*	*6,676*	*15,021*	*18*	*20,028*	*45,063*	*55*
20	Tustin Field I (Tract 16474)	60,160	135,360	207	60,160	135,360	207	0	0	0
21	Tustin Field II (Tract 16507)	264,870	595,958	910	264,870	595,958	910	0	0	0
21	Columbus Grove Tustin (Tract 16582)									
22	Columbus Grove Irvine (Tract 16580)	122,700	276,075	422	122,700	276,075	422	0	0	0
22	K-8 School	1,411	3,175	4	1,411	3,175	4	0	0	0
22	K-8 School - irrigation	-	-	-	-	-	-	-	-	-
22	Neighborhood Park	-	-	-	-	-	-	-	-	-
16 thru 22		555,957	1,250,903	- [3]	475,845	1,070,652	- [3]	80,112	180,252	219
		2,448,274	5,508,617	- [3]	1,937,606	4,359,613	- [3]	510,668	1,149,004	1,396

[1] Peak hour demands are determined using the IRWD's diurnal curves from the Potable Water System Model Report (AKM, 2014). Residential peaking occurs between 07:00 and 08:00, with a peaking factor = 2.2, and non-residential peaking occurs at 11:00 to 12:00noon, with a peaking factor = 1.75.

[2] Based on 75% of all indoor water demand for non-residential structures will be served non-potable water.

[3] Peaks include both residential and non-residential demands; therefore, peaks occur at different times of the day.

= Non-residential structures proposed to be served non-potable water for indoor use.

Table 2-4 summarizes the estimated total non-irrigation water demand for the Tustin Legacy Specific Plan study area.

Table 2-4
Total Non-Irrigation Water Demand -- TLSP Area Summary

Item	Units	Average	Max-day
Dwelling Units	7,190 DUs	-	-
Non-residential Bldg Area	9,678,139 sf	-	-
Non-Irrigation Water Demand from Potable Water	-	1.938 MGD	4.360 MGD
Non-Irrigation Water Demand from Non-potable Water	-	0.511 MGD	1.149 MGD
Total Non-Irrigation Water Demand	**-**	**2.448 MGD**	**5.509 MGD**

2.2.4 Estimated Water Demand – Current vs. 2008 SAMP

It should be noted that the SAMP Update proposes to include non-potable water service to non-residential structures proposed for the TLSP. This was not proposed as part of the 2008 MCAS Tustin/Legacy Park Revised SAMP. For the purposes of the TLSP SAMP Update, a comparison of the total potable water demands between the SAMP Update and the 2008 SAMP is provided in **Table 2-5**.

Table 2-5
Estimated Water Demand -- Current TLSP vs. 2008 Revised SAMP

Item	Units	Average	Max-day
CURRENT			
Dwelling Units	7,190 DUs	-	-
Non-residential Bldg Area	9,678,139 sf	-	-
Non-Irrigation Water Demand	-	2.448 MGD	5.509 MGD
2008 Revised SAMP			
Dwelling Units	4,825 DUs	-	-
Non-residential Bldg Area	11,163,071 sf	-	-
Non-Irrigation Water Demand	-	2.252 MGD	5.068 MGD

2.2.5 Fire Flow Requirements

IRWD fire flow criteria is based on Appendix III-A of the Uniform Fire Code (UFC). The UFC provides guidelines for fire flow requirements based on building square footage and material of construction. SAMP preparation typically precedes building design details; therefore, fire flow requirements are based on land uses and the IRWD Water Resources Master Plan, as shown in **Table 2-6**.

Table 2-6
2015 Tustin Legacy Specific Plan - Fire Flow Requirements

Demand Condition	Fire Flow Demand [1] (gpm)	Fire Sprinkler System Required
Residential - Low Density	1,750	-
Residential - Medium Density	2,500	-
Residential - Medium-High Density	3,000	Yes
Residential - High Density	3,000	Yes
Commercial - Hospital	4,000	Yes
Commercial - General Office	4,000	Yes
Commercial - Community	4,000	Yes
Commercial - Recreation	4,000	Yes
School	3,500	Yes
Industrial - Light	4,000	Yes
Blimp Hangars	8,000	No

[1] Based on the Marine Corps Air Station (MCAS) Tustin/Legacy Park Revised SAMP (April 2008).

2.3 Proposed Potable Water System

2.3.1 Off-site Facilities

Existing IRWD potable supply facilities outside the TLSP and critical to service of the study area include the OC-38 imported water turnout from the East Orange County Feeder No. 2, the Dyer Road Wellfield and Deep Aquifer Treatment System, and the existing Zone 1 Central Reservoir on Sand Canyon Avenue. The District's multiple potable water sources include pumping directly from these groundwater and importation sources to the Zone I, or higher, and serve the entire District service area.

The major transmission pipelines of the Zone 1 system serve to convey this source water to the Zone 1 Central Reservoir and users throughout the Irvine/Tustin region. The major transmission systems include 54- and 42-inch pipelines in Barranca and Harvard Avenue, as well as 36- and 42-inch pipelines in Sand Canyon Avenue, Trabuco Road and parallel to Peter's Canyon Channel. The primary points of connection for Tustin Legacy Specific Plan development are 12-inch pipelines through Tustin Ranch Road, Armstrong Avenue, Sweet Shade, and Warner Avenue. The Sweet Shade and Warner Avenue connections are fed directly from the Harvard Avenue 42-inch transmission system.

Zone 1 is the District's largest potable water pressure zone, which also supplies the higher zones. As was discussed earlier in this section, Zone 1 provides a high-water hydraulic gradient (HGL) of 291 feet and direct pressurized service to users located within the District's Zone 1 service area. Also, from Zone 1, water is pumped to higher service areas of the District. The Zone 1 Central Reservoir has a total volume of approximately 15.0 million gallons and is the District's largest potable water distribution tank. **Table 2-7** summarizes the storage capacity analysis.

Based upon the analysis conducted for this SAMP Update, we have concluded that the existing off-site potable water facilities have adequate capacity to serve the ultimate buildout of the development proposed in the TLSP area, and no off-site improvements are required.

Table 2-7
Estimated Potable Water Storage [1]

TLSP Potable Water Demand		Operational Volume (MG) [1]	Fire Flow Volume (MG)	Local Emergency Storage (MG)	Total Volume (MG)	IRWD Current Zone 1 Storage Capacity (MG)
Average (MGD)	Max Day (MGD)					
2.45	5.51	1.38	1.92	5.51	8.81	15.0

[1] IRWD Chapter 5 Storage Facilities, Table 5-1 and Table 5-2. Operational storage is based on time-of-use.

According to IRWD's 2012 update of their storage analysis to the Water Resources Master Plan, the Zone 1 Central Irvine region projected maximum day potable water demand of 47.36 MGD for 2015, and 50.55 MGD for 2020. Depending on ultimate buildout of TLSP, demands for the TLSP study area could amount to 10 to 12 percent of the total demands of the region. This study assumes excess capacity is available in offsite Zone I supply, storage, and pumping facilities to adequately serve the region's future projected demands, including TLSP.

2.3.2 Onsite Facilities

The ultimate backbone potable water distribution system proposed for the Tustin Legacy Specific Plan is shown in **Exhibit 2-1**. The ultimate proposed system is based on the hydraulic model simulation described in the next section. The proposed potable water system includes additional backbone pipelines necessary for the additional demands of current and future development project within TLSP. The proposed system also includes the following:

1) The north hangar currently does not have local private fire connections to IRWD's potable water system. In the ultimate system, two 12-inch permanent private fire connections are shown off of the high school loop as shown in Exhibits 2-1 and 2-2. Each connection to the private hangar system will include a double check backflow assembly and bypass meter. Given potential development phasing (see Section 8 for more details), two temporary connections will also be needed before the high school loop is constructed. Exhibits 8-2, 8-3, and 8-4 show temporary connections at Victory Road/Armstrong Avenue and Valencia Avenue/ W Columbus Square. However, all of these locations are schematic and the actual connection points will need to be designed and field-verified as necessary. It is the responsibility of the private system owner to coordinate these connections with IRWD.
2) Hydraulic model runs indicated maximum velocities in the existing 12-in pipeline in Warner Avenue near the Peters Canyon Channel exceeded IRWD operational criteria (refer to Table 2-8). In order to resolve this issue, hydraulic modeling validated the following improvements be constructed:

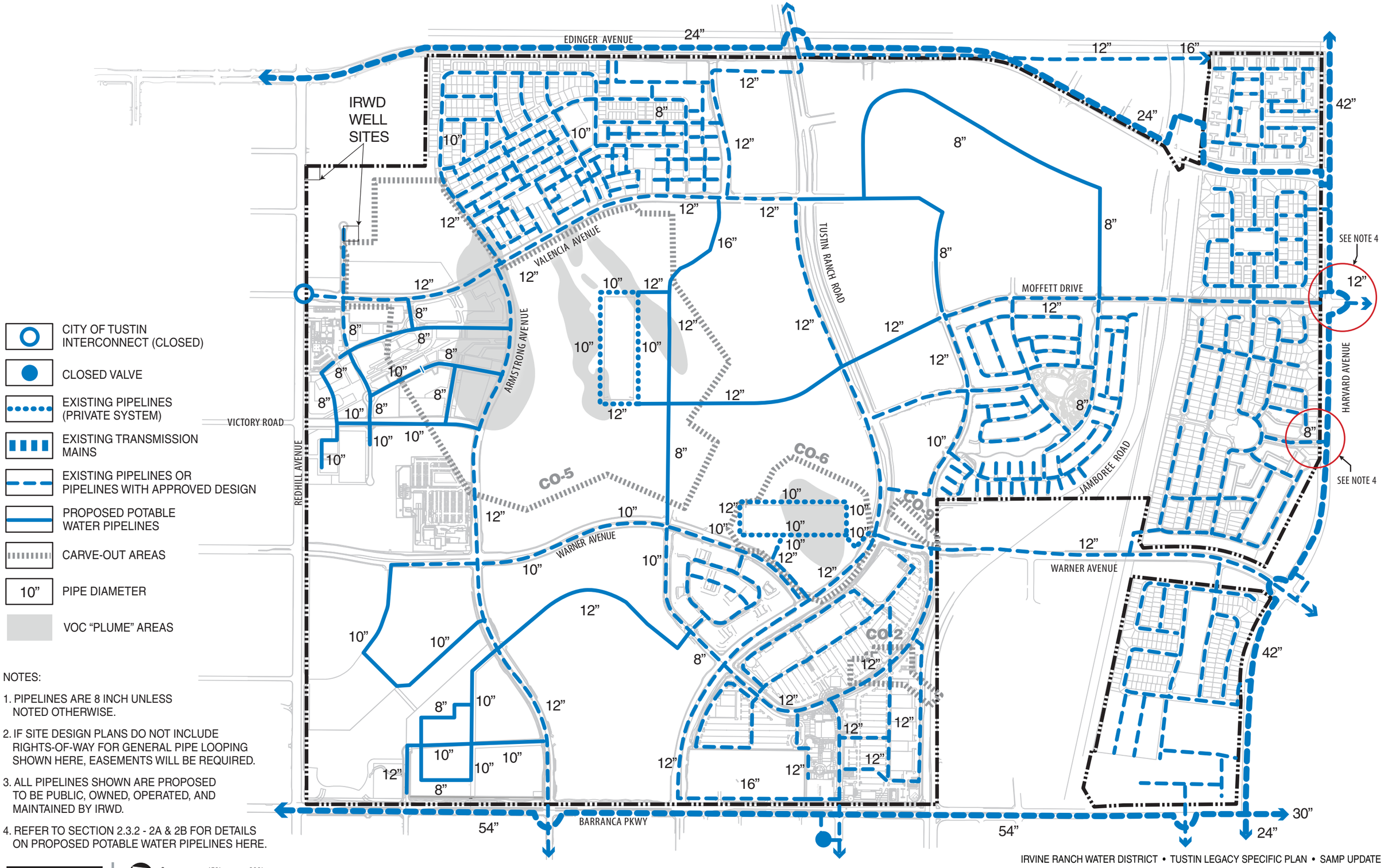
a. Install approximately 100 LF of 12" pipeline from existing 12" pipeline near the intersection of Moffett Drive/Harvard Avenue and connect to the existing 42" pipeline in Harvard Avenue.

b. Install approximately 50 LF of 8" pipeline from existing 8" pipeline in Columbus Grove Drive and connect to the existing 42" pipeline in Harvard Avenue

With these improvements in place, all pipes in the ultimate backbone potable water distribution system will meet IRWD velocity criteria (refer to Table 2-8) and both the north and south hangars will have two private fire connections during all development phases.

It should be noted that special design and construction considerations may be necessary for pipeline alignments within previously designated VOC "Plume" areas. This may include preparing an environmental work plan, developing a site-specific health and safety plan, implementing health and safety training for personnel, and other special requirements, as specified in "*Special Provisions For Work in Contaminated Areas"*, previously prepared for the contaminated areas within MCAS Tustin[1].

[1] The "Special Provisions for Work in Contaminated Areas" was prepared by Marlin Sweigart, under the supervision of Roy F. Weston, Inc., February 2002.



NOTES:

1. PIPELINES ARE 8 INCH UNLESS NOTED OTHERWISE.
2. IF SITE DESIGN PLANS DO NOT INCLUDE RIGHTS-OF-WAY FOR GENERAL PIPE LOOPING SHOWN HERE, EASEMENTS WILL BE REQUIRED.
3. ALL PIPELINES SHOWN ARE PROPOSED TO BE PUBLIC, OWNED, OPERATED, AND MAINTAINED BY IRWD.
4. REFER TO SECTION 2.3.2 - 2A & 2B FOR DETAILS ON PROPOSED POTABLE WATER PIPELINES HERE.

Michael Baker INTERNATIONAL

0 450' 900'

03/01/17 JN148275-21408 MAS

IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Potable Water System

Exhibit 2-1

2.4 Operating Criteria and Hydraulic Analysis

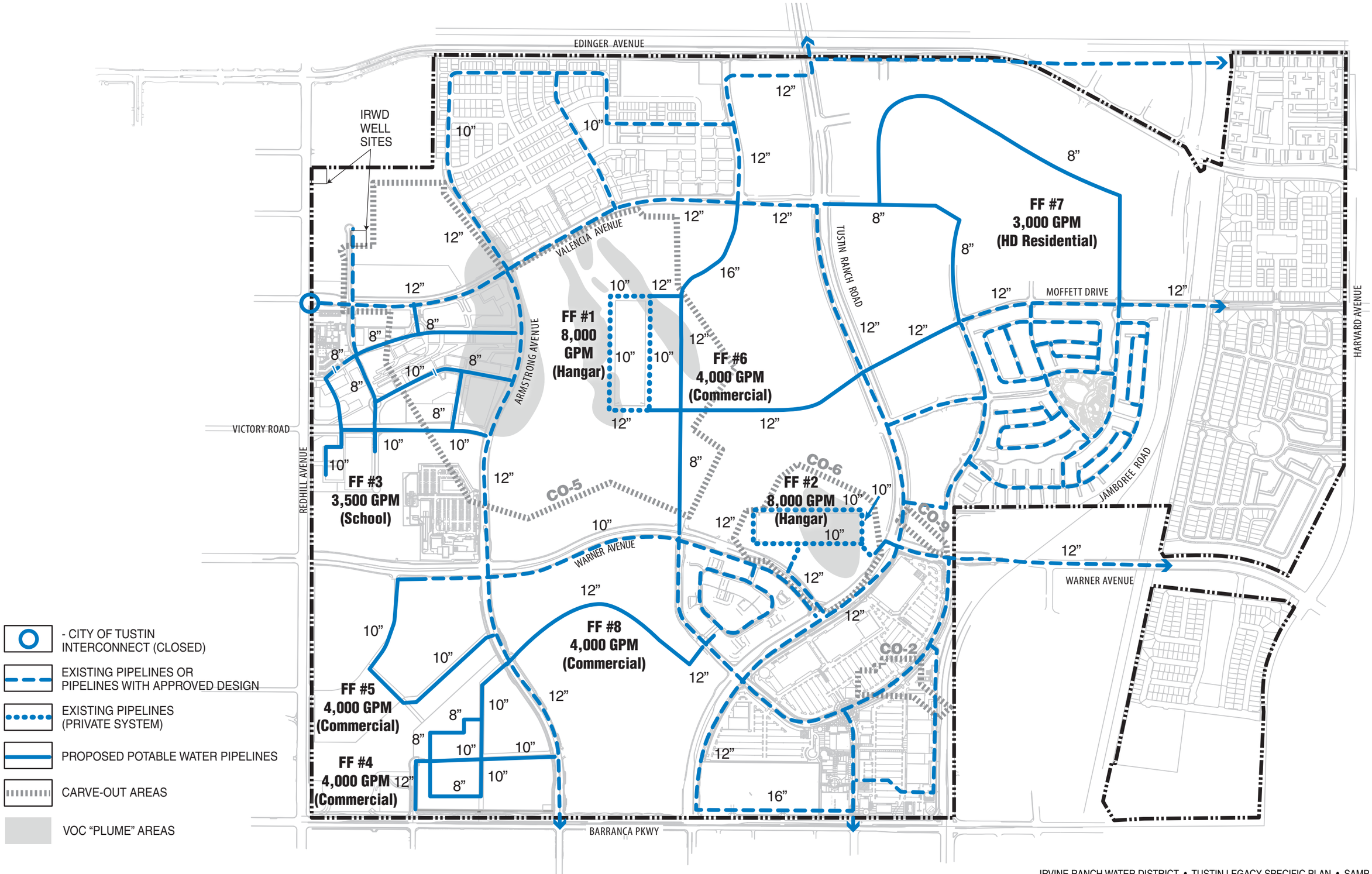
Most of the on-site backbone system within Tustin Legacy has been constructed to date. The ultimate distribution system proposes to add service pipelines within Planning Areas 8, 9-12, 13-14, and 15A, which will also provide additional looping that will enhance system reliability and maximize capacity of the potable water system. The ultimate system is required to meet minimum IRWD operating criteria, as summarized in **Table 2-8**.

Table 2-8
Potable Water System Operating Criteria

Operating Condition	Pressure or Velocity
Recommended Minimum dynamic pressure during normal operation	40 psi [1]
Minimum System Pressure during fire flow	20 psi
Maximum Velocity during normal operation	8 fps
Maximum Velocity during Fire Flow	15 fps
Minimum normal operating Velocity	1 fps

[1] Minimum pressure of 45 psi is recommended if 2-story residential dwellings are to be served.

A hydraulic analysis of the proposed ultimate distribution system was performed using computer simulation of the District-wide potable water system model, and the modeling software InfoWater by Innovyze. The simulated operating scenarios include foreseeable critical conditions including a 24-hour simulation of a maximum summer day, and emergency fire flows. For the purposes of the analysis and to simulate the most critical operating conditions, eight fire flow locations were analyzed with the District's potable water model at various locations throughout the TLSP study area. These include 8,000 gpm fire flow at the blimp hangars and other potentially critical areas for analyzing the capacity of the District's existing off-site regional system, and on-site system with the proposed circulating pipelines envisioned for Planning Areas 8, 9-12, 13-14, and 15A. **Exhibit 2-2** illustrates the ultimate backbone system and fire flow capacities in areas of proposed infrastructure performed for the SAMP Update.



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01/17/17 JN148275-21408 MAS

IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Fire Flow Simulation

Exhibit 2-2

The results of the extended-period simulation analysis demonstrate that the recommended on-site potable water system can serve the ultimate land uses within Tustin Legacy. **Tables 2-9 and 2-10** summarize the critical system performance characteristics for the potable water system. Full potable water model computer model simulation results are included in **Appendix A**.

Table 2-9
Summary of Potable Water System Analysis - Normal Operation

Critical Node/Pipe (location)	Elevation	Minimum Service Pressure @ timestep	Pipe Diameter	Maximum Velocity
Node TL_175 (PA 1-C)	72.9 ft	73.0 psi 07:00	-	-
Node 010S_1115 (PA 1-B)	68.9 ft	74.6 psi 07:00	-	-
Node TL_205 (PA 3)	68.4 ft	74.8 psi 07:00	-	-
Pipe P391 (Moffett Dr)	-	-	12 in	7.5 fps 07:00
Pipe P442 – P449 (Warner Ave E)	-	-	12 in	6.8 fps 07:00
Pipe P450 (Warner Ave E)	-	-	12 in	6.0 fps 07:00
Pipe P441, P439, P440, P214 (Warner Ave E / Jamboree Rd)	-	-	12 in	5.5 fps 07:00

Table 2-10
Summary of Potable Water System Analysis – Fire Flow

Simulation Area	@ Junction	Planning Area	Fire Flow Demand	Pressure at FF Node	Max Velocity within TLSP
FF #1	EX01, 046S_1000	PA 8 (S Hangar)	8,000 gpm[1]	49 psi	11.4 fps P113,P115, P123,P456
FF #2	TL_0270, TL_0275	PA 6 (N Hangar)	8,000 gpm[1]	46 psi	11.4 fps P383, P384
FF #3	TL_320	PA 1	3,500 gpm	55 psi	-
FF #4	TL_300	PA 9-12	4,000 gpm	64 psi	-
FF #5	TL_0000	PA 9-12	4,000 gpm	59 psi	-
FF #6	TL_0165	PA 8	4,000 gpm	77 psi	-
FF #7	TL_0095	PA 15	3,000 gpm	41 psi	-
FF #8	TL_0300	PA 13-14	4,000 gpm	78 psi	-

[1] Fire flow simulation was performed by loading 2 separate nodes (backflow preventer and meter connection) with 4000 gpm each.

The schematic diagram of the computer model piping system for Tustin Legacy within the overall IRWD model, as well as complete output data is included in **Appendix A**.

Although construction phasing of Disposition Areas of Tustin Legacy is not known at this time, interim operating conditions will exist for many years until ultimate buildout. As such, construction timing of regional looping within the study area, primarily the proposed piping systems through DAs 7A, 7B (Planning Areas 15-A and 8) and the proposed TUSD high school, will impact interim system operation for the purposes of the SAMP Update assumed 'staging' of potable water system development was analyzed to confirm system performance in compliance with IRWD operating standards. Possible phasing of development could create interim systems serving increased demands without full circulation. These potential critical development stages, resulting in 'worst-case' water system operating scenarios, were discussed with IRWD, and are described and analyzed in Section 8.0.

2.5 Water Quality Analysis

Pursuant to IRWD SAMP procedure, local water quality is discussed here in terms of velocity of flow within the distribution pipelines for the Tustin Legacy potable water system. The predicted velocity can be used as a general indicator for potential water quality concerns if velocities are low and preventing adequate flushing or circulation of water within the pipelines. The District's established minimum velocity criterion, pursuant to the WRMP, is one (1) foot per second. This minimum velocity is generally accepted by the District in order to provide adequate turnover within the system and prevent stagnation.

The computer model analysis predicts velocities in the proposed pipelines during normal daily demands. The end of cul-de-sacs will always be subject to minimal flow conditions and subject to stagnation. Therefore, blow-offs or fire hydrants are recommended at these and other locations within the distribution system that are known through model analysis to exhibit low velocities. Additionally, water quality sampling stations, as specified by IRWD during design could also be required to ensure compliance with state water quality standards. These stations will provide a means for collecting water samples on a regular basis. To assist in preventing dead-end pipe stagnation, four-inch diameter pipe could be installed after the last hydrant on dead-end pipelines.

SECTION 3.0 SEWER COLLECTION SYSTEM

The Tustin Legacy Specific Plan Study Area is proposed to be served by Irvine Ranch Water District through their regional collection systems in Harvard Avenue (HATS) and Armstrong Avenue (AATS). The on-site collection system consists of the two primary sewersheds flowing to each of the trunk sewer systems. Gravity flow from the TLSP planning areas east of Peters Canyon Channel, namely PAs 20, 21 and 22, generally flow to the east to the 45-inch Harvard Avenue Trunk Sewer (HATS), which flows south in Harvard Avenue, Main Street and the Michelson Drive trunk sewer system to IRWD's Michelson Water Reclamation Plant (MWRP). The TLSP planning areas west of Peter's Canyon Channel, namely PA 1 through PA 16-19, including all of the City's Disposition Areas (Exhibit 1-4), generally flow west to the Tustin Ranch Road 20-inch trunk sewer system or to the 27-inch system in Armstrong Avenue. From the confluence of these two on-site trunk systems at Armstrong Avenue and Barranca Parkway, TLSP tributary flows are conveyed southwesterly through the AATS in Armstrong Avenue, MacArthur Boulevard, and Main Street to OCSD County Sanitation District No. 7 (CSD-7).

The vast majority of the on-site flows will be served by the AATS system, including all of the City's Disposition Areas. On-site drainage basins further subdivide the Armstrong Avenue sewershed within TLSP into six basins:

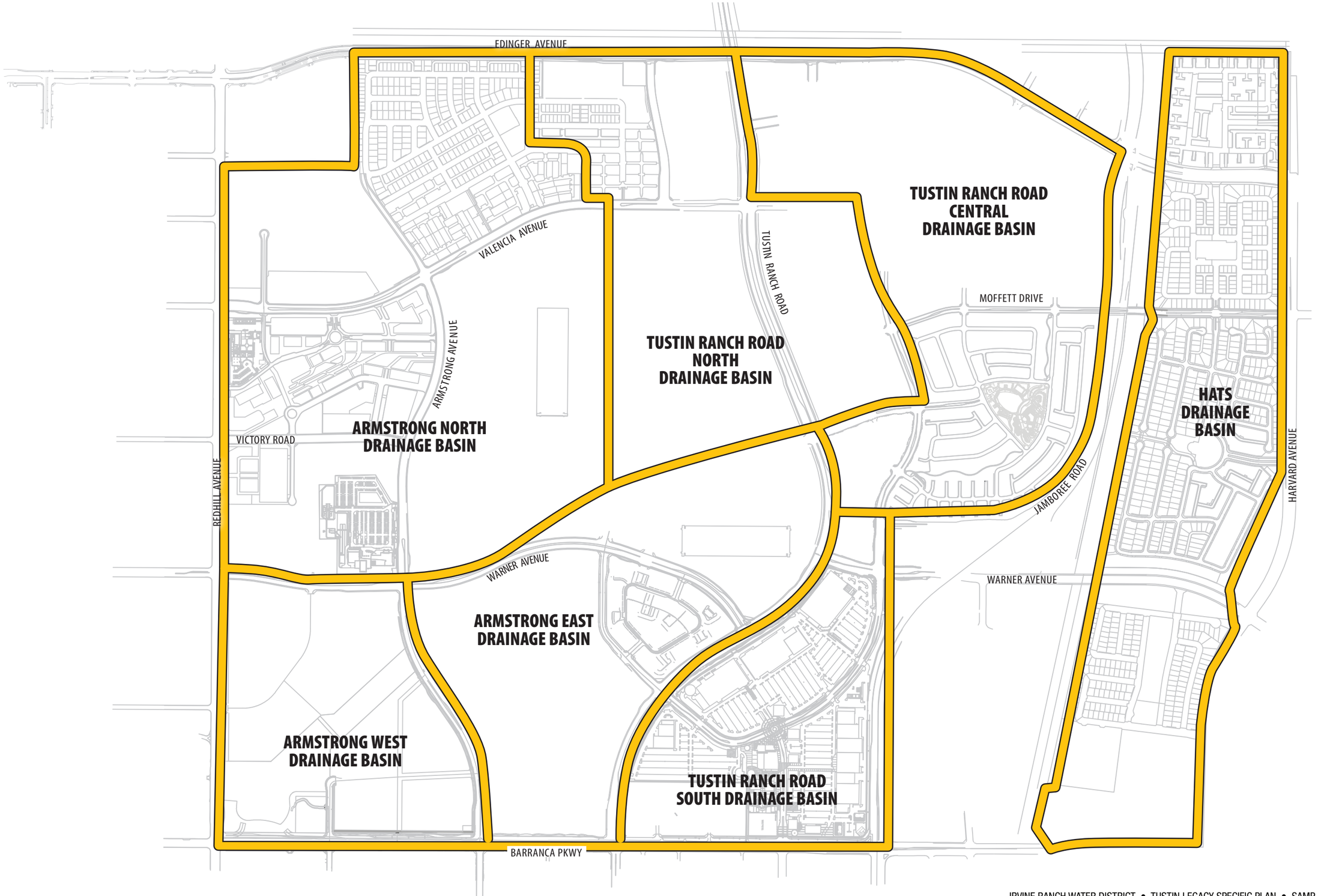
1. Tustin Ranch Road North
2. Tustin Ranch Road Central
3. Tustin Ranch Road South
4. Armstrong North
5. Armstrong East
6. Armstrong West

Separate on-site trunk systems have recently been constructed to convey flows from each of these basins. The Tustin Ranch Road System is proposed to serve all or portions of Planning Areas 4-5 and 16-19, as well as the City's Disposition Areas 1C, 6A, 6B, 7A, 7B and the TUSD High School (also known as PA 7, PA 8, High School, PA 13-14, and PA-15). The AATS is proposed to serve PA 1, PA 2, PA 3, PA 4-5, as well as City's Disposition Areas 3, 4 and 5 (also known as PA 8, 9-12, and 13-14). (Note: For ease of reference, the original Planning Area designations from Exhibit 1-3 are used for the City's Disposition Areas, and can be cross-referenced using Exhibit 1-4.) The sewer drainage basins are illustrated in **Exhibit 3-1**.

3.1 Estimated Wastewater Flows

3.1.1 Wastewater Generation Factors and Peaking

IRWD defines wastewater flow factors in the updated *Table 3-1 Land Use and Water Use Factors (September 2012)*. IRWD has performed recent and extensive water demand tests for each region of its overall service area. The resulting local interior water demands are assumed to be representative of wastewater flow. The wastewater generation factors, along with and the land uses presented in Section 1.0 were used to estimate the projected on-site wastewater flows for the TLSP development. The usage factors for the District's 'Irvine' region were used for the SAMP Update and identified as shown in **Table 3-1.**



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IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Sewer Drainage Basins

Exhibit 3-1

Table 3-1
IRWD Wastewater Flow Factors

Code	IRWD Land Use	Flow Factor	
1100	**Residential**		
1132	Res - Low Density	225	gpd/du
1162	Res - Medium Density	200	gpd/du
1172	Res - Medium-High Density	130	gpd/du
1182	Res - High Density	130	gpd/du
1200	**Commercial**		
1210	General Office	62	gpd/ksf
1221	Community Commercial	142	gpd/ksf
1222	Regional Commercial	130	gpd/ksf
1230	Commercial Recreation	41	gpd/ksf
1240	Institutional	30	gpd/ksf
1244	Hospital	165	gpd/ksf
1260	School	20	gpd/ksf

[1] Based on Table 3-1 Land Use and Water Use Factors (September 2012), local interior water demand.

The factors used for estimating peak flows were taken from IRWD's *Sewer Collection System Master Plan* (SCSMP, Dudek, 2006). Wastewater generation patterns differ by land use, and are defined by diurnal curves to better estimate flow as it varies throughout a given day. For the Education Village area, a more conservative factor than IRWD's "School" land use was used. Based on prior experience, a flow factor of 10 gpd per student (or staff member) is more appropriate for planning purposes. IRWD adopted standard 'residential' and 'non-residential' diurnal curves, as outlined in the SCSMP, which shows that a peak factor of 2.2 can occur in the early morning hours for residential uses, while non-residential peaks typically occur during the middle of the day with a peak factor of 2.0. Through its extensive water demand testing, IRWD has adopted a District-wide maximum-day factor of 1.3 in order to more accurately estimate maximum daily volumes generated from future development. Therefore, the resulting peak factor used for TLSP residential land use is 2.86 (1.3 times 2.2), and for non-residential land use is 2.60 (1.3 times 2.0).

3.1.2 Daily Wastewater Flows

For ease of reference, the same wastewater flow estimate format was used here as in the 2008 Revised SAMP which distinguished the "Legacy Park" planning areas (PA 7 through PA 15). The average wastewater flow from all planning areas within the TLSP is estimated at 1.87 MGD. The calculated flow, and resulting estimated peak flows for each drainage basin, as illustrated in Exhibit 3-1, are as shown in **Table 3-2a** and **Table 3-2b**.

Table 3-2a
TLSP Estimated Wastewater Flows

Planning Area	City Land Use (Tract)	IRWD Land Use Code	IRWD Land Use Type	Net Area [1] (acres)		Density	DUs, SAMP Update [1]	Building Area, SAMP Update [1] (SF)	Wastewater Flow Factor [2]	Average Flow (GPD)	Average Flow (GPM)	Peak Flow[3] (GPM)
1 [9]	Education Village	1260	School (16,048 students & staff per SOCCCD)	100	[4]	18.4 ksf/acre	-	1,836,200	10 gpd/stu	160,480	111	290
1 [9]	Commercial/Office	1222	Regional Commercial (per LPA)	20		20.9 ksf/acre		418,000	130 gpd/ksf	54,340	38	98
2	Community Park	1230	Community Park	29		0.0 ksf/acre	-	1,000	41 gpd/ksf	41	0	0
2	Community Park - irrigation	1820	Community Park			-	-	-	-	-		-
3	Transitional/ Emergency Housing	1210	General Office	5		26.7 ksf/acre	-	133,294	62 gpd/ksf	8,264	6	15
4	Low Density (TTM 16581)	1132	Res- Low Density	54	[4]	6.2 du/acre	335	-	225 gpd/DU	75,375	52	150
5	Medium Density (TTM 16581)	1172	Res- Medium-High Density	52	[4]	14.2 du/acre	740	-	130 gpd/DU	96,200	67	191
6	Urban Regional Park - irrigation	1830	Regional Park	84.5		-	-		-	-		-
6	Urban Regional Park	1230	Commercial Recreation [5]			6.8 ksf/acre	-	574,992	41 gpd/ksf	23,575	16	43
1 thru 6				**345**			**1,075**	**2,963,486**		**418,275**	**290**	**-**
7	Comm. Commercial	1221	Community Commercial	10.5	[6]	9.9 ksf/acre	-	103,460	142 gpd/ksf	14,691	10	27
7	Office	1210	General Office	10.5		13.8 ksf/acre	-	144,832	62 gpd/ksf	8,980	6	16
8, HS	High School	1260	School (assume 2,000 students)	40		10.0 ksf/acre	-	400,000	10 gpd/stu	20,000	14	36
8, HS	High School - irrigation	1830	Regional Park			-	-	-	-	-		-
8, HS	Recreation/Entertainment Core	1230	Commercial Recreation	75	[6]			1,243,010	41 gpd/ksf	50,963	35	92
8, HS	Linear Park	1830	Regional Park	75		-	-	-	-	-		-
9-12	Commercial/Business	1210	General Office	94		16.9 ksf/acre	-	1,588,198	62 gpd/ksf	98,468	68	178
9-12	Linear Park	1830	Regional Park	23		-	-	-	-	-		-
13-14	MFR/MU	1182	Res - High Density	62		29.5 du/acre	1,829	-	130 gpd/DU	237,770	165	472
13-14	Retail	1221	Community Commercial	31	[6]	9.8 ksf/acre	-	606,000	142 gpd/ksf	43,026	30	78
13-14	Office/R&D	1240	Institutional	31			-		30 gpd/ksf	9,090	6	16
15	SFR/Affordable	1162	Res - Medium Density	86		9.7 du/acre	836	-	200 gpd/DU	167,200	116	332
15	MFR	1172	Res - Medium High Density	100		20.1 du/acre	2,011	-	130 gpd/DU	261,430	182	519
15	Commercial/Office	1210	General Office	84	[6]	-	-	95,200	62 gpd/ksf	5,902	4	11
15	Congregate Care	1244	Hospital					1,000,000	165 gpd/ksf	165,000	115	328
15	Linear Park	1830	Regional Park			-	-	-	-	-		-
7 thru 15	**LEGACY PARK [4]**			**723**		**-**	**4,676**	**5,180,700**		**1,082,521**	**752**	**-**
16-19	Commercial/ Business (TTM 16695)	1210	General Office	103	[7]	14.4 ksf/acre	-	1,483,553	62 gpd/ksf	22,995	16	42
16-19	Commercial/ Business (TTM 16695)	1210	General Office						62 gpd/ksf	22,995	16	42
16-19	Commercial (TTM 16695)	1210	General Office						62 gpd/ksf	22,995	16	42
16-19	Commercial (TTM 16695)	1210	General Office						62 gpd/ksf	22,995	16	42
20	Tustin Field I (Tract 16474)	1172	Res - Medium-High Density	29		13.0 du/acre	376	-	130 gpd/DU	48,880	34	97
21	Tustin Field II (Tract 16507)	1132	Res- Low Density	127		5.1 du/acre	654	-	225 gpd/du	147,150	102	292
21	Columbus Grove Tustin (Tract 16582)											
22	Columbus Grove Irvine (Tract 16580)	1162	Res- Medium Density	47		8.7 du/acre	409	-	200 gpd/DU	81,800	57	162
22	K-8 School	1260	School	20		10.0 ksf/acre	-	50,400	20 gpd/ksf	1,008	1	2
22	K-8 School - irrigation	1830	School			-	-	-	-	-		-
22	Neighborhood Park	1820	Park - Community	6	[8]	-	-	-	-	-		-
16 thru 22				**332**		**-**	**1,439**	**1,533,953**		**370,818**	**258**	**-**
			TOTAL				**7,190**	**9,678,139**		**1,871,614**	**1,300**	**-**

[1] Land use statistics are based on Table 2 Land Use Statistical Summary of the TLSP Amendment Initial Study (March 2015), and revisions from the City of Tustin (Dec 2015).
[2] Table 3-1.
[3] Peak factor for sewer is taken from IRWD SCSMP (Dudek, 2006) using IRWD's standard daily peaking factor 1.3 times the maximum peak exhibited in the standard sewer flow diurnal curve for residential of 2.2 (Figure 3-1) and for non-residential of 2.0 (Figure 3-4).
[4] Includes 10.2 acres formerly within PA 7, as depicted in Exhibit II-3 of IRWD Revised SAMP (April 2008).
[5] Assumes the Urban Regional Park may include recreational facilities generating wastewater.
[6] Assumed acreage split.
[7] Includes 14 acres of temporary military/government use, which will relocate to PA-1.
[8] According to Table 2 of the Initial Study (March 2015) PA-22 gross area is 73 acres. Area of Tract 16580 is 47 acres. Neighborhood Park represents the remainder.
[9] On Exhibit 3-3 loadings for the Education Village shown as "PA 1A". All other loadings for PA 1 are shown as "PA 1B".

Table 3-2b
TLSP - Estimated Wastewater Flows By Drainage Basin

Planning Area	City Land Use (Tract)	IRWD Land Use Code	IRWD Land Use Type	Net Area[1] (acres)		Density	DUs, SAMP Update [1]	Building Area, SAMP Update [1] (SF)	Wastewater Flow Factor [2]	Average Flow (gpd)	Average Flow (gpm)	Peak Flow [3] (gpm)
1 [9]	Education Village	1260	School (16,048 students & staff per SOCCCD)	100	[6]	18.4 ksf/acre	-	1,836,200	10 gpd/stu	160,480	111	290
1 [9]	Commercial/Office	1222	Regional Commercial	20		20.9 ksf/acre		418,000	130 gpd/ksf	54,340	38	98
2	Community Park	1230	Community Park	29		0.0 ksf/acre	-	1,000	41 gpd/ksf	41	0	0
2	Community Park - irrigation	1820	Community Park			-	-	-	-	-		-
3	Transitional/ Emergency Housing	1210	General Office	5		26.7 ksf/acre	-	133,294	62 gpd/ksf	8,264	6	15
4 (por.)	Low Density (TTM 16581)	1132	Res- Low Density	37.8	[4]	6.2 du/acre	235	-	225 gpd/DU	52,763	37	105
5 (por.)	Medium Density (TTM 16581)	1172	Res- Medium Density	36.4	[4]	14.2 du/acre	518	-	130 gpd/DU	67,340	47	134
6	Urban Regional Park - irrigation	1830	Regional Park	84.5		-	-		-	-		-
6	Urban Regional Park	1230	Commercial Recreation [5]			6.8 ksf/acre	-	574,992	41 gpd/ksf	23,575	16	43
Armstrong North Drainage Basin				**313**			**753**	**2,963,486**		**366,802**	**255**	**-**
7	Comm. Commercial	1221	Community Commercial	10.5	[6]	9.9 ksf/acre	-	103,460	142 gpd/ksf	14,691	10	27
7	Office	1210	General Office	10.5		13.8 ksf/acre	-	144,832	62 gpd/ksf	8,980	6	16
4 (por.)	Low Density (TTM 16581)	1132	Res- Low Density	16.2	[4]	6.2 du/acre	101	-	225 gpd/DU	22,613	16	45
5 (por.)	Medium Density (TTM 16581)	1172	Res- Medium Density	15.6	[4]	14.2 du/acre	222	-	130 gpd/DU	28,860	20	57
8, HS	High School	1260	School (assume 2,000 students)	40		10.0 ksf/acre	-	400,000	10 gpd/stu	20,000	14	36
8, HS	High School - irrigation	1830	Regional Park			-	-	-	-	-	-	-
8, HS	Recreation/Entertainment Core	1230	Commercial Recreation	75	[6]			1,243,010	41 gpd/ksf	50,963	35	92
8, HS	Linear Park	1830	Regional Park	75		-	-	-	-	-	-	-
15 (por.)	SFR/Affordable	1162	Res - Medium Density	12.9		9.7 du/acre	125	-	200 gpd/DU	25,080	17	50
15 (por.)	MFR	1172	Res - Medium High Density	15		20.1 du/acre	302	-	130 gpd/DU	39,215	27	78
15 (por.)	Commercial/Office	1210	General Office	12.6	[6]	-	-	14,280	62 gpd/ksf	885	1	2
15 (por.)	Congregate Care	1244	Hospital					150,000	165 gpd/ksf	24,750	17	49
15 (por.)	Linear Park	1830	Regional Park			-	-	-	-	-	-	-
Tustin Ranch Road North Drainage Basin				**283**			**750**	**2,055,582**		**236,037**	**164**	**-**
15 (por.)	SFR/Affordable	1162	Res - Medium Density	73.1		9.7 du/acre	711	-	200 gpd/DU	142,120	99	282
15 (por.)	MFR	1172	Res - Medium High Density	85		20.1 du/acre	1,709	-	130 gpd/DU	222,216	154	441
15 (por.)	Commercial/Office	1210	General Office	71.4	[6]	-	-	80,920	62 gpd/ksf	5,017	3	9
15 (por.)	Congregate Care	1244	Hospital					850,000	165 gpd/ksf	140,250	97	279
15 (por.)	Linear Park	1830	Regional Park			-	-	-	-	-	-	-
Tustin Ranch Road Central Drainage Basin				**230**			**2,420**	**930,920**		**509,603**	**354**	**-**
16-19	Commercial/ Business (TTM 16695)	1210	General Office	103	[7]	14.4 ksf/acre	-	1,483,553	62 gpd/ksf	22,995	16	42
16-19	Commercial/ Business (TTM 16695)	1210	General Office						62 gpd/ksf	22,995	16	42
16-19	Commercial (TTM 16695)	1210	General Office						62 gpd/ksf	22,995	16	42
16-19	Commercial (TTM 16695)	1210	General Office						62 gpd/ksf	22,995	16	42
Tustin Ranch Road South Drainage Basin				**103**			**0**	**1,483,553**		**91,980**	**64**	**-**

Table 3-2b (cont.)
TLSP - Estimated Wastewater Flows By Drainage Basin

Planning Area	City Land Use (Tract)	IRWD Land Use Code	IRWD Land Use Type	Net Area[1] (acres)		Density	DUs, SAMP Update [1]	Building Area, SAMP Update [1] (SF)	Wastewater Flow Factor [2]	Average Flow (gpd)	Average Flow (gpm)	Peak Flow [3] (gpm)
13-14	MFR/MU	1182	Res - High Density	62		29.5 du/acre	1,829	-	130 gpd/DU	237,770	165	472
13-14	Retail	1221	Community Commercial	31	[6]	9.8 ksf/acre	-	606,000	142 gpd/ksf	43,026	30	78
13-14	Office/R&D	1240	Institutional	31			-		30 gpd/ksf	9,090	6	16
Armstrong West Drainage Basin				**124**			**1,829**	**606,000**		**289,886**	**201**	**-**
9-12	Commercial/Business	1210	General Office	94		16.9 ksf/acre	-	1,588,198	62 gpd/ksf	98,468	68	178
9-12	Linear Park	1830	Regional Park	23		-	-	-	-	-		-
Armstrong East Drainage Basin				**117**			**0**	**1,588,198**		**98,468**	**68**	**-**
20	Tustin Field I (Tract 16474)	1172	Res - Medium-High Density	29		13.0 du/acre	376	-	130 gpd/DU	48,880	34	97
21	Tustin Field II (Tract 16507)	1132	Res- Low Density	127		5.1 du/acre	654	-	225 gpd/du	147,150	102	292
21	Columbus Grove Tustin (Tract 16582)											
22	Columbus Grove Irvine (Tract 16580)	1162	Res- Medium Density	47		8.7 du/acre	409	-	200 gpd/DU	81,800	57	162
22	K-8 School	1260	School	20		10.0 ksf/acre	-	50,400	20 gpd/ksf	1,008	1	2
22	K-8 School - irrigation	1830	School			-	-	-	-	-		-
22	Neighborhood Park	1820	Park - Community	6	[8]	-	-	-	-	-		-
HATS Drainage Basin				**435**			**1,439**	**50,400**		**278,838**	**194**	**554**
			TOTAL				**7,190**	**9,678,139**		**1,871,614**	**1,300**	

[1] Land use statistics are based on Table 2 Land Use Statistical Summary of the TLSP Amendment Initial Study (March 2015), and revisions provided by the City of Tustin (Dec 2015).
[2] Table 3-1.
[3] Peak factor for sewer is taken from IRWD SCSMP (Dudek, 2006) using IRWD's standard daily peaking factor 1.3 times the maximum peak exhibited in the standard sewer flow diurnal curve for residential of 2.2 (Figure 3-1) and for non-residential of 2.0 (Figure 3-4).
[4] Includes 10.2 acres formerly within PA 7, as depicted in Exhibit II-3 of IRWD Revised SAMP (April 2008).
[5] Assumes the Urban Regional Park may include recreational facilities generating wastewater.
[6] Assumed acreage split.
[7] Includes 14 acres of temporary military/government use, which will relocate to PA-1.
[8] According to Table 2 of the Initial Study (March 2015) PA-22 gross area is 73 acres. Area of Tract 16580 is 47 acres. Neighborhood Park represents the remainder.
[9] On Exhibit 3-3 loadings for the Education Village shown as "PA 1A". All other loadings for PA 1 are shown as "PA 1B".

A peaking analysis was performed for the purpose of identifying the governing peak flows and time of day it occurs. Because peaks occur at different times, peaks for residential and non-residential land uses are not additive. However, a peak flow for each drainage basin can be estimated using the pertinent peaking factor for each at any given time of day. Based on the diurnal flow variations for the Irvine region, as used in the hydraulic model, residential land uses peak at 08:00, and non-residential uses peak at 12:00. Peak flow for each drainage basin, and corresponding time of day, is summarized in **Table 3-3**.

Table 3-3
Summary of Estimated Wastewater Flows By Drainage Basin

Drainage Basin	Planning Areas	Average Flow (gpd)	Average Flow (gpm)	Peak Flow
OCSD				
Armstrong North	1, 2, 3, 4-5, (por.), and 6	366,802	255	561 gpm @12:00
Tustin Ranch Road North	7, 4-5 (por.), 8, HS, 15 (por.)	236,037	164	333 gpm @12:00
Tustin Ranch Road Central	15 (por.)	509,603	354	845 gpm @08:00
Tustin Ranch Road South	16-19	91,980	64	166 gpm @12:00
Armstrong West	13-14	289,886	201	516 gpm @08:00
Armstrong East	9-12	98,468	68	178 gpm @12:00
Total (OCSD)		***1,592,776***	***1,106***	**-**
MWRP				
TOTAL HATS	***20, 21 and 22***	***278,838***	***194***	***553 gpm*** @08:00

3.1.3 Estimated Wastewater Flow – Current vs. 2008 SAMP

For the purposes of the TLSP SAMP Update, a comparison of the estimated wastewater flows with the 2008 Revised SAMP is provided in **Table 3-4**.

Table 3-4
Estimated Wastewater Flow - Current TLSP vs 2008 SAMP

Item	Units, Bldg	Estimated Average Sewer Flow
2015 SAMP Update		
Dwelling Units	7,190 DUs	-
Non-residential Bldg Area	9,678,139 sf	-
Wastewater Flow	-	1.87 MGD
2008 Revised SAMP		
Dwelling Units	4,825 DUs	-
Non-residential Bldg Area	11,163,071 sf	-
Wastewater Flow	-	1.70 MGD

3.2 Proposed Collection System

3.2.1 Off-site Facilities

Two major IRWD sewer systems serve the TLSP development - the Armstrong Avenue and Harvard Avenue trunk sewer systems - and will continue to serve TLSP flows through buildout. The TLSP study area represents the upstream end of the Armstrong Avenue Trunk Sewer (AATS) which will serve the majority of TLSP area. The 45-inch Harvard Avenue Trunk Sewer (HATS) extends much further north and serves the District's Tustin and Orange regions, conveying wastewater to the Michelson Water Reclamation Plant (MWRP).

The off-site downstream portion of the AATS system is a 27-inch and 42-inch gravity system extending from the TLSP project site to Main Street and the outlet to the OCSD trunk sewer. The upstream 27-inch extends to McGaw Avenue where the system collects sewerage flow from two major trunk sewer systems – a separate 18-inch system in Armstrong and a 27-inch system in McGaw Avenue. From this confluence, the AATS system is a 42-inch gravity sewer and collects flows from separate 10-inch and 12-inch gravity sewer systems at Gillette Avenue and extends to its terminus at the outlet to OCSD sewer system in Main Street. **Exhibit 3-2** shows the alignment of the AATS and IRWD's outlet to the OCSD system.

Based upon the analysis conducted for this SAMP Update, we have concluded that the existing off-site sewer collection facilities have adequate capacity to serve the ultimate buildout of the development proposed in the TLSP area, and no off-site improvements are required.

15”
15”
15”
18”
27”
20”
28”
18” SEWER
28” McGAW SEWER
42”
10” GILLETTE SEWER
12” SEWER
42”

LEGEND

- Armstrong Sewer (Existing)
- Tustin Legacy Backbone Sewer (Existing Or Under Design/construction
- Tustin Legacy Project Boundary
- VOC “Plume” Areas

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0 650 1,300 2,600 Feet

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IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Armstrong Sewer

Exhibit 3-2

3.2.2 Onsite Facilities

The majority of the on-site sewer collection system for the Tustin Legacy Specific Plan are constructed and in operation. The Tustin Legacy Specific Plan study area is generally flat, with limited topography. The 2008 SAMP identified potential 'gravity' sewering challenges at the northeast end of the study area within Planning Area 15. A separate study (RBF, 2007) was referenced in the 2008 SAMP which evaluated sewering alternatives. The alternatives included proposing variances to District design standards and potentially diverting off-site flows from Edinger Avenue, through PA 15 and to the Tustin Ranch trunk sewer. The alternative for the SAMP Update assumes no off-site flows will be diverted from off-site sources.

Proposed development and roadway patterns are still in the early planning stages for Planning Area 15A, as well as PA 8 and PA 13-14. Relatively flat topography of these future planning areas could result in design of in-tract sewer systems in any direction. Multiple sewering options for these PAs could provide the opportunity to optimize sewer flows through existing trunk sewer systems. For future development in PA 15A, this would mean optimizing the distribution of tributary flows through PA 15-B, or direct conveyance to existing manholes on the trunk sewer systems in Legacy Park Drive, Moffett Drive, Tustin Ranch Road, and/or Victoria Road. Significant flows are projected from the current planning of approximately 2,800 residential dwelling units and a 1,000,000 square-foot congregate care facility in PA 15-A. Similarly, the future flows from PA 8 and PA 13-14 could also be designed to optimize flows in downstream systems.

If unforeseen conditions require the collection of future flows in a manner inconsistent with the assumptions made for the SAMP Update, portions of this SAMP may require preparing a SAMP addendum to update the changes. In addition, interim flows may warrant regular flushing or other temporary method of maintenance or operation until natural flushing velocities are developed in the gravity-flow systems. The existing and proposed sewer collection facilities within the TLSP study area are shown in **Exhibit 3-3**.

Future sewer construction may impact VOC "Plume" areas. Specific construction considerations for are described in the *Special Provisions For Work in Contaminated Areas* specifications, previously prepared for the contaminated areas within MCAS Tustin[1].

[1] The "Special Provisions for Work in Contaminated Areas" was prepared by Marlin Sweigart, under the supervision of Roy F. Weston, Inc., February 2002.



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IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Sewer Collection System

Exhibit 3-3

3.3 Operating Criteria and Hydraulic Analysis

The existing on-site wastewater collection system is a gravity system and generally flows from northeast to southwest. The IRWD criteria presented in Chapter 3 of the SCSMP was used to determine pipe sizes and alignments for additional proposed gravity sewers needed for buildout of the remaining undeveloped areas of Tustin Legacy. The off-site AATS system was included in the analysis performed for the SAMP Update, and evaluated for its capacity to serve the ultimate flows from TLSP. The Armstrong Avenue system extends off-site as a 27-inch gravity trunk sewer to McGaw Avenue. At McGaw Avenue, the system collects sewerage flow from two major trunk sewer systems – a separate 18-inch system in Armstrong and a 27-inch system in McGaw Avenue. From this confluence, the Armstrong system is upsized to a 42-inch gravity sewer and collects flows from separate 10-inch and 12-inch gravity sewer systems at Gillette Avenue. Its 42-inch diameter extends from McGaw Avenue to its outlet at the OCSD collection system in Main Street.

For the analyzed system, standard minimum and maximum velocity conditions at maximum flow depth is 2.0 feet per second (fps) and 8.0 fps, respectively. These velocities are typical industry standards in order to maintain solids in suspension and minimize damage due to scouring. **Table 3-5** summarizes the criteria used for the analysis and sizing of the additional proposed sewers for the ultimate TLSP wastewater collection system.

Table 3-5
IRWD Wastewater Collection Planning Criteria

Sewer Size	Allowable d/D	Minimum Slope	Velocity (fps) [1]	
			Minimum	Maximum
8-inch	50%	0.004		
10-inch	50%	0.0028		
12-inch	50%	0.0022		
15-inch	67%	0.0015	2.0	8.0
18-inch	75%	0.0012		
21-inch	75%	0.001		
24-inch	75%	0.0008		

[1] During Peak Flow

The Armstrong and Harvard Avenue trunk sewer systems serve current TLSP flows, and will continue to serve TLSP through buildout. The 45-inch Harvard Avenue Trunk Sewer (HATS) serves a large sewershed upstream of TLSP to the north to serve the District's Tustin and Orange regions. Off-site analysis of the HATS system is outside the scope of the SAMP Update. The AATS system starts at the TLSP project site, and is sized for ultimate buildout of TLSP.

3.4 Wastewater Collection System Computer Analysis

The Irvine Ranch Water District is in the process of updating their District-wide sewer collection system master plan (SCSMP). In coordination with the needs of the District-wide update and this SAMP Update for Tustin Legacy Specific Plan, a stand-alone model was developed for the on-site system and downstream AATS system to the OCSD collection trunk in Main Street in a

compatible data format that can be analyzed independently for the SAMP. The system geometry (pipe sizes, elevations and slopes) for the AATS were taken from a recent update of IRWD's District-wide model. Off-site sewer loadings on the AATS system at McGaw Avenue and Gillette Avenue were estimated based on the 2014 District-wide computer model, and confirmed the flows measured at the OCSD outlet in Main Street as part of the recently completed Irvine Business Complex Flow Monitoring project (ADS, 2015). It is anticipated the District will ultimately incorporate the model input data from the TLSP SAMP Update analysis into the new SCSMP.

The hydraulic model of the proposed collection system was analyzed using the computer modeling software InfoSewer by Innovyze. The analysis is based on existing loads from completed (or nearly completed) development within Planning Areas 4-5, 16-19, 20, 21 and 22, and assumed percent loadings from future development planning areas as shown in Exhibit 3-3, and utilizes IRWD's standard diurnal loading curves from the SCSMP in EPS (extended-period simulation) mode. The proposed wastewater collection system is shown in Exhibit 3-3. The computer model schematic diagram and detailed computer model output is included in **Appendix B**. A summary of the maximum depth ratios for sewer systems within the TLSP project area and AATS system are summarized in **Table 3-6**:

Table 3-6
Summary of Maximum Sewer System Hydraulic Model Results

Critical Sewer Pipe	Slope	Maximum Depth Ratio (@ timestep)	Max IRWD Depth Ratio	Location Description
P0297 (12")	0.0024	39% @ 07:00	50%	Moffett Dr sewer to Park Ave
P0293 (15")	0.0015	49% @ 07:00	67%	Park Ave sewer south from Moffett Dr
P0183 (15")	0.0022	55% @ 07:30	67%	Park Ave sewer south from Moffett Dr
P0060 (12")	0.0110	***57% @ 07:00***	***50%***	PA 13-14 flow to TRR sewer
P0102 (15")	0.0015	44% @ 09:30	67%	Armstrong sewer south from Victory Rd
P0132 (18")	0.0012	45% @ 08:00	75%	Armstrong sewer south from Warner Ave
P0240 (20")	0.0010	64% @ 08:30	75%	TRR sewer, Park Ave to Armstrong
P0145 (28")	0.0012	45% @ 08:30	75%	Armstrong sewer north from Warner Ave

Sewer P0060 is an existing 12-inch sewer that currently collects flows from the existing residential development in PA 13-14. The results show that IRWD operating criteria for flow depth may be exceeded based on the assumed loading distribution of future PA 13-14 development remaining for PA 13-14. Therefore, the District should monitor PA 13-14 service flows to Sewer P0060 as development occurs and ensure future sewer expansion does not exceed the capacity of P0060. Exhibit 3-3 shows the recommended master sewerage collection plan for TLSP.

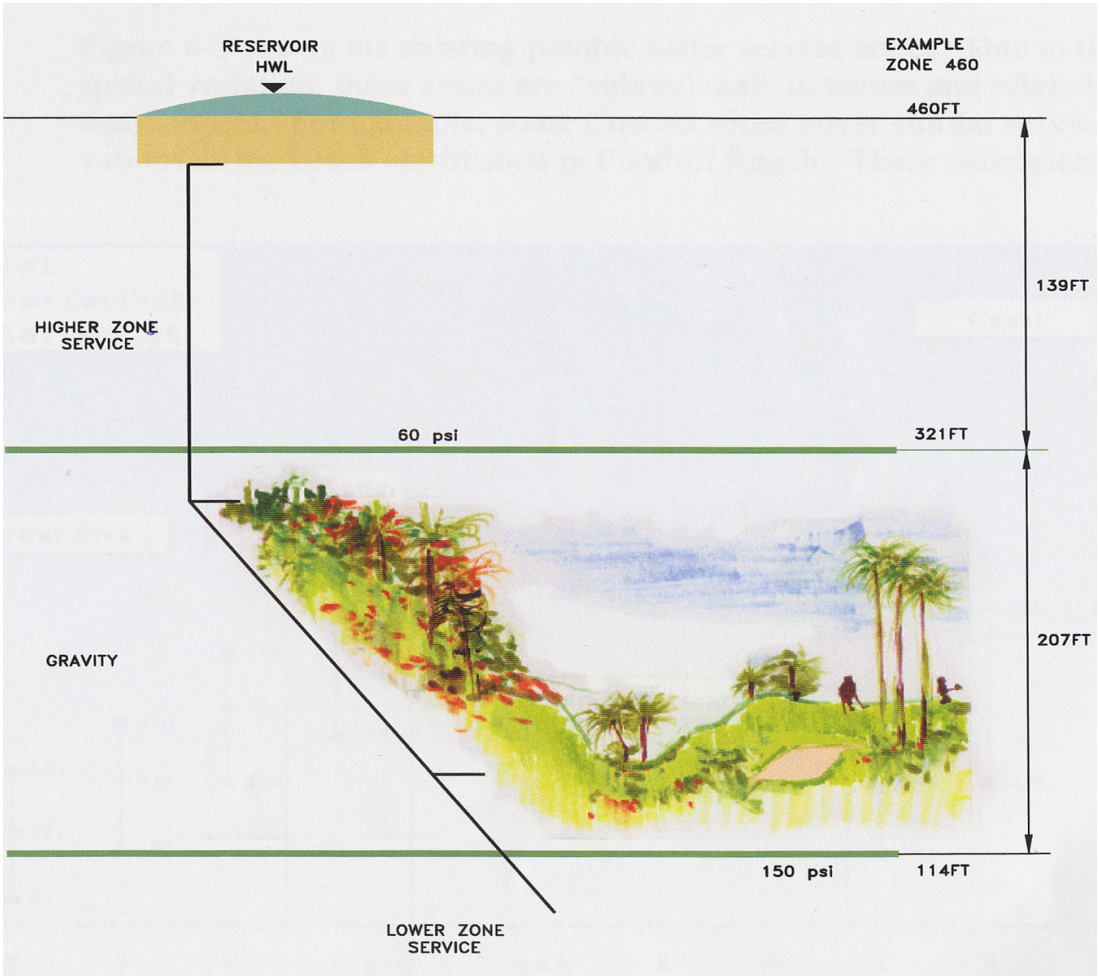
SECTION 4.0 NON-POTABLE WATER SYSTEM

The Tustin area of IRWD's non-domestic service area is supplied with a combination of untreated imported water and recycled water produced from IRWD's Michelson Water Reclamation Facility (MWRF).

4.1 Non-Potable Water Pressure Zone Service Area

The TLSP study area is entirely within Zone A of IRWD's non-potable water service area. Zone A operates with a nominal hydraulic gradient (HGL) elevation of 330 feet, as defined by the Zone A South Reservoir high-water-level. The extents of the District's service area established for Zone A is based on the minimum and maximum pressures and IRWD's standard figure illustrating minimum and maximum elevations relative to the hydraulic gradient of Zone A, as shown below:

- Minimum Static Pressure: 60 psi, based on full reservoir
- Maximum Static Pressure: 150 psi, based on full reservoir



Therefore, in a standard pressure zone, the highest allowable non-potable service elevation is determined by subtracting 139 feet (60 psi) from the reservoir HWL. In the case of the Zone A South Tank, the highest allowable service elevation is determined by subtracting 139 feet from the 330-foot HGL, or 191 feet above mean sea level. Similarly, the lowest allowable service elevation is determined by subtracting 346 feet (150 psi) from the Zone A HGL, or -26 feet amsl. The ground elevation of the TLSP study area ranges from approximately 45 feet to 70 feet AMSL.

Pursuant to the *Non-potable Water System Model* (AKM, July 2014), the Zone A South tank and MWRP MPS-2 are the storage and pumping facilities that mostly influence the supply for the TLSP region. These are primary distribution facilities for much of the District's regional non-potable water system. **Table 4-1** summarizes the proposed non-potable water pressure zone service elevations of Zone A and static pressures for TLSP.

Table 4-1
Non-Potable Water Pressure Summary - Zone A [1]

Source of Supply	HGL, ft	Elevations Served [2]		Static Pressure, psi	
		Upper	Lower	Minimum	Maximum
Zone A South Tank	330	70	45	112	123
MWRP MPS-2	338 [3]			115	126

[1] Based on data taken from *IRWD Non-Potable Water System Model* (AKM, July 2014).
[2] Proposed range of service pad elevations assumed to be maximum range of TLSP site.
[3] Based on TDH = 324 ft plus pump station ground at 14 ft el.

The table shows the upper and lower elevations are within the Zone A service range, thus the entire TLSP study area will be served by Zone A.

4.2 Projected Non-Potable Water Demands

4.2.1 Non-Potable Water Use Demand Factors

IRWD defines irrigation water usage factors in the Table 3-1 *Land Use and Water Use Factors* (September 2012). IRWD has performed recent and extensive water demand tests for each region of its non-potable water service area. Although most of the study area is located within the City of Tustin, City of Irvine demand factors were used for the SAMP Update, as shown in **Table 4-2a.**

Table 4-2a
Non-Potable Water Use Factors - Irrigation

Code	IRWD Land Use	Percent Irrigable Land	Duty Factor [1] (gpd/acre)	(acre-ft/acre/yr)
1100	**Residential**			
1132	Res- Low Density	16%	2,200	2.5
1162	Res- Medium Density	15%	2,800	3.1
1172	Res- Medium - High Density	22%	2,400	2.7
1182	Res- High Density	20%	2,800	3.1
1200	**Commercial**			
1210	General Office	20%	2,500	2.8
1221	Community Commercial	20%	3,500	3.9
1222	Regional Commercial	20%	3,500	3.9
1230	Commercial Recreation	30%	3,000	3.4
1240	Institutional	30%	2,750	3.1
1244	Hospital	30%	2,850	3.2
1260	School	50%	2,500	2.8
	Open Space & Other			
1820	Community Park	86%	2,200	2.5
1830	Regional Park	75%	2,200	2.5

[1] Based on IRWD Table 3-1 Land Use and Water Use Factors (September 2012), and City of Irvine residential factors.

In addition to serving public irrigation areas (parks, golf courses, slopes, road medians, etc.), the Irvine Ranch Water District, in coordination with Health Department officials and other regulatory jurisdictions, has established standards for serving non-potable water for in-building uses for toilet flushing and other approved uses for non-residential structures.

As described in Section 2.0, analysis of the potable and non-potable water systems includes 'standard' and 'sensitivity'. 'Standard' is based on non-potable water service exclusively for irrigation demands. For the purposes of the SAMP Update, the non-potable water system analysis also includes a 'sensitivity' analysis which plans for serving the additional daily water demands for non-residential in-door toilet-flushing.

The City of Tustin recognizes the water conservation benefits of these cutting-edge uses of non-potable and recycled water and has requested that this SAMP Update consider all proposed structures planned for non-residential land uses within the TLSP study area to be dual-plumbed for both potable and non-potable water service. **Table 4-2b** is based on the demand factors from IRWD's Table 3-1 *Land Use and Water Use Factors* (September 2012), and assumes a usage factor of 75 percent of that which is listed in Table 3-1 for commercial land uses.

Table 4-2b
Non-Potable Water Use Factors – In-Building[1]

Code	IRWD Land Use	Duty Factor[1]
1200	**Commercial**	
1210	General Office	54 gpd/ksf
1221	Community Commercial	131 gpd/ksf
1222	Regional Commercial	105 gpd/ksf
1230	Commercial Recreation	45 gpd/ksf
1240	Institutional	34 gpd/ksf

[1] Based on IRWD Table 3-1 Land Use and Water Use Factors (September 2012); assumes non-potable water for in-building uses is 75% of total.

Exhibit 4-1 illustrates the locations of non-potable water use areas within the TLSP study area, including 'major' and 'significant' landscape areas proposed to be served with non-potable water, as well as development that will include major commercial structures proposed to be served non-potable water for toilet flushing.

4.2.2 Non-Potable Water Use Peaking Factors

The peaking factor figure presented in Section 2.0 was used to estimate peaking factors based on the estimated average non-potable water demand for the Tustin Legacy Specific Plan (TLSP). For the outdoor irrigation demands of TLSP (1.09 mgd = 1.69 cfs, Table 4-3a) the peaking factor figure in Section 2.0 shows a maximum-day peaking factor of 2.75. The District recently completed District-wide water system model reports for both the potable and non-potable systems. These studies resulted in the computer models developed and used for the SAMP Update, as well as the diurnal curves used for model loading. The diurnal curve for the TLSP region shows that 12:15 am is the peak demand for the non-potable system with a value of 3.52 times maximum-day demand. For the in-door water demands of commercial buildings proposed to be dual-plumbed with non-potable water (0.22 mgd = 0.34 cfs, Table 4-3b) the same peaking factors are used as the indoor potable water demand outlined in Section 2.0. It would reason that the peaking characteristics for in-door water service would not change regardless of water source. Thus, peaking for indoor water uses would be 2.2 times average for estimating maximum-day demand, and 1.75 times maximum-day demand for estimating peak-hour demand.



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IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Public Non-Potable Water Use Areas

Exhibit 4-1

4.2.3 Daily Demands

The TLSP landscape irrigation water demands will be served by IRWD's regional non-potable water distribution system for irrigation of regional parks, common area landscapes, street medians, and other public open space irrigation area. In addition, the City of Tustin has indicated that all non-residential buildings will be served non-potable water for toilet flushing pursuant to IRWD strict standards of serving non-potable water for in-door uses. The SAMP Update assumes toilet flushing accounts for 75 percent of all indoor non-residential water demand.

As discussed in Section 2.0, 'standard' analysis is based on all in-door water demands, including non-residential buildings, served from the potable water system. A 'sensitivity' analysis is, therefore, performed for the non-potable water system in order to determine the impacts the additional demands will have on the non-potable system.

Non-potable water system peak demands are based on IRWD WRMP Figure 3-6 (see Section 2.0) and the diurnal demand curve used for the District-wide computer model, as follows:

- Maximum Day Demands (non-residential toilet flushing) = 2.25 x Average
- Peak Hour Demand (non-residential toilet flushing) = 1.75 x Maximum Day
- Maximum Day Demands (Irrigation) = 2.75 x Average
- Peak Hour Demand (Irrigation) = 3.52 x Maximum Day

The total average, maximum-day and peak hour non-potable water demand for landscape irrigation and in-door water uses for non-residential buildings, is calculated in **Table 4-3a** and **Table 4-3b**, respectively. (Note: For ease of reference, the original Planning Area designations from Exhibit 1-3 are used for the City's Disposition Areas, and can be cross-referenced using Exhibit 1-4.)

Table 4-3a
TLSP Estimated Non-Potable Water Demands for Common Area Irrigation

Planning Area	City Land Use (Tract)	IRWD Land Use Code	IRWD Land Use Type	Net Area[1] (acres)		Irrigated Area [2] %	Irrigated Area [2] Acres	Non-potable Water Demand Factor [2]	Average Demand gpd	Average Demand gpm	Maximum-Day Demand gpd [3]	Maximum-Day Demand gpm [3]	Peak Hour Demand (gpm) [4]
1	Education Village	1260	School	100	[6]	25%	25.0	2,500 gpd/Ac	62,500	43	171,875	119	420
1	Commercial/Office	1222	Regional Commercial	20	[6]	20%	4.0	3,500 gpd/Ac	14,000	10	38,500	27	94
2	Community Park	1230	Community Park	29		-		-	-		-	-	-
2	Community Park - irrigation	1820	Community Park			86%	24.9	2,200 gpd/Ac	54,868	38	150,887	105	369
3	Transitional/ Emergency Housing	1210	General Office	5		20%	1.0	2,500 gpd/Ac	2,500	2	6,875	5	17
4	Low Density (TTM 16581)	1162	Res- Low Density	54	[5]	16%	8.6	2,200 gpd/Ac	19,008	13	52,272	36	128
5	Medium Density (TTM 16581)	1162	Res- Medium Density	52	[5]	15%	7.8	2,800 gpd/Ac	21,840	15	60,060	42	147
6	Urban Regional Park	1830	Regional Park	84.5		75%	63.4	2,200 gpd/Ac	139,425	97	383,419	266	937
6	Urban Regional Park	1230	Commercial Recreation			-	-	-	-		-	-	-
1 thru 6				**345**			**134.8**		**314,141**	**218**	**863,888**	**600**	**2,112**
7	Comm. Commercial	1221	Community Commercial	10.5	[6]	20%	2.1	3,500 gpd/Ac	7,350	5	20,213	14	49
7	Office	1210	General Office	10.5	[6]	20%	2.1	2,500 gpd/Ac	5,250	4	14,438	10	35
8, HS	High School	1260	School	40		-		-	-	-	-	-	-
8, HS	High School - irrigation	1830	Regional Park			50%	20.0	2,500 gpd/Ac	50,000	35	137,500	95	336
8, HS	Recreation/Entertainment Core	1230	Commercial Recreation	75	[6]	30%	22.5	3,000 gpd/Ac	67,500	47	185,625	129	454
8, HS	Linear Park	1830	Regional Park	75	[6]	75%	56.3	2,200 gpd/Ac	123,750	86	340,313	236	832
9-12	Commercial/Business	1210	General Office	94		20%	18.8	2,500 gpd/Ac	47,000	33	129,250	90	316
9-12	Linear Park	1830	Regional Park	23		75%	17.3	2,500 gpd/Ac	43,125	30	118,594	82	290
13-14	MFR/MU	1182	Res - High Density	62		20%	12.4	2,800 gpd/Ac	34,720	24	95,480	66	233
13-14	Retail	1221	Community Commercial	31	[6]	20%	6.2	3,500 gpd/Ac	21,700	15	59,675	41	146
13-14	Office/R&D	1240	Institutional	31		30%	9.3	2,750 gpd/Ac	25,575	18	70,331	49	172
15	SFR/Affordable	1162	Res - Medium Density	86		15%	12.9	2,800 gpd/Ac	36,120	25	99,330	69	243
15	MFR	1172	Res - Medium-High Density	100		22%	22.0	2,400 gpd/Ac	52,800	37	145,200	101	355
15	Commercial/Office	1210	General Office	28	[6]	20%	5.6	2,500 gpd/Ac	14,000	10	38,500	27	94
15	Congregate Care	1244	Hospital	28		30%	8.4	2,850 gpd/Ac	23,940	17	65,835	46	161
15	Linear Park	1830	Regional Park	28		75%	21.0	2,500 gpd/Ac	52,500	36	144,375	100	353
7 thru 15	**LEGACY PARK**			**722**			**236.8**		**605,330**	**420**	**1,664,658**	**1,156**	**4,069**
16-19	Commercial/ Business (TTM 16695)	1210	General Office										
16-19	Commercial/ Business (TTM 16695)	1210	General Office	103	[7]	20%	20.6	2,500 gpd/Ac	51,500	36	141,625	98	346
16-19	Commercial (TTM 16695)	1210	General Office										
16-19	Commercial (TTM 16695)	1210	General Office										
20	Tustin Field I (Tract 16474)	1172	Res - Medium-High Density	29		22%	6.4	2,400 gpd/Ac	15,312	11	42,108	29	103
21	Tustin Field II (Tract 16507)	1132	Res- Low Density	127		16%	20.3	2,200 gpd/Ac	44,704	31	122,936	85	301
21	Columbus Grove Tustin (Tract 16582)												
22	Columbus Grove Irvine (Tract 16580)	1162	Res- Medium Density	47		15%	7.1	2,800 gpd/Ac	19,740	14	54,285	38	133
22	K-8 School	1260	School	20		-		-	-		-	-	-
22	K-8 School - irrigation	1830	School			50%	10.0	2,500 gpd/Ac	25,000	17	68,750	48	168
22	Neighborhood Park	1820	Community Park	6	[8]	86%	5.2	2,200 gpd/Ac	11,352	8	31,218	22	76
16 thru 22				**332**			**69.5**		**167,608**	**116**	**460,922**	**320**	**1,127**
	ROW [1]			206									
			TOTAL	**1,605**			**441**		**1,087,079**	**755**	**2,989,467**	**2,076**	**7,308**

[1] Land use statistics are based on the Table 2 Land Use Statistical Summary of the TLSP Amendment Initial Study, March 2015.
[2] Table 4-2a. The City provided a conceptual layout of the landscape areas for the Education Village of PA 1, which includes no playing fields and an apparently reduced rate of irrigaiton estimated between 10% and 25%.
[3] Pursuant to IRWD WRMP, Figure 3-6, average NPW demand of 1.13 mgd (1.75 cfs) calculates to peaking MD pf = 2.75.
[4] Peak hour demands are determined using the IRWD's diurnal curve from the Non-potable Water System Model Report (AKM, 2014) - PH pf = 3.52 x MD demand.
[5] Includes 10.2 acres formerly within PA 7, as shown in Exhibit II-2 of the Revised SAMP for MCAS Tustin Legacy (2008).
[6] Assumed acreage split.
[7] Includes 14 acres of temporary military/government use, which will relocate to PA-1.
[8] According to Table 2 of the Initial Study (March 2015) PA-22 gross area is 73 acres. Gross area of Tract 16580 is 47 acres. Neighborhood Park represents the remainder.

Table 4-3b

TLSP Estimated Indoor Water Demands Served with Non-Potable Water [1]

Planning Area	City Land Use (Tract)	Average Indoor Demand (gpd)	Max Day Indoor Demand (gpd)	Peak Hour Indoor Demand (gpm)
		NON-POTABLE WATER		
1	Education Village	120,360	270,810	329
1	Commercial/Office	43,890	98,753	120
2	Community Park	0	0	0
2	Community Park - irrigation	-	-	-
3	Transitional/ Emergency Housing	7,198	16,195	20
4	Low Density (TTM 16581)	0	0	0
5	Medium Density (TTM 16581)	0	0	0
6	Urban Regional Park - irrigation	-	-	-
6	Urban Regional Park	25,875	58,218	71
1 thru 6		197,323	443,976	540
7	Comm. Commercial	13,579	30,553	37
7	Office	7,821	17,597	21
8, HS	High School	15,000	33,750	41
8, HS	High School - irrigation	-	-	-
8, HS	Recreation/Entertainment Core	55,935	125,855	153
8, HS	Linear Park	-	-	-
9-12	Commercial/Business	85,763	192,966	235
9-12	Linear Park	-	-	-
13-14	MFR/MU	0	0	0
13-14	Retail	39,769	89,480	109
13-14	Office/R&D	10,226	23,009	28
15	SFR/Affordable	0	0	0
15	MFR	0	0	0
15	Commercial/Office	5,141	11,567	14
15	Congregate Care	0	0	0
15	Linear Park	-	-	-
7 thru 15	LEGACY PARK	233,234	524,776	638
16-19	Commercial/ Business (TTM 16695)	20,028	45,063	55
16-19	Commercial/ Business (TTM 16695)	20,028	45,063	55
16-19	Commercial (TTM 16695)	20,028	45,063	55
16-19	Commercial (TTM 16695)	20,028	45,063	55
20	Tustin Field I (Tract 16474)	0	0	0
21	Tustin Field II (Tract 16507)	0	0	0
21	Columbus Grove Tustin (Tract 16582)			
22	Columbus Grove Irvine (Tract 16580)	0	0	0
22	K-8 School	0	0	0
22	K-8 School - irrigation	-	-	-
22	Neighborhood Park	-	-	-
16 thru 22		80,112	180,252	219
		510,668	1,149,004	1,396

[1] Based on 75% of all indoor water demand for non-residential structures will be served non-potable water.

= Non-residential structures proposed to be served non-potable water for indoor use.

Table 4-4 summarizes the average, maximum-day and peak hour non-potable water demands for landscape irrigation and in-door toilet flushing.

Table 4-4
Non-Potable Water Demand - Study Area Summary

Non-Potable Water Demand	Average	Max-day	Peak hour
Landscape Irrigation Water Demands on Non-potable Water System	1,087,079 gpd	2,989,467 gpd	7,308 gpm
Commercial Buildings (Indoor dual plumbing served by Non-potable Water System)	510,668 gpd	1,149,004 gpd	1,396 gpm
Total	**1,597,747 gpd**	**4,138,471 gpd**	**7,308 gpm [1]**

[1] Irrigation and Commercial uses do not peak at the same time.

4.2.4 Estimated Non-potable Water Demand – Current vs. 2008 SAMP

As previously stated, the SAMP Update proposes to include non-potable water service to non-residential structures proposed for the TLSP. This was not proposed as part of the 2008 MCAS Tustin/Legacy Park Revised SAMP. For the purposes of the TLSP SAMP Update, a comparison of the total non-potable water demands from Tables 4-2 and 4-3 is provided below, on **Table 4-5**.

Table 4-5
Estimated Non-Potable Water Demand - Current TLSP vs. 2008 Revised SAMP

Item	Area	Average	Max-day	Peak hour
2016 SAMP Update				
Landscape Irrigation	441 Acres	1.09 MGD	2.99 MGD	7,308 gpm
Non-residential Bldg	9,678,139 Sq ft	0.51 MGD	1.15 MGD	1,396 gpm
2008 Revised SAMP				
Landscape Irrigation	539 Acres	1.69 MGD	4.65 MGD	6,699 gpm
Non-residential Bldg Area	11,163,071 Sq ft	-	-	-

4.3 Operating Criteria and Hydraulic Analysis

Pipelines were sized according to the pipeline velocity and system pressure criteria stated in IRWD's WRMP, and summarized in **Table 4-6**.

