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# TUSTIN LEGACY SPECIFIC PLAN AMENDMENT

City of Tustin

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## Abbreviations and Acronyms

### ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ADT	average daily traffic
AELUP	airport environs land use plan
af	acre-foot
afy	acre-feet per year
AQMP	air quality management plan
BAU	business as usual
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDE	California Department of Education
CDR	Center for Demographic Research (CSU Fullerton)
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CMP	congestion management program
CNEL	community noise equivalent level
CO	carbon monoxide
CO <sub>2e</sub>	carbon dioxide equivalent
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DOF	Department of Finance (CA)
DSEIR	draft supplemental environmental impact report
EPA	United States Environmental Protection Agency
FEIS/EIR	final environmental impact statement (NEPA) / environmental impact report
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
gpd	gallons per day
GWP	global warming potential

## Abbreviations and Acronyms

HCD	Housing and Community Development Department (CA)
HCM	Highway Capacity Manual
HQTA	high quality transit area
HUD	Department of Housing and Urban Development (US)
ICU	intersection capacity utilization
IPCC	Intergovernmental Panel on Climate Change
IRP	integrated water resources plan
IRWD	Irvine Ranch Water District
ITAM	Irvine Transportation Analysis Model
IUSD	Irvine Unified School District
L <sub>dn</sub>	day-night noise level
L <sub>eq</sub>	equivalent continuous noise level
LOS	level of service
LST	localized significance thresholds
MCAS	Marine Corps Air Station
mgd	million gallons per day
MMT	million metric tons
MPO	metropolitan planning organization
MT	metric ton
MWD	Metropolitan Water District of Southern California
MWRP	Michelson Water Recycling Plant
NCCP/HCP	Natural Community Conservation Plan / Habitat Conservation Plan
NO <sub>x</sub>	nitrogen oxides
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
O <sub>3</sub>	ozone
OCCOG	Orange County Council of Governments
OCFCD	Orange County Flood Control District
OCP	Orange County projections
OCPL	Orange County Public Library
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OCTAM	Orange County Traffic Analysis Model

## Abbreviations and Acronyms

OPR	Governor’s Office of Planning and Research
OSHA	Occupational Health and Safety Administration (US)
PM	particulate matter
ppm	parts per million
PPV	peak particle velocity
RHNA	regional housing needs assessment
RTP/SCS	regional transportation plan / sustainable communities strategy
SAMP	Sub-area Master Plan
SAUSD	Santa Ana Unified School District
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF	square feet
SIP	state implementation plan
SoCAB	South Coast Air Basin
SO <sub>x</sub>	sulfur oxides
STEM	science, technology, engineering, and math
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TLSP	Tustin Legacy Specific Plan
TUSD	Tustin Unified School District
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VMT	vehicle miles traveled
VOC	volatile organic compound
vphpl	vehicles per hour per lane
WSA	water supply assessment
WTP	water treatment plant

## Abbreviations and Acronyms

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# 1. Executive Summary

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## 1.1 INTRODUCTION

This draft supplemental environmental impact report (DSEIR) addresses the environmental effects associated with the implementation of the proposed Tustin Legacy Specific Plan Amendment (described throughout as the “Modified Project”). The California Environmental Quality Act (CEQA) requires that local government agencies consider the environmental consequences before taking action on projects over which they have discretionary approval authority. In this case the City of Tustin (“City”), as lead agency, determined that a DSEIR should be prepared for the Modified Project.

An environmental impact report (EIR) is a public document designed to provide the public and local and state governmental agency decision makers with an analysis of potential environmental consequences to support informed decisions. This document focuses on impacts determined to be potentially significant as compared to the previously adopted MCAS Tustin Specific Plan (Adopted Specific Plan) in the Initial Study completed for this project (see Appendix A).

Since certification of the FEIS/EIR for the Adopted Specific Plan (see DSEIR Section 3.3.2.1), a number of changes have occurred including:

- The Tustin Legacy Specific Plan Amendment was prepared resulting in changes to residential and nonresidential buildout;
- A new version of the Irvine Transportation Analysis Model (ITAM) was approved by the Orange County Transportation Authority in (OCTA), Version 12.4;
- The roadway network and traffic patterns have changed; and
- Senate Bill (SB) 97 was signed in to law requiring that greenhouse gas (GHG) emissions be analyzed in a CEQA document.

This DSEIR has been prepared pursuant to the requirements of CEQA (California Public Resources Code, Division 13, Sections 21000, et seq.) and the State CEQA Guidelines (Title 14 of the California Code of Regulations, Division 6, Chapter 3, Sections 15000, et seq.). The overall purpose of this DSEIR is to inform the City’s decision makers and the general public whether, as compared to the Adopted Specific Plan, changes to the Modified Project or a change in circumstances would result in any new significant impacts or an increase in the severity of significant impacts of the Adopted Specific Plan. The Adopted Specific Plan is the “baseline” for the analysis in this DSEIR, and was used in preparing the Initial Study for the Modified Project, to evaluate the potential impacts of the Modified Project. The City, as the lead agency, has reviewed

## 1. Executive Summary

and revised as necessary all submitted drafts, technical studies, and reports to reflect its own independent judgment, including, without limitation, by relying on applicable City technical personnel and review of all technical subconsultant reports.

Data and other information for this DSEIR was obtained from previous environmental documentation; onsite field observations; discussions with affected agencies; analysis of adopted plans and policies; review of available studies, reports, data and similar literature; and specialized environmental assessments (e.g., air quality analysis, GHG emissions analysis, noise analysis, and traffic impact analysis).

### 1.2 ENVIRONMENTAL PROCEDURES

This DSEIR has been prepared pursuant to CEQA to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals. The six main objectives of this document as established by CEQA are listed below:

1. To disclose to decision makers and the public the significant environmental effects of proposed activities.
2. To identify ways to avoid or reduce environmental damage.
3. To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
4. To disclose to the public reasons for agency approval of projects with significant environmental effects.
5. To foster interagency coordination in the review of projects.
6. To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in CEQA and the CEQA Guidelines and provides the information needed to assess the environmental consequences of a proposed project, to the extent feasible. EIRs are intended to provide an objective, factually supported analysis and full disclosure of the environmental consequences of a proposed project with the potential to result in significant, adverse environmental impacts.

An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Before approving a proposed project, the lead agency must consider the information in the EIR; determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines; determine that it reflects the independent judgment of the lead agency; adopt findings concerning the project's significant environmental impacts and alternatives; and adopt a Statement of Overriding Considerations if the proposed project would result in significant impacts that cannot be avoided.

#### 1.2.1 EIR Format

This DSEIR has been formatted as described below.

## 1. Executive Summary

**Section 1. Executive Summary:** Summarizes the background and description of the proposed project, the format of this SEIR, project alternatives, any critical issues remaining to be resolved, and the potential environmental impacts and mitigation measures identified for the project.

**Section 2. Introduction:** Describes the purpose of this SEIR, background on the project, the Notice of Preparation, the use of incorporation by reference, and Final SEIR certification.

**Section 3. Project Description:** A detailed description of the project, the objectives of the proposed project, the project area and location, approvals anticipated to be included as part of the project, the necessary environmental clearances for the project, and the intended uses of this SEIR.

**Section 4. Environmental Setting:** A description of the physical environmental conditions in the vicinity of the project as they existed at the time the Notice of Preparation was published, from both a local and regional perspective. Because this is a Supplemental Environmental Impact Report (SEIR), the baseline used for the analyses in this Draft Supplemental EIR (DSEIR) is the Adopted Specific Plan, as described in Chapter 2 of this DSEIR. The information in this section updates the existing conditions since certification of the previous environmental documentation

**Section 5. Environmental Analysis:** For each environmental parameter analyzed, provides a description of the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the project; the existing environmental setting; the potential adverse and beneficial effects of the project; the level of impact significance before mitigation; the mitigation measures for the proposed project; the level of significance of the adverse impacts of the project after mitigation is incorporated; and the potential cumulative impacts associated with the proposed project and other existing, approved, and proposed development in the area.

**Section 6. Significant Unavoidable Adverse Impacts:** Describes the significant unavoidable adverse impacts of the proposed project.

**Section 7. Impacts Found Not to Be Significant:** Briefly describes the potential impacts of the project that were determined not to be significant by the Initial Study and were therefore not discussed in detail in this SEIR.

**Section 8. Organizations and Persons Consulted:** Lists the people and organizations that were contacted during the preparation of this SEIR for the proposed project.

**Section 9. Qualifications of Persons Preparing SEIR:** Lists the people who prepared this SEIR for the proposed project.

**Section 10. Bibliography:** A bibliography of the technical reports and other documentation used in the preparation of this SEIR for the proposed project.

**Appendices:** The appendices for this document (in PDF format on a CD attached to the front cover) contain the following supporting documents:

## 1. Executive Summary

- Appendix A: Notice of Preparation (NOP) and Initial Study
- Appendix B: NOP Comments
- Appendix C: Air Quality and GHG Modeling Data
- Appendix D: Noise Modeling Data
- Appendix E: Traffic Impact Study
- Appendix F: Water Supply Assessment
- Appendix G: Sub Area Master Plan

### 1.2.2 Type and Purpose of This SEIR

According to Section 15121(a) of the CEQA Guidelines, the purpose of an EIR is to:

Inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

This SEIR analyzes changes to the Adopted Specific Plan that are being proposed by the Modified Project. Since the FEIS/EIR for the Adopted Specific Plan, a number of changes have occurred with require supplemental analysis to update the FEIS/EIR including:

- The Tustin Legacy Specific Plan Amendment was prepared resulting in changes to residential and nonresidential buildout;
- A new version of the Irvine Transportation Analysis Model (ITAM) was approved by the Orange County Transportation Authority in (OCTA), Version 12.4;
- The roadway network and traffic patterns have changed; and
- Senate Bill (SB) 97 was signed in to law requiring that greenhouse gas (GHG) emissions be analyzed in a CEQA document.

CEQA dictates the requirements to determine when a supplemental or subsequent EIR is needed for changes being made to a project that was previously analyzed under CEQA. Once a project has been approved based on a CEQA analysis contained in an EIR, or even in a negative declaration, and the EIR or negative declaration is no longer subject to challenge, CEQA Section 21166 provides that “no subsequent or supplemental environmental impact report shall be required by the lead agency or any responsible agency” unless one of three circumstances apply: (1) substantial changes to the approved project will require major revisions to the certified EIR, (2) substantial changes occur with respect to the circumstances under which the approved project is being undertaken will require major revisions to the certified EIR, or (3) new information, that was not known and could not have been known at the time the EIR for the approved project was certified becomes available. (CEQA § 21166)

## 1. Executive Summary

In this case, in-depth review has already occurred and the time for challenging the sufficiency of the Final Environmental Impact Statement/Final Environmental Impact Report (2001 FEIS/EIR) for Marine Corps Air Station Tustin (MCAS Tustin), the 2004 Supplemental EIR, or the 2006 and 2013 Addenda to the EIR, (collectively referred to as "FEIS/EIR") has long since expired (CEQA § 21167, subd. (c)). Moreover, as discussed below, no circumstances have changed enough to justify repeating a substantial portion of the process. The factors used to evaluate whether a subsequent or a supplemental EIR should be prepared are set forth in CEQA Guidelines 15162 and 15163, and relate to whether "major changes" to the EIR are required. CEQA Guidelines section 15162 clarifies what constitute major changes to the EIR. According to that Section, major changes to the EIR are those that are required either:

- "Due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;" (CEQA Guidelines § 15162, subd. (a)(1), (a)(2); see also, *id.*, subd. (a)(3)(A), (a)(3)(B));
- Where "[m]itigation 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 proponents decline to adopt the mitigation measure or alternative; or" (*id.*, subd. (a)(3)(C));
- Where "[m]itigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative." (*Id.*, subd. (a)(3)(D).)

This DSEIR discloses environmental effects that were not previously identified in the FEIS/EIR related to air quality, greenhouse gas emissions, and traffic. However, the DSEIR does not identify any substantial increase in the severity of previously identified significant effect or new identified effects of the Modified Project as compared to the Adopted Specific Plan, with the exception of two roadway segment noise impacts. Modified Project noise impacts are determined to be less than significant following implementation of mitigation measures. In addition, one significant unavoidable traffic impact identified in the FEIS/EIR has been eliminated with the Modified Project.

This DSEIR is a program-level document that supplements the analyses in the certified 2001 FEIS/EIR, which includes the 2004 Supplemental EIR, 2006 Addendum, and 2013 Addendum (collectively referred to herein as the "FEIS/FEIR"). Section 15163 of the CEQA Guidelines provides that:

- (a) The lead or responsible agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:
  - 1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
  - 2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

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- (b) The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.
- (c) A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.
- (d) A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.
- (e) When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

In accordance with Section 15163 of the CEQA Guidelines, this document:

- Incorporates the certified FEIS/EIR by reference, as discussed in Section 3.3.1, *Previous Environmental Documentation*.
- Contains information necessary to make the FEIS/FEIR adequate for the Modified Project.
- Evaluates the potential environmental impacts of the changes to the Adopted Specific Plan that are proposed by the Modified Project.
- Updates where necessary information relating to the resources in the vicinity of the project site that will be affected by the Modified Project.
- Updates where necessary the discussion of cumulative impacts, project alternatives, growth inducing impacts and other required sections of an EIR per CEQA.

The proposed changes to the Adopted Specific Plan are summarized below in Section 1.4, *Project Summary*, and more fully described in Chapter 3 of this DSEIR. The analysis contained in this DSEIR confirms that the FEIS/EIR is adequate for the Modified Project, with the updated information contained herein.

### 1.3 PROJECT LOCATION

The proposed project, the Tustin Legacy Specific Plan (“Modified Project”) is a revision of the MCAS Tustin Specific Plan (“Adopted Specific Plan”); it 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.

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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 3-1, *Regional Location*, and Figure 3-2, *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.

### 1.4 PROJECT SUMMARY

The Modified Project includes the Tustin Legacy Specific Plan Amendment (2015-001) and General Plan Amendment (2015-002). Tustin Legacy Specific Plan Amendment will guide development of the remaining undeveloped Specific Plan area in the City of Tustin. These remaining parcels would be sold, leased, or developed by the City. 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 as well as education, commercial, commercial/business, entertainment/recreation, and parkland uses. Proposed land use designations include: Mixed-Use Transit, Mixed-Use Urban, Commercial, Commercial/Business, Residential, Park, Linear Park Overlay, Transitional/Emergency Housing, Recreation/Entertainment Core, Education Village, and Public Street Right-of-Way. The General Plan Amendment would include minor text amendments to ensure consistency with the proposed Specific Plan Amendment.

#### 1.4.1 Land Use Plan

The Modified Project proposes changes in land uses for the remaining Planning Areas 8 through 19 and would combine them to create four planning areas, as described below.