Table 4-6
Non-Potable Water System Operating Criteria

Operating Condition	Pressure or Velocity
Minimum Static pressure	60 psi
Maximum Static Pressure	150 psi
Maximum Velocity	7 fps

As described in Section 2.0, the TLSP non-potable water system is proposed to serve toilet-flushing of in-door water demands for all non-residential development. Tables 2-3b and 4-3b estimates these additional daily demands on the non-potable water system. Service for these demands should comply with potable water system standards as stated in Table 2-8. Therefore, the proposed master-planned system should meet minimum dynamic pressures at all service locations of 40 psi for single-story structures, and 45 psi for multi-story structures.

Computer analysis of the proposed ultimate TLSP non-potable water system was performed using the District-wide computer model of the non-potable water distribution system and the modeling software InfoWater by Innovyze. Extended-period simulation under 'standard' demand conditions (without non-residential service for toilet-flushing) was used as the base analysis for the non-potable water system. 'Sensitivity' conditions were simulated to determine the impacts of the additional demands for toilet flushing for non-residential buildings. This additional maximum-day demand is identified in Table 4-3b as 1.36 MGD. Peak hour demands for irrigation and toilet-flushing are not directly additive because they occur at different times of the day. However, toilet-flushing will increase maximum-day service volume by 1.36 MG, and could increase peak demand on the non-potable water system.

Maximum-day loadings and standard diurnal curves for both irrigation and commercial building toilet flushing were applied to the pertinent nodes within the TLSP study area. **Table 4-7** summarizes the hydraulic results for the proposed ultimate distribution system under both 'standard' and 'sensitivity' conditions ('without' and 'with' toilet flushing of the non-residential buildings).

Table 4-7
Summary of Ultimate Non-Potable Water System Analysis Results

Critical Node/Pipe	Elevation	Minimum Service Pressure @ timestep		Pipe Diameter	Maximum Velocity		Location
		Standard	Sensitivity		Standard	Sensitivity	
Node 010E_0005	73.0 ft	52.5 psi 00:15	48.0 psi 00:15	-	-	-	PA-1C (N/Valencia)
Node 010S_0005	71.8 ft	56.5 psi 00:15	52.1 psi 00:15	-	-	-	Valencia Ave (E/Lansdowne Dr)
Node 046N_0035	75.0 ft	59.0 psi 00:15	56.3 psi 00:15	-	-	-	Armstrong Ave (PA 4-5)
Node 061N_0010	49.8 ft	59.4 psi 00:15	58.3 psi 00:15	-	-	-	Sweet Shade/Abelia
Pipe P069	-	-	-	4 in (ex.)	7.8 fps 00:15	7.8 fps 00:15	PA 22 (Existing Residential)
Pipe P057	-	-	-	8 in (ex.)	4.8 fps 00:15	5.2 fps 00:15	Tustin Ranch Road N/Barranca Pkwy
Pipe P109	-	-	-	16 in (ex.)	6.6 fps 00:15	6.9 fps 00:15	Moffett Dr (e/Jamboree Road)
Pipe P115	-	-	-	6 in (ex.)	5.3 fps 00:15	5.6 fps 00:15	Warner Avenue E/Armstrong Avenue

Table 4-7 shows that maximum pipeline velocities in the model exceed District criteria (v_{max} = 7 ft/s) at one location, Pipe P069. In this location, the velocity exceeds 7 ft/s for approximately one hour during peak hour service conditions, and reaches a maximum of 7.8 ft/s. Pipe P069 is an existing pipeline serving the fully developed residential area of PA 22. Given the briefness of the condition, unless service pressures have been problematic, it is recommended this be considered acceptable for TLSP system analysis.

It should be noted Table 4-7 lists minimum peak hour pressure results whereas the criteria listed in Table 4-6 is a static pressure requirement. By definition, static pressures are typically much higher than peak hour pressures; it can be reasoned the criteria in Table 4-6 is not violated. The schematic diagram of the computer model piping system for Tustin Legacy within the IRWD District-wide model, as well as complete output data for standard and sensitivity analysis, is included in **Appendix C**.

Although construction phasing of Disposition Areas of TLSP is not known at this time, interim operating conditions will exist for many years until ultimate buildout. Construction timing of regional looping within the study area, primarily proposed piping systems through Disposition Area 7A (formerly Planning Area 15-A) will impact interim system operation. Therefore, planned roadways through the proposed TUSD High School and Disposition Area 7B (formerly Planning Area 8) may be utilized for interim regional looping of the non-potable water system if high school construction precedes development of Disposition Area 7A. For the purposes of the SAMP Update this critical 'staging' of the non-potable water system is analyzed in order to understand how system sizing and configuration may need to dictate the ultimate distribution system. Section 8.0 describes this interim operation and presents the computer model simulation results used for sizing the interim non-potable water system.

4.4 Proposed Non-potable Water System

4.4.1 Off-site Facilities

Existing non-potable supply facilities outside the TLSP and critical to service of the study area include the existing Zone A North tank and the Michelson Water Reclamation Plant MPS-2 pump station. Other regional facilities vital to the overall operation of the regional system include the Michelson WRP treatment system, transmission pipelines to daily and seasonal storage facilities, and the Zone A South Tank which floats the Zone A system with the North tank.

Zone A is the District's largest non-potable water system pressure zone, which also supplies the higher zones. As such, Zone A acts as a sort of forebay zone for pass-through flows to the higher service areas of the District. The Zone A North and South tanks have a total volume of approximately 15.0 million gallons and are the District's two largest non-potable water distribution tanks. Similarly, the MPS-2 pump station at the Michelson WRP is the pump station with the largest capacity of the non-potable water system, as it must supply not only the needs of Zone A, but also the volume needs for the higher zones. Thus, the service capacity required for TLSP is a very small fraction of the total capacity of each facility, as shown in **Table 4-8** and **Table 4-9**.

Table 4-8
Estimated Non-Potable Water Storage [1]

TLSP Non-potable Water Use Component	TLSP Non-potable Water Demand		Zone A North and South Storage Factor (Non-TOU)	Operational Storage (MG)	IRWD Current Zone A Storage Capacity (MG) [2]
	Average (MGD)	Max Day (MGD)			
Irrigation	1.087	2.989	41%	1.23	-
Commercial Buildings	0.511	1.149	41%	0.47	-
Total	**1.598**	**4.138**	**41%**	**1.70**	15.00

[1] Based on IRWD WRMP Chapter 5 Storage Facilities, Table 5-4.
[2] Non-potable Water System Model (AKM, July 2014).

Table 4-9
Estimated Non-Potable Water Pumping for TLSP [1]

TLSP Non-potable Water Use Component	TLSP Non-potable Water Demand		Pumping Capacity for TLSP		IRWD Current Zone A Pumping Capacity (gpm) [2]
	Average (MGD)	Max Day (MGD)	(MGD)	(gpm)	
Irrigation	1.150	3.161	4.20	2,920	-
Commercial Buildings	0.604	1.360	1.81	1,256	-
Total	**1.754**	**4.521**	**6.01**	**4,176**	23,000

[1] Based on assumption used in IRWD WRMP Chapter 5 Storage Facilities, Section 5-3, which indicates regional pumping systems to pump full max day volume over 18 hours (factor of 1.33).
[2] Based on Non-potable Water System Model (July 2014), total design pumping capacity at MWRP MPS-2 is 28,000 gpm. Firm pumping capacity (excluding design capacity of the largest pumping unit) is 23,000 gpm.

The major regional distribution pipelines of the Zone A system are located within Culver, Irvine Center Drive and Harvard Avenue. The Harvard Avenue 20-inch transmission pipeline will ultimately supply the vast majority of the irrigation demands to the TLSP by way of separate 16-inch transmission systems in Moffett Drive and Barranca Parkway.

Based upon the analysis conducted for this SAMP Update, we have concluded that the existing off-site non-potable facilities have adequate capacity to serve the ultimate buildout of the development proposed in the TLSP area, and no off-site improvements are required.

4.4.2 On-site Facilities

The two existing transmission systems adjacent to the TLSP study area discussed above – Proposed Moffett Drive 16-inch pipeline and existing Barranca Parkway 16-inch pipeline – have recently been extended onto the TLSP Project site and will serve as the backbone for TLSP irrigation and commercial demands.

The proposed on-site non-potable water distribution system is based on the pipeline alignments and diameters determined during the hydraulic analysis described above, and is shown in **Exhibit 4-2**. The backbone facilities already exist in Armstrong Avenue, Valencia Avenue, Moffett Drive, and Barranca Parkway and are in operation. The analysis and Exhibit 4-

2 show that a necessary, but unconstructed segment of the circulation system is a 16-inch pipeline connecting Moffett Drive to Valencia Avenue, and until PA 15-A is developed, the non-potable water system will not have the benefit of this major circulation system, and interim service for near-term development within TLSP will be impacted. (Potential conditions for interim operation are described and analyzed in Section 8.0).

Of immediate concern is the proposed pipeline in Moffett Drive between Park Avenue and Tustin Ranch Road and the sequence in which Planning Area 15-A and Planning Area 8/High School areas are developed. The analysis in this SAMP Update indicates the following:

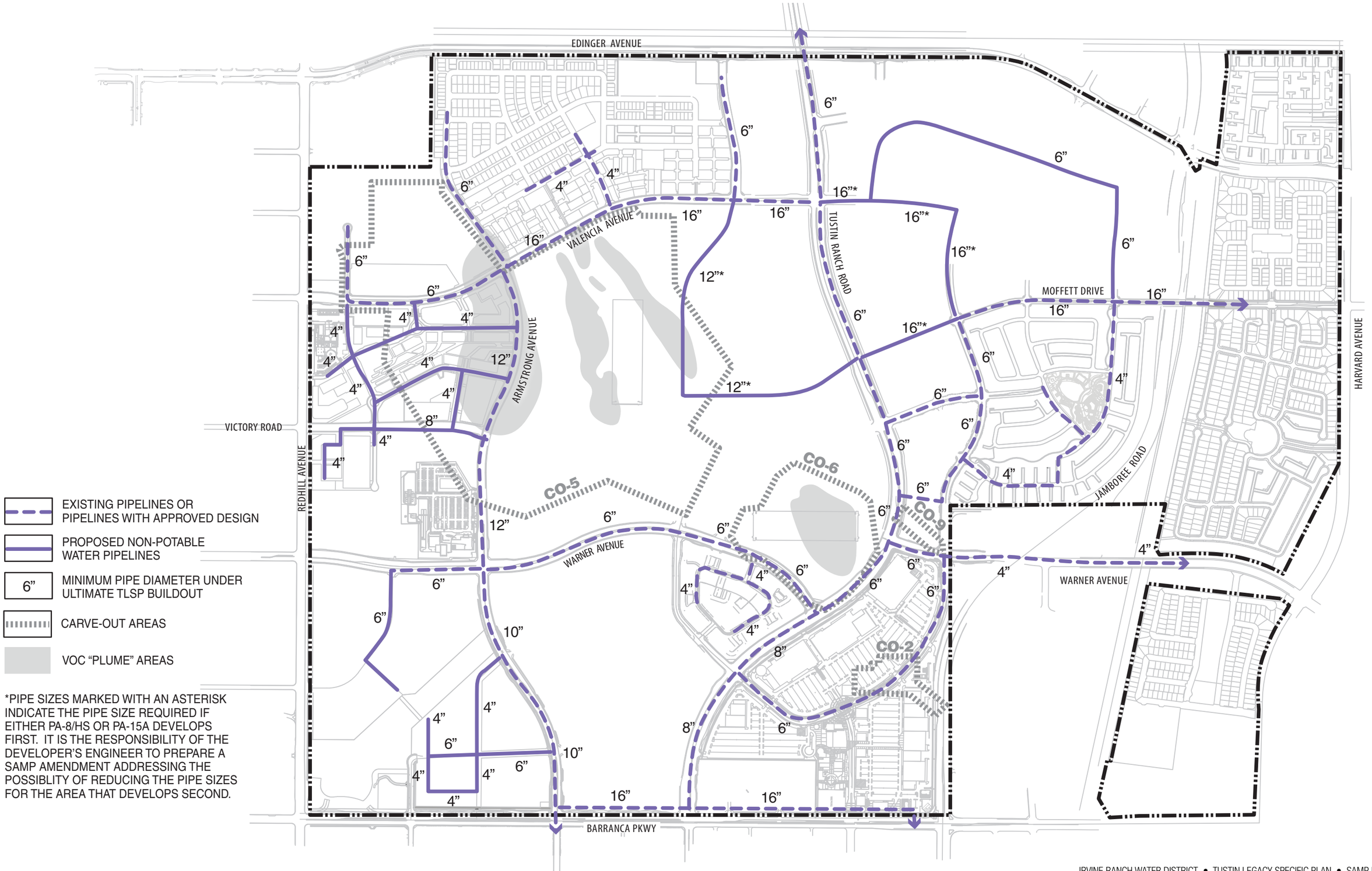
1) If the PA 8/HS area develops first, then a 12-inch pipeline is required in the PA-8/HS area, and 16-inch pipeline will be required in Moffett Drive; or
2) If PA 15-A develops first, then a 16-inch pipeline connecting to Valencia Avenue is required, and the proposed pipeline in Moffett Drive may be smaller than 16-inch.

For the purposes of this SAMP Update, the required size of the pipeline in Moffett Drive is shown to be 16-inch diameter, based on the most-conservative of the two conditions listed above. This pipeline and the other non-potable pipelines in these planning areas are shown on Exhibit 4-2 with an asterisk, which indicates the required size could potentially be smaller for those pipelines in the area that develops second. It is expected that this will require a future SAMP addendum to confirm the downsizing.

Future development includes all or portions of Planning Areas 6, 8, High School, 9-12, 13-14, and 15-A. Design of the Education Village (PA 1) and Cornerstone (PA 9-12) developments are currently underway.

As discussed in the potable water section, pipeline construction may require special design and construction considerations for alignments within previously designated VOC "Plume" areas. These considerations are further described in the "*Special Provisions for Work in Contaminated Areas"* prepared in 2002 for construction projects within the Tustin Legacy Specific Plan (formerly MCAS Tustin)[1].

[1] The "Special Provisions for Work in Contaminated Areas" was prepared by Marlin Sweigart, under the supervision of Roy F. Weston, Inc., February 2002.



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IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Non-Potable Water System

Exhibit 4-2

SECTION 5.0 NATURAL TREATMENT SYSTEM

The purpose of this update is to outline the general water quality measures implemented within the Tustin Legacy Development and discuss how these measures fit into the Irvine Ranch Water District's (IRWD) Natural Treatment System (NTS) Plan. This section provides a brief explanation on the background and objectives of the NTS Plan, an overview of the Tustin Legacy Development, and specifics on water quality features implemented within the Tustin Legacy Development and how those features are related to the NTS Plan.

5.1 Background

The NTS Plan was developed by IRWD to address water quality issues in the San Diego Creek Watershed within IRWD's jurisdiction. This plan was documented in the "Irvine Ranch Water District San Diego Creek Watershed Natural Treatment System Master Plan," dated June 2005 and prepared by Geosyntec Consultants (NTS Plan). According to the report, the primary purpose and overall goal of the NTS Plan is to improve water quality through the use of regional water quality treatment (WQT) systems that utilize natural treatment processes in a cost effective manner. The facilities envisioned by the plan are engineered WQT wetlands similar to the existing IRWD facilities at the San Joaquin Marsh.

More specifically, the objectives of the NTS Plan included assisting the County and Cities within the watershed in meeting NPDES MS4 permit requirements and Total Maximum Daily Loads (TMDLs), developing a comprehensive, regional, watershed-based approach to clean up runoff from existing and future land uses, improving water quality in San Diego Creek, Upper Newport Bay Ecological Reserve, and Newport Bay, and to enhance habitat throughout the watershed where feasible.

5.2 NTS Plan Overview

The NTS Plan consists of an ecosystem-based network of constructed WQT wetlands for improving water quality in the San Diego Creek Watershed. It includes WQT wetlands at various sites distributed throughout the watershed. The wetlands are categorized into three general configurations:

I. Wetlands that are adjacent to existing stream channels (Off-Line facilities).

II. Wetlands established within existing stream channels (In-Line facilities).

III. Wetlands that are incorporated within existing and planned flood control basins.

Potential sites for the WQT wetland implementation were identified through a screening process outlined in the NTS Plan. The list of potential sites initially grew to over 70 before being pared down to 31. According to the NTS Plan, eight of the 31 NTS sites and the four existing NTS facilities were designated as "regional retrofit" facilities because they provide regional level treatment of runoff from existing urban communities. The remaining sites are designated as "local" facilities and would be constructed in accordance with planned development activities to primarily serve newly developed communities.

5.3 Tustin Legacy Development

The Tustin Legacy Development site is located on the former Marine Corps Air Station (MCAS) Tustin which closed in 1999. The site is located on approximately 1,400 acres predominately within the City of Tustin. Planning Area 22 (Columbus Grove Irvine) at the south end of the Development site is within the City of Irvine. The development is tributary to the San Diego Creek Watershed and consists of a mixture of residential, commercial, recreational, and educational land uses. According to the NTS Plan three potential WQT sites located within the planned Tustin Legacy Development were considered in the initial feasibility screening process. These sites are summarized in **Table 5-1**.

Table 5-1
Potential WQT Sites within the TLSP Study Area

Site Number	Site Name	Facility Type	Location/Drainage
14A	MCAS Tustin - Northeast	I	Peters Canyon Wash
14	MCAS Tustin Development	I	Peters Canyon Wash
15	MCAS Tustin – Barranca Channel	II	Barranca Channel

Although the use of the WQT systems was considered for these sites, the NTS Plan ultimately excluded each one during the selection process. Even though these sites were excluded, the development is implementing WQT facilities which will serve a similar role to what the NTS Plan designated as “local” facilities. All of the current and planned WQT systems to be constructed as part of the TLSP planned communities are proposed to be designed and constructed to comply with MS4 permit requirements for new development activities and provide adequate water quality treatment. Compliance with local MS4 permit requires new developments to develop Water Quality Management Plans (WQMP) which prescribe WQT measures to be implemented throughout the development in order to mitigate the adverse impacts land development projects have on water quality.

A Preliminary WQMP was prepared by Geosyntec for Tustin Legacy entitled, “Preliminary Water Quality Management Plan for MCAS Tustin Master Development Project, October 26, 2006. This WQMP includes a suite of WQT systems which all incorporate a biological treatment component through the use of engineered soil media and plants. Each of the systems conveys runoff through a planting section which allows runoff to infiltrate into the engineered soil where biological uptake, filtration, and sedimentation occur within the soil section. Each device is configured differently and some are configured to detain runoff within a gravel section below the engineered soil where denitrification can take place. Soil conditions within the development area have predominately poor infiltration capabilities. High ground water levels and historic soil and ground water contamination within the area are additional factors that won’t allow for infiltration to take place. Due to these conditions each of the WQT systems are constructed with underdrains to allow for the treated runoff to discharge from the subsurface of the WQT system. The current and proposed on-site or local WQT systems to be implemented within the development are vegetated strips and swales, bioretention systems,

and biofiltration planter boxes and basins. Both of their configurations would consist of a Type I Facility.

Additionally, located within the southeast corner of the development is a larger WQT system that is a Type III Facility, i.e. designed as a larger detention basin with a low flow water quality vegetated swale. The swale is located within the invert of the basin and will provide treatment similar to a Type I Facility. This Type III Facility serves as more of a regional basin within the development by attenuating and treating runoff from adjacent off-site streets as well as area within the TLSP Development.

The TLSP area is being developed in phases. The development phases that are complete, currently in design, or under construction are implementing WQT systems based on the latest MS4 permit requirements for North Orange County. These systems mainly consist of biofiltration basins, planters, and/or proprietary biofiltration devices which all incorporate a biological treatment process which provides the necessary water quality treatment to be in compliance with the MS4 permit. All of these facilities are anticipated to be Type I or III Facilities depending on the site configuration. Whether a Type I or III Facility is implemented, each phase of the development will incorporate a WQT facility with a biological component as well as measures to protect receiving waters from peak runoff during large storm events.

SECTION 6.0 EASEMENTS

IRWD will require unlimited access to their facilities for operating, maintaining, replacing facilities, and monitoring, as well as other critical functions. The majority of the existing and proposed water and sewer facilities within the TLSP study area are within public rights-of-way. However, there are several areas outside public rights-of-way that will require placement of IRWD facilities. These areas are typically within parking areas, private access roads, drive ways, or open space (lettered) lots.

The SAMP Update proposes easements that cover the new potable water, sewer, non-potable water, and NTS improvements as described in Sections 2.0, 3.0, 4.0 and 5.0.

6.1 Requirements

Where public rights-of-way cannot be used for installation of water or sewer facilities, easements will be required. The minimum easement width for water is ten feet and the minimum easement width for sewer facilities is 20 feet. In the case of parallel facilities, the easement width shall not overlap. Easements shall be subject to the same terms and conditions as are shown in that certain easement recorded May 15, 2013 as instrument No. 2013000293969 of official records of Orange County.

6.2 Proposed Easements

6.2.1 Victory Road

It is understood that the City of Tustin legal counsel and Engineering department are researching easement and licensing for Victory Road, and that Victory Road will become public right of way.

6.2.2 ATEP/ Education Village Outside Victory Road

It is understood that the City of Tustin and the South Orange County Community College District (SOCCCD) are researching easement and licensing for the SOCCCD property within the Navy Lease in Furtherance of Conveyance (LIFOC) areas as well as those areas outside the LIFOC area. The Department of the Navy has provided a letter regarding the LIFOC agreement, and this letter is provided in Appendix F. For areas not in public right of way, the same easement conditions apply as the Victory Road area.

IRWD facilities shown in Right-of-Ways located within the SOCCCD campus fall into two categories as listed below:

1. Future Public Right-of-Way: Facilities in roads that will ultimately become City of Tustin Public Right-of-Way but currently are owned or leased by SOCCCD via LIFOC (Lease in Furtherance of Conveyance) with the Department of the Navy. These will require an agreement for an easement or lease from SOCCCD on a temporary basis until the land is deeded to the City or SOCCCD by the Department of the Navy, after which IRWD facilities will reside in a permanent public Right-of-Way.
2. Future Private Property: Facilities in roads that will ultimately become SOCCCD private roads and currently are owned or leased by SOCCCD via LIFOC with the Department of the Navy. These will require an agreement for a permanent

easement from SOCCCD once the land is deeded to SOCCCD by the Department of the Navy.

6.2.3 Flight at Tustin Legacy

It is understood the proposed roadways in the Flight development (planning area 9-12) will be privately owned. Therefore, all IRWD facilities will require an agreement for permanent easements.

6.2.4 Additional Private Property

For most of the unimproved planning areas within the TLSP study area, there is not enough information available (e.g. site plans, road circulation plans) to determine where all easements will be required. Identifying easements in these areas will be the responsibility of the developer of those respective planning areas, and we anticipate would be included in a future SAMP addendum.

7.0 TELEMETRY

IRWD facilities for potable water supply and distribution; wastewater collection, treatment and disposal; and non-potable water supply and distribution are maintained facilities and fully telemetered through wired or wireless communication methods with permanent, metered electrical service to communicate with IRWD Operations Center. Such facilities used for primary signal sites are storage reservoirs, water and sewer pump stations, pressure reducing stations, and regional metering facilities. Where possible and practical, these facilities are also programmed via programmable logic controller (PLC) and the same communication methods.

No water or sewer facilities for use as communication (signal) sites are proposed for TLSP. However, temporary or other unforeseen circumstances could call for such signal sites for data collection. If warranted, the design engineer will be required to apply to the City of Tustin for electrical utility service addresses for any necessary telemetry panels. The latest updates to the IRWD Construction Manual Standard Drawing E-series would be the source for telemetry standards and requirements for any such facility.

If such facilities are required, and where direct lines-of-sight are not available for wireless radio signals, or when cabling is otherwise more efficient, direct buried cables would be used for data collection. Direct buried cables should consist of heavy-duty telephone cables. These cables shall be installed in the protection zone at the base of a new pipeline during its construction. Where the telemetry cable leaves the protection zone of the pipeline, it should be installed in rigid conduit. The bend of the conduit should be strapped to the pipeline at the divergence point to eliminate shifting that might sheer the cable. The conduit should extend to the back of the sidewalk or parkway where it would enter a telemetry pedestal prior to entering the facility.

8.0 PHASING AND CONSTRUCTION SCHEDULE

Known construction phasing at this time is based on that which is existing or currently under construction (*existing*); those planning areas which are mostly outside the City of Tustin's purview and currently in some phase of the design process, and have begun submitting preliminary site designs for City and or IRWD review (*near-term*); and the Disposition Areas under City purview that have completed planning concepts but have yet to begin the site design process (*future*). Section 1.0 (Exhibits 1-4 and 1-5) describes the City Disposition Areas and TLSP planning areas within this general phasing concept. **Table 8-1** is a summary of the general development phasing the SAMP Update is based on:

Table 8-1
TLSP Construction Phasing

Construction Phase	Planning Areas
Existing	PA 1 (por.), PA 3, PA 4-5, PA 7, PA 13-14 (por.), Cornerstone, PA 16-19, PA 15-B, PA 15-C, PA 20, PA 21 and PA 22
Near-Term	PA 1 remainder, PA 2 and PA 9-12 por. (Cornerstone)
Future	High School, PA 6, PA 8, PA 9-12 remainder, PA 13-14 remainder, PA 15 remainder

Future development includes the vast majority of the City's Disposition Areas, with separate major regions requiring water facilities that could impact system capacity depending on development timing. Through meetings and coordination with IRWD, and for the purposes of the SAMP Update, "Stages" of water system operation were assumed as a conservative approach for potential interim system operation that could be critical prior to buildout of TLSP. This is particularly necessary for evaluating the potable water system and its fire flow capacity throughout the SAMP study area including the old blimp hangars. Interim operation of the non-potable water system could also be critical due to its need to operate in an interim condition without the regional transmission pipeline through Planning Area 15-A (proposed 16-inch transmission connecting Moffett Drive to Valencia Avenue). **Exhibit 8-1** illustrates the construction status (as of March 2017) of Tustin Legacy Specific Plan study area.

It should be noted that all major backbone trunk sewers within the Tustin Legacy study area are complete. Therefore, potential construction phasing issues should not impact regional operation at any stage of TLSP development. If in-tract development warrants investigation of interim sewerage collection facilities, the District may request the developer to prepare a SAMP addendum.



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Construction Status

Exhibit 8-1

8.1 Potable Water System

The City is in the process of re-purposing the blimp hangars in consideration of their historic significance and the unique opportunities within the overall land use plan of the TLSP. The U.S. Navy currently owns the hangars and the water systems serving the structures. Recent condition assessments of the existing private system pipelines have shown the systems to be in disrepair and may be insufficient to provide the required fire flow. Required improvements for the District's system to provide the required fire flow to the point of connection with the private system at all stages of development are detailed in Section 2.3.2. The potential staged water systems are evaluated for the SAMP Update using the District's computer model in the same way the ultimate system was simulated in Section 2.0.

Future TLSP study area development includes the remaining City disposition areas, and is master planned with major (regional) circulating pipelines in the potable water system. The major circulating systems are conceptually aligned through (a) the high school and PA 8, and (b) Planning Area 15-A, as described in Section 2.0. Each of these master planned systems will add significant capacity and reliability to the overall TLSP system as well as the surrounding IRWD Zone l system. Thus, without both circulating systems the TLSP water system capacity would be reduced from its ultimate layout and is analyzed as part of the SAMP Update to determine if potential 'worst-case' development construction phasing could create sub-standard system performance prior to buildout of the TLSP area and potable water system.

Most of Planning Areas 1, 2 and 3 are developed, under construction, or in final site design. Development projects within Planning Areas 9-12 (Cornerstone), 15-B and 15-C are also in advanced phases of design, and Planning Areas 4-5, 7, 16-19, 20, 21, and 22 are essentially built out. These areas represent the service needs for **Stage 1**. Tustin Unified School District has begun planning studies for the proposed high school. The proposed roadways recently provided by the City for use in the SAMP represents an opportunity to plan for regional looping that could benefit all PAs within TLSP. Due to the critical nature of a school adjacent to the north hangar, and the fire protection implications, **Stage 2** is defined as system operation for service to the high school and Planning Area 6, 8, and the remainder of PA 9-12 exclusively, as this could present a critical operating condition that would require the high fire flow capacity without the use of the other future looping that will ultimately be needed for TLSP. Because the new roadway through the high school and PA 8 could also be a vital regional loop, **Stage 3** is defined as all other future PA construction completed prior to development of the high school and PA 6, 8, and the remainder of PA 9-12.

Therefore, the potable water system operating "stages" are summarized as follows in **Table 8-2**. Note that Stage 3 is an alternative phasing condition to Stage 2, and that both Stage 2 and 3 represent a different sequencing of future construction.

Table 8-2
TLSP Potable Water System Operating Stages

Development Phase	Specific Areas	Operating Stage
Existing	PA 1 (por.), PA 3, PA 4-5, PA 7, PA 13-14 (por.), Cornerstone, PA 16-19, PA 15-B, PA 15-C, PA 20, PA 21 and PA 22	1
Near-Term	PA 1 remainder, PA 2, and PA 9-12 portion (Cornerstone)	
Future	High School, PA6, PA 8, PA 9-12 remainder only	2
	Future PAs EXCEPT High School, PA 6, PA 8, and PA 9-12 remainder	3

Tables 8-3a, 8-3b and **8-3c** estimate the Stage 1, Stage 2, and Stage 3 total water demands for TLSP on the potable water system. Hydraulic model simulation of the potential interim conditions identified for the purposes of the SAMP Update, was performed to confirm pipe sizes and looping is sufficient for maintaining District operating standards throughout development of the remaining areas within the TLSP area. The interim demands were applied to each interim potable water system model to simulate operation and measure performance against District criteria in the same manner the ultimate system was analyzed in Section 2.0.

Table 8-3a – Stage 1
TLSP Estimated Total Potable Water Demands

Planning Area	City Land Use (Tract)	Average Demand (gpd)	Max Day Demand (gpd)	Peak Hour Demand (gpm) [1]
		TOTAL		
1	Education Village	160,480	361,080	439
1	Commercial/Office	58,520	131,670	160
2	Community Park	60	135	0
2	Community Park - irrigation	-	-	-
3	***Transitional/ Emergency Housing***	***9,597***	***21,594***	***26***
4	Low Density (TTM 16581)	135,675	305,269	466
5	Medium Density (TTM 16581)	118,400	266,400	407
6	Urban Regional Park - irrigation			
6	***Urban Regional Park***			
1 thru 6		**482,732**	**1,086,147**	**-**
7	***Comm. Commercial***	***18,106***	***40,737***	***26***
7	***Office***	***10,428***	***23,463***	***15***
8, HS	High School			
8, HS	High School - irrigation			
8, HS	***Recreation/Entertainment Core***			
8, HS	Linear Park			
9-12	***Commercial/Business***	***57,175***	***128,644***	***156***
9-12	Linear Park	-	-	-
13-14	MFR/MU	261,547	588,481	899
13-14	***Retail***			
13-14	***Office/R&D***			
15	SFR/Affordable	83,600	188,100	862
15	MFR	107,253	241,320	1,106
15	***Commercial/Office***			
15	Congregate Care			
15	Linear Park	-	-	-
7 thru 15	**LEGACY PARK**	**538,109**	**1,210,745**	**-**
16-19	***Commercial/ Business (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial/ Business (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial (TTM 16695)***	***26,704***	***60,084***	***73***
20	Tustin Field I (Tract 16474)	60,160	135,360	207
21	Tustin Field II (Tract 16507)	264,870	595,958	910
21	Columbus Grove Tustin (Tract 16582)			
22	Columbus Grove Irvine (Tract 16580)	122,700	276,075	422
22	K-8 School	1,411	3,175	4
22	K-8 School - irrigation	-	-	-
22	Neighborhood Park	-	-	-
16 thru 22		**555,957**	**1,250,903**	**-**
		1,576,798	**3,547,796**	**-**

[1] Peak hour demands are determined using the IRWD's diurnal curves from the Potable Water System Model Report (AKM, 2014). Residential peaking occurs between 07:00 and 08:00, with a peaking factor = 2.2, and non-residential peaking occurs at 11:00 to 12:00noon, with a peaking factor = 1.75.

Table 8-3b – Stage 2
TLSP Estimated Total Potable Water Demands

Planning Area	City Land Use (Tract)	Average Demand (gpd)	Max Day Demand (gpd)	Peak Hour Demand (gpm) [1]
		TOTAL		
1	Education Village	160,480	361,080	439
1	Commercial/Office	58,520	131,670	160
2	Community Park	60	135	0
2	Community Park - irrigation	-	-	-
3	***Transitional/ Emergency Housing***	***9,597***	***21,594***	***26***
4	Low Density (TTM 16581)	135,675	305,269	466
5	Medium Density (TTM 16581)	118,400	266,400	407
6	Urban Regional Park - irrigation	-	-	-
6	***Urban Regional Park***	***34,500***	***77,624***	***50***
1 thru 6		**517,232**	**1,163,771**	**-**
7	***Comm. Commercial***	***18,106***	***40,737***	***26***
7	***Office***	***10,428***	***23,463***	***15***
8, HS	High School	20,000	45,000	29
8, HS	High School - irrigation	-	-	-
8, HS	***Recreation/Entertainment Core***	***74,581***	***167,806***	***107***
8, HS	Linear Park	-	-	-
9-12	***Commercial/Business***	***114,350***	***257,288***	***313***
9-12	Linear Park	-	-	-
13-14	MFR/MU	261,547	588,481	899
13-14	***Retail***			
13-14	***Office/R&D***			
15	SFR/Affordable	83,600	188,100	862
15	MFR	107,253	241,320	1,106
15	***Commercial/Office***			
15	Congregate Care			
15	Linear Park	-	-	-
7 thru 15	**LEGACY PARK**	**689,865**	**1,552,195**	**-**
16-19	***Commercial/ Business (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial/ Business (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial (TTM 16695)***	***26,704***	***60,084***	***73***
20	Tustin Field I (Tract 16474)	60,160	135,360	207
21	Tustin Field II (Tract 16507)	264,870	595,958	910
21	Columbus Grove Tustin (Tract 16582)			
22	Columbus Grove Irvine (Tract 16580)	122,700	276,075	422
22	K-8 School	1,411	3,175	4
22	K-8 School - irrigation	-	-	-
22	Neighborhood Park	-	-	-
16 thru 22		**555,957**	**1,250,903**	**-**
		1,763,053	**3,966,870**	**-**

[1] Peak hour demands are determined using the IRWD's diurnal curves from the Potable Water System Model Report (AKM, 2014). Residential peaking occurs between 07:00 and 08:00, with a peaking factor = 2.2, and non-residential peaking occurs at 11:00 to 12:00noon, with a peaking factor = 1.75.

Table 8-3c – Stage 3
TLSP Estimated Total Potable Water Demands

Planning Area	City Land Use (Tract)	Average Demand (gpd)	Max Day Demand (gpd)	Peak Hour Demand (gpm) [1]
		TOTAL		
1	Education Village	160,480	361,080	439
1	Commercial/Office	58,520	131,670	160
2	Community Park	60	135	0
2	Community Park - irrigation	-	-	-
3	***Transitional/ Emergency Housing***	***9,597***	***21,594***	***26***
4	Low Density (TTM 16581)	135,675	305,269	466
5	Medium Density (TTM 16581)	118,400	266,400	407
6	Urban Regional Park - irrigation			
6	***Urban Regional Park***			
1 thru 6		**482,732**	**1,086,147**	**-**
7	***Comm. Commercial***	***18,106***	***40,737***	***26***
7	***Office***	***10,428***	***23,463***	***15***
8, HS	High School			
8, HS	High School - irrigation			
8, HS	***Recreation/Entertainment Core***			
8, HS	Linear Park			
9-12	***Commercial/Business***	***57,175***	***128,644***	***156***
9-12	Linear Park	-	-	-
13-14	MFR/MU	261,547	588,481	899
13-14	***Retail***	***53,025***	***119,306***	***76***
13-14	***Office/R&D***	***13,635***	***30,679***	***20***
15	SFR/Affordable	250,800	564,300	862
15	MFR	321,760	723,960	1,106
15	***Commercial/Office***	***6,854***	***15,422***	***10***
15	Congregate Care	230,000	517,500	791
15	Linear Park	-	-	-
7 thru 15	**LEGACY PARK**	**1,223,330**	**2,752,492**	**-**
16-19	***Commercial/ Business (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial/ Business (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial (TTM 16695)***	***26,704***	***60,084***	***73***
16-19	***Commercial (TTM 16695)***	***26,704***	***60,084***	***73***
20	Tustin Field I (Tract 16474)	60,160	135,360	207
21	Tustin Field II (Tract 16507)	264,870	595,958	910
21	Columbus Grove Tustin (Tract 16582)			
22	Columbus Grove Irvine (Tract 16580)	122,700	276,075	422
22	K-8 School	1,411	3,175	4
22	K-8 School - irrigation	-	-	-
22	Neighborhood Park	-	-	-
16 thru 22		**555,957**	**1,250,903**	**-**
		2,262,019	**5,089,543**	**-**

[1] Peak hour demands are determined using the IRWD's diurnal curves from the Potable Water System Model Report (AKM, 2014). Residential peaking occurs between 07:00 and 08:00, with a peaking factor = 2.2, and non-residential peaking occurs at 11:00 to 12:00noon, with a peaking factor = 1.75.

8.1.1 Interim Potable Water System Analysis – Stage 1, 2 and 3 Results

The total demands were applied to the interim operating configuration representative of Stage 1, i.e. *without* any additional looping of the on-site system and *with* the added demands of PAs 1, 3, 4-5, 13-14, 16-19, 15-B, 15-C, 20, 21, and 22.

All stages of operation (Stage 1, 2, and 3) have sufficient capacity for normal daily demands as well as fire flow demands. In the case of the north and south hangars, these results are based on simulation to the point of connection from the District's potable water system to private fire system connections. A hydraulic analysis was not performed for the private system itself, but results show the District is capable of delivering 8,000 gpm to each hangar with a residual pressure greater than 20 psi at the connections points. It is recommended that the Department of the Navy coordinate with IRWD on the design and construction of new private fire connections (refer to Section 2.3.2 for details) and evaluate if any private improvements are needed to achieve a minimum residual pressure of 20 psi at private hydrants serving the north and south hangars.

These stages of water system operation have been established based on foreseeable worst-case development phasing. If actual development phasing could pose additional operating constraints not foreseen here, then an addendum to the SAMP Update may be required.

Appendix D includes extended-period modeling results of each stage of system operation. The potentially critical demand scenarios include summer (maximum) day peaking, as well as fire flow analyses under the pertinent fire flow scenarios outlined in Section 2.0. Each staged operating simulation includes 8,000 gpm fire flow for each blimp hangar, and the appropriate fire flow for the proposed land use type that would be in place for the respective stage. **Tables 8-4a and 8-4b** summarize the minimum system pressures and maximum velocities for the Stage 1 system simulation. **Tables 8-5a and 8-5b** summarize the minimum system pressures and maximum velocities for the Stage 2 system simulation. **Tables 8-6a and 8-6b** summarize the minimum system pressures and maximum velocities for the Stage 3 system simulation.

Table 8-4a
Summary of Stage 1 Potable Water System Analysis - Normal Operation

Critical Node/Pipe	Elevation	Minimum Service Pressure @ timestep	Maximum Velocity	Pipe Diameter
Node TL_175 (PA 1 N/ Valencia)	72.9 ft	76.6 psi @11:00	-	-
Node 010S_1115 (Lansdowne Road S/ Valencia)	68.9 ft	78.2 psi @11:00	-	-
Pipe P442 – P449 (Warner Ave E)	-	-	6.1 fps @07:00	12 in
Pipe P391 (Moffett Dr)	-	-	6.0 fps @07:00	12 in
Pipe P450 (Warner Ave E)	-	-	5.2 fps @07:00	12 in

Table 8-4b
Summary of Stage 1 Potable Water System Analysis - Fire Flow Results

Simulation Area	@ Junction	Location	Fire Flow Demand	Pressure withOUT Fireflow	Pressure WITH Fireflow	Maximum Velocity
FF #1 (8,000 gpm)	J280, J282	North Hangar	8,000 gpm	89 psi	37 psi	11.4 fps (P506, P508)
FF #2 (8,000 gpm)	046N_1000, EX01	South Hangar	8,000 gpm	98 psi	49 psi	11.4 fps (P113, P115, 123, P456)
FF #3 (3,500 gpm)	TL_320	PA 1	3,500 gpm	90 psi	58 psi	-
FF #4 (4,000 gpm)	TL_300	PA 9-12	4,000 gpm	96 psi	64 psi	-

Table 8-5a
Summary of Stage 2 Potable Water System Analysis - Normal Operation

Critical Node/Pipe	Elevation	Minimum Service Pressure @ timestep	Maximum Velocity	Pipe Diameter
Node TL_175 (PA 1 N/ Valencia)	72.9 ft	75.9 psi @11:00	-	-
Node 010S_1115 (Lansdowne Road S/ Valencia)	68.9 ft	77.5 psi @11:00	-	-
Pipe P442 – P449 (Warner Ave E)	-	-	6.2 fps @07:00	12 in
Pipe P391 (Moffett Dr)	-	-	6.2 fps @07:00	12 in
Pipe P450 (Warner Ave E)	-	-	5.4 fps @07:00	12 in

Table 8-5b
Summary of Stage 2 Potable Water System Analysis - Fire Flow Results

Simulation Area	@ Junction	Location	Fire Flow Demand	Pressure withOUT Fireflow	Pressure WITH Fireflow	Maximum Velocity
FF #1 (8,000 gpm)	J280, J282	North Hangar	8,000 gpm	88 psi	38 psi	11.4 fps (P506, P508)
FF #2 (8,000 gpm)	046N_1000, EX01	South Hangar	8,000 gpm	97 psi	48 psi	11.4 fps (P113, P115, 123, P456)
FF #3 (3,500 gpm)	TL_320	PA 1	3,500 gpm	89 psi	57 psi	-
FF #4 (4,000 gpm)	TL_300	PA 9-12	4,000 gpm	96 psi	63 psi	-
FF #5 (4,000 gpm)	TL_0000	PA 9-12	4,000 gpm	89 psi	59 psi	-
FF #6 (4,000 gpm)	TL_0165	PA 8	4,000 gpm	93 psi	77 psi	-

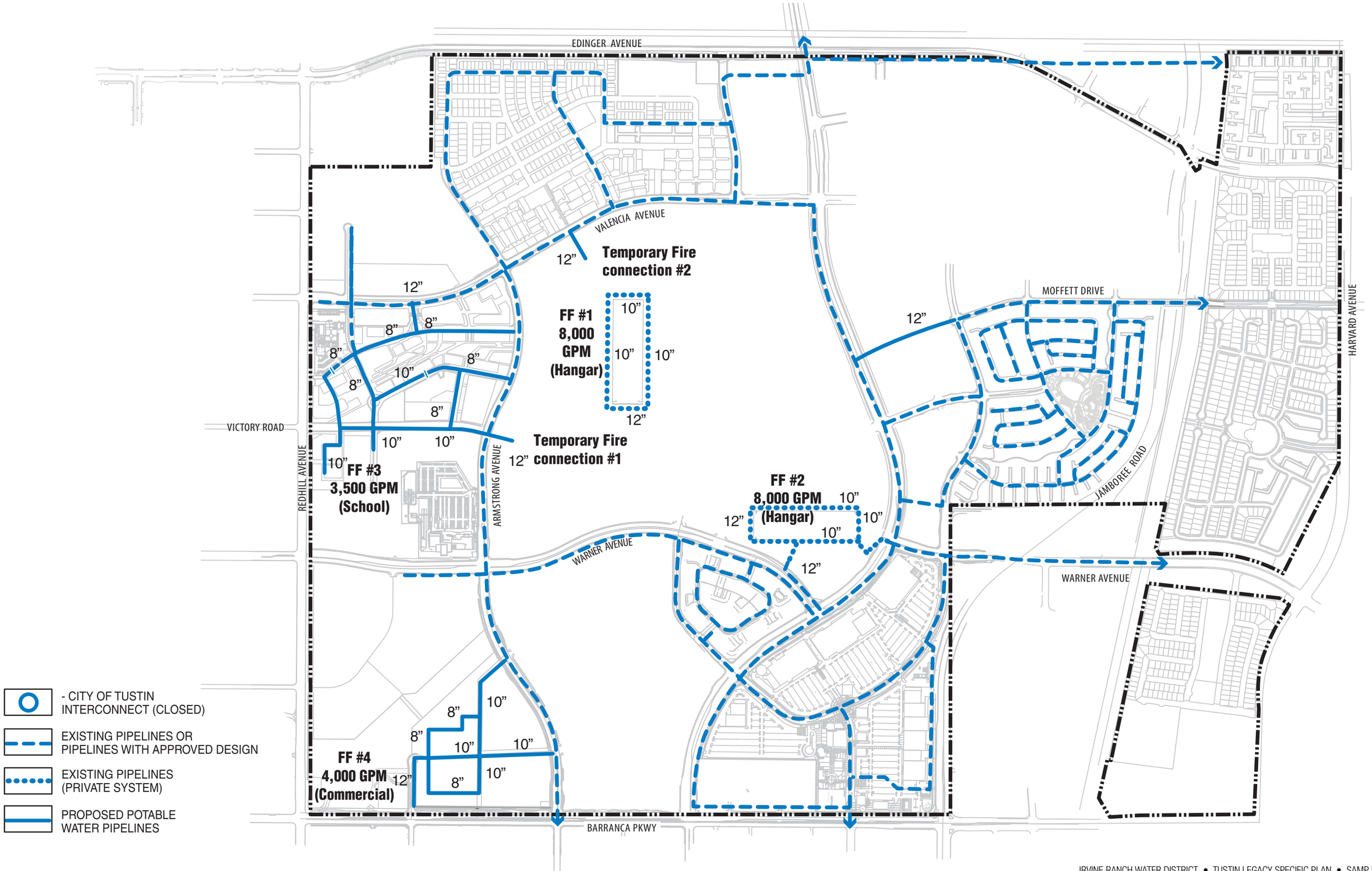
Table 8-6a
Summary of Stage 3 Potable Water System Analysis - Normal Operation

Critical Node/Pipe	Elevation	Minimum Service Pressure @ timestep	Maximum Velocity	Pipe Diameter
Node TL_175 (PA 1 N/ Valencia)	72.9 ft	73.7 psi @11:00	-	-
Node 010S_1115 (Lansdowne Road S/ Valencia)	68.9 ft	75.3 psi @11:00	-	-
Pipe P391 (Moffett Dr)	-	-	7.3 fps @07:00	12 in
Pipe P442 – P449 (Warner Ave E)	-	-	6.7 fps @07:00	12 in
Pipe P450 (Warner Ave E)	-	-	5.8 fps @07:00	12 in

Table 8-6b
Summary of Stage 3 Potable Water System Analysis - Fire Flow Results

Simulation Area	@ Junction	Location	Fire Flow Demand	Pressure withOUT Fireflow	Pressure WITH Fireflow	Maximum Velocity
FF #1 (8,000 gpm)	J280, J282	North Hangar	8,000 gpm	88 psi	35 psi	11.4 fps (P506, P508)
FF #2 (8,000 gpm)	046N_1000, EX01	South Hangar	8,000 gpm	96 psi	50 psi	11.4 fps (P113, P115, 123, P456)
FF #3 (3,500 gpm)	TL_320	PA 1	3,500 gpm	89 psi	56 psi	-
FF #4 (4,000 gpm)	TL_300	PA 9-12	4,000 gpm	95 psi	65 psi	-
FF #7 (3,000 gpm)	TL_0095	PA 9-12	3,000 gpm	93 psi	42 psi	-
FF #8 (4,000 gpm)	TL_0285	PA 8	4,000 gpm	94 psi	77 psi	-

Exhibits 8-2, 8-3 and 8-4 illustrate the potential interim "staged" systems for the potable water system.



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0 450' 900'

03/01/17 JN148275-21408 MAS

IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Stage 1 Potable Water System Fire Flow Simulation

Exhibit 8-2

EDINGER AVENUE

VALENCIA AVENUE

TUSTIN RANCH ROAD

MOFFETT DRIVE

JAMBOREE ROAD

VICTORY ROAD

REDHILL AVENUE

ARMSTRONG AVENUE

WARNER AVENUE

BARRANCA PKWY

Temporary Fire connection #2

12”

16”

FF #1 8,000 GPM (Hangar)

10”

10”

10”

12”

FF #6 4,000 GPM (Commercial)

12”

Temporary Fire connection #1

12”

FF #3 3,500 GPM (School)

8”

8”

8”

8”

10”

10”

10”

10”

10”

FF #2 8,000 GPM (Hangar)

10”

10”

12”

10”

12”

FF #5 4,000 GPM (Commercial)

10”

10”

8”

10”

8”

10”

10”

FF #4 4,000 GPM (Commercial)

12”

8”

10”

NOTE:

STAGE 2 ASSUMES THE DEVELOPMENT OF THE HIGH SCHOOL, PA 6, PA 8, AND THE REMAINDER OF THE PA 9-12 MOVES FORWARD PRIOR TO THE DEVELOPMENT OF THE REMAINDER OF PA 13-14 AND PA-15.

- CITY OF TUSTIN INTERCONNECT (CLOSED)

EXISTING PIPELINES OR PIPELINES WITH APPROVED DESIGN

EXISTING PIPELINES (PRIVATE SYSTEM)

PROPOSED POTABLE WATER PIPELINES

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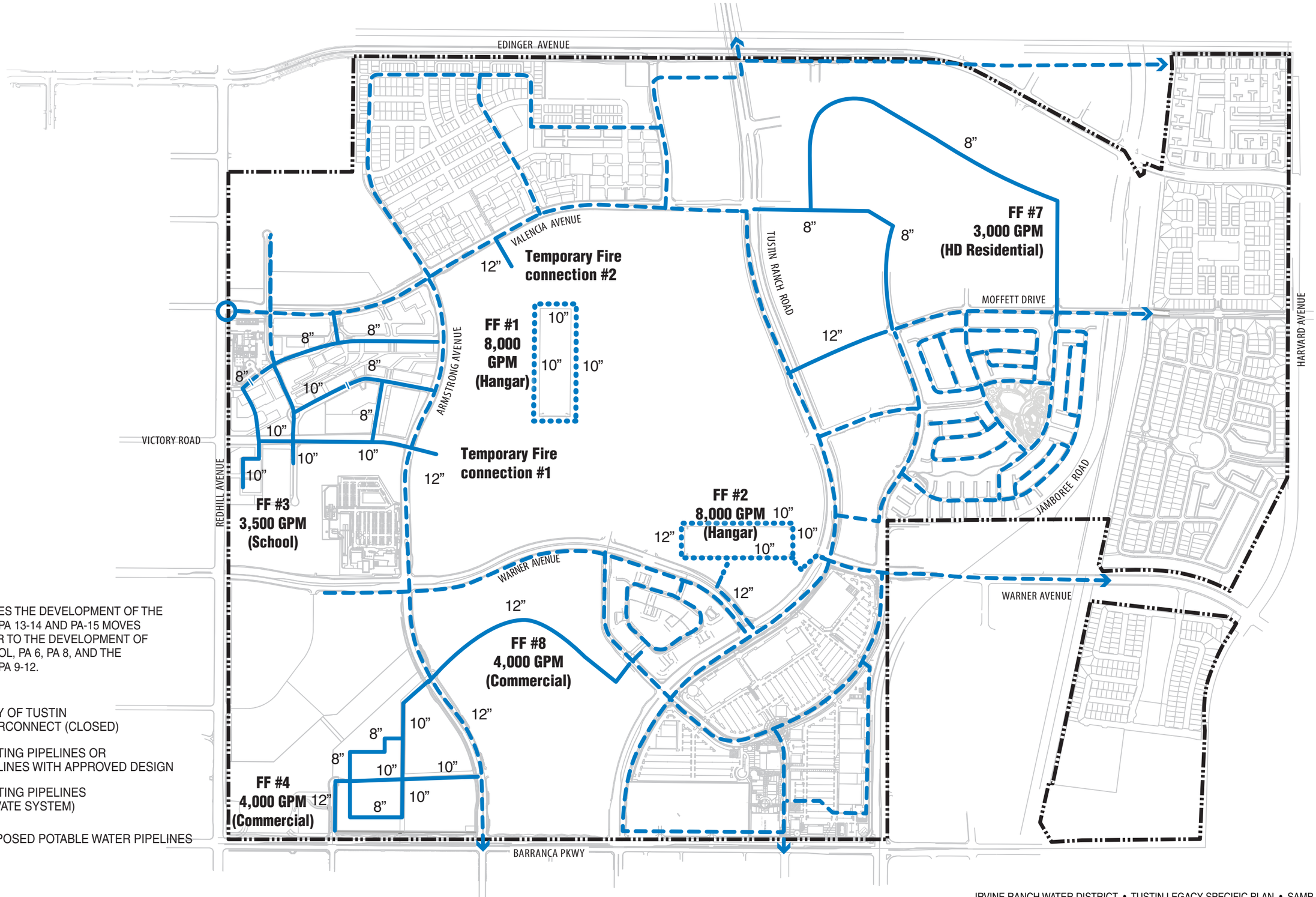
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03/01/17 JN148275-21408 MAS

IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Stage 2 Potable Water System Fire Flow Simulation

Exhibit 8-3



NOTE:

STAGE 3 ASSUMES THE DEVELOPMENT OF THE REMAINDER OF PA 13-14 AND PA-15 MOVES FORWARD PRIOR TO THE DEVELOPMENT OF THE HIGH SCHOOL, PA 6, PA 8, AND THE REMAINDER OF PA 9-12.

- CITY OF TUSTIN INTERCONNECT (CLOSED)
- EXISTING PIPELINES OR PIPELINES WITH APPROVED DESIGN
- EXISTING PIPELINES (PRIVATE SYSTEM)
- PROPOSED POTABLE WATER PIPELINES

Michael Baker INTERNATIONAL

0 450' 900'

03/01/17 JN148275-21408 MAS

IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Stage 3 Potable Water System Fire Flow Simulation

Exhibit 8-4

8.2 Non-Potable Water System

Interim operation of the non-potable water system could also be critical due to its need to operate in an interim condition without the regional transmission pipeline proposed in Planning Area 15-A. The ultimate system is proposed to be aligned through PA 15-A as shown in Section 4.0. Because this remaining major circulating pipeline will benefit the entire region (TLSP and surrounding areas are served directly from the Zone A system), any City disposition area developed before PA 15-A will not have the benefit of the ultimate circulation.

As with the potable system interim analysis, without the regional transmission pipeline in place through PA 15-A, the TLSP non-potable water system capacity would be reduced as compared to the ultimate configuration and is analyzed for the SAMP Update to determine if interim operation can meet District standards. Stage 1 and Stage 2, as identified in **Table 8-7**, are analyzed as part of the SAMP Update to determine if proposed non-potable pipe sizing is impacted by interim operation. Note that Stage 2 is a potential sequencing of future construction.

Table 8-7
TLSP Non-Potable Water System Operating Stages

Development Phase	Specific Areas	Operating Stage
Existing	PA 1 (por.), PA 3, PA 4-5, PA 7, PA 13-14 (por.), Cornerstone, PA 16-19, PA 15-B, PA 15-C, PA 20, PA 21 and PA 22	1
Near-Term	PA 1 remainder, PA 2, and PA 9-12 portion (Cornerstone)	
Potential next phase	High School (por.), PA6 (por.), PA 8 (por.), PA 9-12 remainder, PA 13-14 (por.) only	2

Tables 8-8a and **8-8b** estimate the Stage 1 and Stage 2 major irrigation water demands for service from the non-potable water system. **Tables 8-9a** and **8-9b** estimate the Stage 1 and Stage 2 non-potable water demands for serving in-door non-residential buildings. The total interim demands were applied to the staged computer models to simulate potential interim system operation.

Table 8-8a – Stage 1
TLSP Estimated Irrigation Water Demands

Planning Area	City Land Use (Tract)	Average Demand		Maximum-Day Demand		Peak Hour Demand (gpm)
		gpd	gpm	gpd	gpm	
1	Education Village	125,000	87	343,750	239	840
1	Commercial/Office	14,000	10	38,500	27	94
2	Community Park	-		-		-
2	Community Park - irrigation	54,868	38	150,887	105	369
3	Transitional/ Emergency Housing	2,500	2	6,875	5	17
4	Low Density (TTM 16581)	19,008	13	52,272	36	128
5	Medium Density (TTM 16581)	21,840	15	60,060	42	147
6	Urban Regional Park					
6	Urban Regional Park					
1 thru 6		**237,216**	**165**	**652,344**	**453**	**1,595**
7	Comm. Commercial	7,350	5	20,213	14	49
7	Office	5,250	4	14,438	10	35
8, HS	High School	-	-	-	-	-
8, HS	High School - irrigation					
8, HS	Recreation/Entertainment Core					
8, HS	Linear Park					
9-12	Commercial/Business	47,000	33	129,250	90	316
9-12	Linear Park	43,125	30	118,594	82	290
13-14	MFR/MU	10,416	7	28,644	20	70
13-14	Retail	6,510	5	17,903	12	44
13-14	Office/R&D	7,673	5	21,099	15	52
15	SFR/Affordable	21,672	15	59,598	41	146
15	MFR	31,680	22	87,120	61	213
15	Commercial/Office	8,400	6	23,100	16	56
15	Congregate Care	14,364	10	39,501	27	97
15	Linear Park	31,500	22	86,625	60	212
7 thru 15	**LEGACY PARK**	**234,940**	**163**	**646,084**	**449**	**1,579**
16-19	Commercial/ Business (TTM 16695)	51,500	36	141,625	98	346
16-19	Commercial/ Business (TTM 16695)					
16-19	Commercial (TTM 16695)					
16-19	Commercial (TTM 16695)					
20	Tustin Field I (Tract 16474)	15,312	11	42,108	29	103
21	Tustin Field II (Tract 16507)	44,704	31	122,936	85	301
21	Columbus Grove Tustin (Tract 16582)					
22	Columbus Grove Irvine (Tract 16580)	19,740	14	54,285	38	133
22	K-8 School	-		-		-
22	K-8 School - irrigation	25,000	17	68,750	48	168
22	Neighborhood Park	11,352	8	31,218	22	76
16 thru 22		**167,608**	**116**	**460,922**	**320**	**1,127**
	ROW					
		639,764	**444**	**1,759,350**	**1,222**	**4,301**

Table 8-8b – Stage 2
TLSP Estimated Irrigation Water Demands

Planning Area	City Land Use (Tract)	Average Demand		Maximum-Day Demand		Peak Hour Demand (gpm)
		gpd	gpm	gpd	gpm	
1	Education Village	125,000	87	343,750	239	840
1	Commercial/Office	14,000	10	38,500	27	94
2	Community Park	-		-		-
2	Community Park - irrigation	54,868	38	150,887	105	369
3	Transitional/ Emergency Housing	2,500	2	6,875	5	17
4	Low Density (TTM 16581)	19,008	13	52,272	36	128
5	Medium Density (TTM 16581)	21,840	15	60,060	42	147
6	Urban Regional Park	69,713	48	191,709	133	469
6	Urban Regional Park	-		-	-	-
1 thru 6		**306,929**	**213**	**844,053**	**586**	**2,063**
7	Comm. Commercial	7,350	5	20,213	14	49
7	Office	5,250	4	14,438	10	35
8, HS	High School	-	-	-	-	-
8, HS	High School - irrigation	25,000	17	68,750	48	168
8, HS	Recreation/Entertainment Core	33,750	23	92,813	64	227
8, HS	Linear Park	61,875	43	170,156	118	416
9-12	Commercial/Business	47,000	33	129,250	90	316
9-12	Linear Park	43,125	30	118,594	82	290
13-14	MFR/MU	22,568	16	62,062	43	152
13-14	Retail	14,105	10	38,789	27	95
13-14	Office/R&D	16,624	12	45,715	32	112
15	SFR/Affordable	21,672	15	59,598	41	146
15	MFR	31,680	22	87,120	61	213
15	Commercial/Office	8,400	6	23,100	16	56
15	Congregate Care	14,364	10	39,501	27	97
15	Linear Park	31,500	22	86,625	60	212
7 thru 15	**LEGACY PARK**	**384,263**	**267**	**1,056,723**	**734**	**2,583**
16-19	Commercial/ Business (TTM 16695)	51,500	36	141,625	98	346
16-19	Commercial/ Business (TTM 16695)					
16-19	Commercial (TTM 16695)					
16-19	Commercial (TTM 16695)					
20	Tustin Field I (Tract 16474)	15,312	11	42,108	29	103
21	Tustin Field II (Tract 16507)	44,704	31	122,936	85	301
21	Columbus Grove Tustin (Tract 16582)					
22	Columbus Grove Irvine (Tract 16580)	19,740	14	54,285	38	133
22	K-8 School	-		-	-	-
22	K-8 School - irrigation	25,000	17	68,750	48	168
22	Neighborhood Park	11,352	8	31,218	22	76
16 thru 22		**167,608**	**116**	**460,922**	**320**	**1,127**
	ROW					
		858,799	**596**	**2,361,698**	**1,640**	**5,773**

Table 8-9a – Stage 1
TLSP Estimated Non-Potable Water Demands for Non-Residential Buildings

Planning Area	City Land Use (Tract)	Average Indoor Demand (gpd)	Max Day Indoor Demand (gpd)	Peak Hour Indoor Demand (gpm)
		NON-POTABLE WATER [1]		
1	Education Village	120,360	270,810	329
1	Commercial/Office	43,890	98,753	120
2	Community Park	0	0	0
2	Community Park - irrigation	-	-	-
3	Transitional/ Emergency Housing	7,198	16,195	20
4	Low Density (TTM 16581)	0	0	0
5	Medium Density (TTM 16581)	0	0	0
6	Urban Regional Park - irrigation	-	-	-
6	Urban Regional Park			
1 thru 6		171,448	385,758	469
7	Comm. Commercial	13,579	30,553	37
7	Office	7,821	17,597	21
8, HS	High School			
8, HS	High School - irrigation	-	-	-
8, HS	Recreation/Entertainment Core			
8, HS	Linear Park	-	-	-
9-12	Commercial/Business	85,763	192,966	235
9-12	Linear Park	-	-	-
13-14	MFR/MU	0	0	0
13-14	Retail	11,931	26,844	33
13-14	Office/R&D	3,068	6,903	8
15	SFR/Affordable	0	0	0
15	MFR	0	0	0
15	Commercial/Office	3,239	7,287	9
15	Congregate Care	0	0	0
15	Linear Park	-	-	-
7 thru 15	LEGACY PARK	125,400	282,150	343
16-19	Commercial/ Business (TTM 16695)	20,028	45,063	55
16-19	Commercial/ Business (TTM 16695)	20,028	45,063	55
16-19	Commercial (TTM 16695)	20,028	45,063	55
16-19	Commercial (TTM 16695)	20,028	45,063	55
20	Tustin Field I (Tract 16474)	0	0	0
21	Tustin Field II (Tract 16507)	0	0	0
21	Columbus Grove Tustin (Tract 16582)			
22	Columbus Grove Irvine (Tract 16580)	0	0	0
22	K-8 School	0	0	0
22	K-8 School - irrigation	-	-	-
22	Neighborhood Park	-	-	-
16 thru 22		80,112	180,252	219
		376,960	848,159	1,031

[1] Based on 75% of all indoor water demand for non-residential structures will be served non-potable water.

= Non-residential structures proposed to be served non-potable water for indoor use.

Table 8-9b – Stage 2
TLSP Estimated Non-Potable Water Demands for Non-Residential Buildings

Planning Area	City Land Use (Tract)	Average Indoor Demand (gpd)	Max Day Indoor Demand (gpd)	Peak Hour Indoor Demand (gpm)
		NON-POTABLE WATER [1]		
1	Education Village	120,360	270,810	329
1	Commercial/Office	43,890	98,753	120
2	Community Park	0	0	0
2	Community Park - irrigation	-	-	-
3	Transitional/ Emergency Housing	7,198	16,195	20
4	Low Density (TTM 16581)	0	0	0
5	Medium Density (TTM 16581)	0	0	0
6	Urban Regional Park - irrigation	-	-	-
6	Urban Regional Park	12,937	29,109	35
1 thru 6		184,385	414,867	504
7	Comm. Commercial	13,579	30,553	37
7	Office	7,821	17,597	21
8, HS	High School	7,500	16,875	21
8, HS	High School - irrigation	-	-	-
8, HS	Recreation/Entertainment Core	27,968	62,927	76
8, HS	Linear Park	-	-	-
9-12	Commercial/Business	85,763	192,966	235
9-12	Linear Park	-	-	-
13-14	MFR/MU	0	0	0
13-14	Retail	25,850	58,162	71
13-14	Office/R&D	6,647	14,956	18
15	SFR/Affordable	0	0	0
15	MFR	0	0	0
15	Commercial/Office	3,239	7,287	9
15	Congregate Care	0	0	0
15	Linear Park	-	-	-
7 thru 15	LEGACY PARK	178,366	401,323	488
16-19	Commercial/ Business (TTM 16695)	20,028	45,063	55
16-19	Commercial/ Business (TTM 16695)	20,028	45,063	55
16-19	Commercial (TTM 16695)	20,028	45,063	55
16-19	Commercial (TTM 16695)	20,028	45,063	55
20	Tustin Field I (Tract 16474)	0	0	0
21	Tustin Field II (Tract 16507)	0	0	0
21	Columbus Grove Tustin (Tract 16582)			
22	Columbus Grove Irvine (Tract 16580)	0	0	0
22	K-8 School	0	0	0
22	K-8 School - irrigation	-	-	-
22	Neighborhood Park	-	-	-
16 thru 22		80,112	180,252	219
		442,863	996,442	1,211

[1] Based on 75% of all indoor water demand for non-residential structures will be served non-potable water.

= Non-residential structures proposed to be served non-potable water for indoor use.

8.2.1 Interim Non-Potable Water System Analysis

Hydraulic model simulation of the potential interim conditions identified for the purposes of the SAMP Update, was performed to confirm pipe sizes and configuration in order to maintain District operating standards throughout development of the remaining areas within the TLSP area. Interim operation, as with the potable water system, governed sizing of proposed distribution pipelines. This is often the case as system circulation and capacity will be in a reduced state until full buildout. Stage 1 non-potable water system operation represents the addition of demands, particularly in Planning Area 1, without the benefit of the regional transmission system proposed through Planning Area 15-A. Stage 2 simulates the addition of the proposed high school and PA 8 immediately following the current and imminent development of Planning Areas 1, 2, 3, 15B and Cornerstone. Stage 2 is a potential operating condition that could further add demands without the PA 15-A transmission system.

These stages of non-potable water system operation have been established based on foreseeable worst-case development phasing. If actual development phasing could pose additional operating constraints not foreseen here, then an addendum to the SAMP Update may be required.

Appendix D includes extended-period modeling results of each stage of system operation. **Tables 8-10a** and **8-10b** summarize the minimum hydraulic characteristics of each operating stage of the non-potable water system. Although service pressures at peak system demand may be less than 60 psi, no temporary facilities are recommended as these minimum service pressures represent the most remote service areas of the Zone A system.

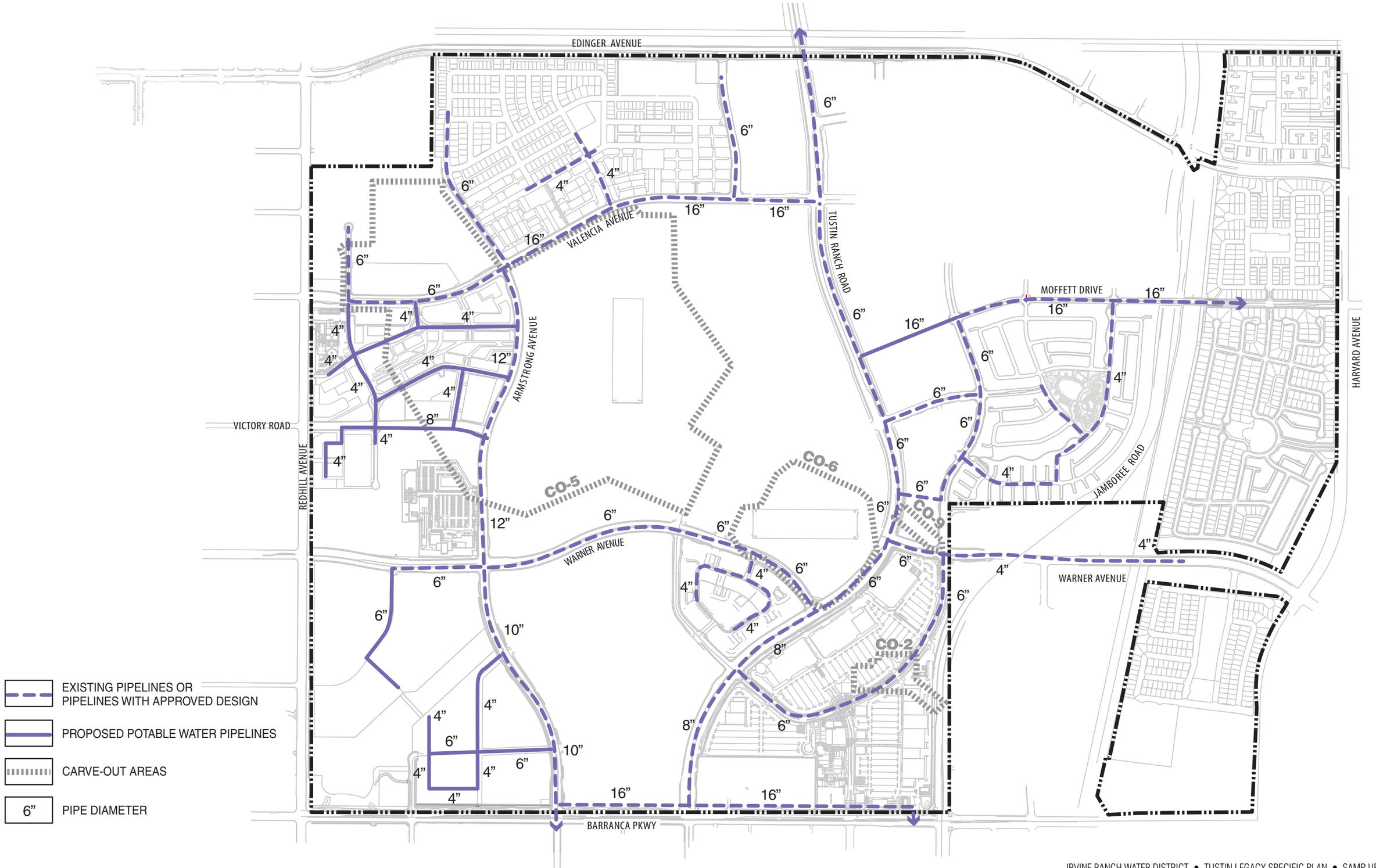
Table 8-10a
Summary of Stage 1 Non-Potable Water System Analysis

Node/Pipe	Elevation	Minimum Service Pressure @ timestep	Pipe Diameter	Maximum Velocity
Node 010E_0005 (PA 1-C)	73.0 ft	61.6 psi 00:00	-	-
Node 010S_0005 (Valencia and E/Lansdowne)	71.8 ft	65.7 psi 00:00	- -	- -
Node 010E_0040 (PA 4-5)	68.7 ft	68.1 psi 00:15	-	-
Pipe P138 (Tustin Ranch Rd)	-	-	6 in	5.1 fps 00:15
Pipe P041 (PA 15-C)	-	-	4 in	6.2 fps 00:15
Pipe P069 (PA 22)	-	-	4 in	7.8 fps 00:15

Table 8-10b
Summary of Stage 2 Non-Potable Water System Analysis

Critical Node/Pipe	Elevation	Minimum Service Pressure @ timestep	Pipe Diameter	Maximum Velocity
Node 010E_0005 (PA 1-C)	73.0 ft	57.8 psi 00:00	-	-
Node 010S_0005 (Valencia and E/Lansdowne)	71.8 ft	62.0 psi 00:00	- -	- -
Node 010E_0040 (PA 4-5)	68.7 ft	64.7 psi 00:15	-	-
Pipe P142 (high school)	-	-	12 in	4.4 fps 00:15
Pipe P146 (PA 13-14)	-	-	4 in	4.5 fps 00:15
Pipe P069 (PA 22)	-	-	4 in	7.8 fps 00:15

Exhibits 8-5 and 8-6 illustrate the potential staged systems for the non-potable water system.



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Stage 1: Non-Potable Water System

Exhibit 8-5



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IRVINE RANCH WATER DISTRICT • TUSTIN LEGACY SPECIFIC PLAN • SAMP UPDATE

Stage 2: Non-Potable Water System

Exhibit 8-6

9.0 COST ANALYSIS

9.1 IRWD Funding Policy

According to IRWD's *Procedural Guidelines and General Design Requirements* manual (IRWD Guidelines), capital and developer facilities are generally categorized as shown in **Table 9-1** below.

Table 9-1
IRWD Developer & Capital Facilities Criteria

Proposed Backbone System	Developer Facilities	Capital Facilities
Potable Water System	10 inch or smaller	12 inch or greater
Non-Potable Water System	4 inch or smaller	6 inch or greater
Sewer Collection System	10 inch or smaller	12 inch or greater

According to Section 2 of the IRWD Guidelines, capital facilities will be designed and constructed by the District unless timing or other considerations make it more feasible to allow the Developer to install the facilities. In this case, a reimbursement agreement may be issued by the District to reimburse the Developer for the cost of constructing capital facilities.

All costs associated with design and construction of developer facilities will be the responsibility of the Developer.

9.2 Project Costs

Total project costs are summarized in **Table 9-2**. Unit costs used for potable, non-potable, and sewer collection pipelines are based on recent estimates from local projects. Total project costs include 35-percent for technical services, field engineering, and contingencies. Potable water, non-potable water, and sewer collection system costs are summarized in **Tables 9-3, 9-4,** and **9-5** respectively. A detailed breakdown of proposed capital facilities is shown in **Table 9-6**, and graphically illustrated in **Exhibit 9-1**.

Table 9-2
Summary of Project Costs

Proposed Backbone System	Total Estimated Project Cost	Estimated Capital Facilities	Estimated Developer Facilities
Potable Water System [1]	$ 2,969,000	$ 1,090,500	$ 1,878,500
Non-Potable Water System	$ 2,052,000	$ 1,592,000	$ 460,000
Sewer Collection System	$ 1,284,000	$ 66,000	$ 1,218,000
Subtotal Construction	**$ 6,305,000**	**$ 2,748,500**	**$ 3,556,500**
Technical Services, Engineering, Contingencies (50%)	$ 3,153,000	$ 1,375,000	$ 1,779,000
Total Cost	**$ 9,458,000**	**$ 4,123,500**	**$ 5,335,500**

[1] Includes costs from Tables 9-7a and 9-7b.

Table 9-3
Estimated Project Costs: Potable Water System

Diameter (in)	Length (ft) [1]	Construction Unit Cost ($/LF)		Construction Cost
8	15,700	$	75	$ 1,177,500
10	7,600	$	85	$ 646,000
12 [2]	550	$	100	$ 55,000
		Developer-Funded Facilities Subtotal		**$ 1,878,000**
12	6,700	$	100	$ 670,000
16	1,300	$	135	$ 175,500
		IRWD-Funded Facilities Subtotal		**$ 845,500**
		Subtotal Construction		**$ 2,724,000**
		Technical Services, Engineering, Contingencies (50%)		**$ 1,362,000**
		Total Cost		**$ 4,086,000**

[1] See Exhibit 2-1 for proposed backbone potable water system
[2] 12-inch pipeline from 1,250 ft W of Armstrong Avenue to 250 ft N of Barranca Avenue shall be a Developer-Funded facility.

Table 9-4
Estimated Project Costs: Sewer Collection System

Diameter (in)	Length (ft) [1]	Construction Unit Cost ($/LF)		Construction Cost
8	11,200	$	105	$ 1,176,000
10	300	$	140	$ 42,000
		Developer-Funded Facilities Subtotal		**$ 1,218,000**
12	400	$	165	$ 66,000
		IRWD-Funded Facilities Subtotal		**$ 66,000**
		Subtotal Construction		**$ 1,284,000**
		Technical Services, Engineering, Contingencies (50%)		**$ 642,000**
		Total Cost		**$ 1,926,000**

[1] See Exhibit 3-3 for proposed backbone sewer collection system

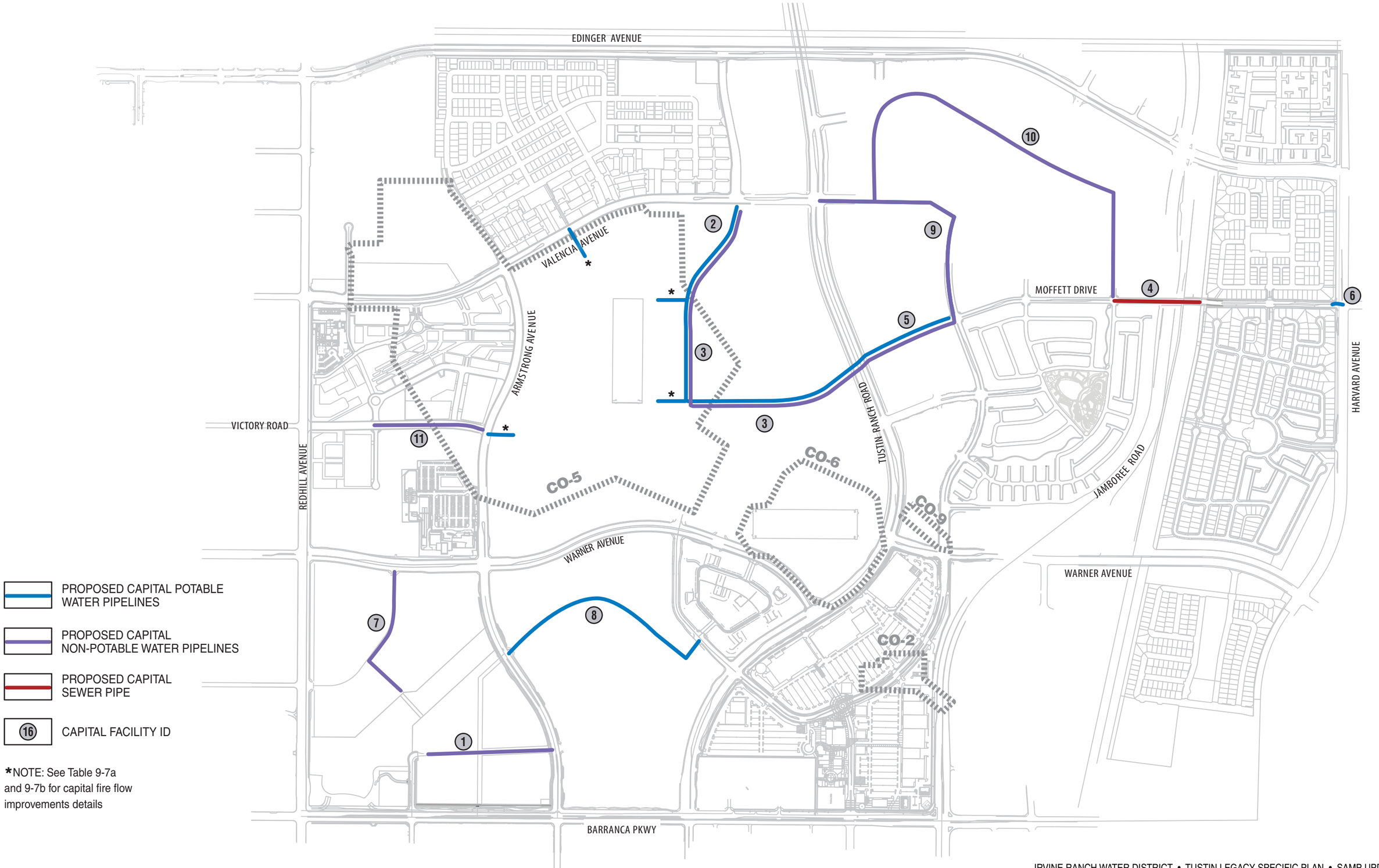
Table 9-5
Estimated Project Costs: Non-Potable Water System

Diameter (in)	Length (ft) [1]	Construction Unit Cost ($/LF)		Construction Cost
4	9,200	$	50	$ 460,000
		Developer-Funded Facilities Subtotal		**$ 460,000**
6	8,600	$	65	$ 559,000
8	1,200	$	75	$ 90,000
12	4,300	$	100	$ 430,000
16	3,800	$	135	$ 513,000
		IRWD-Funded Facilities Subtotal		**$ 1,592,000**
		Subtotal Construction		**$ 2,052,000**
		Technical Services, Engineering, Contingencies (50%)		**$ 1,026,000**
		Total Cost		**$ 3,078,000**

[1] See Exhibit 4-2 for proposed non-potable water system

Table 9-6
Proposed Capital (IRWD) Facilities - Estimated Costs

ID	Street	From	To	Potable Water				Non-Potable Water				Sewer				Total Project Cost
				Diameter (in)	Length (ft)	Unit Cost ($/LF)	Construction Cost	Diameter (in)	Length (ft)	Unit Cost ($/LF)	Construction Cost	Diameter (in)	Length (ft)	Unit Cost ($/LF)	Construction Cost	
1	**Flight**	Armstrong Avenue	2,050 ft W of Armstrong Ave	**-**	-	-	-	**6**	2,000	$ 65	$ 130,000	**-**	-	-	-	$ 130,000
2	**High School Loop**	Valencia Avenue	1300 ft S of Valencia Ave	**16**	1,300	$ 135	$ 175,500	**12**	1,300	$ 100	$ 130,000	**-**	-	-	-	$ 305,500
3		1300 ft S of Valencia Ave	Tustin Ranch Road	**12**	3,000	$ 100	$ 300,000	**12**	3,000	$ 100	$ 300,000	**-**	-	-	-	$ 600,000
4	**Moffett Drive**	Downs Road	Near Jamboree Road	**-**	-	-	-	**-**	-	-	-	**12**	400	$ 165	$ 66,000	$ 66,000
5		Park Avenue	Tustin Ranch Road	**12**	1,200	$ 100	$ 120,000	**16**	1,200	$ 135	$ 162,000	**-**	-	-	-	$ 282,000
6		Harvard Avenue	50 ft W of Harvard Ave	**12**	100	$ 100	$ 10,000	**-**	-	-	-	**-**	-	-	-	$ 10,000
7	**PA 9-12 New**	Warner Avenue	1,800 ft S of Warner Ave	**-**	-	-	-	**6**	1,800	$ 65	$ 117,000	**-**	-	-	-	$ 117,000
8	**PA 13-14 New**	Armstrong Avenue	Legacy Road	**12**	2,400	$ 100	$ 240,000	**-**	-	-	-	**-**	-	-	-	$ 240,000
9	**PA 15-A New #1**	Moffett Drive	Tustin Ranch Road	**-**	-	-	-	**16**	2,600	$ 135	$ 351,000	**-**	-	-	-	$ 351,000
10	**PA 15-A New #2**	Moffett Drive	PA 15-A New #1	**-**	-	-	-	**6**	4,800	$ 65	$ 312,000	**-**	-	-	-	$ 312,000
11	**Victory Road**	Armstrong Avenue	1,200 ft W of Armstrong Ave	**-**	-	-	-	**8**	1,200	$ 75	$ 90,000	**-**	-	-	-	$ 90,000
				12-inch	6,700			**6-inch**	8,600			**12-inch**	400			
	Pipeline Length Summary			**16-inch**	1,300			**8-inch**	1,200							
								12-inch	4,300							
								16-inch	3,800							
				TOTAL	8,000			**TOTAL**	17,900			**TOTAL**	400			
			Subtotal Construction				**$ 845,500**				**$ 1,592,000**				**$ 66,000**	**$ 2,503,500**
			Technical Services, Engineering, Contingencies (50%)				**$ 423,000**				**$ 796,000**				**$ 33,000**	**$ 1,252,000**
			Total Capital Cost				**$ 1,268,500**				**$ 2,388,000**				**$ 99,000**	**$ 3,755,500**



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PROPOSED CAPITAL (IRWD) FACILITIES

Exhibit 9-1

9.3 North and South Hangar Fire Flow Improvement Costs

In addition to the improvements discussed in the previous section, the following temporary and permanent improvements need to be implemented to meet fire flow demands and satisfy District performance criteria at both the North and South Hangars. It is assumed these improvements will be constructed in conjunction with new improvements in the Navy's private water system, and therefore potential private system construction costs are not accounted for in this report. A breakdown of required temporary improvements are shown in **Table 9-7a**, and a breakdown of required permanent improvements are shown in **Table 9-7b**.

Table 9-7a
Estimated Project Costs for Temporary Fire Flow Improvements

Improvement	Quantity	Construction Unit Cost		Construction Cost
North Hangar System Improvements				
Construct Metered Connections				
12-inch Pipe	200 LF	$100 / LF	$	20,000
Double Check Backflow Assembly and Bypass Meter	2 EA	$50,000 / EA	$	100,000
		Subtotal Construction	**$**	**120,000**
		Technical Services, Engineering, Contingencies (50%)	**$**	**60,000**
		Total Cost	**$**	**180,000**

Table 9-7b
Estimated Project Costs for Permanent Fire Flow Improvements

Improvement	Quantity	Construction Unit Cost		Construction Cost
North Hangar System Improvements				
Construct Metered Connections				
Abandon Temporary Connection	2 EA	$2500 / EA	$	5,000
12-inch Pipe	200 LF	$100 / LF	$	20,000
Double Check Backflow Assembly and Bypass Meter	2 EA	$50,000 / EA	$	100,000
		Subtotal Construction	**$**	**125,000**
		Technical Services, Engineering, Contingencies (50%)	**$**	**63,000**
		Total Cost	**$**	**188,000**

APPENDIX

A Potable Water System Hydraulic Analysis Computer Results

B Wastewater Collection System Hydraulic Analysis Computer Results

C Non-Potable Water System Hydraulic Analysis Computer Results

D Stages 1, 2, and 3 (Interim) Potable Water System Hydraulic Analysis Computer Results

E Stages 1 and 2 (Interim) Non-Potable Water System Hydraulic Analysis Computer Results

F Navy Lease in Furtherance of Conveyance Letter

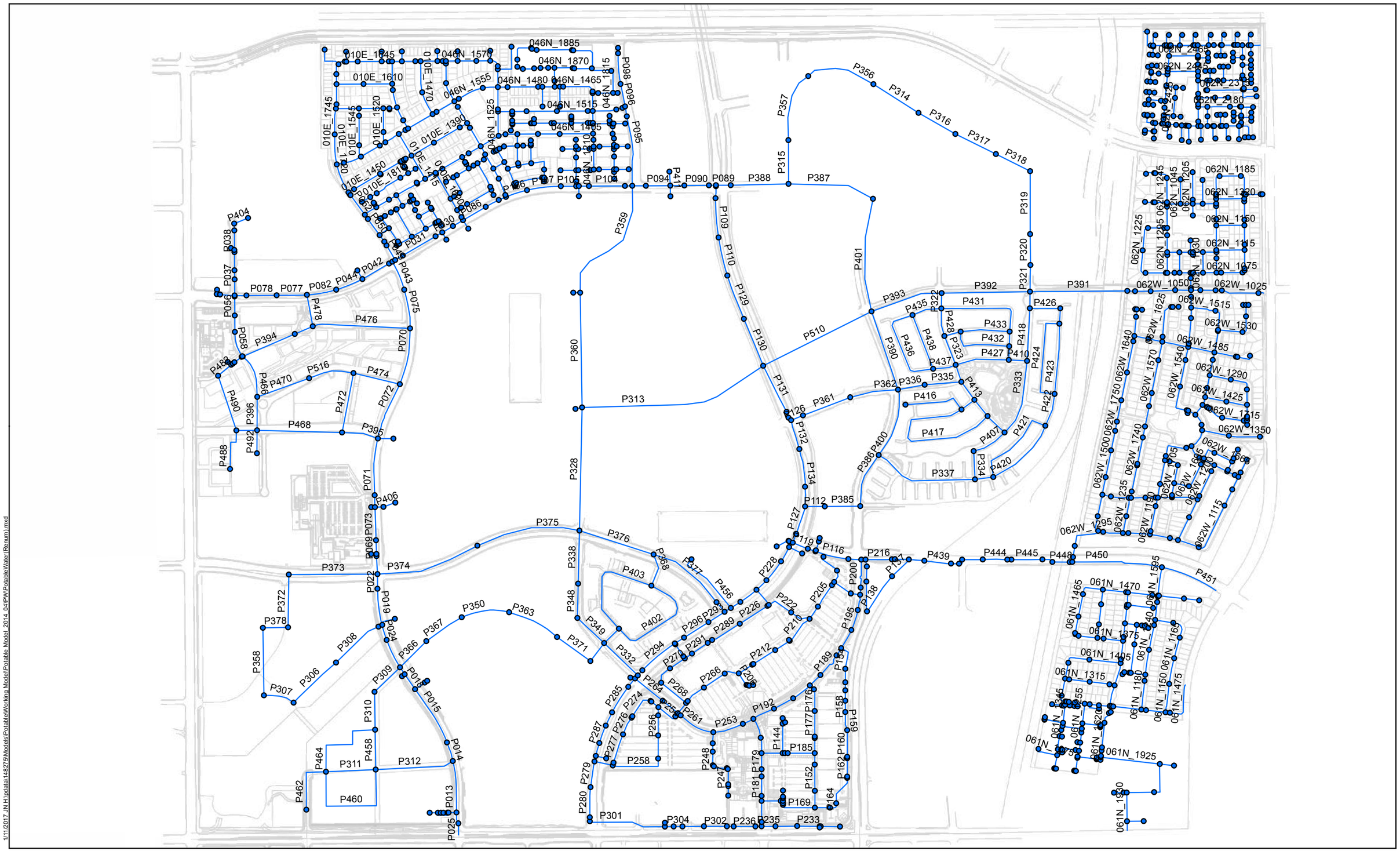
APPENDIX A - Potable Water System Hydraulic Analysis Computer Results

Tustin Legacy SAMP Update - Potable Water System Computer Model Results

1/17/2017

Standard- Potable			
Planning Area	Maximum Day Demand (GPM)		
PA 1	342.1875	Res	-
		Non-Res	342.1875
PA 2	0.0938	Res	-
		Non-Res	0.0938
PA 3	14.9958	Res	-
		Non-Res	14.9958
PA 4-5	396.9924	Res	396.9924
		Non-Res	-
PA 6	53.9056	Res	-
		Non-Res	53.9056
PA 7	44.5833	Res	-
		Non-Res	44.5833
PA 8	147.7819	Res	-
		Non-Res	147.7819
PA 9-12	178.6722	Res	-
		Non-Res	178.6722
PA 13-14	512.8236	Res	408.6672
		Non-Res	104.1563
PA 15	1264.7097	Res	1254.0000
		Non-Res	10.7100
PA 16-19	166.9000	Res	-
		Non-Res	166.9000
PA 20	94.0000	Res	94.0000
		Non-Res	-
PA 21	413.8597	Res	413.8597
		Non-Res	-
PA 22	193.9236	Res	191.7188
		Non-Res	2.2050

Planning Area	Nodes With Load	Load Per Node
1	8	34.2188
1	4	17.1094
2	1	0.0938
3	1	14.9958
4-5	289	1.3737
6	1	53.9056
7	1	44.5833
8	1	147.7819
9-12	2	89.3361
13-14 Res	2	204.3336
13-14 N-Res	2	52.0782
15 Res	7	179.1429
15 N-Res	7	1.53
16-19	117	1.4265
20	178	0.5281
21	194	2.1333
22 Res	127	1.5096
22 N-Res	127	0.0174



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TUSTIN LEGACY SAMP

POTABLE WATER SYSTEM MODEL- ULTIMATE

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Peak Hour Demand, Nodes
Performed by: TE
Checked by: JN
Date: 1/17/2017

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
009E_1010	47.2	0.0	0:00	82.33	7:00
009E_1015	47.1	0.0	0:00	82.37	7:00
009E_1020	47.1	0.0	0:00	82.36	7:00
009E_1025	47.2	0.0	0:00	82.33	7:00
009E_1030	47.2	0.0	0:00	82.30	7:00
009E_1035	47.3	0.0	0:00	82.27	7:00
009E_1040	46.5	0.0	0:00	82.51	7:00
009E_1045	43.2	0.0	0:00	84.05	7:00
009E_1050	46.7	0.0	0:00	83.11	7:00
009E_1051	48.2	0.0	0:00	82.37	7:00
009E_1055	52.8	0.0	0:00	80.88	7:00
009E_1060	51.0	0.0	0:00	81.58	7:00
009E_1065	49.8	0.0	0:00	82.19	7:00
009E_1066	52.0	0.0	0:00	81.26	7:00
009E_1070	51.6	0.0	0:00	81.55	7:00
009E_1075	51.1	0.0	0:00	81.53	7:00
009E_1080	51.3	0.0	0:00	81.44	7:00
009E_1085	55.0	0.0	0:00	80.14	7:00
009E_1090	55.6	0.0	0:00	79.86	7:00
009E_1095	58.4	0.0	0:00	78.65	7:00
009E_1100	54.6	0.0	0:00	80.40	7:00
009E_1101	55.0	0.0	0:00	80.28	7:00
010E_1005	73.1	0.0	0:00	72.86	7:00
010E_1010	70.6	0.0	0:00	73.97	7:00
010E_1015	71.0	0.0	0:00	73.79	7:00
010E_1020	71.6	0.0	0:00	73.50	7:00
010E_1025	73.3	0.0	0:00	72.77	7:00
010E_1030	71.9	0.0	0:00	73.39	7:00
010E_1035	72.6	0.0	0:00	73.09	7:00
010E_1040	72.9	0.0	0:00	72.95	7:00
010E_1045	66.5	0.0	0:00	75.80	7:00
010E_1050	65.1	0.0	0:00	76.41	7:00
010E_1055	63.5	0.0	0:00	77.06	7:00
010E_1060	64.0	0.0	0:00	76.92	7:00
010E_1065	64.4	0.0	0:00	76.76	7:00
010E_1070	64.6	0.0	0:00	76.67	7:00
010E_1075	65.3	3.0	7:00	76.42	7:00
010E_1080	65.4	3.0	7:00	76.38	7:00
010E_1085	65.8	3.0	7:00	76.19	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
010E_1090	66.6	3.0	7:00	75.88	7:00
010E_1095	66.8	3.0	7:00	75.78	7:00
010E_1100	64.0	0.0	0:00	76.95	7:00
010E_1105	66.8	3.0	7:00	75.81	7:00
010E_1110	66.8	3.0	7:00	75.81	7:00
010E_1115	66.8	3.0	7:00	75.79	7:00
010E_1120	66.9	3.0	7:00	75.75	7:00
010E_1290	65.6	0.0	0:00	76.38	7:00
010E_1325	66.2	0.0	0:00	76.16	7:00
010E_1340	65.9	0.0	0:00	76.28	7:00
010E_1410	66.3	0.0	0:00	76.13	7:00
010S_1050	58.7	0.0	0:00	78.71	7:00
010S_1055	55.4	0.0	0:00	80.12	7:00
010S_1060	55.4	0.0	0:00	80.15	7:00
010S_1065	54.9	0.0	0:00	80.40	7:00
010S_1070	68.4	0.0	0:00	74.77	7:00
010S_1075	68.3	0.0	0:00	74.81	7:00
010S_1080	68.2	0.0	0:00	74.85	7:00
010S_1085	56.9	0.0	0:00	79.57	7:00
010S_1090	67.6	0.0	0:00	75.11	7:00
010S_1095	67.8	0.0	0:00	75.04	7:00
010S_1100	67.8	0.0	0:00	75.04	7:00
010S_1105	55.2	0.0	0:00	80.30	7:00
010S_1110	56.9	0.0	0:00	79.54	7:00
010S_1115	68.9	59.9	11:00	74.61	7:00
010S_1125	56.5	0.0	0:00	79.77	7:00
010S_1140	69.6	0.0	0:00	74.33	7:00
010S_1145	71.1	0.0	0:00	73.72	7:00
010S_1150	71.1	0.0	0:00	73.75	7:00
010S_1155	70.7	0.0	0:00	73.91	7:00
010S_1160	70.7	0.0	0:00	73.91	7:00
010S_1165	70.0	0.0	0:00	74.24	7:00
010S_1170	68.9	0.0	0:00	74.71	7:00
010S_1175	58.4	59.9	11:00	79.09	7:00
010S_1176	59.0	0.0	0:00	78.77	7:00
010S_1180	67.6	0.0	0:00	75.28	7:00
010S_1185	60.9	59.9	11:00	78.10	7:00
046E_1000	53.3	0.0	0:00	82.74	7:00
046E_1005	57.5	0.0	0:00	80.75	7:00
046N_1000	66.8	0.0	0:00	75.96	7:00
046N_1035	66.2	0.0	0:00	76.28	7:00
046N_1065	65.5	0.0	0:00	76.66	7:00
046N_1090	64.7	0.0	0:00	77.04	7:00
046N_1180	63.0	0.0	0:00	77.84	7:00
046N_1285	60.6	0.0	0:00	79.05	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
046N_1340	60.6	0.0	0:00	79.15	7:00
046N_1370	59.6	0.0	0:00	79.57	7:00
046N_1380	59.5	0.0	0:00	79.65	7:00
046N_1420	59.3	0.0	0:00	79.80	7:00
046N_1565	60.0	0.0	0:00	79.75	7:00
046N_1635	59.6	0.0	0:00	79.95	7:00
046N_1705	59.3	0.0	0:00	80.08	7:00
046N_1785	58.3	0.0	0:00	80.51	7:00
046N_1825	59.2	0.0	0:00	80.14	7:00
046N_1835	50.3	0.0	0:00	83.99	7:00
046N_1875	57.3	0.0	0:00	80.94	7:00
046N_1880	60.1	0.0	0:00	80.61	7:00
046N_1910	59.7	0.0	0:00	80.93	7:00
046N_1920	55.2	0.0	0:00	81.88	7:00
046N_1925	59.8	0.0	0:00	81.59	7:00
046N_1930	53.1	0.0	0:00	82.76	7:00
046N_1940	54.4	0.0	0:00	82.18	7:00
046N_1945	55.7	0.0	0:00	81.63	7:00
046N_1950	62.1	0.0	0:00	81.59	7:00
046N_1955	62.8	0.0	0:00	81.45	7:00
046S_1000	49.0	0.0	0:00	84.77	7:00
046S_1005	49.5	0.0	0:00	84.51	7:00
046S_1010	49.4	0.0	0:00	84.60	7:00
046S_1015	50.1	0.0	0:00	84.31	7:00
046S_1020	49.8	0.0	0:00	84.44	7:00
046S_1025	53.0	2.5	11:00	83.00	7:00
046S_1030	52.0	0.0	0:00	83.66	7:00
046S_1035	50.1	0.0	0:00	84.31	7:00
046S_1045	51.4	0.0	0:00	84.01	7:00
046S_1050	51.4	0.0	0:00	84.01	7:00
046S_1055	51.2	2.5	11:00	83.41	7:00
046S_1060	51.2	0.0	0:00	84.12	7:00
046S_1065	50.2	0.0	0:00	84.53	7:00
046S_1070	48.3	0.0	0:00	85.06	7:00
046S_1075	47.5	0.0	0:00	85.40	7:00
046S_1080	47.9	0.0	0:00	85.21	7:00
046S_1085	51.3	0.0	0:00	83.72	7:00
046S_1090	50.3	0.0	0:00	84.16	7:00
046S_1095	51.8	0.0	0:00	83.49	7:00
046S_1100	50.4	0.0	0:00	84.08	7:00
046S_1105	49.4	0.0	0:00	84.54	7:00
046S_1110	51.2	0.0	0:00	83.72	7:00
046S_1115	51.3	0.0	0:00	83.61	7:00
047E_1000	41.1	0.0	0:00	87.61	7:00
047E_1005	41.6	0.0	0:00	87.41	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1010	42.2	0.0	0:00	87.13	7:00
047E_1015	42.3	2.5	11:00	87.75	7:00
047E_1020	42.3	2.5	11:00	87.08	7:00
047E_1025	42.0	0.0	0:00	87.25	7:00
047E_1030	43.7	2.5	11:00	87.17	7:00
047E_1035	43.4	2.5	11:00	87.29	7:00
047E_1040	42.7	0.0	0:00	86.93	7:00
047E_1045	45.2	2.5	11:00	86.53	7:00
047E_1050	45.6	2.5	11:00	86.36	7:00
047E_1055	45.1	2.5	11:00	86.55	7:00
047E_1060	44.5	2.5	11:00	86.81	7:00
047E_1065	45.3	2.5	11:00	86.49	7:00
047E_1070	45.3	2.5	11:00	86.48	7:00
047E_1075	45.3	2.5	11:00	86.46	7:00
047E_1080	44.8	2.5	11:00	86.68	7:00
047E_1085	45.2	2.5	11:00	86.50	7:00
047E_1090	43.6	0.0	0:00	86.54	7:00
047E_1100	43.5	0.0	0:00	86.58	7:00
047E_1105	44.6	2.5	11:00	86.74	7:00
047E_1110	44.5	2.5	11:00	86.84	7:00
047E_1115	46.7	2.5	11:00	85.75	7:00
047E_1120	45.3	2.5	11:00	86.42	7:00
047E_1125	43.8	0.0	0:00	86.45	7:00
047E_1140	44.9	2.5	11:00	86.66	7:00
047E_1145	45.3	2.5	11:00	86.48	7:00
047E_1150	45.2	2.5	11:00	86.53	7:00
047E_1155	46.3	2.5	11:00	85.98	7:00
047E_1165	44.8	2.5	11:00	86.67	7:00
047E_1170	44.7	2.5	11:00	86.73	7:00
047E_1175	45.0	2.5	11:00	86.62	7:00
047E_1180	45.2	2.5	11:00	86.51	7:00
047E_1185	47.8	2.5	11:00	84.87	7:00
047E_1190	48.3	2.5	11:00	84.66	7:00
047E_1195	49.3	2.5	11:00	84.25	7:00
047E_1200	48.4	2.5	11:00	84.64	7:00
047E_1210	45.9	2.5	11:00	86.21	7:00
047E_1215	45.4	2.5	11:00	86.41	7:00
047E_1220	47.6	2.5	11:00	84.96	7:00
047E_1225	45.0	2.5	11:00	86.56	7:00
047E_1230	46.1	2.5	11:00	86.11	7:00
047E_1235	44.9	2.5	11:00	86.66	7:00
047E_1245	44.4	2.5	11:00	86.92	7:00
047E_1250	44.6	2.5	11:00	86.82	7:00
047E_1255	45.6	2.5	11:00	86.35	7:00
047E_1260	51.0	2.5	11:00	83.50	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1265	45.7	2.5	11:00	86.31	7:00
047E_1270	50.8	2.5	11:00	83.59	7:00
047E_1280	46.2	2.5	11:00	86.09	7:00
047E_1290	45.1	2.5	11:00	86.63	7:00
047E_1295	45.1	2.5	11:00	86.62	7:00
047E_1305	45.6	2.5	11:00	86.37	7:00
047E_1310	51.0	2.5	11:00	83.47	7:00
047E_1320	49.8	0.0	0:00	83.93	7:00
047E_1325	50.5	2.5	11:00	83.71	7:00
047E_1330	45.5	2.5	11:00	86.50	7:00
047E_1335	47.6	2.5	11:00	85.50	7:00
047E_1340	47.3	2.5	11:00	85.64	7:00
047E_1350	50.2	0.0	0:00	83.83	7:00
047E_1360	45.5	2.5	11:00	86.48	7:00
047E_1365	49.9	2.5	11:00	83.96	7:00
047E_1370	49.9	2.5	11:00	83.96	7:00
047E_1375	48.5	2.5	11:00	85.14	7:00
047E_1380	45.6	2.5	11:00	86.48	7:00
047E_1385	50.5	2.5	11:00	83.70	7:00
047E_1390	50.3	2.5	11:00	83.80	7:00
047E_1395	49.8	0.0	0:00	84.04	7:00
047E_1400	45.2	2.5	11:00	86.67	7:00
047E_1410	45.7	2.5	11:00	86.44	7:00
047E_1420	51.8	2.5	11:00	83.16	7:00
047E_1430	49.3	0.0	0:00	84.36	7:00
047E_1440	46.8	2.5	11:00	85.99	7:00
047E_1445	47.0	2.5	11:00	85.89	7:00
047E_1450	50.8	2.5	11:00	83.59	7:00
047E_1455	46.4	2.5	11:00	86.18	7:00
047E_1480	51.2	2.5	11:00	83.42	7:00
047E_1485	48.8	0.0	0:00	84.74	7:00
047E_1500	46.1	2.5	11:00	86.43	7:00
047E_1510	50.1	2.5	11:00	83.89	7:00
047E_1520	47.1	2.5	11:00	86.12	7:00
047E_1525	49.8	2.5	11:00	84.02	7:00
047E_1530	48.2	2.5	11:00	84.71	7:00
047E_1535	48.2	2.5	11:00	85.75	7:00
047E_1540	47.9	2.5	11:00	84.83	7:00
047E_1545	47.9	2.5	11:00	85.86	7:00
047E_1550	50.5	0.0	0:00	85.55	7:00
047E_1555	49.0	2.5	11:00	84.38	7:00
047E_1565	47.8	2.5	11:00	85.92	7:00
047E_1580	48.3	2.5	11:00	85.74	7:00
047E_1590	48.9	0.0	0:00	86.00	7:00
047E_1595	49.4	0.0	0:00	85.30	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1605	48.8	0.0	0:00	85.91	7:00
047E_1610	49.2	0.0	0:00	85.55	7:00
047E_1615	48.7	0.0	0:00	85.90	7:00
047E_1630	50.2	0.0	0:00	86.08	7:00
047E_1645	47.8	0.0	0:00	86.87	7:00
047E_1650	47.7	0.0	0:00	86.98	7:00
047E_1660	48.2	0.0	0:00	87.14	7:00
047E_1675	58.4	0.0	0:00	83.28	7:00
047E_1695	46.7	0.0	0:00	89.35	7:00
047E_1700	46.7	0.0	0:00	89.66	7:00
047E_1705	47.5	0.0	0:00	89.70	7:00
047E_1710	49.3	0.0	0:00	89.75	12:00
047N_1000	42.6	0.0	0:00	86.99	7:00
047N_1005	42.2	0.0	0:00	87.13	7:00
047N_1015	42.6	0.0	0:00	86.98	7:00
047N_1025	44.3	0.0	0:00	86.25	7:00
047N_1030	44.3	0.0	0:00	86.22	7:00
047N_1035	41.8	0.0	0:00	87.31	7:00
047N_1040	46.2	2.5	11:00	85.43	7:00
047N_1045	44.2	2.5	11:00	86.30	7:00
047N_1050	44.4	2.5	11:00	86.19	7:00
047N_1055	43.5	2.5	11:00	86.59	7:00
047N_1060	45.4	0.0	0:00	85.78	7:00
047N_1065	41.4	0.0	0:00	87.51	7:00
047N_1070	41.6	0.0	0:00	87.40	7:00
047N_1075	46.6	0.0	0:00	85.26	7:00
047N_1080	45.7	2.5	11:00	85.62	7:00
047N_1085	41.2	0.0	0:00	87.60	7:00
047N_1090	47.5	0.0	0:00	84.83	7:00
047N_1095	43.8	2.5	11:00	86.46	7:00
047N_1105	46.0	2.5	11:00	85.50	7:00
047N_1110	41.3	0.0	0:00	87.55	7:00
047N_1115	45.9	2.5	11:00	85.53	7:00
047N_1120	45.4	2.5	11:00	85.77	7:00
047N_1125	49.9	0.0	0:00	83.83	7:00
047N_1130	45.4	2.5	11:00	85.75	7:00
047N_1135	44.4	2.5	11:00	86.58	7:00
047N_1140	50.9	0.0	0:00	83.38	7:00
047N_1145	45.6	2.5	11:00	85.69	7:00
047N_1150	45.6	2.5	11:00	85.68	7:00
047N_1155	45.6	2.5	11:00	85.67	7:00
047N_1160	44.2	2.5	11:00	86.66	7:00
047N_1165	50.4	0.0	0:00	83.60	7:00
047N_1166	50.6	0.0	0:00	83.50	7:00
047N_1170	44.4	2.5	11:00	86.55	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047N_1175	45.2	2.5	11:00	86.23	7:00
047N_1180	45.2	2.5	11:00	86.20	7:00
047N_1185	46.6	2.5	11:00	85.24	7:00
047N_1190	46.6	2.5	11:00	85.40	7:00
047N_1195	48.2	2.5	11:00	84.64	7:00
047N_1200	45.9	2.5	11:00	85.69	7:00
047N_1205	45.8	2.5	11:00	85.77	7:00
047N_1210	44.8	2.5	11:00	86.38	7:00
047N_1215	44.6	2.5	11:00	86.46	7:00
047N_1220	45.0	2.5	11:00	86.32	7:00
047N_1225	50.2	0.0	0:00	83.70	7:00
047N_1230	45.0	2.5	11:00	86.28	7:00
047N_1235	49.2	2.5	11:00	84.25	7:00
047N_1240	48.9	2.5	11:00	84.41	7:00
047N_1245	46.8	2.5	11:00	85.54	7:00
047N_1250	49.0	2.5	11:00	84.35	7:00
047N_1255	50.2	2.5	11:00	83.82	7:00
047N_1260	49.3	2.5	11:00	84.22	7:00
047N_1265	49.5	2.5	11:00	84.09	7:00
047N_1270	48.5	2.5	11:00	84.54	7:00
047N_1275	47.9	0.0	0:00	84.75	7:00
047N_1280	47.9	0.0	0:00	84.75	7:00
047N_1285	49.6	2.5	11:00	84.04	7:00
047N_1290	47.5	0.0	0:00	84.92	7:00
047N_1295	49.3	2.5	11:00	84.25	7:00
047N_1300	49.3	2.5	11:00	84.18	7:00
047N_1305	49.0	2.5	11:00	84.35	7:00
047N_1310	48.5	0.0	0:00	84.48	7:00
047N_1315	48.8	0.0	0:00	84.34	7:00
047N_1320	48.1	0.0	0:00	84.58	7:00
047S_1295	43.6	0.0	0:00	86.54	7:00
061N_1415	52.1	0.0	0:00	89.31	12:00
061N_1416	52.1	0.0	0:00	89.20	12:00
061N_1495	54.9	0.0	0:00	88.98	12:00
061N_1530	55.8	0.0	0:00	88.87	12:00
061N_1610	55.7	0.0	0:00	89.41	12:00
061N_1625	55.4	0.0	0:00	89.61	12:00
061N_1850	50.8	0.0	0:00	93.35	12:00
EX01	45.0	0.0	0:00	86.03	7:00
J280	66.8	0.0	0:00	75.96	7:00
J282	59.0	0.0	0:00	78.77	7:00
TL_0000	62.4	0.0	0:00	76.98	7:00
TL_0005	54.9	0.0	0:00	81.40	7:00
TL_0010	63.1	0.0	0:00	76.72	7:00
TL_0015	55.0	0.0	0:00	80.14	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_0020	52.6	0.0	0:00	81.18	7:00
TL_0025	56.2	156.3	11:00	79.63	7:00
TL_0035	51.8	0.0	0:00	81.22	7:00
TL_0040	51.3	156.3	11:00	81.21	7:00
TL_0045	49.3	0.0	0:00	82.08	7:00
TL_0060	50.1	0.0	0:00	82.82	7:00
TL_0065	50.0	0.0	0:00	83.09	7:00
TL_0075	49.1	0.0	0:00	84.67	7:00
TL_0080	52.9	395.5	7:00	82.20	7:00
TL_0090	54.3	0.0	0:00	80.99	7:00
TL_0095	55.9	395.5	7:00	80.17	7:00
TL_0100	56.1	0.0	0:00	80.69	7:00
TL_0105	53.6	0.0	0:00	81.41	7:00
TL_0110	53.1	0.0	0:00	81.74	7:00
TL_0115	53.4	395.5	7:00	81.70	7:00
TL_0120	52.6	0.0	0:00	83.53	7:00
TL_0130	52.5	0.0	0:00	84.30	7:00
TL_0140	54.4	0.0	0:00	82.82	7:00
TL_0145	55.0	0.0	0:00	83.85	7:15
TL_0150	50.1	0.0	0:00	84.26	7:00
TL_0155	49.5	0.0	0:00	84.42	7:00
TL_0160	50.1	395.5	7:00	84.21	7:00
TL_0165	57.9	258.6	11:00	80.63	7:00
TL_0180	56.2	0.0	0:00	80.04	7:00
TL_0185	52.3	0.0	0:00	82.01	7:00
TL_0210	48.2	0.0	0:00	84.86	7:00
TL_0215	47.4	395.5	7:00	85.22	7:00
TL_0220	49.2	0.0	0:00	84.60	7:00
TL_0230	51.9	0.0	0:00	82.13	7:00
TL_0270	56.5	0.0	0:00	81.29	7:00
TL_0275	57.9	0.0	0:00	80.63	7:00
TL_0280	51.0	0.0	0:00	82.48	7:00
TL_0285	49.5	182.3	11:00	82.67	7:00
TL_0300	53.2	0.0	0:00	80.94	7:00
TL_0310	57.7	0.0	0:00	79.69	7:00
TL_0315	56.5	0.0	0:00	81.29	7:00
TL_0320	49.0	0.0	0:00	84.71	7:00
TL_0325	50.0	0.0	0:00	82.64	7:00
TL_0335	52.5	0.0	0:00	81.14	7:00
TL_0340	50.0	449.5	7:00	82.73	7:00
TL_0345	50.0	0.0	0:00	82.79	7:00
TL_0350	62.0	0.0	0:00	77.17	7:00
TL_0360	49.0	0.0	0:00	84.72	7:00
TL_145	51.0	0.0	0:00	83.88	7:00
TL_155	59.0	0.0	0:00	78.80	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_165	49.0	0.0	0:00	84.71	7:00
TL_170	50.0	449.5	7:00	82.71	7:00
TL_175	72.9	59.9	11:00	72.95	7:00
TL_180	65.1	0.2	11:00	76.41	7:00
TL_185	56.9	94.3	11:00	79.54	7:00
TL_190	49.0	395.5	7:00	84.50	7:00
TL_195	49.5	395.5	7:00	84.43	7:00
TL_200	59.2	78.0	11:00	80.14	7:00
TL_205	68.4	26.2	11:00	74.77	7:00
TL_210	49.3	0.0	0:00	84.48	7:00
TL_215	49.2	0.0	0:00	84.49	7:00
TL_220	49.3	0.0	0:00	84.48	7:00
TL_225	49.3	0.0	0:00	84.48	7:00
TL_230	42.0	0.0	0:00	87.70	7:00
TL_235	44.0	0.0	0:00	87.02	7:00
TL_240	44.0	0.0	0:00	87.29	7:00
TL_245	55.0	0.0	0:00	82.71	7:00
TL_250	60.0	0.0	0:00	80.66	7:00
TL_255	55.0	0.0	0:00	83.08	7:00
TL_260	51.0	0.0	0:00	83.85	7:00
TL_265	52.0	0.0	0:00	83.44	7:00
TL_270	50.1	0.0	0:00	84.26	7:00
TL_275	50.1	0.0	0:00	84.21	7:00
TL_280	50.1	0	0:00	84.38	7:00
TL_285	50.0	0	0:00	84.33	7:00
TL_290	48.0	0	0:00	85.15	7:00
TL_295	50.0	0	0:00	81.86	7:00
TL_300	46.0	0	0:00	83.51	7:00
TL_305	66.0	29.9415	11:00	75.91	7:00
TL_310	61.0	29.9415	11:00	77.94	7:00
TL_315	64.0	0	0:00	76.65	7:00
TL_320	63.0	59.8829	11:00	77.06	7:00
TL_325	59.0	59.8829	11:00	78.78	7:00
TL_330	68.0	59.8829	11:00	74.92	7:00
TL_335	59.0	0	0:00	78.80	7:00
TL_340	59.0	59.8829	11:00	78.80	7:00
TL_345	66.0	29.9415	11:00	75.88	7:00
TL_350	63.0	29.9415	11:00	77.08	7:00

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Peak Hour Demand, Pipes
Performed by: TE
Checked by: JN
Date: 1/17/2017

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P001	009E_1035	009E_1045	78	6	130	0:00	0.00	0.00	0.00	0.00
P002	009E_1035	009E_1030	10	8	130	0:00	0.00	0.00	0.00	0.00
P003	009E_1030	009E_1025	40	8	130	0:00	0.05	0.00	0.00	0.00
P004	009E_1030	009E_1015	145	8	130	0:00	0.05	0.00	0.00	0.00
P005	009E_1025	009E_1020	65	8	130	0:00	0.13	0.00	0.00	0.00
P006	009E_1020	009E_1025	25	8	130	0:00	0.18	0.00	0.00	0.00
P007	009E_1020	009E_1015	30	8	130	0:00	0.05	0.00	0.00	0.00
P008	009E_1015	009E_1010	80	8	130	0:00	0.00	0.00	0.00	0.00
P009	009E_1065	009E_1055	32	10	130	0:00	0.00	0.00	0.00	0.00
P010	009E_1090	009E_1085	41	8	130	6:45	125.91	0.80	0.02	0.39
P011	009E_1095	009E_1090	154	10	130	0:00	0.00	0.00	0.00	0.00
P012	009E_1040	009E_1045	111	12	140	6:45	1491.52	4.23	0.52	4.63
P013	009E_1045	009E_1051	508	12	140	6:45	1491.52	4.23	2.36	4.63
P014	009E_1051	009E_1050	193	12	140	6:45	1023.38	2.90	0.44	2.31
P015	009E_1050	009E_1060	611	12	140	6:45	1023.38	2.90	1.41	2.31
P016	009E_1080	009E_1075	30	12	140	0:00	0.00	0.00	0.00	0.00
P017	009E_1075	009E_1060	115	12	140	0:00	0.00	0.00	0.00	0.00
P018	009E_1060	009E_1065	179	12	140	6:45	1023.38	2.90	0.41	2.31
P019	009E_1090	009E_1100	357	12	140	6:45	729.98	2.07	0.44	1.23
P020	009E_1066	009E_1070	301	12	140	6:45	855.89	2.43	0.50	1.66
P021	009E_1065	009E_1066	82	12	140	6:45	1023.38	2.90	0.19	2.31
P022	009E_1100	009E_1101	144	12	140	6:45	729.98	2.07	0.18	1.23
P023	009E_1101	010S_1055	178	12	140	6:45	545.79	1.55	0.13	0.72
P024	009E_1070	009E_1090	155	12	140	6:45	855.89	2.43	0.26	1.66
P025	009S_1365	009E_1040	112	12	140	6:45	1491.52	4.23	0.52	4.63
P026	010E_1340	010E_1325	82	8	130	0:00	0.00	0.00	0.00	0.00
P027	046N_1000	010E_1410	115	12	130	11:00	536.52	1.52	0.09	0.80
P028	010E_1340	010E_1290	77	12	130	11:00	536.52	1.52	0.06	0.80
P029	010E_1070	010E_1065	31	12	130	11:00	931.59	2.64	0.07	2.22
P030	010E_1410	010E_1340	123	12	130	11:00	536.52	1.52	0.10	0.80
P031	010E_1290	010E_1100	373	12	130	11:00	536.52	1.52	0.30	0.80
P032	010E_1100	010E_1070	87	12	130	11:00	536.52	1.52	0.07	0.80
P034	010S_1160	010E_1010	158	8	140	11:00	59.88	0.38	0.01	0.09
P035	010E_1020	010E_1030	23	8	140	11:00	59.88	0.38	0.00	0.09

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P036	010E_1015	010E_1020	178	8	140	11:00	59.88	0.38	0.02	0.09
P037	010E_1010	010E_1015	89	8	140	11:00	59.88	0.38	0.01	0.09
P038	010E_1030	010E_1035	191	8	140	11:00	59.88	0.38	0.02	0.09
P039	010E_1035	010E_1040	68	8	140	11:00	59.88	0.38	0.01	0.09
P040	010E_1025	010E_1030	52	8	140	0:00	0.00	0.00	0.00	0.00
P041	010E_1065	010E_1060	39	12	140	11:00	379.38	1.08	0.01	0.37
P042	010E_1060	010E_1050	303	12	140	11:00	379.38	1.08	0.11	0.37
P043	010E_1065	010E_1055	300	12	140	11:00	552.21	1.57	0.22	0.74
P044	010E_1050	010E_1045	279	12	140	11:00	379.22	1.08	0.10	0.37
P045	010E_1075	010E_1070	166	12	140	12:00	398.41	1.13	0.07	0.40
P046	010E_1075	010E_1080	43	10	140	12:00	399.67	1.63	0.04	0.98
P047	010E_1080	010E_1085	80	10	140	12:00	400.93	1.64	0.08	0.99
P048	010E_1105	010E_1115	11	10	140	7:00	3.02	0.01	0.00	0.00
P049	010E_1115	010E_1120	24	10	140	11:00	235.02	0.96	0.01	0.37
P050	010E_1085	010E_1090	196	12	140	12:00	305.73	0.87	0.05	0.25
P051	010E_1110	010E_1115	11	12	140	11:00	232.11	0.66	0.00	0.15
P052	010E_1095	010E_1110	239	12	140	11:00	230.65	0.65	0.03	0.15
P053	010E_1090	010E_1095	51	12	140	11:00	307.11	0.87	0.01	0.25
P054	010S_1100	010S_1095	5	8	100	11:45	40.39	0.26	0.00	0.08
P055	010S_1100	010S_1090	10	8	100	12:00	132.74	0.85	0.01	0.70
P056	010S_1155	010S_1140	187	8	100	11:00	151.33	0.97	0.17	0.90
P057	010S_1140	010S_1115	162	8	100	11:00	151.33	0.97	0.15	0.90
P058	010S_1115	010S_1100	254	8	100	6:45	101.34	0.65	0.11	0.43
P059	010S_1110	010S_1105	83	10	130	11:00	94.33	0.39	0.01	0.08
P060	010S_1105	010S_1085	37	10	130	0:00	0.00	0.00	0.00	0.00
P061	010S_1060	010S_1050	52	8	140	0:00	0.00	0.00	0.00	0.00
P062	010S_1090	010S_1080	88	8	140	12:00	132.74	0.85	0.03	0.38
P063	010S_1080	010S_1075	20	8	140	12:00	132.74	0.85	0.01	0.38
P064	010S_1075	010S_1070	20	8	140	12:00	132.74	0.85	0.01	0.38
P065	010S_1155	010S_1160	10	8	140	11:00	151.33	0.97	0.00	0.48
P066	010S_1145	010E_1005	43	8	140	0:00	0.00	0.00	0.00	0.00
P068	010S_1055	010S_1060	20	12	140	6:45	545.79	1.55	0.01	0.72
P069	010S_1060	010S_1065	136	12	140	6:45	545.79	1.55	0.10	0.72
P070	010S_1185	010S_1175	562	12	140	12:00	475.65	1.35	0.31	0.56
P071	010S_1125	010S_1176	564	12	140	6:45	568.96	1.61	0.44	0.78
P072	010S_1176	010S_1175	578	12	140	6:45	383.89	1.09	0.22	0.38
P073	010S_1065	010S_1105	325	12	140	6:45	545.79	1.55	0.23	0.72
P074	010S_1105	010S_1125	116	12	140	6:45	568.96	1.61	0.09	0.78
P075	010E_1055	010S_1185	386	12	140	11:00	552.21	1.57	0.28	0.74
P077	010S_1180	010S_1170	298	12	140	11:00	211.21	0.60	0.04	0.12
P078	010S_1170	010S_1165	298	12	140	11:00	211.21	0.60	0.04	0.12

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P079	010S_1165	010S_1160	116	12	140	11:00	211.21	0.60	0.01	0.12
P080	010S_1160	010S_1150	143	12	140	0:00	0.00	0.00	0.00	0.00
P081	010S_1150	010S_1145	33	12	140	0:00	0.00	0.00	0.00	0.00
P082	010E_1045	010S_1180	293	12	140	11:00	379.22	1.08	0.11	0.37
P084	046N_1340	046N_1380	99	8	130	0:00	0.00	0.00	0.00	0.00
P085	046N_1065	046N_1035	145	12	130	8:00	559.06	1.59	0.13	0.86
P086	046N_1035	046N_1000	259	12	130	8:00	559.06	1.59	0.22	0.86
P087	046N_1785	046N_1825	106	10	140	0:00	0.00	0.00	0.00	0.00
P088	046N_1940	046N_1945	10	12	140	3:45	298.31	0.85	0.00	0.24
P089	046N_1945	046E_1005	144	8	140	7:45	324.54	2.07	0.29	1.98
P090	046N_1875	046N_1930	241	12	140	3:45	432.96	1.23	0.11	0.47
P091	046N_1930	046N_1945	70	12	140	3:45	432.96	1.23	0.03	0.47
P092	046N_1635	046N_1705	135	12	140	3:45	421.37	1.20	0.06	0.45
P093	046N_1825	046N_1875	139	12	140	3:45	432.96	1.23	0.06	0.47
P094	046N_1705	046N_1825	240	12	140	3:45	421.37	1.20	0.11	0.45
P095	046N_1635	046N_1880	689	12	140	7:00	1162.93	3.30	2.01	2.92
P096	046N_1910	046N_1925	225	12	140	7:00	1925.89	5.46	1.67	7.44
P097	046N_1950	046N_1955	53	12	140	7:00	1925.89	5.46	0.39	7.44
P098	046N_1925	046N_1950	302	12	140	7:00	1925.89	5.46	2.25	7.44
P099	046N_1880	046N_1910	99	12	140	7:00	1162.93	3.30	0.29	2.92
P100	046N_1065	046N_1090	76	12	140	8:00	559.06	1.59	0.06	0.75
P101	046N_1380	046N_1420	99	12	140	7:00	851.80	2.42	0.16	1.64
P102	046N_1370	046N_1380	27	12	140	7:00	851.80	2.42	0.04	1.64
P103	046N_1565	046N_1635	72	12	140	7:00	851.80	2.42	0.12	1.64
P104	046N_1420	046N_1565	354	12	140	7:00	851.80	2.42	0.58	1.64
P105	046N_1285	046N_1370	151	12	140	8:00	682.22	1.94	0.16	1.09
P106	046N_1090	046N_1180	218	12	140	8:00	682.22	1.94	0.24	1.09
P107	046N_1180	046N_1285	337	12	140	8:00	682.22	1.94	0.37	1.09
P108	046N_1920	046N_1940	119	12	140	3:45	298.31	0.85	0.03	0.24
P109	046N_1835	046N_1920	387	12	140	3:45	298.31	0.85	0.09	0.24
P110	046E_1000	046N_1835	384	12	140	3:45	298.31	0.85	0.09	0.24
P111	046S_1060	046S_1065	36	10	130	0:00	0.00	0.00	0.00	0.00
P112	046S_1080	046S_1070	194	12	140	12:00	199.87	0.57	0.02	0.11
P113	046S_1015	046S_1010	7	12	130	0:00	0.00	0.00	0.00	0.00
P114	046S_1050	046S_1060	92	12	130	0:00	0.00	0.00	0.00	0.00
P115	046S_1010	046S_1000	131	12	140	0:00	0.00	0.00	0.00	0.00
P116	047E_1595	046S_1045	333	12	140	7:15	1133.55	3.22	0.93	2.79
P117	046S_1045	046S_1050	10	12	140	0:00	0.00	0.00	0.00	0.00
P118	046S_1045	046S_1030	79	12	140	7:15	1133.55	3.22	0.22	2.79
P119	046S_1020	046S_1030	160	12	140	7:15	1133.55	3.22	0.45	2.79
P120	046S_1025	046S_1005	142	12	140	11:00	2.50	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P121	047E_1485	046S_1005	161	12	140	8:00	854.80	2.42	0.27	1.65
P122	046S_1005	046S_1020	63	12	140	8:00	856.54	2.43	0.10	1.66
P123	046S_1020	046S_1015	39	12	140	0:00	0.00	0.00	0.00	0.00
P124	046S_1035	046S_1020	93	12	140	7:45	371.68	1.05	0.03	0.35
P125	046S_1090	046S_1095	35	10	140	0:00	0.00	0.00	0.00	0.00
P126	046S_1095	046S_1105	125	10	140	11:00	155.80	0.64	0.02	0.17
P127	046S_1035	046S_1070	284	12	140	7:45	371.68	1.05	0.10	0.35
P128	046S_1070	046S_1075	192	12	140	7:45	204.46	0.58	0.02	0.12
P129	046S_1115	046E_1000	455	12	140	3:45	298.31	0.85	0.11	0.24
P130	046S_1110	046S_1115	498	12	140	3:45	298.31	0.85	0.12	0.24
P131	046S_1100	046S_1110	509	12	140	2:30	326.83	0.93	0.14	0.28
P132	046S_1085	046S_1095	296	12	140	7:45	204.46	0.58	0.03	0.12
P133	046S_1095	046S_1100	92	12	140	2:30	326.83	0.93	0.03	0.28
P134	046S_1075	046S_1085	377	12	140	7:45	204.46	0.58	0.04	0.12
P135	047E_1660	047E_1650	136	12	130	7:00	1608.68	4.56	0.83	6.11
P136	047E_1590	047E_1550	298	8	140	7:00	328.20	2.09	0.60	2.02
P137	047E_1630	047E_1660	236	8	140	7:00	328.20	2.09	0.48	2.02
P138	047E_1550	047E_1630	426	8	140	7:00	328.20	2.09	0.86	2.02
P139	047E_1605	047E_1590	147	8	140	7:00	328.20	2.09	0.30	2.02
P140	047E_1605	047E_1615	69	8	140	7:00	328.20	2.09	0.14	2.02
P141	047E_1125	047E_1100	191	8	140	0:00	0.00	0.00	0.00	0.00
P142	047E_1070	047E_1075	15	8	140	11:00	4.99	0.03	0.00	0.00
P143	047E_1075	047E_1085	60	8	140	11:00	2.50	0.02	0.00	0.00
P144	047E_1145	047E_1210	290	8	140	11:00	7.49	0.05	0.00	0.00
P145	047E_1210	047E_1215	37	8	140	11:00	2.50	0.02	0.00	0.00
P146	047E_1210	047E_1230	53	8	140	11:00	2.50	0.02	0.00	0.00
P147	047E_1200	047E_1220	43	8	140	11:00	2.50	0.02	0.00	0.00
P148	047E_1365	047E_1370	11	8	140	11:00	2.50	0.02	0.00	0.00
P149	047E_1555	046S_1055	218	8	140	11:00	2.50	0.02	0.00	0.00
P150	047E_1110	047E_1140	166	12	140	7:00	87.19	0.25	0.00	0.02
P151	047E_1180	047E_1235	112	12	140	7:00	84.56	0.24	0.00	0.02
P152	047E_1140	047E_1180	258	12	140	7:00	85.88	0.24	0.01	0.02
P153	047E_1110	047E_1150	150	12	140	7:00	259.56	0.74	0.03	0.18
P154	047E_1440	047E_1455	247	12	140	7:00	275.31	0.78	0.05	0.20
P155	047E_1410	047E_1440	131	12	140	7:00	274.00	0.78	0.03	0.20
P156	047E_1400	047E_1410	80	12	140	7:00	272.68	0.77	0.02	0.20
P157	047E_1380	047E_1400	101	12	140	7:00	271.37	0.77	0.02	0.20
P158	047E_1360	047E_1380	111	12	140	7:00	270.06	0.77	0.02	0.20
P159	047E_1330	047E_1360	180	12	140	7:00	268.75	0.76	0.03	0.19
P160	047E_1295	047E_1330	263	12	140	7:00	267.43	0.76	0.05	0.19
P161	047E_1290	047E_1295	14	12	140	7:00	266.12	0.75	0.00	0.19

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P162	047E_1250	047E_1290	180	12	140	7:00	264.81	0.75	0.03	0.19
P163	047E_1245	047E_1250	13	12	140	7:00	263.50	0.75	0.00	0.19
P164	047E_1175	047E_1245	295	12	140	7:00	262.18	0.74	0.05	0.19
P165	047E_1150	047E_1175	97	12	140	7:00	260.87	0.74	0.02	0.18
P166	047E_1010	047E_1020	42	12	140	11:00	2.50	0.01	0.00	0.00
P167	047E_1065	047E_1055	23	12	140	7:00	168.43	0.48	0.00	0.08
P168	047E_1055	047E_1045	16	12	140	7:00	169.75	0.48	0.00	0.08
P169	047E_1045	047E_1110	336	12	140	7:00	171.06	0.49	0.03	0.08
P170	047E_1065	047E_1070	27	12	140	11:00	7.49	0.02	0.00	0.00
P171	047E_1030	047E_1015	207	12	140	11:00	2.50	0.01	0.00	0.00
P172	047E_1030	047E_1050	188	12	140	7:00	161.87	0.46	0.01	0.08
P173	047E_1050	047E_1065	21	12	140	7:00	163.19	0.46	0.00	0.08
P174	047E_1235	047E_1255	149	12	140	7:00	137.07	0.39	0.01	0.06
P175	047E_1340	047E_1335	55	12	140	7:00	142.32	0.40	0.00	0.06
P176	047E_1305	047E_1340	216	12	140	7:00	141.01	0.40	0.01	0.06
P177	047E_1265	047E_1305	250	12	140	7:00	139.70	0.40	0.01	0.06
P178	047E_1255	047E_1265	14	12	140	7:00	138.39	0.39	0.00	0.06
P179	047E_1105	047E_1080	159	12	140	7:00	155.31	0.44	0.01	0.07
P180	047E_1080	047E_1060	70	12	140	7:00	156.62	0.44	0.01	0.07
P181	047E_1060	047E_1035	192	12	140	7:00	157.94	0.45	0.01	0.07
P182	047E_1035	047E_1030	48	12	140	7:00	159.25	0.45	0.00	0.07
P183	047E_1105	047E_1145	207	12	140	7:00	212.45	0.60	0.03	0.13
P184	047E_1145	047E_1165	22	12	140	7:00	217.70	0.62	0.00	0.13
P185	047E_1170	047E_1235	266	12	140	7:00	220.33	0.63	0.04	0.13
P186	047E_1165	047E_1170	28	12	140	7:00	219.01	0.62	0.00	0.13
P187	047E_1335	047E_1375	155	12	140	7:00	516.41	1.46	0.10	0.65
P188	047E_1445	047E_1455	84	12	140	7:00	519.03	1.47	0.06	0.66
P189	047E_1375	047E_1445	268	12	140	7:00	517.72	1.47	0.18	0.65
P190	047E_1335	047E_1280	209	12	140	7:00	372.77	1.06	0.07	0.36
P191	047E_1280	047E_1225	213	12	140	7:00	371.46	1.05	0.08	0.35
P192	047E_1225	047E_1155	228	12	140	7:00	370.15	1.05	0.08	0.35
P193	047E_1455	047E_1500	206	12	140	7:00	795.65	2.26	0.30	1.45
P194	047E_1520	047E_1565	157	12	140	7:00	798.28	2.26	0.23	1.46
P195	047E_1500	047E_1520	206	12	140	7:00	796.97	2.26	0.30	1.45
P196	047E_1155	047E_1120	203	12	140	7:00	365.14	1.04	0.07	0.34
P197	047E_1120	047E_1105	152	12	140	7:00	366.45	1.04	0.05	0.34
P198	047E_1115	047E_1155	115	12	140	7:00	733.97	2.08	0.14	1.25
P199	047E_1565	047E_1580	71	12	140	7:00	802.22	2.28	0.10	1.47
P200	047E_1580	047E_1610	287	12	140	7:00	803.53	2.28	0.42	1.47
P201	047E_1535	047E_1545	1	12	140	11:00	2.50	0.01	0.00	0.00
P202	047E_1545	047E_1565	93	12	140	11:00	4.99	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P203	047E_1450	047E_1480	145	12	140	11:00	17.47	0.05	0.00	0.00
P204	047E_1510	047E_1525	37	12	140	11:00	12.48	0.04	0.00	0.00
P205	047E_1480	047E_1510	253	12	140	11:00	14.98	0.04	0.00	0.00
P206	047E_1195	047E_1185	139	12	140	11:00	9.99	0.03	0.00	0.00
P207	047E_1190	047E_1200	15	12	140	11:00	4.99	0.01	0.00	0.00
P208	047E_1185	047E_1190	13	12	140	11:00	7.49	0.02	0.00	0.00
P209	047E_1195	047E_1260	159	12	140	12:00	91.83	0.26	0.00	0.03
P210	047E_1365	047E_1450	297	12	140	12:00	103.45	0.29	0.01	0.03
P211	047E_1325	047E_1365	169	12	140	12:00	98.80	0.28	0.01	0.03
P212	047E_1270	047E_1325	254	12	140	12:00	96.48	0.27	0.01	0.03
P213	047E_1260	047E_1270	14	12	140	12:00	94.15	0.27	0.00	0.03
P214	047E_1610	047E_1615	41	12	140	7:00	1936.88	5.49	0.31	7.52
P215	047E_1645	047E_1650	30	12	140	7:00	1608.68	4.56	0.16	5.33
P216	047E_1615	047E_1645	260	12	140	7:00	1608.68	4.56	1.39	5.33
P217	047E_1610	047E_1595	129	12	140	7:15	1133.55	3.22	0.36	2.79
P218	047E_1525	047E_1530	199	12	140	11:00	4.99	0.01	0.00	0.00
P219	047E_1530	047E_1540	1	12	140	11:00	2.50	0.01	0.00	0.00
P220	047E_1525	047E_1555	126	12	140	11:00	4.99	0.01	0.00	0.00
P221	047N_1295	047E_1195	147	12	140	12:00	80.20	0.23	0.00	0.02
P222	047E_1390	047E_1420	266	12	140	11:00	124.87	0.35	0.01	0.05
P223	047E_1420	047E_1450	206	12	140	11:00	122.37	0.35	0.01	0.05
P224	047E_1390	047E_1395	193	12	140	11:00	332.54	0.94	0.06	0.29
P225	047E_1385	047E_1390	15	12	140	8:00	217.84	0.62	0.00	0.13
P226	047E_1310	047E_1385	323	12	140	8:00	216.10	0.61	0.04	0.13
P227	047E_1395	047E_1430	135	12	140	8:00	854.80	2.42	0.22	1.65
P228	047E_1430	047E_1485	236	12	140	8:00	854.80	2.42	0.39	1.65
P229	047E_1395	047E_1350	198	12	140	8:00	531.65	1.51	0.14	0.69
P230	047E_1350	047E_1320	110	12	140	8:00	531.65	1.51	0.08	0.69
P231	047E_1100	047E_1090	10	16	145	0:00	0.00	0.00	0.00	0.00
P232	047E_1090	047S_1295	11	16	145	0:00	0.00	0.00	0.00	0.00
P233	047E_1090	047E_1040	222	16	145	0:00	0.00	0.00	0.00	0.00
P234	047E_1010	047E_1005	61	16	145	11:45	2.50	0.00	0.00	0.00
P235	047E_1025	047E_1010	136	16	145	0:00	0.00	0.00	0.00	0.00
P236	047E_1005	047E_1000	214	16	145	11:45	2.50	0.00	0.00	0.00
P237	047E_1000	047N_1110	67	16	145	11:45	2.50	0.00	0.00	0.00
P238	047E_1040	047E_1025	213	16	145	0:00	0.00	0.00	0.00	0.00
P239	047N_1275	047N_1280	10	12	130	7:00	432.17	1.23	0.01	0.54
P240	047N_1150	047N_1155	88	12	140	11:00	1.16	0.00	0.00	0.00
P241	047N_1270	047N_1275	143	12	130	7:00	432.17	1.23	0.08	0.54
P242	047N_1160	047N_1135	93	12	140	11:00	2.50	0.01	0.00	0.00
P243	047N_1035	047N_1050	37	10	140	11:00	2.50	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P244	047N_1320	047N_1315	122	10	140	7:00	566.61	2.31	0.23	1.88
P245	047N_1245	047N_1230	110	12	140	11:00	22.47	0.06	0.00	0.00
P246	047N_1230	047N_1215	83	12	140	11:00	19.97	0.06	0.00	0.00
P247	047N_1220	047N_1170	153	12	140	11:00	7.49	0.02	0.00	0.00
P248	047N_1215	047N_1175	134	12	140	11:00	17.47	0.05	0.00	0.00
P249	047N_1210	047N_1220	11	12	140	11:00	9.99	0.03	0.00	0.00
P250	047N_1180	047N_1210	136	12	140	11:00	12.48	0.04	0.00	0.00
P251	047N_1175	047N_1180	14	12	140	11:00	14.98	0.04	0.00	0.00
P252	047N_1170	047N_1160	17	12	140	11:00	4.99	0.01	0.00	0.00
P253	047N_1245	047E_1115	305	12	140	7:00	732.66	2.08	0.38	1.24
P254	047N_1185	047N_1155	216	12	140	11:00	2.50	0.01	0.00	0.00
P255	047N_1155	047N_1130	82	12	140	11:00	3.84	0.01	0.00	0.00
P256	047N_1130	047N_1120	196	12	140	11:00	6.33	0.02	0.00	0.00
P257	047N_1120	047N_1095	229	12	140	11:00	8.83	0.03	0.00	0.00
P258	047N_1095	047N_1045	523	12	140	11:00	11.33	0.03	0.00	0.00
P259	047N_1200	047N_1190	40	12	140	11:00	2.50	0.01	0.00	0.00
P260	047N_1200	047N_1205	35	12	140	7:00	718.22	2.04	0.04	1.20
P261	047N_1205	047N_1245	367	12	140	7:00	719.54	2.04	0.44	1.20
P262	047N_1200	047N_1240	129	12	140	7:45	190.06	0.54	0.01	0.10
P263	047N_1200	047N_1195	193	12	140	7:00	529.97	1.50	0.13	0.68
P264	047N_1195	047N_1165	350	12	140	7:00	528.66	1.50	0.24	0.68
P265	047N_1240	047N_1250	24	12	140	6:45	74.92	0.21	0.00	0.02
P266	047N_1260	047N_1295	247	12	140	12:00	77.87	0.22	0.00	0.02
P267	047N_1250	047N_1260	210	12	140	12:00	75.55	0.21	0.00	0.02
P268	047N_1240	047N_1235	316	12	140	7:00	229.98	0.65	0.05	0.15
P269	047N_1235	047N_1255	186	12	140	7:00	228.67	0.65	0.03	0.14
P270	047N_1255	047N_1265	174	12	140	7:00	227.36	0.65	0.02	0.14
P271	047N_1045	047N_1025	184	12	140	11:00	29.96	0.09	0.00	0.00
P272	047N_1045	047N_1055	27	12	140	11:00	16.14	0.05	0.00	0.00
P273	047N_1145	047N_1150	11	12	140	11:00	3.65	0.01	0.00	0.00
P274	047N_1115	047N_1145	266	12	140	11:00	6.15	0.02	0.00	0.00
P275	047N_1105	047N_1115	16	12	140	11:00	8.65	0.02	0.00	0.00
P276	047N_1080	047N_1105	186	12	140	11:00	11.14	0.03	0.00	0.00
P277	047N_1055	047N_1080	293	12	140	11:00	13.64	0.04	0.00	0.00
P278	047N_1040	047N_1030	107	12	140	11:00	2.50	0.01	0.00	0.00
P279	047N_1025	047N_1015	255	12	140	11:45	4.99	0.01	0.00	0.00
P280	047N_1015	047N_1005	297	12	140	11:45	4.99	0.01	0.00	0.00
P281	047N_1005	047N_1000	39	12	140	11:45	4.99	0.01	0.00	0.00
P282	047N_1025	047N_1030	56	12	140	11:45	34.95	0.10	0.00	0.00
P283	047N_1030	047N_1060	132	12	140	11:30	37.45	0.11	0.00	0.01
P284	047N_1125	047N_1165	105	12	140	11:30	37.45	0.11	0.00	0.01

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P285	047N_1090	047N_1125	298	12	140	11:30	37.45	0.11	0.00	0.01
P286	047N_1075	047N_1090	143	12	140	11:30	37.45	0.11	0.00	0.01
P287	047N_1060	047N_1075	183	12	140	11:30	37.45	0.11	0.00	0.01
P288	047N_1265	047N_1285	86	12	140	8:00	209.14	0.59	0.01	0.12
P289	047N_1305	047E_1310	318	12	140	8:00	214.36	0.61	0.04	0.13
P290	047N_1300	047N_1305	52	12	140	8:00	212.62	0.60	0.01	0.13
P291	047N_1285	047N_1300	187	12	140	8:00	210.88	0.60	0.02	0.12
P292	047N_1265	047N_1270	24	12	140	7:00	433.48	1.23	0.01	0.47
P293	047N_1315	047N_1310	187	12	140	7:45	39.89	0.11	0.00	0.01
P294	047N_1280	047N_1225	415	12	140	7:00	395.96	1.12	0.17	0.40
P295	047E_1320	047N_1315	73	12	140	8:00	531.65	1.51	0.05	0.69
P296	047N_1310	047N_1290	285	12	140	7:45	39.89	0.11	0.00	0.01
P297	047N_1290	047N_1280	108	12	140	7:45	39.89	0.11	0.00	0.01
P298	047N_1225	047N_1166	67	12	140	7:00	395.96	1.12	0.03	0.40
P299	047N_1166	047N_1165	41	12	140	7:00	508.98	1.44	0.03	0.63
P300	047N_1165	047N_1140	51	12	140	0:00	0.00	0.00	0.00	0.00
P301	047N_1035	047N_1000	757	16	145	11:45	4.99	0.01	0.00	0.00
P302	047N_1110	047N_1085	226	16	145	11:45	2.50	0.00	0.00	0.00
P303	047N_1085	047N_1070	211	16	145	11:45	2.50	0.00	0.00	0.00
P304	047N_1070	047N_1065	87	16	145	11:45	2.50	0.00	0.00	0.00
P305	047N_1065	047N_1035	86	16	145	11:45	2.50	0.00	0.00	0.00
P306	TL_0015	TL_0020	575	10	140	6:45	125.91	0.51	0.07	0.12
P307	TL_0020	TL_0025	309	10	140	6:45	125.91	0.51	0.04	0.12
P308	009E_1085	TL_0015	553	10	140	6:45	125.91	0.51	0.06	0.12
P309	009E_1066	TL_0035	346	10	140	6:45	506.56	2.07	0.53	1.52
P310	TL_0035	TL_295	372	10	140	6:45	506.56	2.07	0.57	1.52
P311	TL_0045	TL_0040	489	10	140	5:45	70.19	0.29	0.02	0.04
P312	009E_1051	TL_0045	773	10	140	6:45	468.14	1.91	1.02	1.32
P313	046S_1110	TL_0165	1886	12	140	11:00	369.84	1.05	0.66	0.35
P314	TL_0090	TL_0095	526	8	140	7:00	169.69	1.08	0.31	0.60
P315	TL_0005	TL_0100	429	8	140	7:45	234.44	1.50	0.47	1.08
P316	TL_0090	TL_0105	419	8	140	7:00	169.69	1.08	0.25	0.60
P317	TL_0105	TL_0110	444	8	140	7:00	169.69	1.08	0.26	0.60
P318	TL_0110	TL_0115	377	8	140	7:00	169.69	1.08	0.22	0.60
P319	TL_0120	TL_0115	617	8	140	7:00	565.22	3.61	3.42	5.54
P320	TL_0120	TL_0130	303	8	140	7:00	565.22	3.61	1.68	5.54
P321	TL_0130	TL_0145	262	8	140	7:00	565.22	3.61	1.45	5.54
P322	TL_0140	TL_280	151	8	140	7:00	514.52	3.28	0.70	4.65
P323	TL_0150	TL_195	305	8	140	7:00	182.56	1.17	0.21	0.68
P324	TL_0145	TL_255	163	8	140	7:00	816.34	5.21	1.78	10.94
P328	TL_0165	TL_0185	1210	8	140	7:00	325.64	2.08	2.41	1.99

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P332	TL_0060	047N_1166	459	10	140	7:00	904.93	3.70	2.05	4.46
P333	TL_0160	TL_190	759	8	140	7:00	165.88	1.06	0.43	0.57
P334	TL_0210	TL_0215	278	8	140	7:45	64.69	0.41	0.03	0.10
P335	TL_0155	TL_0220	363	8	140	7:45	137.38	0.88	0.15	0.40
P336	TL_0220	TL_0075	266	8	140	7:45	137.38	0.88	0.11	0.40
P337	TL_0215	TL_165	1039	8	140	7:45	156.90	1.00	0.54	0.52
P338	TL_0185	TL_0230	522	10	140	7:00	199.69	0.82	0.14	0.27
P348	TL_0230	TL_0280	337	10	140	7:00	199.69	0.82	0.09	0.27
P349	TL_0280	TL_0060	359	10	140	7:00	199.69	0.82	0.10	0.27
P350	TL_0300	TL_0285	478	12	140	6:45	674.04	1.91	0.51	1.06
P356	TL_0095	TL_0310	701	8	140	7:45	234.44	1.50	0.76	1.08
P357	TL_0310	TL_0100	698	8	140	7:45	234.44	1.50	0.76	1.08
P358	TL_0000	TL_0025	664	10	140	6:45	164.33	0.67	0.13	0.19
P359	046N_1635	TL_0315	1278	16	140	3:45	251.66	0.40	0.05	0.04
P360	TL_0315	TL_0165	1128	12	140	3:45	251.66	0.71	0.19	0.17
P361	046S_1105	TL_0320	498	10	140	11:00	155.80	0.64	0.09	0.17
P362	TL_0320	TL_0075	479	10	140	11:00	155.80	0.64	0.08	0.17
P363	TL_0285	TL_0325	537	12	140	6:45	718.83	2.04	0.64	1.20
P366	009E_1066	TL_0335	366	12	140	6:45	674.04	1.91	0.39	1.06
P367	TL_0335	TL_0300	420	12	140	6:45	674.04	1.91	0.45	1.06
P368	TL_0065	TL_170	330	8	140	7:00	379.91	2.42	0.87	2.65
P369	TL_0340	TL_0060	203	10	140	7:45	532.31	2.17	0.34	1.67
P370	TL_0345	TL_0060	222	12	140	6:45	718.83	2.04	0.27	1.20
P371	TL_0325	TL_0345	405	12	140	6:45	718.83	2.04	0.49	1.20
P372	TL_0010	TL_0350	519	10	140	6:45	164.33	0.67	0.10	0.19
P373	TL_0010	009E_1101	873	10	140	6:45	164.33	0.67	0.17	0.19
P374	009E_1101	TL_0180	1040	10	140	11:00	375.80	1.54	0.91	0.88
P375	TL_0180	TL_0185	1037	10	140	11:00	375.80	1.54	0.91	0.88
P376	TL_0185	TL_0065	767	10	140	11:00	221.37	0.90	0.25	0.33
P377	TL_0065	047N_1320	797	10	140	7:00	566.61	2.31	1.49	1.88
P378	TL_0350	TL_0000	247	10	140	6:45	164.33	0.67	0.05	0.19
P383	TL_0315	TL_0270	68	12	140	0:00	0.00	0.00	0.00	0.00
P384	TL_0165	TL_0275	67	12	140	0:00	0.00	0.00	0.00	0.00
P385	TL_0360	046S_1080	350	12	140	12:00	199.87	0.57	0.04	0.11
P386	TL_0360	TL_165	549	12	140	12:00	199.87	0.57	0.06	0.11
P387	TL_0080	TL_0005	866	8	140	7:45	90.11	0.58	0.16	0.18
P388	TL_0005	046E_1005	569	8	140	7:45	324.54	2.07	1.13	1.98
P390	TL_145	TL_0075	813	12	140	8:00	189.21	0.54	0.08	0.10
P391	062W_1465	TL_0145	957	12	140	7:00	2648.36	7.51	12.84	13.42
P392	TL_0145	TL_0140	871	12	140	7:00	1266.81	3.59	2.98	3.42
P393	TL_0140	TL_145	719	12	140	7:00	752.29	2.13	0.94	1.30

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P394	010S_1095	TL_345	560	8	140	12:00	132.81	0.85	0.21	0.38
P395	010S_1176	TL_325	361	10	140	6:45	185.08	0.76	0.09	0.24
P396	TL_155	TL_315	327	8	140	12:00	79.09	0.50	0.05	0.15
P400	TL_165	TL_0075	693	12	140	12:00	124.97	0.35	0.03	0.05
P401	TL_0080	TL_145	1120	8	140	7:00	305.85	1.95	1.99	1.78
P402	TL_0340	TL_170	1101	8	140	7:45	41.46	0.26	0.05	0.04
P403	TL_0340	TL_170	1109	8	140	7:45	41.31	0.26	0.05	0.04
P404	010E_1040	TL_175	147	12	140	11:00	59.88	0.17	0.00	0.01
P405	010E_1050	TL_180	97	12	140	11:00	0.16	0.00	0.00	0.00
P406	010S_1110	TL_185	124	12	140	11:00	94.33	0.27	0.00	0.03
P407	TL_190	TL_0210	361	8	140	7:45	64.69	0.41	0.04	0.10
P408	TL_190	TL_215	234	8	140	7:45	170.64	1.09	0.14	0.60
P409	TL_195	TL_0155	176	8	140	11:00	185.26	1.18	0.12	0.70
P410	TL_0160	TL_275	180	8	140	7:45	75.88	0.48	0.02	0.13
P411	046N_1825	TL_200	137	10	140	11:00	78.02	0.32	0.01	0.05
P412	010S_1070	TL_205	45	8	140	11:00	26.24	0.17	0.00	0.02
P413	TL_210	TL_0155	217	8	140	7:45	170.64	1.09	0.13	0.60
P414	TL_215	TL_210	207	8	140	7:45	129.43	0.83	0.07	0.36
P415	TL_210	TL_220	158	8	140	7:45	41.22	0.26	0.01	0.04
P416	TL_220	TL_225	617	8	140	0:00	0.00	0.00	0.00	0.00
P417	TL_220	TL_215	1563	8	140	7:45	41.22	0.26	0.07	0.04
P418	TL_255	TL_0160	518	8	140	7:00	499.99	3.19	2.29	4.41
P419	TL_0215	TL_230	182	8	140	7:00	316.35	2.02	0.34	1.89
P420	TL_230	TL_235	736	8	140	7:00	165.80	1.06	0.42	0.57
P421	TL_230	TL_235	880	8	140	7:00	150.55	0.96	0.42	0.48
P422	TL_235	TL_240	328	8	140	7:00	316.35	2.02	0.62	1.89
P423	TL_240	TL_245	692	8	140	7:00	172.03	1.10	0.42	0.61
P424	TL_240	TL_245	958	8	140	7:00	144.32	0.92	0.42	0.44
P425	TL_245	TL_250	152	8	140	7:00	316.35	2.02	0.29	1.89
P426	TL_250	TL_255	299	8	140	7:00	316.35	2.02	0.57	1.89
P427	TL_275	TL_195	531	8	140	8:00	108.49	0.69	0.14	0.26
P428	TL_280	TL_0150	275	8	140	7:00	219.59	1.40	0.26	0.96
P429	TL_275	TL_260	135	8	140	7:45	156.51	1.00	0.07	0.51
P430	TL_260	TL_265	143	8	140	7:45	107.49	0.69	0.04	0.26
P431	TL_265	TL_280	904	8	140	7:00	116.41	0.74	0.27	0.30
P432	TL_260	TL_270	598	8	140	7:45	49.03	0.31	0.04	0.06
P433	TL_265	TL_270	483	8	140	11:00	21.28	0.14	0.01	0.01
P434	TL_270	TL_0150	166	8	140	7:45	41.43	0.26	0.01	0.04
P435	TL_280	TL_285	295	8	140	7:00	178.52	1.14	0.19	0.65
P436	TL_285	TL_290	942	8	140	7:00	77.07	0.49	0.13	0.14
P437	TL_290	TL_195	227	8	140	7:00	178.52	1.14	0.15	0.65

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P438	TL_285	TL_290	566	8	140	7:00	101.45	0.65	0.13	0.23
P439	047E_1695	047E_1675	264	12	130	7:00	1936.88	5.49	2.28	8.62
P440	047E_1675	047E_1660	153	12	130	7:00	1936.88	5.49	1.32	8.62
P441	047E_1700	047E_1695	79	12	130	7:00	1936.88	5.49	0.69	8.62
P442	047E_1705	047E_1710	202	12	130	7:00	2399.91	6.81	2.60	12.82
P443	047E_1705	047E_1700	70	12	130	7:00	2399.91	6.81	0.89	12.82
P444	047E_1710	061N_1416	243	12	130	7:00	2399.91	6.81	3.12	12.82
P445	061N_1415	061N_1495	305	12	130	7:00	2399.91	6.81	3.91	12.82
P446	061N_1416	061N_1415	40	12	130	7:00	2399.91	6.81	0.51	12.82
P447	061N_1495	061N_1530	107	12	130	7:00	2399.91	6.81	1.38	12.82
P448	061N_1530	061N_1610	170	12	130	7:00	2399.91	6.81	2.18	12.82
P449	061N_1610	061N_1625	26	12	130	7:00	2399.91	6.81	0.34	12.82
P450	061N_1625	061N_1850	890	12	130	7:00	2095.76	5.95	8.88	9.98
P451	061N_1850	061N_1870	581	12	130	7:00	1380.79	3.92	2.68	4.61
P456	047E_1320	EX01	679	12	140	0:00	0.00	0.00	0.00	0.00
P458	TL_295	TL_0045	392	10	140	6:45	375.52	1.53	0.34	0.88
P460	TL_0040	TL_0045	1189	8	140	5:45	24.16	0.15	0.02	0.02
P462	TL_300	TL_0040	560.4475	12	140	0:00	0.00	0.00	0.00	0.00
P464	TL_0040	TL_295	878.1231	8	140	6:45	131.04	0.84	0.32	0.37
P466	TL_315	010S_1095	439.9643	8	140	6:45	109.69	0.70	0.12	0.27
P468	TL_155	TL_325	837.9253	10	140	6:45	116.00	0.47	0.08	0.10
P470	TL_350	TL_315	543.6493	10	140	6:45	42.35	0.17	0.01	0.02
P472	TL_310	TL_325	593.3594	8	140	6:45	83.79	0.53	0.10	0.16
P474	TL_310	010S_1175	468.8225	8	140	12:00	98.89	0.63	0.10	0.22
P476	TL_305	010S_1185	963.2367	8	140	14:45	26.06	0.17	0.02	0.02
P478	010S_1180	TL_305	315.0562	8	140	12:00	168.54	1.08	0.19	0.59
P480	TL_335	TL_155	203.9308	10	140	6:45	63.37	0.26	0.01	0.03
P482	010S_1070	TL_330	169.0912	8	140	12:00	108.30	0.69	0.04	0.26
P488	TL_335	TL_320	432.2136	10	140	11:00	59.88	0.24	0.01	0.03
P490	TL_330	TL_335	566.4381	8	140	6:45	78.09	0.50	0.08	0.14
P492	TL_155	TL_340	226.2217	12	140	11:00	59.88	0.17	0.00	0.01
P506	010S_1176	J282	152.4879	12	140	0:00	0.00	0.00	0.00	0.00
P508	046N_1000	J280	98.1152	12	140	0:00	0.00	0.00	0.00	0.00
P510	046S_1110	TL_145	1,193.79	12	140	11:00	357.12	1.01	0.39	0.33
P514	TL_305	TL_345	191.1343	8	140	11:00	161.34	1.03	0.10	0.54
P516	TL_350	TL_310	449.8557	8	140	6:45	35.00	0.22	0.01	0.03

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Standard Results - Fire Flow Summary, Nodes
Performed by: TE
Checked by: JN
Date: 1/17/2017
Time of Day: 18:00