- **Planning Area 8, 13–14.** This planning area comprises 314 acres designated Mixed-Use Urban, which provides flexibility for a range of uses, including hotel, commercial retail, commercial entertainment, public recreation, a high school, and residential. A maximum of 1,672 dwelling units and 2,180,690 square feet could be developed in this planning area. The nonresidential square footage includes the area within the (southern) blimp hangar, and an existing multifamily residential consists of 533 units. The Linear Park Overlay in this planning area connects adjacent sections of the Tustin Legacy Park in Planning Areas 15 and 9–12. Tustin Unified School District requires a 40-acre portion of this planning area for a middle school and high school.
- **Planning Area 9–12.** Planning Area 9–12 comprises 117 acres that is designated Commercial/Business use with a maximum building area of 1,588,198 square feet. The Linear Park Overlay starts at the corner of Red Hill Avenue and Barranca Parkway in this planning area. An entrance to the Linear Park Overlay is planned off of Barranca Parkway.
- **Planning Area 15.** Planning Area 15 comprises 271 acres of designated mixed-use transit-oriented development and residential uses. A maximum of 2,814 dwelling units and 1,095,200 square feet could 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

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planning area also contains a portion of the Linear Park Overlay. Existing uses include a 375-unit single-family residential project and a 225-unit affordable housing community.

- **Planning Area 16–19.** This planning area comprises 103 acres and includes commercial retail and military/government uses. Planning Area 16–19 allows for a maximum of 1,486,553 square feet of development. Existing development consists of 1,016,000 square feet of regional commercial retail and entertainment uses as well as 40,846 square feet of military/government use. The military operations have been relocated to a parcel in Planning Area 1, and that site is now designated for development of commercial retail and other suitable development.

Table 1-1, *Land Use Plan Statistical Summary*, provides the buildout statistical summary for the Modified Project compared to the Adopted Specific Plan. Buildout of the Modified Project would encompass 6,813 residential units and 9,532,419 nonresidential square feet. This is 2,212 more residential units and 1,755,306 fewer square feet than the Adopted Specific Plan.

A detailed description of the Modified Project and its components are provided in Chapter 3 of this DSEIR.

**Table 1-1 Land Use Plan Statistical Summary**

PA	Neighbor hood <sup>1</sup>	Land Use	Specific Plan Acres	Adopted Specific Plan		Modified Project		Difference (Proposed – Current)
				Max Residential Units	Max Non-residential SF	Max Residential Units	Non-residential SF	
1	A	Education Village	120	-	2,279,050	-	2,254,200	(24,850) SF
2	A	Community Park	29	-	40,531 <sup>2</sup>	-	1,000	(39,531) SF
3	A	Transitional/ Emergency Housing	5		133,294	-	133,294	No Change
4–5	B	Residential	106	925	-	895 <sup>3</sup>	-	(30) DU
6	C	County Regional Park	85	-	574,992	-	574,992	No Change
7	B	Commercial	21	-	248,292	-	248,292	No Change
8, 13-14	D	Mixed-Use Urban	314	891	4,757,279	1,672 <sup>4</sup>	2,153,690	781 DU (2,603,589) SF
9–12	E	Commercial/ Business	117	-	1,267,324	-	1,588,198	320,874 SF
15	G	Mixed-Use Transit	271	1,214	503,410	2,814 <sup>5</sup>	1,095,200 <sup>6</sup>	1,600 DU 591,790 SF
16–19	F	Commercial	103	-	1,483,553	-	1,483,553	No Change
20	G	Residential	29	376	-	376	-	No Change
21	G	Residential	127	793	-	654	-	(139) DU
22	H	Residential	73	402	-	402	-	No Change
<b>ROW</b>			<b>206</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>			<b>1,606</b>	<b>4,601</b>	<b>11,287,725</b>	<b>6,813<sup>7</sup></b>	<b>9,532,419</b>	<b>2,212 DU</b> <b>(1,755,306) SF</b>

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**Table 1-1 Land Use Plan Statistical Summary**

PA	Neighbor hood <sup>1</sup>	Land Use	Specific Plan Acres	Adopted Specific Plan		Modified Project		Difference (Proposed – Current)
				Max Residential Units	Max Non-residential SF	Max Residential Units	Non-residential SF	
Notes: PA = planning area; SF = square feet; DU = dwelling units 1. See "Neighborhoods" section after the table. 2. Existing buildings. 3. Does not include 180 density bonus units. 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.								

### 1.5 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain issues to be resolved including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the proposed project, the major issues to be resolved include decisions by the lead agency as to:

1. Whether this SEIR adequately describes the environmental impacts of the project.
2. Whether the benefits of the Modified project override those environmental impacts which cannot be feasibly avoided or mitigated to a level of insignificance.
3. Whether the proposed land use changes are compatible with the character of the existing area.
4. Whether the identified goals, policies, or mitigation measures should be adopted or modified.
5. Whether there are other mitigation measures that should be applied to the project besides the Mitigation Measures identified in the SEIR.
6. Whether there are any alternatives to the project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic project objectives.

### 1.6 AREAS OF CONTROVERSY

Prior to the preparation of the DSEIR, the City of Tustin circulated a Notice of Preparation (NOP) and held an EIR scoping meeting on March 10, 2015 to determine the concerns of interested parties regarding environmental analysis of the proposed project. Four people attended the scoping meeting and raised questions relating to traffic impacts and methodology and consistency with existing and planned educational development with the Specific Plan. Table 1-2 summarizes issues identified by respondents to the NOP. The table also provides references to the sections of the DSEIR in which these issues are evaluated. No other areas of controversy are known to the Lead Agency.

Correspondence received in response to the NOP and a summary of comments recorded at the scoping meeting are included in Appendix B of this DSEIR.

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**Table 1-2 Summary of NOP and Scoping Meeting Comments**

Commenting Agency/Person	Comment Type	Comment Summary	Issue Addressed In:
<b>Agencies and Organizations</b>			
Airport Land Use Commission	Land use	<ul style="list-style-type: none"> <li>• Address FAR Part 77</li> <li>• Consistency with JWA AELUP</li> <li>• Heliports</li> </ul>	Sections 5.3, <i>Land Use</i> .
Caltrans	Traffic	<ul style="list-style-type: none"> <li>• Analyze impacts to state facilities</li> <li>• Use 2010 HCM</li> <li>• Include freeway segments, waving areas, ramps, and ramp junctions; biking and pedestrian</li> <li>• Specific I-5, I-405 and SR-55 ramps and intersections</li> </ul>	Section 5.7, <i>Transportation and Traffic</i>
City of Irvine	Traffic	<ul style="list-style-type: none"> <li>• Extend the study area</li> <li>• Provide trip generation comparison</li> <li>• Address Nonresidential Trip Budget</li> <li>• Include Year 2020 and 2035</li> <li>• Address TUSD projects</li> <li>• Discuss possible extension of Moffett to Red Hill Avenue</li> <li>• Cumulative projects to be provided in accordance with the 2013 Settlement Agreement</li> <li>• Provide updated trip budget</li> </ul>	Section 5.7, <i>Transportation and Traffic</i>
County of Orange	General	<ul style="list-style-type: none"> <li>• Notification of future project activities</li> </ul>	n/a
Irvine Ranch Water District	Water and wastewater infrastructure, supply, treatment	<ul style="list-style-type: none"> <li>• Update SAMP</li> <li>• Address all water and wastewater impacts</li> </ul>	Section 5.8, <i>Utilities and Service Systems</i>
South Coast Air Quality Management District	Air quality	<ul style="list-style-type: none"> <li>• Methodology for air quality analysis</li> <li>• Mitigation measures</li> </ul>	Section 5.1, <i>Air Quality</i>
South Orange County Community College District	Traffic	<ul style="list-style-type: none"> <li>• Analyze traffic impacts considering ATEP property and approved entitlements</li> <li>• Address changes in AM and PM peak due to change in traffic distribution</li> </ul>	Section 5.7, <i>Transportation and Traffic</i>
Southern California Association of Governments	Land Use; RTP/SCS	<ul style="list-style-type: none"> <li>• Analyze consistency with the RTP/SCS goals and strategies and regional growth forecasts</li> <li>• Mitigation measures</li> </ul>	Sections 5.3, <i>Land Use</i> .
Southern California Edison	Electricity	<ul style="list-style-type: none"> <li>• Document existing facilities</li> <li>• Encroachment permits</li> <li>• Electrical Service Evaluation</li> <li>• General Order 131-D</li> </ul>	Chapter 7, <i>Impacts Found Not to be Significant</i>
Southern California Gas	Natural Gas	<ul style="list-style-type: none"> <li>• Facilities in the service area could be installed, altered or abandoned without any significant impact on the environment</li> </ul>	Chapter 7, <i>Impacts Found Not to be Significant</i>

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**Table 1-2 Summary of NOP and Scoping Meeting Comments**

Commenting Agency/Person	Comment Type	Comment Summary	Issue Addressed In:
<b>Residents and Businesses</b>			
Dworkin, Jerry	Traffic Water Conservation Population	<ul style="list-style-type: none"> <li>• Opposed to the expansion of number of residents</li> <li>• Traffic backed up on Von Karman; from Barranca Parkway to Alton Parkway</li> <li>• Impacts of increased population on water conservation</li> <li>• Quality of life.</li> </ul>	Sections 5.7, <i>Transportation and Traffic</i> and 5.8, <i>Utilities and Service Systems</i> .
Mcctriumph	Water Supply	<ul style="list-style-type: none"> <li>• Should not introduce new houses when water cut backs are required.</li> </ul>	Section 5.8, <i>Utilities and Service Systems</i> .
Moorekedee	Water Supply	<ul style="list-style-type: none"> <li>• Should not introduce new houses when water cut backs are required.</li> </ul>	Section 5.8, <i>Utilities and Service Systems</i> .
Wise, Susan	Water Supply	<ul style="list-style-type: none"> <li>• Opposed to more residential development.</li> <li>• Water storage</li> </ul>	Section 5.8, <i>Utilities and Service Systems</i> .

### 1.7 SUMMARY OF ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE AFTER MITIGATION

Table 1-3 summarizes the conclusions of the environmental analysis contained in this SEIR. Impacts are identified as significant or less than significant and for all significant impacts mitigation measures are identified. The level of significance after imposition of the mitigation measures is also presented.

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**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
<b>5.1 AIR QUALITY</b>				
<p><b>Impact 5.1-1:</b> Similar to the Adopted Specific Plan, the Modified Project would be inconsistent with the applicable Air Quality Management Plan.</p>	<p><b>Significant</b></p>	<p>Mitigation Measures AQ-1 through AQ-4 apply.</p>	<p><b>Significant and Unavoidable</b></p>	<p><b>Significant and Unavoidable</b> No change from Adopted Specific Plan.</p>
<p><b>Impact 5.1-2:</b> Construction activities associated with the Modified Project would generate short-term emissions and impacts similar to the Adopted Specific Plan.</p>	<p><b>Significant</b></p>	<p>AQ-1 During construction of the proposed project, the City, and/or developer and its contractors shall be required to comply with regional rules, which would assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires that air pollutant emissions should not create a nuisance off-site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. The City and its contractors shall use the measures present in SCAQMD Rule 403, Tables 1, 2, and 3. This compliance measure shall be included in the contractor's specifications and verified on City projects by the Department of Public Works.</p> <p>AQ-2 <del>Unless determined by the City of Tustin and the City of Irvine, as applicable, to be infeasible on a project-by-project basis due to unique project characteristics, each city shall require individual development projects to</del> <u>Prior to the issuance of grading permits, the project applicant shall use low VOC architectural coatings for all interior and exterior painting operations.</u></p>	<p><b>Significant and Unavoidable</b></p>	<p><b>Significant and Unavoidable</b> No change from Adopted Specific Plan.</p>
<p><b>Impact 5.1-3:</b> The Modified Project, similar to the Adopted Specific Plan, would result in significant long-term regional air quality impacts.</p>	<p><b>Significant</b></p>	<p>AQ-3 Prior to the issuance of development permits for new non-residential projects with 100 or more employees, and expanded projects where additional square footage would result in a total of 100 or more employees, the City of Tustin and the City of Irvine, as applicable, shall impose a mix of TDM measures which, upon estimation, would result in an average vehicle ridership of at least 1.5, for each development with characteristics that would be reasonably conducive to successful implementation of such TDM measures. These TDM</p>	<p><b>Significant and Unavoidable</b></p>	<p><b>Significant and Unavoidable</b> No change from Adopted Specific Plan.</p>

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**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		<p>measures may include one or more of the following, as determined appropriate and feasible by each city on a case-by-case basis:</p> <ul style="list-style-type: none"> <li>• Establish preferential parking for carpool vehicles</li> <li>• Provide bicycle parking facilities</li> <li>• Provide shower and locker facilities</li> <li>• Provide carpool and vanpool loading areas.</li> <li>• Incorporate bus stop improvements into facility design.</li> <li>• Implement shuttles to shopping, eating, recreation, and/or parking and transit facilities.</li> <li>• Construct remove parking facilities</li> <li>• Provide pedestrian circulation linkages.</li> <li>• Construct pedestrian grade separations.</li> <li>• Establish carpool and vanpool programs.</li> <li>• Provide cash allowances, passes, and other public transit and purchase incentives.</li> <li>• Establish parking fees for single occupancy vehicles.</li> <li>• Provide parking subsidies for rideshare vehicles.</li> <li>• Institute a computerized commuter rideshare matching system.</li> <li>• Provide a guaranteed ride-home program for ridesharing.</li> <li>• Establish alternative work week, flex-time, and compressed work week schedules.</li> <li>• Establish telecommuting or work-at-home programs.</li> <li>• Provide additional vacation and compensatory leave incentives.</li> <li>• Provide on-site lunch rooms/cafeterias and commercial services such as banks, restaurants, and small retail.</li> <li>• Provide on-site day care facilities.</li> <li>• Establish an employee transportation coordinator(s).</li> </ul> <p>AQ-4 If not required under each individual development's TDM plan, the City of Tustin and the City of Irvine, as applicable, shall implement</p>		

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**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		<p>the following measures, as determined appropriate or feasible by each city on a case-by-case basis:</p> <ul style="list-style-type: none"> <li>• Reschedule truck deliveries and pickups for off-peak hours.</li> <li>• Implement lunch shuttle service from worksite(s) to food establishments.</li> <li>• Implement compressed work week schedules where weekly work hours are compressed into fewer than five days, such as 9/80, 4/40, or 3/36.</li> <li>• Provide on-site child care and afterschool facilities or contribute to off-site developments within walking distances.</li> <li>• Provide on-site employee services such as cafeterias, banks, etc.</li> <li>• Implement a pricing structure for single-occupancy employee parking, and/or provide discounts to ridesharers.</li> <li>• Construct off-site pedestrian facility improvements such as overpasses and wider sidewalks.</li> <li>• Include retail services within or adjacent to residential subdivisions.</li> <li>• Provide shuttles to major rail transit centers or multi-modal stations.</li> <li>• Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).</li> <li>• Synchronize traffic lights on streets impacted by development.</li> <li>• Construct, contribute, or dedicate land for the provision of off-site bicycle trails linking the facility to designated bicycle commuting routes.</li> <li>• Include residential units within a commercial development.</li> <li>• Provide off-site bicycle facility improvements, such as bicycle trails linking the facility to designated bicycle commuting routes, or on-site improvements, such as bicycle paths.</li> <li>• Include bicycle parking facilities such as bicycle lockers.</li> <li>• Include showers for bicycling and pedestrian employees' use.</li> <li>• Construct on-site pedestrian facility improvements, such as</li> </ul>		