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)	Available Flow Pressure (psi)
009E_1085	0.00	91.04	265.10	4,000.00	75.21	10,581.76	20.00
010S_1070	0.00	85.41	265.50	3,500.00	61.64	6,521.67	20.00
010S_1075	0.00	85.45	265.51	3,500.00	62.13	6,608.11	20.00
010S_1080	0.00	85.49	265.51	3,500.00	62.64	6,704.02	20.00
010S_1090	0.00	85.75	265.53	3,500.00	65.46	7,304.30	20.00
010S_1095	0.00	85.68	265.53	3,500.00	66.13	7,497.83	20.00
010S_1100	0.00	85.68	265.53	3,500.00	66.05	7,475.88	20.00
010S_1115	44.83	85.24	265.59	3,500.00	57.63	5,931.42	20.00
010S_1140	0.00	84.96	265.68	3,500.00	58.05	5,964.99	20.00
010S_1155	0.00	84.53	265.78	3,500.00	64.06	7,164.76	20.00
046E_1005	0.00	91.18	267.89	3,000.00	77.91	8,837.40	20.00
TL_0000	0.00	87.85	265.15	4,000.00	58.85	6,684.93	20.00
TL_0005	0.00	92.24	267.77	3,000.00	71.95	6,663.53	20.00
TL_0010	0.00	87.58	265.21	4,000.00	62.45	7,322.69	20.00
TL_0015	0.00	91.04	265.10	4,000.00	67.51	7,897.42	20.00
TL_0020	0.00	92.08	265.10	4,000.00	64.24	7,124.94	20.00
TL_0025	117.03	90.52	265.10	4,000.00	61.43	6,957.78	20.00
TL_0035	0.00	92.28	264.76	4,000.00	75.97	10,467.09	20.00
TL_0040	117.03	92.36	264.45	4,000.00	69.07	8,174.05	20.00
TL_0045	0.00	93.23	264.45	4,000.00	74.80	9,595.86	20.00
TL_0080	213.39	93.10	267.76	3,000.00	65.77	5,709.05	20.00
TL_0090	0.00	92.49	267.75	3,000.00	41.96	3,735.89	20.00
TL_0095	213.39	91.70	267.54	3,000.00	41.45	3,940.97	20.00
TL_0100	0.00	91.69	267.72	3,000.00	60.15	4,951.47	20.00
TL_0105	0.00	92.87	267.92	3,000.00	43.78	3,814.66	20.00
TL_0110	0.00	93.16	268.11	3,000.00	47.30	3,991.30	20.00
TL_0115	213.39	93.10	268.26	3,000.00	51.47	4,461.30	20.00
TL_0120	0.00	94.06	269.69	3,000.00	65.47	5,434.97	20.00
TL_0130	0.00	94.41	270.39	3,000.00	75.00	7,071.05	20.00
TL_0165	193.59	90.95	267.81	4,000.00	76.97	11,982.44	20.00
TL_0285	136.44	93.60	265.51	4,000.00	78.75	11,536.15	20.00
TL_0300	0.00	91.90	265.30	4,000.00	77.62	11,579.68	20.00
TL_0310	0.00	90.96	267.63	3,000.00	47.42	4,034.71	20.00
TL_0315	0.00	91.58	267.85	4,000.00	79.02	12,918.93	20.00
TL_0325	0.00	93.55	265.91	4,000.00	79.10	11,683.69	20.00
TL_0335	0.00	92.12	265.11	4,000.00	78.96	12,475.56	20.00
TL_0345	0.00	93.69	266.22	4,000.00	80.23	12,463.50	20.00
TL_0350	0.00	88.03	265.17	4,000.00	59.81	6,812.02	20.00
TL_155	0.00	89.46	265.45	3,500.00	69.64	7,683.48	20.00
TL_295	0.00	92.97	264.57	4,000.00	74.67	9,623.68	20.00

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)	Available Flow Pressure (psi)
TL_300	0.00	94.65	264.45	4,000.00	64.37	6,871.83	20.00
TL_305	22.41	86.54	265.73	3,500.00	67.12	7,589.14	20.00
TL_310	22.41	88.60	265.48	3,500.00	69.31	7,753.41	20.00
TL_315	0.00	87.30	265.48	3,500.00	66.98	7,388.42	20.00
TL_320	44.83	87.72	265.45	3,500.00	55.23	5,471.90	20.00
TL_325	44.83	89.46	265.45	3,500.00	73.14	8,900.99	20.00
TL_330	44.83	85.57	265.47	3,500.00	59.27	6,148.92	20.00
TL_335	0.00	89.46	265.45	3,500.00	67.44	7,130.02	20.00
TL_340	44.83	89.46	265.45	3,500.00	67.38	7,157.50	20.00
TL_345	22.41	86.51	265.66	3,500.00	63.64	6,761.45	20.00
TL_350	22.41	87.74	265.48	3,500.00	64.91	6,847.53	20.00
South Hangar Simulation							
046S_1000	0.00	95.12	268.55	4,000.00	55.36	-	-
EX01	0.00	96.52	267.75	4,000.00	49.46	-	-
North Hangar Simulation							
TL_0275	0.00	94.76	268.80	4,000.00	45.74	-	-
TL_0270	0.00	94.77	268.82	4,000.00	46.91	-	-

APPENDIX B – Wastewater Collection System Hydraulic Analysis Computer Results

	Residential		Non-Residential		Node Distribution		
	Loading (gpd)	Loading (GPM)	Loading (gpd)	Loading (GPM)	Percentage	Residential Quantity (GPM)	Non-Residential Quantity (GPM)
PA 1 (A)	-	-	160480	111.44	5	-	5.572
					10	-	11.144
					20	-	22.289
					20	-	22.289
					20	-	22.289
					25	-	27.861
PA 1 (B)	-	-	54340	37.74	25	-	9.434
					25	-	9.434
					25	-	9.434
					25	-	9.434
PA2	-	-	30	0.02	100	-	0.021
PA3	-	-	8264	5.74	100	-	5.739
PA4/5	223375	155.12	-	-	30	46.536	-
					70	108.585	-
PA6	-	-	23575	16.37	100	-	16.372
PA7	-	-	23671	16.44	100	-	16.438
HS	-	-	20000	13.89	100	-	13.889
PA8	-	-	50963	35.39	50	-	17.695
					50	-	17.695
PA9-12	-	-	98468	68.38	20	-	13.676
					20	-	13.676
					30	-	20.514
					30	-	20.514
PA13/14	261547	181.63	52116	36.19	50	90.815	18.096
					50	90.815	18.096
PA15	593630	412.24	5902	4.10	5	20.612	0.205
					10	41.224	0.410
					10	41.224	0.410
					10	41.224	0.410
					10	41.224	0.410
					25	103.061	1.025
					30	123.673	1.230
PA16-19	-	-	91980	63.88	5	-	3.194
					5	-	3.194
					5	-	3.194
					20	-	12.775
					20	-	12.775
					20	-	12.775
					25	-	15.969
PA20	48880	33.94	-	-	100	33.944	-
PA21	147150	102.19	-	-	30	30.656	-
			-	-	70	71.531	-
PA22	80400	55.83	1008	0.70	100	55.833	0.700



1/12/2017 JN H:\pdata\148275\Models\Wastewater\WWGIS 10.3\Tustin_Legacy Sewer.mxd

Michael Baker INTERNATIONAL

TUSTIN LEGACY SAMP

SEWER SYSTEM MODEL

Tustin Legacy SAMP Update - Sewer System Computer Model Results

3/15/2017

ID	Maximum Grade (ft)	Maximum Grade Time (hour)	Load (gpm)	Status	Depth (ft)	Surcharge Depth (ft)	Unfilled Depth (ft)
2252	31.219	11:00 hr	0	Not Full	0.283	-0.383	4.681
2254	34.749	11:00 hr	46.669	Not Full	0.149	-0.518	2.151
2258	33.209	11:00 hr	31.114	Not Full	0.175	-0.491	3.791
2260	34.504	11:00 hr	0	Not Full	0.124	-0.543	3.096
2266	36.604	11:00 hr	0	Not Full	0.124	-0.542	2.096
2268	35.284	11:00 hr	46.669	Not Full	0.152	-0.515	4.316
2270	38.489	11:00 hr	31.113	Not Full	0.125	-0.542	1.711
2272	26.698	10:00 hr	0	Not Full	0.543	-1.707	8.302
2288	42.681	11:00 hr	0	Not Full	0.141	-0.526	8.619
2290	44.377	11:00 hr	40.256	Not Full	0.137	-0.529	8.323
2292	51.915	11:00 hr	0	Not Full	0.205	-0.462	12.885
2294	50.469	11:00 hr	0	Not Full	0.159	-0.508	8.031
2296	52.539	11:00 hr	50.707	Not Full	0.159	-0.508	8.061
2298	39.574	07:00 hr	0	Not Full	0.584	-0.666	7.426
2300	40.141	07:00 hr	355.809	Not Full	0.591	-0.659	7.459
2302	40.511	07:00 hr	0	Not Full	0.381	-0.869	7.589
2304	40.954	07:00 hr	0	Not Full	0.384	-0.866	7.646
2306	41.419	07:00 hr	0	Not Full	0.389	-0.861	7.581
2308	42.24	07:00 hr	0	Not Full	0.38	-0.62	7.66
2310	43.325	07:00 hr	0	Not Full	0.375	-0.625	7.675
2312	44.975	07:00 hr	295.981	Not Full	0.335	-0.665	7.625
2314	52.251	11:00 hr	0	Not Full	0.081	-0.586	12.849
2316	53.791	11:00 hr	0	Not Full	0.081	-0.586	13.409
2318	49.578	11:00 hr	0	Not Full	0.158	-0.508	8.922
2322	50.717	11:00 hr	0	Not Full	0.177	-0.489	7.783
2326	58.619	11:00 hr	0	Not Full	0.159	-0.508	6.381
2328	57.598	11:00 hr	0	Not Full	0.158	-0.508	7.402
2330	60.289	11:00 hr	0	Not Full	0.159	-0.508	9.711
CO009E023	50.42	00:00 hr	0	Not Full	0	-0.667	7.98
CO009E024	50.83	00:00 hr	0	Not Full	0	-0.5	7.97
CO009E025	50.57	00:00 hr	0	Not Full	0	-0.5	8.03
CO009E026	43.92	00:00 hr	0	Not Full	0	-0.5	7.98
CO009E027	43.49	00:00 hr	0	Not Full	0	-0.5	8.01
CO010S020	63.808	11:00 hr	13.056	Not Full	0.082	-0.585	6.992
CO010S021	61.11	00:00 hr	0	Not Full	0	-0.667	7.49
CO010S024	44.34	00:00 hr	0	Not Full	0	-0.667	7.96
CO046S001	42.18	00:00 hr	0	Not Full	0	-0.667	8.02
CO046S004	37.614	08:00 hr	0	Not Full	0.304	-0.696	7.686
CO046S008	38.839	07:00 hr	0	Not Full	0.539	-0.711	7.461
CO046S011	39.072	07:00 hr	0	Not Full	0.352	-0.481	7.628
CO046S012	41.404	07:00 hr	118.391	Not Full	0.194	-0.473	7.796
DE009E001	28.44	00:00 hr	0	Not Full	0	-0.667	7.96
DE009E002	27.97	00:00 hr	0	Not Full	0	-1.5	8.03

ID	Maximum Grade (ft)	Maximum Grade Time (hour)	Load (gpm)	Status	Depth (ft)	Surcharge Depth (ft)	Unfilled Depth (ft)
DE009E004	40.833	08:00 hr	0	Not Full	0.013	-0.654	7.967
DE009E005	41.26	00:00 hr	0	Not Full	0	-0.667	8.04
DE009E007	28.05	00:00 hr	0	Not Full	0	-0.667	8.05
DE009E008	28.1	00:00 hr	0	Not Full	0	-0.667	8
DE009E009	28.44	00:00 hr	0	Not Full	0	-0.667	7.96
DE010E002	62.27	00:00 hr	0	Not Full	0	-0.667	8.03
DE010E124	64.405	11:00 hr	21.462	Not Full	0.095	-0.572	7.895
DE010S001	64.363	11:00 hr	25.353	Not Full	0.113	-0.554	6.437
DE010S003	44.65	00:00 hr	0	Not Full	0	-0.667	8.05
DE010S005	44.78	00:00 hr	0	Not Full	0	-0.667	8.02
DE046N010	47.897	11:00 hr	37.397	Not Full	0.137	-0.697	7.903
DE046N012	52.74	00:00 hr	0	Not Full	0	-0.667	7.96
DE047N001	33.8	00:00 hr	0	Not Full	0	-0.667	8
FI046S004	40.38	11:00 hr	0.00	Not Full	0.14	-0.527	5.82
MH007E028	10.182	11:00 hr	0	Not Full	1.292	-2.208	24.818
MH007E029	10.58	11:00 hr	0	Not Full	0.65	-2.85	24.42
MH008E053	19.704	09:00 hr	45.678	Not Full	1.044	-1.29	15.296
MH008E054	18.902	09:00 hr	42.489	Not Full	1.042	-1.291	16.098
MH008E055	18.291	09:00 hr	8.729	Not Full	1.101	-1.232	16.709
MH008E056	17.713	09:00 hr	1.318	Not Full	1.003	-1.33	17.287
MH008E057	16.231	09:00 hr	1,241.94	Not Full	1.191	-2.309	18.769
MH008E058	15.607	09:00 hr	24.18	Not Full	1.267	-2.233	19.393
MH008E059	15.461	09:00 hr	2.636	Not Full	1.711	-1.789	19.539
MH008S038	14.631	09:00 hr	1.318	Not Full	1.191	-2.309	20.369
MH008S039	14.369	09:00 hr	3.932	Not Full	1.219	-2.281	20.631
MH008S040	13.58	10:00 hr	31.826	Not Full	1.27	-2.23	21.42
MH008S041	12.895	10:00 hr	1.119	Not Full	1.195	-2.305	22.105
MH008S042	12.564	10:00 hr	38.161	Not Full	1.234	-2.266	22.436
MH008S044	11.912	11:00 hr	1,990.75	Not Full	1.272	-2.228	23.088
MH009E001	41.562	08:00 hr	0.00	Not Full	0.662	-0.838	7.238
MH009E002	25.96	10:00 hr	0	Not Full	0.38	-1.87	9.04
MH009E003	39.878	08:00 hr	0	Not Full	0.278	-1.222	7.722
MH009E005	26.807	08:00 hr	0	Not Full	0.507	-1.743	8.193
MH009E006	27.262	08:00 hr	0	Not Full	0.642	-1.608	7.738
MH009E007	27.687	08:00 hr	0	Not Full	0.647	-1.603	7.313
MH009E008	41.267	08:00 hr	0	Not Full	0.657	-0.843	7.333
MH009E009	40.833	08:00 hr	0	Not Full	0.663	-0.837	7.367
MH009E010	23.962	09:00 hr	0	Not Full	0.822	-1.512	11.038
MH009E011	23.961	09:00 hr	0	Not Full	0.961	-1.372	11.039
MH009E012	48.601	07:00 hr	26.981	Not Full	0.101	-0.566	7.899
MH009E013	47.171	07:00 hr	0	Not Full	0.111	-0.556	7.929
MH009E014	45.64	07:00 hr	0	Not Full	0.11	-0.556	7.86
MH009E015	44.11	07:00 hr	0	Not Full	0.11	-0.556	7.89
MH009E016	43.091	07:00 hr	0	Not Full	0.121	-0.545	7.909
MH009E017	42.68	07:00 hr	0	Not Full	0.11	-0.557	7.92

ID	Maximum Grade (ft)	Maximum Grade Time (hour)	Load (gpm)	Status	Depth (ft)	Surcharge Depth (ft)	Unfilled Depth (ft)
MH009E018	42.243	07:00 hr	0	Not Full	0.113	-0.554	7.857
MH009E019	42.139	07:00 hr	0	Not Full	0.349	-0.484	7.661
MH009E020	42.579	07:00 hr	0	Not Full	0.339	-0.494	7.621
MH009E021	43.861	07:00 hr	0	Not Full	0.351	-0.483	7.639
MH009E022	45.042	07:00 hr	0	Not Full	0.352	-0.481	7.658
MH009S027	23.053	09:00 hr	0	Not Full	0.993	-1.34	11.947
MH009S028	22.2	09:00 hr	0	Not Full	1	-1.334	12.8
MH009S029	21.261	09:00 hr	42.091	Not Full	1.021	-1.312	13.739
MH009S030	20.507	09:00 hr	2.636	Not Full	1.047	-1.287	14.493
MH010E059	50.014	08:00 hr	0	Not Full	0.434	-0.816	7.586
MH010E060	55.5	00:00 hr	0	Not Full	0	-0.667	8
MH010E061	54.359	11:00 hr	0	Not Full	0.259	-0.408	7.741
MH010E062	55.29	11:00 hr	0	Not Full	0.26	-0.407	7.71
MH010E063	62.085	11:00 hr	0	Not Full	0.115	-0.552	7.915
MH010E064	63.804	11:00 hr	0	Not Full	0.104	-0.563	7.896
MH010E065	50.107	07:00 hr	0	Not Full	0.327	-0.923	7.693
MH010E066	50.521	07:00 hr	0	Not Full	0.391	-0.859	7.579
MH010E067	51.073	07:00 hr	0	Not Full	0.393	-0.857	7.627
MH010E068	51.527	07:00 hr	0	Not Full	0.397	-0.853	7.573
MH010E070	61.654	11:00 hr	21.462	Not Full	0.094	-0.573	7.946
MH010S001	60.322	11:00 hr	0	Not Full	0.202	-0.465	7.778
MH010S002	58.671	11:00 hr	0	Not Full	0.201	-0.466	7.829
MH010S003	56.66	11:00 hr	0.047	Not Full	0.26	-0.407	7.74
MH010S004	60.549	11:00 hr	0	Not Full	0.089	-0.578	7.951
MH010S005	43.793	10:00 hr	0	Not Full	0.553	-0.697	7.407
MH010S006	44.362	10:00 hr	0	Not Full	0.552	-0.698	7.438
MH010S007	46.223	10:00 hr	0	Not Full	0.553	-0.697	7.477
MH010S008	46.831	10:00 hr	0	Not Full	0.551	-0.699	7.469
MH010S009	47.395	09:00 hr	0	Not Full	0.505	-0.745	7.505
MH010S010	48.238	08:00 hr	0	Not Full	0.428	-0.822	7.562
MH010S011	49.426	08:00 hr	0	Not Full	0.436	-0.814	7.574
MH010S012	48.895	08:00 hr	0	Not Full	0.465	-0.785	7.505
MH010S013	47.741	09:00 hr	0	Not Full	0.541	-0.709	7.459
MH010S014	60.966	11:00 hr	0	Not Full	0.136	-0.531	7.534
MH010S015	62.928	11:00 hr	0	Not Full	0.138	-0.528	7.372
MH010S016	63.608	11:00 hr	0	Not Full	0.138	-0.528	7.192
MH010S017	61.928	11:00 hr	0	Not Full	0.138	-0.528	7.472
MH010S019	61.144	11:00 hr	0	Not Full	0.104	-0.562	7.856
MH010S023	56.276	11:00 hr	37.245	Not Full	0.056	-0.944	7.924
MH010S048	48.518	11:00 hr	0	Not Full	0.158	-0.508	7.982
MH010S049	60.669	11:00 hr	0	Not Full	0.139	-0.528	7.731
MH046E007	42.027	08:00 hr	0	Not Full	0.267	-0.733	7.773
MH046N028	52.771	07:00 hr	0	Not Full	0.271	-0.979	7.729
MH046N082	50.411	07:00 hr	133.095	Not Full	0.261	-0.572	7.789
MH046N083	49.97	00:00 hr	0	Not Full	0	-0.833	8.03

ID	Maximum Grade (ft)	Maximum Grade Time (hour)	Load (gpm)	Status	Depth (ft)	Surcharge Depth (ft)	Unfilled Depth (ft)
MH046N084	50.95	00:00 hr	0	Not Full	0	-0.833	8.05
MH046N085	53.2	00:00 hr	0	Not Full	0	-0.833	8
MH046N086	54.42	00:00 hr	0	Not Full	0	-0.833	7.98
MH046N087	52.16	00:00 hr	0	Not Full	0	-0.833	8.04
MH046N088	47.857	07:00 hr	0	Not Full	0.197	-0.636	7.843
MH046N089	49.998	07:00 hr	0	Not Full	0.258	-0.575	7.702
MH046N090	48.99	07:00 hr	0	Not Full	0.23	-0.604	7.81
MH046N092	52.94	00:00 hr	0	Not Full	0	-1.25	7.96
MH046N093	52.431	07:00 hr	0	Not Full	0.401	-0.849	7.569
MH046N132	51.943	07:00 hr	0	Not Full	0.403	-0.847	7.557
MH046N144	52.771	07:00 hr	310.552	Not Full	0.411	-0.839	7.629
MH046N148	43.779	07:00 hr	0	Not Full	0.269	-0.731	7.721
MH046N149	42.898	07:00 hr	0	Not Full	0.258	-0.742	7.702
MH046N150	45.294	07:00 hr	0	Not Full	0.194	-0.639	7.806
MH046N152	54.98	00:00 hr	0	Not Full	0	-0.667	8.02
MH046S005	34.041	08:00 hr	0	Not Full	0.711	-0.956	7.259
MH046S006	34.463	08:00 hr	0	Not Full	0.703	-0.964	7.337
MH046S007	35.398	08:00 hr	0	Not Full	0.388	-0.945	7.602
MH046S008	35.866	08:00 hr	0	Not Full	0.396	-0.938	7.634
MH046S009	36.197	08:00 hr	0	Not Full	0.597	-0.903	7.403
MH046S010	39.16	00:00 hr	0	Not Full	0	-0.667	8.04
MH046S011	41.158	08:00 hr	0	Not Full	0.268	-0.732	7.742
MH046S012	40.367	08:00 hr	22.028	Not Full	0.277	-0.723	7.733
MH046S013	39.571	08:00 hr	0	Not Full	0.331	-0.669	7.629
MH046S014	38.694	08:00 hr	0	Not Full	0.314	-0.686	7.706
MH046S015	37.794	08:00 hr	0	Not Full	0.314	-0.686	7.706
MH046S016	36.785	08:00 hr	0	Not Full	0.315	-0.685	7.715
MH046S017	34.825	08:00 hr	0	Not Full	0.705	-0.962	7.275
MH046S018	37.209	08:00 hr	0	Not Full	0.729	-0.771	7.291
MH046S019	36.825	08:00 hr	0	Not Full	0.765	-0.735	7.275
MH046S020	36.573	08:00 hr	0	Not Full	0.733	-0.767	7.227
MH046S021	38.639	07:00 hr	0	Not Full	0.629	-0.621	7.361
MH046S022	38.234	07:00 hr	0	Not Full	0.644	-0.606	7.366
MH046S023	37.531	07:00 hr	0	Not Full	0.601	-0.899	7.369
MH046S024	39.082	07:00 hr	0	Not Full	0.232	-0.435	7.818
MH046S025	40.56	07:00 hr	0	Not Full	0.23	-0.437	7.74
MH046S026	41.233	07:00 hr	0	Not Full	0.193	-0.473	7.767
MH046S027	36.573	08:00 hr	0	Not Full	0.063	-0.604	7.927
MH046S028	39.09	00:00 hr	0	Not Full	0	-0.667	8.01
MH046S029	40.25	00:00 hr	0	Not Full	0	-0.667	8.05
MH046S030	41.51	00:00 hr	0	Not Full	0	-0.667	7.99
MH046S031	42.64	00:00 hr	0	Not Full	0	-0.667	7.96
MH046S032	44.01	00:00 hr	0	Not Full	0	-0.667	7.99
MH046S033	45.27	00:00 hr	0	Not Full	0	-0.667	8.03
MH046S034	46.43	00:00 hr	0	Not Full	0	-0.667	7.97

ID	Maximum Grade (ft)	Maximum Grade Time (hour)	Load (gpm)	Status	Depth (ft)	Surcharge Depth (ft)	Unfilled Depth (ft)
MH046S035	46.94	00:00 hr	0	Not Full	0	-0.667	7.96
MH046S036	43.54	00:00 hr	0	Not Full	0	-0.667	7.96
MH046S037	43	00:00 hr	0	Not Full	0	-0.667	8
MH046S038	41.68	00:00 hr	0	Not Full	0	-0.667	8.02
MH046S039	41.01	00:00 hr	0	Not Full	0	-0.667	7.99
MH046S040	43.36	00:00 hr	0	Not Full	0	-0.667	8.04
MH046S041	46.37	00:00 hr	0	Not Full	0	-0.667	8.03
MH046S042	45.91	00:00 hr	0	Not Full	0	-0.667	7.99
MH046S043	45.03	00:00 hr	0	Not Full	0	-0.667	7.97
MH046S044	39.83	00:00 hr	0	Not Full	0	-0.667	7.97
MH046S045	38.34	00:00 hr	0	Not Full	0	-0.667	7.96
MH046S046	41.45	00:00 hr	0	Not Full	0	-0.667	8.05
MH046S047	37.214	08:00 hr	0	Not Full	0.274	-0.726	7.686
MH046S048	37.402	08:00 hr	0	Not Full	0.232	-0.768	7.798
MH046W001	37.24	00:00 hr	0	Not Full	0	-1	7.96
MH046W003	46.195	07:00 hr	280.893	Not Full	0.355	-0.479	7.605
MH047E028	36.603	11:00 hr	0	Not Full	0.043	-0.623	7.997
MH047E029	41.529	11:00 hr	7.266	Not Full	0.059	-0.608	7.971
MH047E030	40.259	11:00 hr	0	Not Full	0.059	-0.608	7.941
MH047E031	38.339	11:00 hr	0	Not Full	0.059	-0.608	7.961
MH047E032	39.009	11:00 hr	0	Not Full	0.059	-0.608	7.991
MH047E033	37.86	00:00 hr	0	Not Full	0	-0.667	8.04
MH047E034	36.95	00:00 hr	0	Not Full	0	-0.667	8.05
MH047E035	34.505	11:00 hr	0	Not Full	0.125	-1.208	7.895
MH047E037	34.791	11:00 hr	0	Not Full	0.131	-1.202	7.909
MH047E038	32.531	08:00 hr	0	Not Full	0.421	-0.913	7.569
MH047E039	35.578	11:00 hr	0	Not Full	0.058	-1.192	7.922
MH047E040	35.437	11:00 hr	0	Not Full	0.127	-1.123	7.863
MH047E041	36.147	11:00 hr	0	Not Full	0.127	-1.123	7.853
MH047E042	35.897	11:00 hr	0	Not Full	0.127	-1.123	7.903
MH047E043	36.877	11:00 hr	0	Not Full	0.127	-1.123	7.923
MH047E044	37.032	11:00 hr	0	Not Full	0.132	-1.118	7.868
MH047E045	36.348	11:00 hr	0	Not Full	0.128	-1.122	7.852
MH047E046	36.54	00:00 hr	0	Not Full	0	-1.25	7.96
MH047E047	36.81	11:00 hr	0	Not Full	0.13	-1.12	7.89
MH047E048	37.116	11:00 hr	0	Not Full	0.126	-1.124	7.884
MH047E049	37.703	11:00 hr	0	Not Full	0.123	-1.127	7.897
MH047E050	37.579	11:00 hr	29.063	Not Full	0.129	-1.121	7.921
MH047E051	38.029	11:00 hr	0	Not Full	0.129	-1.121	7.871
MH047E052	38.508	11:00 hr	29.063	Not Full	0.128	-1.122	7.892
MH047E053	32.689	08:00 hr	0	Not Full	0.679	-0.988	7.311
MH047E054	33.624	08:00 hr	0	Not Full	0.714	-0.953	7.276
MH047E055	33.219	08:00 hr	0	Not Full	0.729	-0.938	7.281
MH047E056	31.675	08:00 hr	50.653	Not Full	0.455	-0.879	7.525
MH047E058	34.541	08:00 hr	0	Not Full	0.401	-0.932	7.559

ID	Maximum Grade (ft)	Maximum Grade Time (hour)	Load (gpm)	Status	Depth (ft)	Surcharge Depth (ft)	Unfilled Depth (ft)
MH047E059	34.613	11:00 hr	29.063	Not Full	0.083	-0.917	7.887
MH047E060	34.942	08:00 hr	0	Not Full	0.432	-0.901	7.558
MH047E061	33.463	08:00 hr	0	Not Full	0.403	-0.931	7.637
MH047E062	32.914	08:00 hr	0	Not Full	0.404	-0.929	7.586
MH047E063	32.253	08:00 hr	0	Not Full	0.423	-0.911	7.547
MH047E064	34.003	08:00 hr	0	Not Full	0.403	-0.93	7.597
MH047E065	31.316	08:00 hr	0	Not Full	0.456	-0.877	7.584
MH047N001	31.713	08:00 hr	0	Not Full	0.673	-0.994	7.287
MH047N002	33.09	00:00 hr	0	Not Full	0	-1	8.01
MH047N003	39.06	00:00 hr	0	Not Full	0	-1	8.04
MH047N004	36.187	11:00 hr	0	Not Full	0.057	-0.609	7.913
MH047N005	37.24	11:00 hr	7.266	Not Full	0.06	-0.607	7.96
MH047N006	35.509	11:00 hr	0	Not Full	0.059	-0.607	7.991
MH047N007	29.79	08:00 hr	0	Not Full	0.52	-0.813	7.51
MH047N008	34.285	11:00 hr	0	Not Full	0.035	-0.632	8.015
MH047N009	35.771	11:00 hr	7.266	Not Full	0.051	-1.283	7.929
MH047N010	33.415	11:00 hr	0	Not Full	0.055	-1.278	7.985
MH047N011	33.801	11:00 hr	0	Not Full	0.101	-1.232	7.899
MH047N012	33.994	11:00 hr	0	Not Full	0.064	-1.186	7.906
MH047N013	34.2	00:00 hr	0	Not Full	0	-0.667	8
MH047N014	34.61	00:00 hr	0	Not Full	0	-0.667	7.99
MH047N016	30.447	08:00 hr	0	Not Full	0.517	-0.817	7.453
MH047N017	29.492	32:00 hr	0	Not Full	0.582	-0.751	7.408
MH047N020	29.471	08:00 hr	25.326	Not Full	0.861	-0.805	7.129
MH047N021	30.684	07:00 hr	0	Not Full	0.254	-0.746	7.716
MH047N022	32.24	08:00 hr	0	Not Full	0.69	-0.976	7.36
MH047N023	31.136	08:00 hr	0	Not Full	0.446	-1.221	7.564
MH047N024	28.553	08:00 hr	0	Not Full	1.053	-0.613	6.947
MH047N025	28.138	08:00 hr	0	Not Full	1.048	-0.618	6.962
MH047N026	29.136	08:00 hr	0	Not Full	1.036	-0.63	6.964
MH047N027	29.412	08:00 hr	0	Not Full	1.012	-0.654	6.988
MH047N028	30.695	08:00 hr	0	Not Full	0.405	-0.928	7.605
MH047N029	30.144	08:00 hr	0	Not Full	0.474	-0.859	7.556
MH047N040	31.748	07:00 hr	0	Not Full	0.368	-0.632	7.652
MH047N041	32.274	07:00 hr	281.372	Not Full	0.374	-0.626	7.626
MH047N042	32.7	00:00 hr	0	Not Full	0	-1	8
MH047N043	33.2	00:00 hr	0	Not Full	0	-1	8
MH047N044	33.4	00:00 hr	0	Not Full	0	-1	8
MH047N045	38.15	00:00 hr	0	Not Full	0	-0.667	8.05
MH047N046	34.53	00:00 hr	0	Not Full	0	-1	7.97
MH047N047	35.14	00:00 hr	0	Not Full	0	-1	7.96
MH047N048	39.03	00:00 hr	0	Not Full	0	-0.667	7.97
MH047N049	35.71	00:00 hr	0	Not Full	0	-1	7.99
MH047N050	36.26	00:00 hr	0	Not Full	0	-1	8.04
MH047N051	42.74	00:00 hr	0	Not Full	0	-0.667	7.96

ID	Maximum Grade (ft)	Maximum Grade Time (hour)	Load (gpm)	Status	Depth (ft)	Surcharge Depth (ft)	Unfilled Depth (ft)
MH047N052	41.33	00:00 hr	0	Not Full	0	-0.667	7.97
MH047N053	38.21	00:00 hr	0	Not Full	0	-0.667	7.99
MH047N054	41.5	00:00 hr	0	Not Full	0	-0.667	8
MH047N055	42.61	00:00 hr	0	Not Full	0	-0.667	7.99
MH047N056	39.26	00:00 hr	0	Not Full	0	-0.667	8.04
MH047N057	40.64	00:00 hr	0	Not Full	0	-0.667	7.96
MH047N058	42.38	00:00 hr	0	Not Full	0	-0.667	8.02
MH047N059	41.91	00:00 hr	0	Not Full	0	-0.667	7.99
MH047N060	41.45	00:00 hr	0	Not Full	0	-0.667	8.05
MH047N061	39.95	00:00 hr	0	Not Full	0	-0.667	8.05
MH047N062	43.34	00:00 hr	0	Not Full	0	-0.667	7.96
MH047N063	41.94	00:00 hr	0	Not Full	0	-0.667	7.96
MH047N064	41.01	00:00 hr	0	Not Full	0	-0.667	7.99
MH047N065	39.4	00:00 hr	0	Not Full	0	-0.667	8
MH047N066	38.55	00:00 hr	0	Not Full	0	-0.667	8.05
MH047N067	27.61	08:00 hr	0	Not Full	1.04	-0.626	7.39
MH047N068	27.288	08:00 hr	0	Not Full	1.038	-0.629	7.712
MH047N069	26.954	08:00 hr	0	Not Full	1.024	-0.642	8.046
MH047N070	26.022	08:00 hr	0	Not Full	0.632	-1.035	8.978
NN047E003	36.56	00:00 hr	0	Not Full	0	-1	8.04
TL_0100	52.738	11:00 hr	63.384	Not Full	0.178	-0.489	17.262
TL_0105	53.031	11:00 hr	0	Not Full	0.081	-0.586	13.669
TL_0110	56.129	11:00 hr	50.707	Not Full	0.159	-0.508	3.871
TL_0115	39.5	08:00 hr	0	Not Full	0.23	-0.77	10.5
TL_0120	41.816	08:00 hr	0	Not Full	0.226	-0.774	8.184
TL_0125	44.345	07:00 hr	118.391	Not Full	0.235	-0.765	10.655
TL_0130	40.746	07:00 hr	59.197	Not Full	0.386	-0.447	14.254
TL_0135	42.9	07:00 hr	118.391	Not Full	0.24	-0.593	12.1
TL_0140	42.62	07:00 hr	118.391	Not Full	0.24	-0.594	12.38
TL_0145	54.511	11:00 hr	12.676	Not Full	0.081	-0.586	11.089
TL_0150	61.099	11:00 hr	50.707	Not Full	0.159	-0.508	8.901
TL_0155	52.434	11:00 hr	21.462	Not Full	0.104	-0.563	7.566
TL_0160	53.278	11:00 hr	0	Not Full	0.158	-0.508	6.722
TL_0165	54.189	11:00 hr	0	Not Full	0.159	-0.508	5.811
TL_0170	54.689	11:00 hr	0	Not Full	0.159	-0.508	5.311

ID	From ID	To ID	Diameter (in)	Length (ft)	Slope	Maximum Flow (gpm)	Maximum Flow Time (hour)	Maximum Velocity (ft/s)	Maximum d/D	Maximum Adjusted Depth (ft)	Maximum Adjusted d/D	Maximum Adjusted Velocity (ft/s)
2350	TL_0155	2292	8	104.839	0.0040	21.462	11:00 hr	1.375	0.156	0.104	0.156	1.375
2352	TL_0160	2292	8	327.763	0.0040	50.676	11:07 hr	1.768	0.238	0.159	0.238	1.765
2354	TL_0165	TL_0160	8	176.85	0.0040	50.676	11:04 hr	1.771	0.238	0.159	0.238	1.769
2356	TL_0170	TL_0165	8	74.653	0.0040	50.691	11:02 hr	1.772	0.238	0.159	0.238	1.771
2358	2314	2292	8	65.305	0.0040	12.67	11:03 hr	1.172	0.121	0.081	0.121	1.171
2360	2316	TL_0105	8	140.196	0.0040	12.676	11:02 hr	1.174	0.121	0.081	0.121	1.173
2362	2318	MH010S048	8	239.137	0.0040	50.681	11:07 hr	1.771	0.238	0.159	0.238	1.768
2366	2322	MH010S012	8	356.955	0.0040	63.354	11:07 hr	1.888	0.267	0.178	0.267	1.884
2370	2326	2328	8	205.456	0.0040	50.681	11:06 hr	1.768	0.239	0.159	0.239	1.765
2372	2328	MH010S003	8	210.112	0.0040	50.67	11:08 hr	1.768	0.238	0.159	0.238	1.765
2374	2330	2326	8	367.618	0.0040	50.683	11:04 hr	1.769	0.238	0.159	0.238	1.767
P0006	MH047E030	MH047E032	8	216	0.0049	7.263	11:03 hr	1.063	0.089	0.059	0.089	1.062
P0007	MH047E029	MH047E030	8	216	0.0050	7.266	11:01 hr	1.07	0.088	0.059	0.088	1.07
P0008	MH047N011	MH047N010	16	95	0.0036	29.028	11:14 hr	1.318	0.077	0.102	0.077	1.313
P0009	MH047E035	MH047N011	16	327	0.0015	29.033	11:14 hr	0.966	0.095	0.126	0.095	0.962
P0010	MH047E037	MH047E035	16	65	0.0012	29.034	11:11 hr	0.908	0.099	0.132	0.099	0.906
P0011	MH047N009	MH047N012	16	400	0.0045	7.266	11:02 hr	0.935	0.038	0.057	0.043	0.012
P0013	MH047N012	MH047N010	15	327	0.0017	7.263	11:05 hr	0.68	0.051	0.064	0.051	0.679
P0018	MH047E039	MH047E038	15	79	0.0419	29.034	11:14 hr	3.132	0.047	0.184	0.147	0.052
P0019	MH047E041	MH047E039	15	273	0.0015	29.037	11:13 hr	0.983	0.102	0.128	0.102	0.979
P0020	MH047E052	MH047E051	15	258	0.0015	29.063	11:02 hr	0.976	0.103	0.128	0.103	0.975
P0021	MH047E051	MH047E049	15	152	0.0014	29.049	11:03 hr	0.97	0.103	0.129	0.103	0.969
P0022	MH047E049	MH047E044	15	332	0.0017	29.048	11:07 hr	1.036	0.099	0.123	0.099	1.034
P0023	MH047E044	MH047E043	15	47	0.0013	29.042	11:07 hr	0.928	0.106	0.133	0.106	0.927
P0024	MH047E047	MH047E045	15	178	0.0014	29.047	11:03 hr	0.96	0.104	0.13	0.104	0.959
P0026	MH047E045	MH047E042	15	245	0.0015	29.044	11:05 hr	0.975	0.103	0.128	0.103	0.974
P0027	MH047E042	MH047E040	15	245	0.0015	29.04	11:08 hr	0.984	0.102	0.127	0.102	0.982
P0028	MH047E040	MH047E037	15	295	0.0015	29.037	11:10 hr	0.988	0.102	0.127	0.102	0.985
P0029	MH047N008	MH047N007	8	103	0.0474	7.261	11:04 hr	2.349	0.052	0.225	0.337	0.046
P0030	MH047N006	MH047N008	8	252	0.0048	7.262	11:03 hr	1.055	0.089	0.059	0.089	1.054
P0031	MH047N004	MH047N006	8	124	0.0055	7.263	11:02 hr	1.109	0.086	0.058	0.088	0.046
P0032	MH047N005	MH047N004	8	230	0.0046	7.266	11:01 hr	1.04	0.09	0.06	0.09	1.039
P0034	MH047E028	MH047E059	8	102	0.0179	7.26	11:06 hr	1.675	0.065	0.043	0.065	1.672
P0035	MH047E031	MH047E028	8	304	0.0050	7.261	11:06 hr	1.073	0.088	0.059	0.088	1.072
P0036	MH047E032	MH047E031	8	93.27	0.0050	7.262	11:03 hr	1.076	0.088	0.059	0.088	1.075
P0037	MH047E043	MH047E041	15	357	0.0015	29.04	11:11 hr	0.979	0.102	0.128	0.102	0.976
P0038	MH047E050	MH047E048	15	186	0.0015	29.063	11:01 hr	0.971	0.103	0.129	0.103	0.971
P0039	MH047E048	MH047E047	15	69	0.0016	29.049	11:01 hr	1.003	0.101	0.126	0.101	1.003
P0041	CO010S020	MH010S016	8	14	0.0040	13.056	11:00 hr	1.185	0.123	0.082	0.123	1.185
P0043	MH010S017	MH010S014	8	216.21	0.0040	38.38	11:05 hr	1.628	0.208	0.139	0.208	1.626
P0044	MH010S016	MH010S015	8	119.65	0.0040	38.38	11:02 hr	1.633	0.207	0.138	0.207	1.632
P0045	DE010S001	MH010S016	8	170.29	0.0040	25.35	11:01 hr	1.443	0.169	0.113	0.169	1.442
P0046	MH010S015	MH010S017	8	225.27	0.0040	38.38	11:03 hr	1.631	0.208	0.138	0.208	1.629
P0047	MH010S049	MH010S001	8	53.5	0.0039	38.371	11:05 hr	1.62	0.209	0.139	0.209	1.618
P0048	MH009E018	MH009E001	8	116	0.0040	26.865	07:09 hr	1.464	0.175	0.116	0.175	1.437
P0049	MH010E070	MH010S019	8	68	0.0062	21.462	11:00 hr	1.601	0.141	0.094	0.141	1.601

ID	From ID	To ID	Diameter (in)	Length (ft)	Slope	Maximum Flow (gpm)	Maximum Flow Time (hour)	Maximum Velocity (ft/s)	Maximum d/D	Maximum Adjusted Depth (ft)	Maximum Adjusted d/D	Maximum Adjusted Velocity (ft/s)
P0050	MH047E059	MH047E055	12	97.5	0.0189	36.28	11:00 hr	2.622	0.083	0.299	0.299	1.643
P0051	MH047N010	MH047N016	16	45	0.0740	36.22	11:14 hr	4.044	0.042	0.231	0.173	0.057
P0052	MH047N028	MH047N016	16	112	0.0023	394.56	07:57 hr	2.452	0.304	0.411	0.308	2.195
P0053	MH047N016	MH047N029	16	154	0.0010	418.29	07:59 hr	1.864	0.388	0.517	0.388	1.864
P0054	MH047E053	MH047N022	20	301	0.0015	1,029.92	07:50 hr	2.704	0.412	0.687	0.412	2.463
P0055	MH047E055	MH047E053	20	326	0.0012	1,030.00	07:47 hr	2.448	0.445	0.741	0.445	2.429
P0056	MH047E054	MH047E055	20	275	0.0012	1,006.54	07:44 hr	2.432	0.439	0.732	0.439	2.404
P0057	MH046S006	MH046S005	20	277	0.0012	1,006.73	07:39 hr	2.453	0.436	0.727	0.436	2.414
P0059	MH047E065	MH047N028	16	320	0.0015	394.575	07:57 hr	2.08	0.342	0.457	0.342	2.079
P0060	MH047N021	MH047N027	12	182.9	0.0106	280.959	07:03 hr	3.928	0.257	0.573	0.573	0.779
P0061	MH046S005	MH047E054	20	275	0.0012	1,006.66	07:41 hr	2.432	0.439	0.732	0.439	2.399
P0062	MH047N023	MH047N020	20	256	0.0078	1,029.72	07:54 hr	4.862	0.269	0.609	0.365	1.043
P0063	MH047N001	MH047N023	20	217	0.0016	1,029.75	07:53 hr	2.758	0.406	0.677	0.406	2.751
P0064	MH047N022	MH047N001	20	350	0.0015	1,029.87	07:52 hr	2.658	0.418	0.696	0.418	2.647
P0065	MH046S008	MH046S007	16	247	0.0015	327.89	07:32 hr	1.969	0.311	0.415	0.311	1.918
P0066	MH046S009	MH046S008	16	94	0.0003	327.901	07:29 hr	1.132	0.47	0.627	0.47	1.102
P0067	MH047E060	MH047E058	16	250	0.0011	327.842	07:37 hr	1.768	0.337	0.449	0.337	1.732
P0068	MH046S007	MH047E060	16	250	0.0016	327.865	07:34 hr	2.036	0.304	0.405	0.304	1.989
P0069	MH047E056	MH047E065	16	177	0.0015	394.606	07:53 hr	2.08	0.342	0.457	0.342	2.075
P0070	MH047N029	MH047N007	16	210	0.0014	418.293	08:01 hr	2.092	0.356	0.474	0.356	2.092
P0071	MH047N017	MH047N020	16	195	0.0010	423.256	08:05 hr	1.861	0.391	0.672	0.504	0.672
P0072	MH047N007	MH047N017	16	252	0.0010	423.28	08:04 hr	1.865	0.391	0.521	0.391	1.864
P0074	MH047E062	MH047E038	16	200	0.0015	327.762	07:45 hr	1.989	0.309	0.412	0.309	1.968
P0075	MH047E061	MH047E062	16	300	0.0015	327.794	07:44 hr	1.989	0.309	0.412	0.309	1.965
P0076	MH047E064	MH047E061	16	300	0.0015	327.799	07:42 hr	1.973	0.311	0.414	0.311	1.944
P0077	MH047E058	MH047E064	16	300	0.0015	327.829	07:39 hr	1.973	0.311	0.415	0.311	1.938
P0078	MH047E038	MH047E063	16	124	0.0015	345.702	07:47 hr	1.996	0.32	0.427	0.32	1.979
P0079	MH047E063	MH047E056	16	350	0.0015	345.702	07:50 hr	1.998	0.32	0.427	0.32	1.988
P0082	MH046N082	MH046N089	10	109.94	0.0028	133.095	07:01 hr	2.015	0.315	0.262	0.315	2.01
P0083	MH046N093	MH046N132	15	256	0.0015	309.988	07:05 hr	1.98	0.327	0.409	0.327	1.96
P0087	DE046N010	MH046N088	10	33	0.0030	37.397	11:00 hr	1.429	0.164	0.156	0.188	0.964
P0089	MH046N090	MH046N088	10	207.92	0.0043	132.853	07:06 hr	2.348	0.282	0.235	0.282	2.318
P0090	MH046N089	MH046N090	10	313.82	0.0028	133.095	07:04 hr	2.011	0.315	0.263	0.315	1.992
P0095	MH010S006	MH010S005	15	312.4	0.0015	539.806	09:44 hr	2.292	0.443	0.554	0.443	2.288
P0096	MH010S001	MH010S002	8	389.13	0.0040	81.155	11:09 hr	2.022	0.303	0.202	0.303	2.018
P0097	MH010S012	MH010S010	15	346.48	0.0015	410.476	07:24 hr	2.128	0.381	0.476	0.381	2.101
P0098	MH010S011	MH010S012	15	308.66	0.0015	374.914	07:20 hr	2.071	0.364	0.455	0.364	2.027
P0099	MH010S010	MH010S013	15	218.111	0.0023	432.623	07:26 hr	2.536	0.348	0.435	0.348	2.399
P0100	MH010S013	MH010S009	15	263.294	0.0012	462.494	09:16 hr	2.011	0.435	0.544	0.435	2.006
P0101	MH010S009	MH010S008	15	340.27	0.0015	462.489	09:19 hr	2.197	0.407	0.509	0.407	2.19
P0102	MH010S008	MH010S007	15	340.26	0.0015	539.817	09:37 hr	2.289	0.443	0.554	0.443	2.283
P0103	MH010S007	MH010S006	15	322.85	0.0015	539.812	09:40 hr	2.282	0.444	0.556	0.444	2.277
P0106	MH010S003	MH010E062	8	317.93	0.0040	131.722	11:12 hr	2.315	0.392	0.261	0.392	2.308
P0107	MH010S004	MH010S001	8	9.47	0.0306	42.801	11:02 hr	3.448	0.133	0.12	0.18	2.087
P0108	MH010E059	MH010S011	15	326.81	0.0015	374.929	07:16 hr	2.075	0.363	0.454	0.363	2.027
P0110	MH010E065	MH010E059	15	43.09	0.0030	309.023	07:13 hr	2.527	0.274	0.342	0.274	2.074
P0111	MH010E067	MH010E066	15	234.72	0.0015	309.329	07:12 hr	1.964	0.328	0.411	0.328	1.917
P0112	MH010E066	MH010E065	15	52.57	0.0015	309.258	07:12 hr	1.978	0.327	0.408	0.327	1.932

ID	From ID	To ID	Diameter (in)	Length (ft)	Slope	Maximum Flow (gpm)	Maximum Flow Time (hour)	Maximum Velocity (ft/s)	Maximum d/D	Maximum Adjusted Depth (ft)	Maximum Adjusted d/D	Maximum Adjusted Velocity (ft/s)
P0113	MH010E068	MH010E067	15	234.93	0.0015	309.61	07:09 hr	1.963	0.329	0.411	0.329	1.927
P0115	MH010E062	MH010E061	8	208.26	0.0040	131.721	11:13 hr	2.313	0.392	0.261	0.392	2.305
P0116	MH010E061	MH010E059	8	336	0.0040	131.716	11:17 hr	2.313	0.392	0.261	0.392	2.304
P0117	MH010E063	MH010S004	8	352.53	0.0026	21.451	11:07 hr	1.182	0.173	0.115	0.173	1.18
P0118	MH010E064	MH010E063	8	383.18	0.0040	21.457	11:03 hr	1.373	0.156	0.104	0.156	1.372
P0122	MH009E007	MH009E006	27	463.2	0.0007	780.832	07:58 hr	1.839	0.288	0.647	0.288	1.839
P0123	MH009E005	2272	27	80	0.0018	780.71	08:01 hr	2.592	0.225	0.523	0.232	0.437
P0124	MH009E002	MH009E010	27	306.44	0.0077	898.764	09:47 hr	4.503	0.169	0.559	0.248	2.729
P0127	MH009E006	MH009E005	27	294.85	0.0007	780.746	08:01 hr	1.86	0.285	0.642	0.285	1.859
P0130	MH009E009	MH009E003	18	395.59	0.0012	780.95	07:53 hr	2.301	0.443	0.665	0.443	2.297
P0131	MH009E008	MH009E009	18	280.16	0.0012	780.98	07:49 hr	2.319	0.441	0.661	0.441	2.313
P0132	MH009E001	MH009E008	18	161.47	0.0012	781.07	07:47 hr	2.293	0.445	0.667	0.445	2.285
P0133	MH009E019	MH009E001	10	76	0.0039	279.99	07:07 hr	2.791	0.429	0.357	0.429	2.759
P0134	MH010S005	MH009E001	15	348	0.0015	539.80	09:47 hr	2.286	0.444	0.555	0.444	2.284
P0135	MH009E003	MH009E007	18	339.71	0.0342	780.84	07:53 hr	7.67	0.186	0.279	0.186	7.658
P0136	MH010S019	MH010S004	8	131	0.0040	21.46	11:01 hr	1.37	0.156	0.104	0.156	1.37
P0137	MH046N144	MH046N093	15	221	0.0014	310.55	07:02 hr	1.945	0.332	0.415	0.332	1.935
P0138	MH010S002	MH010S003	8	404.18	0.0040	81.16	11:13 hr	2.026	0.303	0.202	0.303	2.02
P0139	MH046N132	MH010E068	15	212	0.0015	309.71	07:06 hr	1.95	0.33	0.413	0.33	1.925
P0140	MH009E011	MH009S027	28	579.12	0.0015	2,583.27	08:23 hr	3.34	0.423	0.988	0.423	3.296
P0141	MH009S027	MH009S028	28	507.44	0.0013	2,583.26	08:26 hr	3.209	0.437	1.019	0.437	3.171
P0142	MH009S028	MH009S029	28	590.68	0.0013	2,583.18	08:30 hr	3.196	0.438	1.022	0.438	3.163
P0143	MH009S029	MH009S030	28	466.86	0.0012	2,620.64	08:34 hr	3.167	0.446	1.04	0.446	3.141
P0144	MH009S030	MH008E053	28	519.64	0.0012	2,623.48	08:37 hr	3.084	0.455	1.063	0.455	3.062
P0145	MH008E053	MH008E054	28	492.69	0.0012	2,665.27	08:41 hr	3.158	0.453	1.056	0.453	3.141
P0146	MH008E054	MH008E055	28	368.97	0.0013	2,704.80	08:43 hr	3.223	0.451	1.051	0.451	3.21
P0147	MH008E055	MH008E056	28	357.75	0.0011	2,713.03	08:45 hr	3.016	0.475	1.109	0.475	3.006
P0148	MH008E056	MH008E057	28	576.62	0.0015	2,714.26	08:49 hr	3.419	0.432	1.008	0.432	3.412
P0149	MH008E057	MH008E058	42	624.18	0.0009	3,933.33	09:04 hr	3.03	0.341	1.192	0.341	3.027
P0150	MH008E058	MH008E059	42	565.51	0.0007	3,956.92	09:07 hr	2.795	0.363	1.389	0.397	1.839
P0151	MH008E059	MH008S038	42	473.97	0.0002	3,959.22	09:12 hr	1.874	0.492	1.72	0.492	1.869
P0152	MH008S038	MH008S039	42	104.2	0.0009	3,959.99	09:12 hr	3.033	0.342	1.197	0.342	3.024
P0153	MH008S039	MH008S040	42	825.81	0.0008	3,963.83	09:18 hr	2.917	0.352	1.233	0.352	2.9
P0154	MH008S040	MH008S041	42	612.65	0.0007	3,994.74	09:23 hr	2.773	0.368	1.287	0.368	2.754
P0155	MH008S041	MH008S042	42	413.42	0.0008	3,995.89	09:26 hr	3.019	0.346	1.209	0.346	2.69
P0156	MH008S042	MH008S044	42	638.18	0.0008	4,033.40	09:30 hr	2.922	0.356	1.247	0.356	2.906
P0157	MH008S044	MH007E029	42	403.04	0.0015	5,877.58	11:02 hr	4.144	0.364	1.272	0.364	4.144
P0158	MH007E029	MH007E028	42	44.12	0.0213	5,877.44	11:02 hr	10.64	0.186	0.921	0.263	1.361
P0159	MH007E028	MH007E027	42	7.009	0.0014	5,877.42	11:02 hr	4.057	0.369	1.293	0.369	4.057
P0161	DE010E124	MH010E064	8	50.88	0.0059	21.46	11:00 hr	1.575	0.142	0.095	0.142	1.575
P0162	MH010S023	MH010S010	12	66	0.1008	37.25	11:00 hr	4.736	0.056	0.056	0.056	4.736
P0164	MH046N148	MH046N149	12	350	0.0022	152.927	07:12 hr	1.886	0.281	0.281	0.281	1.842
P0165	MH046N149	MH046E007	12	360	0.0024	152.92	07:15 hr	1.958	0.273	0.273	0.273	0.388
P0166	MH046E007	MH046S011	12	355	0.0022	152.84	07:19 hr	1.876	0.282	0.282	0.282	1.821
P0167	MH046S012	MH046S013	12	288.079	0.0026	171.45	07:25 hr	2.069	0.285	0.285	0.285	2.035
P0168	MH046S013	MH046S014	12	423.895	0.0018	194.344	07:30 hr	1.875	0.335	0.335	0.335	1.862
P0169	MH046S014	MH046S015	12	320	0.0022	194.313	07:34 hr	2.014	0.318	0.318	0.318	2.002
P0170	MH046S015	MH046S016	12	182	0.0050	300.63	07:34 hr	3.065	0.322	0.322	0.322	3.022

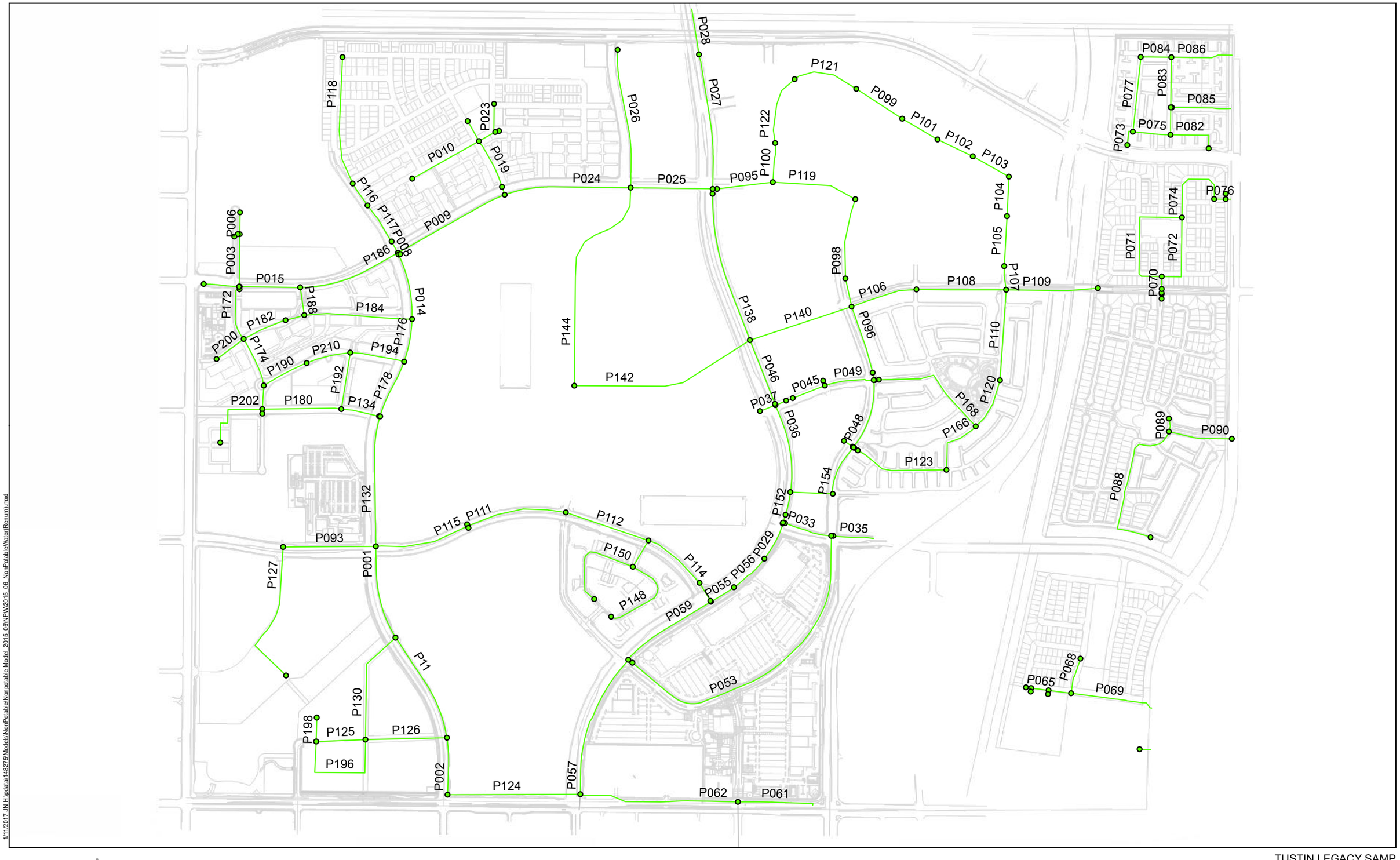
ID	From ID	To ID	Diameter (in)	Length (ft)	Slope	Maximum Flow (gpm)	Maximum Flow Time (hour)	Maximum Velocity (ft/s)	Maximum d/D	Maximum Adjusted Depth (ft)	Maximum Adjusted d/D	Maximum Adjusted Velocity (ft/s)
P0171	MH046S016	MH046S017	12	431	0.0050	300.63	07:37 hr	3.063	0.322	0.41	0.41	2.016
P0172	MH046S011	MH046S012	12	321	0.0022	152.806	07:22 hr	1.88	0.281	0.281	0.281	1.83
P0173	MH046S017	MH046S006	20	216	0.0012	1,006.85	07:36 hr	2.428	0.44	0.733	0.44	2.383
P0174	MH046S009	MH046S017	18	448.9	0.0012	707.09	07:33 hr	2.252	0.418	0.627	0.418	2.198
P0175	FI046S004	MH046S013	8	194.46	0.0041	40.235	11:10 hr	1.671	0.211	0.141	0.211	1.666
P0176	MH046S018	MH046S019	18	308.37	0.0012	1,035.10	07:27 hr	2.481	0.52	0.781	0.52	2.41
P0177	MH046S019	MH046S020	18	116.68	0.0010	1,034.99	07:28 hr	2.34	0.545	0.818	0.545	2.277
P0180	MH046S047	MH046S018	12	164.5	0.0025	117.893	07:30 hr	1.83	0.238	0.476	0.476	0.299
P0181	CO046S008	MH046S021	15	40.23	0.0020	633.699	07:19 hr	2.65	0.448	0.56	0.448	2.601
P0182	MH046S021	MH046S022	15	173.65	0.0024	922.8	07:15 hr	3.135	0.527	0.659	0.527	1.551
P0183	MH046S022	MH046S023	15	305.97	0.0022	922.8	07:17 hr	3.002	0.546	0.682	0.546	2.933
P0184	MH046S023	MH046S018	18	208.61	0.0019	922.727	07:19 hr	2.868	0.426	0.638	0.426	1.711
P0185	CO046S011	MH046S021	10	61.24	0.0039	293.634	07:13 hr	2.819	0.441	0.368	0.441	2.762
P0193	MH046N088	MH046N150	10	249.02	0.0103	153.082	07:08 hr	3.327	0.243	0.203	0.243	3.278
P0194	MH046S025	MH046S024	8	276.5	0.0050	118.233	07:02 hr	2.436	0.348	0.232	0.348	2.424
P0195	CO046S012	MH046S026	8	7	0.0100	118.391	07:00 hr	3.129	0.291	0.194	0.291	3.129
P0196	MH046S026	MH046S025	8	50.6	0.0101	118.377	07:00 hr	3.137	0.29	0.193	0.29	3.137
P0204	MH047N040	MH047N021	12	149.13	0.0025	280.959	07:03 hr	2.358	0.371	0.371	0.371	2.347
P0234	MH047N041	MH047N040	12	172.72	0.0024	281.37	07:01 hr	2.319	0.376	0.376	0.376	2.312
P0237	CO046S004	MH046S048	12	52.91	0.0008	118.017	07:28 hr	1.195	0.324	0.324	0.324	1.155
P0238	MH047N026	MH047N024	20	472.732	0.0011	1,708.33	08:02 hr	2.667	0.622	1.037	0.622	2.666
P0239	MH047N070	MH009E011	20	457.955	0.0050	1,707.82	08:20 hr	4.795	0.392	0.755	0.453	1.639
P0240	MH047N069	MH047N070	20	443.465	0.0010	1,707.85	08:17 hr	2.6	0.636	1.06	0.636	2.573
P0241	MH047N068	MH047N069	20	221.007	0.0010	1,707.98	08:13 hr	2.603	0.635	1.059	0.635	2.588
P0242	MH047N067	MH047N068	20	219.734	0.0010	1,708.09	08:11 hr	2.609	0.634	1.057	0.634	2.597
P0243	MH047N025	MH047N067	20	424.554	0.0010	1,708.13	08:10 hr	2.597	0.637	1.061	0.637	2.588
P0244	MH047N024	MH047N025	20	310.677	0.0010	1,708.29	08:05 hr	2.606	0.635	1.058	0.635	2.603
P0245	MH047N027	MH047N026	20	176.217	0.0011	1,708.50	07:57 hr	2.742	0.608	1.013	0.608	2.741
P0246	MH047N020	MH047N027	20	78.153	0.0014	1,471.30	07:57 hr	2.876	0.518	0.887	0.532	2.501
P0247	MH009E010	MH009E011	28	40	0.0015	898.76	09:47 hr	2.515	0.241	0.851	0.365	1.534
P0250	MH009E012	MH009E013	8	190.82	0.0070	26.981	07:01 hr	1.793	0.152	0.101	0.152	1.789
P0252	MH009E013	MH009E014	8	309.72	0.0046	26.981	07:03 hr	1.547	0.169	0.112	0.169	1.536
P0253	MH009E014	MH009E015	8	311.86	0.0046	26.916	07:05 hr	1.542	0.169	0.112	0.169	1.524
P0254	MH009E015	MH009E016	8	207.8	0.0045	26.916	07:07 hr	1.529	0.17	0.113	0.17	1.505
P0255	MH009E016	MH009E017	8	66.06	0.0030	26.894	07:08 hr	1.332	0.187	0.124	0.187	1.312
P0256	MH009E017	MH009E018	8	68.62	0.0045	26.89	07:08 hr	1.533	0.169	0.113	0.169	1.509
P0259	MH009E020	MH009E019	10	83.86	0.0044	280.109	07:06 hr	2.908	0.416	0.347	0.416	2.876
P0260	MH009E021	MH009E020	10	300	0.0039	280.34	07:06 hr	2.78	0.431	0.359	0.431	2.748
P0261	MH009E022	MH009E021	10	270	0.0040	280.616	07:03 hr	2.806	0.428	0.357	0.428	2.788
P0262	MH046W003	MH009E022	10	263.1	0.0040	280.893	07:01 hr	2.804	0.428	0.357	0.428	2.795
P0264	MH046N150	MH046N148	10	116	0.0109	153.055	07:08 hr	3.403	0.239	0.199	0.239	3.348
P0265	MH046S048	MH046S047	12	59.33	0.0022	117.909	07:28 hr	1.748	0.246	0.246	0.246	1.689
P0266	MH010S048	MH010S013	8	119.729	0.0040	50.67	11:09 hr	1.77	0.238	0.159	0.238	1.766
P0267	MH046S024	MH046S015	8	295.25	0.0046	118.137	07:05 hr	2.372	0.355	0.266	0.398	0.727
P0268	MH046S020	MH046S009	18	116.68	0.0012	1,034.99	07:29 hr	2.481	0.52	0.781	0.52	2.415
P0269	MH010S014	MH010S049	8	47.05	0.0043	38.38	11:05 hr	1.667	0.204	0.136	0.204	1.665
P0273	2272	MH009E002	27	240.71	0.0018	898.774	09:46 hr	2.698	0.242	0.544	0.242	2.695
P0274	2252	2272	8	799.513	0.0040	155.119	11:16 hr	2.42	0.428	0.286	0.428	2.411

ID	From ID	To ID	Diameter (in)	Length (ft)	Slope	Maximum Flow (gpm)	Maximum Flow Time (hour)	Maximum Velocity (ft/s)	Maximum d/D	Maximum Adjusted Depth (ft)	Maximum Adjusted d/D	Maximum Adjusted Velocity (ft/s)
P0275	2258	2252	8	499.464	0.0040	61.856	11:04 hr	1.874	0.264	0.179	0.269	1.804
P0276	2260	2258	8	286.506	0.0040	31.097	11:12 hr	1.533	0.187	0.125	0.187	1.528
P0277	2266	2260	8	501.136	0.0040	31.098	11:09 hr	1.532	0.187	0.125	0.187	1.528
P0278	2268	2252	8	999.023	0.0040	46.669	11:09 hr	1.727	0.229	0.153	0.229	1.723
P0279	2270	2266	8	445.962	0.0040	31.113	11:04 hr	1.534	0.187	0.125	0.187	1.532
P0287	2288	FI046S004	8	550.225	0.0040	40.237	11:08 hr	1.654	0.213	0.142	0.213	1.65
P0288	2290	2288	8	354.253	0.0045	40.256	11:03 hr	1.727	0.206	0.138	0.206	1.725
P0289	2292	MH010S008	8	1,187.98	0.0040	84.605	11:17 hr	2.048	0.31	0.206	0.31	2.041
P0290	2294	2318	8	198.43	0.0040	50.683	11:05 hr	1.766	0.239	0.159	0.239	1.763
P0291	2296	2294	8	492.403	0.0040	50.707	11:04 hr	1.769	0.238	0.159	0.238	1.767
P0292	2298	CO046S008	15	395.01	0.0015	633.778	07:19 hr	2.383	0.487	0.608	0.487	2.34
P0293	2300	2298	15	304.64	0.0015	633.889	07:15 hr	2.392	0.485	0.606	0.485	2.366
P0294	2302	2300	15	255.85	0.0015	294.777	07:13 hr	1.935	0.321	0.401	0.321	1.838
P0295	2304	2302	15	225	0.0015	294.864	07:10 hr	1.947	0.319	0.399	0.319	1.906
P0296	2306	2304	15	244.84	0.0015	295.002	07:09 hr	1.928	0.322	0.402	0.322	1.894
P0297	2308	2306	12	96.95	0.0024	295.266	07:06 hr	2.329	0.389	0.389	0.389	2.303
P0298	2310	2308	12	396.05	0.0025	295.27	07:06 hr	2.374	0.383	0.383	0.383	2.347
P0299	2312	2310	12	396.05	0.0040	295.981	07:02 hr	2.82	0.338	0.338	0.338	2.807
P0300	2254	2252	8	804.386	0.0043	46.669	11:08 hr	1.773	0.225	0.15	0.225	1.769
P0301	MH062N125	MH062E178	10	42	0.1162	97.081	07:00 hr	6.825	0.108	0.09	0.108	6.825
P0303	MH062N111	MH062E252	12	219.18	0.0125	87.677	07:00 hr	2.956	0.139	0.139	0.139	2.951
P0304	MH061N014	MH061N146	10	90	0.0139	160.52	07:00 hr	3.754	0.231	0.192	0.231	3.498
P0305	MH062W022	MH062S004	10	104.2	0.0028	204.579	07:00 hr	2.258	0.397	0.331	0.397	2.255
TL_0100	TL_0100	2322	8	480.663	0.0040	63.384	11:04 hr	1.886	0.267	0.178	0.267	1.884
TL_0105	TL_0105	2314	8	169.451	0.0040	12.676	11:03 hr	1.175	0.121	0.081	0.121	1.174
TL_0110	TL_0110	TL_0170	8	309.141	0.0040	50.707	11:02 hr	1.771	0.238	0.159	0.238	1.77
TL_0115	TL_0115	CO046S004	12	777.331	0.0023	118.07	07:27 hr	1.769	0.244	0.244	0.244	1.708
TL_0120	TL_0120	TL_0115	12	979.605	0.0023	118.178	07:20 hr	1.77	0.244	0.244	0.244	1.693
TL_0125	TL_0125	TL_0120	12	1,064.58	0.0023	118.391	07:10 hr	1.773	0.244	0.244	0.244	1.732
TL_0130	TL_0130	CO046S011	10	544.09	0.0028	293.845	07:12 hr	2.499	0.485	0.404	0.485	2.45
TL_0135	TL_0135	TL_0130	10	745.879	0.0028	118.391	07:07 hr	1.948	0.297	0.247	0.297	1.917
TL_0140	TL_0140	TL_0130	10	631.054	0.0029	118.391	07:06 hr	1.965	0.295	0.246	0.295	1.938
TL_0145	TL_0145	2316	8	154.263	0.0040	12.676	11:01 hr	1.176	0.121	0.081	0.121	1.176
TL_0150	TL_0150	2330	8	178.616	0.0040	50.707	11:01 hr	1.765	0.239	0.159	0.239	1.765

APPENDIX C – Non-Potable Water System Hydraulic Analysis Computer Results

Non-Potable Water System Model Loading

Planning Area	Standard			Sensitivity			Staged Demands (gpm)		
	Maximum Day Demand (gpm)			Maximum Day Demand (gpm)			Stage 1	Stage 2	Ultimate
PA 1	146	In-Building	0	403	In-Building	257	257	257	257
		Irrigation	146		Irrigation	146	146	146	146
PA 2	105	In-Building	0	105	In-Building	0	0	0	0
		Irrigation	105		Irrigation	105	105	105	105
PA 3	5	In-Building	0	16	In-Building	11	11	11	11
		Irrigation	5		Irrigation	5	5	5	5
PA 4-5	78	In-Building	0	78	In-Building	0	0	0	0
		Irrigation	78		Irrigation	78	78	78	78
PA 6	266	In-Building	0	306	In-Building	40	0	20	40
		Irrigation	266		Irrigation	266	0	133	266
PA 7	24	In-Building	0	57	In-Building	33	33	33	33
		Irrigation	24		Irrigation	24	24	24	24
PA 8	460	In-Building	0	571	In-Building	111	0	55	111
		Irrigation	460		Irrigation	460	0	230	460
PA 9-12	172	In-Building	0	306	In-Building	134	134	134	134
		Irrigation	172		Irrigation	172	172	172	172
PA 13-14	156	In-Building	0	234	In-Building	78	23	51	78
		Irrigation	156		Irrigation	156	47	101	156
PA 15	343	In-Building	0	351	In-Building	8	5	5	8
		Irrigation	343		Irrigation	343	206	206	343
PA 16-19	98	In-Building	0	223	In-Building	125	125	125	125
		Irrigation	98		Irrigation	98	98	98	98
PA 20	29	In-Building	0	29	In-Building	0	0	0	0
		Irrigation	29		Irrigation	29	29	29	29
PA 21	85	In-Building	0	85	In-Building	0	0	0	0
		Irrigation	85		Irrigation	85	85	85	85
PA 22	108	In-Building	0	108	In-Building	0	0	0	0
		Irrigation	108		Irrigation	108	108	108	108
	Total		2,075			2,873	1,692	2,212	2,873
	In-Building		0			798	589	692	798
	Irrigation		2,075			2,075	1,103	1,520	2,075



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Michael Baker INTERNATIONAL

TUSTIN LEGACY SAMP

NON-POTABLE WATER SYSTEM MODEL- ULTIMATE

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
009E_0005	55.6	0.0	0:00	72.0	0:15
010E_0005	73.0	0.0	0:00	52.5	0:15
010E_0010	72.0	0.0	0:00	52.9	0:15
010E_0015	71.7	369.9	0:15	53.1	0:15
010E_0020	72.8	51.4	0:15	52.6	0:15
010E_0025	63.9	0.0	0:00	68.7	0:15
010E_0030	64.2	0.0	0:00	68.6	0:15
010E_0035	64.6	0.0	0:00	68.4	0:15
010E_0040	68.7	68.7	0:15	58.0	0:15
010S_0005	71.8	0.0	0:00	56.5	0:15
010S_0010	70.4	17.6	0:15	57.1	0:15
010S_0015	70.3	51.4	0:15	57.2	0:15
010S_0020	70.3	0.0	0:00	57.2	0:15
046E_0005	53.1	0.0	0:00	75.6	0:15
046E_0010	53.8	0.0	0:00	75.2	0:15
046E_0015	58.6	0.0	0:00	73.2	0:15
046N_0005	64.6	0.0	0:00	68.9	0:15
046N_0010	64.1	0.0	0:00	69.0	0:15
046N_0015	65.5	0.0	0:00	60.9	0:15
046N_0020	65.8	68.7	0:15	60.3	0:15
046N_0025	65.1	0.0	0:00	60.6	0:15
046N_0030	65.5	0.0	0:00	60.5	0:15
046N_0035	67.7	68.7	0:15	59.0	0:15
046N_0040	59.7	0.0	0:00	71.7	0:15
046N_0045	62.7	84.6	0:15	70.0	0:15
046N_0050	70.0	0.0	0:00	71.8	0:15
046S_0005	52.0	0.0	0:00	75.0	0:15
046S_0010	52.0	0.0	0:00	75.0	0:15
046S_0015	52.1	0.0	0:00	74.9	0:15
046S_0025	49.4	0.0	0:00	76.1	0:15
046S_0030	49.9	115.1	0:15	76.0	0:15
046S_0035	50.0	0.0	0:00	76.0	0:15
046S_0045	50.6	0.0	0:00	75.8	0:15
046S_0060	50.6	0.0	0:00	75.8	0:15
046S_0065	51.7	0.0	0:00	75.4	0:15
046S_0070	49.0	0.0	0:00	76.5	0:15
046S_0075	49.1	0.0	0:00	76.4	0:15
046S_0080	54.2	241.7	0:15	70.7	0:15
046S_0085	48.6	0.0	0:00	75.3	0:15
046S_0090	49.6	0.0	0:00	74.8	0:15
046S_0095	51.6	0.0	0:00	74.0	0:15
046S_0100	51.3	0.0	0:00	73.9	0:15
046S_0105	50.9	0.0	0:00	75.5	0:15
046S_0110	52.1	0.0	0:00	75.0	0:15
046S_0115	53.5	0.0	0:00	74.2	0:15
046S_0120	55.8	0.0	0:00	73.1	0:15
046S_0125	52.2	0.0	0:00	75.1	0:15
046S_0130	50.4	241.7	0:15	74.6	0:15
047E_0010	51.8	115.1	0:15	75.1	0:15
047E_0015	51.5	0.0	0:00	75.1	0:15

Individual Pipes Peak										
Design Criteria							Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
061N_0045	061N_0055	061N_0045	110	4	120	0:15	76.1	1.9	0.6	5.3
P001	009E_0005	J12	2,124	10	130	0:15	1,033.6	4.2	13.9	6.6
P002	047N_0006	047N_0005	581	16	130	0:15	1,336.6	2.1	0.6	1.1
P003	010E_0015	010S_0015	534	8	130	0:15	421.4	4.8	8.0	15.0
P004	010E_0005	010E_0010	59	8	140	0:00	0.0	0.0	0.0	0.0
P005	010E_0010	010E_0015	20	6	130	0:00	0.0	0.0	0.0	0.0
P006	010E_0020	010E_0015	222	6	130	0:15	51.4	0.6	0.1	0.3
P007	010E_0030	010E_0025	19	12	130	0:15	894.5	2.5	0.0	2.1
P008	010E_0035	010E_0030	131	6	130	0:15	68.7	0.8	0.1	0.5
P009	046N_0005	010E_0030	1,243	16	140	0:15	1,333.8	2.1	1.2	0.9
P010	010E_0040	046N_0015	781	4	120	0:15	68.7	1.8	3.4	4.4
P011	010S_0005	010S_0015	392	6	130	0:00	0.0	0.0	0.0	0.0
P012	010S_0020	010S_0010	28	6	130	0:15	17.6	0.2	0.0	0.0
P013	010S_0015	010S_0020	6	6	130	0:15	362.4	4.1	0.1	11.3
P014	010E_0025	TL_270	679	12	140	0:15	582.1	1.7	0.6	0.8
P015	010S_0020	TL_280	618	6	130	0:15	380.0	4.3	7.6	12.4
P016	046E_0005	046E_0010	49	6	130	0:15	171.9	2.0	0.1	2.8
P017	046E_0015	046E_0010	44	16	120	0:15	1,910.7	3.1	0.1	2.4
P018	046N_0010	046N_0005	85	6	130	0:15	206.1	2.3	0.3	4.0
P019	046N_0010	046N_0015	524	4	120	0:15	206.1	5.3	17.4	33.3
P020	046N_0015	046N_0020	234	4	120	0:15	68.7	1.8	1.0	4.4
P021	046N_0015	046N_0025	189	4	120	0:15	68.7	1.8	0.8	4.4
P022	046N_0025	046N_0030	40	4	120	0:00	0.0	0.0	0.0	0.0
P023	046N_0025	046N_0035	289	4	120	0:15	68.7	1.8	1.3	4.4
P024	046N_0040	046N_0005	1,296	16	140	0:15	1,539.9	2.5	1.6	1.2
P025	046E_0010	046N_0040	838	16	140	0:15	2,339.9	3.7	2.2	2.6
P026	046N_0040	046N_0045	1,416	6	130	0:15	84.6	1.0	1.1	0.8
P027	046E_0010	046N_0050	1,381	6	130	0:15	257.3	2.9	8.3	6.0
P028	046N_0050	045W_0005	469	6	120	0:15	257.3	2.9	3.3	7.0
P029	047E_0025	046S_0005	407	6	130	17:15	27.8	0.3	0.0	0.1
P030	046S_0005	046S_0010	10	6	130	17:15	27.8	0.3	0.0	0.1
P031	046S_0015	046S_0010	22	6	130	0:15	67.2	0.8	0.0	0.5
P032	046S_0010	046S_0025	84	6	130	0:15	83.8	1.0	0.1	0.8
P033	046S_0030	046S_0015	492	6	130	0:15	67.2	0.8	0.3	0.5
P034	046S_0035	046S_0030	20	6	130	0:15	64.8	0.7	0.0	0.5
P035	046S_0050	046S_0035	413	4	120	0:15	64.8	1.7	1.6	3.9
P036	046S_0060	TL_215	1,149	6	130	0:15	79.5	0.9	0.8	0.7
P037	046S_0060	046S_0045	169	8	130	0:00	0.0	0.0	0.0	0.0
P038	046S_0060	046S_0065	14	6	130	0:15	171.0	1.9	0.0	2.8
P039	046S_0070	046S_0060	119	6	130	0:15	91.6	1.0	0.1	0.9
P040	046S_0070	046S_0075	72	6	120	0:15	91.6	1.0	0.1	1.0
P041	046S_0085	046S_0080	107	4	120	0:15	241.7	6.2	4.8	44.7
P042	046S_0090	046S_0085	11	6	130	0:15	241.7	2.7	0.1	5.3
P043	046S_0095	046S_0090	11	6	130	0:15	105.0	1.2	0.0	1.1
P044	046S_0095	046S_0100	43	4	120	0:15	105.0	2.7	0.4	9.5
P045	046S_0105	046S_0075	350	6	130	0:15	91.6	1.0	0.3	0.9
P046	046S_0065	TL_185	2,249	6	130	0:15	171.0	1.9	6.3	2.8
P047	046S_0110	046S_0105	53	4	120	0:00	0.0	0.0	0.0	0.0
P048	046S_0090	046S_0115	732	6	130	0:15	183.4	2.1	2.4	3.2
P049	046S_0115	046S_0105	511	6	130	0:15	91.6	1.0	0.5	0.9