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**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		building access which is physically separated from street parking lot traffic, and walk paths		
<p><b>Impact 5.1-4:</b> The Modified Project, similar to the Adopted Specific Plan, could expose sensitive receptors to substantial pollutant concentrations of criteria air pollutants during construction activities.</p>	<p><b>Significant</b></p>	<p>AQ-5 <u>Applicants for new development projects within the Tustin Legacy Specific Plan shall require the construction contractor to use equipment that meets the US Environmental Protection Agency (EPA) Tier 4 emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower during construction activities, unless it can be demonstrated to the City of Tustin that such equipment is not available.</u></p> <ul style="list-style-type: none"> <li>• <u>Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine, as defined by the California Air Resources Board's regulations.</u></li> <li>• <u>Prior to construction, the project engineer shall ensure that all demolition and grading plans clearly show the requirement for EPA Tier 4 or higher emissions standards for construction equipment over 50 horsepower. During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for verification by the City of Tustin. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.</u></li> </ul> <p>AQ-6 <u>Prior to the issuance of grading permits, the applicants for individual new developments shall evaluate localized construction-related air</u></p>	<p><b>Significant and Unavoidable</b></p>	<p><b>Significant and Unavoidable</b></p> <p>No change from Adopted Specific Plan.</p>

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**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		<p><u>quality impacts. Localized construction emissions shall be evaluated to the South Coast Air Quality Management District's Localized Significance Thresholds for construction. Applicable mitigation measures to reduce potential localized construction-related air quality impacts shall be included in the evaluation, as necessary, to minimize impacts to the extent feasible and shall be implemented. The evaluation shall be submitted to the City of Tustin for review. In addition, all recommended mitigation measures shall be noted on all construction plans submitted to the City of Tustin Building and Public Works Department for verification.</u></p>		
<p><b>Impact 5.1-5:</b> Implementation of the Modified Project would not result in new impacts or an increased severity of impacts associated with exposure of sensitive receptors to substantial toxic air contaminant concentrations compared to the Adopted Specific Plan.</p>	<p>Less than significant</p>	<p>With compliance of SCAQMD Rule 1401 and Tustin Legacy Specific Plan, Regulation 3.18.4c no further mitigation measures are required.</p>	<p>Less than significant</p>	<p>No change from Adopted Specific Plan.</p>
<p><b>Cumulative Impact</b></p>	<p><b>Significant</b></p>	<p>Mitigation Measures AQ-1 through AQ-6 apply.</p>	<p><b>Significant and Unavoidable</b></p>	<p><b>Significant and Unavoidable</b> No change from Adopted Specific Plan.</p>
<p><b>5.2 GREENHOUSE GAS EMISSIONS</b></p>				
<p><b>Impact 5.2-1:</b> Similar to the Adopted Specific Plan, implementation of the Modified Project would result in a substantial increase of GHG emissions that would exceed the South Coast Air Quality Management District's proposed significance thresholds. However, the Modified Project would reduce annual emissions by 12,239 MTCO<sub>2</sub>e per year and per capita emissions by 0.7 MTCO<sub>2</sub>e/SP compared to the Adopted</p>	<p><b>Significant</b></p>	<p>Mitigation Measures AQ-3 and AQ-4 apply.</p>	<p>Topic not analyzed in FEIS/EIR.</p>	<p>Impacts are less than the Adopted Specific Plan.</p>

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**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
Specific Plan.				
<b>Cumulative Impacts</b>	<b>Significant</b>	Mitigation Measures AQ-3 and AQ-4 apply.	Topic not analyzed in FEIS/EIR.	Impacts are less than the Adopted Specific Plan.
<b>5.3 LAND USE AND PLANNING</b>				
<b>Impact 5.3-1:</b> Modified Project implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation measures are required.  The 2001 FEIS/EIR incorporated Mitigation Measures LU-1 and LU-2. City of Tustin's General Plan and zoning ordinance were amended to be consistent with the Adopted Specific Plan. The City's zoning ordinance contains site design measures that address the quality and appearance of new development in the City. Therefore, Mitigation Measure LU-1 has been satisfied. Mitigation Measure LU-2 applies only to the portions of the project area that are in the City of Irvine. Because the proposed Modified Project only applies to the portion of the project area that is in the City of Tustin, Mitigation Measure LU-2 does not apply to the Modified Project.	Less than significant following amendment to General Plan and zoning ordinance	Less than significant  No change from Adopted Specific Plan.
<b>Cumulative Impacts</b>	Less than significant	No mitigation measures are required.	Less than significant	Less than significant  No change from Adopted Specific Plan.
<b>5.4 NOISE</b>				
<b>Impact 5.4-1:</b> Construction activities would not create temporary noise increases in the vicinity of the Modified Project that would result in a significant change compared to the Adopted Specific Plan.	Less than significant	No mitigation measures are required.	Less than significant.	Less than significant  No change from Adopted Specific Plan.
<b>Impact 5.4-2:</b> Implementation of the Modified Project would result in long-term operation-related noise that would substantially increase traffic noise along two roadway segments compared to the	<b>Significant</b>	<b>2001 FEIS/EIR</b> N-1 Prior to reuse of any existing residential units within the reuse area for civilian use, the City of Tustin or the City of Irvine, as applicable, and where necessary and feasible, shall require the installation of noise attenuation barriers, insulation, or similar devices to ensure	Less than significant	Less than significant  Increase from Adopted Specific Plan.

1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
Adopted Specific Plan.		<p>that interior and exterior noise levels at these residential units do not exceed applicable noise standards.</p> <p>N-3 For new development within the reuse area, the City of Tustin and City of Irvine, as applicable shall ensure that interior and exterior noise levels do not exceed those prescribed by state requirements and local city ordinances and general plans. Plans demonstrating noise regulation conformity shall be submitted for review and approval prior to building permits being issued to accommodate reuse.</p> <p><b>2004 SEIR</b></p> <p>NR-1 Prior to opening the proposed segment of Tustin Ranch Road to traffic, the City will install a soundwall that ranges from six feet to 12 feet in height. Following are the heights of the soundwall in relation to the elevation of the proposed roadway adjacent to the residential receptors (see Exhibit 5.3-2 of the SEIR for receptor locations).</p> <ul style="list-style-type: none"> <li>• Receptor 1 - Existing 6-foot wall</li> <li>• Receptors 2 through 4 - Proposed 12-foot wall</li> <li>• Receptors 5 and 6 - Proposed 10-foot wall</li> <li>• Receptors 7 and 8 - Proposed 8-foot wall</li> <li>• Receptors 9 through 15 feet south of Receptor 21 - Proposed 6-foot wall</li> </ul> <p>NR-2 Receptors 1 through 13 require forced air ventilation (see Exhibit 5.3-2 receptor location). If receptors 1 through 13 do not currently have forced air ventilation, the City shall provide forced air ventilation prior to the opening of the proposed segment of Tustin Ranch Road to traffic.</p> <p>NR-3 Receptors 14 through 21 that have a second story will require forced air ventilation in the second story. If these residential receptors do not currently have forced air ventilation, the City shall provide forced</p>		

# 1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		<p>air ventilation in the second story prior to the opening of the proposed segment of Tustin Ranch Road to traffic.</p> <p>NR-4 Prior to the opening of the proposed segment of Tustin Ranch Road to traffic, all second-story windows and/or sliding glass doors in habitable rooms of the residences along the proposed alignment that view the proposed alignment shall be fitted with acoustic-rated window/door assemblies. These assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise level of no more than 45 dBA CNEL. Non- sensitive uses (e.g., bathrooms) do not require such assemblies.</p> <p>NR-5 All second-story exterior doors in habitable rooms of the residences along the proposed alignment that view the proposed alignment shall be fitted with solid- core assemblies that are well sealed with weather-stripping.</p> <p>NR-6 Prior to opening of the proposed segment of Tustin Ranch Road to traffic, the City will install a 10-foot high wall along the eastern easement of Tustin Ranch Road from Walnut Avenue to the southern property line of the First Baptist Church.</p> <p>NR-7 The second-story windows that view the proposed alignment shall be fitted with acoustic-rated window assemblies. The assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise of no more than 45 dBA CNEL.</p>		
<p><b>Impact 5.4-3:</b> The Modified Project would not result in a substantial increase in groundborne vibration or groundborne noise impacts compared to the Adopted Specific Plan.</p>	<p>Less than significant.</p>	<p>No mitigation measures are required.</p>	<p>Less than significant.</p>	<p>Less than significant.  No change from Adopted Specific Plan.</p>

1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
<b>Cumulative Impacts</b>	<b>Significant</b>	Mitigation measures NR-1, N-3 and NR-1 through NR-7 apply.	Less than significant.	Less than significant. No change from Adopted Specific Plan.
<b>5.5 POPULATION AND HOUSING</b>				
<b>Impact 5.5-1:</b> Like the Adopted Specific Plan, the Modified Project would directly induce population growth in the project area.	Less than significant	No mitigation measures are required.	Less than significant	Less than significant. No change from Adopted Specific Plan.
<b>Cumulative Impacts</b>	Less than significant	No mitigation measures are required.	Less than significant	Less than significant. No change from Adopted Specific Plan.
<b>5.6 PUBLIC SERVICES</b>				
<b>SCHOOL SERVICES</b>				
<b>Impact 5.6-1:</b> The Modified Project would generate new students within TUSD boundaries.	Less than significant	No mitigation measures are required.	Less than significant	Less than significant. No change from Adopted Specific Plan.
<b>Cumulative Impacts</b>	Less than significant	No mitigation measures are required.	Less than significant	Less than significant. No change from Adopted Specific Plan.
<b>5.7 TRANSPORTATION/TRAFFIC</b>				
<b>Impact 5.7-1:</b> Two intersections and four freeway ramp intersections would operate deficiently under no-project (Adopted Specific Plan) and with-project (Modified Project) conditions. However, the Modified Project would not result in a new significant impact or a substantial increase in the severity of previously	<b>Significant</b>	<b>2001 FEIS/EIR</b> T/C-1 In conjunction with the approval of a site development permit, the City of Tustin and the City of Irvine as applicable (for that portion of the reuse plan within Irvine), shall require each developer to provide traffic operations and control plans that would minimize the traffic impacts of proposed construction activity. The plans shall address roadway and lane closures, truck hours and routes, and notification procedures for planned short-term or interim changes in traffic	<b>Significant and Unavoidable</b>	Less than significant. Elimination of one significant and unavoidable intersection impact, Jamboree Road at Barranca Parkway.

# 1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
identified significant impacts.		<p>patterns. The City of Tustin and the City of Irvine, as applicable, shall ensure that the plan would minimize anticipated delays at major intersections. Prior to approval, the City of Tustin or the City of Irvine, as applicable shall review the proposed traffic control and operations plans with any affected jurisdiction.</p> <p>T/C-2 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), shall ensure that the arterial intersection improvements required in 2005 and 2020 and as indicated in Tables 4.12-7 and 4.12-9 [of the 2001 FEIS/EIR] are implemented for their respective jurisdictions according to the cumulative ADT thresholds identified in each table and according to the fair share basis noted. The ADT threshold represents the traffic volume which would result in an impact and the fair share percentage reflects the percent of the traffic impact resulting from the reuse generated traffic. In some cases, reuse traffic would generate 100 percent of the impact thereby assuming full financial responsibility for the identified improvements. In other cases, reuse traffic would generate only a fraction of the traffic impacting the intersection and financial responsibility would correspond. (NOTE: with respect to Mitigation Measure T/C-2, improvements identified in Table 4.12-9 for intersections #30, 42, 77, 103, and 118 are no longer required because they have either already been implemented or a deficiency no longer occurs.)</p> <p>T/C-4 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), shall ensure that all on-site circulation system improvements for the reuse plan area assumed in the 2005 and 2020 traffic analysis and as shown in Table 4.12-10 [of the 2001 FEIS/EIR] are implemented according to the cumulative ADT thresholds identified in the table. Under this Phasing Plan, the City of Tustin shall monitor all new development within the site, accounting for the cumulative ADT generated by development projects. As each ADT threshold is reached, the roadway</p>		

1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		<p>improvements listed in Table 4.12-10 shall be constructed before any additional projects within the reuse plan area would be approved.</p> <p>T/C-5 Prior to approval of a site development permit or vesting tract, except for financing or conveyance purposes, for all land use designation areas in Alternative 1 with exception of the Learning Village, Community Park and Regional Park, a project developer shall enter into an agreement with the City of Tustin and City of Irvine, as applicable (for that portion of the reuse plan area with Irvine) which assigns improvements required in the EIS/EIR to the development site and which requires participation in a fair share mechanism to design and construct required on-site and arterial improvements consistent with the ADT generation thresholds shown on Tables 4.2-7, 4.2-8, 4.2-9, and 4.2-10 [of the 2001 FEIS/EIR].</p> <p>T/C-6 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), will monitor new development within the reuse plan area, accounting for the cumulative ADTs generated by development projects within the reuse plan area. As each cumulative ADT threshold shown in Table 4.2-10 [of the 2001 FEIS/EIR] is reached, the roadway improvements listed shall be constructed before any additional projects within the reuse plan area are approved.</p> <p>T/C-7 The City of Tustin shall adopt a trip budget for individual portions of the reuse plan area to assist in the monitoring of cumulative ADTs and the amount and intensity of permitted non-residential uses as evaluated in the EIS/EIR.</p> <p>T/C-8 Alternative improvements that provide an equivalent level of mitigation in 2005 or 2020 to what identified in Tables 4.12-7, 4.12-8, and 4.12-9 [of the 2001 FEIS/EIR] may be identified in consultation between the City of Tustin and the City of Irvine, as applicable, and</p>		

# 1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		<p>the impacted jurisdiction.</p> <p>T/C-9 The City of Tustin shall enter into agreements with Caltrans and the cities of Santa Ana and Irvine to ensure that the off-site roadway improvements needed to mitigate the effects of the proposed alternative are constructed pursuant to improvement programs established by the respective jurisdiction.</p> <p>In order to properly coordinate the timing and improvements in the adjacent jurisdictions, the City of Tustin shall hold a scoping-like meeting with the respective jurisdictions. The purpose of said scoping-like meeting shall be to identify the concerns of the respective jurisdictions prior to the initiation of the fair share study. The purpose of the study would be to fully identify, with each jurisdiction, the scope and costs of feasible improvements (as determined by the respective jurisdiction). The improvements would be acceptable to each jurisdiction toward fulfilling the timing and cost of the transportation improvement obligations as required to mitigate transportation impacts in each jurisdiction. The funding for the improvements to be incorporated into the agreement would be utilized by the respective agency to improve the capacity of the impacted intersections/links to be used for substituted improvements, as determined by mutual agreement.</p> <p>Prior to execution of the agreement, each jurisdiction would be allowed ten (10) working days to review the technical report prior to being provided with a copy of the proposed agreement. Each jurisdiction would have ten (10) working days to review and comment as to its concurrence with the improvement programs contained in the agreement. The comments of each jurisdiction would be considered to ensure that the City of Tustin's responsibility for fair share funding of the improvements in each jurisdiction as stated above is fully addressed.</p>		

1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		<p><b>2006 Addendum</b></p> <p>IA-1 Table 4.12-10 of the FEIS/EIR, as revised and presented in Table 4-4 of the revised Specific Plan Phasing Plan, presents the Phasing Plan for the on-site circulation system. The Phasing Plan is based upon traffic circulation impact and mitigation analysis contained in the Tustin Legacy Traffic Analysis (Austin-Foust Associates, Inc., February 2006). Under this Specific Plan Phasing Plan, the City of Tustin shall monitor all new development within the Specific Plan, accounting for the cumulative ADT generated by development projects. As each ADT threshold is reached, the roadway improvements listed in Tables 4-3 (attached) and 4-4 of the revised Specific Plan Phasing Plan (attached) shall be constructed before any additional projects within the Specific Plan would be approved.</p> <p>IA-2 Table 3-3, as revised and presented in Section 3 of this addendum, presents the Trip Budget which summarizes the square footage of non-residential uses allocated to each neighborhood by Planning Area and the associated ADT. (Residential uses are shown for information only; they are not part of the budget.) Pursuant to Section 3.2.4 of the Specific Plan, the City of Tustin shall implement the trip budget by neighborhood to control the amount and intensity of non-residential uses. Trip Budget transfers between neighborhoods shall also be implemented as directed in subsection 3.2.4 of the Specific Plan.</p> <p>IA-3 Prior to approval of (1) a Planning Area Concept Plan pursuant to Section 4.2 of the Specific Plan, (2) a site development permit, or (3) a vesting tentative map for new square footage (not for financing or conveyance purposes), a project developer shall provide traffic information consistent with the provisions of the Specific Plan, the FEIS/EIR, and this Addendum and the requirements of the City of Tustin Traffic Engineer. The traffic information shall (a) identify and assign traffic circulation mitigation measures required in the EIS/EIR pursuant to the Phasing Plan described in Tables 4-2 and 4-3 Table</p>		

# 1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
		<p>4-4 of the revised of the <u>Tustin Legacy</u> Specific Plan Phasing Plan; (b) evaluate the effects of either the delay of any previously committed circulation improvements or the construction of currently unanticipated circulation improvements, and (c) utilize the circulation system and capacity assumptions within the EIS/EIR and any additional circulation improvements completed by affected jurisdictions for the applicable timeframe of analysis.</p> <p>IA-4 Prior to issuance of building permits for new development within planning areas requiring a concept plan, a project developer shall enter into an agreement with the City of Tustin to (a) design and construct roadway improvements consistent with the ADT generation phasing Plan described in <u>Tables 4-2 and 4-3 of the <del>Table 4-4 of the revised</del> Tustin Legacy</u> Specific Plan Phasing Plan and (b) address the impact of and specify the responsibility for any previously committed circulation improvements assumed in the EIS/EIR which have not been constructed.</p> <p>IA-5 If a subsequent traffic Phasing Plan demonstrates that certain circulation improvements should be included in a different phase of Specific Plan development (accelerated or delayed) or that a circulation improvement can be substituted, the mitigation Phasing Plan may be amended, subject to approval of the City of Tustin and any other affected jurisdiction, provided that the same level of traffic mitigation and traffic capacity would be provided.</p>		
<p><b>Impact 5.7-2:</b> Seven freeway ramps and eleven freeway mainline segments would operate deficiently under no-project (Adopted Specific Plan) and with-project (Modified Project) conditions and one additional freeway mainline would operate deficiently in the no-project condition. However, trip generation</p>	<p><b>Significant</b></p>	<p>Mitigation Measure T/C-9 applies.</p>	<p>Not specified in FEIS/EIR</p>	<p>No change from Adopted Specific Plan.</p>

1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
associated with the Modified Project would not result in a new significant impact or substantial increase in the severity of previously identified significant impacts.				
<b>Cumulative Impacts</b>	<b>Significant</b>	Mitigation measures from Impacts 5.7-1 and 5.7-2 apply.	<b>Significant and Unavoidable</b>	Less than significant.  Elimination of one significant and unavoidable intersection impact, Jamboree Road at Barranca Parkway.
<b>5.8 UTILITIES AND SERVICE SYSTEMS</b>				
<b>WASTEWATER</b>				
<b>Impact 5.8-1:</b> Similar to the Adopted Specific Plan, wastewater generated by the Modified Project could be adequately treated by the wastewater service providers.	Less than significant	No mitigation measures are required.	Less than significant	Less than significant  No change from Adopted Specific Plan.
<b>Impact 5.8-2:</b> Similar to the Adopted Specific Plan, wastewater generated by the Modified Project could be adequately collected and conveyed.	Less than significant	No mitigation measures are required.	Less than significant	Less than significant  No change from Adopted Specific Plan.
<b>Cumulative Impacts</b>	Less than significant	No mitigation measures are required.	Less than significant	Less than significant  No change from Adopted Specific Plan.

# 1. Executive Summary

**Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation**

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Adopted Specific Plan Level of Significance After Mitigation	Modified Project Level of Significance After Mitigation
<b>WATER</b>				
<b>Impact 5.8-3:</b> Similar to the Adopted Specific Plan, water supplies would be adequate to meet requirements of the Modified Project. Existing water treatment facilities in the region have sufficient capacity to meet Modified Project water demands, and no new or expanded water treatment facilities would be required.	Less than significant	No mitigation measures are required.	Less than significant	Less than significant No change from Adopted Specific Plan.
<b>Impact 5.8-4:</b> Similar to the Adopted Specific Plan, water needed by the Modified Project could be adequately treated by the water service treatment providers.	Less than significant	No mitigation measures are required.	Less than significant	Less than significant No change from Adopted Specific Plan.
<b>Impact 5.8-5:</b> Similar to the Adopted Specific Plan, water delivery improvements within the project site would be required to meet Modified Project water demands.	Less than significant	No mitigation measures are required.	Less than significant	Less than significant No change from Adopted Specific Plan.
<b>Cumulative Impacts</b>	Less than significant	No mitigation measures are required.	Less than significant	Less than significant No change from Adopted Specific Plan.

## 2. Introduction

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### 2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act (CEQA) requires that all state and local governmental agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. This draft supplemental environmental impact report (DSEIR) has been prepared to satisfy CEQA and the State CEQA Guidelines. The environmental impact report (EIR) is the public document designed to provide decision makers and the public with an analysis of the environmental effects of the proposed project, to indicate possible ways to reduce or avoid environmental damage and to identify alternatives to the project. The EIR must also disclose significant environmental impacts that cannot be avoided; growth-inducing impacts; effects not found to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable future projects. Pursuant to CEQA Guidelines Section 15162 and 15163, a supplemental EIR (SEIR) is being prepared to update the prior environmental analysis.

As discussed in Section 3.3, *Project Background*, of this DSEIR, the Tustin City Council adopted the MCAS Tustin Specific Plan (Adopted Specific Plan) and certified Final Environmental Impact Statement/Environment Impact Report (2001 FEIS/EIR) as the environmental documentation for the Adopted Specific Plan. Additional environmental documentation has occurred since that time via supplemental EIRs and addenda. The original 2001 FEIS/EIR, the supplement, and the addenda are collectively referred to herein as the “FEIS/EIR.” A summary of the FEIS/EIR is provided in Section 3.3.2, *Previous Environmental Documentation*, of this DSEIR. This SEIR contains information necessary to make the previously certified FEIS/EIR adequate for the proposed Tustin Legacy Specific Plan Amendment (the “Modified Project”).

Pursuant to CEQA Section 21067, the lead agency means “the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment.” The City of Tustin has the principal responsibility for approval of the Modified Project. For this reason, the City of Tustin is the CEQA lead agency for this project. As the lead agency, the City has the responsibility for, among other things, preparing and certifying an SEIR that analyzes the potential environmental impacts of the Modified Project, as compared to the Adopted Specific Plan; identifying feasible mitigation measures that could avoid or minimize the Modified Project’s significant environmental impacts; describing and analyzing feasible alternatives to the Modified Project; adopting findings with regard each significant effect of the Modified Project; providing a Statement of Overriding Considerations (SOC) for all environmental impacts of the Modified Project that cannot be mitigated to a less than significant level; and adopting a Mitigation Monitoring and Reporting Program (MMRP) to ensure that all required mitigation measures are implemented during the lifetime of the Modified Project.

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The overall purpose of this DSEIR is to inform the City's decision makers and the general public whether the Modified Project, as compared to the Adopted Specific Plan, would result in any new significant impacts or an increase in the severity of significant impacts previously identified for the Adopted Specific Plan. The Adopted Specific Plan is the "baseline" for the analysis in this DSEIR and was used in preparing the Initial Study for the Modified Project to evaluate the potential incremental impacts of the Modified Project.

As stated in Section 15121(a) of the CEQA Guidelines, the DSEIR is an "informational document" intended to inform the City; other public agencies with discretionary authority over aspects of the Modified Project; the general public; the local community; and other organizations, entities, and interested persons of the scope of the Modified Project, the significant environmental effects of the Modified Project compared to the Adopted Specific Plan, feasible measures to avoid or minimize the significant effects, and a reasonable range of feasible alternatives to the Modified Project that would avoid or minimize the significant effects. The City must consider the information in this DSEIR and make certain findings with respect to each significant effect identified. The City will use the information in the DSEIR, along with other information received and/or developed during the public review process for the DSEIR, to determine whether to approve, modify, or not approve the Modified Project and, if approval is granted, to specify applicable and enforceable environmental mitigation measures as part of the Modified Project approvals. Specific discretionary actions to be reviewed by the City and potential project permits and approvals required from other regulatory agencies for the Modified Project are described in Section 3.4.1, *Description of the Project*, and Section 3.5, *Intended Uses of the EIR*, of this DSEIR.

This DSEIR has been prepared in accordance with requirements of the:

- California Environmental Quality Act (CEQA) of 1970, as amended (Public Resources Code Section 21000 et seq.)
- State Guidelines for the Implementation of the CEQA of 1970 (CEQA Guidelines), as amended (California Code of Regulations Sections 15000 et seq.)

### 2.2 NOTICE OF PREPARATION AND INITIAL STUDY

The City of Tustin determined that a Supplemental EIR pursuant to CEQA Guidelines Sections 15162 and 15163 would be required for this project and issued a Notice of Preparation (NOP) and Initial Study on April 1, 2015 (see Appendix A). Comments received during the 30-day public review period, from April 2, 2015, to May 4, 2015, are in Appendix B.

The NOP process is used to help determine the scope of the environmental issues to be addressed in the DSEIR. Based on this process and the Initial Study for the project, certain environmental categories were identified as having the potential to result in new significant impacts or a substantial increase in a previously identified impact. Issues considered Potentially Significant/Additional Environmental Analysis Required are addressed in this DSEIR, but issues identified as Less Than Significant/No Changes or New Information Requiring Preparation of an EIR or No Impact are not.

## 2. Introduction

Refer to Section 1.2, *Environmental Procedures*, of this DSEIR for a discussion of the Initial Study and EIR process and the Initial Study in Appendix A for discussion of how these initial determinations were made.

### 2.3 SCOPE OF THIS DSEIR

As discussed in Section 1.2.2, *Type and Purpose of this SEIR*, this DSEIR has been prepared as a supplement to the FEIS/EIR consistent with Public Resources Code Section 21166 and CEQA Guidelines Sections 15162 and 15163. Pursuant to those sections, the DSEIR analyzes the impacts of the Modified Project compared to the Adopted Specific Plan.

Under CEQA Guidelines Sections 15126.2 and 15126.4, the DSEIR must identify any potentially significant adverse impacts of the Modified Project—as compared to the Adopted Specific Plan—and recommend mitigation measures that would reduce those impacts to levels of insignificance or eliminate the impacts altogether. The scope of the DSEIR was determined based upon the City’s Initial Study, comments received in response to the NOP, and comments received at the scoping meeting conducted by the City.

The information in Chapter 3, *Project Description*, establishes the basis for analyzing future, project-related environmental impacts as compared to the Adopted Specific Plan. However, further environmental review by the City may be required as more detailed information and plans are submitted on a project-by-project basis.

#### 2.3.1 Impacts Considered Less Than Significant

Nine environmental impact categories are identified here as not being significantly affected by the Modified Project, as compared to the Adopted Specific Plan, and as such are not discussed in detail in this DSEIR. This determination was made by the City of Tustin in its preparation of the Initial Study. The following topical issues are not addressed in the DSEIR:

- Aesthetics
- Agriculture and Forestry Resources
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Recreation

#### 2.3.2 Potentially Significant Adverse Impacts

Nine environmental factors were identified in the Initial Study as having the potential to result significant impacts if the Modified Project is implemented. Further analysis of these topical areas were conducted and included in this DSEIR:

## 2. Introduction

- Air Quality
- Greenhouse Gas Emissions<sup>1</sup>
- Hydrology and Water Quality (Groundwater Supply)<sup>2</sup>
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Transportation and Traffic
- Utilities and Service Systems

### 2.3.3 Unavoidable Significant Adverse Impacts

This DSEIR does not identify any new significant and unavoidable adverse impacts, as defined by CEQA, that would result from implementation of the Modified Project. Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. If the City, as the lead agency, determines that unavoidable significant adverse impacts will result from the project, the City must prepare a “Statement of Overriding Considerations” before it can approve the project. A Statement of Overriding Considerations states that the decision-making body has balanced the benefits of the proposed project against its unavoidable significant environmental effects and has determined that the benefits of the project outweigh the adverse effects, and therefore, the adverse effects are considered acceptable.

The 2001 FEIS/EIR identified five significant and unavoidable adverse impacts, as defined by CEQA, relating to agricultural resources (conversion of 702 acre of Farmland to urban uses), historical resources (elimination of two discontinuous eligible historic districts), aesthetics (possible demolition of both blimp hangars and loss of visually prominent features), air quality (exceedance of SCQAMD criteria), and traffic (intersections of Tustin Ranch Road/Walnut Avenue and Jamboree Road/Barranca Parkway). The 2004 SEIR identified significant unavoidable adverse impacts with respect to air quality (construction-related and long-term emissions) and traffic (intersections of Red Hill Avenue/Warner Avenue, Tustin Ranch Road/Walnut Avenue and Jamboree Road/Barranca Parkway). The 2004 SEIR relied on the statement of overriding considerations adopted with certification of the 2001 FEIS/EIR. The 2006 Addendum did not identify any new significant traffic impacts and found that the project would eliminate significant and unavoidable impact at the intersection of Tustin Ranch Road and Walnut Avenue in 2020 With Project conditions.

As with the FEIS/EIR, this DSEIR would result in a significant and unavoidable adverse air quality impact for the Modified Project. This is the same unavoidable adverse impacts that were identified in the FEIS/EIR.

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<sup>1</sup> Greenhouse gas emissions are being analyzed for the first time as part of this DSEIR, in accordance with SB 97 which went into effect January 1, 2010.

<sup>2</sup> The initial study identified one potential impact area under the hydrology and water quality topical area related to groundwater supply. Groundwater supplies and recharge is addressed in the Utilities and Service Systems section of this DEIR.

## 2. Introduction

### 2.4 INCORPORATION BY REFERENCE

The following documents are incorporated by reference in this DSEIR, consistent with CEQA Guidelines Sections 15148 and 15150.