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_0020	52.4	0.0	0:00	74.8	0:15
047E_0025	51.0	0.0	0:00	75.4	0:15
047N_0005	42.8	0.0	0:00	86.7	0:15
047N_0006	42.8	0.0	0:00	86.4	0:15
047N_0010	42.5	0.0	0:00	87.5	0:15
047N_0015	50.8	0.0	0:00	77.7	0:15
047N_0020	50.3	115.1	0:15	77.8	0:15
047N_0025	48.9	0.0	0:00	75.1	0:15
047S_0041	44.4	0.0	0:00	88.1	0:15
061N_0005	49.3	76.1	0:15	59.5	0:15
061N_0010	49.8	76.1	0:15	59.4	0:15
061N_0015	49.6	0.0	0:00	59.5	0:15
061N_0020	50.2	76.1	0:15	60.6	0:15
061N_0025	49.9	0.0	0:00	60.9	0:15
061N_0035	50.4	0.0	0:00	64.7	0:15
061N_0045	54.1	76.1	0:15	88.1	0:15
061N_0060	52.5	76.1	0:15	62.9	0:15
062N_0005	57.7	0.0	0:00	86.3	0:15
062N_0010	58.3	59.9	0:15	86.2	0:15
062N_0015	58.4	34.1	0:15	88.7	0:15
062N_0020	59.1	0.0	0:00	88.5	0:15
062N_0025	59.6	0.0	0:00	88.6	0:15
062N_0030	54.9	0.0	0:00	90.4	0:15
062N_0035	57.0	0.0	0:00	90.3	0:15
062N_0040	57.2	59.9	0:15	90.1	0:15
062N_0045	56.1	0.0	0:00	90.2	0:15
062N_0050	56.2	0.0	0:00	90.2	0:15
062N_0055	57.7	34.1	0:15	88.9	0:15
062N_0060	59.8	34.1	0:15	88.3	0:15
062N_0065	57.6	0.0	0:00	89.3	0:15
062S_0005	56.7	0.0	0:00	88.2	0:15
062W_0005	54.6	59.9	0:15	83.3	0:15
062W_0010	56.2	0.0	0:00	84.9	0:15
062W_0015	56.3	59.9	0:15	84.7	0:15
062W_0020	55.2	0.0	0:00	85.3	0:15
062W_0025	55.5	59.9	0:15	87.1	0:15
062W_0030	56.0	0.0	0:00	86.9	0:15
062W_0035	56.3	0.0	0:00	86.8	0:15
062W_0045	56.3	0.0	0:00	86.9	0:15
J12	48.2	0.0	0:00	81.2	0:15
TL_0000	70.0	0.0	0:00	65.9	0:15
TL_0015	56.0	0.0	0:00	68.5	0:15
TL_0020	54.9	0.0	0:00	75.3	0:15
TL_0025	52.6	303.0	0:15	63.6	0:15
TL_0030	51.3	303.0	0:15	79.3	0:15
TL_0035	48.2	0.0	0:00	83.0	0:15
TL_0040	50.0	0.0	0:00	70.7	0:15
TL_0055	51.2	0.0	0:00	78.8	0:15
TL_0060	56.8	0.0	0:00	76.1	0:15
TL_0065	52.9	241.7	0:15	76.9	0:15
TL_0075	54.3	0.0	0:00	76.6	0:15
TL_0080	55.9	0.0	0:00	75.7	0:15

Individual Pipes Peak										
	Design Criteria						Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P050	046S_0120	046S_0115	11	6	130	0:15	258.5	2.9	0.1	6.1
P051	046S_0115	046S_0125	78	6	130	0:15	350.4	4.0	0.8	10.6
P052	046S_0120	046S_0130	41	4	120	0:15	258.5	6.6	2.1	50.6
P053	046S_0030	047N_0020	3,218	6	130	0:15	117.5	1.3	4.5	1.4
P054	047E_0015	047E_0010	10	6	120	0:15	393.0	4.5	0.2	15.3
P055	047E_0010	047E_0020	278	6	130	17:15	27.8	0.3	0.0	0.1
P056	047E_0020	047E_0025	428	6	120	17:15	27.8	0.3	0.1	0.1
P057	047N_0010	047N_0015	1,497	8	140	0:15	757.3	4.8	14.2	9.5
P058	047N_0020	047N_0015	52	6	130	0:15	232.6	2.6	0.3	5.0
P059	047N_0015	047E_0010	1,036	8	140	0:15	524.7	3.4	5.0	4.8
P060	047N_0025	047E_0015	214	6	130	0:15	393.0	4.5	2.8	13.2
P061	047S_0040	047S_0041	781	16	145	0:15	2,093.9	3.3	1.6	2.0
P062	047S_0041	047N_0010	1,630	16	145	0:15	2,093.9	3.3	3.3	2.0
P063	061N_0015	061N_0005	55	4	120	0:15	76.1	1.9	0.3	5.3
P064	061N_0015	061N_0010	37	4	120	0:15	76.1	1.9	0.2	5.3
P065	061N_0025	061N_0015	179	4	120	0:15	152.2	3.9	3.4	19.0
P066	061N_0025	061N_0020	39	4	120	0:15	76.1	1.9	0.2	5.3
P067	061N_0035	061N_0025	232	4	120	0:15	228.3	5.8	9.3	40.2
P068	061N_0035	061N_0060	371	4	120	0:15	76.1	1.9	2.0	5.3
P069	061N_0065	061N_0035	856	4	120	0:15	304.4	7.8	58.6	68.5
P070	062W_0045	062N_0005	126	4	120	0:15	36.0	0.9	0.2	1.3
P071	062N_0005	062N_0010	1,257	4	120	0:15	15.8	0.4	0.4	0.3
P072	062N_0005	062N_0010	803	4	120	0:15	20.1	0.5	0.4	0.5
P073	062N_0015	062N_0020	184	4	120	0:15	34.1	0.9	0.2	1.2
P074	062N_0010	062N_0025	848	4	120	0:15	95.9	2.5	6.8	8.1
P075	062N_0020	062N_0030	386	4	120	0:15	17.5	0.5	0.1	0.3
P076	062N_0035	062N_0025	119	4	100	0:15	95.9	2.5	1.3	11.3
P077	062N_0020	062N_0060	766	4	120	0:15	16.6	0.4	0.2	0.3
P078	062N_0035	062N_0040	55	4	100	0:15	59.9	1.5	0.3	4.7
P079	062E_0035	062N_0035	49	4	100	0:15	155.8	4.0	1.4	27.8
P080	062N_0030	062N_0045	280	4	120	0:15	51.5	1.3	0.7	2.6
P081	062N_0045	062N_0050	11	4	120	0:15	149.8	3.8	0.2	18.4
P082	062N_0055	062N_0030	526	4	120	0:15	34.1	0.9	0.6	1.2
P083	062N_0045	062N_0065	510	6	130	0:15	98.2	1.1	0.5	1.0
P084	062N_0060	062N_0065	313	6	130	0:15	50.7	0.6	0.1	0.3
P085	062N_0061	062N_0050	599	6	130	0:15	149.8	1.7	1.3	2.2
P086	062N_0065	062E_0135	624	6	130	0:15	47.6	0.5	0.2	0.3
P087	062S_0010	062S_0005	28	4	120	0:15	119.8	3.1	0.3	12.2
P088	062W_0005	062W_0010	1,626	4	120	0:15	59.9	1.5	5.5	3.4
P089	062W_0010	062W_0015	137	4	120	0:15	59.9	1.5	0.5	3.4
P090	062S_0005	062W_0010	649	4	120	0:15	119.8	3.1	7.9	12.2
P091	062W_0030	062W_0025	47	4	120	0:15	59.9	1.5	0.2	3.4
P092	062W_0035	062W_0030	11	4	120	0:15	59.9	1.5	0.0	3.4
P093	009E_0005	TL_0015	947	6	130	0:15	303.0	3.4	7.7	8.1
P095	046E_0015	TL_0020	575	16	130	0:15	1,910.7	3.1	1.2	2.1
P096	046S_0125	TL_0055	707	6	130	0:15	350.4	4.0	7.5	10.6
P097	TL_0055	TL_0060	292	16	130	0:15	2,053.5	3.3	0.7	2.4
P098	TL_0060	TL_0065	823	16	130	0:15	2,053.5	3.3	2.0	2.4
P099	TL_0075	TL_0080	558	6	130	0:15	98.9	1.1	0.6	1.0
P100	TL_0020	TL_0085	402	6	130	0:15	98.9	1.1	0.4	1.0
P101	TL_0075	TL_0090	419	6	130	0:15	98.9	1.1	0.4	1.0
P102	TL_0090	TL_0095	399	6	130	0:15	98.9	1.1	0.4	1.0

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_0085	56.1	0.0	0:00	75.0	0:15
TL_0090	53.6	0.0	0:00	77.1	0:15
TL_0095	53.1	0.0	0:00	77.5	0:15
TL_0100	53.4	241.7	0:15	77.6	0:15
TL_0105	52.6	0.0	0:00	79.7	0:15
TL_0110	52.5	0.0	0:00	81.9	0:15
TL_0115	54.4	0.0	0:00	79.4	0:15
TL_0120	55.0	0.0	0:00	81.9	0:15
TL_0125	50.1	0.0	0:00	79.8	0:15
TL_0130	56.2	0.0	0:00	64.0	0:15
TL_0135	52.3	0.0	0:00	67.8	0:15
TL_0145	69.0	0.0	0:00	66.4	0:15
TL_0150	75.0	68.7	0:15	63.4	0:15
TL_0155	48.2	241.7	0:15	71.8	0:15
TL_0160	57.7	0.0	0:00	74.6	0:15
TL_0175	58.0	0.0	0:00	70.8	0:15
TL_170	62.0	51.4	0:15	68.2	0:15
TL_185	52.0	0.0	0:00	78.0	0:15
TL_190	52.0	1,620.6	0:15	65.3	0:15
TL_195	50.0	0.0	0:00	68.1	0:15
TL_200	48.2	82.4	0:15	66.7	0:15
TL_205	50.0	82.4	0:15	65.8	0:15
TL_210	48.7	0.0	0:00	75.8	0:15
TL_215	49.4	0.0	0:00	76.0	0:15
TL_220	63.9	312.4	0:15	68.7	0:15
TL_225	58.0	312.4	0:15	70.8	0:15
TL_230	56.2	312.4	0:15	63.9	0:15
TL_235	56.2	384.7	0:15	63.9	0:15
TL_240	49.0	0.0	0:00	75.0	0:15
TL_245	66.0	51.4	0:15	61.22	0:15
TL_250	65.0	51.4	0:15	65.32	0:15
TL_255	64.0	25.7	0:15	63.21	0:15
TL_260	62.0	25.7	0:15	68.29	0:15
TL_265	60.0	51.4	0:15	69.53	0:15
TL_270	59.0	0.0	0:00	70.59	0:15
TL_275	57.0	0.0	0:00	71.35	0:15
TL_280	57.0	0.0	0:00	66.23	0:15
TL_285	67.0	51.4	0:15	60.46	0:15
TL_290	62.0	0.0	0:00	68.18	0:15
TL_295	50.0	0.0	0:00	79.81	0:15
TL_300	65.0	51.4	0:15	66.15	0:15
TL_310	64.0	25.7	0:15	62.7	0:15
TL_315	63.5	25.72	0:15	66.56	0:15

Individual Pipes Peak										
	Design Criteria						Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P103	TL_0095	TL_0100	423	6	130	0:15	98.9	1.1	0.4	1.0
P104	TL_0105	TL_0100	401	6	130	0:15	340.6	3.9	4.1	10.1
P105	TL_0105	TL_0110	511	6	130	0:15	340.6	3.9	5.2	10.1
P106	TL_0115	TL_0055	690	16	130	0:15	3,652.0	5.8	4.7	6.9
P107	TL_0110	TL_0120	241	6	130	0:15	340.6	3.9	2.4	10.1
P108	TL_0120	TL_0115	917	16	130	0:15	3,652.0	5.8	6.3	6.9
P109	TL_0120	062W_0020	936	16	130	0:15	4,112.4	6.6	8.0	8.6
P11	J12	047N_0006	1,157	10	130	0:15	966.1	4.0	6.7	5.8
P110	TL_0120	TL_0125	926	4	130	0:15	119.9	3.1	9.7	10.5
P111	TL_0130	TL_0135	1,033	6	130	0:15	228.1	2.6	5.0	4.8
P112	TL_0135	TL_0040	891	6	130	0:15	228.1	2.6	4.3	4.8
P114	TL_0040	047N_0025	686	6	130	0:15	393.0	4.5	9.0	13.2
P115	009E_0005	TL_0130	977	6	130	0:15	469.0	5.3	17.8	18.3
P116	TL_0000	TL_0145	270	6	130	0:15	68.7	0.8	0.1	0.5
P117	TL_0145	010E_0035	443	6	130	0:15	68.7	0.8	0.2	0.5
P118	TL_0150	TL_0000	1,313	6	130	0:15	68.7	0.8	0.7	0.5
P119	TL_0020	TL_0065	879	16	130	0:15	1,811.8	2.9	1.7	1.9
P120	TL_0125	TL_240	1,156	4	130	0:15	119.9	3.1	12.2	10.5
P121	TL_0080	TL_0160	689	6	130	0:15	98.9	1.1	0.7	1.0
P122	TL_0160	TL_0085	724	6	130	0:15	98.9	1.1	0.7	1.0
P123	TL_0155	046S_0100	971	4	130	0:15	105.0	2.7	8.0	8.2
P124	047N_0010	047N_0005	1,356	16	130	0:15	1,336.6	2.1	1.5	1.1
P125	TL_0035	TL_0030	1,214	6	130	0:15	224.2	2.5	5.7	4.7
P126	047N_0006	TL_0035	207	6	130	0:15	370.5	4.2	2.4	11.8
P127	TL_0015	TL_0025	1,794	6	130	0:15	303.0	3.4	14.6	8.1
P130	J12	TL_0035	1,168	4	130	0:15	67.6	1.7	4.3	3.6
P132	TL_0175	009E_0005	1,337	12	140	0:15	261.6	0.7	0.3	0.2
P134	TL_0175	TL_265	393	8	130	0:15	340.8	2.2	1.0	2.5
P136	TL_170	TL_250	239	6	130	0:15	145.2	3.7	3.6	15.0
P138	TL_185	046E_0005	1,552	6	130	0:15	171.9	2.0	4.4	2.8
P140	TL_0055	TL_185	1,092	16	130	0:15	1,248.1	2.0	1.0	0.9
P142	TL_185	TL_190	1,922	8	130	0:15	905.2	5.8	29.2	15.2
P144	046N_0040	TL_190	2,284	8	130	0:15	715.4	4.6	22.4	9.8
P146	TL_0040	TL_195	311	4	130	0:15	164.9	4.2	5.9	19.0
P148	TL_195	TL_200	953	4	130	0:15	82.4	2.1	5.0	5.3
P150	TL_195	TL_205	1,014	4	130	0:15	82.4	2.1	5.3	5.3
P152	TL_215	046S_0025	236	6	130	0:15	83.8	1.0	0.2	0.8
P154	046S_0090	TL_210	536	6	130	0:15	163.3	1.9	1.4	2.6
P156	TL_210	TL_215	434	6	130	0:15	163.3	1.9	1.1	2.6
P158	010E_0025	TL_220	10	6	130	0:15	312.4	3.5	0.1	8.6
P160	TL_0175	TL_225	10	6	130	0:15	312.4	3.5	0.1	8.6
P162	TL_0130	TL_230	10	6	130	0:15	312.4	3.5	0.1	8.6
P164	TL_0130	TL_235	10	6	130	0:15	384.7	4.4	0.1	12.6
P166	TL_240	TL_0155	616	4	130	0:15	136.7	3.5	8.3	13.4
P168	046S_0130	TL_240	1,241	4	130	0:15	16.8	0.4	0.3	0.3
P172	010S_0015	TL_245	569	6	130	0:15	110.4	2.82	5.14	9.03
P174	TL_245	TL_250	520	6	130	0:15	151.8	3.88	8.48	16.28
P176	TL_270	TL_275	447	12	140	0:15	459.8	1.3	0.23	0.52
P178	TL_275	TL_0175	618	12	140	0:15	391.6	1.11	0.24	0.39
P180	TL_265	TL_170	808	8	130	0:15	248.1	1.58	1.12	1.38
P182	TL_245	TL_310	471	4	130	0:15	61.5	1.57	1.44	3.05
P184	TL_255	TL_270	1,103	4	130	0:15	122.3	3.12	12.04	10.91

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)

Individual Pipes Peak										
	Design Criteria						Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P186	TL_280	010E_0030	1,072	6	130	0:15	370.6	4.21	12.65	11.8
P188	TL_280	TL_255	285	4	130	0:15	9.4	0.24	0.03	0.09
P190	TL_250	TL_315	495	4	130	0:15	58.1	1.48	1.36	2.75
P192	TL_260	TL_265	582	4	130	0:15	41.3	1.05	0.85	1.46
P194	TL_260	TL_275	560	4	130	0:15	68.2	1.74	2.07	3.7
P196	TL_0035	TL_0030	1,167	4	130	0:15	78.8	2.01	5.65	4.84
P198	TL_295	TL_0030	242	4	130	0:00	0.0	0	0	0
P200	TL_285	TL_245	343	4	130	0:15	51.4	1.31	0.75	2.19
P202	TL_300	TL_170	762	4	130	0:15	51.4	1.31	1.67	2.19
P206	TL_170	TL_290	46	4	130	0:00	0.0	0	0	0
P208	TL_310	TL_255	199	4	130	0:15	87.2	2.23	1.16	5.83
P210	TL_315	TL_260	460.4	4	130	0:15	83.77	2.14	2.49	5.41

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
009E_0005	55.6	0.0	0:00	69.1	0:15
010E_0005	73.0	0.0	0:00	48.0	0:15
010E_0010	72.0	0.0	0:00	48.4	0:15
010E_0015	71.7	369.9	0:15	48.5	0:15
010E_0020	72.8	63.5	0:15	48.0	0:15
010E_0025	63.9	0.0	0:00	65.9	0:15
010E_0030	64.2	0.0	0:00	65.8	0:15
010E_0035	64.6	0.0	0:00	65.6	0:15
010E_0040	68.7	68.7	0:15	55.3	0:15
010S_0005	71.8	0.0	0:00	52.1	0:15
010S_0010	70.4	23.1	11:45	52.8	0:15
010S_0015	70.3	63.5	0:15	52.8	0:15
010S_0020	70.3	0.0	0:00	52.8	0:15
046E_0005	53.1	0.0	0:00	73.2	0:15
046E_0010	53.8	0.0	0:00	72.8	0:15
046E_0015	58.6	0.0	0:00	70.8	0:15
046N_0005	64.6	0.0	0:00	66.2	0:15
046N_0010	64.1	0.0	0:00	66.3	0:15
046N_0015	65.5	0.0	0:00	58.2	0:15
046N_0020	65.8	68.7	0:15	57.6	0:15
046N_0025	65.1	0.0	0:00	58.0	0:15
046N_0030	65.5	0.0	0:00	57.8	0:15
046N_0035	67.7	68.7	0:15	56.3	0:15
046N_0040	59.7	0.0	0:00	69.2	0:15
046N_0045	62.7	100.3	0:15	67.2	0:15
046N_0050	70.0	0.0	0:00	69.9	0:15
046S_0005	52.0	0.0	0:00	72.3	0:15
046S_0010	52.0	0.0	0:00	72.3	0:15
046S_0015	52.1	0.0	0:00	72.3	0:15
046S_0025	49.4	0.0	0:00	73.5	0:15
046S_0030	49.9	134.7	0:15	73.3	0:15
046S_0035	50.0	0.0	0:00	73.3	0:15
046S_0045	50.6	0.0	0:00	73.4	0:15
046S_0060	50.6	0.0	0:00	73.4	0:15
046S_0065	51.7	0.0	0:00	72.9	0:15
046S_0070	49.0	0.0	0:00	74.0	0:15
046S_0075	49.1	0.0	0:00	74.0	0:15
046S_0080	54.2	242.4	0:15	68.2	0:15
046S_0085	48.6	0.0	0:00	72.7	0:15
046S_0090	49.6	0.0	0:00	72.3	0:15
046S_0095	51.6	0.0	0:00	71.5	0:15
046S_0100	51.3	0.0	0:00	71.4	0:15
046S_0105	50.9	0.0	0:00	73.0	0:15
046S_0110	52.1	0.0	0:00	72.5	0:15
046S_0115	53.5	0.0	0:00	71.7	0:15
046S_0120	55.8	0.0	0:00	70.7	0:15
046S_0125	52.2	0.0	0:00	72.7	0:15
046S_0130	50.4	242.4	0:15	72.2	0:15
047E_0010	51.8	134.7	0:15	72.4	0:15
047E_0015	51.5	0.0	0:00	72.5	0:15

Individual Pipes Peak										
Design Criteria							Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
061N_0045	061N_0055	061N_0045	110	4	120	0:15	76.1	1.9	0.6	5.3
P001	009E_0005	J12	2,124	10	130	0:15	1,097.9	4.5	15.6	7.3
P002	047N_0006	047N_0005	581	16	130	0:15	1,432.4	2.3	0.7	1.2
P003	010E_0015	010S_0015	534	8	130	0:15	433.4	4.9	8.4	15.8
P004	010E_0005	010E_0010	59	8	140	0:00	0.0	0.0	0.0	0.0
P005	010E_0010	010E_0015	20	6	130	0:00	0.0	0.0	0.0	0.0
P006	010E_0020	010E_0015	222	6	130	0:15	63.5	0.7	0.1	0.5
P007	010E_0030	010E_0025	19	12	130	0:15	983.2	2.8	0.1	2.5
P008	010E_0035	010E_0030	131	6	130	0:15	68.7	0.8	0.1	0.5
P009	046N_0005	010E_0030	1,243	16	140	0:15	1,461.2	2.3	1.4	1.1
P010	010E_0040	046N_0015	781	4	120	0:15	68.7	1.8	3.4	4.4
P011	010S_0005	010S_0015	392	6	130	0:00	0.0	0.0	0.0	0.0
P012	010S_0020	010S_0010	28	6	130	11:45	23.1	0.3	0.0	0.1
P013	010S_0015	010S_0020	6	6	130	0:15	385.4	4.4	0.1	12.7
P014	010E_0025	TL_270	679	12	140	0:15	664.5	1.9	0.7	1.0
P015	010S_0020	TL_280	618	6	130	0:15	408.3	4.6	8.7	14.1
P016	046E_0005	046E_0010	49	6	130	0:15	183.7	2.1	0.2	3.2
P017	046E_0015	046E_0010	44	16	120	0:15	2,042.5	3.3	0.1	2.7
P018	046N_0010	046N_0005	85	6	130	0:15	206.1	2.3	0.3	4.0
P019	046N_0010	046N_0015	524	4	120	0:15	206.1	5.3	17.4	33.3
P020	046N_0015	046N_0020	234	4	120	0:15	68.7	1.8	1.0	4.4
P021	046N_0015	046N_0025	189	4	120	0:15	68.7	1.8	0.8	4.4
P022	046N_0025	046N_0030	40	4	120	0:00	0.0	0.0	0.0	0.0
P023	046N_0025	046N_0035	289	4	120	0:15	68.7	1.8	1.3	4.4
P024	046N_0040	046N_0005	1,296	16	140	0:15	1,667.3	2.7	1.8	1.4
P025	046E_0010	046N_0040	838	16	140	0:15	2,502.0	4.0	2.5	3.0
P026	046N_0040	046N_0045	1,416	6	130	0:15	100.3	1.1	1.5	1.1
P027	046E_0010	046N_0050	1,381	6	130	0:15	275.9	3.1	9.4	6.8
P028	046N_0050	045W_0005	469	6	120	0:15	275.9	3.1	3.7	7.9
P029	047E_0025	046S_0005	407	6	130	11:15	46.1	0.5	0.1	0.3
P030	046S_0005	046S_0010	10	6	130	11:15	46.1	0.5	0.0	0.3
P031	046S_0015	046S_0010	22	6	130	0:15	59.5	0.7	0.0	0.4
P032	046S_0010	046S_0025	84	6	130	11:30	86.2	1.0	0.1	0.8
P033	046S_0030	046S_0015	492	6	130	0:15	59.5	0.7	0.2	0.4
P034	046S_0035	046S_0030	20	6	130	0:15	71.2	0.8	0.0	0.6
P035	046S_0050	046S_0035	413	4	120	0:15	71.2	1.8	1.9	4.7
P036	046S_0060	TL_215	1,149	6	130	0:15	95.3	1.1	1.1	1.0
P037	046S_0060	046S_0045	169	8	130	0:00	0.0	0.0	0.0	0.0
P038	046S_0060	046S_0065	14	6	130	0:15	180.0	2.0	0.0	3.1
P039	046S_0070	046S_0060	119	6	130	0:15	84.7	1.0	0.1	0.8
P040	046S_0070	046S_0075	72	6	120	0:15	84.7	1.0	0.1	0.9
P041	046S_0085	046S_0080	107	4	120	0:15	242.4	6.2	4.8	44.9
P042	046S_0090	046S_0085	11	6	130	0:15	242.4	2.8	0.1	5.4
P043	046S_0095	046S_0090	11	6	130	0:15	104.1	1.2	0.0	1.1
P044	046S_0095	046S_0100	43	4	120	0:15	104.1	2.7	0.4	9.4
P045	046S_0105	046S_0075	350	6	130	0:15	84.7	1.0	0.3	0.8
P046	046S_0065	TL_185	2,249	6	130	0:15	180.0	2.0	7.0	3.1
P047	046S_0110	046S_0105	53	4	120	0:00	0.0	0.0	0.0	0.0
P048	046S_0090	046S_0115	732	6	130	0:15	191.8	2.2	2.6	3.5
P049	046S_0115	046S_0105	511	6	130	0:15	84.7	1.0	0.4	0.8

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_0020	52.4	0.0	0:00	72.2	0:15
047E_0025	51.0	0.0	0:00	72.8	0:15
047N_0005	42.8	0.0	0:00	84.9	0:15
047N_0006	42.8	0.0	0:00	84.6	0:15
047N_0010	42.5	0.0	0:00	85.8	0:15
047N_0015	50.8	0.0	0:00	75.2	0:15
047N_0020	50.3	134.7	0:15	75.3	0:15
047N_0025	48.9	0.0	0:00	72.3	0:15
047S_0041	44.4	0.0	0:00	86.6	0:15
061N_0005	49.3	76.1	0:15	58.5	0:15
061N_0010	49.8	76.1	0:15	58.3	0:15
061N_0015	49.6	0.0	0:00	58.5	0:15
061N_0020	50.2	76.1	0:15	59.6	0:15
061N_0025	49.9	0.0	0:00	59.8	0:15
061N_0035	50.4	0.0	0:00	63.7	0:15
061N_0045	54.1	76.1	0:15	87.1	0:15
061N_0060	52.5	76.1	0:15	61.9	0:15
062N_0005	57.7	0.0	0:00	85.2	0:15
062N_0010	58.3	59.9	0:15	85.1	0:15
062N_0015	58.4	34.1	0:15	87.9	0:15
062N_0020	59.1	0.0	0:00	87.7	0:15
062N_0025	59.6	0.0	0:00	87.7	0:15
062N_0030	54.9	0.0	0:00	89.6	0:15
062N_0035	57.0	0.0	0:00	89.4	0:00
062N_0040	57.2	59.9	0:15	89.2	0:00
062N_0045	56.1	0.0	0:00	89.4	0:15
062N_0050	56.2	0.0	0:00	89.4	0:15
062N_0055	57.7	34.1	0:15	88.1	0:15
062N_0060	59.8	34.1	0:15	87.5	0:15
062N_0065	57.6	0.0	0:00	88.5	0:15
062S_0005	56.7	0.0	0:00	87.2	0:15
062W_0005	54.6	59.9	0:15	82.3	0:15
062W_0010	56.2	0.0	0:00	83.9	0:15
062W_0015	56.3	59.9	0:15	83.7	0:15
062W_0020	55.2	0.0	0:00	84.0	0:15
062W_0025	55.5	59.9	0:15	85.9	0:15
062W_0030	56.0	0.0	0:00	85.8	0:15
062W_0035	56.3	0.0	0:00	85.7	0:15
062W_0045	56.3	0.0	0:00	85.7	0:15
J12	48.2	0.0	0:00	79.0	0:15
TL_0000	70.0	0.0	0:00	63.1	0:15
TL_0015	56.0	0.0	0:00	64.9	0:15
TL_0020	54.9	0.0	0:00	72.9	0:15
TL_0025	52.6	334.5	0:15	58.8	0:15
TL_0030	51.3	334.5	0:15	76.7	0:15
TL_0035	48.2	0.0	0:00	81.0	0:15
TL_0040	50.0	0.0	0:00	67.5	0:15
TL_0055	51.2	0.0	0:00	76.6	0:15
TL_0060	56.8	0.0	0:00	73.9	0:15
TL_0065	52.9	242.4	0:15	74.6	0:15
TL_0075	54.3	0.0	0:00	74.5	0:15
TL_0080	55.9	0.0	0:00	73.5	0:15

Individual Pipes Peak										
	Design Criteria						Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P050	046S_0120	046S_0115	11	6	130	0:15	256.5	2.9	0.1	6.0
P051	046S_0115	046S_0125	78	6	130	0:15	363.6	4.1	0.9	11.4
P052	046S_0120	046S_0130	41	4	120	0:15	256.5	6.6	2.1	49.9
P053	046S_0030	047N_0020	3,218	6	130	0:15	122.9	1.4	4.9	1.5
P054	047E_0015	047E_0010	10	6	120	0:15	414.6	4.7	0.2	16.8
P055	047E_0010	047E_0020	278	6	130	11:15	46.1	0.5	0.1	0.3
P056	047E_0020	047E_0025	428	6	120	11:15	46.1	0.5	0.1	0.3
P057	047N_0010	047N_0015	1,497	8	140	0:15	806.8	5.2	16.0	10.7
P058	047N_0020	047N_0015	52	6	130	0:15	257.6	2.9	0.3	6.0
P059	047N_0015	047E_0010	1,036	8	140	0:15	549.2	3.5	5.4	5.3
P060	047N_0025	047E_0015	214	6	130	0:15	414.6	4.7	3.1	14.5
P061	047S_0040	047S_0041	781	16	145	0:15	2,239.2	3.6	1.8	2.3
P062	047S_0041	047N_0010	1,630	16	145	0:15	2,239.2	3.6	3.7	2.3
P063	061N_0015	061N_0005	55	4	120	0:15	76.1	1.9	0.3	5.3
P064	061N_0015	061N_0010	37	4	120	0:15	76.1	1.9	0.2	5.3
P065	061N_0025	061N_0015	179	4	120	0:15	152.2	3.9	3.4	19.0
P066	061N_0025	061N_0020	39	4	120	0:15	76.1	1.9	0.2	5.3
P067	061N_0035	061N_0025	232	4	120	0:15	228.3	5.8	9.3	40.2
P068	061N_0035	061N_0060	371	4	120	0:15	76.1	1.9	2.0	5.3
P069	061N_0065	061N_0035	856	4	120	0:15	304.4	7.8	58.6	68.5
P070	062W_0045	062N_0005	126	4	120	0:15	40.0	1.0	0.2	1.6
P071	062N_0005	062N_0010	1,257	4	120	0:15	17.6	0.5	0.4	0.4
P072	062N_0005	062N_0010	803	4	120	0:15	22.4	0.6	0.4	0.6
P073	062N_0015	062N_0020	184	4	120	0:15	34.1	0.9	0.2	1.2
P074	062N_0010	062N_0025	848	4	120	0:15	99.9	2.6	7.4	8.7
P075	062N_0020	062N_0030	386	4	120	0:15	17.7	0.5	0.1	0.4
P076	062N_0035	062N_0025	119	4	100	0:15	99.9	2.6	1.5	12.2
P077	062N_0020	062N_0060	766	4	120	0:15	16.4	0.4	0.2	0.3
P078	062N_0035	062N_0040	55	4	100	0:15	59.9	1.5	0.3	4.7
P079	062E_0035	062N_0035	49	4	100	0:15	159.8	4.1	1.4	29.1
P080	062N_0030	062N_0045	280	4	120	0:15	51.7	1.3	0.7	2.6
P081	062N_0045	062N_0050	11	4	120	0:15	151.4	3.9	0.2	18.8
P082	062N_0055	062N_0030	526	4	120	0:15	34.1	0.9	0.6	1.2
P083	062N_0045	062N_0065	510	6	130	0:15	99.6	1.1	0.5	1.0
P084	062N_0060	062N_0065	313	6	130	0:15	50.5	0.6	0.1	0.3
P085	062N_0061	062N_0050	599	6	130	0:15	151.4	1.7	1.4	2.3
P086	062N_0065	062E_0135	624	6	130	0:15	49.2	0.6	0.2	0.3
P087	062S_0010	062S_0005	28	4	120	0:15	119.8	3.1	0.3	12.2
P088	062W_0005	062W_0010	1,626	4	120	0:15	59.9	1.5	5.5	3.4
P089	062W_0010	062W_0015	137	4	120	0:15	59.9	1.5	0.5	3.4
P090	062S_0005	062W_0010	649	4	120	0:15	119.8	3.1	7.9	12.2
P091	062W_0030	062W_0025	47	4	120	0:15	59.9	1.5	0.2	3.4
P092	062W_0035	062W_0030	11	4	120	0:15	59.9	1.5	0.0	3.4
P093	009E_0005	TL_0015	947	6	130	0:15	334.5	3.8	9.2	9.8
P095	046E_0015	TL_0020	575	16	130	0:15	2,042.5	3.3	1.4	2.3
P096	046S_0125	TL_0055	707	6	130	0:15	363.6	4.1	8.1	11.4
P097	TL_0055	TL_0060	292	16	130	0:15	2,174.9	3.5	0.8	2.6
P098	TL_0060	TL_0065	823	16	130	0:15	2,174.9	3.5	2.2	2.6
P099	TL_0075	TL_0080	558	6	130	0:15	110.1	1.3	0.7	1.3
P100	TL_0020	TL_0085	402	6	130	0:15	110.1	1.3	0.5	1.3
P101	TL_0075	TL_0090	419	6	130	0:15	110.1	1.3	0.5	1.3
P102	TL_0090	TL_0095	399	6	130	0:15	110.1	1.3	0.5	1.3

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_0085	56.1	0.0	0:00	72.6	0:15
TL_0090	53.6	0.0	0:00	75.0	0:15
TL_0095	53.1	0.0	0:00	75.4	0:15
TL_0100	53.4	242.4	0:15	75.5	0:15
TL_0105	52.6	0.0	0:00	77.8	0:15
TL_0110	52.5	0.0	0:00	80.2	0:15
TL_0115	54.4	0.0	0:00	77.5	0:15
TL_0120	55.0	0.0	0:00	80.2	0:15
TL_0125	50.1	0.0	0:00	77.8	0:15
TL_0130	56.2	0.0	0:00	60.4	0:15
TL_0135	52.3	0.0	0:00	64.4	0:15
TL_0145	69.0	0.0	0:00	63.6	0:15
TL_0150	75.0	68.7	0:15	60.7	0:15
TL_0155	48.2	242.4	0:15	69.4	0:15
TL_0160	57.7	0.0	0:00	72.3	0:15
TL_0175	58.0	0.0	0:00	67.9	0:15
TL_170	62.0	63.5	0:15	64.9	0:15
TL_185	52.0	0.0	0:00	75.8	0:15
TL_190	52.0	1,672.7	0:15	62.3	0:15
TL_195	50.0	0.0	0:00	64.6	0:15
TL_200	48.2	88.0	0:15	62.9	0:15
TL_205	50.0	88.0	0:15	62.0	0:15
TL_210	48.7	0.0	0:00	73.3	0:15
TL_215	49.4	0.0	0:00	73.4	0:15
TL_220	63.9	318.7	0:15	65.9	0:15
TL_225	58.0	318.7	0:15	67.9	0:15
TL_230	56.2	318.7	0:15	60.4	0:15
TL_235	56.2	410.4	0:15	60.4	0:15
TL_240	49.0	0.0	0:00	72.7	0:15
TL_245	66.0	63.5	0:15	56.9	0:15
TL_250	65.0	63.5	0:15	61.68	0:15
TL_255	64.0	31.8	0:15	59.31	0:15
TL_260	62.0	31.8	0:15	65.1	0:15
TL_265	60.0	63.5	0:15	66.46	0:15
TL_270	59.0	0.0	0:00	67.74	0:15
TL_275	57.0	0.0	0:00	68.48	0:15
TL_280	57.0	0.0	0:00	62.35	0:15
TL_285	67.0	63.5	0:15	55.99	0:15
TL_290	62.0	0.0	0:00	64.94	0:15
TL_295	50.0	0.0	0:00	77.29	0:15
TL_300	65.0	63.5	0:15	62.57	0:15
TL_310	64.0	31.8	0:15	58.61	0:15
TL_315	63.5	31.76	0:15	63.05	0:15

Individual Pipes Peak										
Design Criteria							Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P103	TL_0095	TL_0100	423	6	130	0:15	110.1	1.3	0.5	1.3
P104	TL_0105	TL_0100	401	6	130	0:15	352.6	4.0	4.3	10.8
P105	TL_0105	TL_0110	511	6	130	0:15	352.6	4.0	5.5	10.8
P106	TL_0115	TL_0055	690	16	130	0:15	3,840.3	6.1	5.2	7.5
P107	TL_0110	TL_0120	241	6	130	0:15	352.6	4.0	2.6	10.8
P108	TL_0120	TL_0115	917	16	130	0:15	3,840.3	6.1	6.9	7.5
P109	TL_0120	062W_0020	936	16	130	0:15	4,317.2	6.9	8.8	9.4
P11	J12	047N_0006	1,157	10	130	0:15	1,027.3	4.2	7.5	6.5
P110	TL_0120	TL_0125	926	4	130	0:15	124.4	3.2	10.4	11.3
P111	TL_0130	TL_0135	1,033	6	130	0:15	238.7	2.7	5.4	5.2
P112	TL_0135	TL_0040	891	6	130	0:15	238.7	2.7	4.7	5.2
P114	TL_0040	047N_0025	686	6	130	0:15	414.6	4.7	10.0	14.5
P115	009E_0005	TL_0130	977	6	130	0:15	490.5	5.6	19.4	19.8
P116	TL_0000	TL_0145	270	6	130	0:15	68.7	0.8	0.1	0.5
P117	TL_0145	010E_0035	443	6	130	0:15	68.7	0.8	0.2	0.5
P118	TL_0150	TL_0000	1,313	6	130	0:15	68.7	0.8	0.7	0.5
P119	TL_0020	TL_0065	879	16	130	0:15	1,932.4	3.1	1.9	2.1
P120	TL_0125	TL_240	1,156	4	130	0:15	124.4	3.2	13.0	11.3
P121	TL_0080	TL_0160	689	6	130	0:15	110.1	1.3	0.9	1.3
P122	TL_0160	TL_0085	724	6	130	0:15	110.1	1.3	0.9	1.3
P123	TL_0155	046S_0100	971	4	130	0:15	104.1	2.7	7.9	8.1
P124	047N_0010	047N_0005	1,356	16	130	0:15	1,432.4	2.3	1.7	1.2
P125	TL_0035	TL_0030	1,214	6	130	0:15	247.5	2.8	6.8	5.6
P126	047N_0006	TL_0035	207	6	130	0:15	405.1	4.6	2.9	13.9
P127	TL_0015	TL_0025	1,794	6	130	0:15	334.5	3.8	17.5	9.8
P130	J12	TL_0035	1,168	4	130	0:15	70.7	1.8	4.6	4.0
P132	TL_0175	009E_0005	1,337	12	140	0:15	273.0	0.8	0.3	0.2
P134	TL_0175	TL_265	393	8	130	0:15	403.7	2.6	1.3	3.4
P136	TL_170	TL_250	239	6	130	0:15	164.9	4.2	4.5	19.0
P138	TL_185	046E_0005	1,552	6	130	0:15	183.7	2.1	5.0	3.2
P140	TL_0055	TL_185	1,092	16	130	0:15	1,301.9	2.1	1.1	1.0
P142	TL_185	TL_190	1,922	8	130	0:15	938.2	6.0	31.2	16.2
P144	046N_0040	TL_190	2,284	8	130	0:15	734.5	4.7	23.6	10.3
P146	TL_0040	TL_195	311	4	130	0:15	175.9	4.5	6.7	21.4
P148	TL_195	TL_200	953	4	130	0:15	88.0	2.3	5.7	5.9
P150	TL_195	TL_205	1,014	4	130	0:15	88.0	2.3	6.0	5.9
P152	TL_215	046S_0025	236	6	130	11:30	86.2	1.0	0.2	0.8
P154	046S_0090	TL_210	536	6	130	0:15	154.7	1.8	1.3	2.3
P156	TL_210	TL_215	434	6	130	0:15	154.7	1.8	1.0	2.3
P158	010E_0025	TL_220	10	6	130	0:15	318.7	3.6	0.1	8.9
P160	TL_0175	TL_225	10	6	130	0:15	318.7	3.6	0.1	8.9
P162	TL_0130	TL_230	10	6	130	0:15	318.7	3.6	0.1	8.9
P164	TL_0130	TL_235	10	6	130	0:15	410.4	4.7	0.1	14.3
P166	TL_240	TL_0155	616	4	130	0:15	138.4	3.5	8.4	13.7
P168	046S_0130	TL_240	1,241	4	130	0:15	14.0	0.4	0.3	0.2
P172	010S_0015	TL_245	569	6	130	0:15	111.6	2.85	5.24	9.2
P174	TL_245	TL_250	520	6	130	0:15	166.2	4.24	10.02	19.25
P176	TL_270	TL_275	447	12	140	0:15	529.5	1.5	0.3	0.68
P178	TL_275	TL_0175	618	12	140	0:15	449.5	1.27	0.31	0.5
P180	TL_265	TL_170	808	8	130	0:15	291.9	1.86	1.51	1.87
P182	TL_245	TL_310	471	4	130	0:15	72.4	1.85	1.95	4.14
P184	TL_255	TL_270	1,103	4	130	0:15	135.0	3.45	14.45	13.11

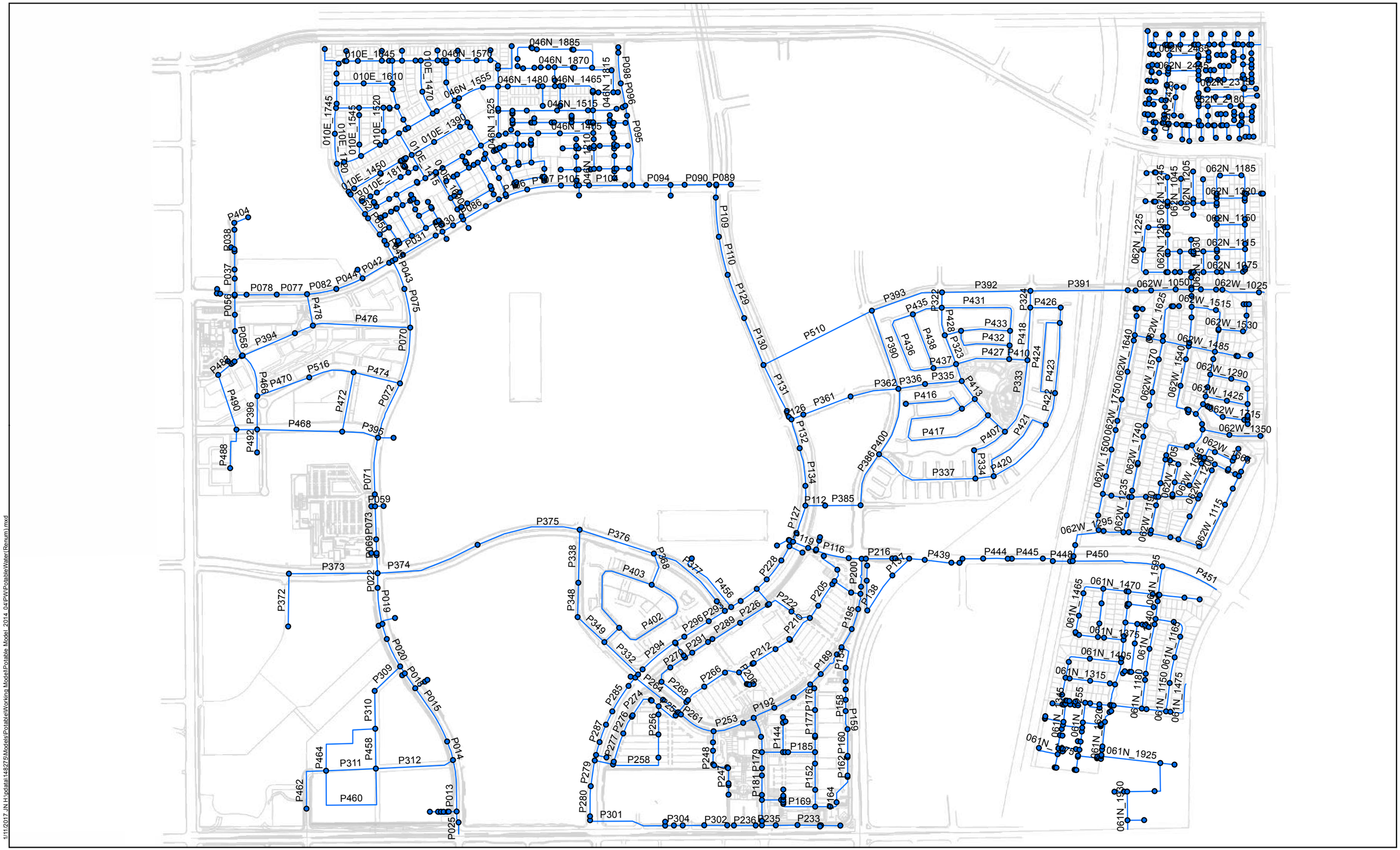
Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)

Individual Pipes Peak										
	Design Criteria						Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P186	TL_280	010E_0030	1,072	6	130	0:15	409.2	4.64	15.21	14.18
P188	TL_280	TL_255	285	4	130	11:45	28.7	0.73	0.21	0.74
P190	TL_250	TL_315	495	4	130	0:15	64.8	1.65	1.67	3.37
P192	TL_260	TL_265	582	4	130	0:15	48.3	1.23	1.14	1.95
P194	TL_260	TL_275	560	4	130	0:15	80.0	2.04	2.79	4.98
P196	TL_0035	TL_0030	1,167	4	130	0:15	87.0	2.22	6.78	5.81
P198	TL_295	TL_0030	242	4	130	0:00	0.0	0	0	0
P200	TL_285	TL_245	343	4	130	0:15	63.5	1.62	1.11	3.24
P202	TL_300	TL_170	762	4	130	0:15	63.5	1.62	2.47	3.24
P206	TL_170	TL_290	46	4	130	0:00	0.0	0	0	0
P208	TL_310	TL_255	199	4	130	0:15	104.2	2.66	1.62	8.11
P210	TL_315	TL_260	460.4	4	130	0:15	96.6	2.47	3.24	7.04

APPENDIX D – Stages 1, 2, and 3 (Interim) Potable Water System Hydraulic Analysis Computer Results

Tustin Legacy SAMP Update - Potable Water System Computer Model Results
1/17/2017

Planning Area	Standard			Staged Demands (gpm)			
	Maximum Day Demand (GPM)			Stage 1	Stage 2	Stage 3	Ultimate
PA 1	342	Res	-	-	-	-	-
		Non-Res	342	342	342	342	342
PA 2	0.1	Res	-	-	-	-	-
		Non-Res	0.1	0.1	0.1	0.1	0.1
PA 3	15	Res	-	-	-	-	-
		Non-Res	15	15	15	15	15
PA 4-5	397	Res	397	397	397	397	397
		Non-Res	-	-	-	-	-
PA 6	54	Res	-	-	-	-	-
		Non-Res	54	-	54	-	54
PA 7	45	Res	-	-	-	-	-
		Non-Res	45	-	-	45	45
PA 8	148	Res	-	-	-	-	-
		Non-Res	148	-	148	-	148
PA 9-12	179	Res	-	-	-	-	-
		Non-Res	179	89	179	89	179
PA 13-14	513	Res	409	409	409	409	409
		Non-Res	104	-	-	104	104
PA 15	1,265	Res	1,254	717	717	1,254	1,254
		Non-Res	11	6	6	11	11
PA 16-19	167	Res	-	-	-	-	-
		Non-Res	167	167	167	167	167
PA 20	94	Res	94	94	94	94	94
		Non-Res	-	-	-	-	-
PA 21	414	Res	414	414	414	414	414
		Non-Res	-	-	-	-	-
PA 22	194	Res	192	192	192	192	192
		Non-Res	2	1	1	1	2
	Total	**3,825**	**gpm**	**2,843**	**3,134**	**3,533**	**3,825**
	Residential	2,759	gpm	2,222	2,222	2,759	2,759
	Non-resid.	1,066	gpm	621	912	774	1,066



1/11/2017 JN H:\pdata\148275\Models\PotableWorking Model\Potable Model_2014_04\PW\PotableWater(Renum).mxd

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Peak Hour Demand, Nodes
Performed by: TE
Checked by: JN
Date: 1/17/2017

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
009E_1010	47.2	0.0	0:00	83.86	7:00
009E_1015	47.1	0.0	0:00	83.90	7:00
009E_1020	47.1	0.0	0:00	83.89	7:00
009E_1025	47.2	0.0	0:00	83.86	7:00
009E_1030	47.2	0.0	0:00	83.83	7:00
009E_1035	47.3	0.0	0:00	83.80	7:00
009E_1040	46.5	0.0	0:00	84.00	7:00
009E_1045	43.2	0.0	0:00	85.58	7:00
009E_1050	46.7	0.0	0:00	84.86	7:00
009E_1051	48.2	0.0	0:00	84.09	7:00
009E_1055	52.8	0.0	0:00	82.77	7:00
009E_1060	51.0	0.0	0:00	83.44	7:00
009E_1065	49.8	0.0	0:00	84.08	7:00
009E_1066	52.0	0.0	0:00	83.17	7:00
009E_1070	51.6	0.0	0:00	83.80	7:00
009E_1075	51.1	0.0	0:00	83.39	7:00
009E_1080	51.3	0.0	0:00	83.30	7:00
009E_1085	55.0	0.0	0:00	82.56	7:00
009E_1090	55.6	0.0	0:00	82.29	7:00
009E_1095	58.4	0.0	0:00	81.08	7:00
009E_1100	54.6	0.0	0:00	83.25	7:00
009E_1101	55.0	0.0	0:00	83.31	7:00
010E_1005	73.1	0.0	0:00	76.55	7:00
010E_1010	70.6	0.0	0:00	77.66	7:00
010E_1015	71.0	0.0	0:00	77.47	7:00
010E_1020	71.6	0.0	0:00	77.18	7:00
010E_1025	73.3	0.0	0:00	76.46	7:00
010E_1030	71.9	0.0	0:00	77.07	7:00
010E_1035	72.6	0.0	0:00	76.78	7:00
010E_1040	72.9	0.0	0:00	76.64	7:00
010E_1045	66.5	0.0	0:00	79.52	7:00
010E_1050	65.1	0.0	0:00	80.15	7:00
010E_1055	63.5	0.0	0:00	80.77	7:00
010E_1060	64.0	0.0	0:00	80.69	7:00
010E_1065	64.4	0.0	0:00	80.53	7:00
010E_1070	64.6	0.0	0:00	80.45	7:00
010E_1075	65.3	3.0	7:00	80.21	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
010E_1080	65.4	3.0	7:00	80.19	7:00
010E_1085	65.8	3.0	7:00	80.02	7:00
010E_1090	66.6	3.0	7:00	79.71	7:00
010E_1095	66.8	3.0	7:00	79.62	7:00
010E_1100	64.0	0.0	0:00	80.75	7:00
010E_1105	66.8	3.0	7:00	79.65	7:00
010E_1110	66.8	3.0	7:00	79.65	7:00
010E_1115	66.8	3.0	7:00	79.63	7:00
010E_1120	66.9	3.0	7:00	79.59	7:00
010E_1290	65.6	0.0	0:00	80.25	7:00
010E_1325	66.2	0.0	0:00	80.04	7:00
010E_1340	65.9	0.0	0:00	80.16	7:00
010E_1410	66.3	0.0	0:00	80.04	7:00
010S_1050	58.7	0.0	0:00	81.80	7:00
010S_1055	55.4	0.0	0:00	83.21	7:00
010S_1060	55.4	0.0	0:00	83.24	7:00
010S_1065	54.9	0.0	0:00	83.53	7:00
010S_1070	68.4	0.0	0:00	78.33	7:00
010S_1075	68.3	0.0	0:00	78.37	7:00
010S_1080	68.2	0.0	0:00	78.41	7:00
010S_1085	56.9	0.0	0:00	82.82	7:00
010S_1090	67.6	0.0	0:00	78.68	7:00
010S_1095	67.8	0.0	0:00	78.61	7:00
010S_1100	67.8	0.0	0:00	78.61	7:00
010S_1105	55.2	0.0	0:00	83.55	7:00
010S_1110	56.9	0.0	0:00	82.79	7:00
010S_1115	68.9	59.9	11:00	78.22	7:00
010S_1125	56.5	0.0	0:00	83.05	7:00
010S_1140	69.6	0.0	0:00	77.98	7:00
010S_1145	71.1	0.0	0:00	77.41	7:00
010S_1150	71.1	0.0	0:00	77.43	7:00
010S_1155	70.7	0.0	0:00	77.59	7:00
010S_1160	70.7	0.0	0:00	77.59	7:00
010S_1165	70.0	0.0	0:00	77.93	7:00
010S_1170	68.9	0.0	0:00	78.40	7:00
010S_1175	58.4	59.9	11:00	82.62	7:00
010S_1176	59.0	0.0	0:00	82.22	7:00
010S_1180	67.6	0.0	0:00	78.98	7:00
010S_1185	60.9	59.9	11:00	81.74	7:00
046E_1000	53.3	0.0	0:00	87.45	7:00
046E_1005	57.5	0.0	0:00	85.51	7:00
046N_1000	66.8	0.0	0:00	79.88	7:00
046N_1035	66.2	0.0	0:00	80.26	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
046N_1065	65.5	0.0	0:00	80.66	7:00
046N_1090	64.7	0.0	0:00	81.06	7:00
046N_1180	63.0	0.0	0:00	81.92	7:00
046N_1285	60.6	0.0	0:00	83.22	7:00
046N_1340	60.6	0.0	0:00	83.38	7:00
046N_1370	59.6	0.0	0:00	83.79	7:00
046N_1380	59.5	0.0	0:00	83.88	7:00
046N_1420	59.3	0.0	0:00	84.08	7:00
046N_1565	60.0	0.0	0:00	84.21	7:00
046N_1635	59.6	0.0	0:00	84.46	7:00
046N_1705	59.3	0.0	0:00	84.61	7:00
046N_1785	58.3	0.0	0:00	85.08	7:00
046N_1825	59.2	0.0	0:00	84.71	7:00
046N_1835	50.3	0.0	0:00	88.66	7:00
046N_1875	57.3	0.0	0:00	85.52	7:00
046N_1880	60.1	0.0	0:00	84.67	7:00
046N_1910	59.7	0.0	0:00	84.93	7:00
046N_1920	55.2	0.0	0:00	86.52	7:00
046N_1925	59.8	0.0	0:00	85.34	7:00
046N_1930	53.1	0.0	0:00	87.39	7:00
046N_1940	54.4	0.0	0:00	86.82	7:00
046N_1945	55.7	0.0	0:00	86.27	7:00
046N_1950	62.1	0.0	0:00	85.01	7:00
046N_1955	62.8	0.0	0:00	84.81	7:00
046S_1000	49.0	0.0	0:00	89.40	7:00
046S_1005	49.5	0.0	0:00	89.14	7:00
046S_1010	49.4	0.0	0:00	89.23	7:00
046S_1015	50.1	0.0	0:00	88.94	7:00
046S_1020	49.8	0.0	0:00	89.08	7:00
046S_1025	53.0	2.5	11:00	87.62	7:00
046S_1030	52.0	0.0	0:00	88.19	7:00
046S_1035	50.1	0.0	0:00	88.96	7:00
046S_1045	51.4	0.0	0:00	88.49	7:00
046S_1050	51.4	0.0	0:00	88.49	7:00
046S_1055	51.2	2.5	11:00	87.92	7:00
046S_1060	51.2	0.0	0:00	88.60	7:00
046S_1065	50.2	0.0	0:00	89.01	7:00
046S_1070	48.3	0.0	0:00	89.74	7:00
046S_1075	47.5	0.0	0:00	90.10	7:00
046S_1080	47.9	0.0	0:00	89.90	7:00
046S_1085	51.3	0.0	0:00	88.44	7:00
046S_1090	50.3	0.0	0:00	88.89	7:00
046S_1095	51.8	0.0	0:00	88.23	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
046S_1100	50.4	0.0	0:00	88.82	7:00
046S_1105	49.4	0.0	0:00	89.28	7:00
046S_1110	51.2	0.0	0:00	88.50	7:00
046S_1115	51.3	0.0	0:00	88.35	7:00
047E_1000	41.1	0.0	0:00	92.12	7:00
047E_1005	41.6	0.0	0:00	91.92	7:00
047E_1010	42.2	0.0	0:00	91.64	7:00
047E_1015	42.3	2.5	11:00	92.11	7:00
047E_1020	42.3	2.5	11:00	91.59	7:00
047E_1025	42.0	0.0	0:00	91.76	7:00
047E_1030	43.7	2.5	11:00	91.54	7:00
047E_1035	43.4	2.5	11:00	91.66	7:00
047E_1040	42.7	0.0	0:00	91.44	7:00
047E_1045	45.2	2.5	11:00	90.90	7:00
047E_1050	45.6	2.5	11:00	90.72	7:00
047E_1055	45.1	2.5	11:00	90.91	7:00
047E_1060	44.5	2.5	11:00	91.18	7:00
047E_1065	45.3	2.5	11:00	90.85	7:00
047E_1070	45.3	2.5	11:00	90.84	7:00
047E_1075	45.3	2.5	11:00	90.82	7:00
047E_1080	44.8	2.5	11:00	91.04	7:00
047E_1085	45.2	2.5	11:00	90.86	7:00
047E_1090	43.6	0.0	0:00	91.05	7:00
047E_1100	43.5	0.0	0:00	91.09	7:00
047E_1105	44.6	2.5	11:00	91.11	7:00
047E_1110	44.5	2.5	11:00	91.20	7:00
047E_1115	46.7	2.5	11:00	90.15	7:00
047E_1120	45.3	2.5	11:00	90.79	7:00
047E_1125	43.8	0.0	0:00	90.96	7:00
047E_1140	44.9	2.5	11:00	91.02	7:00
047E_1145	45.3	2.5	11:00	90.85	7:00
047E_1150	45.2	2.5	11:00	90.88	7:00
047E_1155	46.3	2.5	11:00	90.36	7:00
047E_1165	44.8	2.5	11:00	91.03	7:00
047E_1170	44.7	2.5	11:00	91.10	7:00
047E_1175	45.0	2.5	11:00	90.97	7:00
047E_1180	45.2	2.5	11:00	90.87	7:00
047E_1185	47.8	2.5	11:00	89.37	7:00
047E_1190	48.3	2.5	11:00	89.16	7:00
047E_1195	49.3	2.5	11:00	88.75	7:00
047E_1200	48.4	2.5	11:00	89.14	7:00
047E_1210	45.9	2.5	11:00	90.58	7:00
047E_1215	45.4	2.5	11:00	90.78	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1220	47.6	2.5	11:00	89.46	7:00
047E_1225	45.0	2.5	11:00	90.94	7:00
047E_1230	46.1	2.5	11:00	90.48	7:00
047E_1235	44.9	2.5	11:00	91.02	7:00
047E_1245	44.4	2.5	11:00	91.27	7:00
047E_1250	44.6	2.5	11:00	91.16	7:00
047E_1255	45.6	2.5	11:00	90.71	7:00
047E_1260	51.0	2.5	11:00	88.01	7:00
047E_1265	45.7	2.5	11:00	90.67	7:00
047E_1270	50.8	2.5	11:00	88.10	7:00
047E_1280	46.2	2.5	11:00	90.45	7:00
047E_1290	45.1	2.5	11:00	90.97	7:00
047E_1295	45.1	2.5	11:00	90.96	7:00
047E_1305	45.6	2.5	11:00	90.73	7:00
047E_1310	51.0	2.5	11:00	87.98	7:00
047E_1320	49.8	0.0	0:00	88.44	7:00
047E_1325	50.5	2.5	11:00	88.21	7:00
047E_1330	45.5	2.5	11:00	90.84	7:00
047E_1335	47.6	2.5	11:00	89.86	7:00
047E_1340	47.3	2.5	11:00	90.00	7:00
047E_1350	50.2	0.0	0:00	88.34	7:00
047E_1360	45.5	2.5	11:00	90.81	7:00
047E_1365	49.9	2.5	11:00	88.47	7:00
047E_1370	49.9	2.5	11:00	88.46	7:00
047E_1375	48.5	2.5	11:00	89.48	7:00
047E_1380	45.6	2.5	11:00	90.82	7:00
047E_1385	50.5	2.5	11:00	88.22	7:00
047E_1390	50.3	2.5	11:00	88.31	7:00
047E_1395	49.8	0.0	0:00	88.56	7:00
047E_1400	45.2	2.5	11:00	91.00	7:00
047E_1410	45.7	2.5	11:00	90.77	7:00
047E_1420	51.8	2.5	11:00	87.67	7:00
047E_1430	49.3	0.0	0:00	88.90	7:00
047E_1440	46.8	2.5	11:00	90.31	7:00
047E_1445	47.0	2.5	11:00	90.22	7:00
047E_1450	50.8	2.5	11:00	88.10	7:00
047E_1455	46.4	2.5	11:00	90.50	7:00
047E_1480	51.2	2.5	11:00	87.93	7:00
047E_1485	48.8	0.0	0:00	89.33	7:00
047E_1500	46.1	2.5	11:00	90.72	7:00
047E_1510	50.1	2.5	11:00	88.40	7:00
047E_1520	47.1	2.5	11:00	90.38	7:00
047E_1525	49.8	2.5	11:00	88.53	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1530	48.2	2.5	11:00	89.22	7:00
047E_1535	48.2	2.5	11:00	89.99	7:00
047E_1540	47.9	2.5	11:00	89.34	7:00
047E_1545	47.9	2.5	11:00	90.10	7:00
047E_1550	50.5	0.0	0:00	89.50	7:00
047E_1555	49.0	2.5	11:00	88.89	7:00
047E_1565	47.8	2.5	11:00	90.15	7:00
047E_1580	48.3	2.5	11:00	89.97	7:00
047E_1590	48.9	0.0	0:00	90.05	7:00
047E_1595	49.4	0.0	0:00	89.57	7:00
047E_1605	48.8	0.0	0:00	90.02	7:00
047E_1610	49.2	0.0	0:00	89.74	7:00
047E_1615	48.7	0.0	0:00	90.03	7:00
047E_1630	50.2	0.0	0:00	89.87	7:00
047E_1645	47.8	0.0	0:00	90.76	7:00
047E_1650	47.7	0.0	0:00	90.83	7:00
047E_1660	48.2	0.0	0:00	90.85	7:00
047E_1675	58.4	0.0	0:00	86.74	7:00
047E_1695	46.7	0.0	0:00	92.28	12:00
047E_1700	46.7	0.0	0:00	92.36	12:00
047E_1705	47.5	0.0	0:00	92.16	12:00
047E_1710	49.3	0.0	0:00	91.82	12:00
047N_1000	42.6	0.0	0:00	91.50	7:00
047N_1005	42.2	0.0	0:00	91.64	7:00
047N_1015	42.6	0.0	0:00	91.49	7:00
047N_1025	44.3	0.0	0:00	90.76	7:00
047N_1030	44.3	0.0	0:00	90.73	7:00
047N_1035	41.8	0.0	0:00	91.82	7:00
047N_1040	46.2	2.5	11:00	89.94	7:00
047N_1045	44.2	2.5	11:00	90.81	7:00
047N_1050	44.4	2.5	11:00	90.70	7:00
047N_1055	43.5	2.5	11:00	91.10	7:00
047N_1060	45.4	0.0	0:00	90.29	7:00
047N_1065	41.4	0.0	0:00	92.02	7:00
047N_1070	41.6	0.0	0:00	91.91	7:00
047N_1075	46.6	0.0	0:00	89.77	7:00
047N_1080	45.7	2.5	11:00	90.13	7:00
047N_1085	41.2	0.0	0:00	92.11	7:00
047N_1090	47.5	0.0	0:00	89.34	7:00
047N_1095	43.8	2.5	11:00	90.97	7:00
047N_1105	46.0	2.5	11:00	90.01	7:00
047N_1110	41.3	0.0	0:00	92.06	7:00
047N_1115	45.9	2.5	11:00	90.04	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047N_1120	45.4	2.5	11:00	90.28	7:00
047N_1125	49.9	0.0	0:00	88.34	7:00
047N_1130	45.4	2.5	11:00	90.26	7:00
047N_1135	44.4	2.5	11:00	91.02	7:00
047N_1140	50.9	0.0	0:00	87.89	7:00
047N_1145	45.6	2.5	11:00	90.20	7:00
047N_1150	45.6	2.5	11:00	90.19	7:00
047N_1155	45.6	2.5	11:00	90.18	7:00
047N_1160	44.2	2.5	11:00	91.10	7:00
047N_1165	50.4	0.0	0:00	88.11	7:00
047N_1166	50.6	0.0	0:00	88.01	7:00
047N_1170	44.4	2.5	11:00	90.99	7:00
047N_1175	45.2	2.5	11:00	90.67	7:00
047N_1180	45.2	2.5	11:00	90.64	7:00
047N_1185	46.6	2.5	11:00	89.75	7:00
047N_1190	46.6	2.5	11:00	89.90	7:00
047N_1195	48.2	2.5	11:00	89.13	7:00
047N_1200	45.9	2.5	11:00	90.19	7:00
047N_1205	45.8	2.5	11:00	90.26	7:00
047N_1210	44.8	2.5	11:00	90.81	7:00
047N_1215	44.6	2.5	11:00	90.90	7:00
047N_1220	45.0	2.5	11:00	90.75	7:00
047N_1225	50.2	0.0	0:00	88.21	7:00
047N_1230	45.0	2.5	11:00	90.72	7:00
047N_1235	49.2	2.5	11:00	88.75	7:00
047N_1240	48.9	2.5	11:00	88.90	7:00
047N_1245	46.8	2.5	11:00	89.97	7:00
047N_1250	49.0	2.5	11:00	88.84	7:00
047N_1255	50.2	2.5	11:00	88.32	7:00
047N_1260	49.3	2.5	11:00	88.72	7:00
047N_1265	49.5	2.5	11:00	88.60	7:00
047N_1270	48.5	2.5	11:00	89.04	7:00
047N_1275	47.9	0.0	0:00	89.26	7:00
047N_1280	47.9	0.0	0:00	89.25	7:00
047N_1285	49.6	2.5	11:00	88.55	7:00
047N_1290	47.5	0.0	0:00	89.42	7:00
047N_1295	49.3	2.5	11:00	88.75	7:00
047N_1300	49.3	2.5	11:00	88.69	7:00
047N_1305	49.0	2.5	11:00	88.86	7:00
047N_1310	48.5	0.0	0:00	88.99	7:00
047N_1315	48.8	0.0	0:00	88.85	7:00
047N_1320	48.1	0.0	0:00	89.07	7:00
047S_1295	43.6	0.0	0:00	91.05	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
061N_1415	52.1	0.0	0:00	91.18	12:00
061N_1416	52.1	0.0	0:00	91.09	12:00
061N_1495	54.9	0.0	0:00	90.63	12:00
061N_1530	55.8	0.0	0:00	90.44	12:00
061N_1610	55.7	0.0	0:00	90.86	12:00
061N_1625	55.4	0.0	0:00	91.04	12:00
061N_1850	50.8	0.0	0:00	94.29	12:00
EX01	45.0	0.0	0:00	90.53	7:00
J280	66.8	0.0	0:00	79.88	7:00
J282	59.0	0.0	0:00	82.22	7:00
TL_0010	63.1	0.0	0:00	79.80	7:00
TL_0035	51.8	0.0	0:00	83.09	7:00
TL_0040	51.3	156.3	11:00	83.01	7:00
TL_0045	49.3	0.0	0:00	83.87	7:00
TL_0060	50.1	0.0	0:00	87.42	7:00
TL_0065	50.0	0.0	0:00	87.46	7:00
TL_0075	49.1	0.0	0:00	89.43	7:00
TL_0140	54.4	0.0	0:00	87.66	7:00
TL_0145	55.0	0.0	0:00	88.72	7:15
TL_0150	50.1	0.0	0:00	89.06	7:00
TL_0155	49.5	0.0	0:00	89.21	7:00
TL_0160	50.1	395.5	7:00	89.01	7:00
TL_0180	56.2	0.0	0:00	83.67	7:00
TL_0185	52.3	0.0	0:00	86.24	7:00
TL_0210	48.2	0.0	0:00	89.63	7:00
TL_0215	47.4	395.5	7:00	89.99	7:00
TL_0220	49.2	0.0	0:00	89.36	7:00
TL_0230	51.9	0.0	0:00	86.51	7:00
TL_0280	51.0	0.0	0:00	86.96	7:00
TL_0320	49.0	0.0	0:00	89.45	7:00
TL_0340	50.0	449.5	7:00	87.28	7:00
TL_0350	62.0	0.0	0:00	80.27	7:00
TL_0360	49.0	0.0	0:00	89.43	7:00
TL_145	51.0	0.0	0:00	88.74	7:00
TL_155	59.0	0.0	0:00	82.31	7:00
TL_165	49.0	0.0	0:00	89.43	7:00
TL_170	50.0	449.5	7:00	87.21	7:00
TL_175	72.9	59.9	11:00	76.64	7:00
TL_180	65.1	0.2	11:00	80.15	7:00
TL_190	49.0	395.5	7:00	89.28	7:00
TL_195	49.5	395.5	7:00	89.22	7:00
TL_205	68.4	26.2	11:00	78.32	7:00
TL_210	49.3	0.0	0:00	89.26	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_215	49.2	0.0	0:00	89.27	7:00
TL_220	49.3	0.0	0:00	89.26	7:00
TL_225	49.3	0.0	0:00	89.26	7:00
TL_230	42.0	0.0	0:00	92.48	7:00
TL_235	44.0	0.0	0:00	91.81	7:00
TL_240	44.0	0.0	0:00	92.09	7:00
TL_245	55.0	0.0	0:00	87.52	7:00
TL_250	60.0	0.0	0:00	85.49	7:00
TL_255	55.0	0.0	0:00	87.91	7:00
TL_260	51.0	0.0	0:00	88.65	7:00
TL_265	52.0	0.0	0:00	88.24	7:00
TL_270	50.1	0.0	0:00	89.06	7:00
TL_275	50.1	0.0	0:00	89.01	7:00
TL_280	50.1	0.0	0:00	89.19	7:00
TL_285	50.0	0.0	0:00	89.14	7:00
TL_290	48.0	0.0	0:00	89.94	7:00
TL_295	50.0	0.0	0:00	83.68	7:00
TL_300	46.0	0.0	0:00	85.30	7:00
TL_305	66.0	29.9	11:00	79.55	7:00
TL_310	61.0	29.9	11:00	81.46	7:00
TL_315	64.0	0.0	0:00	80.17	7:00
TL_320	63.0	59.9	11:00	80.58	7:00
TL_325	59.0	59.9	11:00	82.27	7:00
TL_330	68.0	59.9	11:00	78.47	7:00
TL_335	59.0	0.0	0:00	82.31	7:00
TL_340	59.0	59.9	11:00	82.31	7:00
TL_345	66.0	29.9	11:00	79.51	7:00
TL_350	63.0	29.9	11:00	80.60	7:00

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Peak Hour Demand, Pipes
Performed by: TE
Checked by: JN
Date: 1/17/2017

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P001	009E_1035	009E_1045	78	6	130	0:00	0.00	0.00	0.00	0.00
P002	009E_1035	009E_1030	10	8	130	0:00	0.00	0.00	0.00	0.00
P003	009E_1030	009E_1025	40	8	130	0:00	0.05	0.00	0.00	0.00
P004	009E_1030	009E_1015	145	8	130	0:00	0.05	0.00	0.00	0.00
P005	009E_1025	009E_1020	65	8	130	0:00	0.13	0.00	0.00	0.00
P006	009E_1020	009E_1025	25	8	130	0:00	0.18	0.00	0.00	0.00
P007	009E_1020	009E_1015	30	8	130	0:00	0.05	0.00	0.00	0.00
P008	009E_1015	009E_1010	80	8	130	0:00	0.00	0.00	0.00	0.00
P009	009E_1065	009E_1055	32	10	130	0:00	0.00	0.00	0.00	0.00
P010	009E_1090	009E_1085	41	8	130	0:00	0.00	0.00	0.00	0.00
P011	009E_1095	009E_1090	154	10	130	0:00	0.00	0.00	0.00	0.00
P012	009E_1040	009E_1045	111	12	140	6:45	1392.77	3.95	0.45	4.08
P013	009E_1045	009E_1051	508	12	140	6:45	1392.77	3.95	2.07	4.08
P014	009E_1051	009E_1050	193	12	140	6:45	956.58	2.71	0.39	2.04
P015	009E_1050	009E_1060	611	12	140	6:45	956.58	2.71	1.24	2.04
P016	009E_1080	009E_1075	30	12	140	0:00	0.00	0.00	0.00	0.00
P017	009E_1075	009E_1060	115	12	140	0:00	0.00	0.00	0.00	0.00
P018	009E_1060	009E_1065	179	12	140	6:45	956.58	2.71	0.36	2.04
P019	009E_1090	009E_1100	357	12	140	6:45	1431.18	4.06	1.53	4.29
P020	009E_1066	009E_1070	301	12	140	6:45	1431.18	4.06	1.29	4.29
P021	009E_1065	009E_1066	82	12	140	6:45	956.58	2.71	0.17	2.04
P022	009E_1100	009E_1101	144	12	140	6:45	1431.18	4.06	0.62	4.29
P023	009E_1101	010S_1055	178	12	140	6:45	790.89	2.24	0.26	1.43
P024	009E_1070	009E_1090	155	12	140	6:45	1431.18	4.06	0.67	4.29
P025	009S_1365	009E_1040	112	12	140	6:45	1392.77	3.95	0.46	4.08
P026	010E_1340	010E_1325	82	8	130	0:00	0.00	0.00	0.00	0.00
P027	046N_1000	010E_1410	115	12	130	8:00	652.89	1.85	0.13	1.15
P028	010E_1340	010E_1290	77	12	130	8:00	652.89	1.85	0.09	1.15
P029	010E_1070	010E_1065	31	12	130	8:00	1102.40	3.13	0.10	3.04
P030	010E_1410	010E_1340	123	12	130	8:00	652.89	1.85	0.14	1.15
P031	010E_1290	010E_1100	373	12	130	8:00	652.89	1.85	0.43	1.15
P032	010E_1100	010E_1070	87	12	130	8:00	652.89	1.85	0.10	1.15
P034	010S_1160	010E_1010	158	8	140	11:00	59.88	0.38	0.01	0.09
P035	010E_1020	010E_1030	23	8	140	11:00	59.88	0.38	0.00	0.09

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P036	010E_1015	010E_1020	178	8	140	11:00	59.88	0.38	0.02	0.09
P037	010E_1010	010E_1015	89	8	140	11:00	59.88	0.38	0.01	0.09
P038	010E_1030	010E_1035	191	8	140	11:00	59.88	0.38	0.02	0.09
P039	010E_1035	010E_1040	68	8	140	11:00	59.88	0.38	0.01	0.09
P040	010E_1025	010E_1030	52	8	140	0:00	0.00	0.00	0.00	0.00
P041	010E_1065	010E_1060	39	12	140	12:00	438.14	1.24	0.02	0.48
P042	010E_1060	010E_1050	303	12	140	12:00	438.14	1.24	0.15	0.48
P043	010E_1065	010E_1055	300	12	140	8:00	667.94	1.89	0.31	1.05
P044	010E_1050	010E_1045	279	12	140	12:00	437.99	1.24	0.13	0.48
P045	010E_1075	010E_1070	166	12	140	12:00	474.28	1.35	0.09	0.56
P046	010E_1075	010E_1080	43	10	140	12:00	475.54	1.94	0.06	1.36
P047	010E_1080	010E_1085	80	10	140	12:00	476.80	1.95	0.11	1.36
P048	010E_1105	010E_1115	11	10	140	7:00	3.02	0.01	0.00	0.00
P049	010E_1115	010E_1120	24	10	140	8:00	279.80	1.14	0.01	0.51
P050	010E_1085	010E_1090	196	12	140	12:00	360.63	1.02	0.07	0.33
P051	010E_1110	010E_1115	11	12	140	8:00	275.08	0.78	0.00	0.20
P052	010E_1095	010E_1110	239	12	140	8:00	272.72	0.77	0.05	0.20
P053	010E_1090	010E_1095	51	12	140	12:00	361.90	1.03	0.02	0.34
P054	010S_1100	010S_1095	5	8	100	11:45	39.64	0.25	0.00	0.07
P055	010S_1100	010S_1090	10	8	100	12:00	157.98	1.01	0.01	0.97
P056	010S_1155	010S_1140	187	8	100	8:00	179.87	1.15	0.23	1.24
P057	010S_1140	010S_1115	162	8	100	8:00	179.87	1.15	0.20	1.24
P058	010S_1115	010S_1100	254	8	100	8:00	138.13	0.88	0.19	0.76
P059	010S_1110	010S_1105	83	10	130	0:00	0.00	0.00	0.00	0.00
P060	010S_1105	010S_1085	37	10	130	0:00	0.00	0.00	0.00	0.00
P061	010S_1060	010S_1050	52	8	140	0:00	0.00	0.00	0.00	0.00
P062	010S_1090	010S_1080	88	8	140	12:00	157.98	1.01	0.05	0.52
P063	010S_1080	010S_1075	20	8	140	12:00	157.98	1.01	0.01	0.52
P064	010S_1075	010S_1070	20	8	140	12:00	157.98	1.01	0.01	0.52
P065	010S_1155	010S_1160	10	8	140	8:00	179.87	1.15	0.01	0.67
P066	010S_1145	010E_1005	43	8	140	0:00	0.00	0.00	0.00	0.00
P068	010S_1055	010S_1060	20	12	140	6:45	790.89	2.24	0.03	1.43
P069	010S_1060	010S_1065	136	12	140	6:45	790.89	2.24	0.19	1.43
P070	010S_1185	010S_1175	562	12	140	8:00	634.16	1.80	0.53	0.95
P071	010S_1125	010S_1176	564	12	140	6:45	790.89	2.24	0.81	1.43
P072	010S_1176	010S_1175	578	12	140	6:45	525.63	1.49	0.39	0.67
P073	010S_1065	010S_1105	325	12	140	6:45	790.89	2.24	0.47	1.43
P074	010S_1105	010S_1125	116	12	140	6:45	790.89	2.24	0.17	1.43
P075	010E_1055	010S_1185	386	12	140	8:00	667.94	1.89	0.40	1.05
P077	010S_1180	010S_1170	298	12	140	11:00	237.84	0.67	0.05	0.15
P078	010S_1170	010S_1165	298	12	140	11:00	237.84	0.67	0.05	0.15