- *Final Environmental Impact Statement (FEIS)/Final Environmental Impact Report (FEIR) for the disposal and reuse of Marine Corps Air Station (MCAS) Tustin: Tustin, California, Irvine, California, November 1999.*
- *Draft Supplement to the Final EIS/EIR for the Disposal and Reuse of the Marine Corps Air Station Tustin, California, Michael Brandman Associates, May 27, 2004.*
- *Resolution No. 04-77 Exhibit A. Findings of Fact and Statement of Overriding Considerations: Final Supplement #1 to Final EIS/EIR For the Disposal and Reuse of MCAS Tustin, December 6, 2004.*
- *MCAS TUSTIN Zone Change (Specific Plan Amendment) 05-002, Disposition and Development Agreement, and Development Plan Addendum, Bonterra Consulting, March 2006.*
- *General Plan Amendment 2013-001, Specific Plan Amendment 2013-001, Development Agreement 2013-002, And Agreement For Exchange Of Real Property Between City Of Tustin And South Orange County Community College District. Tustin, California: MCAS Tustin Specific Plan Environmental Impact Statement/Environmental Impact Report Addendum/Initial Study, RGP Planning & Development Services, April 2013.*

In each instance where a document is incorporated by reference for purposes of this DSEIR, the DSEIR shall briefly summarize the incorporated document, or briefly summarize the incorporated data if the document cannot be summarized. In addition, the DSEIR shall explain the relationship between the incorporated part of the referenced document and the DSEIR.

This DSEIR relies upon previously adopted regional and statewide plans and programs, agency standards, and background studies in its analyses, such as the City's General Plan, the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan, and the SCAQMD CEQA Air Quality Handbook. Chapter 10, *Bibliography*, provides a complete list of references used in preparing this DSEIR. All of the documents listed above that are incorporated by reference are available for review at:

City of Tustin  
Community Development Department  
300 Centennial Way  
Tustin, California 92780

### 2.5 FINAL EIR CERTIFICATION

This DSEIR is being circulated for public review for a period of 45 days. Responsible agencies and members of the public are invited to provide written comments on the DSEIR to the City address shown on the title page of this document. Upon completion of the 45-day review period, the City of Tustin will review all written comments received and prepare written responses for each comment. A Final SEIR (FSEIR) will then

## 2. Introduction

be prepared incorporating all of the comments received, responses to the comments, and any changes to the DSEIR that result from the comments received. This FSEIR will then be presented to the City for potential certification as the environmental document for the Modified Project. All persons who commented on the DSEIR will be notified of the availability of the FSEIR and the date of the public hearing before the City.

The DSEIR is available to the general public for review at the following locations:

- City of Tustin Planning Division Public Counter, 300 Centennial Way, Tustin
- Tustin Library, 345 East Main Street, Tustin
- City of Tustin website at <http://www.tustinlegacy.com/article.cfm?id=82>

All agencies that submit comments during the 45-day public review period on the DSEIR will receive written responses to their comments at least 10 days prior to final action on the Modified Project. If the City Council decides to certify the FSEIR, the City Council will make the necessary findings required by CEQA and the CEQA Guidelines regarding the extent and nature of the impacts as presented in the FSEIR. The FSEIR must be certified by the City prior to making a decision to approve the Modified Project. Public input is encouraged at all public hearings and meetings before the City concerning the Modified Project.

### 2.6 CEQA FINDINGS FOR PROJECT APPROVAL

CEQA and the CEQA Guidelines require that the environmental impacts of a project be examined before a project is approved. Specifically, CEQA Guidelines Section 15091 provides:

- (a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:
  1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
  2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
  3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

In addition, for a Supplemental EIR, CEQA Guideline 15163(e) requires:

## 2. Introduction

- (e) When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

Concurrent with its final action on the FSEIR, the City Council will issue findings that comply with the requirements of CEQA Guidelines Sections 15091 and 15163(e), and with Public Resources Code Section 21081

### **2.7 MITIGATION MONITORING**

Public Resources Code Section 21081.6 requires that agencies adopt a monitoring or reporting program for any project for which it has made findings pursuant to Public Resources Code 21081. Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration.

An updated mitigation monitoring and reporting program will be prepared as part of the FSEIR and will be completed prior to consideration of the Modified Project by the Tustin City Council.

## 2. Introduction

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## 3. Project Description

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### 3.1 PROJECT LOCATION

The proposed project, the Tustin Legacy Specific Plan (“Modified Project”) is a revision of the MCAS Tustin Specific Plan (“Adopted Specific Plan”); it 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 3-1, *Regional Location*, and Figure 3-2, *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.

### 3.2 STATEMENT OF OBJECTIVES

The overall purpose of amending the Tustin Legacy Specific Plan is to provide comprehensive direction—in terms of revisions to development regulations; design guidance; and implementation of parks and open space, mobility, 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 Modified Project 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 Modified 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 that are 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 land uses and increasing intensities, walkability, location and design of public spaces, and direct pedestrian access to the adjacent Tustin Metrolink Station.
3. Reposition the remaining undeveloped land in Planning Areas 8, 13, and 14 to become a new mixed-use urban center designed around a “main street” that connects to the adjacent Linear Park and regional

### 3. Project Description

shopping center. This large area would also include a range of commercial recreation, cultural, and entertainment uses within and adjacent to the Tustin Legacy Park.

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 Tustin Legacy 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. 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 offsite destinations.
7. 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.

## 3.3 PROJECT BACKGROUND

### 3.3.1 Adopted MCAS Tustin Specific Plan

Specific plans act as a bridge between a general plan and individual development proposals. Jurisdictions may adopt specific plans by resolution or ordinance. 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. 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 and single family development..

Figure 3-3, *Existing Land Use Plan*, shows the designated land uses in the Adopted Specific Plan.



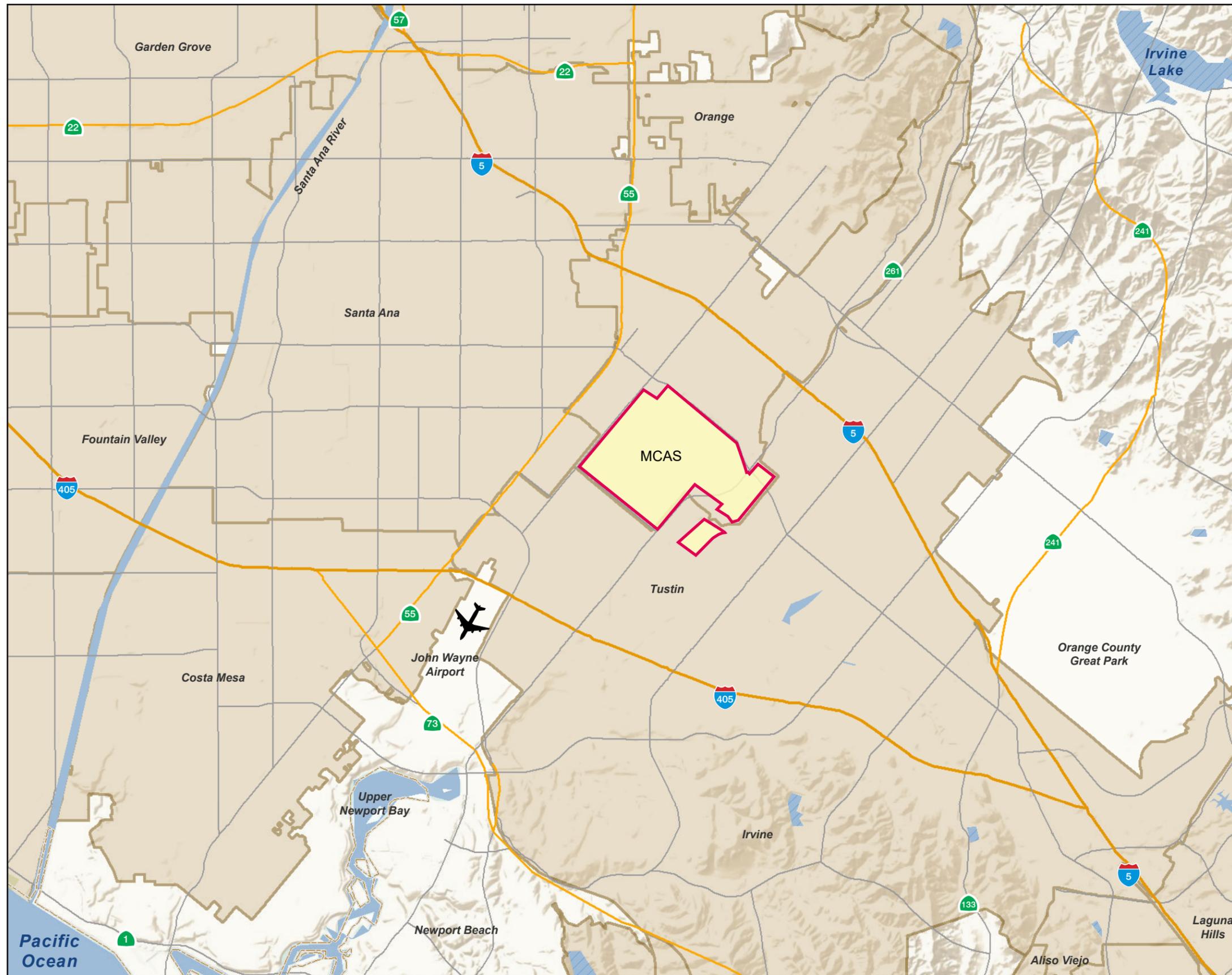
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3. Project Description  
Figure 3-2

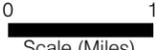
**Local Vicinity**

 MCAS Boundary



CITY OF TUSTIN  
TUSTIN LEGACY SPECIFIC PLAN  
**DRAFT SEIR**

 TUS.11-1  
3/5/2015

 0 1  
Scale (Miles)

 PLACEWORKS

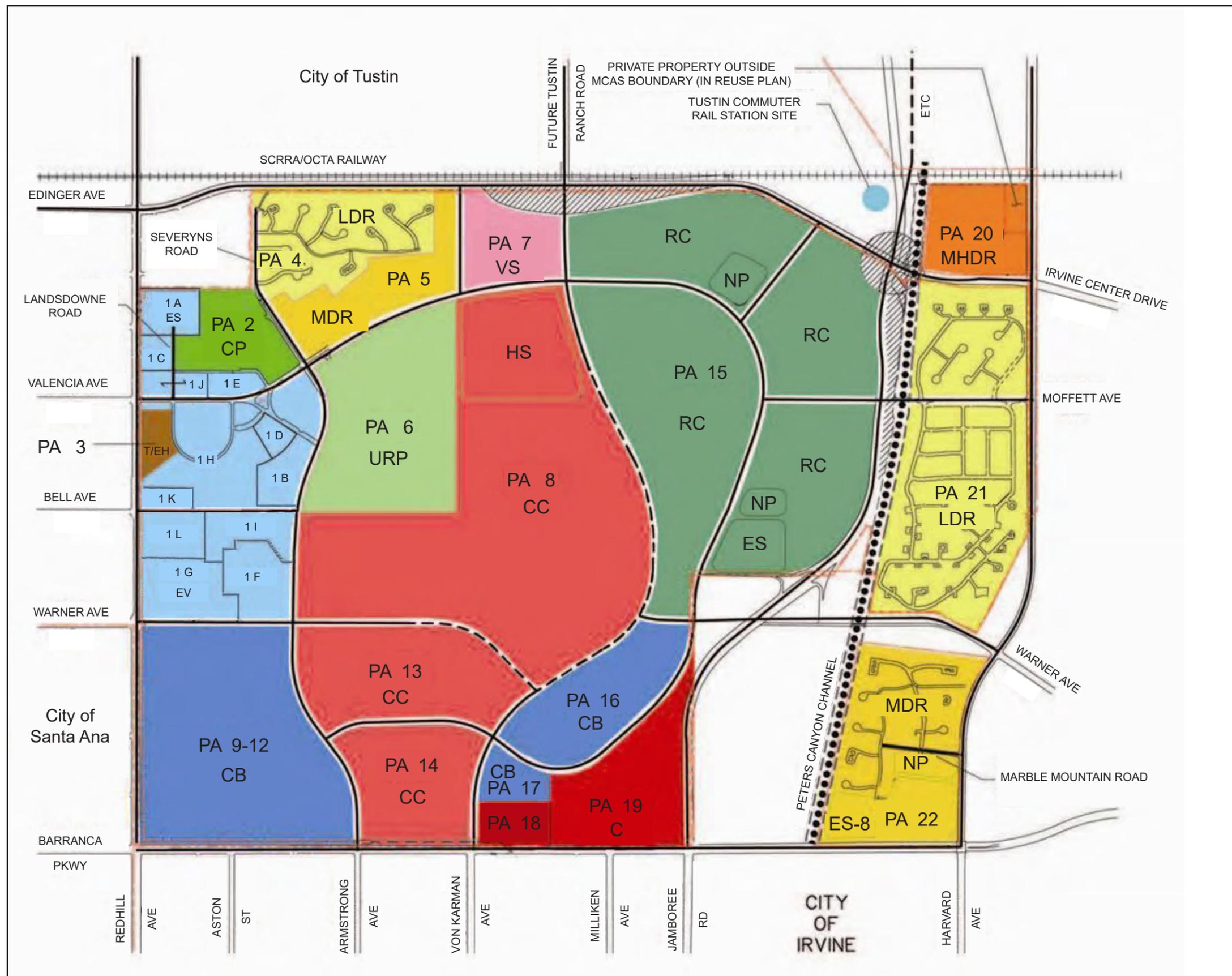
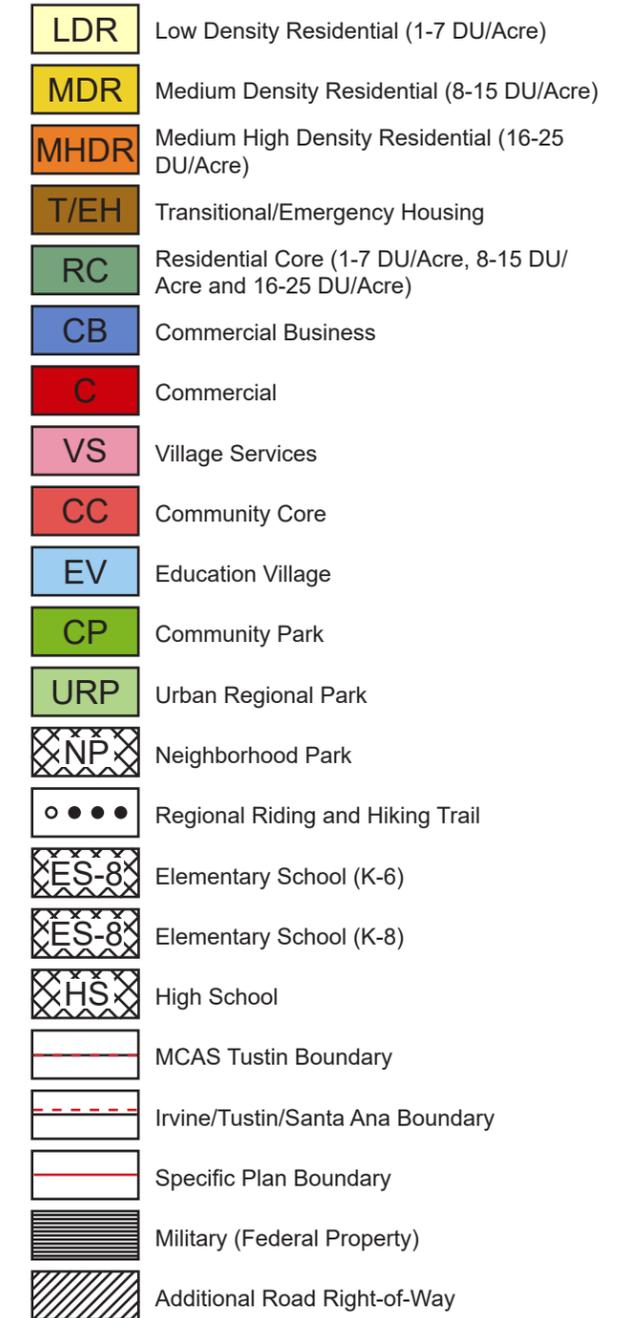
### 3. Project Description

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### 3. Project Description

Figure 3-3

#### Existing Land Use Plan



CITY OF TUSTIN  
TUSTIN LEGACY SPECIFIC PLAN

## DRAFT SEIR



0 1,300  
Scale (Feet)



Note: Roadway alignments are conceptual; DU=Dwelling Unit; Roads shown indicate road right of way; Parks and school site locations are diagrammatic 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.

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#### 3.3.2 Previous Environmental Documentation

##### 3.3.2.1 FINAL ENVIRONMENTAL IMPACT STATEMENT/FINAL ENVIRONMENTAL IMPACT REPORT FOR THE DISPOSAL AND REUSE OF MCAS TUSTIN

A final environmental impact statement/final environmental impact report (“2001 FEIS/EIR,” SCH# 94071005) was prepared for the disposal and reuse of the MCAS Tustin and 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 the portion of MCAS in the City of Tustin. On March 2, 2001, a Record of Decision was issued by the US Navy approving the 2001 FEIS/EIR and Reuse Plan. The 2001 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 (Adopted Specific Plan or Adopted Project) in accordance with CEQA and the National Environmental Policy Act. The analysis covered the entire 1,606 acres of the project area in both the Tustin and Irvine. The project included implementation actions that the cities were required to fulfill 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 2001 FEIS/EIR allowed up to 11.4 million square feet of nonresidential land uses and 4,601 residential units across both jurisdictions. Pursuant to the implementation actions, the Tustin City Council adopted the MCAS Tustin Specific Plan/Reuse Plan on February 3, 2003 (Ordinance No. 1257).

Since certification of the 2001 FEIS/EIR, the City has prepared one supplement and two addenda to the 2001 FEIS/EIR, and has certified or adopted multiple CEQA documents for amendments to the MCAS Tustin Specific Plan and development projects in the Tustin Legacy area. The purpose and application of the supplement and addenda are summarized below. The original 2001 FEIS/EIR, the supplement, and the addenda are collectively referred to herein as the “FEIS/EIR.”

#### 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 spanning 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.

The 2004 SEIR determined that there were no substantial changes in the existing conditions or new significant environmental impacts associated with aesthetics, agriculture 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. The significant unavoidable adverse impacts remained with respect to air quality (construction-related and long-term emissions) and traffic (intersections of Tustin Ranch

### 3. Project Description

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.

#### **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, but retained the same number of residential units—i.e., 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.

#### **2013 Addendum**

An addendum to the FEIS/EIR was prepared to process General Plan Amendment 2013-001, Specific Plan Amendment 2013-001, Development Agreement 2013-002, and an Agreement for Exchange of Real Property between the City and South Orange County Community College District on 22 acres. The land transfer was 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 (now named Victory Road between Red Hill Avenue and Armstrong Avenue), to service adjacent uses; added an allowable land use (private for-profit noneducational uses); and increased allowable building square footages in the education village (Neighborhood A).

#### **Subsequent Environmental Review**

The FEIS/EIR was a Program EIR that was intended as the CEQA compliance for future development consistent with the MCAS Tustin Specific Plan. The FEIS/EIR analyzed a multiyear development period for the planned urban reuse project (now called “Tustin Legacy”). As individual development projects were proposed in the Specific Plan area, the City (lead agency) determined whether the environmental impacts of individual activities were fully analyzed in the FEIS/EIR. The City could approve projects that were within the scope of the project as analyzed by the FEIS/EIR. The City would then determine the appropriate level of CEQA review (discussed in Chapter 1, *Executive Summary*, Section 1.2).

### **3.4 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. Project Description

#### 3.4.1 Description of the Project

The Modified Project includes the Tustin Legacy Specific Plan Amendment (2015-001) and General Plan Amendment (2015-002). Tustin Legacy Specific Plan Amendment will guide development of the remaining undeveloped Specific Plan area in the City of Tustin. These remaining parcels would be sold, leased, or developed by the City. 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 as well as education, commercial, commercial/business, entertainment/recreation, and park land uses. The proposed land uses by planning area are shown in Figure 3-4, *Proposed Land Use Plan*, and a description of the proposed land use categories are provided in Table 3-1, *Land Use Categories*. The General Plan Amendment would include minor text amendments to ensure consistency with the proposed Specific Plan Amendment.

**Table 3-1 Land Use Categories**

Designation	Description
Mixed-Use Transit	Transit-oriented, mixed-use developments with commercial retail and/or office on the ground floor and either residential units or office on upper floors; stand-alone residential uses, including senior housing.
Mixed-Use Urban	Mixed-use developments with commercial retail and/or office on the ground floor and either residential units or offices on upper floors; stand-alone commercial and residential uses, hotel, entertainment, and commercial sports facilities; designation requires the inclusion of a major segment of the Tustin Legacy Park.
Commercial	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	A variety of uses, including research and development, professional and creative office, retail, senior care facilities, and specialized employment and merchandizing uses.
Residential	A range of residential development and housing types, including single-family detached and attached and multifamily homes; requires the inclusion of park, open space, and trails.
Park	Passive community park uses, community-level sports, and active recreation uses, including internal paseos and trails; provides for a major urban recreation amenity for community and countywide use.
Tustin Legacy Park	Continuous linear park that runs diagonally across the project area and includes a variety of recreation, visitor-serving, and community-serving activities; trail system; and dual purpose park/detention area.
Transitional/Emergency Housing	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	A mix of commercial and hospitality uses, including hotel, commercial retail, entertainment, and commercial sports facilities; designation requires the inclusion of a major segment of the Linear Park.
Education Village	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.
Public Street Right-of-Way (ROW)	Local roads in the Specific Plan area, not including private drives or alleys.

### 3. Project Description

#### 3.4.1.1 LAND USE PLAN

The land use plan of the Adopted Specific Plan was divided into 22 planning areas. To better achieve its land use objectives, the Modified Project combines some planning areas to create a new total of 13 separate planning areas, described below. Land uses for 9 of the 13 planning areas (10 of the original 22)<sup>1</sup> would not change in the Modified Project—Planning Areas 1, 2, 3, 4–5, 6, 7, 20, 21, and 22.

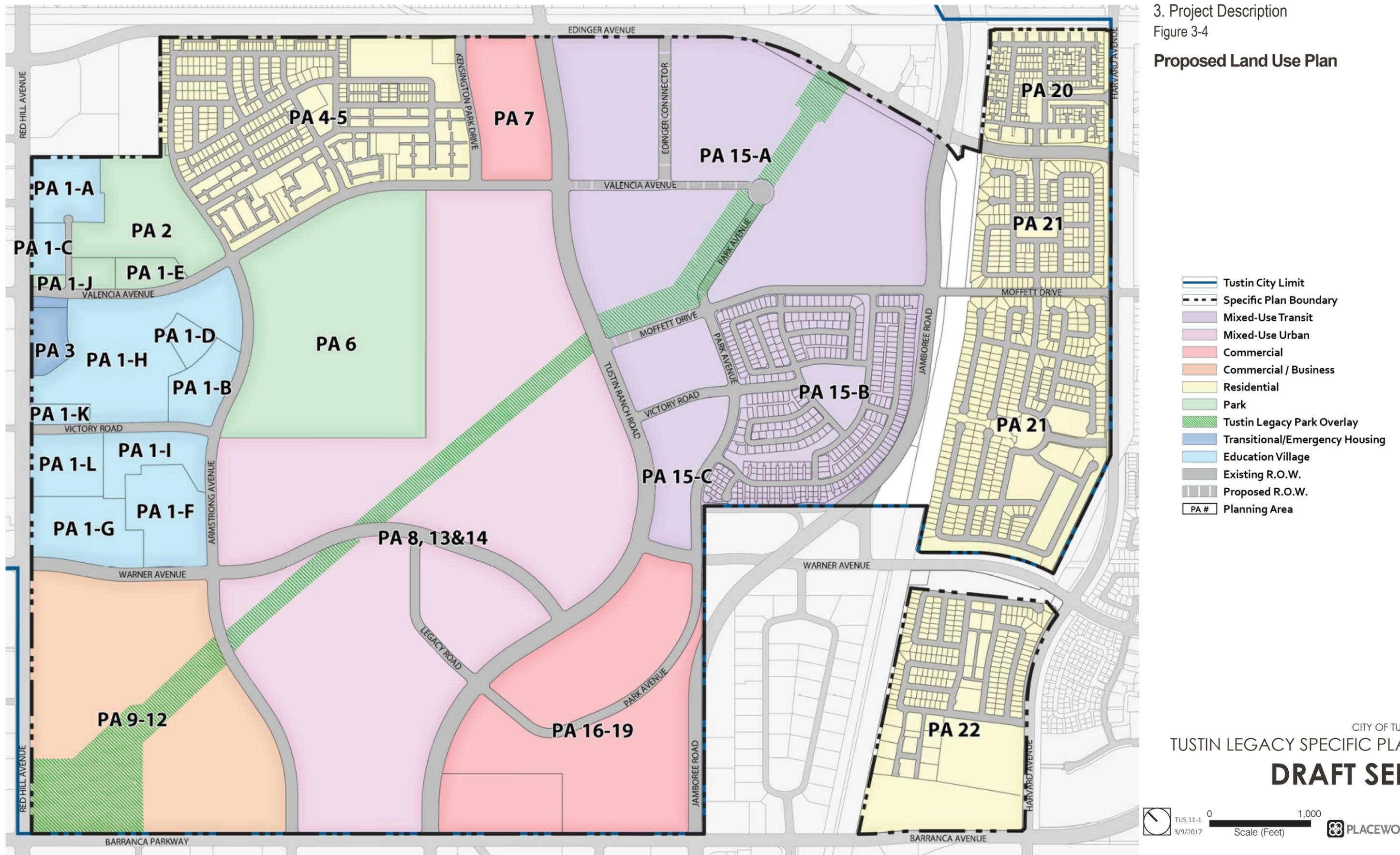
The Modified Project proposes changes in land uses for the remaining Planning Areas 8 through 19 and would combine them to create four planning areas, as described below.

- **Planning Area 8, 13–14.** This planning area comprises 314 acres designated Mixed-Use Urban, which provides flexibility for a range of uses, including hotel, commercial retail, commercial entertainment, public recreation, a high school, and residential. A maximum of 1,672 dwelling units and 2,180,690 square feet could be developed in this planning area. The nonresidential square footage includes the area within the (southern) blimp hangar, and an existing multifamily residential consists of 533 units. The Linear Park Overlay in this planning area connects adjacent sections of the Tustin Legacy Park in Planning Areas 15 and 9–12. Tustin Unified School District requires a 40-acre portion of this planning area for a middle school and high school.
- **Planning Area 9–12.** Planning Area 9–12 comprises 117 acres that is designated Commercial/Business use with a maximum building area of 1,588,198 square feet. The Linear Park Overlay starts at the corner of Red Hill Avenue and Barranca Parkway in this planning area. An entrance to the Linear Park Overlay is planned off of Barranca Parkway.
- **Planning Area 15.** Planning Area 15 comprises 271 acres of designated mixed-use transit-oriented development and residential uses. A maximum of 2,814 dwelling units and 1,095,200 square feet could 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 also contains a portion of the Linear Park Overlay. Existing uses include a 375-unit single-family residential project and a 225-unit affordable housing community.
- **Planning Area 16–19.** This planning area comprises 103 acres and includes commercial retail and military/government uses. Planning Area 16–19 allows for a maximum of 1,486,553 square feet of development. Existing development consists of 1,016,000 square feet of regional commercial retail and entertainment uses as well as 40,846 square feet of military/government use. The military operations have been relocated to a parcel in Planning Area 1, and that site is now designated for development of commercial retail and other suitable development.

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<sup>1</sup> Planning Areas 4 and 5—two of 22 planning areas in the Adopted Specific Plan—would be combined into Planning Area 4–5 and become 1 of 13 planning areas in the Modified Project.

### Proposed Land Use Plan



### 3. Project Description

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Table 3-2, *Land Use Plan Statistical Summary*, provides the buildout statistical summary for the Modified Project compared to the Adopted Specific Plan. Buildout of the Modified Project would encompass 6,813 residential units and 9,532,419 nonresidential square feet. This is 2,212 more residential units and 1,755,306 fewer square feet than the Adopted Specific Plan.

**Table 3-2 Land Use Plan Statistical Summary**

PA	Neighborhood <sup>1</sup>	Land Use	Specific Plan Acres	Adopted Specific Plan		Modified Project		Difference (Proposed – Current)
				Max Residential Units	Max Non-residential SF	Max Residential Units	Non-residential SF	
1	A	Education Village	120	-	2,279,050	-	2,254,200	(24,850) SF
2	A	Community Park	29	-	40,531 <sup>2</sup>	-	1,000	(39,531) SF
3	A	Transitional/ Emergency Housing	5	-	133,294	-	133,294	No Change
4–5	B	Residential	106	925	-	895 <sup>3</sup>	-	(30) DU
6	C	County Regional Park	85	-	574,992	-	574,992	No Change
7	B	Commercial	21	-	248,292	-	248,292	No Change
8, 13-14	D	Mixed-Use Urban	314	891	4,757,279	1,672 <sup>4</sup>	2,153,690	781 DU (2,603,589) SF
9–12	E	Commercial/ Business	117	-	1,267,324	-	1,588,198	320,874 SF
15	G	Mixed-Use Transit	271	1,214	503,410	2,814 <sup>5</sup>	1,095,200 <sup>6</sup>	1,600 DU 591,790 SF
16–19	F	Commercial	103	-	1,483,553	-	1,483,553	No Change
20	G	Residential	29	376	-	376	-	No Change
21	G	Residential	127	793	-	654	-	(139) DU
22	H	Residential	73	402	-	402	-	No Change
<b>ROW</b>			<b>206</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>			<b>1,606</b>	<b>4,601</b>	<b>11,287,725</b>	<b>6,813<sup>7</sup></b>	<b>9,532,419</b>	<b>2,212 DU</b> <b>(1,755,306) SF</b>

Notes: PA = planning area; SF = square feet; DU = dwelling units

1. See "Neighborhoods" section after the table.
2. Existing buildings.
3. Does not include 180 density bonus units.
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.

#### 3.4.1.2 NEIGHBORHOODS

The land use plan is a collection of neighborhoods that will have their own characteristics and functions within the Specific Plan area. A neighborhood may consist of more than one land use designation. The

### 3. Project Description

neighborhoods are intended to establish a community structure for the Specific Plan and provide the basis for the range of land uses, intensity of development, urban design characteristics, and development regulations. The land use plan specifies eight neighborhoods, as shown on Figure 3-5, *Proposed Neighborhood Plan*.