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P079	010S_1165	010S_1160	116	12	140	11:00	237.84	0.67	0.02	0.15
P080	010S_1160	010S_1150	143	12	140	0:00	0.00	0.00	0.00	0.00
P081	010S_1150	010S_1145	33	12	140	0:00	0.00	0.00	0.00	0.00
P082	010E_1045	010S_1180	293	12	140	12:00	437.99	1.24	0.14	0.48
P084	046N_1340	046N_1380	99	8	130	0:00	0.00	0.00	0.00	0.00
P085	046N_1065	046N_1035	145	12	130	7:00	687.69	1.95	0.18	1.27
P086	046N_1035	046N_1000	259	12	130	7:00	687.69	1.95	0.33	1.27
P087	046N_1785	046N_1825	106	10	140	0:00	0.00	0.00	0.00	0.00
P088	046N_1940	046N_1945	10	12	140	3:45	668.24	1.90	0.01	1.05
P089	046N_1945	046E_1005	144	8	140	0:00	0.00	0.00	0.00	0.00
P090	046N_1875	046N_1930	241	12	140	3:45	668.24	1.90	0.25	1.05
P091	046N_1930	046N_1945	70	12	140	3:45	668.24	1.90	0.07	1.05
P092	046N_1635	046N_1705	135	12	140	3:45	668.24	1.90	0.14	1.05
P093	046N_1825	046N_1875	139	12	140	3:45	668.24	1.90	0.15	1.05
P094	046N_1705	046N_1825	240	12	140	3:45	668.24	1.90	0.25	1.05
P095	046N_1635	046N_1880	689	12	140	7:00	793.28	2.25	0.99	1.44
P096	046N_1910	046N_1925	225	12	140	7:00	1538.09	4.36	1.10	4.90
P097	046N_1950	046N_1955	53	12	140	7:00	1538.09	4.36	0.26	4.90
P098	046N_1925	046N_1950	302	12	140	7:00	1538.09	4.36	1.48	4.90
P099	046N_1880	046N_1910	99	12	140	7:00	793.28	2.25	0.14	1.44
P100	046N_1065	046N_1090	76	12	140	7:00	687.69	1.95	0.08	1.10
P101	046N_1380	046N_1420	99	12	140	7:00	1149.95	3.26	0.28	2.86
P102	046N_1370	046N_1380	27	12	140	7:00	1149.95	3.26	0.08	2.86
P103	046N_1565	046N_1635	72	12	140	7:00	1149.95	3.26	0.21	2.86
P104	046N_1420	046N_1565	354	12	140	7:00	1149.95	3.26	1.01	2.86
P105	046N_1285	046N_1370	151	12	140	7:00	875.49	2.48	0.26	1.73
P106	046N_1090	046N_1180	218	12	140	7:00	875.49	2.48	0.38	1.73
P107	046N_1180	046N_1285	337	12	140	7:00	875.49	2.48	0.58	1.73
P108	046N_1920	046N_1940	119	12	140	3:45	668.24	1.90	0.12	1.05
P109	046N_1835	046N_1920	387	12	140	3:45	668.24	1.90	0.41	1.05
P110	046E_1000	046N_1835	384	12	140	3:45	668.24	1.90	0.40	1.05
P111	046S_1060	046S_1065	36	10	130	0:00	0.00	0.00	0.00	0.00
P112	046S_1080	046S_1070	194	12	140	11:00	249.91	0.71	0.03	0.17
P113	046S_1015	046S_1010	7	12	130	0:00	0.00	0.00	0.00	0.00
P114	046S_1050	046S_1060	92	12	130	0:00	0.00	0.00	0.00	0.00
P115	046S_1010	046S_1000	131	12	140	0:00	0.00	0.00	0.00	0.00
P116	047E_1595	046S_1045	333	12	140	7:45	760.82	2.16	0.44	1.33
P117	046S_1045	046S_1050	10	12	140	0:00	0.00	0.00	0.00	0.00
P118	046S_1045	046S_1030	79	12	140	7:45	760.82	2.16	0.11	1.33
P119	046S_1020	046S_1030	160	12	140	7:45	760.82	2.16	0.21	1.33
P120	046S_1025	046S_1005	142	12	140	11:00	2.50	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P121	047E_1485	046S_1005	161	12	140	7:00	934.63	2.65	0.31	1.95
P122	046S_1005	046S_1020	63	12	140	7:00	935.95	2.66	0.12	1.95
P123	046S_1020	046S_1015	39	12	140	0:00	0.00	0.00	0.00	0.00
P124	046S_1035	046S_1020	93	12	140	12:00	363.50	1.03	0.03	0.34
P125	046S_1090	046S_1095	35	10	140	0:00	0.00	0.00	0.00	0.00
P126	046S_1095	046S_1105	125	10	140	11:00	179.89	0.73	0.03	0.22
P127	046S_1035	046S_1070	284	12	140	12:00	363.50	1.03	0.10	0.34
P128	046S_1070	046S_1075	192	12	140	2:30	176.40	0.50	0.02	0.09
P129	046S_1115	046E_1000	455	12	140	3:45	668.24	1.90	0.48	1.05
P130	046S_1110	046S_1115	498	12	140	3:45	668.24	1.90	0.52	1.05
P131	046S_1100	046S_1110	509	12	140	3:45	324.77	0.92	0.14	0.28
P132	046S_1085	046S_1095	296	12	140	2:30	176.40	0.50	0.03	0.09
P133	046S_1095	046S_1100	92	12	140	3:45	324.77	0.92	0.03	0.28
P134	046S_1075	046S_1085	377	12	140	2:30	176.40	0.50	0.03	0.09
P135	047E_1660	047E_1650	136	12	130	7:00	1207.01	3.42	0.49	3.59
P136	047E_1590	047E_1550	298	8	140	7:00	246.25	1.57	0.35	1.19
P137	047E_1630	047E_1660	236	8	140	7:00	246.25	1.57	0.28	1.19
P138	047E_1550	047E_1630	426	8	140	7:00	246.25	1.57	0.51	1.19
P139	047E_1605	047E_1590	147	8	140	7:00	246.25	1.57	0.17	1.19
P140	047E_1605	047E_1615	69	8	140	7:00	246.25	1.57	0.08	1.19
P141	047E_1125	047E_1100	191	8	140	0:00	0.00	0.00	0.00	0.00
P142	047E_1070	047E_1075	15	8	140	11:00	4.99	0.03	0.00	0.00
P143	047E_1075	047E_1085	60	8	140	11:00	2.50	0.02	0.00	0.00
P144	047E_1145	047E_1210	290	8	140	11:00	7.49	0.05	0.00	0.00
P145	047E_1210	047E_1215	37	8	140	11:00	2.50	0.02	0.00	0.00
P146	047E_1210	047E_1230	53	8	140	11:00	2.50	0.02	0.00	0.00
P147	047E_1200	047E_1220	43	8	140	11:00	2.50	0.02	0.00	0.00
P148	047E_1365	047E_1370	11	8	140	11:00	2.50	0.02	0.00	0.00
P149	047E_1555	046S_1055	218	8	140	11:00	2.50	0.02	0.00	0.00
P150	047E_1110	047E_1140	166	12	140	7:00	74.32	0.21	0.00	0.02
P151	047E_1180	047E_1235	112	12	140	7:00	71.69	0.20	0.00	0.02
P152	047E_1140	047E_1180	258	12	140	7:00	73.00	0.21	0.00	0.02
P153	047E_1110	047E_1150	150	12	140	7:00	223.42	0.63	0.02	0.14
P154	047E_1440	047E_1455	247	12	140	7:00	239.17	0.68	0.04	0.16
P155	047E_1410	047E_1440	131	12	140	7:00	237.86	0.67	0.02	0.15
P156	047E_1400	047E_1410	80	12	140	7:00	236.54	0.67	0.01	0.15
P157	047E_1380	047E_1400	101	12	140	7:00	235.23	0.67	0.02	0.15
P158	047E_1360	047E_1380	111	12	140	7:00	233.92	0.66	0.02	0.15
P159	047E_1330	047E_1360	180	12	140	7:00	232.61	0.66	0.03	0.15
P160	047E_1295	047E_1330	263	12	140	7:00	231.29	0.66	0.04	0.15
P161	047E_1290	047E_1295	14	12	140	7:00	229.98	0.65	0.00	0.15

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P162	047E_1250	047E_1290	180	12	140	7:00	228.67	0.65	0.03	0.14
P163	047E_1245	047E_1250	13	12	140	7:00	227.36	0.65	0.00	0.14
P164	047E_1175	047E_1245	295	12	140	7:00	226.05	0.64	0.04	0.14
P165	047E_1150	047E_1175	97	12	140	7:00	224.73	0.64	0.01	0.14
P166	047E_1010	047E_1020	42	12	140	11:00	2.50	0.01	0.00	0.00
P167	047E_1065	047E_1055	23	12	140	7:00	145.17	0.41	0.00	0.06
P168	047E_1055	047E_1045	16	12	140	7:00	146.48	0.42	0.00	0.06
P169	047E_1045	047E_1110	336	12	140	7:00	147.79	0.42	0.02	0.06
P170	047E_1065	047E_1070	27	12	140	11:00	7.49	0.02	0.00	0.00
P171	047E_1030	047E_1015	207	12	140	11:00	2.50	0.01	0.00	0.00
P172	047E_1030	047E_1050	188	12	140	7:00	138.60	0.39	0.01	0.06
P173	047E_1050	047E_1065	21	12	140	7:00	139.92	0.40	0.00	0.06
P174	047E_1235	047E_1255	149	12	140	7:00	119.26	0.34	0.01	0.04
P175	047E_1340	047E_1335	55	12	140	7:00	124.51	0.35	0.00	0.05
P176	047E_1305	047E_1340	216	12	140	7:00	123.20	0.35	0.01	0.05
P177	047E_1265	047E_1305	250	12	140	7:00	121.89	0.35	0.01	0.04
P178	047E_1255	047E_1265	14	12	140	7:00	120.57	0.34	0.00	0.04
P179	047E_1105	047E_1080	159	12	140	7:00	132.04	0.37	0.01	0.05
P180	047E_1080	047E_1060	70	12	140	7:00	133.36	0.38	0.00	0.05
P181	047E_1060	047E_1035	192	12	140	7:00	134.67	0.38	0.01	0.05
P182	047E_1035	047E_1030	48	12	140	7:00	135.98	0.39	0.00	0.06
P183	047E_1105	047E_1145	207	12	140	7:00	181.77	0.52	0.02	0.09
P184	047E_1145	047E_1165	22	12	140	7:00	187.02	0.53	0.00	0.10
P185	047E_1170	047E_1235	266	12	140	7:00	189.64	0.54	0.03	0.10
P186	047E_1165	047E_1170	28	12	140	7:00	188.33	0.53	0.00	0.10
P187	047E_1335	047E_1375	155	12	140	7:00	445.78	1.26	0.08	0.49
P188	047E_1445	047E_1455	84	12	140	7:00	448.40	1.27	0.04	0.50
P189	047E_1375	047E_1445	268	12	140	7:00	447.09	1.27	0.13	0.50
P190	047E_1335	047E_1280	209	12	140	7:00	319.95	0.91	0.06	0.27
P191	047E_1280	047E_1225	213	12	140	7:00	318.64	0.90	0.06	0.27
P192	047E_1225	047E_1155	228	12	140	7:00	317.33	0.90	0.06	0.26
P193	047E_1455	047E_1500	206	12	140	7:00	688.88	1.95	0.23	1.11
P194	047E_1520	047E_1565	157	12	140	7:00	691.51	1.96	0.18	1.12
P195	047E_1500	047E_1520	206	12	140	7:00	690.20	1.96	0.23	1.11
P196	047E_1155	047E_1120	203	12	140	7:00	311.19	0.88	0.05	0.25
P197	047E_1120	047E_1105	152	12	140	7:00	312.50	0.89	0.04	0.26
P198	047E_1115	047E_1155	115	12	140	7:00	627.20	1.78	0.11	0.93
P199	047E_1565	047E_1580	71	12	140	7:00	695.45	1.97	0.08	1.13
P200	047E_1580	047E_1610	287	12	140	7:00	696.76	1.98	0.33	1.13
P201	047E_1535	047E_1545	1	12	140	11:00	2.50	0.01	0.00	0.00
P202	047E_1545	047E_1565	93	12	140	11:00	4.99	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P203	047E_1450	047E_1480	145	12	140	11:00	17.47	0.05	0.00	0.00
P204	047E_1510	047E_1525	37	12	140	11:00	12.48	0.04	0.00	0.00
P205	047E_1480	047E_1510	253	12	140	11:00	14.98	0.04	0.00	0.00
P206	047E_1195	047E_1185	139	12	140	11:00	9.99	0.03	0.00	0.00
P207	047E_1190	047E_1200	15	12	140	11:00	4.99	0.01	0.00	0.00
P208	047E_1185	047E_1190	13	12	140	11:00	7.49	0.02	0.00	0.00
P209	047E_1195	047E_1260	159	12	140	8:00	103.02	0.29	0.01	0.03
P210	047E_1365	047E_1450	297	12	140	8:00	111.72	0.32	0.01	0.04
P211	047E_1325	047E_1365	169	12	140	8:00	108.24	0.31	0.01	0.04
P212	047E_1270	047E_1325	254	12	140	8:00	106.50	0.30	0.01	0.04
P213	047E_1260	047E_1270	14	12	140	8:00	104.76	0.30	0.00	0.03
P214	047E_1610	047E_1615	41	12	140	7:00	1453.26	4.12	0.18	4.42
P215	047E_1645	047E_1650	30	12	140	7:00	1207.01	3.42	0.09	3.13
P216	047E_1615	047E_1645	260	12	140	7:00	1207.01	3.42	0.81	3.13
P217	047E_1610	047E_1595	129	12	140	7:45	760.82	2.16	0.17	1.33
P218	047E_1525	047E_1530	199	12	140	11:00	4.99	0.01	0.00	0.00
P219	047E_1530	047E_1540	1	12	140	11:00	2.50	0.01	0.00	0.00
P220	047E_1525	047E_1555	126	12	140	11:00	4.99	0.01	0.00	0.00
P221	047N_1295	047E_1195	147	12	140	7:00	95.91	0.27	0.00	0.03
P222	047E_1390	047E_1420	266	12	140	9:00	130.33	0.37	0.01	0.05
P223	047E_1420	047E_1450	206	12	140	9:00	128.06	0.36	0.01	0.05
P224	047E_1390	047E_1395	193	12	140	7:00	357.92	1.02	0.06	0.33
P225	047E_1385	047E_1390	15	12	140	7:00	235.76	0.67	0.00	0.15
P226	047E_1310	047E_1385	323	12	140	7:00	234.45	0.67	0.05	0.15
P227	047E_1395	047E_1430	135	12	140	7:00	934.63	2.65	0.26	1.95
P228	047E_1430	047E_1485	236	12	140	7:00	934.63	2.65	0.46	1.95
P229	047E_1395	047E_1350	198	12	140	7:00	576.71	1.64	0.16	0.80
P230	047E_1350	047E_1320	110	12	140	7:00	576.71	1.64	0.09	0.80
P231	047E_1100	047E_1090	10	16	145	0:00	0.00	0.00	0.00	0.00
P232	047E_1090	047S_1295	11	16	145	0:00	0.00	0.00	0.00	0.00
P233	047E_1090	047E_1040	222	16	145	0:00	0.00	0.00	0.00	0.00
P234	047E_1010	047E_1005	61	16	145	11:00	2.50	0.00	0.00	0.00
P235	047E_1025	047E_1010	136	16	145	0:00	0.00	0.00	0.00	0.00
P236	047E_1005	047E_1000	214	16	145	11:00	2.50	0.00	0.00	0.00
P237	047E_1000	047N_1110	67	16	145	11:00	2.50	0.00	0.00	0.00
P238	047E_1040	047E_1025	213	16	145	0:00	0.00	0.00	0.00	0.00
P239	047N_1275	047N_1280	10	12	130	7:00	426.06	1.21	0.01	0.52
P240	047N_1150	047N_1155	88	12	140	11:00	1.16	0.00	0.00	0.00
P241	047N_1270	047N_1275	143	12	130	7:00	426.06	1.21	0.07	0.52
P242	047N_1160	047N_1135	93	8	140	11:00	2.50	0.02	0.00	0.00
P243	047N_1035	047N_1050	37	10	140	11:00	2.50	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P244	047N_1320	047N_1315	122	10	140	7:00	621.60	2.54	0.27	2.23
P245	047N_1245	047N_1230	110	12	140	11:00	22.47	0.06	0.00	0.00
P246	047N_1230	047N_1215	83	12	140	11:00	19.97	0.06	0.00	0.00
P247	047N_1220	047N_1170	153	12	140	11:00	7.49	0.02	0.00	0.00
P248	047N_1215	047N_1175	134	12	140	11:00	17.47	0.05	0.00	0.00
P249	047N_1210	047N_1220	11	12	140	11:00	9.99	0.03	0.00	0.00
P250	047N_1180	047N_1210	136	12	140	11:00	12.48	0.04	0.00	0.00
P251	047N_1175	047N_1180	14	12	140	11:00	14.98	0.04	0.00	0.00
P252	047N_1170	047N_1160	17	12	140	11:00	4.99	0.01	0.00	0.00
P253	047N_1245	047E_1115	305	12	140	7:00	625.89	1.78	0.28	0.93
P254	047N_1185	047N_1155	216	12	140	11:00	2.50	0.01	0.00	0.00
P255	047N_1155	047N_1130	82	12	140	11:00	3.84	0.01	0.00	0.00
P256	047N_1130	047N_1120	196	12	140	11:00	6.33	0.02	0.00	0.00
P257	047N_1120	047N_1095	229	12	140	11:00	8.83	0.03	0.00	0.00
P258	047N_1095	047N_1045	523	12	140	11:00	11.33	0.03	0.00	0.00
P259	047N_1200	047N_1190	40	12	140	11:00	2.50	0.01	0.00	0.00
P260	047N_1200	047N_1205	35	12	140	7:00	611.45	1.73	0.03	0.89
P261	047N_1205	047N_1245	367	12	140	7:00	612.77	1.74	0.33	0.89
P262	047N_1200	047N_1240	129	12	140	7:45	112.74	0.32	0.01	0.04
P263	047N_1200	047N_1195	193	12	140	7:00	497.38	1.41	0.12	0.61
P264	047N_1195	047N_1165	350	12	140	7:00	496.07	1.41	0.21	0.60
P265	047N_1240	047N_1250	24	12	140	7:00	91.98	0.26	0.00	0.03
P266	047N_1260	047N_1295	247	12	140	7:00	94.60	0.27	0.01	0.03
P267	047N_1250	047N_1260	210	12	140	7:00	93.29	0.26	0.01	0.03
P268	047N_1240	047N_1235	316	12	140	7:00	202.11	0.57	0.04	0.11
P269	047N_1235	047N_1255	186	12	140	7:00	200.80	0.57	0.02	0.11
P270	047N_1255	047N_1265	174	12	140	7:00	199.48	0.57	0.02	0.11
P271	047N_1045	047N_1025	184	12	140	11:00	29.96	0.09	0.00	0.00
P272	047N_1045	047N_1055	27	12	140	11:00	16.14	0.05	0.00	0.00
P273	047N_1145	047N_1150	11	12	140	11:00	3.65	0.01	0.00	0.00
P274	047N_1115	047N_1145	266	12	140	11:00	6.15	0.02	0.00	0.00
P275	047N_1105	047N_1115	16	12	140	11:00	8.65	0.02	0.00	0.00
P276	047N_1080	047N_1105	186	12	140	11:00	11.14	0.03	0.00	0.00
P277	047N_1055	047N_1080	293	12	140	11:00	13.64	0.04	0.00	0.00
P278	047N_1040	047N_1030	107	12	140	11:00	2.50	0.01	0.00	0.00
P279	047N_1025	047N_1015	255	12	140	11:00	4.99	0.01	0.00	0.00
P280	047N_1015	047N_1005	297	12	140	11:00	4.99	0.01	0.00	0.00
P281	047N_1005	047N_1000	39	12	140	11:00	4.99	0.01	0.00	0.00
P282	047N_1025	047N_1030	56	12	140	11:00	34.95	0.10	0.00	0.00
P283	047N_1030	047N_1060	132	12	140	11:00	37.45	0.11	0.00	0.01
P284	047N_1125	047N_1165	105	12	140	11:00	37.45	0.11	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P285	047N_1090	047N_1125	298	12	140	11:00	37.45	0.11	0.00	0.01
P286	047N_1075	047N_1090	143	12	140	11:00	37.45	0.11	0.00	0.01
P287	047N_1060	047N_1075	183	12	140	11:00	37.45	0.11	0.00	0.01
P288	047N_1265	047N_1285	86	12	140	7:00	229.20	0.65	0.01	0.14
P289	047N_1305	047E_1310	318	12	140	7:00	233.14	0.66	0.05	0.15
P290	047N_1300	047N_1305	52	12	140	7:00	231.82	0.66	0.01	0.15
P291	047N_1285	047N_1300	187	12	140	7:00	230.51	0.65	0.03	0.15
P292	047N_1265	047N_1270	24	12	140	7:00	427.37	1.21	0.01	0.46
P293	047N_1315	047N_1310	187	12	140	7:00	44.89	0.13	0.00	0.01
P294	047N_1280	047N_1225	415	12	140	7:00	381.17	1.08	0.15	0.37
P295	047E_1320	047N_1315	73	12	140	7:00	576.71	1.64	0.06	0.80
P296	047N_1310	047N_1290	285	12	140	7:00	44.89	0.13	0.00	0.01
P297	047N_1290	047N_1280	108	12	140	7:00	44.89	0.13	0.00	0.01
P298	047N_1225	047N_1166	67	12	140	7:00	381.17	1.08	0.02	0.37
P299	047N_1166	047N_1165	41	12	140	7:00	476.39	1.35	0.02	0.56
P300	047N_1165	047N_1140	51	12	140	0:00	0.00	0.00	0.00	0.00
P301	047N_1035	047N_1000	757	16	145	11:00	4.99	0.01	0.00	0.00
P302	047N_1110	047N_1085	226	16	145	11:00	2.50	0.00	0.00	0.00
P303	047N_1085	047N_1070	211	16	145	11:00	2.50	0.00	0.00	0.00
P304	047N_1070	047N_1065	87	16	145	11:00	2.50	0.00	0.00	0.00
P305	047N_1065	047N_1035	86	16	145	11:00	2.50	0.00	0.00	0.00
P309	009E_1066	TL_0035	346	10	140	6:45	474.60	1.94	0.47	1.35
P310	TL_0035	TL_295	372	10	140	6:45	474.60	1.94	0.50	1.35
P311	TL_0045	TL_0040	489	10	140	6:45	62.85	0.26	0.02	0.03
P312	009E_1051	TL_0045	773	10	140	6:45	436.19	1.78	0.89	1.16
P322	TL_0140	TL_280	151	8	140	7:00	541.49	3.46	0.77	5.11
P323	TL_0150	TL_195	305	8	140	7:00	193.52	1.24	0.23	0.76
P324	TL_0145	TL_255	163	8	140	7:00	836.15	5.34	1.86	11.43
P332	TL_0060	047N_1166	459	10	140	7:00	857.56	3.50	1.86	4.04
P333	TL_0160	TL_190	759	8	140	7:00	174.66	1.11	0.48	0.63
P334	TL_0210	TL_0215	278	8	140	7:45	54.20	0.35	0.02	0.07
P335	TL_0155	TL_0220	363	8	140	4:00	133.70	0.85	0.14	0.38
P336	TL_0220	TL_0075	266	8	140	4:00	133.70	0.85	0.10	0.38
P337	TL_0215	TL_165	1039	8	140	7:45	135.86	0.87	0.41	0.39
P338	TL_0185	TL_0230	522	10	140	6:45	293.65	1.20	0.29	0.56
P348	TL_0230	TL_0280	337	10	140	6:45	293.65	1.20	0.19	0.56
P349	TL_0280	TL_0060	359	10	140	6:45	293.65	1.20	0.20	0.56
P361	046S_1105	TL_0320	498	10	140	11:00	179.89	0.73	0.11	0.22
P362	TL_0320	TL_0075	479	10	140	11:00	179.89	0.73	0.11	0.22
P368	TL_0065	TL_170	330	8	140	7:45	301.54	1.92	0.57	1.73
P369	TL_0340	TL_0060	203	10	140	7:00	601.16	2.46	0.43	2.09

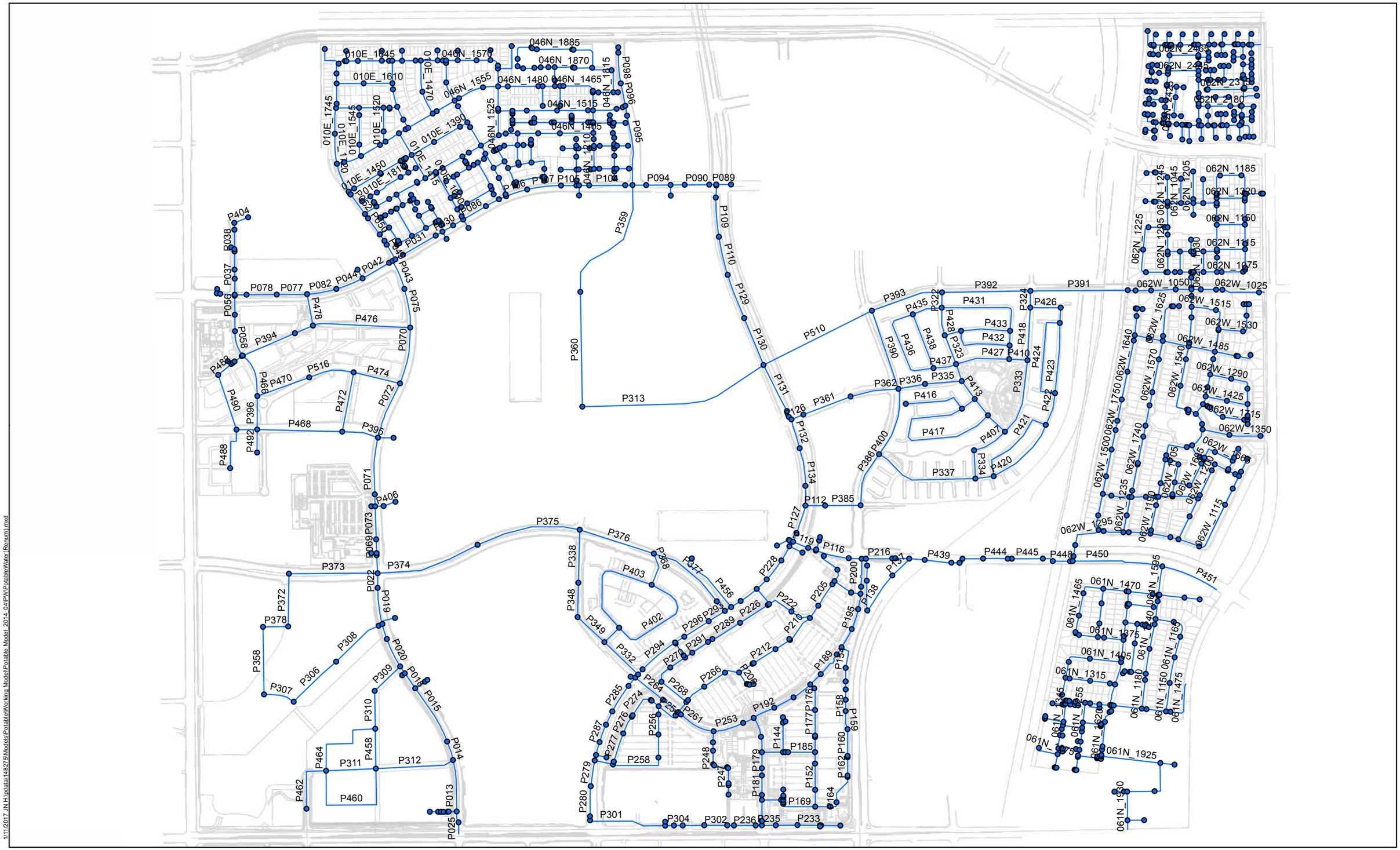
Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P372	TL_0010	TL_0350	519	10	140	0:00	0.00	0.00	0.00	0.00
P373	TL_0010	009E_1101	873	10	140	0:00	0.00	0.00	0.00	0.00
P374	009E_1101	TL_0180	1040	10	140	6:45	640.29	2.62	2.45	2.35
P375	TL_0180	TL_0185	1037	10	140	6:45	640.29	2.62	2.44	2.35
P376	TL_0185	TL_0065	767	10	140	6:45	346.64	1.42	0.58	0.75
P377	TL_0065	047N_1320	797	10	140	7:00	621.60	2.54	1.77	2.23
P385	TL_0360	046S_1080	350	12	140	11:00	249.91	0.71	0.06	0.17
P386	TL_0360	TL_165	549	12	140	11:00	249.91	0.71	0.09	0.17
P390	TL_145	TL_0075	813	12	140	7:00	385.67	1.09	0.31	0.38
P391	062W_1465	TL_0145	957	12	140	7:00	2118.21	6.01	8.49	8.87
P392	TL_0145	TL_0140	871	12	140	7:00	1282.06	3.64	3.05	3.50
P393	TL_0140	TL_145	719	12	140	7:00	740.57	2.10	0.91	1.27
P394	010S_1095	TL_345	560	8	140	8:00	163.01	1.04	0.31	0.55
P395	010S_1176	TL_325	361	10	140	6:45	265.26	1.08	0.17	0.46
P396	TL_155	TL_315	327	8	140	8:00	102.08	0.65	0.08	0.23
P400	TL_165	TL_0075	693	12	140	8:00	219.24	0.62	0.09	0.13
P402	TL_0340	TL_170	1101	8	140	7:00	75.95	0.48	0.15	0.13
P403	TL_0340	TL_170	1109	8	140	7:00	75.68	0.48	0.15	0.13
P404	010E_1040	TL_175	147	12	140	11:00	59.88	0.17	0.00	0.01
P405	010E_1050	TL_180	97	12	140	11:00	0.16	0.00	0.00	0.00
P407	TL_190	TL_0210	361	8	140	7:45	54.20	0.35	0.03	0.07
P408	TL_190	TL_215	234	8	140	7:45	172.81	1.10	0.14	0.62
P409	TL_195	TL_0155	176	8	140	11:00	177.86	1.14	0.11	0.65
P410	TL_0160	TL_275	180	8	140	7:45	71.75	0.46	0.02	0.12
P412	010S_1070	TL_205	45	8	140	11:00	26.24	0.17	0.00	0.02
P413	TL_210	TL_0155	217	8	140	7:45	172.81	1.10	0.13	0.62
P414	TL_215	TL_210	207	8	140	7:45	131.07	0.84	0.08	0.37
P415	TL_210	TL_220	158	8	140	7:45	41.74	0.27	0.01	0.04
P416	TL_220	TL_225	617	8	140	0:00	0.00	0.00	0.00	0.00
P417	TL_220	TL_215	1563	8	140	7:45	41.74	0.27	0.07	0.04
P418	TL_255	TL_0160	518	8	140	7:00	510.27	3.26	2.37	4.58
P419	TL_0215	TL_230	182	8	140	7:00	325.88	2.08	0.36	2.00
P420	TL_230	TL_235	736	8	140	7:00	170.79	1.09	0.44	0.60
P421	TL_230	TL_235	880	8	140	7:00	155.09	0.99	0.44	0.50
P422	TL_235	TL_240	328	8	140	7:00	325.88	2.08	0.66	2.00
P423	TL_240	TL_245	692	8	140	7:00	177.21	1.13	0.45	0.65
P424	TL_240	TL_245	958	8	140	7:00	148.67	0.95	0.45	0.47
P425	TL_245	TL_250	152	8	140	7:00	325.88	2.08	0.30	2.00
P426	TL_250	TL_255	299	8	140	7:00	325.88	2.08	0.60	2.00
P427	TL_275	TL_195	531	8	140	8:00	108.35	0.69	0.14	0.26
P428	TL_280	TL_0150	275	8	140	7:00	230.89	1.47	0.29	1.05

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P429	TL_275	TL_260	135	8	140	7:45	161.56	1.03	0.07	0.54
P430	TL_260	TL_265	143	8	140	7:45	111.14	0.71	0.04	0.27
P431	TL_265	TL_280	904	8	140	7:00	122.23	0.78	0.29	0.32
P432	TL_260	TL_270	598	8	140	7:45	50.41	0.32	0.04	0.06
P433	TL_265	TL_270	483	8	140	11:00	19.78	0.13	0.01	0.01
P434	TL_270	TL_0150	166	8	140	7:45	40.99	0.26	0.01	0.04
P435	TL_280	TL_285	295	8	140	7:00	188.37	1.20	0.21	0.72
P436	TL_285	TL_290	942	8	140	7:00	81.32	0.52	0.14	0.15
P437	TL_290	TL_195	227	8	140	7:00	188.37	1.20	0.16	0.72
P438	TL_285	TL_290	566	8	140	7:00	107.05	0.68	0.14	0.25
P439	047E_1695	047E_1675	264	12	130	7:00	1453.26	4.12	1.34	5.06
P440	047E_1675	047E_1660	153	12	130	7:00	1453.26	4.12	0.78	5.06
P441	047E_1700	047E_1695	79	12	130	7:00	1453.26	4.12	0.40	5.06
P442	047E_1705	047E_1710	202	12	130	7:00	2136.78	6.06	2.09	10.34
P443	047E_1705	047E_1700	70	12	130	7:00	2136.78	6.06	0.72	10.34
P444	047E_1710	061N_1416	243	12	130	7:00	2136.78	6.06	2.52	10.34
P445	061N_1415	061N_1495	305	12	130	7:00	2136.78	6.06	3.15	10.34
P446	061N_1416	061N_1415	40	12	130	7:00	2136.78	6.06	0.41	10.34
P447	061N_1495	061N_1530	107	12	130	7:00	2136.78	6.06	1.11	10.34
P448	061N_1530	061N_1610	170	12	130	7:00	2136.78	6.06	1.76	10.34
P449	061N_1610	061N_1625	26	12	130	7:00	2136.78	6.06	0.27	10.34
P450	061N_1625	061N_1850	890	12	130	7:00	1845.50	5.24	7.01	7.88
P451	061N_1850	061N_1870	581	12	130	7:00	1234.31	3.50	2.17	3.74
P456	047E_1320	EX01	679	12	140	0:00	0.00	0.00	0.00	0.00
P458	TL_295	TL_0045	392	10	140	6:45	351.70	1.44	0.30	0.78
P460	TL_0040	TL_0045	1189	8	140	6:45	21.64	0.14	0.02	0.01
P462	TL_300	TL_0040	560	12	140	0:00	0.00	0.00	0.00	0.00
P464	TL_0040	TL_295	878	8	140	6:45	122.90	0.78	0.29	0.33
P466	TL_315	010S_1095	440	8	140	6:45	148.82	0.95	0.21	0.47
P468	TL_155	TL_325	838	10	140	6:45	165.52	0.68	0.16	0.19
P470	TL_350	TL_315	544	10	140	6:45	60.88	0.25	0.02	0.03
P472	TL_310	TL_325	593	8	140	6:45	114.46	0.73	0.17	0.29
P474	TL_310	010S_1175	469	8	140	11:00	114.85	0.73	0.14	0.29
P476	TL_305	010S_1185	963	8	140	6:45	35.80	0.23	0.03	0.03
P478	010S_1180	TL_305	315	8	140	8:00	212.73	1.36	0.29	0.91
P480	TL_335	TL_155	204	10	140	6:45	92.29	0.38	0.01	0.07
P482	010S_1070	TL_330	169	8	140	8:00	138.70	0.89	0.07	0.41
P488	TL_335	TL_320	432	10	140	11:00	59.88	0.24	0.01	0.03
P490	TL_330	TL_335	566	8	140	6:45	107.01	0.68	0.14	0.25
P492	TL_155	TL_340	226	10	140	11:00	59.88	0.24	0.01	0.03
P506	010S_1176	J282	152	12	140	0:00	0.00	0.00	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P508	046N_1000	J280	98	12	140	0:00	0.00	0.00	0.00	0.00
P510	046S_1110	TL_145	1194	12	140	11:00	377.66	1.07	0.43	0.36
P514	TL_305	TL_345	191	8	140	12:00	188.00	1.20	0.14	0.72
P516	TL_350	TL_310	450	8	140	6:45	53.53	0.34	0.03	0.07

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Standard Results - Fire Flow Summary, Nodes
Performed by: TE
Checked by: JN
Date: 1/17/2017
Time of Day: 18:00

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)	Available Flow Pressure (psi)
010S_1070	0.00	87.89	271.22	3,500.00	64.06	6,626.29	20.00
010S_1075	0.00	87.93	271.23	3,500.00	64.55	6,712.31	20.00
010S_1080	0.00	87.97	271.24	3,500.00	65.06	6,807.69	20.00
010S_1090	0.00	88.23	271.26	3,500.00	67.88	7,402.67	20.00
010S_1095	0.00	88.17	271.27	3,500.00	68.55	7,593.98	20.00
010S_1100	0.00	88.16	271.27	3,500.00	68.46	7,572.25	20.00
010S_1115	44.83	87.74	271.37	3,500.00	60.03	6,031.22	20.00
010S_1140	0.00	87.48	271.49	3,500.00	60.44	6,063.70	20.00
010S_1155	0.00	87.07	271.64	3,500.00	66.45	7,253.26	20.00
TL_0035	0.00	93.95	268.63	4,000.00	75.53	9,629.79	20.00
TL_0040	117.03	94.00	268.24	4,000.00	68.70	7,834.74	20.00
TL_0045	0.00	94.87	268.24	4,000.00	74.44	9,009.99	20.00
TL_155	0.00	91.92	271.14	3,500.00	72.07	7,780.66	20.00
TL_295	0.00	94.63	268.39	4,000.00	74.30	9,022.49	20.00
TL_300	0.00	96.29	268.24	4,000.00	64.00	6,683.12	20.00
TL_305	22.41	89.06	271.54	3,500.00	69.52	7,670.94	20.00
TL_310	22.41	91.07	271.18	3,500.00	71.75	7,855.71	20.00
TL_315	0.00	89.77	271.18	3,500.00	69.42	7,489.59	20.00
TL_320	44.83	90.18	271.13	3,500.00	57.66	5,571.23	20.00
TL_325	44.83	91.91	271.12	3,500.00	75.58	8,986.25	20.00
TL_330	44.83	88.04	271.18	3,500.00	61.69	6,254.05	20.00
TL_335	0.00	91.92	271.14	3,500.00	69.87	7,229.94	20.00
TL_340	44.83	91.92	271.13	3,500.00	66.58	6,624.34	20.00
TL_345	22.41	89.02	271.46	3,500.00	66.04	6,855.75	20.00
TL_350	22.41	90.20	271.18	3,500.00	67.34	6,952.08	20.00
South Hangar Simulation							
046S_1000	0.00	98.42	276.16	4,000.00	56.05	-	-
EX01	0.00	99.82	275.38	4,000.00	48.92	-	-
North Hangar Simulation							
J280	0.00	89.17	272.58	4,000.00	37.08	-	-
J282	0.00	91.91	271.11	4,000.00	39.49	-	-



1/11/2017 JN H:\pdata\148275\Models\PotableWorking Model\Potable Model_2014_04\PW\PotableWater(Renum).mxd

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Peak Hour Demand, Nodes
Performed by: TE
Checked by: JN
Date: 1/17/2017

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
009E_1010	47.2	0.0	0:00	83.47	7:00
009E_1015	47.1	0.0	0:00	83.51	7:00
009E_1020	47.1	0.0	0:00	83.50	7:00
009E_1025	47.2	0.0	0:00	83.47	7:00
009E_1030	47.2	0.0	0:00	83.44	7:00
009E_1035	47.3	0.0	0:00	83.41	7:00
009E_1040	46.5	0.0	0:00	83.62	7:00
009E_1045	43.2	0.0	0:00	85.19	7:00
009E_1050	46.7	0.0	0:00	84.38	7:00
009E_1051	48.2	0.0	0:00	83.63	7:00
009E_1055	52.8	0.0	0:00	82.25	7:00
009E_1060	51.0	0.0	0:00	82.93	7:00
009E_1065	49.8	0.0	0:00	83.56	7:00
009E_1066	52.0	0.0	0:00	82.64	7:00
009E_1070	51.6	0.0	0:00	83.23	7:00
009E_1075	51.1	0.0	0:00	82.87	7:00
009E_1080	51.3	0.0	0:00	82.79	7:00
009E_1085	55.0	0.0	0:00	81.98	7:00
009E_1090	55.6	0.0	0:00	81.69	7:00
009E_1095	58.4	0.0	0:00	80.48	7:00
009E_1100	54.6	0.0	0:00	82.49	7:00
009E_1101	55.0	0.0	0:00	82.48	7:00
010E_1005	73.1	0.0	0:00	75.83	7:00
010E_1010	70.6	0.0	0:00	76.94	7:00
010E_1015	71.0	0.0	0:00	76.76	7:00
010E_1020	71.6	0.0	0:00	76.47	7:00
010E_1025	73.3	0.0	0:00	75.74	7:00
010E_1030	71.9	0.0	0:00	76.36	7:00
010E_1035	72.6	0.0	0:00	76.06	7:00
010E_1040	72.9	0.0	0:00	75.92	7:00
010E_1045	66.5	0.0	0:00	78.81	7:00
010E_1050	65.1	0.0	0:00	79.45	7:00
010E_1055	63.5	0.0	0:00	80.06	7:00
010E_1060	64.0	0.0	0:00	79.99	7:00
010E_1065	64.4	0.0	0:00	79.83	7:00
010E_1070	64.6	0.0	0:00	79.76	7:00
010E_1075	65.3	3.0	7:00	79.52	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
010E_1080	65.4	3.0	7:00	79.50	7:00
010E_1085	65.8	3.0	7:00	79.34	7:00
010E_1090	66.6	3.0	7:00	79.03	7:00
010E_1095	66.8	3.0	7:00	78.94	7:00
010E_1100	64.0	0.0	0:00	80.06	7:00
010E_1105	66.8	3.0	7:00	78.98	7:00
010E_1110	66.8	3.0	7:00	78.98	7:00
010E_1115	66.8	3.0	7:00	78.96	7:00
010E_1120	66.9	3.0	7:00	78.92	7:00
010E_1290	65.6	0.0	0:00	79.58	7:00
010E_1325	66.2	0.0	0:00	79.37	7:00
010E_1340	65.9	0.0	0:00	79.49	7:00
010E_1410	66.3	0.0	0:00	79.37	7:00
010S_1050	58.7	0.0	0:00	80.98	7:00
010S_1055	55.4	0.0	0:00	82.38	7:00
010S_1060	55.4	0.0	0:00	82.41	7:00
010S_1065	54.9	0.0	0:00	82.71	7:00
010S_1070	68.4	0.0	0:00	77.58	7:00
010S_1075	68.3	0.0	0:00	77.63	7:00
010S_1080	68.2	0.0	0:00	77.67	7:00
010S_1085	56.9	0.0	0:00	82.00	7:00
010S_1090	67.6	0.0	0:00	77.94	7:00
010S_1095	67.8	0.0	0:00	77.87	7:00
010S_1100	67.8	0.0	0:00	77.87	7:00
010S_1105	55.2	0.0	0:00	82.73	7:00
010S_1110	56.9	0.0	0:00	81.97	7:00
010S_1115	68.9	59.9	11:00	77.49	7:00
010S_1125	56.5	0.0	0:00	82.24	7:00
010S_1140	69.6	0.0	0:00	77.26	7:00
010S_1145	71.1	0.0	0:00	76.69	7:00
010S_1150	71.1	0.0	0:00	76.72	7:00
010S_1155	70.7	0.0	0:00	76.88	7:00
010S_1160	70.7	0.0	0:00	76.88	7:00
010S_1165	70.0	0.0	0:00	77.21	7:00
010S_1170	68.9	0.0	0:00	77.69	7:00
010S_1175	58.4	59.9	11:00	81.87	7:00
010S_1176	59.0	0.0	0:00	81.45	7:00
010S_1180	67.6	0.0	0:00	78.27	7:00
010S_1185	60.9	59.9	11:00	81.02	7:00
046E_1000	53.3	0.0	0:00	86.74	7:00
046E_1005	57.5	0.0	0:00	84.87	7:00
046N_1000	66.8	0.0	0:00	79.22	7:00
046N_1035	66.2	0.0	0:00	79.61	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
046N_1065	65.5	0.0	0:00	80.02	7:00
046N_1090	64.7	0.0	0:00	80.42	7:00
046N_1180	63.0	0.0	0:00	81.29	7:00
046N_1285	60.6	0.0	0:00	82.60	7:00
046N_1340	60.6	0.0	0:00	82.77	7:00
046N_1370	59.6	0.0	0:00	83.18	7:00
046N_1380	59.5	0.0	0:00	83.27	7:00
046N_1420	59.3	0.0	0:00	83.47	7:00
046N_1565	60.0	0.0	0:00	83.63	7:00
046N_1635	59.6	0.0	0:00	83.88	7:00
046N_1705	59.3	0.0	0:00	84.02	7:00
046N_1785	58.3	0.0	0:00	84.47	7:00
046N_1825	59.2	0.0	0:00	84.11	7:00
046N_1835	50.3	0.0	0:00	87.99	7:00
046N_1875	57.3	0.0	0:00	84.91	7:00
046N_1880	60.1	0.0	0:00	84.13	7:00
046N_1910	59.7	0.0	0:00	84.39	7:00
046N_1920	55.2	0.0	0:00	85.87	7:00
046N_1925	59.8	0.0	0:00	84.83	7:00
046N_1930	53.1	0.0	0:00	86.75	7:00
046N_1940	54.4	0.0	0:00	86.18	7:00
046N_1945	55.7	0.0	0:00	85.63	7:00
046N_1950	62.1	0.0	0:00	84.54	7:00
046N_1955	62.8	0.0	0:00	84.35	7:00
046S_1000	49.0	0.0	0:00	88.65	7:00
046S_1005	49.5	0.0	0:00	88.38	7:00
046S_1010	49.4	0.0	0:00	88.48	7:00
046S_1015	50.1	0.0	0:00	88.19	7:00
046S_1020	49.8	0.0	0:00	88.32	7:00
046S_1025	53.0	2.5	11:00	86.87	7:00
046S_1030	52.0	0.0	0:00	87.45	7:00
046S_1035	50.1	0.0	0:00	88.20	7:00
046S_1045	51.4	0.0	0:00	87.76	7:00
046S_1050	51.4	0.0	0:00	87.76	7:00
046S_1055	51.2	2.5	11:00	87.18	7:00
046S_1060	51.2	0.0	0:00	87.87	7:00
046S_1065	50.2	0.0	0:00	88.28	7:00
046S_1070	48.3	0.0	0:00	88.99	7:00
046S_1075	47.5	0.0	0:00	89.34	7:00
046S_1080	47.9	0.0	0:00	89.14	7:00
046S_1085	51.3	0.0	0:00	87.67	7:00
046S_1090	50.3	0.0	0:00	88.12	7:00
046S_1095	51.8	0.0	0:00	87.46	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
046S_1100	50.4	0.0	0:00	88.05	7:00
046S_1105	49.4	0.0	0:00	88.51	7:00
046S_1110	51.2	0.0	0:00	87.72	7:00
046S_1115	51.3	0.0	0:00	87.61	7:00
047E_1000	41.1	0.0	0:00	91.38	7:00
047E_1005	41.6	0.0	0:00	91.17	7:00
047E_1010	42.2	0.0	0:00	90.90	7:00
047E_1015	42.3	2.5	11:00	91.39	7:00
047E_1020	42.3	2.5	11:00	90.85	7:00
047E_1025	42.0	0.0	0:00	91.01	7:00
047E_1030	43.7	2.5	11:00	90.82	7:00
047E_1035	43.4	2.5	11:00	90.94	7:00
047E_1040	42.7	0.0	0:00	90.70	7:00
047E_1045	45.2	2.5	11:00	90.18	7:00
047E_1050	45.6	2.5	11:00	90.00	7:00
047E_1055	45.1	2.5	11:00	90.19	7:00
047E_1060	44.5	2.5	11:00	90.46	7:00
047E_1065	45.3	2.5	11:00	90.13	7:00
047E_1070	45.3	2.5	11:00	90.12	7:00
047E_1075	45.3	2.5	11:00	90.10	7:00
047E_1080	44.8	2.5	11:00	90.32	7:00
047E_1085	45.2	2.5	11:00	90.14	7:00
047E_1090	43.6	0.0	0:00	90.31	7:00
047E_1100	43.5	0.0	0:00	90.35	7:00
047E_1105	44.6	2.5	11:00	90.39	7:00
047E_1110	44.5	2.5	11:00	90.48	7:00
047E_1115	46.7	2.5	11:00	89.42	7:00
047E_1120	45.3	2.5	11:00	90.07	7:00
047E_1125	43.8	0.0	0:00	90.22	7:00
047E_1140	44.9	2.5	11:00	90.30	7:00
047E_1145	45.3	2.5	11:00	90.13	7:00
047E_1150	45.2	2.5	11:00	90.17	7:00
047E_1155	46.3	2.5	11:00	89.64	7:00
047E_1165	44.8	2.5	11:00	90.31	7:00
047E_1170	44.7	2.5	11:00	90.38	7:00
047E_1175	45.0	2.5	11:00	90.26	7:00
047E_1180	45.2	2.5	11:00	90.15	7:00
047E_1185	47.8	2.5	11:00	88.63	7:00
047E_1190	48.3	2.5	11:00	88.42	7:00
047E_1195	49.3	2.5	11:00	88.01	7:00
047E_1200	48.4	2.5	11:00	88.40	7:00
047E_1210	45.9	2.5	11:00	89.86	7:00
047E_1215	45.4	2.5	11:00	90.06	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1220	47.6	2.5	11:00	88.72	7:00
047E_1225	45.0	2.5	11:00	90.22	7:00
047E_1230	46.1	2.5	11:00	89.76	7:00
047E_1235	44.9	2.5	11:00	90.30	7:00
047E_1245	44.4	2.5	11:00	90.55	7:00
047E_1250	44.6	2.5	11:00	90.45	7:00
047E_1255	45.6	2.5	11:00	90.00	7:00
047E_1260	51.0	2.5	11:00	87.27	7:00
047E_1265	45.7	2.5	11:00	89.95	7:00
047E_1270	50.8	2.5	11:00	87.36	7:00
047E_1280	46.2	2.5	11:00	89.73	7:00
047E_1290	45.1	2.5	11:00	90.26	7:00
047E_1295	45.1	2.5	11:00	90.24	7:00
047E_1305	45.6	2.5	11:00	90.01	7:00
047E_1310	51.0	2.5	11:00	87.24	7:00
047E_1320	49.8	0.0	0:00	87.70	7:00
047E_1325	50.5	2.5	11:00	87.47	7:00
047E_1330	45.5	2.5	11:00	90.13	7:00
047E_1335	47.6	2.5	11:00	89.14	7:00
047E_1340	47.3	2.5	11:00	89.28	7:00
047E_1350	50.2	0.0	0:00	87.60	7:00
047E_1360	45.5	2.5	11:00	90.10	7:00
047E_1365	49.9	2.5	11:00	87.73	7:00
047E_1370	49.9	2.5	11:00	87.72	7:00
047E_1375	48.5	2.5	11:00	88.77	7:00
047E_1380	45.6	2.5	11:00	90.10	7:00
047E_1385	50.5	2.5	11:00	87.47	7:00
047E_1390	50.3	2.5	11:00	87.57	7:00
047E_1395	49.8	0.0	0:00	87.82	7:00
047E_1400	45.2	2.5	11:00	90.28	7:00
047E_1410	45.7	2.5	11:00	90.06	7:00
047E_1420	51.8	2.5	11:00	86.93	7:00
047E_1430	49.3	0.0	0:00	88.16	7:00
047E_1440	46.8	2.5	11:00	89.60	7:00
047E_1445	47.0	2.5	11:00	89.51	7:00
047E_1450	50.8	2.5	11:00	87.36	7:00
047E_1455	46.4	2.5	11:00	89.79	7:00
047E_1480	51.2	2.5	11:00	87.19	7:00
047E_1485	48.8	0.0	0:00	88.58	7:00
047E_1500	46.1	2.5	11:00	90.02	7:00
047E_1510	50.1	2.5	11:00	87.66	7:00
047E_1520	47.1	2.5	11:00	89.68	7:00
047E_1525	49.8	2.5	11:00	87.79	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1530	48.2	2.5	11:00	88.48	7:00
047E_1535	48.2	2.5	11:00	89.29	7:00
047E_1540	47.9	2.5	11:00	88.60	7:00
047E_1545	47.9	2.5	11:00	89.40	7:00
047E_1550	50.5	0.0	0:00	88.84	7:00
047E_1555	49.0	2.5	11:00	88.15	7:00
047E_1565	47.8	2.5	11:00	89.46	7:00
047E_1580	48.3	2.5	11:00	89.28	7:00
047E_1590	48.9	0.0	0:00	89.38	7:00
047E_1595	49.4	0.0	0:00	88.87	7:00
047E_1605	48.8	0.0	0:00	89.34	7:00
047E_1610	49.2	0.0	0:00	89.05	7:00
047E_1615	48.7	0.0	0:00	89.35	7:00
047E_1630	50.2	0.0	0:00	89.24	7:00
047E_1645	47.8	0.0	0:00	90.11	7:00
047E_1650	47.7	0.0	0:00	90.19	7:00
047E_1660	48.2	0.0	0:00	90.23	7:00
047E_1675	58.4	0.0	0:00	86.13	12:00
047E_1695	46.7	0.0	0:00	91.50	12:00
047E_1700	46.7	0.0	0:00	91.60	12:00
047E_1705	47.5	0.0	0:00	91.41	12:00
047E_1710	49.3	0.0	0:00	91.12	12:00
047N_1000	42.6	0.0	0:00	90.76	7:00
047N_1005	42.2	0.0	0:00	90.90	7:00
047N_1015	42.6	0.0	0:00	90.74	7:00
047N_1025	44.3	0.0	0:00	90.02	7:00
047N_1030	44.3	0.0	0:00	89.99	7:00
047N_1035	41.8	0.0	0:00	91.08	7:00
047N_1040	46.2	2.5	11:00	89.20	7:00
047N_1045	44.2	2.5	11:00	90.06	7:00
047N_1050	44.4	2.5	11:00	89.96	7:00
047N_1055	43.5	2.5	11:00	90.36	7:00
047N_1060	45.4	0.0	0:00	89.54	7:00
047N_1065	41.4	0.0	0:00	91.27	7:00
047N_1070	41.6	0.0	0:00	91.16	7:00
047N_1075	46.6	0.0	0:00	89.03	7:00
047N_1080	45.7	2.5	11:00	89.39	7:00
047N_1085	41.2	0.0	0:00	91.36	7:00
047N_1090	47.5	0.0	0:00	88.60	7:00
047N_1095	43.8	2.5	11:00	90.22	7:00
047N_1105	46.0	2.5	11:00	89.27	7:00
047N_1110	41.3	0.0	0:00	91.32	7:00
047N_1115	45.9	2.5	11:00	89.30	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047N_1120	45.4	2.5	11:00	89.54	7:00
047N_1125	49.9	0.0	0:00	87.59	7:00
047N_1130	45.4	2.5	11:00	89.51	7:00
047N_1135	44.4	2.5	11:00	90.29	7:00
047N_1140	50.9	0.0	0:00	87.15	7:00
047N_1145	45.6	2.5	11:00	89.46	7:00
047N_1150	45.6	2.5	11:00	89.44	7:00
047N_1155	45.6	2.5	11:00	89.44	7:00
047N_1160	44.2	2.5	11:00	90.37	7:00
047N_1165	50.4	0.0	0:00	87.36	7:00
047N_1166	50.6	0.0	0:00	87.26	7:00
047N_1170	44.4	2.5	11:00	90.26	7:00
047N_1175	45.2	2.5	11:00	89.94	7:00
047N_1180	45.2	2.5	11:00	89.91	7:00
047N_1185	46.6	2.5	11:00	89.01	7:00
047N_1190	46.6	2.5	11:00	89.16	7:00
047N_1195	48.2	2.5	11:00	88.39	7:00
047N_1200	45.9	2.5	11:00	89.45	7:00
047N_1205	45.8	2.5	11:00	89.52	7:00
047N_1210	44.8	2.5	11:00	90.08	7:00
047N_1215	44.6	2.5	11:00	90.17	7:00
047N_1220	45.0	2.5	11:00	90.02	7:00
047N_1225	50.2	0.0	0:00	87.47	7:00
047N_1230	45.0	2.5	11:00	89.99	7:00
047N_1235	49.2	2.5	11:00	88.01	7:00
047N_1240	48.9	2.5	11:00	88.16	7:00
047N_1245	46.8	2.5	11:00	89.24	7:00
047N_1250	49.0	2.5	11:00	88.10	7:00
047N_1255	50.2	2.5	11:00	87.58	7:00
047N_1260	49.3	2.5	11:00	87.98	7:00
047N_1265	49.5	2.5	11:00	87.85	7:00
047N_1270	48.5	2.5	11:00	88.30	7:00
047N_1275	47.9	0.0	0:00	88.51	7:00
047N_1280	47.9	0.0	0:00	88.51	7:00
047N_1285	49.6	2.5	11:00	87.81	7:00
047N_1290	47.5	0.0	0:00	88.68	7:00
047N_1295	49.3	2.5	11:00	88.01	7:00
047N_1300	49.3	2.5	11:00	87.94	7:00
047N_1305	49.0	2.5	11:00	88.12	7:00
047N_1310	48.5	0.0	0:00	88.25	7:00
047N_1315	48.8	0.0	0:00	88.11	7:00
047N_1320	48.1	0.0	0:00	88.32	7:00
047S_1295	43.6	0.0	0:00	90.31	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
061N_1415	52.1	0.0	0:00	90.55	12:00
061N_1416	52.1	0.0	0:00	90.46	12:00
061N_1495	54.9	0.0	0:00	90.08	12:00
061N_1530	55.8	0.0	0:00	89.92	12:00
061N_1610	55.7	0.0	0:00	90.38	12:00
061N_1625	55.4	0.0	0:00	90.56	12:00
061N_1850	50.8	0.0	0:00	93.98	12:00
EX01	45.0	0.0	0:00	89.79	7:00
J280	66.8	0.0	0:00	79.22	7:00
J282	59.0	0.0	0:00	81.45	7:00
TL_0000	62.4	0.0	0:00	78.99	7:00
TL_0010	63.1	0.0	0:00	78.82	7:00
TL_0015	55.0	0.0	0:00	82.02	7:00
TL_0020	52.6	0.0	0:00	83.10	7:00
TL_0025	56.2	156.3	11:00	81.57	7:00
TL_0035	51.8	0.0	0:00	82.57	7:00
TL_0040	51.3	156.3	11:00	82.52	7:00
TL_0045	49.3	0.0	0:00	83.38	7:00
TL_0060	50.1	0.0	0:00	86.67	7:00
TL_0065	50.0	0.0	0:00	86.70	7:00
TL_0075	49.1	0.0	0:00	88.67	7:00
TL_0140	54.4	0.0	0:00	86.94	7:00
TL_0145	55.0	0.0	0:00	88.09	7:15
TL_0150	50.1	0.0	0:00	88.34	7:00
TL_0155	49.5	0.0	0:00	88.47	7:00
TL_0160	50.1	395.5	7:00	88.28	7:00
TL_0165	57.9	258.6	11:00	84.65	7:00
TL_0180	56.2	0.0	0:00	82.87	7:00
TL_0185	52.3	0.0	0:00	85.48	7:00
TL_0210	48.2	0.0	0:00	88.90	7:00
TL_0215	47.4	395.5	7:00	89.25	7:00
TL_0220	49.2	0.0	0:00	88.62	7:00
TL_0230	51.9	0.0	0:00	85.75	7:00
TL_0280	51.0	0.0	0:00	86.21	7:00
TL_0315	56.5	0.0	0:00	85.24	7:00
TL_0320	49.0	0.0	0:00	88.69	7:00
TL_0340	50.0	449.5	7:00	86.52	7:00
TL_0350	62.0	0.0	0:00	79.21	7:00
TL_0360	49.0	0.0	0:00	88.67	7:00
TL_145	51.0	0.0	0:00	87.99	7:00
TL_155	59.0	0.0	0:00	81.56	7:00
TL_165	49.0	0.0	0:00	88.68	7:00
TL_170	50.0	449.5	7:00	86.46	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_175	72.9	59.9	11:00	75.92	7:00
TL_180	65.1	0.2	11:00	79.45	7:00
TL_185	56.9	94.3	11:00	81.97	7:00
TL_190	49.0	395.5	7:00	88.54	7:00
TL_195	49.5	395.5	7:00	88.49	7:00
TL_205	68.4	26.2	11:00	77.58	7:00
TL_210	49.3	0.0	0:00	88.53	7:00
TL_215	49.2	0.0	0:00	88.54	7:00
TL_220	49.3	0.0	0:00	88.52	7:00
TL_225	49.3	0.0	0:00	88.52	7:00
TL_230	42.0	0.0	0:00	91.76	7:00
TL_235	44.0	0.0	0:00	91.09	7:00
TL_240	44.0	0.0	0:00	91.39	7:00
TL_245	55.0	0.0	0:00	86.83	7:00
TL_250	60.0	0.0	0:00	84.80	7:00
TL_255	55.0	0.0	0:00	87.24	7:00
TL_260	51.0	0.0	0:00	87.93	7:00
TL_265	52.0	0.0	0:00	87.51	7:00
TL_270	50.1	0.0	0:00	88.33	7:00
TL_275	50.1	0.0	0:00	88.29	7:00
TL_280	50.1	0.0	0:00	88.46	7:00
TL_285	50.0	0.0	0:00	88.41	7:00
TL_290	48.0	0.0	0:00	89.21	7:00
TL_295	50.0	0.0	0:00	83.18	7:00
TL_300	46.0	0.0	0:00	84.82	7:00
TL_305	66.0	29.9	11:00	78.83	7:00
TL_310	61.0	29.9	11:00	80.71	7:00
TL_315	64.0	0.0	0:00	79.42	7:00
TL_320	63.0	59.9	11:00	79.83	7:00
TL_325	59.0	59.9	11:00	81.50	7:00
TL_330	68.0	59.9	11:00	77.72	7:00
TL_335	59.0	0.0	0:00	81.56	7:00
TL_340	59.0	59.9	11:00	81.56	7:00
TL_345	66.0	29.9	11:00	78.78	7:00
TL_350	63.0	29.9	11:00	79.85	7:00

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Peak Hour Demand, Pipes
Performed by: TE
Checked by: JN
Date: 1/17/2017

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P001	009E_1035	009E_1045	78	6	130	0:00	0.00	0.00	0.00	0.00
P002	009E_1035	009E_1030	10	8	130	0:00	0.00	0.00	0.00	0.00
P003	009E_1030	009E_1025	40	8	130	0:00	0.00	0.00	0.00	0.00
P004	009E_1030	009E_1015	145	8	130	0:00	0.00	0.00	0.00	0.00
P005	009E_1025	009E_1020	65	8	130	0:00	0.00	0.00	0.00	0.00
P006	009E_1020	009E_1025	25	8	130	0:00	0.00	0.00	0.00	0.00
P007	009E_1020	009E_1015	30	8	130	0:00	0.00	0.00	0.00	0.00
P008	009E_1015	009E_1010	80	8	130	0:00	0.00	0.00	0.00	0.00
P009	009E_1065	009E_1055	32	10	130	0:00	0.00	0.00	0.00	0.00
P010	009E_1090	009E_1085	41	8	130	6:45	222.93	1.42	0.05	1.13
P011	009E_1095	009E_1090	154	10	130	0:00	0.00	0.00	0.00	0.00
P012	009E_1040	009E_1045	111	12	140	6:45	1385.47	3.93	0.45	4.04
P013	009E_1045	009E_1051	508	12	140	6:45	1385.47	3.93	2.05	4.04
P014	009E_1051	009E_1050	193	12	140	6:45	951.64	2.70	0.39	2.02
P015	009E_1050	009E_1060	611	12	140	6:45	951.64	2.70	1.23	2.02
P016	009E_1080	009E_1075	30	12	140	0:00	0.00	0.00	0.00	0.00
P017	009E_1075	009E_1060	115	12	140	0:00	0.00	0.00	0.00	0.00
P018	009E_1060	009E_1065	179	12	140	6:45	951.64	2.70	0.36	2.02
P019	009E_1090	009E_1100	357	12	140	6:45	1200.95	3.41	1.11	3.10
P020	009E_1066	009E_1070	301	12	140	6:45	1423.88	4.04	1.28	4.25
P021	009E_1065	009E_1066	82	12	140	6:45	951.64	2.70	0.17	2.02
P022	009E_1101	009E_1100	144	12	140	6:45	1200.95	3.41	0.45	3.10
P023	009E_1101	010S_1055	178	12	140	6:45	825.62	2.34	0.28	1.55
P024	009E_1070	009E_1090	155	12	140	6:45	1423.88	4.04	0.66	4.25
P025	009S_1365	009E_1040	112	12	140	6:45	1385.47	3.93	0.45	4.04
P026	010E_1340	010E_1325	82	8	130	0:00	0.00	0.00	0.00	0.00
P027	046N_1000	010E_1410	115	12	130	8:00	691.19	1.96	0.15	1.28
P028	010E_1340	010E_1290	77	12	130	8:00	691.19	1.96	0.10	1.28
P029	010E_1070	010E_1065	31	12	130	11:00	1185.28	3.36	0.11	3.47
P030	010E_1410	010E_1340	123	12	130	8:00	691.19	1.96	0.16	1.28
P031	010E_1290	010E_1100	373	12	130	8:00	691.19	1.96	0.48	1.28
P032	010E_1100	010E_1070	87	12	130	8:00	691.19	1.96	0.11	1.28
P034	010S_1160	010E_1010	158	8	140	11:00	59.88	0.38	0.01	0.09
P035	010E_1020	010E_1030	23	8	140	11:00	59.88	0.38	0.00	0.09

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P036	010E_1015	010E_1020	178	8	140	11:00	59.88	0.38	0.02	0.09
P037	010E_1010	010E_1015	89	8	140	11:00	59.88	0.38	0.01	0.09
P038	010E_1030	010E_1035	191	8	140	11:00	59.88	0.38	0.02	0.09
P039	010E_1035	010E_1040	68	8	140	11:00	59.88	0.38	0.01	0.09
P040	010E_1025	010E_1030	52	8	140	0:00	0.00	0.00	0.00	0.00
P041	010E_1065	010E_1060	39	12	140	11:00	474.41	1.35	0.02	0.56
P042	010E_1060	010E_1050	303	12	140	11:00	474.41	1.35	0.17	0.56
P043	010E_1065	010E_1055	300	12	140	8:00	712.95	2.02	0.35	1.18
P044	010E_1050	010E_1045	279	12	140	11:00	474.25	1.35	0.15	0.55
P045	010E_1075	010E_1070	166	12	140	11:00	511.25	1.45	0.11	0.64
P046	010E_1075	010E_1080	43	10	140	11:00	512.71	2.09	0.07	1.56
P047	010E_1080	010E_1085	80	10	140	11:00	514.17	2.10	0.12	1.57
P048	010E_1105	010E_1115	11	10	140	7:00	3.02	0.01	0.00	0.00
P049	010E_1115	010E_1120	24	10	140	8:00	297.40	1.21	0.01	0.57
P050	010E_1085	010E_1090	196	12	140	11:00	389.84	1.11	0.08	0.39
P051	010E_1110	010E_1115	11	12	140	11:00	292.83	0.83	0.00	0.23
P052	010E_1095	010E_1110	239	12	140	11:00	291.37	0.83	0.05	0.23
P053	010E_1090	010E_1095	51	12	140	11:00	391.30	1.11	0.02	0.39
P054	010S_1100	010S_1095	5	8	100	14:45	38.37	0.24	0.00	0.07
P055	010S_1100	010S_1090	10	8	100	11:00	171.15	1.09	0.01	1.13
P056	010S_1155	010S_1140	187	8	100	11:00	194.17	1.24	0.27	1.43
P057	010S_1140	010S_1115	162	8	100	11:00	194.17	1.24	0.23	1.43
P058	010S_1115	010S_1100	254	8	100	8:00	149.55	0.95	0.22	0.88
P059	010S_1110	010S_1105	83	10	130	11:00	94.33	0.39	0.01	0.08
P060	010S_1105	010S_1085	37	10	130	0:00	0.00	0.00	0.00	0.00
P061	010S_1060	010S_1050	52	8	140	0:00	0.00	0.00	0.00	0.00
P062	010S_1090	010S_1080	88	8	140	11:00	171.15	1.09	0.05	0.61
P063	010S_1080	010S_1075	20	8	140	11:00	171.15	1.09	0.01	0.61
P064	010S_1075	010S_1070	20	8	140	11:00	171.15	1.09	0.01	0.61
P065	010S_1155	010S_1160	10	8	140	11:00	194.17	1.24	0.01	0.77
P066	010S_1145	010E_1005	43	8	140	0:00	0.00	0.00	0.00	0.00
P068	010S_1055	010S_1060	20	12	140	6:45	825.62	2.34	0.03	1.55
P069	010S_1060	010S_1065	136	12	140	6:45	825.62	2.34	0.21	1.55
P070	010S_1185	010S_1175	562	12	140	8:00	683.72	1.94	0.61	1.09
P071	010S_1125	010S_1176	564	12	140	6:45	848.80	2.41	0.92	1.63
P072	010S_1176	010S_1175	578	12	140	6:45	562.65	1.60	0.44	0.76
P073	010S_1065	010S_1105	325	12	140	6:45	825.62	2.34	0.50	1.55
P074	010S_1105	010S_1125	116	12	140	6:45	848.80	2.41	0.19	1.63
P075	010E_1055	010S_1185	386	12	140	8:00	712.95	2.02	0.46	1.18
P077	010S_1180	010S_1170	298	12	140	11:00	254.06	0.72	0.05	0.17
P078	010S_1170	010S_1165	298	12	140	11:00	254.06	0.72	0.05	0.17

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P079	010S_1165	010S_1160	116	12	140	11:00	254.06	0.72	0.02	0.17
P080	010S_1160	010S_1150	143	12	140	0:00	0.00	0.00	0.00	0.00
P081	010S_1150	010S_1145	33	12	140	0:00	0.00	0.00	0.00	0.00
P082	010E_1045	010S_1180	293	12	140	11:00	474.25	1.35	0.16	0.55
P084	046N_1340	046N_1380	99	8	130	0:00	0.00	0.00	0.00	0.00
P085	046N_1065	046N_1035	145	12	130	8:00	717.52	2.04	0.20	1.37
P086	046N_1035	046N_1000	259	12	130	8:00	717.52	2.04	0.36	1.37
P087	046N_1785	046N_1825	106	10	140	0:00	0.00	0.00	0.00	0.00
P088	046N_1940	046N_1945	10	12	140	3:45	452.37	1.28	0.00	0.51
P089	046N_1945	046E_1005	144	8	140	0:00	0.00	0.00	0.00	0.00
P090	046N_1875	046N_1930	241	12	140	3:45	452.37	1.28	0.12	0.51
P091	046N_1930	046N_1945	70	12	140	3:45	452.37	1.28	0.04	0.51
P092	046N_1635	046N_1705	135	12	140	3:45	452.37	1.28	0.07	0.51
P093	046N_1825	046N_1875	139	12	140	3:45	452.37	1.28	0.07	0.51
P094	046N_1705	046N_1825	240	12	140	3:45	452.37	1.28	0.12	0.51
P095	046N_1635	046N_1880	689	12	140	7:00	824.30	2.34	1.06	1.54
P096	046N_1910	046N_1925	225	12	140	7:00	1591.66	4.52	1.18	5.23
P097	046N_1950	046N_1955	53	12	140	7:00	1591.66	4.52	0.28	5.23
P098	046N_1925	046N_1950	302	12	140	7:00	1591.66	4.52	1.58	5.23
P099	046N_1880	046N_1910	99	12	140	7:00	824.30	2.34	0.15	1.54
P100	046N_1065	046N_1090	76	12	140	8:00	717.52	2.04	0.09	1.19
P101	046N_1380	046N_1420	99	12	140	7:00	1182.09	3.35	0.30	3.01
P102	046N_1370	046N_1380	27	12	140	7:00	1182.09	3.35	0.08	3.01
P103	046N_1565	046N_1635	72	12	140	7:00	1182.09	3.35	0.22	3.01
P104	046N_1420	046N_1565	354	12	140	7:00	1182.09	3.35	1.07	3.01
P105	046N_1285	046N_1370	151	12	140	7:00	903.21	2.56	0.28	1.83
P106	046N_1090	046N_1180	218	12	140	7:00	903.21	2.56	0.40	1.83
P107	046N_1180	046N_1285	337	12	140	7:00	903.21	2.56	0.62	1.83
P108	046N_1920	046N_1940	119	12	140	3:45	452.37	1.28	0.06	0.51
P109	046N_1835	046N_1920	387	12	140	3:45	452.37	1.28	0.20	0.51
P110	046E_1000	046N_1835	384	12	140	3:45	452.37	1.28	0.20	0.51
P111	046S_1060	046S_1065	36	10	130	0:00	0.00	0.00	0.00	0.00
P112	046S_1080	046S_1070	194	12	140	11:00	270.20	0.77	0.04	0.20
P113	046S_1015	046S_1010	7	12	130	0:00	0.00	0.00	0.00	0.00
P114	046S_1050	046S_1060	92	12	130	0:00	0.00	0.00	0.00	0.00
P115	046S_1010	046S_1000	131	12	140	0:00	0.00	0.00	0.00	0.00
P116	047E_1595	046S_1045	333	12	140	7:45	818.90	2.32	0.51	1.53
P117	046S_1045	046S_1050	10	12	140	0:00	0.00	0.00	0.00	0.00
P118	046S_1045	046S_1030	79	12	140	7:45	818.90	2.32	0.12	1.53
P119	046S_1020	046S_1030	160	12	140	7:45	818.90	2.32	0.25	1.53
P120	046S_1025	046S_1005	142	12	140	11:00	2.50	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P121	047E_1485	046S_1005	161	12	140	7:00	927.07	2.63	0.31	1.92
P122	046S_1005	046S_1020	63	12	140	7:00	928.38	2.63	0.12	1.93
P123	046S_1020	046S_1015	39	12	140	0:00	0.00	0.00	0.00	0.00
P124	046S_1035	046S_1020	93	12	140	12:00	263.15	0.75	0.02	0.19
P125	046S_1090	046S_1095	35	10	140	0:00	0.00	0.00	0.00	0.00
P126	046S_1095	046S_1105	125	10	140	11:00	204.38	0.83	0.04	0.28
P127	046S_1035	046S_1070	284	12	140	12:00	263.15	0.75	0.05	0.19
P128	046S_1070	046S_1075	192	12	140	2:30	273.15	0.77	0.04	0.20
P129	046S_1115	046E_1000	455	12	140	3:45	452.37	1.28	0.23	0.51
P130	046S_1110	046S_1115	498	12	140	3:45	452.37	1.28	0.25	0.51
P131	046S_1100	046S_1110	509	12	140	3:45	445.79	1.26	0.25	0.49
P132	046S_1085	046S_1095	296	12	140	2:30	273.15	0.77	0.06	0.20
P133	046S_1095	046S_1100	92	12	140	3:45	445.79	1.26	0.05	0.49
P134	046S_1075	046S_1085	377	12	140	2:30	273.15	0.77	0.08	0.20
P135	047E_1660	047E_1650	136	12	130	7:00	1272.86	3.61	0.54	3.96
P136	047E_1590	047E_1550	298	8	140	7:00	259.69	1.66	0.39	1.31
P137	047E_1630	047E_1660	236	8	140	7:00	259.69	1.66	0.31	1.31
P138	047E_1550	047E_1630	426	8	140	7:00	259.69	1.66	0.56	1.31
P139	047E_1605	047E_1590	147	8	140	7:00	259.69	1.66	0.19	1.31
P140	047E_1605	047E_1615	69	8	140	7:00	259.69	1.66	0.09	1.31
P141	047E_1125	047E_1100	191	8	140	0:00	0.00	0.00	0.00	0.00
P142	047E_1070	047E_1075	15	8	140	11:00	4.99	0.03	0.00	0.00
P143	047E_1075	047E_1085	60	8	140	11:00	2.50	0.02	0.00	0.00
P144	047E_1145	047E_1210	290	8	140	11:00	7.49	0.05	0.00	0.00
P145	047E_1210	047E_1215	37	8	140	11:00	2.50	0.02	0.00	0.00
P146	047E_1210	047E_1230	53	8	140	11:00	2.50	0.02	0.00	0.00
P147	047E_1200	047E_1220	43	8	140	11:00	2.50	0.02	0.00	0.00
P148	047E_1365	047E_1370	11	8	140	11:00	2.50	0.02	0.00	0.00
P149	047E_1555	046S_1055	218	8	140	11:00	2.50	0.02	0.00	0.00
P150	047E_1110	047E_1140	166	12	140	7:00	76.53	0.22	0.00	0.02
P151	047E_1180	047E_1235	112	12	140	7:00	73.91	0.21	0.00	0.02
P152	047E_1140	047E_1180	258	12	140	7:00	75.22	0.21	0.00	0.02
P153	047E_1110	047E_1150	150	12	140	7:00	229.65	0.65	0.02	0.14
P154	047E_1440	047E_1455	247	12	140	7:00	245.40	0.70	0.04	0.16
P155	047E_1410	047E_1440	131	12	140	7:00	244.08	0.69	0.02	0.16
P156	047E_1400	047E_1410	80	12	140	7:00	242.77	0.69	0.01	0.16
P157	047E_1380	047E_1400	101	12	140	7:00	241.46	0.69	0.02	0.16
P158	047E_1360	047E_1380	111	12	140	7:00	240.15	0.68	0.02	0.16
P159	047E_1330	047E_1360	180	12	140	7:00	238.83	0.68	0.03	0.16
P160	047E_1295	047E_1330	263	12	140	7:00	237.52	0.67	0.04	0.15
P161	047E_1290	047E_1295	14	12	140	7:00	236.21	0.67	0.00	0.15