#### **Neighborhood A, Education Village**

Neighborhood A is along the western edge of the site, bordered by Red Hill Avenue on the west, Armstrong Avenue on the east, Warner Avenue on the south, and an existing business center on the north. It comprises Planning Areas 1, 2, and 3. The Education Village is an important anchor for the community, with a range of public-serving uses within a walkable campus setting. By virtue of its uses and operation, the Education Village will be linked to many other uses and activities in the Specific Plan area. Its primary functions are to provide education, training, recreation, and social service functions. Access to Neighborhood A will be from Valencia Avenue, Victory Road, and Armstrong Avenue.

#### **Neighborhood B, Village Housing**

Neighborhood B is in the northwestern quadrant of the site, bordered by Edinger Avenue on the north, Tustin Ranch Road on the east, Valencia Avenue, and Severyns Road on the west. It comprises Planning Areas 4–5 and 7. Neighborhood B would offer a range of housing types, including affordable housing options. Housing would be complemented by commercial village services to meet the shopping and service needs of residents, employees, and visitors to the area. The neighborhood functions as a transition or buffer area between existing residential neighborhoods north of Edinger Avenue and the Education Village and recreation/entertainment uses. Primary access to Neighborhood B would be from Valencia Avenue. Secondary access would be provided by Kensington Park Drive.

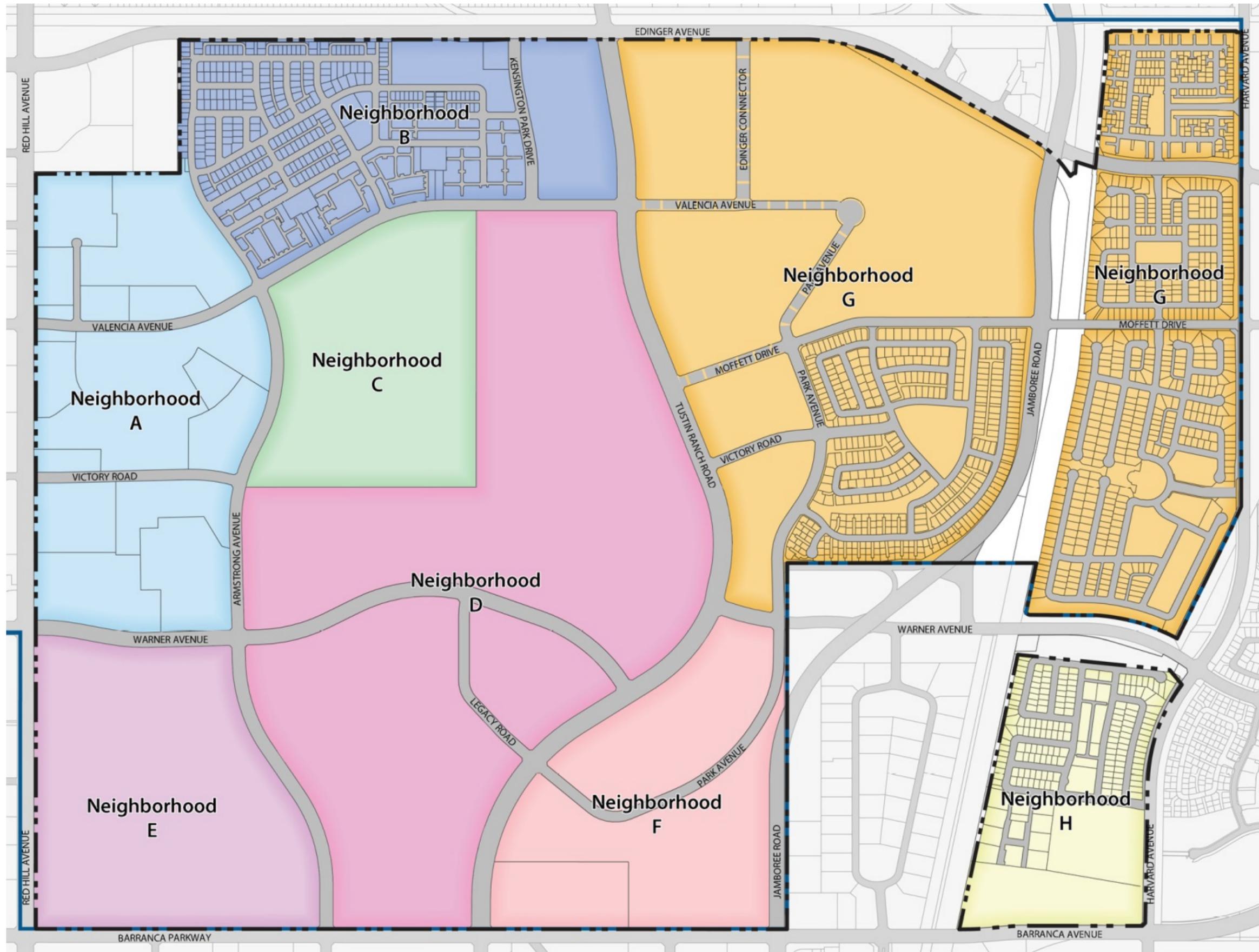
#### **Neighborhood C, Urban Regional Park**

Neighborhood C consists of Planning Area 6 and is near the center of the Specific Plan area, bordered by Valencia Avenue on the north and Armstrong Avenue on the west. It is adjacent to Neighborhood D on the east and south. The Urban Regional Park may be constructed in this neighborhood—not only to serve regional recreation needs, but to provide a buffer between the residential environment and commercial and business areas. The neighborhood will serve a number of functions, including open space conservation, recreation, commercial concessions supportive to the park, and historic preservation and/or display.

#### **Neighborhood D, Mixed-Use Urban**

Neighborhood D encompasses the central area of the Specific Plan site and consists of Planning Area 8, 13–14. It is bordered by Tustin Ranch Road on the east, Barranca Parkway on the south, Valencia Avenue on the north, and the Urban Regional Park (Neighborhood C) and Armstrong Avenue on the west. This neighborhood would provide an opportunity for unique entertainment and recreation-based development proposals as well as retail and housing in a mixed-use, urban setting. The primary functions of Neighborhood D include maintaining long-range flexibility as a major opportunity area, providing opportunities for mixed-use development, generating revenue to offset high infrastructure and demolition costs, and special recreation/entertainment attractions to the Specific Plan area.

### Proposed Neighborhood Plan



- Tustin City Limit
- Specific Plan Boundary
- Neighborhood A
- Neighborhood B
- Neighborhood C
- Neighborhood D
- Neighborhood E
- Neighborhood F
- Neighborhood G
- Neighborhood H
- Existing R.O.W.
- Proposed R.O.W.

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#### **Neighborhood E, Employment Center**

Neighborhood E is in the southwest quadrant of the Specific Plan area, bordering Red Hill Avenue on the west, Warner Avenue on the north, Armstrong Avenue on the east, and Barranca Parkway on the south. It consists of Planning Area 9–12. As an employment center for the community, this neighborhood would provide a business park setting for a full range of professional offices, research and development, and commercial business uses. The Linear Park Overlay starts in this neighborhood at the corner of Barranca Parkway and Red Hill Avenue. Neighborhood E and the Education Village (Neighborhood A) will have important connections, potentially offering nearby on-the-job opportunities for persons attending classes in the Education Village.

#### **Neighborhood F, Regionally Oriented Commercial District**

Neighborhood F is in the southeast quadrant of the site, bordered by Jamboree Road on the east, Barranca Parkway on the south, and Tustin Ranch Road on the north and west. It comprises Planning Area 16–19. This neighborhood is a destination, regional-level commercial center. Desired commercial uses include traditional large-scale retail uses, specialty merchandising, wholesale commercial businesses, and a range of dining experiences. This neighborhood also provides a support function as an appropriate counterpart to the commercial and high-density residential area of Irvine to the south.

#### **Neighborhood G, Residential Core**

Neighborhood G is in the northeastern portion of the site, bordered by Edinger Avenue on the north, Harvard Avenue on the east, Tustin Ranch Road on the west, and Warner Avenue on the south. It comprises Planning Areas 15, 20, and 21. The Residential Core would function as the primary residential enclave in the community. It would provide a range of housing types, including senior housing, detached and attached single-family, multifamily products, and affordable housing, as well as mixed-use commercial opportunities. As a transit-oriented community, this neighborhood would provide access between the Tustin Metrolink station and the Specific Plan area via a potential pedestrian and bicycle bridge over Edinger Avenue and the Santa Ana-Santa Fe Channel. This neighborhood would also include recreation-based amenities that provide a connection to the Linear Park Overlay. The Residential Core provides an opportunity to connect existing housing in the project area to the east with the new commercial, employment, and open space uses through new access points. Neighborhood G is intended to be a transit-oriented neighborhood based on urban design that focuses on convenient pedestrian and bicycle connectivity between uses and the nearby Metrolink station.

#### **Neighborhood H, Irvine Residential Neighborhood**

Neighborhood H is in the southeast corner of the site, bordered by Warner Avenue on the north, Harvard Avenue on the east, Peters Canyon Channel on the west, and Barranca Parkway on the south. It contains Planning Area 22. Family housing in this area provides a buffer between Irvine residential neighborhoods to the east and business uses to the west. This neighborhood also contains an educational campus, including administration buildings and land designated for park facilities as needed to support residents in the vicinity.

### 3. Project Description

#### 3.4.1.3 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 Specific Plan area. In order to manage the availability of roadway capacity for the remaining, undeveloped land, the trip budget tracking system would continue to be monitored with the Modified Project. Although all land uses are accounted for in the total average daily trips (ADT) for the Modified Project, the trip budget applies only to nonresidential uses. The tracking system establishes a maximum limit on the ADT from nonresidential uses 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. Implementation and administration of the trip budget is provided in Section 4.1.4, “Non-residential Land Use/Trip Budget,” of the Specific Plan.

The trip budget was updated to provide consistency with the Modified Project. The updated trip budget would not affect the overall trip budget, but would require reallocation of trips between neighborhoods. The City’s Community Development Department and Public Works Department are required to maintain the tracking system and update the “current ADT” as it is impacted by each development project, ensuring that sufficient roadway capacity remains to accommodate later projects. Table 3-3 shows the reallocation of trips by neighborhood and planning area as proposed by the Modified Project.

**Table 3-3 Planning Area Trip Budget**

PA	Land Use	Unit	Adopted Specific Plan		Proposed Specific Plan Amendment		Net Change, Units	Net Change, ADT
			Quantity	ADT	Quantity	ADT		
<b>Neighborhood A</b>								
1	Institution	KSF	2,151.60	13,731	2,151.60	14,331	-	600
	Commercial	KSF	86.98	9,136	-	-	-86.98	-9,136
	Office	KSF	55.53	704	55.53	704	-	-
	<b>Subtotal</b>	<b>KSF</b>	<b>2,294.11</b>	<b>23,571</b>	<b>2,207.13</b>	<b>15,035</b>	<b>-86.98</b>	<b>-8,536</b>
<b>Neighborhood B</b>								
7	Commercial	KSF	103.46	7,052	103.46	7,024	-	-28
	Office	KSF	144.84	1,922	144.84	1,902	-	-20
	<b>Subtotal</b>	<b>KSF</b>	<b>248.30</b>	<b>8,974</b>	<b>248.30</b>	<b>8,926</b>	<b>-</b>	<b>-48</b>
<b>Neighborhood C</b>								
6	Commercial	KSF	57.50	3,920	57.50	3,904	-	-16
	<b>Subtotal</b>	<b>KSF</b>	<b>57.50</b>	<b>3,920</b>	<b>57.50</b>	<b>3,904</b>	<b>-</b>	<b>-16</b>
<b>Neighborhood D</b>								
8	Institution	STU	1,850.00	3,312	1,784.00	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	-	-	-1,590.80	-14,027
	Industrial	KSF	319.51	3,803	-	-	-319.51	-3,803
	<b>Subtotal</b>	<b>KSF</b>	<b>1,976.00</b>	<b>28,487</b>	<b>1,643.01</b>	<b>78,245</b>	<b>-332.99</b>	<b>49,758</b>

### 3. Project Description

**Table 3-3 Planning Area Trip Budget**

PA	Land Use	Unit	Adopted Specific Plan		Proposed Specific Plan Amendment		Net Change, Units	Net Change, ADT
			Quantity	ADT	Quantity	ADT		
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
	<b>Subtotal</b>	<b>KSF</b>	<b>2,060.86</b>	<b>35,769</b>	<b>606.00</b>	<b>9,998</b>	<b>-1,454.86</b>	<b>-25,771</b>
14	Commercial	KSF	42.11	2,770	-	-	-42.11	-2,770
	Office	KSF	683.90	7,463	-	-	-683.90	-7,463
	<b>Subtotal</b>	<b>KSF</b>	<b>726.01</b>	<b>10,233</b>	<b>-</b>	<b>-</b>	<b>726.01</b>	<b>-10,233</b>
<b>Neighborhood D by Land Use Category</b>								
	Institution	STU	1,850	3,312	1,748	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	-	-	-319.51	-3,803
	<b>Neighborhood D Subtotal</b>	<b>KSF</b>	<b>4,762.87</b>	<b>74,489</b>	<b>2,249.01</b>	<b>88,243</b>	<b>-2,513.86</b>	<b>13,754</b>
<b>Neighborhood E</b>								
9,10	Office	KSF	156.82	2,312	730.00	8,052	573.18	5,740
	Industrial	KSF	169.02	2,611	-	-	-169.02	-2,611
	<b>Subtotal</b>	<b>KSF</b>	<b>325.84</b>	<b>4,923</b>	<b>730.00</b>	<b>8,052</b>	<b>404.16</b>	<b>3,129</b>
11,12	Commercial	KSF	18.13	2,028	-	-	-18.13	-2,028
	Office	KSF	784.84	8,879	858.00	9,464	73.16	585
	Industrial	KSF	138.52	2,002	-	-	-138.52	-2,002
	<b>Subtotal</b>	<b>KSF</b>	<b>941.49</b>	<b>12,909</b>	<b>858.00</b>	<b>9,464</b>	<b>-83.49</b>	<b>-3,445</b>
<b>Neighborhood E by Land Use Category</b>								
	Commercial	KSF	18.13	2,028	-	-	-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	-	-	-307.54	-4,613
	<b>Neighborhood E Subtotal</b>	<b>KSF</b>	<b>1,267.33</b>	<b>17,832</b>	<b>1,588.00</b>	<b>17,516</b>	<b>320.67</b>	<b>-316</b>
<b>Neighborhood F</b>								
16	Commercial	KSF	448.00	13,772	448.00	13,772	-	-
17	Commercial	KSF	47.00	1,445	47.00	1,445	-	-
18	Commercial	KSF	17.63	542	117.63	3,616	100.00	3,074
19	Commercial	KSF	505.60	19,691	506.00	19,691	-	-
	<b>Neighborhood F Subtotal</b>	<b>KSF</b>	<b>1,018.23</b>	<b>35,450</b>	<b>1,118.23</b>	<b>38,524</b>	<b>100.00</b>	<b>3,074</b>
<b>Neighborhood G</b>								
15	Commercial	KSF	353.13	16,621	1,095.00	10,703	742.07	-5,918
	Office	KSF	150.28	1,994	-	-	-150.28	-1,994
	<b>Neighborhood G Subtotal</b>	<b>KSF</b>	<b>503.41</b>	<b>18,615</b>	<b>1,095.00</b>	<b>10,703</b>	<b>591.79</b>	<b>-7,912</b>
	<b>Grand Total</b>	<b>-</b>	<b>-</b>	<b>182,851</b>	<b>-</b>	<b>182,851</b>	<b>-</b>	<b>-</b>

Source: Stantec 2016.