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P162	047E_1250	047E_1290	180	12	140	7:00	234.90	0.67	0.03	0.15
P163	047E_1245	047E_1250	13	12	140	7:00	233.58	0.66	0.00	0.15
P164	047E_1175	047E_1245	295	12	140	7:00	232.27	0.66	0.04	0.15
P165	047E_1150	047E_1175	97	12	140	7:00	230.96	0.66	0.01	0.15
P166	047E_1010	047E_1020	42	12	140	11:00	2.50	0.01	0.00	0.00
P167	047E_1065	047E_1055	23	12	140	7:00	149.18	0.42	0.00	0.06
P168	047E_1055	047E_1045	16	12	140	7:00	150.49	0.43	0.00	0.07
P169	047E_1045	047E_1110	336	12	140	7:00	151.80	0.43	0.02	0.07
P170	047E_1065	047E_1070	27	12	140	11:00	7.49	0.02	0.00	0.00
P171	047E_1030	047E_1015	207	12	140	11:00	2.50	0.01	0.00	0.00
P172	047E_1030	047E_1050	188	12	140	7:00	142.61	0.40	0.01	0.06
P173	047E_1050	047E_1065	21	12	140	7:00	143.93	0.41	0.00	0.06
P174	047E_1235	047E_1255	149	12	140	7:00	122.33	0.35	0.01	0.05
P175	047E_1340	047E_1335	55	12	140	7:00	127.58	0.36	0.00	0.05
P176	047E_1305	047E_1340	216	12	140	7:00	126.27	0.36	0.01	0.05
P177	047E_1265	047E_1305	250	12	140	7:00	124.96	0.35	0.01	0.05
P178	047E_1255	047E_1265	14	12	140	7:00	123.64	0.35	0.00	0.05
P179	047E_1105	047E_1080	159	12	140	7:00	136.05	0.39	0.01	0.06
P180	047E_1080	047E_1060	70	12	140	7:00	137.36	0.39	0.00	0.06
P181	047E_1060	047E_1035	192	12	140	7:00	138.68	0.39	0.01	0.06
P182	047E_1035	047E_1030	48	12	140	7:00	139.99	0.40	0.00	0.06
P183	047E_1105	047E_1145	207	12	140	7:00	187.05	0.53	0.02	0.10
P184	047E_1145	047E_1165	22	12	140	7:00	192.30	0.55	0.00	0.10
P185	047E_1170	047E_1235	266	12	140	7:00	194.93	0.55	0.03	0.11
P186	047E_1165	047E_1170	28	12	140	7:00	193.62	0.55	0.00	0.11
P187	047E_1335	047E_1375	155	12	140	7:00	457.95	1.30	0.08	0.52
P188	047E_1445	047E_1455	84	12	140	7:00	460.57	1.31	0.04	0.53
P189	047E_1375	047E_1445	268	12	140	7:00	459.26	1.30	0.14	0.52
P190	047E_1335	047E_1280	209	12	140	7:00	329.05	0.93	0.06	0.28
P191	047E_1280	047E_1225	213	12	140	7:00	327.74	0.93	0.06	0.28
P192	047E_1225	047E_1155	228	12	140	7:00	326.43	0.93	0.06	0.28
P193	047E_1455	047E_1500	206	12	140	7:00	707.28	2.01	0.24	1.16
P194	047E_1520	047E_1565	157	12	140	7:00	709.91	2.01	0.18	1.17
P195	047E_1500	047E_1520	206	12	140	7:00	708.59	2.01	0.24	1.17
P196	047E_1155	047E_1120	203	12	140	7:00	320.48	0.91	0.05	0.27
P197	047E_1120	047E_1105	152	12	140	7:00	321.79	0.91	0.04	0.27
P198	047E_1115	047E_1155	115	12	140	7:00	645.60	1.83	0.11	0.98
P199	047E_1565	047E_1580	71	12	140	7:00	713.84	2.03	0.08	1.18
P200	047E_1580	047E_1610	287	12	140	7:00	715.15	2.03	0.34	1.19
P201	047E_1535	047E_1545	1	12	140	11:00	2.50	0.01	0.00	0.00
P202	047E_1545	047E_1565	93	12	140	11:00	4.99	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P203	047E_1450	047E_1480	145	12	140	11:00	17.47	0.05	0.00	0.00
P204	047E_1510	047E_1525	37	12	140	11:00	12.48	0.04	0.00	0.00
P205	047E_1480	047E_1510	253	12	140	11:00	14.98	0.04	0.00	0.00
P206	047E_1195	047E_1185	139	12	140	11:00	9.99	0.03	0.00	0.00
P207	047E_1190	047E_1200	15	12	140	11:00	4.99	0.01	0.00	0.00
P208	047E_1185	047E_1190	13	12	140	11:00	7.49	0.02	0.00	0.00
P209	047E_1195	047E_1260	159	12	140	7:00	97.00	0.28	0.00	0.03
P210	047E_1365	047E_1450	297	12	140	8:00	105.36	0.30	0.01	0.03
P211	047E_1325	047E_1365	169	12	140	8:00	101.88	0.29	0.01	0.03
P212	047E_1270	047E_1325	254	12	140	8:00	100.14	0.28	0.01	0.03
P213	047E_1260	047E_1270	14	12	140	8:00	98.40	0.28	0.00	0.03
P214	047E_1610	047E_1615	41	12	140	7:00	1532.55	4.35	0.20	4.87
P215	047E_1645	047E_1650	30	12	140	7:00	1272.86	3.61	0.10	3.45
P216	047E_1615	047E_1645	260	12	140	7:00	1272.86	3.61	0.90	3.45
P217	047E_1610	047E_1595	129	12	140	7:45	818.90	2.32	0.20	1.53
P218	047E_1525	047E_1530	199	12	140	11:00	4.99	0.01	0.00	0.00
P219	047E_1530	047E_1540	1	12	140	11:00	2.50	0.01	0.00	0.00
P220	047E_1525	047E_1555	126	12	140	11:00	4.99	0.01	0.00	0.00
P221	047N_1295	047E_1195	147	12	140	7:00	90.44	0.26	0.00	0.03
P222	047E_1390	047E_1420	266	12	140	9:00	122.76	0.35	0.01	0.05
P223	047E_1420	047E_1450	206	12	140	9:00	120.49	0.34	0.01	0.04
P224	047E_1390	047E_1395	193	12	140	7:00	351.08	1.00	0.06	0.32
P225	047E_1385	047E_1390	15	12	140	7:00	234.39	0.66	0.00	0.15
P226	047E_1310	047E_1385	323	12	140	7:00	233.08	0.66	0.05	0.15
P227	047E_1395	047E_1430	135	12	140	7:00	927.07	2.63	0.26	1.92
P228	047E_1430	047E_1485	236	12	140	7:00	927.07	2.63	0.45	1.92
P229	047E_1395	047E_1350	198	12	140	7:00	575.99	1.63	0.16	0.80
P230	047E_1350	047E_1320	110	12	140	7:00	575.99	1.63	0.09	0.80
P231	047E_1100	047E_1090	10	16	145	0:00	0.00	0.00	0.00	0.00
P232	047E_1090	047S_1295	11	16	145	0:00	0.00	0.00	0.00	0.00
P233	047E_1090	047E_1040	222	16	145	0:00	0.00	0.00	0.00	0.00
P234	047E_1010	047E_1005	61	16	145	11:00	2.50	0.00	0.00	0.00
P235	047E_1025	047E_1010	136	16	145	0:00	0.00	0.00	0.00	0.00
P236	047E_1005	047E_1000	214	16	145	11:00	2.50	0.00	0.00	0.00
P237	047E_1000	047N_1110	67	16	145	11:00	2.50	0.00	0.00	0.00
P238	047E_1040	047E_1025	213	16	145	0:00	0.00	0.00	0.00	0.00
P239	047N_1275	047N_1280	10	12	130	7:00	431.48	1.22	0.01	0.54
P240	047N_1150	047N_1155	88	12	140	11:00	1.16	0.00	0.00	0.00
P241	047N_1270	047N_1275	143	12	130	7:00	431.48	1.22	0.08	0.53
P242	047N_1160	047N_1135	93	8	140	11:00	2.50	0.02	0.00	0.00
P243	047N_1035	047N_1050	37	10	140	11:00	2.50	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P244	047N_1320	047N_1315	122	10	140	7:00	626.28	2.56	0.28	2.26
P245	047N_1245	047N_1230	110	12	140	11:00	22.47	0.06	0.00	0.00
P246	047N_1230	047N_1215	83	12	140	11:00	19.97	0.06	0.00	0.00
P247	047N_1220	047N_1170	153	12	140	11:00	7.49	0.02	0.00	0.00
P248	047N_1215	047N_1175	134	12	140	11:00	17.47	0.05	0.00	0.00
P249	047N_1210	047N_1220	11	12	140	11:00	9.99	0.03	0.00	0.00
P250	047N_1180	047N_1210	136	12	140	11:00	12.48	0.04	0.00	0.00
P251	047N_1175	047N_1180	14	12	140	11:00	14.98	0.04	0.00	0.00
P252	047N_1170	047N_1160	17	12	140	11:00	4.99	0.01	0.00	0.00
P253	047N_1245	047E_1115	305	12	140	7:00	644.29	1.83	0.30	0.98
P254	047N_1185	047N_1155	216	12	140	11:00	2.50	0.01	0.00	0.00
P255	047N_1155	047N_1130	82	12	140	11:00	3.84	0.01	0.00	0.00
P256	047N_1130	047N_1120	196	12	140	11:00	6.33	0.02	0.00	0.00
P257	047N_1120	047N_1095	229	12	140	11:00	8.83	0.03	0.00	0.00
P258	047N_1095	047N_1045	523	12	140	11:00	11.33	0.03	0.00	0.00
P259	047N_1200	047N_1190	40	12	140	11:00	2.50	0.01	0.00	0.00
P260	047N_1200	047N_1205	35	12	140	7:00	629.85	1.79	0.03	0.94
P261	047N_1205	047N_1245	367	12	140	7:00	631.16	1.79	0.35	0.94
P262	047N_1200	047N_1240	129	12	140	7:45	124.83	0.35	0.01	0.05
P263	047N_1200	047N_1195	193	12	140	7:00	503.51	1.43	0.12	0.62
P264	047N_1195	047N_1165	350	12	140	7:00	502.19	1.42	0.22	0.62
P265	047N_1240	047N_1250	24	12	140	7:00	86.50	0.25	0.00	0.02
P266	047N_1260	047N_1295	247	12	140	7:00	89.12	0.25	0.01	0.03
P267	047N_1250	047N_1260	210	12	140	7:00	87.81	0.25	0.01	0.02
P268	047N_1240	047N_1235	316	12	140	7:00	208.90	0.59	0.04	0.12
P269	047N_1235	047N_1255	186	12	140	7:00	207.59	0.59	0.02	0.12
P270	047N_1255	047N_1265	174	12	140	7:00	206.28	0.59	0.02	0.12
P271	047N_1045	047N_1025	184	12	140	11:00	29.96	0.09	0.00	0.00
P272	047N_1045	047N_1055	27	12	140	11:00	16.14	0.05	0.00	0.00
P273	047N_1145	047N_1150	11	12	140	11:00	3.65	0.01	0.00	0.00
P274	047N_1115	047N_1145	266	12	140	11:00	6.15	0.02	0.00	0.00
P275	047N_1105	047N_1115	16	12	140	11:00	8.65	0.02	0.00	0.00
P276	047N_1080	047N_1105	186	12	140	11:00	11.14	0.03	0.00	0.00
P277	047N_1055	047N_1080	293	12	140	11:00	13.64	0.04	0.00	0.00
P278	047N_1040	047N_1030	107	12	140	11:00	2.50	0.01	0.00	0.00
P279	047N_1025	047N_1015	255	12	140	11:00	4.99	0.01	0.00	0.00
P280	047N_1015	047N_1005	297	12	140	11:00	4.99	0.01	0.00	0.00
P281	047N_1005	047N_1000	39	12	140	11:00	4.99	0.01	0.00	0.00
P282	047N_1025	047N_1030	56	12	140	11:00	34.95	0.10	0.00	0.00
P283	047N_1030	047N_1060	132	12	140	11:00	37.45	0.11	0.00	0.01
P284	047N_1125	047N_1165	105	12	140	11:00	37.45	0.11	0.00	0.01

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P285	047N_1090	047N_1125	298	12	140	11:00	37.45	0.11	0.00	0.01
P286	047N_1075	047N_1090	143	12	140	11:00	37.45	0.11	0.00	0.01
P287	047N_1060	047N_1075	183	12	140	11:00	37.45	0.11	0.00	0.01
P288	047N_1265	047N_1285	86	12	140	7:00	227.83	0.65	0.01	0.14
P289	047N_1305	047E_1310	318	12	140	7:00	231.77	0.66	0.05	0.15
P290	047N_1300	047N_1305	52	12	140	7:00	230.46	0.65	0.01	0.15
P291	047N_1285	047N_1300	187	12	140	7:00	229.14	0.65	0.03	0.14
P292	047N_1265	047N_1270	24	12	140	7:00	432.80	1.23	0.01	0.47
P293	047N_1315	047N_1310	187	12	140	7:00	50.29	0.14	0.00	0.01
P294	047N_1280	047N_1225	415	12	140	7:00	381.20	1.08	0.15	0.37
P295	047E_1320	047N_1315	73	12	140	7:00	575.99	1.63	0.06	0.80
P296	047N_1310	047N_1290	285	12	140	7:00	50.29	0.14	0.00	0.01
P297	047N_1290	047N_1280	108	12	140	7:00	50.29	0.14	0.00	0.01
P298	047N_1225	047N_1166	67	12	140	7:00	381.20	1.08	0.02	0.37
P299	047N_1166	047N_1165	41	12	140	7:00	482.51	1.37	0.02	0.57
P300	047N_1165	047N_1140	51	12	140	0:00	0.00	0.00	0.00	0.00
P301	047N_1035	047N_1000	757	16	145	11:00	4.99	0.01	0.00	0.00
P302	047N_1110	047N_1085	226	16	145	11:00	2.50	0.00	0.00	0.00
P303	047N_1085	047N_1070	211	16	145	11:00	2.50	0.00	0.00	0.00
P304	047N_1070	047N_1065	87	16	145	11:00	2.50	0.00	0.00	0.00
P305	047N_1065	047N_1035	86	16	145	11:00	2.50	0.00	0.00	0.00
P306	TL_0015	TL_0020	575	10	140	6:45	222.93	0.91	0.19	0.33
P307	TL_0020	TL_0025	309	10	140	6:45	222.93	0.91	0.10	0.33
P308	009E_1085	TL_0015	553	10	140	6:45	222.93	0.91	0.18	0.33
P309	009E_1066	TL_0035	346	10	140	6:45	472.24	1.93	0.46	1.34
P310	TL_0035	TL_295	372	10	140	6:45	472.24	1.93	0.50	1.34
P311	TL_0045	TL_0040	489	10	140	14:45	62.65	0.26	0.02	0.03
P312	009E_1051	TL_0045	773	10	140	6:45	433.83	1.77	0.88	1.14
P313	046S_1110	TL_0165	1886	12	140	2:30	419.02	1.19	0.83	0.44
P322	TL_0140	TL_280	151	8	140	7:00	549.46	3.51	0.79	5.25
P323	TL_0150	TL_195	305	8	140	7:00	199.53	1.27	0.25	0.80
P324	TL_0145	TL_255	163	8	140	7:00	859.59	5.49	1.96	12.03
P332	TL_0060	047N_1166	459	10	140	7:00	863.71	3.53	1.88	4.09
P333	TL_0160	TL_190	759	8	140	7:00	179.21	1.14	0.50	0.66
P334	TL_0210	TL_0215	278	8	140	7:45	52.35	0.33	0.02	0.07
P335	TL_0155	TL_0220	363	8	140	1:00	149.19	0.95	0.17	0.47
P336	TL_0220	TL_0075	266	8	140	1:00	149.19	0.95	0.12	0.47
P337	TL_0215	TL_165	1039	8	140	7:45	125.35	0.80	0.35	0.34
P338	TL_0185	TL_0230	522	10	140	6:45	292.03	1.19	0.29	0.55
P348	TL_0230	TL_0280	337	10	140	6:45	292.03	1.19	0.19	0.55
P349	TL_0280	TL_0060	359	10	140	6:45	292.03	1.19	0.20	0.55

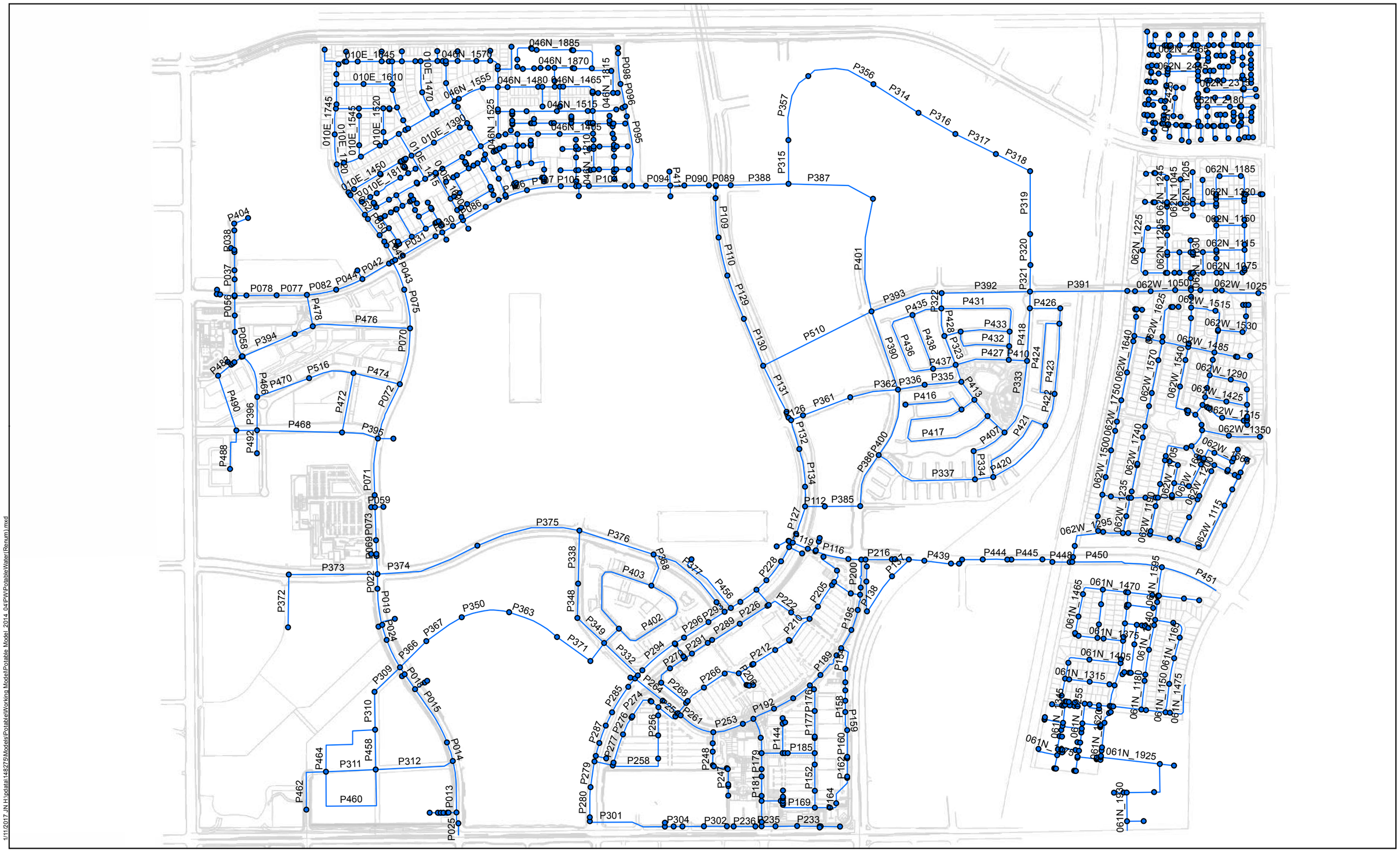
Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P358	TL_0000	TL_0025	664	10	140	6:45	261.34	1.07	0.30	0.45
P359	046N_1635	TL_0315	1278	16	140	3:45	380.11	0.61	0.12	0.09
P360	TL_0315	TL_0165	1128	12	140	3:45	380.11	1.08	0.42	0.37
P361	046S_1105	TL_0320	498	10	140	11:00	204.38	0.83	0.14	0.28
P362	TL_0320	TL_0075	479	10	140	11:00	204.38	0.83	0.14	0.28
P368	TL_0065	TL_170	330	8	140	7:45	300.92	1.92	0.57	1.72
P369	TL_0340	TL_0060	203	10	140	7:00	601.90	2.46	0.43	2.10
P372	TL_0010	TL_0350	519	10	140	6:45	261.34	1.07	0.23	0.45
P373	TL_0010	009E_1101	873	10	140	6:45	261.34	1.07	0.39	0.45
P374	009E_1101	TL_0180	1040	10	140	8:00	642.69	2.63	2.46	2.37
P375	TL_0180	TL_0185	1037	10	140	8:00	642.69	2.63	2.46	2.37
P376	TL_0185	TL_0065	767	10	140	8:00	351.18	1.43	0.59	0.77
P377	TL_0065	047N_1320	797	10	140	7:00	626.28	2.56	1.80	2.26
P378	TL_0350	TL_0000	247	10	140	6:45	261.34	1.07	0.11	0.45
P385	TL_0360	046S_1080	350	12	140	11:00	270.20	0.77	0.07	0.20
P386	TL_0360	TL_165	549	12	140	11:00	270.20	0.77	0.11	0.20
P390	TL_145	TL_0075	813	12	140	7:00	391.38	1.11	0.32	0.39
P391	062W_1465	TL_0145	957	12	140	7:00	2186.83	6.20	9.00	9.41
P392	TL_0145	TL_0140	871	12	140	7:00	1327.24	3.77	3.25	3.73
P393	TL_0140	TL_145	719	12	140	7:00	777.78	2.21	1.00	1.39
P394	010S_1095	TL_345	560	8	140	8:00	173.78	1.11	0.35	0.62
P395	010S_1176	TL_325	361	10	140	6:45	286.14	1.17	0.19	0.53
P396	TL_155	TL_315	327	8	140	8:00	108.94	0.70	0.09	0.26
P400	TL_165	TL_0075	693	12	140	8:00	223.40	0.63	0.10	0.14
P402	TL_0340	TL_170	1101	8	140	7:00	76.32	0.49	0.15	0.14
P403	TL_0340	TL_170	1109	8	140	7:00	76.04	0.49	0.15	0.13
P404	010E_1040	TL_175	147	12	140	11:00	59.88	0.17	0.00	0.01
P405	010E_1050	TL_180	97	12	140	11:00	0.16	0.00	0.00	0.00
P406	010S_1110	TL_185	124	12	140	11:00	94.33	0.27	0.00	0.03
P407	TL_190	TL_0210	361	8	140	7:45	52.35	0.33	0.02	0.07
P408	TL_190	TL_215	234	8	140	7:45	170.56	1.09	0.14	0.60
P409	TL_195	TL_0155	176	8	140	11:00	200.91	1.28	0.14	0.82
P410	TL_0160	TL_275	180	8	140	3:00	68.53	0.44	0.02	0.11
P412	010S_1070	TL_205	45	8	140	11:00	26.24	0.17	0.00	0.02
P413	TL_210	TL_0155	217	8	140	7:45	170.56	1.09	0.13	0.60
P414	TL_215	TL_210	207	8	140	7:45	129.36	0.83	0.07	0.36
P415	TL_210	TL_220	158	8	140	7:45	41.20	0.26	0.01	0.04
P416	TL_220	TL_225	617	8	140	0:00	0.00	0.00	0.00	0.00
P417	TL_220	TL_215	1563	8	140	7:45	41.20	0.26	0.07	0.04
P418	TL_255	TL_0160	518	8	140	7:00	524.46	3.35	2.50	4.82
P419	TL_0215	TL_230	182	8	140	7:00	335.12	2.14	0.38	2.10

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P420	TL_230	TL_235	736	8	140	7:00	175.64	1.12	0.47	0.64
P421	TL_230	TL_235	880	8	140	7:00	159.49	1.02	0.47	0.53
P422	TL_235	TL_240	328	8	140	7:00	335.12	2.14	0.69	2.10
P423	TL_240	TL_245	692	8	140	7:00	182.23	1.16	0.47	0.68
P424	TL_240	TL_245	958	8	140	7:00	152.89	0.98	0.47	0.49
P425	TL_245	TL_250	152	8	140	7:00	335.12	2.14	0.32	2.10
P426	TL_250	TL_255	299	8	140	7:00	335.12	2.14	0.63	2.10
P427	TL_275	TL_195	531	8	140	8:00	117.15	0.75	0.16	0.30
P428	TL_280	TL_0150	275	8	140	7:00	233.79	1.49	0.30	1.08
P429	TL_275	TL_260	135	8	140	7:45	159.67	1.02	0.07	0.53
P430	TL_260	TL_265	143	8	140	7:45	110.15	0.70	0.04	0.27
P431	TL_265	TL_280	904	8	140	7:00	123.38	0.79	0.30	0.33
P432	TL_260	TL_270	598	8	140	7:45	49.53	0.32	0.04	0.06
P433	TL_265	TL_270	483	8	140	11:00	22.13	0.14	0.01	0.01
P434	TL_270	TL_0150	166	8	140	7:45	38.15	0.24	0.01	0.04
P435	TL_280	TL_285	295	8	140	7:00	192.30	1.23	0.22	0.75
P436	TL_285	TL_290	942	8	140	7:00	83.02	0.53	0.15	0.16
P437	TL_290	TL_195	227	8	140	7:00	192.30	1.23	0.17	0.75
P438	TL_285	TL_290	566	8	140	7:00	109.28	0.70	0.15	0.26
P439	047E_1695	047E_1675	264	12	130	7:00	1532.55	4.35	1.48	5.59
P440	047E_1675	047E_1660	153	12	130	7:00	1532.55	4.35	0.86	5.59
P441	047E_1700	047E_1695	79	12	130	7:00	1532.55	4.35	0.44	5.59
P442	047E_1705	047E_1710	202	12	130	7:00	2186.52	6.20	2.19	10.79
P443	047E_1705	047E_1700	70	12	130	7:00	2186.52	6.20	0.75	10.79
P444	047E_1710	061N_1416	243	12	130	7:00	2186.52	6.20	2.63	10.79
P445	061N_1415	061N_1495	305	12	130	7:00	2186.52	6.20	3.29	10.79
P446	061N_1416	061N_1415	40	12	130	7:00	2186.52	6.20	0.43	10.79
P447	061N_1495	061N_1530	107	12	130	7:00	2186.52	6.20	1.16	10.79
P448	061N_1530	061N_1610	170	12	130	7:00	2186.52	6.20	1.84	10.79
P449	061N_1610	061N_1625	26	12	130	7:00	2186.52	6.20	0.29	10.79
P450	061N_1625	061N_1850	890	12	130	7:00	1886.90	5.35	7.31	8.21
P451	061N_1850	061N_1870	581	12	130	7:00	1258.86	3.57	2.25	3.88
P456	047E_1320	EX01	679	12	140	0:00	0.00	0.00	0.00	0.00
P458	TL_295	TL_0045	392	10	140	6:45	349.94	1.43	0.30	0.77
P460	TL_0040	TL_0045	1189	8	140	14:45	21.57	0.14	0.02	0.01
P462	TL_300	TL_0040	560	12	140	0:00	0.00	0.00	0.00	0.00
P464	TL_0040	TL_295	878	8	140	6:45	122.30	0.78	0.29	0.33
P466	TL_315	010S_1095	440	8	140	6:45	159.03	1.02	0.23	0.53
P468	TL_155	TL_325	838	10	140	6:45	178.42	0.73	0.18	0.22
P470	TL_350	TL_315	544	10	140	6:45	65.73	0.27	0.02	0.03
P472	TL_310	TL_325	593	8	140	6:45	122.44	0.78	0.19	0.33

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P474	TL_310	010S_1175	469	8	140	11:00	122.70	0.78	0.15	0.33
P476	TL_305	010S_1185	963	8	140	6:45	39.15	0.25	0.04	0.04
P478	010S_1180	TL_305	315	8	140	8:00	228.04	1.46	0.32	1.03
P480	TL_335	TL_155	204	10	140	6:45	99.83	0.41	0.02	0.08
P482	010S_1070	TL_330	169	8	140	8:00	148.26	0.95	0.08	0.46
P488	TL_335	TL_320	432	10	140	11:00	59.88	0.24	0.01	0.03
P490	TL_330	TL_335	566	8	140	6:45	114.54	0.73	0.16	0.29
P492	TL_155	TL_340	226	10	140	11:00	59.88	0.24	0.01	0.03
P506	010S_1176	J282	152	12	140	0:00	0.00	0.00	0.00	0.00
P508	046N_1000	J280	98	12	140	0:00	0.00	0.00	0.00	0.00
P510	046S_1110	TL_145	1194	12	140	11:00	455.90	1.29	0.62	0.52
P514	TL_305	TL_345	191	8	140	11:00	203.54	1.30	0.16	0.84
P516	TL_350	TL_310	450	8	140	6:45	58.37	0.37	0.04	0.08

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Standard Results - Fire Flow Summary, Nodes
Performed by: TE
Checked by: JN
Date: 1/17/2017
Time of Day: 18:00

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)	Available Flow Pressure (psi)
009E_1085	0.00	92.19	267.73	4,000.00	75.19	10,092.02	20.00
010S_1070	0.00	87.00	269.17	3,500.00	63.42	6,630.73	20.00
010S_1075	0.00	87.05	269.18	3,500.00	63.91	6,718.72	20.00
010S_1080	0.00	87.08	269.19	3,500.00	64.42	6,816.36	20.00
010S_1090	0.00	87.35	269.22	3,500.00	67.25	7,427.15	20.00
010S_1095	0.00	87.28	269.23	3,500.00	67.92	7,624.24	20.00
010S_1100	0.00	87.28	269.23	3,500.00	67.84	7,601.95	20.00
010S_1115	44.83	86.87	269.35	3,500.00	59.44	6,030.21	20.00
010S_1140	0.00	86.61	269.50	3,500.00	59.87	6,065.97	20.00
010S_1155	0.00	86.22	269.68	3,500.00	65.89	7,288.46	20.00
TL_0000	0.00	89.07	267.95	4,000.00	59.15	6,618.96	20.00
TL_0010	0.00	88.84	268.14	4,000.00	62.80	7,230.56	20.00
TL_0015	0.00	92.19	267.76	4,000.00	67.69	7,745.80	20.00
TL_0020	0.00	93.24	267.78	4,000.00	64.50	7,035.22	20.00
TL_0025	117.03	91.68	267.79	4,000.00	61.71	6,884.32	20.00
TL_0035	0.00	93.18	266.86	4,000.00	74.74	9,596.52	20.00
TL_0040	117.03	93.26	266.53	4,000.00	67.93	7,796.04	20.00
TL_0045	0.00	94.13	266.53	4,000.00	73.67	8,972.49	20.00
TL_0165	193.59	93.24	273.10	4,000.00	76.72	10,635.55	20.00
TL_0315	0.00	93.81	273.00	4,000.00	80.28	12,307.37	20.00
TL_0350	0.00	89.27	268.01	4,000.00	60.12	6,741.29	20.00
TL_155	0.00	91.02	269.05	3,500.00	71.39	7,802.54	20.00
TL_295	0.00	93.88	266.65	4,000.00	73.53	8,985.24	20.00
TL_300	0.00	95.55	266.53	4,000.00	63.23	6,647.93	20.00
TL_305	22.41	88.20	269.56	3,500.00	68.95	7,715.23	20.00
TL_310	22.41	90.17	269.11	3,500.00	71.03	7,870.86	20.00
TL_315	0.00	88.87	269.11	3,500.00	68.75	7,507.37	20.00
TL_320	44.83	89.28	269.05	3,500.00	56.99	5,555.89	20.00
TL_325	44.83	91.00	269.02	3,500.00	74.85	9,029.90	20.00
TL_330	44.83	87.15	269.12	3,500.00	61.05	6,249.51	20.00
TL_335	0.00	91.02	269.06	3,500.00	69.20	7,240.67	20.00
TL_340	44.83	91.01	269.05	3,500.00	65.91	6,621.72	20.00
TL_345	22.41	88.16	269.46	3,500.00	65.46	6,873.64	20.00
TL_350	22.41	89.31	269.11	3,500.00	66.66	6,954.89	20.00
South Hangar Simulation							
046S_1000	0.00	97.45	273.93	4,000.00	55.28	-	-
EX01	0.00	98.87	273.18	4,000.00	48.03	-	-
North Hangar Simulation							
J280	0.00	88.40	270.80	4,000.00	37.97	-	-
J282	0.00	90.99	269.00	4,000.00	40.03	-	-


046N_1885
046N_1870
046N_1815
046N_1480
046N_1465
046N_1515
046N_1405
046N_1310
046N_1525
046N_1555
046N_1575
010E_1645
010E_1610
010E_1470
010E_1745
010E_1520
010E_1545
010E_1390
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062N_2765
062N_2775

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Peak Hour Demand, Nodes
Performed by: TE
Checked by: JN
Date: 1/17/2017

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
009E_1010	47.2	0.0	0:00	82.62	7:00
009E_1015	47.1	0.0	0:00	82.66	7:00
009E_1020	47.1	0.0	0:00	82.65	7:00
009E_1025	47.2	0.0	0:00	82.62	7:00
009E_1030	47.2	0.0	0:00	82.59	7:00
009E_1035	47.3	0.0	0:00	82.56	7:00
009E_1040	46.5	0.0	0:00	82.79	7:00
009E_1045	43.2	0.0	0:00	84.34	7:00
009E_1050	46.7	0.0	0:00	83.44	7:00
009E_1051	48.2	0.0	0:00	82.70	7:00
009E_1055	52.8	0.0	0:00	81.24	7:00
009E_1060	51.0	0.0	0:00	81.93	7:00
009E_1065	49.8	0.0	0:00	82.55	7:00
009E_1066	52.0	0.0	0:00	81.63	7:00
009E_1070	51.6	0.0	0:00	81.96	7:00
009E_1075	51.1	0.0	0:00	81.88	7:00
009E_1080	51.3	0.0	0:00	81.80	7:00
009E_1085	55.0	0.0	0:00	80.58	7:00
009E_1090	55.6	0.0	0:00	80.30	7:00
009E_1095	58.4	0.0	0:00	79.09	7:00
009E_1100	54.6	0.0	0:00	80.92	7:00
009E_1101	55.0	0.0	0:00	80.83	7:00
010E_1005	73.1	0.0	0:00	73.59	7:00
010E_1010	70.6	0.0	0:00	74.70	7:00
010E_1015	71.0	0.0	0:00	74.52	7:00
010E_1020	71.6	0.0	0:00	74.22	7:00
010E_1025	73.3	0.0	0:00	73.50	7:00
010E_1030	71.9	0.0	0:00	74.12	7:00
010E_1035	72.6	0.0	0:00	73.82	7:00
010E_1040	72.9	0.0	0:00	73.68	7:00
010E_1045	66.5	0.0	0:00	76.54	7:00
010E_1050	65.1	0.0	0:00	77.15	7:00
010E_1055	63.5	0.0	0:00	77.79	7:00
010E_1060	64.0	0.0	0:00	77.67	7:00
010E_1065	64.4	0.0	0:00	77.51	7:00
010E_1070	64.6	0.0	0:00	77.42	7:00
010E_1075	65.3	3.0	7:00	77.17	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
010E_1080	65.4	3.0	7:00	77.14	7:00
010E_1085	65.8	3.0	7:00	76.96	7:00
010E_1090	66.6	3.0	7:00	76.64	7:00
010E_1095	66.8	3.0	7:00	76.55	7:00
010E_1100	64.0	0.0	0:00	77.71	7:00
010E_1105	66.8	3.0	7:00	76.58	7:00
010E_1110	66.8	3.0	7:00	76.58	7:00
010E_1115	66.8	3.0	7:00	76.55	7:00
010E_1120	66.9	3.0	7:00	76.51	7:00
010E_1290	65.6	0.0	0:00	77.16	7:00
010E_1325	66.2	0.0	0:00	76.94	7:00
010E_1340	65.9	0.0	0:00	77.06	7:00
010E_1410	66.3	0.0	0:00	76.91	7:00
010S_1050	58.7	0.0	0:00	79.28	7:00
010S_1055	55.4	0.0	0:00	80.69	7:00
010S_1060	55.4	0.0	0:00	80.72	7:00
010S_1065	54.9	0.0	0:00	80.98	7:00
010S_1070	68.4	0.0	0:00	75.46	7:00
010S_1075	68.3	0.0	0:00	75.51	7:00
010S_1080	68.2	0.0	0:00	75.54	7:00
010S_1085	56.9	0.0	0:00	80.20	7:00
010S_1090	67.6	0.0	0:00	75.81	7:00
010S_1095	67.8	0.0	0:00	75.74	7:00
010S_1100	67.8	0.0	0:00	75.74	7:00
010S_1105	55.2	0.0	0:00	80.92	7:00
010S_1110	56.9	0.0	0:00	80.17	7:00
010S_1115	68.9	59.9	11:00	75.32	7:00
010S_1125	56.5	0.0	0:00	80.40	7:00
010S_1140	69.6	0.0	0:00	75.05	7:00
010S_1145	71.1	0.0	0:00	74.45	7:00
010S_1150	71.1	0.0	0:00	74.48	7:00
010S_1155	70.7	0.0	0:00	74.64	7:00
010S_1160	70.7	0.0	0:00	74.63	7:00
010S_1165	70.0	0.0	0:00	74.97	7:00
010S_1170	68.9	0.0	0:00	75.44	7:00
010S_1175	58.4	59.9	11:00	79.78	7:00
010S_1176	59.0	0.0	0:00	79.44	7:00
010S_1180	67.6	0.0	0:00	76.01	7:00
010S_1185	60.9	59.9	11:00	78.82	7:00
046E_1000	53.3	0.0	0:00	83.66	7:00
046E_1005	57.5	0.0	0:00	81.67	7:00
046N_1000	66.8	0.0	0:00	76.74	7:00
046N_1035	66.2	0.0	0:00	77.08	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
046N_1065	65.5	0.0	0:00	77.46	7:00
046N_1090	64.7	0.0	0:00	77.85	7:00
046N_1180	63.0	0.0	0:00	78.67	7:00
046N_1285	60.6	0.0	0:00	79.90	7:00
046N_1340	60.6	0.0	0:00	80.01	7:00
046N_1370	59.6	0.0	0:00	80.43	7:00
046N_1380	59.5	0.0	0:00	80.51	7:00
046N_1420	59.3	0.0	0:00	80.67	7:00
046N_1565	60.0	0.0	0:00	80.67	7:00
046N_1635	59.6	0.0	0:00	80.88	7:00
046N_1705	59.3	0.0	0:00	81.01	7:00
046N_1785	58.3	0.0	0:00	81.44	7:00
046N_1825	59.2	0.0	0:00	81.07	7:00
046N_1835	50.3	0.0	0:00	84.91	7:00
046N_1875	57.3	0.0	0:00	81.86	7:00
046N_1880	60.1	0.0	0:00	81.44	7:00
046N_1910	59.7	0.0	0:00	81.74	7:00
046N_1920	55.2	0.0	0:00	82.80	7:00
046N_1925	59.8	0.0	0:00	82.35	7:00
046N_1930	53.1	0.0	0:00	83.69	7:00
046N_1940	54.4	0.0	0:00	83.11	7:00
046N_1945	55.7	0.0	0:00	82.56	7:00
046N_1950	62.1	0.0	0:00	82.27	7:00
046N_1955	62.8	0.0	0:00	82.12	7:00
046S_1000	49.0	0.0	0:00	85.56	7:00
046S_1005	49.5	0.0	0:00	85.29	7:00
046S_1010	49.4	0.0	0:00	85.39	7:00
046S_1015	50.1	0.0	0:00	85.10	7:00
046S_1020	49.8	0.0	0:00	85.23	7:00
046S_1025	53.0	2.5	11:00	83.78	7:00
046S_1030	52.0	0.0	0:00	84.42	7:00
046S_1035	50.1	0.0	0:00	85.11	7:00
046S_1045	51.4	0.0	0:00	84.76	7:00
046S_1050	51.4	0.0	0:00	84.76	7:00
046S_1055	51.2	2.5	11:00	84.05	7:00
046S_1060	51.2	0.0	0:00	84.87	7:00
046S_1065	50.2	0.0	0:00	85.28	7:00
046S_1070	48.3	0.0	0:00	85.89	7:00
046S_1075	47.5	0.0	0:00	86.24	7:00
046S_1080	47.9	0.0	0:00	86.04	7:00
046S_1085	51.3	0.0	0:00	84.57	7:00
046S_1090	50.3	0.0	0:00	85.02	7:00
046S_1095	51.8	0.0	0:00	84.36	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
046S_1100	50.4	0.0	0:00	84.95	7:00
046S_1105	49.4	0.0	0:00	85.41	7:00
046S_1110	51.2	0.0	0:00	84.63	7:00
046S_1115	51.3	0.0	0:00	84.53	7:00
047E_1000	41.1	0.0	0:00	88.22	7:00
047E_1005	41.6	0.0	0:00	88.01	7:00
047E_1010	42.2	0.0	0:00	87.74	7:00
047E_1015	42.3	2.5	11:00	88.40	7:00
047E_1020	42.3	2.5	11:00	87.69	7:00
047E_1025	42.0	0.0	0:00	87.85	7:00
047E_1030	43.7	2.5	11:00	87.82	7:00
047E_1035	43.4	2.5	11:00	87.94	7:00
047E_1040	42.7	0.0	0:00	87.54	7:00
047E_1045	45.2	2.5	11:00	87.18	7:00
047E_1050	45.6	2.5	11:00	87.01	7:00
047E_1055	45.1	2.5	11:00	87.20	7:00
047E_1060	44.5	2.5	11:00	87.46	7:00
047E_1065	45.3	2.5	11:00	87.13	7:00
047E_1070	45.3	2.5	11:00	87.13	7:00
047E_1075	45.3	2.5	11:00	87.11	7:00
047E_1080	44.8	2.5	11:00	87.32	7:00
047E_1085	45.2	2.5	11:00	87.15	7:00
047E_1090	43.6	0.0	0:00	87.15	7:00
047E_1100	43.5	0.0	0:00	87.19	7:00
047E_1105	44.6	2.5	11:00	87.39	7:00
047E_1110	44.5	2.5	11:00	87.49	7:00
047E_1115	46.7	2.5	11:00	86.39	7:00
047E_1120	45.3	2.5	11:00	87.07	7:00
047E_1125	43.8	0.0	0:00	87.06	7:00
047E_1140	44.9	2.5	11:00	87.31	7:00
047E_1145	45.3	2.5	11:00	87.13	7:00
047E_1150	45.2	2.5	11:00	87.18	7:00
047E_1155	46.3	2.5	11:00	86.62	7:00
047E_1165	44.8	2.5	11:00	87.31	7:00
047E_1170	44.7	2.5	11:00	87.38	7:00
047E_1175	45.0	2.5	11:00	87.27	7:00
047E_1180	45.2	2.5	11:00	87.16	7:00
047E_1185	47.8	2.5	11:00	85.50	7:00
047E_1190	48.3	2.5	11:00	85.29	7:00
047E_1195	49.3	2.5	11:00	84.88	7:00
047E_1200	48.4	2.5	11:00	85.27	7:00
047E_1210	45.9	2.5	11:00	86.86	7:00
047E_1215	45.4	2.5	11:00	87.06	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1220	47.6	2.5	11:00	85.59	7:00
047E_1225	45.0	2.5	11:00	87.21	7:00
047E_1230	46.1	2.5	11:00	86.76	7:00
047E_1235	44.9	2.5	11:00	87.31	7:00
047E_1245	44.4	2.5	11:00	87.57	7:00
047E_1250	44.6	2.5	11:00	87.47	7:00
047E_1255	45.6	2.5	11:00	87.00	7:00
047E_1260	51.0	2.5	11:00	84.14	7:00
047E_1265	45.7	2.5	11:00	86.96	7:00
047E_1270	50.8	2.5	11:00	84.23	7:00
047E_1280	46.2	2.5	11:00	86.74	7:00
047E_1290	45.1	2.5	11:00	87.28	7:00
047E_1295	45.1	2.5	11:00	87.27	7:00
047E_1305	45.6	2.5	11:00	87.02	7:00
047E_1310	51.0	2.5	11:00	84.11	7:00
047E_1320	49.8	0.0	0:00	84.56	7:00
047E_1325	50.5	2.5	11:00	84.35	7:00
047E_1330	45.5	2.5	11:00	87.15	7:00
047E_1335	47.6	2.5	11:00	86.15	7:00
047E_1340	47.3	2.5	11:00	86.29	7:00
047E_1350	50.2	0.0	0:00	84.46	7:00
047E_1360	45.5	2.5	11:00	87.13	7:00
047E_1365	49.9	2.5	11:00	84.60	7:00
047E_1370	49.9	2.5	11:00	84.60	7:00
047E_1375	48.5	2.5	11:00	85.79	7:00
047E_1380	45.6	2.5	11:00	87.14	7:00
047E_1385	50.5	2.5	11:00	84.35	7:00
047E_1390	50.3	2.5	11:00	84.44	7:00
047E_1395	49.8	0.0	0:00	84.69	7:00
047E_1400	45.2	2.5	11:00	87.32	7:00
047E_1410	45.7	2.5	11:00	87.09	7:00
047E_1420	51.8	2.5	11:00	83.80	7:00
047E_1430	49.3	0.0	0:00	85.04	7:00
047E_1440	46.8	2.5	11:00	86.64	7:00
047E_1445	47.0	2.5	11:00	86.55	7:00
047E_1450	50.8	2.5	11:00	84.23	7:00
047E_1455	46.4	2.5	11:00	86.84	7:00
047E_1480	51.2	2.5	11:00	84.07	7:00
047E_1485	48.8	0.0	0:00	85.48	7:00
047E_1500	46.1	2.5	11:00	87.09	7:00
047E_1510	50.1	2.5	11:00	84.53	7:00
047E_1520	47.1	2.5	11:00	86.78	7:00
047E_1525	49.8	2.5	11:00	84.66	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_1530	48.2	2.5	11:00	85.35	7:00
047E_1535	48.2	2.5	11:00	86.41	7:00
047E_1540	47.9	2.5	11:00	85.47	7:00
047E_1545	47.9	2.5	11:00	86.53	7:00
047E_1550	50.5	0.0	0:00	86.18	7:00
047E_1555	49.0	2.5	11:00	85.02	7:00
047E_1565	47.8	2.5	11:00	86.58	7:00
047E_1580	48.3	2.5	11:00	86.41	7:00
047E_1590	48.9	0.0	0:00	86.65	7:00
047E_1595	49.4	0.0	0:00	86.00	7:00
047E_1605	48.8	0.0	0:00	86.57	7:00
047E_1610	49.2	0.0	0:00	86.23	7:00
047E_1615	48.7	0.0	0:00	86.56	7:00
047E_1630	50.2	0.0	0:00	86.69	7:00
047E_1645	47.8	0.0	0:00	87.50	7:00
047E_1650	47.7	0.0	0:00	87.59	7:00
047E_1660	48.2	0.0	0:00	87.73	7:00
047E_1675	58.4	0.0	0:00	83.83	7:00
047E_1695	46.7	0.0	0:00	89.83	7:00
047E_1700	46.7	0.0	0:00	90.12	7:00
047E_1705	47.5	0.0	0:00	90.14	7:00
047E_1710	49.3	0.0	0:00	90.44	12:00
047N_1000	42.6	0.0	0:00	87.60	7:00
047N_1005	42.2	0.0	0:00	87.74	7:00
047N_1015	42.6	0.0	0:00	87.58	7:00
047N_1025	44.3	0.0	0:00	86.86	7:00
047N_1030	44.3	0.0	0:00	86.83	7:00
047N_1035	41.8	0.0	0:00	87.92	7:00
047N_1040	46.2	2.5	11:00	86.04	7:00
047N_1045	44.2	2.5	11:00	86.90	7:00
047N_1050	44.4	2.5	11:00	86.80	7:00
047N_1055	43.5	2.5	11:00	87.20	7:00
047N_1060	45.4	0.0	0:00	86.38	7:00
047N_1065	41.4	0.0	0:00	88.11	7:00
047N_1070	41.6	0.0	0:00	88.00	7:00
047N_1075	46.6	0.0	0:00	85.87	7:00
047N_1080	45.7	2.5	11:00	86.23	7:00
047N_1085	41.2	0.0	0:00	88.20	7:00
047N_1090	47.5	0.0	0:00	85.44	7:00
047N_1095	43.8	2.5	11:00	87.06	7:00
047N_1105	46.0	2.5	11:00	86.11	7:00
047N_1110	41.3	0.0	0:00	88.16	7:00
047N_1115	45.9	2.5	11:00	86.14	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047N_1120	45.4	2.5	11:00	86.38	7:00
047N_1125	49.9	0.0	0:00	84.43	7:00
047N_1130	45.4	2.5	11:00	86.35	7:00
047N_1135	44.4	2.5	11:00	87.22	7:00
047N_1140	50.9	0.0	0:00	83.99	7:00
047N_1145	45.6	2.5	11:00	86.30	7:00
047N_1150	45.6	2.5	11:00	86.28	7:00
047N_1155	45.6	2.5	11:00	86.28	7:00
047N_1160	44.2	2.5	11:00	87.30	7:00
047N_1165	50.4	0.0	0:00	84.21	7:00
047N_1166	50.6	0.0	0:00	84.10	7:00
047N_1170	44.4	2.5	11:00	87.19	7:00
047N_1175	45.2	2.5	11:00	86.87	7:00
047N_1180	45.2	2.5	11:00	86.84	7:00
047N_1185	46.6	2.5	11:00	85.85	7:00
047N_1190	46.6	2.5	11:00	86.03	7:00
047N_1195	48.2	2.5	11:00	85.26	7:00
047N_1200	45.9	2.5	11:00	86.32	7:00
047N_1205	45.8	2.5	11:00	86.40	7:00
047N_1210	44.8	2.5	11:00	87.01	7:00
047N_1215	44.6	2.5	11:00	87.10	7:00
047N_1220	45.0	2.5	11:00	86.95	7:00
047N_1225	50.2	0.0	0:00	84.31	7:00
047N_1230	45.0	2.5	11:00	86.92	7:00
047N_1235	49.2	2.5	11:00	84.88	7:00
047N_1240	48.9	2.5	11:00	85.04	7:00
047N_1245	46.8	2.5	11:00	86.17	7:00
047N_1250	49.0	2.5	11:00	84.98	7:00
047N_1255	50.2	2.5	11:00	84.45	7:00
047N_1260	49.3	2.5	11:00	84.85	7:00
047N_1265	49.5	2.5	11:00	84.72	7:00
047N_1270	48.5	2.5	11:00	85.16	7:00
047N_1275	47.9	0.0	0:00	85.37	7:00
047N_1280	47.9	0.0	0:00	85.37	7:00
047N_1285	49.6	2.5	11:00	84.67	7:00
047N_1290	47.5	0.0	0:00	85.54	7:00
047N_1295	49.3	2.5	11:00	84.88	7:00
047N_1300	49.3	2.5	11:00	84.81	7:00
047N_1305	49.0	2.5	11:00	84.98	7:00
047N_1310	48.5	0.0	0:00	85.10	7:00
047N_1315	48.8	0.0	0:00	84.97	7:00
047N_1320	48.1	0.0	0:00	85.18	7:00
047S_1295	43.6	0.0	0:00	87.15	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
061N_1415	52.1	0.0	0:00	89.94	12:00
061N_1416	52.1	0.0	0:00	89.83	12:00
061N_1495	54.9	0.0	0:00	89.54	12:00
061N_1530	55.8	0.0	0:00	89.40	12:00
061N_1610	55.7	0.0	0:00	89.90	12:00
061N_1625	55.4	0.0	0:00	90.09	12:00
061N_1850	50.8	0.0	0:00	93.67	12:00
EX01	45.0	0.0	0:00	86.65	7:00
J280	66.8	0.0	0:00	76.74	7:00
J282	59.0	0.0	0:00	79.44	7:00
TL_0005	54.9	0.0	0:00	82.29	7:00
TL_0010	63.1	0.0	0:00	77.32	7:00
TL_0035	51.8	0.0	0:00	81.57	7:00
TL_0040	51.3	156.3	11:00	81.55	7:00
TL_0045	49.3	0.0	0:00	82.42	7:00
TL_0060	50.1	0.0	0:00	83.28	7:00
TL_0065	50.0	0.0	0:00	83.51	7:00
TL_0075	49.1	0.0	0:00	85.52	7:00
TL_0080	52.9	395.5	7:00	83.08	7:00
TL_0090	54.3	0.0	0:00	81.82	7:00
TL_0095	55.9	395.5	7:00	81.00	7:00
TL_0100	56.1	0.0	0:00	81.57	7:00
TL_0105	53.6	0.0	0:00	82.23	7:00
TL_0110	53.1	0.0	0:00	82.55	7:00
TL_0115	53.4	395.5	7:00	82.51	7:00
TL_0120	52.6	0.0	0:00	84.30	7:00
TL_0130	52.5	0.0	0:00	85.06	7:15
TL_0140	54.4	0.0	0:00	83.64	7:00
TL_0145	55.0	0.0	0:00	84.58	7:15
TL_0150	50.1	0.0	0:00	85.09	7:00
TL_0155	49.5	0.0	0:00	85.26	7:00
TL_0160	50.1	395.5	7:00	85.03	7:00
TL_0180	56.2	0.0	0:00	80.48	7:00
TL_0185	52.3	0.0	0:00	82.34	7:00
TL_0210	48.2	0.0	0:00	85.68	7:00
TL_0215	47.4	395.5	7:00	86.04	7:00
TL_0220	49.2	0.0	0:00	85.44	7:00
TL_0230	51.9	0.0	0:00	82.51	7:00
TL_0280	51.0	0.0	0:00	82.90	7:00
TL_0285	49.5	182.3	11:00	83.05	7:00
TL_0300	53.2	0.0	0:00	81.24	7:00
TL_0310	57.7	0.0	0:00	80.55	7:00
TL_0320	49.0	0.0	0:00	85.56	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_0325	50.0	0.0	0:00	83.17	7:00
TL_0335	52.5	0.0	0:00	81.47	7:00
TL_0340	50.0	449.5	7:00	83.18	7:00
TL_0345	50.0	0.0	0:00	83.27	7:00
TL_0350	62.0	0.0	0:00	77.80	7:00
TL_0360	49.0	0.0	0:00	85.56	7:00
TL_145	51.0	0.0	0:00	84.75	7:00
TL_155	59.0	0.0	0:00	79.48	7:00
TL_165	49.0	0.0	0:00	85.56	7:00
TL_170	50.0	449.5	7:00	83.16	7:00
TL_175	72.9	59.9	11:00	73.68	7:00
TL_180	65.1	0.2	11:00	77.15	7:00
TL_190	49.0	395.5	7:00	85.32	7:00
TL_195	49.5	395.5	7:00	85.26	7:00
TL_200	59.2	78.0	11:00	81.07	7:00
TL_205	68.4	26.2	11:00	75.46	7:00
TL_210	49.3	0.0	0:00	85.31	7:00
TL_215	49.2	0.0	0:00	85.32	7:00
TL_220	49.3	0.0	0:00	85.30	7:00
TL_225	49.3	0.0	0:00	85.30	7:00
TL_230	42.0	0.0	0:00	88.52	7:00
TL_235	44.0	0.0	0:00	87.83	7:00
TL_240	44.0	0.0	0:00	88.09	7:00
TL_245	55.0	0.0	0:00	83.50	7:00
TL_250	60.0	0.0	0:00	81.45	7:00
TL_255	55.0	0.0	0:00	83.85	7:00
TL_260	51.0	0.0	0:00	84.68	7:00
TL_265	52.0	0.0	0:00	84.26	7:00
TL_270	50.1	0.0	0:00	85.08	7:00
TL_275	50.1	0.0	0:00	85.04	7:00
TL_280	50.1	0.0	0:00	85.20	7:00
TL_285	50.0	0.0	0:00	85.16	7:00
TL_290	48.0	0.0	0:00	85.97	7:00
TL_295	50.0	0.0	0:00	82.21	7:00
TL_300	46.0	0.0	0:00	83.85	7:00
TL_305	66.0	29.9	11:00	76.63	7:00
TL_310	61.0	29.9	11:00	78.63	7:00
TL_315	64.0	0.0	0:00	77.33	7:00
TL_320	63.0	59.9	11:00	77.75	7:00
TL_325	59.0	59.9	11:00	79.46	7:00
TL_330	68.0	59.9	11:00	75.61	7:00
TL_335	59.0	0.0	0:00	79.48	7:00
TL_340	59.0	59.9	11:00	79.48	7:00

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_345	66.0	29.9	11:00	76.59	7:00
TL_350	63.0	29.9	11:00	77.77	7:00

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Peak Hour Demand, Pipes
Performed by: TE
Checked by: JN
Date: 1/17/2017

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P001	009E_1035	009E_1045	78	6	130	0:00	0.00	0.00	0.00	0.00
P002	009E_1035	009E_1030	10	8	130	0:00	0.00	0.00	0.00	0.00
P003	009E_1030	009E_1025	40	8	130	0:00	0.00	0.00	0.00	0.00
P004	009E_1030	009E_1015	145	8	130	0:00	0.00	0.00	0.00	0.00
P005	009E_1025	009E_1020	65	8	130	0:00	0.00	0.00	0.00	0.00
P006	009E_1020	009E_1025	25	8	130	0:00	0.00	0.00	0.00	0.00
P007	009E_1020	009E_1015	30	8	130	0:00	0.00	0.00	0.00	0.00
P008	009E_1015	009E_1010	80	8	130	0:00	0.00	0.00	0.00	0.00
P009	009E_1065	009E_1055	32	10	130	0:00	0.00	0.00	0.00	0.00
P010	009E_1090	009E_1085	41	8	130	0:00	0.00	0.00	0.00	0.00
P011	009E_1095	009E_1090	154	10	130	0:00	0.00	0.00	0.00	0.00
P012	009E_1040	009E_1045	111	12	140	6:45	1468.12	4.16	0.50	4.50
P013	009E_1045	009E_1051	508	12	140	6:45	1468.12	4.16	2.29	4.50
P014	009E_1051	009E_1050	193	12	140	6:45	1007.55	2.86	0.43	2.24
P015	009E_1050	009E_1060	611	12	140	6:45	1007.55	2.86	1.37	2.24
P016	009E_1080	009E_1075	30	12	140	0:00	0.00	0.00	0.00	0.00
P017	009E_1075	009E_1060	115	12	140	0:00	0.00	0.00	0.00	0.00
P018	009E_1060	009E_1065	179	12	140	6:45	1007.55	2.86	0.40	2.24
P019	009E_1090	009E_1100	357	12	140	6:45	943.27	2.68	0.71	1.98
P020	009E_1066	009E_1070	301	12	140	6:45	943.27	2.68	0.60	1.98
P021	009E_1065	009E_1066	82	12	140	6:45	1007.55	2.86	0.18	2.24
P022	009E_1101	009E_1100	144	12	140	6:45	943.27	2.68	0.29	1.98
P023	009E_1101	010S_1055	178	12	140	6:45	632.39	1.79	0.17	0.95
P024	009E_1070	009E_1090	155	12	140	6:45	943.27	2.68	0.31	1.98
P025	009S_1365	009E_1040	112	12	140	6:45	1468.12	4.16	0.50	4.50
P026	010E_1340	010E_1325	82	8	130	0:00	0.00	0.00	0.00	0.00
P027	046N_1000	010E_1410	115	12	130	8:00	555.92	1.58	0.10	0.85
P028	010E_1340	010E_1290	77	12	130	8:00	555.92	1.58	0.07	0.85
P029	010E_1070	010E_1065	31	12	130	12:00	966.98	2.74	0.07	2.38
P030	010E_1410	010E_1340	123	12	130	8:00	555.92	1.58	0.10	0.85
P031	010E_1290	010E_1100	373	12	130	8:00	555.92	1.58	0.32	0.85
P032	010E_1100	010E_1070	87	12	130	8:00	555.92	1.58	0.07	0.85
P034	010S_1160	010E_1010	158	8	140	11:00	59.88	0.38	0.01	0.09
P035	010E_1020	010E_1030	23	8	140	11:00	59.88	0.38	0.00	0.09

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P036	010E_1015	010E_1020	178	8	140	11:00	59.88	0.38	0.02	0.09
P037	010E_1010	010E_1015	89	8	140	11:00	59.88	0.38	0.01	0.09
P038	010E_1030	010E_1035	191	8	140	11:00	59.88	0.38	0.02	0.09
P039	010E_1035	010E_1040	68	8	140	11:00	59.88	0.38	0.01	0.09
P040	010E_1025	010E_1030	52	8	140	0:00	0.00	0.00	0.00	0.00
P041	010E_1065	010E_1060	39	12	140	11:00	391.51	1.11	0.02	0.39
P042	010E_1060	010E_1050	303	12	140	11:00	391.51	1.11	0.12	0.39
P043	010E_1065	010E_1055	300	12	140	12:00	576.32	1.63	0.24	0.80
P044	010E_1050	010E_1045	279	12	140	11:00	391.35	1.11	0.11	0.39
P045	010E_1075	010E_1070	166	12	140	12:00	416.29	1.18	0.07	0.44
P046	010E_1075	010E_1080	43	10	140	12:00	417.55	1.71	0.05	1.07
P047	010E_1080	010E_1085	80	10	140	12:00	418.81	1.71	0.09	1.07
P048	010E_1105	010E_1115	11	10	140	7:00	3.02	0.01	0.00	0.00
P049	010E_1115	010E_1120	24	10	140	12:00	242.71	0.99	0.01	0.39
P050	010E_1085	010E_1090	196	12	140	12:00	318.63	0.90	0.05	0.27
P051	010E_1110	010E_1115	11	12	140	12:00	240.18	0.68	0.00	0.16
P052	010E_1095	010E_1110	239	12	140	12:00	238.92	0.68	0.04	0.16
P053	010E_1090	010E_1095	51	12	140	12:00	319.89	0.91	0.01	0.27
P054	010S_1100	010S_1095	5	8	100	11:45	40.25	0.26	0.00	0.08
P055	010S_1100	010S_1090	10	8	100	12:00	139.07	0.89	0.01	0.77
P056	010S_1155	010S_1140	187	8	100	12:00	158.08	1.01	0.18	0.98
P057	010S_1140	010S_1115	162	8	100	12:00	158.08	1.01	0.16	0.97
P058	010S_1115	010S_1100	254	8	100	6:45	111.28	0.71	0.13	0.51
P059	010S_1110	010S_1105	83	10	130	0:00	0.00	0.00	0.00	0.00
P060	010S_1105	010S_1085	37	10	130	0:00	0.00	0.00	0.00	0.00
P061	010S_1060	010S_1050	52	8	140	0:00	0.00	0.00	0.00	0.00
P062	010S_1090	010S_1080	88	8	140	12:00	139.07	0.89	0.04	0.41
P063	010S_1080	010S_1075	20	8	140	12:00	139.07	0.89	0.01	0.41
P064	010S_1075	010S_1070	20	8	140	12:00	139.07	0.89	0.01	0.41
P065	010S_1155	010S_1160	10	8	140	12:00	158.08	1.01	0.01	0.52
P066	010S_1145	010E_1005	43	8	140	0:00	0.00	0.00	0.00	0.00
P068	010S_1055	010S_1060	20	12	140	6:45	632.39	1.79	0.02	0.95
P069	010S_1060	010S_1065	136	12	140	6:45	632.39	1.79	0.13	0.95
P070	010S_1185	010S_1175	562	12	140	8:00	510.76	1.45	0.36	0.64
P071	010S_1125	010S_1176	564	12	140	6:45	632.39	1.79	0.53	0.95
P072	010S_1176	010S_1175	578	12	140	6:45	424.36	1.20	0.26	0.45
P073	010S_1065	010S_1105	325	12	140	6:45	632.39	1.79	0.31	0.95
P074	010S_1105	010S_1125	116	12	140	6:45	632.39	1.79	0.11	0.95
P075	010E_1055	010S_1185	386	12	140	12:00	576.32	1.63	0.31	0.80
P077	010S_1180	010S_1170	298	12	140	11:00	216.86	0.62	0.04	0.13
P078	010S_1170	010S_1165	298	12	140	11:00	216.86	0.62	0.04	0.13

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P079	010S_1165	010S_1160	116	12	140	11:00	216.86	0.62	0.02	0.13
P080	010S_1160	010S_1150	143	12	140	0:00	0.00	0.00	0.00	0.00
P081	010S_1150	010S_1145	33	12	140	0:00	0.00	0.00	0.00	0.00
P082	010E_1045	010S_1180	293	12	140	11:00	391.35	1.11	0.11	0.39
P084	046N_1340	046N_1380	99	8	130	0:00	0.00	0.00	0.00	0.00
P085	046N_1065	046N_1035	145	12	130	8:00	590.74	1.68	0.14	0.96
P086	046N_1035	046N_1000	259	12	130	8:00	590.74	1.68	0.25	0.96
P087	046N_1785	046N_1825	106	10	140	0:00	0.00	0.00	0.00	0.00
P088	046N_1940	046N_1945	10	12	140	3:45	447.50	1.27	0.00	0.50
P089	046N_1945	046E_1005	144	8	140	7:45	333.79	2.13	0.30	2.09
P090	046N_1875	046N_1930	241	12	140	3:45	612.77	1.74	0.22	0.89
P091	046N_1930	046N_1945	70	12	140	3:45	612.77	1.74	0.06	0.89
P092	046N_1635	046N_1705	135	12	140	3:45	601.18	1.71	0.12	0.86
P093	046N_1825	046N_1875	139	12	140	3:45	612.77	1.74	0.12	0.89
P094	046N_1705	046N_1825	240	12	140	3:45	601.18	1.71	0.21	0.86
P095	046N_1635	046N_1880	689	12	140	7:00	1086.18	3.08	1.77	2.58
P096	046N_1910	046N_1925	225	12	140	7:00	1845.86	5.24	1.55	6.88
P097	046N_1950	046N_1955	53	12	140	7:00	1845.86	5.24	0.36	6.88
P098	046N_1925	046N_1950	302	12	140	7:00	1845.86	5.24	2.08	6.88
P099	046N_1880	046N_1910	99	12	140	7:00	1086.18	3.08	0.26	2.58
P100	046N_1065	046N_1090	76	12	140	8:00	590.74	1.68	0.06	0.83
P101	046N_1380	046N_1420	99	12	140	7:00	932.15	2.64	0.19	1.94
P102	046N_1370	046N_1380	27	12	140	7:00	932.15	2.64	0.05	1.94
P103	046N_1565	046N_1635	72	12	140	7:00	932.15	2.64	0.14	1.94
P104	046N_1420	046N_1565	354	12	140	7:00	932.15	2.64	0.69	1.94
P105	046N_1285	046N_1370	151	12	140	7:00	733.69	2.08	0.19	1.25
P106	046N_1090	046N_1180	218	12	140	7:00	733.69	2.08	0.27	1.25
P107	046N_1180	046N_1285	337	12	140	7:00	733.69	2.08	0.42	1.25
P108	046N_1920	046N_1940	119	12	140	3:45	447.50	1.27	0.06	0.50
P109	046N_1835	046N_1920	387	12	140	3:45	447.50	1.27	0.19	0.50
P110	046E_1000	046N_1835	384	12	140	3:45	447.50	1.27	0.19	0.50
P111	046S_1060	046S_1065	36	10	130	0:00	0.00	0.00	0.00	0.00
P112	046S_1080	046S_1070	194	12	140	12:00	208.57	0.59	0.02	0.12
P113	046S_1015	046S_1010	7	12	130	0:00	0.00	0.00	0.00	0.00
P114	046S_1050	046S_1060	92	12	130	0:00	0.00	0.00	0.00	0.00
P115	046S_1010	046S_1000	131	12	140	0:00	0.00	0.00	0.00	0.00
P116	047E_1595	046S_1045	333	12	140	7:15	1045.90	2.97	0.80	2.40
P117	046S_1045	046S_1050	10	12	140	0:00	0.00	0.00	0.00	0.00
P118	046S_1045	046S_1030	79	12	140	7:15	1045.90	2.97	0.19	2.40
P119	046S_1020	046S_1030	160	12	140	7:15	1045.90	2.97	0.39	2.40
P120	046S_1025	046S_1005	142	12	140	11:00	2.50	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P121	047E_1485	046S_1005	161	12	140	8:00	993.55	2.82	0.35	2.18
P122	046S_1005	046S_1020	63	12	140	8:00	995.29	2.82	0.14	2.19
P123	046S_1020	046S_1015	39	12	140	0:00	0.00	0.00	0.00	0.00
P124	046S_1035	046S_1020	93	12	140	12:00	375.99	1.07	0.03	0.36
P125	046S_1090	046S_1095	35	10	140	0:00	0.00	0.00	0.00	0.00
P126	046S_1095	046S_1105	125	10	140	11:00	134.17	0.55	0.02	0.13
P127	046S_1035	046S_1070	284	12	140	12:00	375.99	1.07	0.10	0.36
P128	046S_1070	046S_1075	192	12	140	12:00	167.42	0.47	0.02	0.08
P129	046S_1115	046E_1000	455	12	140	3:45	447.50	1.27	0.23	0.50
P130	046S_1110	046S_1115	498	12	140	3:45	447.50	1.27	0.25	0.50
P131	046S_1100	046S_1110	509	12	140	2:30	215.14	0.61	0.07	0.13
P132	046S_1085	046S_1095	296	12	140	12:00	167.42	0.47	0.02	0.08
P133	046S_1095	046S_1100	92	12	140	2:30	215.14	0.61	0.01	0.13
P134	046S_1075	046S_1085	377	12	140	12:00	167.42	0.47	0.03	0.08
P135	047E_1660	047E_1650	136	12	130	7:00	1546.52	4.39	0.77	5.68
P136	047E_1590	047E_1550	298	8	140	7:00	315.52	2.01	0.56	1.88
P137	047E_1630	047E_1660	236	8	140	7:00	315.52	2.01	0.44	1.88
P138	047E_1550	047E_1630	426	8	140	7:00	315.52	2.01	0.80	1.88
P139	047E_1605	047E_1590	147	8	140	7:00	315.52	2.01	0.28	1.88
P140	047E_1605	047E_1615	69	8	140	7:00	315.52	2.01	0.13	1.88
P141	047E_1125	047E_1100	191	8	140	0:00	0.00	0.00	0.00	0.00
P142	047E_1070	047E_1075	15	8	140	11:00	4.99	0.03	0.00	0.00
P143	047E_1075	047E_1085	60	8	140	11:00	2.50	0.02	0.00	0.00
P144	047E_1145	047E_1210	290	8	140	11:00	7.49	0.05	0.00	0.00
P145	047E_1210	047E_1215	37	8	140	11:00	2.50	0.02	0.00	0.00
P146	047E_1210	047E_1230	53	8	140	11:00	2.50	0.02	0.00	0.00
P147	047E_1200	047E_1220	43	8	140	11:00	2.50	0.02	0.00	0.00
P148	047E_1365	047E_1370	11	8	140	11:00	2.50	0.02	0.00	0.00
P149	047E_1555	046S_1055	218	8	140	11:00	2.50	0.02	0.00	0.00
P150	047E_1110	047E_1140	166	12	140	7:00	88.82	0.25	0.00	0.03
P151	047E_1180	047E_1235	112	12	140	7:00	86.19	0.24	0.00	0.02
P152	047E_1140	047E_1180	258	12	140	7:00	87.51	0.25	0.01	0.02
P153	047E_1110	047E_1150	150	12	140	7:00	264.14	0.75	0.03	0.19
P154	047E_1440	047E_1455	247	12	140	7:00	279.89	0.79	0.05	0.21
P155	047E_1410	047E_1440	131	12	140	7:00	278.58	0.79	0.03	0.21
P156	047E_1400	047E_1410	80	12	140	7:00	277.26	0.79	0.02	0.21
P157	047E_1380	047E_1400	101	12	140	7:00	275.95	0.78	0.02	0.20
P158	047E_1360	047E_1380	111	12	140	7:00	274.64	0.78	0.02	0.20
P159	047E_1330	047E_1360	180	12	140	7:00	273.33	0.78	0.04	0.20
P160	047E_1295	047E_1330	263	12	140	7:00	272.01	0.77	0.05	0.20
P161	047E_1290	047E_1295	14	12	140	7:00	270.70	0.77	0.00	0.20

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P162	047E_1250	047E_1290	180	12	140	7:00	269.39	0.76	0.04	0.19
P163	047E_1245	047E_1250	13	12	140	7:00	268.08	0.76	0.00	0.19
P164	047E_1175	047E_1245	295	12	140	7:00	266.76	0.76	0.06	0.19
P165	047E_1150	047E_1175	97	12	140	7:00	265.45	0.75	0.02	0.19
P166	047E_1010	047E_1020	42	12	140	11:00	2.50	0.01	0.00	0.00
P167	047E_1065	047E_1055	23	12	140	7:00	171.38	0.49	0.00	0.08
P168	047E_1055	047E_1045	16	12	140	7:00	172.70	0.49	0.00	0.09
P169	047E_1045	047E_1110	336	12	140	7:00	174.01	0.49	0.03	0.09
P170	047E_1065	047E_1070	27	12	140	11:00	7.49	0.02	0.00	0.00
P171	047E_1030	047E_1015	207	12	140	11:00	2.50	0.01	0.00	0.00
P172	047E_1030	047E_1050	188	12	140	7:00	164.82	0.47	0.01	0.08
P173	047E_1050	047E_1065	21	12	140	7:00	166.13	0.47	0.00	0.08
P174	047E_1235	047E_1255	149	12	140	7:00	139.33	0.40	0.01	0.06
P175	047E_1340	047E_1335	55	12	140	7:00	144.58	0.41	0.00	0.06
P176	047E_1305	047E_1340	216	12	140	7:00	143.27	0.41	0.01	0.06
P177	047E_1265	047E_1305	250	12	140	7:00	141.96	0.40	0.01	0.06
P178	047E_1255	047E_1265	14	12	140	7:00	140.64	0.40	0.00	0.06
P179	047E_1105	047E_1080	159	12	140	7:00	158.26	0.45	0.01	0.07
P180	047E_1080	047E_1060	70	12	140	7:00	159.57	0.45	0.01	0.07
P181	047E_1060	047E_1035	192	12	140	7:00	160.88	0.46	0.01	0.07
P182	047E_1035	047E_1030	48	12	140	7:00	162.20	0.46	0.00	0.08
P183	047E_1105	047E_1145	207	12	140	7:00	216.34	0.61	0.03	0.13
P184	047E_1145	047E_1165	22	12	140	7:00	221.59	0.63	0.00	0.14
P185	047E_1170	047E_1235	266	12	140	7:00	224.21	0.64	0.04	0.14
P186	047E_1165	047E_1170	28	12	140	7:00	222.90	0.63	0.00	0.14
P187	047E_1335	047E_1375	155	12	140	7:00	525.36	1.49	0.10	0.67
P188	047E_1445	047E_1455	84	12	140	7:00	527.98	1.50	0.06	0.68
P189	047E_1375	047E_1445	268	12	140	7:00	526.67	1.49	0.18	0.67
P190	047E_1335	047E_1280	209	12	140	7:00	379.47	1.08	0.08	0.37
P191	047E_1280	047E_1225	213	12	140	7:00	378.15	1.07	0.08	0.36
P192	047E_1225	047E_1155	228	12	140	7:00	376.84	1.07	0.08	0.36
P193	047E_1455	047E_1500	206	12	140	7:00	809.19	2.30	0.31	1.49
P194	047E_1520	047E_1565	157	12	140	7:00	811.81	2.30	0.24	1.50
P195	047E_1500	047E_1520	206	12	140	7:00	810.50	2.30	0.31	1.50
P196	047E_1155	047E_1120	203	12	140	7:00	371.97	1.06	0.07	0.35
P197	047E_1120	047E_1105	152	12	140	7:00	373.29	1.06	0.05	0.36
P198	047E_1115	047E_1155	115	12	140	7:00	747.50	2.12	0.15	1.29
P199	047E_1565	047E_1580	71	12	140	7:00	815.75	2.31	0.11	1.52
P200	047E_1580	047E_1610	287	12	140	7:00	817.06	2.32	0.44	1.52
P201	047E_1535	047E_1545	1	12	140	11:00	2.50	0.01	0.00	0.00
P202	047E_1545	047E_1565	93	12	140	11:00	4.99	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P203	047E_1450	047E_1480	145	12	140	11:00	17.47	0.05	0.00	0.00
P204	047E_1510	047E_1525	37	12	140	11:00	12.48	0.04	0.00	0.00
P205	047E_1480	047E_1510	253	12	140	11:00	14.98	0.04	0.00	0.00
P206	047E_1195	047E_1185	139	12	140	11:00	9.99	0.03	0.00	0.00
P207	047E_1190	047E_1200	15	12	140	11:00	4.99	0.01	0.00	0.00
P208	047E_1185	047E_1190	13	12	140	11:00	7.49	0.02	0.00	0.00
P209	047E_1195	047E_1260	159	12	140	11:00	114.02	0.32	0.01	0.04
P210	047E_1365	047E_1450	297	12	140	11:00	126.50	0.36	0.01	0.05
P211	047E_1325	047E_1365	169	12	140	11:00	121.51	0.34	0.01	0.04
P212	047E_1270	047E_1325	254	12	140	11:00	119.01	0.34	0.01	0.04
P213	047E_1260	047E_1270	14	12	140	11:00	116.51	0.33	0.00	0.04
P214	047E_1610	047E_1615	41	12	140	7:00	1862.03	5.28	0.29	6.99
P215	047E_1645	047E_1650	30	12	140	7:00	1546.52	4.39	0.15	4.95
P216	047E_1615	047E_1645	260	12	140	7:00	1546.52	4.39	1.29	4.95
P217	047E_1610	047E_1595	129	12	140	7:15	1045.90	2.97	0.31	2.40
P218	047E_1525	047E_1530	199	12	140	11:00	4.99	0.01	0.00	0.00
P219	047E_1530	047E_1540	1	12	140	11:00	2.50	0.01	0.00	0.00
P220	047E_1525	047E_1555	126	12	140	11:00	4.99	0.01	0.00	0.00
P221	047N_1295	047E_1195	147	12	140	12:00	101.65	0.29	0.00	0.03
P222	047E_1390	047E_1420	266	12	140	11:00	148.97	0.42	0.02	0.07
P223	047E_1420	047E_1450	206	12	140	11:00	146.47	0.42	0.01	0.06
P224	047E_1390	047E_1395	193	12	140	8:00	386.46	1.10	0.07	0.38
P225	047E_1385	047E_1390	15	12	140	8:00	250.65	0.71	0.00	0.17
P226	047E_1310	047E_1385	323	12	140	8:00	248.91	0.71	0.05	0.17
P227	047E_1395	047E_1430	135	12	140	8:00	993.55	2.82	0.30	2.18
P228	047E_1430	047E_1485	236	12	140	8:00	993.55	2.82	0.51	2.18
P229	047E_1395	047E_1350	198	12	140	7:00	607.16	1.72	0.17	0.88
P230	047E_1350	047E_1320	110	12	140	7:00	607.16	1.72	0.10	0.88
P231	047E_1100	047E_1090	10	16	145	0:00	0.00	0.00	0.00	0.00
P232	047E_1090	047S_1295	11	16	145	0:00	0.00	0.00	0.00	0.00
P233	047E_1090	047E_1040	222	16	145	0:00	0.00	0.00	0.00	0.00
P234	047E_1010	047E_1005	61	16	145	11:45	2.50	0.00	0.00	0.00
P235	047E_1025	047E_1010	136	16	145	0:00	0.00	0.00	0.00	0.00
P236	047E_1005	047E_1000	214	16	145	11:45	2.50	0.00	0.00	0.00
P237	047E_1000	047N_1110	67	16	145	11:45	2.50	0.00	0.00	0.00
P238	047E_1040	047E_1025	213	16	145	0:00	0.00	0.00	0.00	0.00
P239	047N_1275	047N_1280	10	12	130	7:00	472.74	1.34	0.01	0.63
P240	047N_1150	047N_1155	88	12	140	11:00	1.16	0.00	0.00	0.00
P241	047N_1270	047N_1275	143	12	130	7:00	472.74	1.34	0.09	0.63
P242	047N_1160	047N_1135	93	8	140	11:00	2.50	0.02	0.00	0.00
P243	047N_1035	047N_1050	37	10	140	11:00	2.50	0.01	0.00	0.00

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P244	047N_1320	047N_1315	122	10	140	7:00	645.72	2.64	0.29	2.39
P245	047N_1245	047N_1230	110	12	140	11:00	22.47	0.06	0.00	0.00
P246	047N_1230	047N_1215	83	12	140	11:00	19.97	0.06	0.00	0.00
P247	047N_1220	047N_1170	153	12	140	11:00	7.49	0.02	0.00	0.00
P248	047N_1215	047N_1175	134	12	140	11:00	17.47	0.05	0.00	0.00
P249	047N_1210	047N_1220	11	12	140	11:00	9.99	0.03	0.00	0.00
P250	047N_1180	047N_1210	136	12	140	11:00	12.48	0.04	0.00	0.00
P251	047N_1175	047N_1180	14	12	140	11:00	14.98	0.04	0.00	0.00
P252	047N_1170	047N_1160	17	12	140	11:00	4.99	0.01	0.00	0.00
P253	047N_1245	047E_1115	305	12	140	7:00	746.19	2.12	0.39	1.28
P254	047N_1185	047N_1155	216	12	140	11:00	2.50	0.01	0.00	0.00
P255	047N_1155	047N_1130	82	12	140	11:00	3.84	0.01	0.00	0.00
P256	047N_1130	047N_1120	196	12	140	11:00	6.33	0.02	0.00	0.00
P257	047N_1120	047N_1095	229	12	140	11:00	8.83	0.03	0.00	0.00
P258	047N_1095	047N_1045	523	12	140	11:00	11.33	0.03	0.00	0.00
P259	047N_1200	047N_1190	40	12	140	11:00	2.50	0.01	0.00	0.00
P260	047N_1200	047N_1205	35	12	140	7:00	731.75	2.08	0.04	1.24
P261	047N_1205	047N_1245	367	12	140	7:00	733.07	2.08	0.46	1.24
P262	047N_1200	047N_1240	129	12	140	7:45	165.24	0.47	0.01	0.08
P263	047N_1200	047N_1195	193	12	140	7:00	569.09	1.61	0.15	0.78
P264	047N_1195	047N_1165	350	12	140	7:00	567.78	1.61	0.27	0.77
P265	047N_1240	047N_1250	24	12	140	6:45	98.98	0.28	0.00	0.03
P266	047N_1260	047N_1295	247	12	140	6:45	100.21	0.28	0.01	0.03
P267	047N_1250	047N_1260	210	12	140	6:45	99.59	0.28	0.01	0.03
P268	047N_1240	047N_1235	316	12	140	7:00	238.01	0.68	0.05	0.15
P269	047N_1235	047N_1255	186	12	140	7:00	236.70	0.67	0.03	0.15
P270	047N_1255	047N_1265	174	12	140	7:00	235.39	0.67	0.03	0.15
P271	047N_1045	047N_1025	184	12	140	11:00	29.96	0.09	0.00	0.00
P272	047N_1045	047N_1055	27	12	140	11:00	16.14	0.05	0.00	0.00
P273	047N_1145	047N_1150	11	12	140	11:00	3.65	0.01	0.00	0.00
P274	047N_1115	047N_1145	266	12	140	11:00	6.15	0.02	0.00	0.00
P275	047N_1105	047N_1115	16	12	140	11:00	8.65	0.02	0.00	0.00
P276	047N_1080	047N_1105	186	12	140	11:00	11.14	0.03	0.00	0.00
P277	047N_1055	047N_1080	293	12	140	11:00	13.64	0.04	0.00	0.00
P278	047N_1040	047N_1030	107	12	140	11:00	2.50	0.01	0.00	0.00
P279	047N_1025	047N_1015	255	12	140	11:45	4.99	0.01	0.00	0.00
P280	047N_1015	047N_1005	297	12	140	11:45	4.99	0.01	0.00	0.00
P281	047N_1005	047N_1000	39	12	140	11:45	4.99	0.01	0.00	0.00
P282	047N_1025	047N_1030	56	12	140	11:30	34.95	0.10	0.00	0.00
P283	047N_1030	047N_1060	132	12	140	11:00	37.45	0.11	0.00	0.01
P284	047N_1125	047N_1165	105	12	140	11:00	37.45	0.11	0.00	0.01

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P285	047N_1090	047N_1125	298	12	140	11:00	37.45	0.11	0.00	0.01
P286	047N_1075	047N_1090	143	12	140	11:00	37.45	0.11	0.00	0.01
P287	047N_1060	047N_1075	183	12	140	11:00	37.45	0.11	0.00	0.01
P288	047N_1265	047N_1285	86	12	140	8:00	241.95	0.69	0.01	0.16
P289	047N_1305	047E_1310	318	12	140	8:00	247.17	0.70	0.05	0.17
P290	047N_1300	047N_1305	52	12	140	8:00	245.43	0.70	0.01	0.16
P291	047N_1285	047N_1300	187	12	140	8:00	243.69	0.69	0.03	0.16
P292	047N_1265	047N_1270	24	12	140	7:00	474.05	1.34	0.01	0.55
P293	047N_1315	047N_1310	187	12	140	7:45	42.41	0.12	0.00	0.01
P294	047N_1280	047N_1225	415	12	140	7:00	434.17	1.23	0.20	0.47
P295	047E_1320	047N_1315	73	12	140	7:00	607.16	1.72	0.06	0.88
P296	047N_1310	047N_1290	285	12	140	7:45	42.41	0.12	0.00	0.01
P297	047N_1290	047N_1280	108	12	140	7:45	42.41	0.12	0.00	0.01
P298	047N_1225	047N_1166	67	12	140	7:00	434.17	1.23	0.03	0.47
P299	047N_1166	047N_1165	41	12	140	7:00	548.10	1.55	0.03	0.73
P300	047N_1165	047N_1140	51	12	140	0:00	0.00	0.00	0.00	0.00
P301	047N_1035	047N_1000	757	16	145	11:45	4.99	0.01	0.00	0.00
P302	047N_1110	047N_1085	226	16	145	11:45	2.50	0.00	0.00	0.00
P303	047N_1085	047N_1070	211	16	145	11:45	2.50	0.00	0.00	0.00
P304	047N_1070	047N_1065	87	16	145	11:45	2.50	0.00	0.00	0.00
P305	047N_1065	047N_1035	86	16	145	11:45	2.50	0.00	0.00	0.00
P309	009E_1066	TL_0035	346	10	140	6:45	498.99	2.04	0.51	1.48
P310	TL_0035	TL_295	372	10	140	6:45	498.99	2.04	0.55	1.48
P311	TL_0045	TL_0040	489	10	140	5:45	68.29	0.28	0.02	0.04
P312	009E_1051	TL_0045	773	10	140	6:45	460.57	1.88	0.99	1.28
P314	TL_0090	TL_0095	526	8	140	7:00	162.51	1.04	0.29	0.55
P315	TL_0005	TL_0100	429	8	140	7:45	240.95	1.54	0.49	1.14
P316	TL_0090	TL_0105	419	8	140	7:00	162.51	1.04	0.23	0.55
P317	TL_0105	TL_0110	444	8	140	7:00	162.51	1.04	0.24	0.55
P318	TL_0110	TL_0115	377	8	140	7:00	162.51	1.04	0.21	0.55
P319	TL_0120	TL_0115	617	8	140	7:00	558.03	3.56	3.34	5.41
P320	TL_0120	TL_0130	303	8	140	7:00	558.03	3.56	1.64	5.41
P321	TL_0130	TL_0145	262	8	140	7:00	558.03	3.56	1.42	5.41
P322	TL_0140	TL_280	151	8	140	7:00	512.22	3.27	0.69	4.61
P323	TL_0150	TL_195	305	8	140	7:00	178.74	1.14	0.20	0.66
P324	TL_0145	TL_255	163	8	140	7:00	795.66	5.08	1.70	10.43
P332	TL_0060	047N_1166	459	10	140	7:00	982.27	4.01	2.39	5.20
P333	TL_0160	TL_190	759	8	140	7:00	163.22	1.04	0.42	0.55
P334	TL_0210	TL_0215	278	8	140	7:45	64.69	0.41	0.03	0.10
P335	TL_0155	TL_0220	363	8	140	7:45	151.31	0.97	0.17	0.48
P336	TL_0220	TL_0075	266	8	140	7:45	151.31	0.97	0.13	0.48

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P337	TL_0215	TL_165	1039	8	140	7:45	164.28	1.05	0.58	0.56
P338	TL_0185	TL_0230	522	10	140	3:45	80.63	0.33	0.03	0.05
P348	TL_0230	TL_0280	337	10	140	3:45	80.63	0.33	0.02	0.05
P349	TL_0280	TL_0060	359	10	140	3:45	80.63	0.33	0.02	0.05
P350	TL_0300	TL_0285	478	10	140	6:45	563.26	2.30	0.89	1.85
P356	TL_0095	TL_0310	701	8	140	7:45	240.95	1.54	0.80	1.14
P357	TL_0310	TL_0100	698	8	140	7:45	240.95	1.54	0.80	1.14
P361	046S_1105	TL_0320	498	10	140	11:00	134.17	0.55	0.06	0.13
P362	TL_0320	TL_0075	479	10	140	11:00	134.17	0.55	0.06	0.13
P363	TL_0285	TL_0325	537	10	140	6:45	608.05	2.48	1.15	2.14
P366	009E_1066	TL_0335	366	12	140	6:45	563.26	1.60	0.28	0.76
P367	TL_0335	TL_0300	420	12	140	6:45	563.26	1.60	0.32	0.76
P368	TL_0065	TL_170	330	8	140	7:00	364.16	2.32	0.81	2.45
P369	TL_0340	TL_0060	203	10	140	7:45	546.69	2.23	0.36	1.76
P370	TL_0345	TL_0060	222	12	140	6:45	608.05	1.72	0.20	0.88
P371	TL_0325	TL_0345	405	12	140	6:45	608.05	1.72	0.36	0.88
P372	TL_0010	TL_0350	519	10	140	0:00	0.00	0.00	0.00	0.00
P373	TL_0010	009E_1101	873	10	140	0:00	0.00	0.00	0.00	0.00
P374	009E_1101	TL_0180	1040	10	140	11:00	324.53	1.33	0.69	0.67
P375	TL_0180	TL_0185	1037	10	140	11:00	324.53	1.33	0.69	0.67
P376	TL_0185	TL_0065	767	10	140	8:00	299.21	1.22	0.44	0.57
P377	TL_0065	047N_1320	797	10	140	7:00	645.72	2.64	1.90	2.39
P385	TL_0360	046S_1080	350	12	140	12:00	208.57	0.59	0.04	0.12
P386	TL_0360	TL_165	549	12	140	12:00	208.57	0.59	0.07	0.12
P387	TL_0080	TL_0005	866	8	140	3:45	93.52	0.60	0.17	0.20
P388	TL_0005	046E_1005	569	8	140	7:45	333.79	2.13	1.19	2.09
P390	TL_145	TL_0075	813	12	140	8:00	228.99	0.65	0.12	0.14
P391	062W_1465	TL_0145	957	12	140	7:00	2575.14	7.31	12.19	12.74
P392	TL_0145	TL_0140	871	12	140	7:00	1221.45	3.47	2.79	3.20
P393	TL_0140	TL_145	719	12	140	7:00	709.23	2.01	0.84	1.17
P394	010S_1095	TL_345	560	8	140	12:00	139.50	0.89	0.23	0.41
P395	010S_1176	TL_325	361	10	140	6:45	208.03	0.85	0.11	0.29
P396	TL_155	TL_315	327	8	140	8:00	84.66	0.54	0.05	0.16
P400	TL_165	TL_0075	693	12	140	12:00	151.12	0.43	0.05	0.07
P401	TL_0080	TL_145	1120	8	140	7:45	302.68	1.93	1.95	1.74
P402	TL_0340	TL_170	1101	8	140	7:45	48.67	0.31	0.07	0.06
P403	TL_0340	TL_170	1109	8	140	7:45	48.49	0.31	0.07	0.06
P404	010E_1040	TL_175	147	12	140	11:00	59.88	0.17	0.00	0.01
P405	010E_1050	TL_180	97	12	140	11:00	0.16	0.00	0.00	0.00
P407	TL_190	TL_0210	361	8	140	7:45	64.69	0.41	0.04	0.10
P408	TL_190	TL_215	234	8	140	7:45	173.09	1.10	0.14	0.62

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P409	TL_195	TL_0155	176	8	140	11:00	166.32	1.06	0.10	0.57
P410	TL_0160	TL_275	180	8	140	7:45	85.62	0.55	0.03	0.17
P411	046N_1825	TL_200	137	10	140	11:00	78.02	0.32	0.01	0.05
P412	010S_1070	TL_205	45	8	140	11:00	26.24	0.17	0.00	0.02
P413	TL_210	TL_0155	217	8	140	7:45	173.09	1.10	0.13	0.62
P414	TL_215	TL_210	207	8	140	7:45	131.28	0.84	0.08	0.37
P415	TL_210	TL_220	158	8	140	7:45	41.81	0.27	0.01	0.04
P416	TL_220	TL_225	617	8	140	0:00	0.00	0.00	0.00	0.00
P417	TL_220	TL_215	1563	8	140	7:45	41.81	0.27	0.07	0.04
P418	TL_255	TL_0160	518	8	140	7:00	487.10	3.11	2.18	4.20
P419	TL_0215	TL_230	182	8	140	7:00	308.56	1.97	0.33	1.80
P420	TL_230	TL_235	736	8	140	7:00	161.72	1.03	0.40	0.55
P421	TL_230	TL_235	880	8	140	7:00	146.85	0.94	0.40	0.46
P422	TL_235	TL_240	328	8	140	7:00	308.56	1.97	0.59	1.80
P423	TL_240	TL_245	692	8	140	7:00	167.79	1.07	0.40	0.58
P424	TL_240	TL_245	958	8	140	7:00	140.77	0.90	0.40	0.42
P425	TL_245	TL_250	152	8	140	7:00	308.56	1.97	0.27	1.80
P426	TL_250	TL_255	299	8	140	7:00	308.56	1.97	0.54	1.80
P427	TL_275	TL_195	531	8	140	9:00	99.22	0.63	0.12	0.22
P428	TL_280	TL_0150	275	8	140	7:00	219.08	1.40	0.26	0.96
P429	TL_275	TL_260	135	8	140	7:45	159.60	1.02	0.07	0.53
P430	TL_260	TL_265	143	8	140	7:45	109.41	0.70	0.04	0.26
P431	TL_265	TL_280	904	8	140	7:00	116.50	0.74	0.27	0.30
P432	TL_260	TL_270	598	8	140	7:45	50.19	0.32	0.04	0.06
P433	TL_265	TL_270	483	8	140	11:00	19.25	0.12	0.01	0.01
P434	TL_270	TL_0150	166	8	140	7:45	44.38	0.28	0.01	0.05
P435	TL_280	TL_285	295	8	140	7:00	176.64	1.13	0.19	0.64
P436	TL_285	TL_290	942	8	140	7:00	76.26	0.49	0.13	0.14
P437	TL_290	TL_195	227	8	140	7:00	176.64	1.13	0.15	0.64
P438	TL_285	TL_290	566	8	140	7:00	100.38	0.64	0.13	0.23
P439	047E_1695	047E_1675	264	12	130	7:00	1862.03	5.28	2.12	8.02
P440	047E_1675	047E_1660	153	12	130	7:00	1862.03	5.28	1.23	8.02
P441	047E_1700	047E_1695	79	12	130	7:00	1862.03	5.28	0.64	8.02
P442	047E_1705	047E_1710	202	12	130	7:00	2360.84	6.70	2.52	12.44
P443	047E_1705	047E_1700	70	12	130	7:00	2360.84	6.70	0.87	12.44
P444	047E_1710	061N_1416	243	12	130	7:00	2360.84	6.70	3.03	12.44
P445	061N_1415	061N_1495	305	12	130	7:00	2360.84	6.70	3.79	12.44
P446	061N_1416	061N_1415	40	12	130	7:00	2360.84	6.70	0.50	12.44
P447	061N_1495	061N_1530	107	12	130	7:00	2360.84	6.70	1.34	12.44
P448	061N_1530	061N_1610	170	12	130	7:00	2360.84	6.70	2.12	12.44
P449	061N_1610	061N_1625	26	12	130	7:00	2360.84	6.70	0.33	12.44

Individual Pipes Peak										
Design Criteria						Time	Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P450	061N_1625	061N_1850	890	12	130	7:00	2059.81	5.84	8.60	9.66
P451	061N_1850	061N_1870	581	12	130	7:00	1359.52	3.86	2.60	4.48
P456	047E_1320	EX01	679	12	140	0:00	0.00	0.00	0.00	0.00
P458	TL_295	TL_0045	392	10	140	6:45	369.88	1.51	0.33	0.85
P460	TL_0040	TL_0045	1189	8	140	5:45	23.51	0.15	0.02	0.02
P462	TL_300	TL_0040	560	12	140	0:00	0.00	0.00	0.00	0.00
P464	TL_0040	TL_295	878	8	140	6:45	129.11	0.82	0.32	0.36
P466	TL_315	010S_1095	440	8	140	6:45	120.88	0.77	0.14	0.32
P468	TL_155	TL_325	838	10	140	6:45	130.17	0.53	0.10	0.12
P470	TL_350	TL_315	544	10	140	6:45	47.64	0.19	0.01	0.02
P472	TL_310	TL_325	593	8	140	6:45	92.57	0.59	0.12	0.19
P474	TL_310	010S_1175	469	8	140	12:00	102.85	0.66	0.11	0.24
P476	TL_305	010S_1185	963	8	140	6:45	26.60	0.17	0.02	0.02
P478	010S_1180	TL_305	315	8	140	12:00	176.66	1.13	0.20	0.64
P480	TL_335	TL_155	204	10	140	6:45	71.65	0.29	0.01	0.04
P482	010S_1070	TL_330	169	8	140	12:00	114.63	0.73	0.05	0.29
P488	TL_335	TL_320	432	10	140	11:00	59.88	0.24	0.01	0.03
P490	TL_330	TL_335	566	8	140	6:45	86.36	0.55	0.10	0.17
P492	TL_155	TL_340	226	10	140	11:00	59.88	0.24	0.01	0.03
P506	010S_1176	J282	152	12	140	0:00	0.00	0.00	0.00	0.00
P508	046N_1000	J280	98	12	140	0:00	0.00	0.00	0.00	0.00
P510	046S_1110	TL_145	1194	12	140	11:00	266.06	0.75	0.23	0.19
P514	TL_305	TL_345	191	8	140	12:00	167.39	1.07	0.11	0.58
P516	TL_350	TL_310	450	8	140	6:45	40.28	0.26	0.02	0.04

Project: Tustin Legacy SAMP
Task: Potable Water Report Table - Standard Results - Fire Flow Summary, Nodes
Performed by: TE
Checked by: JN
Date: 1/17/2017
Time of Day: 18:00

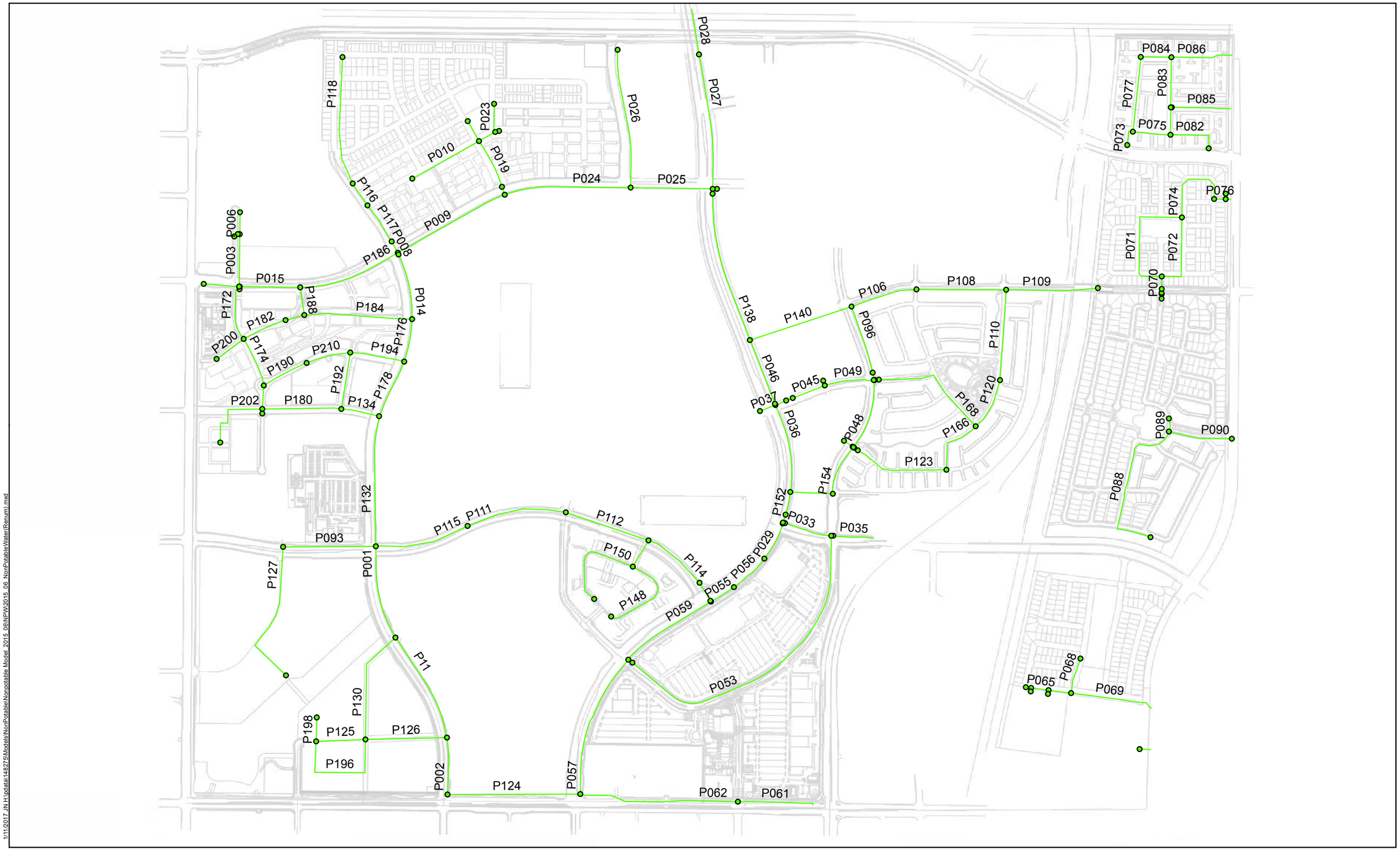
ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)	Available Flow Pressure (psi)
010S_1070	0.00	86.35	267.67	3,500.00	62.52	6,550.47	20.00
010S_1075	0.00	86.39	267.67	3,500.00	63.00	6,636.10	20.00
010S_1080	0.00	86.43	267.68	3,500.00	63.51	6,731.06	20.00
010S_1090	0.00	86.69	267.70	3,500.00	66.33	7,323.76	20.00
010S_1095	0.00	86.62	267.70	3,500.00	67.00	7,514.29	20.00
010S_1100	0.00	86.62	267.70	3,500.00	66.92	7,492.62	20.00
010S_1115	44.83	86.18	267.77	3,500.00	58.48	5,959.37	20.00
010S_1140	0.00	85.90	267.87	3,500.00	58.89	5,991.14	20.00
010S_1155	0.00	85.48	267.98	3,500.00	64.89	7,174.28	20.00
046E_1005	0.00	92.22	270.29	3,000.00	78.82	8,862.30	20.00
TL_0005	0.00	93.27	270.15	3,000.00	72.82	6,700.26	20.00
TL_0035	0.00	93.01	266.46	4,000.00	76.31	10,329.14	20.00
TL_0040	117.03	93.07	266.09	4,000.00	69.41	8,131.97	20.00
TL_0045	0.00	93.93	266.09	4,000.00	75.15	9,506.72	20.00
TL_0080	213.39	94.13	270.14	3,000.00	66.54	5,734.73	20.00
TL_0090	0.00	93.49	270.05	3,000.00	42.73	3,758.89	20.00
TL_0095	213.39	92.71	269.86	3,000.00	42.23	3,964.79	20.00
TL_0100	0.00	92.72	270.08	3,000.00	60.99	4,983.39	20.00
TL_0105	0.00	93.85	270.20	3,000.00	44.53	3,837.60	20.00
TL_0110	0.00	94.14	270.37	3,000.00	48.04	4,014.81	20.00
TL_0115	213.39	94.07	270.50	3,000.00	52.21	4,485.92	20.00
TL_0120	0.00	95.01	271.86	3,000.00	66.21	5,460.44	20.00
TL_0130	0.00	95.34	272.53	3,000.00	75.72	7,088.52	20.00
TL_0285	136.44	94.34	267.22	4,000.00	76.59	10,081.34	20.00
TL_0300	0.00	92.59	266.89	4,000.00	76.94	10,771.41	20.00
TL_0310	0.00	91.98	269.97	3,000.00	48.23	4,061.12	20.00
TL_0325	0.00	94.43	267.92	4,000.00	78.39	10,762.58	20.00
TL_0335	0.00	92.85	266.78	4,000.00	78.83	11,851.17	20.00
TL_0345	0.00	94.52	268.14	4,000.00	79.88	11,620.92	20.00
TL_155	0.00	90.39	267.61	3,500.00	70.53	7,704.95	20.00
TL_295	0.00	93.69	266.23	4,000.00	75.02	9,532.10	20.00
TL_300	0.00	95.36	266.09	4,000.00	64.72	6,856.00	20.00
TL_305	22.41	87.49	267.91	3,500.00	67.96	7,593.23	20.00
TL_310	22.41	89.54	267.64	3,500.00	70.22	7,779.54	20.00
TL_315	0.00	88.24	267.64	3,500.00	67.88	7,412.39	20.00
TL_320	44.83	88.66	267.61	3,500.00	56.12	5,505.55	20.00
TL_325	44.83	90.39	267.61	3,500.00	74.06	8,912.74	20.00
TL_330	44.83	86.50	267.64	3,500.00	60.15	6,180.89	20.00
TL_335	0.00	90.39	267.61	3,500.00	68.34	7,156.19	20.00
TL_340	44.83	90.39	267.61	3,500.00	65.05	6,553.60	20.00

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)	Available Flow Pressure (psi)
TL_345	22.41	87.46	267.85	3,500.00	64.49	6,780.77	20.00
TL_350	22.41	88.67	267.64	3,500.00	65.81	6,877.97	20.00
South Hangar Simulation							
046S_1000	0.00	96.12	270.85	4,000.00	55.95	-	-
EX01	0.00	97.42	269.83	4,000.00	49.74	-	-
North Hangar Simulation							
J280	0.00	87.51	268.73	4,000.00	35.24	-	-
J282	0.00	90.39	267.61	4,000.00	37.64	-	-

APPENDIX E – Stages 1 and 2 (Interim) Non-Potable Water System Hydraulic Analysis Computer Results

Non-Potable Water System Model Loading

Planning Area	Standard			Sensitivity			Staged Demands (gpm)		
	Maximum Day Demand (gpm)			Maximum Day Demand (gpm)			Stage 1	Stage 2	Ultimate
PA 1	146	In-Building	0	403	In-Building	257	257	257	257
		Irrigation	146		Irrigation	146	146	146	146
PA 2	105	In-Building	0	105	In-Building	0	0	0	0
		Irrigation	105		Irrigation	105	105	105	105
PA 3	5	In-Building	0	16	In-Building	11	11	11	11
		Irrigation	5		Irrigation	5	5	5	5
PA 4-5	78	In-Building	0	78	In-Building	0	0	0	0
		Irrigation	78		Irrigation	78	78	78	78
PA 6	266	In-Building	0	306	In-Building	40	0	20	40
		Irrigation	266		Irrigation	266	0	133	266
PA 7	24	In-Building	0	57	In-Building	33	33	33	33
		Irrigation	24		Irrigation	24	24	24	24
PA 8	460	In-Building	0	571	In-Building	111	0	55	111
		Irrigation	460		Irrigation	460	0	230	460
PA 9-12	172	In-Building	0	306	In-Building	134	134	134	134
		Irrigation	172		Irrigation	172	172	172	172
PA 13-14	156	In-Building	0	234	In-Building	78	23	51	78
		Irrigation	156		Irrigation	156	47	101	156
PA 15	343	In-Building	0	351	In-Building	8	5	5	8
		Irrigation	343		Irrigation	343	206	206	343
PA 16-19	98	In-Building	0	223	In-Building	125	125	125	125
		Irrigation	98		Irrigation	98	98	98	98
PA 20	29	In-Building	0	29	In-Building	0	0	0	0
		Irrigation	29		Irrigation	29	29	29	29
PA 21	85	In-Building	0	85	In-Building	0	0	0	0
		Irrigation	85		Irrigation	85	85	85	85
PA 22	108	In-Building	0	108	In-Building	0	0	0	0
		Irrigation	108		Irrigation	108	108	108	108
	Total		2,075			2,873	1,692	2,212	2,873
	In-Building		0			798	589	692	798
	Irrigation		2,075			2,075	1,103	1,520	2,075



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Michael Baker INTERNATIONAL

TUSTIN LEGACY SAMP

NON-POTABLE WATER SYSTEM MODEL- STAGE 1

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
009E_0005	55.6	0.0	0:00	83.7	0:15
010E_0005	73.0	0.0	0:00	61.6	0:15
010E_0010	72.0	0.0	0:00	62.0	0:15
010E_0015	71.7	369.9	0:15	62.1	0:15
010E_0020	72.8	63.5	0:15	61.6	0:15
010E_0025	63.9	0.0	0:00	79.3	0:15
010E_0030	64.2	0.0	0:00	79.2	0:15
010E_0035	64.6	0.0	0:00	79.0	0:15
010E_0040	68.7	68.7	0:15	68.1	0:15
010S_0005	71.8	0.0	0:00	65.7	0:15
010S_0010	70.4	23.1	11:45	66.4	0:15
010S_0015	70.3	63.5	0:15	66.4	0:15
010S_0020	70.3	0.0	0:00	66.4	0:15
046E_0005	53.1	0.0	0:00	84.6	0:15
046E_0010	53.8	0.0	0:00	84.0	0:15
046E_0015	58.6	0.0	0:00	81.9	0:15
046N_0005	64.6	0.0	0:00	79.1	0:15
046N_0010	64.1	0.0	0:00	79.1	0:15
046N_0015	65.5	0.0	0:00	71.0	0:15
046N_0020	65.8	68.7	0:15	70.4	0:15
046N_0025	65.1	0.0	0:00	70.8	0:15
046N_0030	65.5	0.0	0:00	70.6	0:15
046N_0035	67.7	68.7	0:15	69.1	0:15
046N_0040	59.7	0.0	0:00	81.3	0:15
046N_0045	62.7	100.3	0:15	79.4	0:15
046N_0050	70.0	0.0	0:00	79.7	0:15
046S_0005	52.0	0.0	0:00	89.5	0:15
046S_0010	52.0	0.0	0:00	89.5	0:15
046S_0015	52.1	0.0	0:00	89.4	0:15
046S_0025	49.4	0.0	0:00	90.8	0:15
046S_0030	49.9	134.7	0:15	90.3	0:15
046S_0035	50.0	0.0	0:00	90.2	0:15
046S_0045	50.6	0.0	0:00	93.2	0:15
046S_0060	50.6	0.0	0:00	93.2	0:15
046S_0065	51.7	0.0	0:00	92.8	0:15
046S_0070	49.0	0.0	0:00	93.8	0:15
046S_0075	49.1	0.0	0:00	93.7	0:15
046S_0080	54.2	242.4	0:15	86.7	0:15
046S_0085	48.6	0.0	0:00	91.2	0:15
046S_0090	49.6	0.0	0:00	90.8	0:15
046S_0095	51.6	0.0	0:00	90.0	0:15
046S_0100	51.3	0.0	0:00	89.9	0:15
046S_0105	50.9	0.0	0:00	92.7	0:15
046S_0110	52.1	0.0	0:00	92.2	0:15
046S_0115	53.5	0.0	0:00	91.2	0:15
046S_0120	55.8	0.0	0:00	90.2	0:15
046S_0125	52.2	0.0	0:00	92.3	0:15
046S_0130	50.4	242.4	0:15	91.6	0:15
047E_0010	51.8	134.7	0:15	88.9	0:15
047E_0015	51.5	0.0	0:00	89.0	0:15
047E_0020	52.4	0.0	0:00	88.8	0:15
047E_0025	51.0	0.0	0:00	89.7	0:15
047N_0005	42.8	0.0	0:00	95.1	0:15

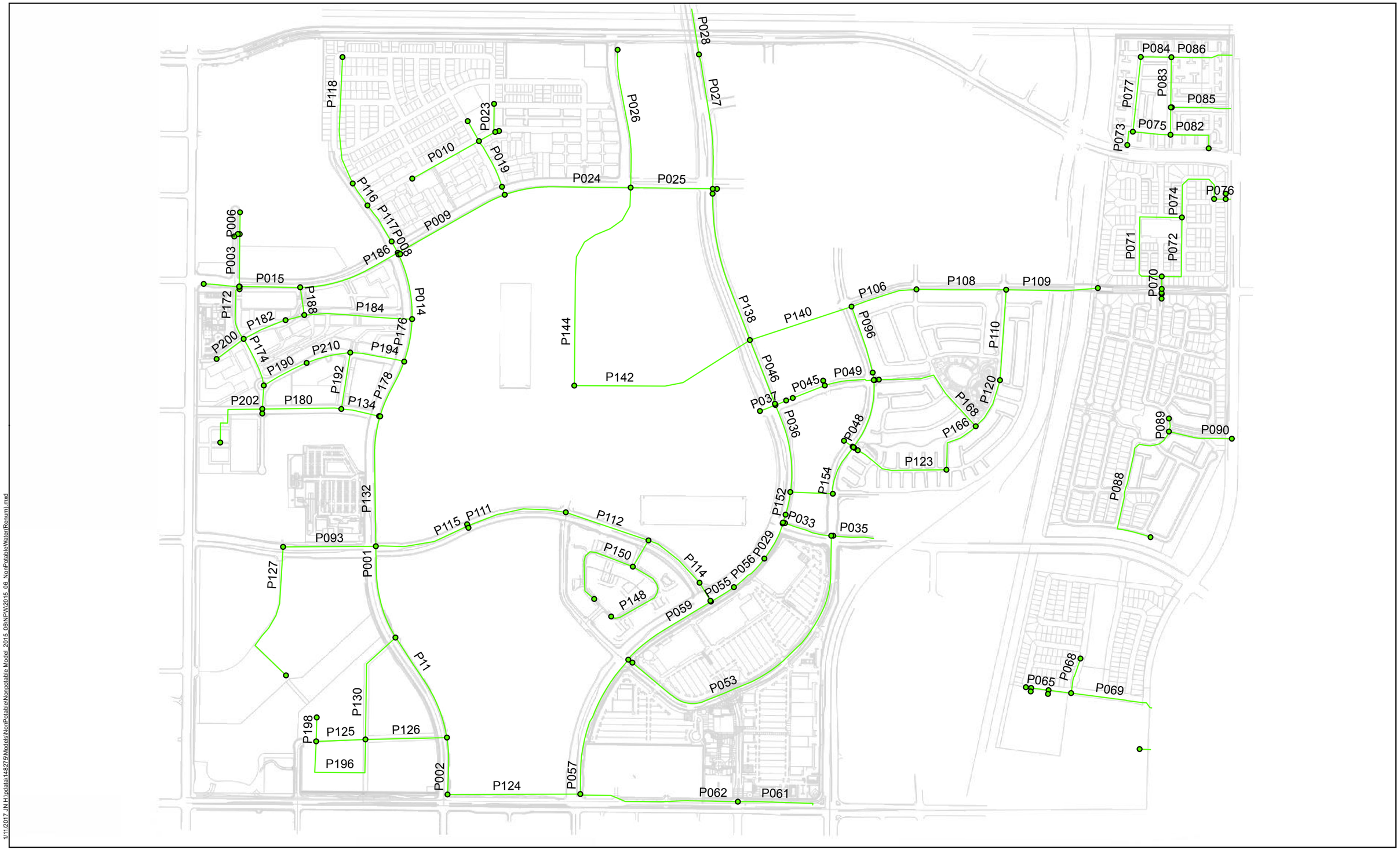
Individual Pipes Peak										
			Design Criteria				Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/kft)
061N_0045	061N_0055	061N_0045	110	4	120	0:15	76.1	1.9	0.6	5.3
P001	009E_0005	J12	967	10	130	0:15	974.9	4.0	5.7	5.9
P002	047N_0006	047N_0005	581	16	130	0:15	1,309.4	2.1	0.6	1.0
P003	010E_0015	010S_0015	534	6	130	0:15	433.4	4.9	8.4	15.8
P004	010E_0005	010E_0010	59	8	140	0:00	0.0	0.0	0.0	0.0
P005	010E_0010	010E_0015	20	6	130	0:00	0.0	0.0	0.0	0.0
P006	010E_0020	010E_0015	222	6	130	0:15	63.5	0.7	0.1	0.5
P007	010E_0030	010E_0025	19	12	130	0:15	101.8	0.3	0.0	0.0
P008	010E_0035	010E_0030	131	6	130	0:15	68.7	0.8	0.1	0.5
P009	046N_0005	010E_0030	1,243	16	140	0:15	369.5	0.6	0.1	0.1
P010	010E_0040	046N_0015	781	4	120	0:15	68.7	1.8	3.4	4.4
P011	010S_0005	010S_0015	392	6	130	0:00	0.0	0.0	0.0	0.0
P012	010S_0020	010S_0010	28	6	130	11:45	23.1	0.3	0.0	0.1
P013	010S_0015	010S_0020	6	6	130	0:15	383.4	4.4	0.1	12.6
P014	010E_0025	TL_270	679	12	140	0:15	101.8	0.3	0.0	0.0
P015	010S_0020	TL_280	618	6	130	0:15	406.3	4.6	8.7	14.0
P016	046E_0005	046E_0010	49	6	130	0:15	452.3	5.1	0.8	17.1
P017	046E_0015	046E_0010	44	16	120	0:00	0.0	0.0	0.0	0.0
P018	046N_0010	046N_0005	85	6	130	0:15	206.1	2.3	0.3	4.0
P019	046N_0010	046N_0015	524	4	120	0:15	206.1	5.3	17.4	33.3
P020	046N_0015	046N_0020	234	4	120	0:15	68.7	1.8	1.0	4.4
P021	046N_0015	046N_0025	189	4	120	0:15	68.7	1.8	0.8	4.4
P022	046N_0025	046N_0030	40	4	120	0:00	0.0	0.0	0.0	0.0
P023	046N_0025	046N_0035	289	4	120	0:15	68.7	1.8	1.3	4.4
P024	046N_0040	046N_0005	1,296	16	140	0:15	575.6	0.9	0.3	0.2
P025	046E_0010	046N_0040	838	16	140	0:15	675.9	1.1	0.2	0.3
P026	046N_0040	046N_0045	1,416	6	130	0:15	100.3	1.1	1.5	1.1
P027	046E_0010	046N_0050	1,381	6	130	0:15	223.6	2.5	6.4	4.6
P028	046N_0050	045W_0005	469	6	120	0:15	223.6	2.5	2.5	5.4
P029	047E_0025	046S_0005	407	6	130	0:15	116.5	1.3	0.6	1.4
P030	046S_0005	046S_0010	10	6	130	0:15	116.5	1.3	0.0	1.4
P031	046S_0015	046S_0010	22	6	130	11:45	88.0	1.0	0.0	0.8
P032	046S_0010	046S_0025	84	6	130	0:15	198.6	2.3	0.3	3.7
P033	046S_0030	046S_0015	492	6	130	11:45	88.0	1.0	0.4	0.8
P034	046S_0035	046S_0030	20	6	130	0:15	32.8	0.4	0.0	0.1
P035	046S_0050	046S_0035	413	4	120	0:15	32.8	0.8	0.5	1.1
P036	046S_0060	TL_215	913	6	130	0:15	268.1	3.0	5.9	6.5
P037	046S_0060	046S_0045	169	6	130	0:00	0.0	0.0	0.0	0.0
P038	046S_0060	046S_0065	14	6	130	0:15	390.6	4.4	0.2	13.0
P039	046S_0070	046S_0060	119	6	130	0:15	122.5	1.4	0.2	1.5
P040	046S_0070	046S_0075	72	6	120	0:15	122.5	1.4	0.1	1.8
P041	046S_0085	046S_0080	107	4	120	0:15	242.4	6.2	4.8	44.9
P042	046S_0090	046S_0085	11	6	130	0:15	242.4	2.8	0.1	5.4
P043	046S_0095	046S_0090	11	6	130	0:15	97.4	1.1	0.0	1.0
P044	046S_0095	046S_0100	43	4	120	0:15	97.4	2.5	0.4	8.3
P045	046S_0105	046S_0075	350	6	130	0:15	122.5	1.4	0.5	1.5
P046	046S_0065	TL_185	697	6	130	0:15	390.6	4.4	9.1	13.0
P047	046S_0110	046S_0105	53	4	120	0:00	0.0	0.0	0.0	0.0
P048	046S_0090	046S_0115	732	6	130	0:15	270.3	3.1	4.8	6.6
P049	046S_0115	046S_0105	511	6	130	0:15	122.5	1.4	0.8	1.5
P050	046S_0120	046S_0115	11	6	130	0:15	266.0	3.0	0.1	6.4
P051	046S_0115	046S_0125	78	6	130	0:15	413.8	4.7	1.1	14.5
P052	046S_0120	046S_0130	41	4	120	0:15	266.0	6.8	2.2	53.4

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047N_0006	42.8	0.0	0:00	94.8	0:15
047N_0010	42.5	0.0	0:00	95.8	0:15
047N_0015	50.8	0.0	0:00	90.0	0:15
047N_0020	50.3	134.7	0:15	90.1	0:15
047N_0025	48.9	0.0	0:00	89.5	0:15
047S_0041	44.4	0.0	0:00	96.0	0:15
061N_0005	49.3	76.1	0:15	66.8	0:15
061N_0010	49.8	76.1	0:15	66.6	0:15
061N_0015	49.6	0.0	0:00	66.7	0:15
061N_0020	50.2	76.1	0:15	67.9	0:15
061N_0025	49.9	0.0	0:00	68.1	0:15
061N_0035	50.4	0.0	0:00	71.9	0:15
061N_0045	54.1	76.1	0:15	95.4	0:15
061N_0060	52.5	76.1	0:15	70.2	0:15
062N_0005	57.7	0.0	0:00	95.7	0:15
062N_0010	58.3	59.9	0:15	95.4	0:15
062N_0015	58.4	34.1	0:15	94.7	0:15
062N_0020	59.1	0.0	0:00	94.5	0:15
062N_0025	59.6	0.0	0:00	95.7	0:15
062N_0030	54.9	0.0	0:00	96.3	0:15
062N_0035	57.0	0.0	0:00	97.0	0:15
062N_0040	57.2	59.9	0:15	96.8	0:15
062N_0045	56.1	0.0	0:00	96.1	0:15
062N_0050	56.2	0.0	0:00	96.2	0:15
062N_0055	57.7	34.1	0:15	94.9	0:15
062N_0060	59.8	34.1	0:15	94.3	0:15
062N_0065	57.6	0.0	0:00	95.2	0:15
062S_0005	56.7	0.0	0:00	95.6	0:15
062W_0005	54.6	59.9	0:15	90.7	0:15
062W_0010	56.2	0.0	0:00	92.4	0:15
062W_0015	56.3	59.9	0:15	92.2	0:15
062W_0020	55.2	0.0	0:00	96.5	0:15
062W_0025	55.5	59.9	0:15	96.6	0:15
062W_0030	56.0	0.0	0:00	96.4	0:15
062W_0035	56.3	0.0	0:00	96.3	0:15
062W_0045	56.3	0.0	0:00	96.3	0:15
J12	48.2	0.0	0:00	89.4	0:15
TL_0000	70.0	0.0	0:00	76.5	0:15
TL_0015	56.0	0.0	0:00	79.6	0:15
TL_0025	52.6	334.5	0:15	74.6	0:15
TL_0030	51.3	334.5	0:15	86.5	0:15
TL_0035	48.2	0.0	0:00	89.3	0:15
TL_0040	50.0	0.0	0:00	87.2	0:15
TL_0055	51.2	0.0	0:00	97.1	0:15
TL_0115	54.4	0.0	0:00	96.0	0:15
TL_0120	55.0	0.0	0:00	96.2	0:15
TL_0125	50.1	0.0	0:00	94.0	0:15
TL_0130	56.2	0.0	0:00	83.8	0:15
TL_0135	52.3	0.0	0:00	85.9	0:15
TL_0145	69.0	0.0	0:00	77.0	0:15
TL_0150	75.0	68.7	0:15	74.0	0:15
TL_0155	48.2	242.4	0:15	88.3	0:15
TL_0175	58.0	0.0	0:00	82.0	0:15
TL_170	62.0	63.5	0:15	79.0	0:15
TL_185	52.0	0.0	0:00	96.6	0:15

Individual Pipes Peak										
	Design Criteria						Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/kft)
P053	046S_0030	047N_0020	3,218	6	130	0:15	19.9	0.2	0.2	0.1
P054	047E_0015	047E_0010	10	6	120	0:15	262.7	3.0	0.1	7.2
P055	047E_0010	047E_0020	278	6	130	0:15	116.5	1.3	0.4	1.4
P056	047E_0020	047E_0025	428	6	120	0:15	116.5	1.3	0.7	1.6
P057	047N_0010	047N_0015	1,497	8	140	0:15	435.4	2.8	5.1	3.4
P058	047N_0020	047N_0015	52	6	130	0:15	154.6	1.8	0.1	2.3
P059	047N_0015	047E_0010	1,036	8	140	0:15	280.8	1.8	1.6	1.5
P060	047N_0025	047E_0015	214	6	130	0:15	262.7	3.0	1.3	6.2
P061	047S_0040	047S_0041	781	16	145	0:15	1,744.8	2.8	1.1	1.4
P062	047S_0041	047N_0010	1,630	16	145	0:15	1,744.8	2.8	2.3	1.4
P063	061N_0015	061N_0005	55	4	120	0:15	76.1	1.9	0.3	5.3
P064	061N_0015	061N_0010	37	4	120	0:15	76.1	1.9	0.2	5.3
P065	061N_0025	061N_0015	179	4	120	0:15	152.2	3.9	3.4	19.0
P066	061N_0025	061N_0020	39	4	120	0:15	76.1	1.9	0.2	5.3
P067	061N_0035	061N_0025	232	4	120	0:15	228.3	5.8	9.3	40.2
P068	061N_0035	061N_0060	371	4	120	0:15	76.1	1.9	2.0	5.3
P069	061N_0065	061N_0035	856	4	120	0:15	304.4	7.8	58.6	68.5
P070	062W_0045	062N_0005	126	4	120	0:15	11.8	0.3	0.0	0.2
P071	062N_0005	062N_0010	1,257	4	120	0:15	5.2	0.1	0.1	0.0
P072	062N_0005	062N_0010	803	4	120	0:15	6.6	0.2	0.1	0.1
P073	062N_0015	062N_0020	184	4	120	0:15	34.1	0.9	0.2	1.2
P074	062N_0010	062N_0025	848	4	120	0:15	48.1	1.2	1.9	2.3
P075	062N_0020	062N_0030	386	4	120	0:15	17.1	0.4	0.1	0.3
P076	062N_0035	062N_0025	119	4	100	0:15	48.1	1.2	0.4	3.2
P077	062N_0020	062N_0060	766	4	120	0:15	17.0	0.4	0.3	0.3
P078	062N_0035	062N_0040	55	4	100	0:15	59.9	1.5	0.3	4.7
P079	062E_0035	062N_0035	49	4	100	0:15	108.0	2.8	0.7	14.1
P080	062N_0030	062N_0045	280	4	120	0:15	51.2	1.3	0.7	2.5
P081	062N_0045	062N_0050	11	4	120	0:15	146.9	3.8	0.2	17.8
P082	062N_0055	062N_0030	526	4	120	0:15	34.1	0.9	0.6	1.2
P083	062N_0045	062N_0065	510	6	130	0:15	95.7	1.1	0.5	1.0
P084	062N_0060	062N_0065	313	6	130	0:15	51.0	0.6	0.1	0.3
P085	062N_0061	062N_0050	599	6	130	0:15	146.9	1.7	1.3	2.1
P086	062N_0065	062E_0135	624	6	130	0:15	44.7	0.5	0.2	0.2
P087	062S_0010	062S_0005	28	4	120	0:15	119.8	3.1	0.3	12.2
P088	062W_0005	062W_0010	1,626	4	120	0:15	59.9	1.5	5.5	3.4
P089	062W_0010	062W_0015	137	4	120	0:15	59.9	1.5	0.5	3.4
P090	062S_0005	062W_0010	649	4	120	0:15	119.8	3.1	7.9	12.2
P091	062W_0030	062W_0025	47	4	120	0:15	59.9	1.5	0.2	3.4
P092	062W_0035	062W_0030	11	4	120	0:15	59.9	1.5	0.0	3.4
P093	009E_0005	TL_0015	947	6	130	0:15	334.5	3.8	9.2	9.8
P096	046S_0125	TL_0055	707	6	130	0:15	413.8	4.7	10.2	14.5
P106	TL_0115	TL_0055	690	16	130	0:15	1,256.7	2.0	0.7	1.0
P108	TL_0120	TL_0115	917	16	130	0:15	1,256.7	2.0	0.9	1.0
P109	TL_0120	062W_0020	936	16	130	0:15	1,378.2	2.2	1.1	1.1
P11	J12	047N_0006	1,157	10	130	0:15	992.1	4.1	7.0	6.1
P110	TL_0120	TL_0125	926	4	130	0:15	121.5	3.1	10.0	10.8
P111	TL_0130	TL_0135	1,033	6	130	0:15	86.8	1.0	0.8	0.8
P112	TL_0135	TL_0040	891	6	130	0:15	86.8	1.0	0.7	0.8
P114	TL_0040	047N_0025	686	6	130	0:15	262.7	3.0	4.3	6.2
P115	009E_0005	TL_0130	977	6	130	0:15	86.8	1.0	0.8	0.8
P116	TL_0000	TL_0145	270	6	130	0:15	68.7	0.8	0.1	0.5
P117	TL_0145	010E_0035	443	6	130	0:15	68.7	0.8	0.2	0.5
P118	TL_0150	TL_0000	1,313	6	130	0:15	68.7	0.8	0.7	0.5
P120	TL_0125	TL_240	541	4	130	0:15	121.5	3.1	5.8	10.8

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_195	50.0	0.0	0:00	84.3	0:15
TL_200	48.2	88.0	0:15	82.6	0:15
TL_205	50.0	88.0	0:15	81.7	0:15
TL_210	48.7	0.0	0:00	91.3	0:15
TL_215	49.4	0.0	0:00	91.1	0:15
TL_240	49.0	0.0	0:00	91.9	0:15
TL_245	66.0	63.5	0:15	70.6	0:15
TL_250	65.0	63.5	0:15	75.6	0:15
TL_255	64.0	31.8	0:15	72.9	0:15
TL_260	62.0	31.8	0:15	79.1	0:15
TL_265	60.0	63.5	0:15	80.5	0:15
TL_270	59.0	0.0	0:00	81.5	0:15
TL_275	57.0	0.0	0:00	82.4	0:15
TL_280	57.0	0.0	0:00	75.9	0:15
TL_285	67.0	63.5	0:15	69.7	0:15
TL_290	62.0	0.0	0:00	79.0	0:15
TL_295	50.0	0.0	0:00	87.0	0:15
TL_300	65.0	63.5	0:15	76.6	0:15
TL_310	64.0	31.8	0:15	72.2	0:15
TL_315	63.5	31.8	0:15	77.0	0:15

Individual Pipes Peak										
	Design Criteria						Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/kft)
P123	TL_0155	046S_0100	971	4	130	0:15	97.4	2.5	7.0	7.2
P124	047N_0010	047N_0005	1,356	16	130	0:15	1,309.4	2.1	1.4	1.0
P125	TL_0035	TL_0030	504	6	130	0:15	274.5	3.1	3.4	6.8
P126	047N_0006	TL_0035	832	6	130	0:15	317.3	3.6	7.4	8.9
P127	TL_0015	TL_0025	1,523	6	130	0:15	334.5	3.8	14.9	9.8
P130	J12	TL_0035	1,168	4	130	0:15	17.2	0.4	0.3	0.3
P132	TL_0175	009E_0005	1,337	12	140	0:15	727.2	2.1	1.6	1.2
P134	TL_0175	TL_265	393	8	130	0:15	412.4	2.6	1.4	3.5
P136	TL_170	TL_250	239	6	130	0:15	169.3	4.3	4.8	19.9
P138	TL_185	046E_0005	1,552	6	130	0:15	452.3	5.1	26.5	17.1
P140	TL_0055	TL_185	1,092	16	130	0:15	842.9	1.3	0.5	0.5
P146	TL_0040	TL_195	311	4	130	0:15	175.9	4.5	6.7	21.4
P148	TL_195	TL_200	953	4	130	0:15	88.0	2.3	5.7	5.9
P150	TL_195	TL_205	1,014	4	130	0:15	88.0	2.3	6.0	5.9
P152	TL_215	046S_0025	236	6	130	0:15	198.6	2.3	0.9	3.7
P154	046S_0090	TL_210	536	6	130	0:15	69.5	0.8	0.3	0.5
P156	TL_210	TL_215	434	6	130	0:15	69.5	0.8	0.2	0.5
P166	TL_240	TL_0155	616	4	130	0:15	145.1	3.7	9.2	15.0
P168	046S_0130	TL_240	1,241	4	130	0:15	23.5	0.6	0.6	0.5
P172	010S_0015	TL_245	569	6	130	0:15	113.5	2.9	5.4	9.5
P174	TL_245	TL_250	520	6	130	0:15	171.3	4.4	10.6	20.4
P176	TL_270	TL_275	447	12	140	0:15	238.3	0.7	0.1	0.2
P178	TL_275	TL_0175	618	12	140	0:15	314.8	0.9	0.2	0.3
P180	TL_265	TL_170	808	8	130	0:15	296.3	1.9	1.6	1.9
P182	TL_245	TL_310	471	4	130	0:15	69.3	1.8	1.8	3.8
P184	TL_255	TL_270	1,103	4	130	0:15	136.6	3.5	14.8	13.4
P186	TL_280	010E_0030	1,072	6	130	0:15	402.5	4.6	14.8	13.8
P188	TL_280	TL_255	285	4	130	11:45	26.7	0.7	0.2	0.7
P190	TL_250	TL_315	495	4	130	0:15	65.5	1.7	1.7	3.4
P192	TL_260	TL_265	582	4	130	0:15	52.6	1.3	1.3	2.3
P194	TL_260	TL_275	560	4	130	0:15	76.5	2.0	2.6	4.6
P196	TL_0035	TL_0030	1,167	4	130	0:15	60.0	1.5	3.4	2.9
P198	TL_295	TL_0030	242	4	130	0:00	0.0	0.0	0.0	0.0
P200	TL_285	TL_245	343	4	130	0:15	63.5	1.6	1.1	3.2
P202	TL_300	TL_170	762	4	130	0:15	63.5	1.6	2.5	3.2
P206	TL_170	TL_290	46	4	130	0:00	0.0	0.0	0.0	0.0
P208	TL_310	TL_255	199	4	130	0:15	101.0	2.6	1.5	7.7
P210	TL_315	TL_260	460	4	130	0:15	97.3	2.5	3.3	7.1



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Michael Baker INTERNATIONAL

TUSTIN LEGACY SAMP

NON-POTABLE WATER SYSTEM MODEL- STAGE 2

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
009E_0005	55.6	0.0	0:00	79.4	0:15
010E_0005	73.0	0.0	0:00	57.8	0:15
010E_0010	72.0	0.0	0:00	58.3	0:15
010E_0015	71.7	369.9	0:15	58.4	0:15
010E_0020	72.8	63.5	0:15	57.9	0:15
010E_0025	63.9	0.0	0:00	75.7	0:15
010E_0030	64.2	0.0	0:00	75.5	0:15
010E_0035	64.6	0.0	0:00	75.3	0:15
010E_0040	68.7	68.7	0:15	64.7	0:15
010S_0005	71.8	0.0	0:00	62.0	0:15
010S_0010	70.4	23.1	11:45	62.7	0:15
010S_0015	70.3	63.5	0:15	62.7	0:15
010S_0020	70.3	0.0	0:00	62.7	0:15
046E_0005	53.1	0.0	0:00	81.3	0:15
046E_0010	53.8	0.0	0:00	80.8	0:15
046E_0015	58.6	0.0	0:00	78.7	0:15
046N_0005	64.6	0.0	0:00	75.7	0:15
046N_0010	64.1	0.0	0:00	75.7	0:15
046N_0015	65.5	0.0	0:00	67.6	0:15
046N_0020	65.8	68.7	0:15	67.0	0:15
046N_0025	65.1	0.0	0:00	67.4	0:15
046N_0030	65.5	0.0	0:00	67.2	0:15
046N_0035	67.7	68.7	0:15	65.7	0:15
046N_0040	59.7	0.0	0:00	78.2	0:15
046N_0045	62.7	100.3	0:15	76.2	0:15
046N_0050	70.0	0.0	0:00	76.7	0:15
046S_0005	52.0	0.0	0:00	83.5	0:15
046S_0010	52.0	0.0	0:00	83.5	0:15
046S_0015	52.1	0.0	0:00	83.5	0:15
046S_0025	49.4	0.0	0:00	84.7	0:15
046S_0030	49.9	134.7	0:15	84.4	0:15
046S_0035	50.0	0.0	0:00	84.4	0:15
046S_0045	50.6	0.0	0:00	85.8	0:15
046S_0060	50.6	0.0	0:00	85.8	0:15
046S_0065	51.7	0.0	0:00	85.4	0:15
046S_0070	49.0	0.0	0:00	86.5	0:15
046S_0075	49.1	0.0	0:00	86.4	0:15
046S_0080	54.2	242.4	0:15	80.1	0:15
046S_0085	48.6	0.0	0:00	84.6	0:15
046S_0090	49.6	0.0	0:00	84.2	0:15
046S_0095	51.6	0.0	0:00	83.3	0:15
046S_0100	51.3	0.0	0:00	83.3	0:15
046S_0105	50.9	0.0	0:00	85.4	0:15
046S_0110	52.1	0.0	0:00	84.9	0:15
046S_0115	53.5	0.0	0:00	84.0	0:15
046S_0120	55.8	0.0	0:00	83.0	0:15
046S_0125	52.2	0.0	0:00	85.1	0:15
046S_0130	50.4	242.4	0:15	84.5	0:15
047E_0010	51.8	134.7	0:15	83.3	0:15
047E_0015	51.5	0.0	0:00	83.4	0:15

Individual Pipes Peak										
Design Criteria							Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
061N_0045	061N_0055	061N_0045	110	4	120	0:15	76.1	1.9	0.6	5.3
P001	009E_0005	J12	967	10	130	0:15	1,021.8	4.2	6.2	6.4
P002	047N_0006	047N_0005	581	16	130	0:15	1,356.3	2.2	0.6	1.1
P003	010E_0015	010S_0015	534	6	130	0:15	433.4	4.9	8.4	15.8
P004	010E_0005	010E_0010	59	8	140	0:00	0.0	0.0	0.0	0.0
P005	010E_0010	010E_0015	20	6	130	0:00	0.0	0.0	0.0	0.0
P006	010E_0020	010E_0015	222	6	130	0:15	63.5	0.7	0.1	0.5
P007	010E_0030	010E_0025	19	12	130	0:15	495.0	1.4	0.0	0.7
P008	010E_0035	010E_0030	131	6	130	0:15	68.7	0.8	0.1	0.5
P009	046N_0005	010E_0030	1,243	16	140	0:15	968.4	1.6	0.6	0.5
P010	010E_0040	046N_0015	781	4	120	0:15	68.7	1.8	3.4	4.4
P011	010S_0005	010S_0015	392	6	130	0:00	0.0	0.0	0.0	0.0
P012	010S_0020	010S_0010	28	6	130	11:45	23.1	0.3	0.0	0.1
P013	010S_0015	010S_0020	6	6	130	0:15	384.1	4.4	0.1	12.6
P014	010E_0025	TL_270	679	12	140	0:15	335.6	1.0	0.2	0.3
P015	010S_0020	TL_280	618	6	130	0:15	407.0	4.6	8.7	14.0
P016	046E_0005	046E_0010	49	6	130	0:15	317.8	3.6	0.4	8.9
P017	046E_0015	046E_0010	44	16	120	0:00	0.0	0.0	0.0	0.0
P018	046N_0010	046N_0005	85	6	130	0:15	206.1	2.3	0.3	4.0
P019	046N_0010	046N_0015	524	4	120	0:15	206.1	5.3	17.4	33.3
P020	046N_0015	046N_0020	234	4	120	0:15	68.7	1.8	1.0	4.4
P021	046N_0015	046N_0025	189	4	120	0:15	68.7	1.8	0.8	4.4
P022	046N_0025	046N_0030	40	4	120	0:00	0.0	0.0	0.0	0.0
P023	046N_0025	046N_0035	289	4	120	0:15	68.7	1.8	1.3	4.4
P024	046N_0040	046N_0005	1,296	16	140	0:15	1,174.5	1.9	1.0	0.7
P025	046E_0010	046N_0040	838	16	140	0:15	547.2	0.9	0.2	0.2
P026	046N_0040	046N_0045	1,416	6	130	0:15	100.3	1.1	1.5	1.1
P027	046E_0010	046N_0050	1,381	6	130	0:15	229.4	2.6	6.7	4.9
P028	046N_0050	045W_0005	469	6	120	0:15	229.4	2.6	2.6	5.6
P029	047E_0025	046S_0005	407	6	130	0:15	73.2	0.8	0.2	0.6
P030	046S_0005	046S_0010	10	6	130	0:15	73.2	0.8	0.0	0.6
P031	046S_0015	046S_0010	22	6	130	13:30	63.6	0.7	0.0	0.5
P032	046S_0010	046S_0025	84	6	130	11:45	121.1	1.4	0.1	1.5
P033	046S_0030	046S_0015	492	6	130	13:30	63.6	0.7	0.2	0.5
P034	046S_0035	046S_0030	20	6	130	0:15	45.8	0.5	0.0	0.3
P035	046S_0050	046S_0035	413	4	120	0:15	45.8	1.2	0.9	2.1
P036	046S_0060	TL_215	913	6	130	0:15	204.2	2.3	3.6	3.9
P037	046S_0060	046S_0045	169	6	130	0:00	0.0	0.0	0.0	0.0
P038	046S_0060	046S_0065	14	6	130	0:15	306.1	3.5	0.1	8.3
P039	046S_0070	046S_0060	119	6	130	0:15	101.9	1.2	0.1	1.1
P040	046S_0070	046S_0075	72	6	120	0:15	101.9	1.2	0.1	1.3
P041	046S_0085	046S_0080	107	4	120	0:15	242.4	6.2	4.8	44.9
P042	046S_0090	046S_0085	11	6	130	0:15	242.4	2.8	0.1	5.4
P043	046S_0095	046S_0090	11	6	130	0:15	99.6	1.1	0.0	1.0
P044	046S_0095	046S_0100	43	4	120	0:15	99.6	2.5	0.4	8.7
P045	046S_0105	046S_0075	350	6	130	0:15	101.9	1.2	0.4	1.1
P046	046S_0065	TL_185	697	6	130	0:15	306.1	3.5	5.8	8.3
P047	046S_0110	046S_0105	53	4	120	0:00	0.0	0.0	0.0	0.0
P048	046S_0090	046S_0115	732	6	130	0:15	232.1	2.6	3.6	5.0
P049	046S_0115	046S_0105	511	6	130	0:15	101.9	1.2	0.6	1.1

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
047E_0020	52.4	0.0	0:00	83.1	0:15
047E_0025	51.0	0.0	0:00	83.8	0:15
047N_0005	42.8	0.0	0:00	91.2	0:15
047N_0006	42.8	0.0	0:00	91.0	0:15
047N_0010	42.5	0.0	0:00	92.0	0:15
047N_0015	50.8	0.0	0:00	84.8	0:15
047N_0020	50.3	134.7	0:15	84.9	0:15
047N_0025	48.9	0.0	0:00	83.8	0:15
047S_0041	44.4	0.0	0:00	92.4	0:15
061N_0005	49.3	76.1	0:15	63.5	0:15
061N_0010	49.8	76.1	0:15	63.3	0:15
061N_0015	49.6	0.0	0:00	63.5	0:15
061N_0020	50.2	76.1	0:15	64.6	0:15
061N_0025	49.9	0.0	0:00	64.8	0:15
061N_0035	50.4	0.0	0:00	68.7	0:15
061N_0045	54.1	76.1	0:15	92.1	0:15
061N_0060	52.5	76.1	0:15	66.9	0:15
062N_0005	57.7	0.0	0:00	91.6	0:15
062N_0010	58.3	59.9	0:15	91.3	0:15
062N_0015	58.4	34.1	0:15	92.0	0:15
062N_0020	59.1	0.0	0:00	91.8	0:15
062N_0025	59.6	0.0	0:00	92.5	0:15
062N_0030	54.9	0.0	0:00	93.6	0:15
062N_0035	57.0	0.0	0:00	93.9	0:15
062N_0040	57.2	59.9	0:15	93.7	0:15
062N_0045	56.1	0.0	0:00	93.4	0:15
062N_0050	56.2	0.0	0:00	93.5	0:15
062N_0055	57.7	34.1	0:15	92.2	0:15
062N_0060	59.8	34.1	0:15	91.6	0:15
062N_0065	57.6	0.0	0:00	92.5	0:15
062S_0005	56.7	0.0	0:00	92.3	0:15
062W_0005	54.6	59.9	0:15	87.3	0:15
062W_0010	56.2	0.0	0:00	89.0	0:15
062W_0015	56.3	59.9	0:15	88.8	0:15
062W_0020	55.2	0.0	0:00	91.7	0:15
062W_0025	55.5	59.9	0:15	92.4	0:15
062W_0030	56.0	0.0	0:00	92.3	0:15
062W_0035	56.3	0.0	0:00	92.2	0:15
062W_0045	56.3	0.0	0:00	92.2	0:15
J12	48.2	0.0	0:00	85.3	0:15
TL_0000	70.0	0.0	0:00	72.8	0:15
TL_0015	56.0	0.0	0:00	75.3	0:15
TL_0025	52.6	334.5	0:15	70.3	0:15
TL_0030	51.3	334.5	0:15	82.5	0:15
TL_0035	48.2	0.0	0:00	85.3	0:15
TL_0040	50.0	0.0	0:00	80.9	0:15
TL_0055	51.2	0.0	0:00	89.3	0:15
TL_0115	54.4	0.0	0:00	89.0	0:15
TL_0120	55.0	0.0	0:00	90.2	0:15
TL_0125	50.1	0.0	0:00	87.4	0:15
TL_0130	56.2	0.0	0:00	76.9	0:15
TL_0135	52.3	0.0	0:00	79.3	0:15

Individual Pipes Peak										
Design Criteria							Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P050	046S_0120	046S_0115	11	6	130	0:15	254.9	2.9	0.1	5.9
P051	046S_0115	046S_0125	78	6	130	0:15	385.1	4.4	1.0	12.7
P052	046S_0120	046S_0130	41	4	120	0:15	254.9	6.5	2.0	49.3
P053	046S_0030	047N_0020	3,218	6	130	0:15	67.9	0.8	1.6	0.5
P054	047E_0015	047E_0010	10	6	120	0:15	300.1	3.4	0.1	9.3
P055	047E_0010	047E_0020	278	6	130	0:15	73.2	0.8	0.2	0.6
P056	047E_0020	047E_0025	428	6	120	0:15	73.2	0.8	0.3	0.7
P057	047N_0010	047N_0015	1,497	8	140	0:15	564.1	3.6	8.3	5.5
P058	047N_0020	047N_0015	52	6	130	0:15	202.6	2.3	0.2	3.9
P059	047N_0015	047E_0010	1,036	8	140	0:15	361.6	2.3	2.5	2.4
P060	047N_0025	047E_0015	214	6	130	0:15	300.1	3.4	1.7	8.0
P061	047S_0040	047S_0041	781	16	145	0:15	1,920.4	3.1	1.3	1.7
P062	047S_0041	047N_0010	1,630	16	145	0:15	1,920.4	3.1	2.8	1.7
P063	061N_0015	061N_0005	55	4	120	0:15	76.1	1.9	0.3	5.3
P064	061N_0015	061N_0010	37	4	120	0:15	76.1	1.9	0.2	5.3
P065	061N_0025	061N_0015	179	4	120	0:15	152.2	3.9	3.4	19.0
P066	061N_0025	061N_0020	39	4	120	0:15	76.1	1.9	0.2	5.3
P067	061N_0035	061N_0025	232	4	120	0:15	228.3	5.8	9.3	40.2
P068	061N_0035	061N_0060	371	4	120	0:15	76.1	1.9	2.0	5.3
P069	061N_0065	061N_0035	856	4	120	0:15	304.4	7.8	58.6	68.5
P070	062W_0045	062N_0005	126	4	120	0:15	11.6	0.3	0.0	0.2
P071	062N_0005	062N_0010	1,257	4	120	0:15	5.1	0.1	0.0	0.0
P072	062N_0005	062N_0010	803	4	120	0:15	6.5	0.2	0.0	0.1
P073	062N_0015	062N_0020	184	4	120	0:15	34.1	0.9	0.2	1.2
P074	062N_0010	062N_0025	848	4	120	0:15	71.5	1.8	4.0	4.7
P075	062N_0020	062N_0030	386	4	120	0:15	17.2	0.4	0.1	0.3
P076	062N_0035	062N_0025	119	4	100	0:15	71.5	1.8	0.8	6.6
P077	062N_0020	062N_0060	766	4	120	0:15	16.9	0.4	0.3	0.3
P078	062N_0035	062N_0040	55	4	100	0:15	59.9	1.5	0.3	4.7
P079	062E_0035	062N_0035	49	4	100	0:15	131.4	3.4	1.0	20.3
P080	062N_0030	062N_0045	280	4	120	0:15	51.3	1.3	0.7	2.5
P081	062N_0045	062N_0050	11	4	120	0:15	147.4	3.8	0.2	17.9
P082	062N_0055	062N_0030	526	4	120	0:15	34.1	0.9	0.6	1.2
P083	062N_0045	062N_0065	510	6	130	0:15	96.1	1.1	0.5	1.0
P084	062N_0060	062N_0065	313	6	130	0:15	51.0	0.6	0.1	0.3
P085	062N_0061	062N_0050	599	6	130	0:15	147.4	1.7	1.3	2.1
P086	062N_0065	062E_0135	624	6	130	0:15	45.2	0.5	0.2	0.2
P087	062S_0010	062S_0005	28	4	120	0:15	119.8	3.1	0.3	12.2
P088	062W_0005	062W_0010	1,626	4	120	0:15	59.9	1.5	5.5	3.4
P089	062W_0010	062W_0015	137	4	120	0:15	59.9	1.5	0.5	3.4
P090	062S_0005	062W_0010	649	4	120	0:15	119.8	3.1	7.9	12.2
P091	062W_0030	062W_0025	47	4	120	0:15	59.9	1.5	0.2	3.4
P092	062W_0035	062W_0030	11	4	120	0:15	59.9	1.5	0.0	3.4
P093	009E_0005	TL_0015	947	6	130	0:15	334.5	3.8	9.2	9.8
P096	046S_0125	TL_0055	707	6	130	0:15	385.1	4.4	9.0	12.7
P106	TL_0115	TL_0055	690	16	130	0:15	2,572.9	4.1	2.5	3.6
P108	TL_0120	TL_0115	917	16	130	0:15	2,572.9	4.1	3.3	3.6
P109	TL_0120	062W_0020	936	16	130	0:15	2,703.3	4.3	3.7	3.9
P11	J12	047N_0006	1,157	10	130	0:15	1,031.8	4.2	7.6	6.5
P110	TL_0120	TL_0125	926	4	130	0:15	130.4	3.3	11.4	12.3
P111	TL_0130	TL_0135	1,033	6	130	0:15	124.2	1.4	1.6	1.6
P112	TL_0135	TL_0040	891	6	130	0:15	124.2	1.4	1.4	1.6

Individual Node Parameters					
		Demand		Pressure	
ID	Elevation (ft)	Max.Value (gpm)	Max.Time (hrs.)	Min.Value (psi)	Min.Time (hrs.)
TL_0145	69.0	0.0	0:00	73.3	0:15
TL_0150	75.0	68.7	0:15	70.4	0:15
TL_0155	48.2	242.4	0:15	81.5	0:15
TL_0175	58.0	0.0	0:00	78.1	0:15
TL_170	62.0	63.5	0:15	75.1	0:15
TL_185	52.0	0.0	0:00	87.7	0:15
TL_190	52.0	836.4	0:15	82.9	0:15
TL_195	50.0	0.0	0:00	78.0	0:15
TL_200	48.2	88.0	0:15	76.4	0:15
TL_205	50.0	88.0	0:15	75.4	0:15
TL_210	48.7	0.0	0:00	84.8	0:15
TL_215	49.4	0.0	0:00	84.8	0:15
TL_220	63.9	159.4	0:15	75.7	0:15
TL_225	58.0	159.4	0:15	78.1	0:15
TL_230	56.2	159.4	0:15	76.9	0:15
TL_235	56.2	205.2	0:15	76.9	0:15
TL_240	49.0	0.0	0:00	85.0	0:15
TL_245	66.0	63.5	0:15	66.8	0:15
TL_250	65.0	63.5	0:15	71.8	0:15
TL_255	64.0	31.8	0:15	69.2	0:15
TL_260	62.0	31.8	0:15	75.2	0:15
TL_265	60.0	63.5	0:15	76.6	0:15
TL_270	59.0	0.0	0:00	77.7	0:15
TL_275	57.0	0.0	0:00	78.6	0:15
TL_280	57.0	0.0	0:00	72.2	0:15
TL_285	67.0	63.5	0:15	65.9	0:15
TL_290	62.0	0.0	0:00	75.1	0:15
TL_295	50.0	0.0	0:00	83.0	0:15
TL_300	65.0	63.5	0:15	72.7	0:15
TL_310	64.0	31.8	0:15	68.5	0:15
TL_315	63.5	31.8	0:15	73.2	0:15

Individual Pipes Peak										
Design Criteria							Flow	Velocity	Headloss (ft)	HL/1000 (ft/kft)
ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Max.Time (hrs.)	Max.Value (gpm)	Max.Value (ft/s)	Max.Value (ft)	Max.Value (ft/k-ft)
P114	TL_0040	047N_0025	686	6	130	0:15	300.1	3.4	5.5	8.0
P115	009E_0005	TL_0130	977	6	130	0:15	240.3	2.7	5.2	5.3
P116	TL_0000	TL_0145	270	6	130	0:15	68.7	0.8	0.1	0.5
P117	TL_0145	010E_0035	443	6	130	0:15	68.7	0.8	0.2	0.5
P118	TL_0150	TL_0000	1,313	6	130	0:15	68.7	0.8	0.7	0.5
P120	TL_0125	TL_240	541	4	130	0:15	130.4	3.3	6.6	12.3
P123	TL_0155	046S_0100	971	4	130	0:15	99.6	2.5	7.2	7.5
P124	047N_0010	047N_0005	1,356	16	130	0:15	1,356.3	2.2	1.5	1.1
P125	TL_0035	TL_0030	504	6	130	0:15	274.5	3.1	3.4	6.8
P126	047N_0006	TL_0035	832	6	130	0:15	324.5	3.7	7.7	9.2
P127	TL_0015	TL_0025	1,523	6	130	0:15	334.5	3.8	14.9	9.8
P130	J12	TL_0035	1,168	4	130	11:45	14.4	0.4	0.2	0.2
P132	TL_0175	009E_0005	1,337	12	140	0:15	447.0	1.3	0.7	0.5
P134	TL_0175	TL_265	393	8	130	0:15	409.2	2.6	1.4	3.5
P136	TL_170	TL_250	239	6	130	0:15	167.8	4.3	4.7	19.6
P138	TL_185	046E_0005	1,552	6	130	0:15	317.8	3.6	13.8	8.9
P140	TL_0055	TL_185	1,092	16	130	0:15	2,187.8	3.5	2.9	2.7
P142	TL_185	TL_190	1,922	12	130	0:15	1,563.9	4.4	11.2	5.8
P144	046N_0040	TL_190	2,284	12	130	0:15	727.5	2.1	3.2	1.4
P146	TL_0040	TL_195	311	4	130	0:15	175.9	4.5	6.7	21.4
P148	TL_195	TL_200	953	4	130	0:15	88.0	2.3	5.7	5.9
P150	TL_195	TL_205	1,014	4	130	0:15	88.0	2.3	6.0	5.9
P152	TL_215	046S_0025	236	6	130	11:45	121.1	1.4	0.4	1.5
P154	046S_0090	TL_210	536	6	130	0:15	109.9	1.3	0.7	1.2
P156	TL_210	TL_215	434	6	130	0:15	109.9	1.3	0.5	1.2
P158	010E_0025	TL_220	10	6	130	0:15	159.4	1.8	0.0	2.5
P160	TL_0175	TL_225	10	6	130	0:15	159.4	1.8	0.0	2.5
P162	TL_0130	TL_230	10	6	130	0:15	159.4	1.8	0.0	2.5
P164	TL_0130	TL_235	10	6	130	0:15	205.2	2.3	0.0	4.0
P166	TL_240	TL_0155	616	4	130	0:15	142.8	3.7	9.0	14.6
P168	046S_0130	TL_240	1,241	4	130	0:15	12.4	0.3	0.2	0.2
P172	010S_0015	TL_245	569	6	130	0:15	112.9	2.9	5.4	9.4
P174	TL_245	TL_250	520	6	130	0:15	169.6	4.3	10.4	20.0
P176	TL_270	TL_275	447	12	140	0:15	199.5	0.6	0.1	0.1
P178	TL_275	TL_0175	618	12	140	11:45	128.1	0.4	0.0	0.1
P180	TL_265	TL_170	808	8	130	0:15	294.8	1.9	1.5	1.9
P182	TL_245	TL_310	471	4	130	0:15	70.3	1.8	1.8	3.9
P184	TL_255	TL_270	1,103	4	130	0:15	136.2	3.5	14.7	13.3
P186	TL_280	010E_0030	1,072	6	130	0:15	404.7	4.6	14.9	13.9
P188	TL_280	TL_255	285	4	130	11:45	27.5	0.7	0.2	0.7
P190	TL_250	TL_315	495	4	130	0:15	65.4	1.7	1.7	3.4
P192	TL_260	TL_265	582	4	130	0:15	50.9	1.3	1.3	2.2
P194	TL_260	TL_275	560	4	130	0:15	78.0	2.0	2.7	4.7
P196	TL_0035	TL_0030	1,167	4	130	0:15	60.0	1.5	3.4	2.9
P198	TL_295	TL_0030	242	4	130	0:00	0.0	0.0	0.0	0.0
P200	TL_285	TL_245	343	4	130	0:15	63.5	1.62	1.11	3.24
P202	TL_300	TL_170	762	4	130	0:15	63.5	1.62	2.47	3.24
P206	TL_170	TL_290	46	4	130	0:00	0.0	0	0	0
P208	TL_310	TL_255	199	4	130	0:15	102.1	2.61	1.55	7.81
P210	TL_315	TL_260	460	4	130	0:15	97.1	2.48	3.28	7.12

APPENDIX F – Navy Lease in Furtherance of Conveyance Letter

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE
33000 Nixie Way, 2nd Floor
SAN DIEGO, CA 92147

11011
Ser BPMOW.eal/0425
December 21, 2016

Mr. Matt West
Deputy City Manager
300 Centennial Way
Tustin, CA 92780

Dear Mr. West:

This letter serves to follow up on our conversation of December 6, 2016 concerning the City of Tustin/Navy Lease in Furtherance of Conveyance (LIFOC) and the planned installation of infrastructure associated with the City's Project Environmental Review Form (PERF) for Victory Road, approved on October 26, 2016.

As outlined by the City in PERF COT-2016-4, the Scope of the City's work included street improvements and utility installation as shown in the PERF Attachments 1-4. It is understood that the City and its developers may be installing infrastructure that are presumed to be managed and operated by local and regional entities. Specifically, the Navy recognizes that the City of Tustin intends to cooperate with the Irvine Ranch Water District (IRWD) for the long-term operation, maintenance and repair of facilities which convey sewage, recycled water and potable water (hereafter, "IRWD Facilities") on property included in the LIFOC property.

Paragraph 5 of the LIFOC authorizes the subletting of the Leased Premises and specifically allows the City to enter into similar agreements that provide access in accordance with the lease terms. While at this time the Navy has not issued the City an easement for infrastructure placed by this project or other City street improvements within the LIFOC area, it is understood that the City will eventually have permanent rights to the LIFOC property which it currently leases from the Navy pursuant to the LIFOC. To the extent that the City has prepared a PERF to construct permanent improvements which has been, or is in the future, approved by the Navy the City has Navy approval for the long-term operation, maintenance and repair of such improvements, and to engage in interim agreements with IRWD for the installation, operation and maintenance of IRWD Facilities within such street improvements that will eventually be replaced by permanent agreements between the City and IRWD.

Should you have any additional questions, please contact me at 619-524-1680 or amy.hill@navy.mil.

Sincerely,

AMY JO HILL
Real Estate Contracting Officer