Note: Planning areas are not shown if they are not part of the trip budget. Land uses have been compressed in this table to simplify review.

ADT = average daily trips

STU = students

DU = dwelling units

KSF = thousand square feet

### 3. Project Description

#### 3.4.1.4 PARKS, OPEN SPACE, AND TRAILS

As shown in Figure 3-6, *Tustin Legacy Parks*, and Table 3-4, *Tustin Legacy Public Parks*, parks are provided throughout the Specific Plan area in the form of regional, community, linear, and neighborhood parks and parkettes. Chapter 2.4, “Parks and Recreation,” of the Specific Plan provides a description of the existing and proposed park types. In Tustin, the Modified Project includes a requirement from the City’s General Plan for public open space of approximately 170 acres, which would span parts of Planning Areas 2; 4-5; 8, 13–14; 9–12; 15; 20; and 21. In the remaining planning areas, 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 Modified Project 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 in 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 eight acres of park space in the City of Irvine.

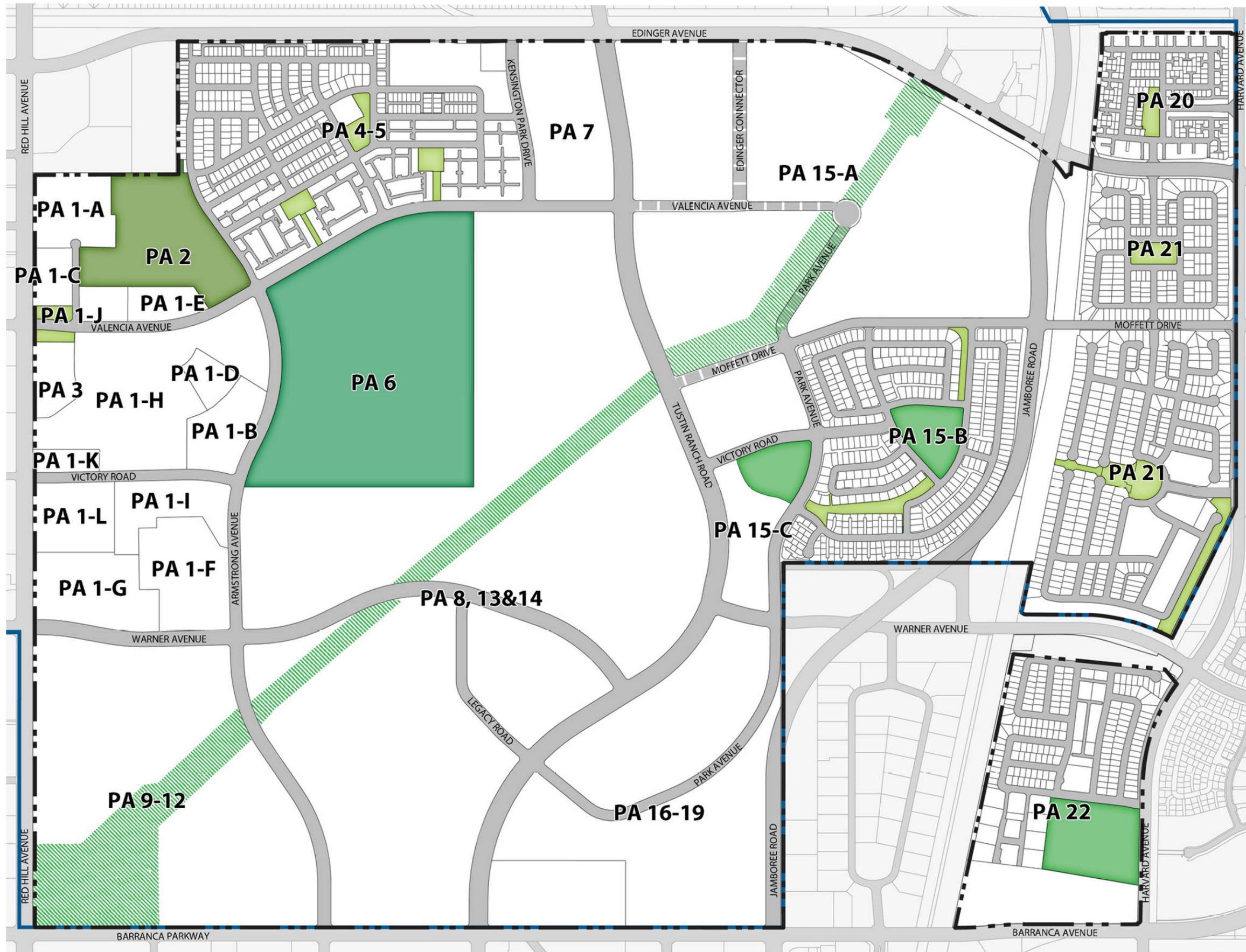
**Table 3-4 Tustin Legacy Public Parks**

Jurisdiction	Neighborhood	Planning Area	Minimum Acres	Notes
<b>City of Tustin</b>				
Counts toward City of Tustin requirement for 170 acres of public open space.	A	2	29	Community Park
	B	4–5	4	Parkettes
	D	8, 13–14	76	Parkettes, Linear Park Overlay
	E	9–12	28	Linear Park Overlay
	G	15	25	Neighborhood Park, Parkettes, Linear Park Overlay
	G	20	1	Parkettes
	G	21	7	Neighborhood Park
<b>Subtotal</b>			<b>170</b>	
Does not count toward City of Tustin requirement for 170 acres of public open space (Orange County)	C	6	85	Regional Park
<b>Subtotal</b>			<b>255</b>	
<b>City of Irvine</b>				
	H	22	8	Neighborhood Park (Sweet Shade Park)
<b>Total</b>			<b>263</b>	

3. Project Description

Figure 3-6

Tustin Legacy Parks



- Tustin City Limit
- Specific Plan Boundary
- Existing R.O.W.
- Proposed R.O.W.
- Linear Park Overlay
- Urban Regional Park
- Community Park
- Neighborhood Park
- Parkette

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TUS.11-1  
3/5/2015

0 1,000  
Scale (Feet)

PLACEWORKS

### 3. Project Description

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## 3. Project Description

### 3.4.1.5 MOBILITY AND TRANSIT

The Tustin Legacy Specific Plan includes a mobility plan that provides for the needs of pedestrians, bicyclists, motorists, and transit users. The mobility plan is intended to: 1) provide efficient accessibility to the regional and local transportation system; 2) supply adequate internal circulation capacity; and 3) efficiently service the proposed land uses. The mobility plan addresses all aspects of the public realm within the public right-of-way, including landscaping, sidewalks, bikeways, parking, and travel lanes. The Modified Project proposes a network of bikeways and trails that includes landscaping, parks, street lighting, sidewalks, and pedestrian paths.

The access and mobility plan is intended to efficiently integrate the Modified Project into the City's transportation network. As shown in Figure 3-7, *Vehicular Circulation Plan*, the proposed system of vehicular streets would provide convenient, efficient, and safe access to Specific Plan uses and offsite destinations. Access to the Specific Plan 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/Victory Road, Harvard Avenue, and Moffett Drive. The mobility 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.

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

The Recreational Bikeway/Trail Concept Plan provides an opportunity to complete vital links necessary for a comprehensive regional system as well as improved local system (see Section 2.3.2 of the Tustin Legacy Specific Plan). There are three planning agencies involved in the implementation and maintenance of the bikeway/trail system for the Plan and adjacent areas: the City of Tustin, Orange County Public Works, and the City of Irvine. Each of these agencies has developed their own recreational bikeway and trail master plan to efficiently move cyclists within the respective communities served. Ongoing interagency coordination will be required to address the issues associated with bikeway and trail implementation.

The Recreational Bikeway/Trail Concept Plan calls for Class II (on-road) bikeways on each of the Specific Plan roadways, except for short segments of Park Avenue and Barranca Parkway which are built as Class I facilities. The bikeway system will provide a valuable link to the overall regional system as well as ensure bicycle linkages between uses within Tustin Legacy. The Class II bikeway standards are consistent with the City of Tustin General Plan. In addition to bikeways, development of non-residential land uses may involve the provision of bicycle facilities, where appropriate, in accordance with the City's Transportation Demand Management (TDM) Ordinance. These facilities may include bicycle racks or parking facilities, and shower and locker room facilities.

### 3. Project Description

The Recreational Bikeway/Trail Concept Plan links to adjacent on- and off-road bikeways/trails as identified in Figure 3-8, *Bikeways and Trails Plan*. These facilities are part of a local and regional network planned by the City of Tustin, County of Orange and City of Irvine.

#### 3.4.1.6 PARKING

The Modified Project provides minimum parking requirements to serve the land uses in the Specific Plan area, establishes new standards for planning areas with mixed-use development, and allows for the establishment of future parking districts. Parking requirements vary by land use type.

#### 3.4.1.7 INFRASTRUCTURE

In addition to the proposed development, roadways and utilities would be required to support the Modified 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 Specific Plan area.

#### 3.4.1.8 PHASING

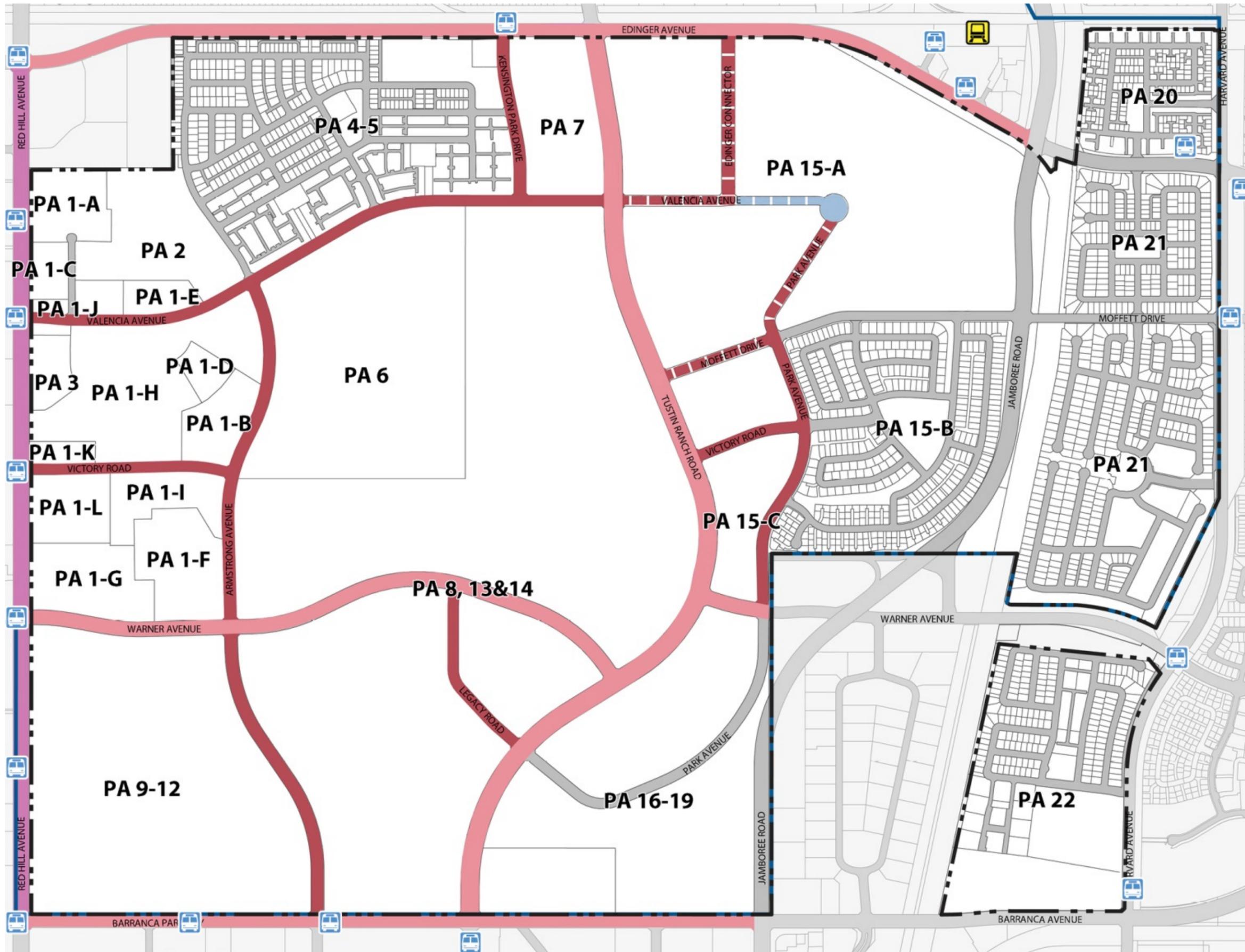
The Specific Plan area has been undergoing development since the early 2000s. Ultimate buildout is expected by 2035. The most important factors that influence the timing of development are: 1) market demand for the uses planned; and 2) the complexity and timing of environmental cleanup efforts. The Modified Project is expected to be developed in phases triggered by implementation requirements. Similar to the Adopted Specific Plan, triggering mechanisms for the Modified Project would include thresholds for roadways, bikeways/trails, parks, water, sewer, storm drains, and other utilities (see Tables 4-1 through 4-3 of the Specific Plan).

### 3.5 INTENDED USES OF THE SEIR

This DSEIR is a programmatic EIR that examines the environmental impacts of the Modified Project. This DSEIR is also being prepared to address various actions by the City and others to adopt and implement the Modified Project. It is the intent of this DSEIR to enable the City of Tustin, other responsible agencies, and interested parties to evaluate the environmental impacts of the Modified Project, thereby enabling them to make informed decisions with respect to the requested entitlements. The anticipated approvals required for the Modified Project are:

Lead Agency	Action
City of Tustin City Council	<ul style="list-style-type: none"> <li>• Certification of the Tustin Legacy Specific Plan Amendment Supplemental EIR</li> <li>• Adoption of the Tustin Legacy Specific Plan Amendment</li> <li>• Adopted of the General Plan Amendment</li> </ul>
Responsible Agencies	Action
South Coast Air Quality Management District	<ul style="list-style-type: none"> <li>• Issue of permit to construct and permit to operate for facilities that would emit hazardous air emissions</li> </ul>
Santa Ana Regional Water Quality Control Board	<ul style="list-style-type: none"> <li>• Approval of Water Quality Management Plans for projects developed pursuant to the Tustin Legacy Specific Plan Amendment</li> </ul>
Orange County Fire Authority	<ul style="list-style-type: none"> <li>• Plan check for building plan review and emergency access</li> </ul>

### Vehicular Circulation Plan

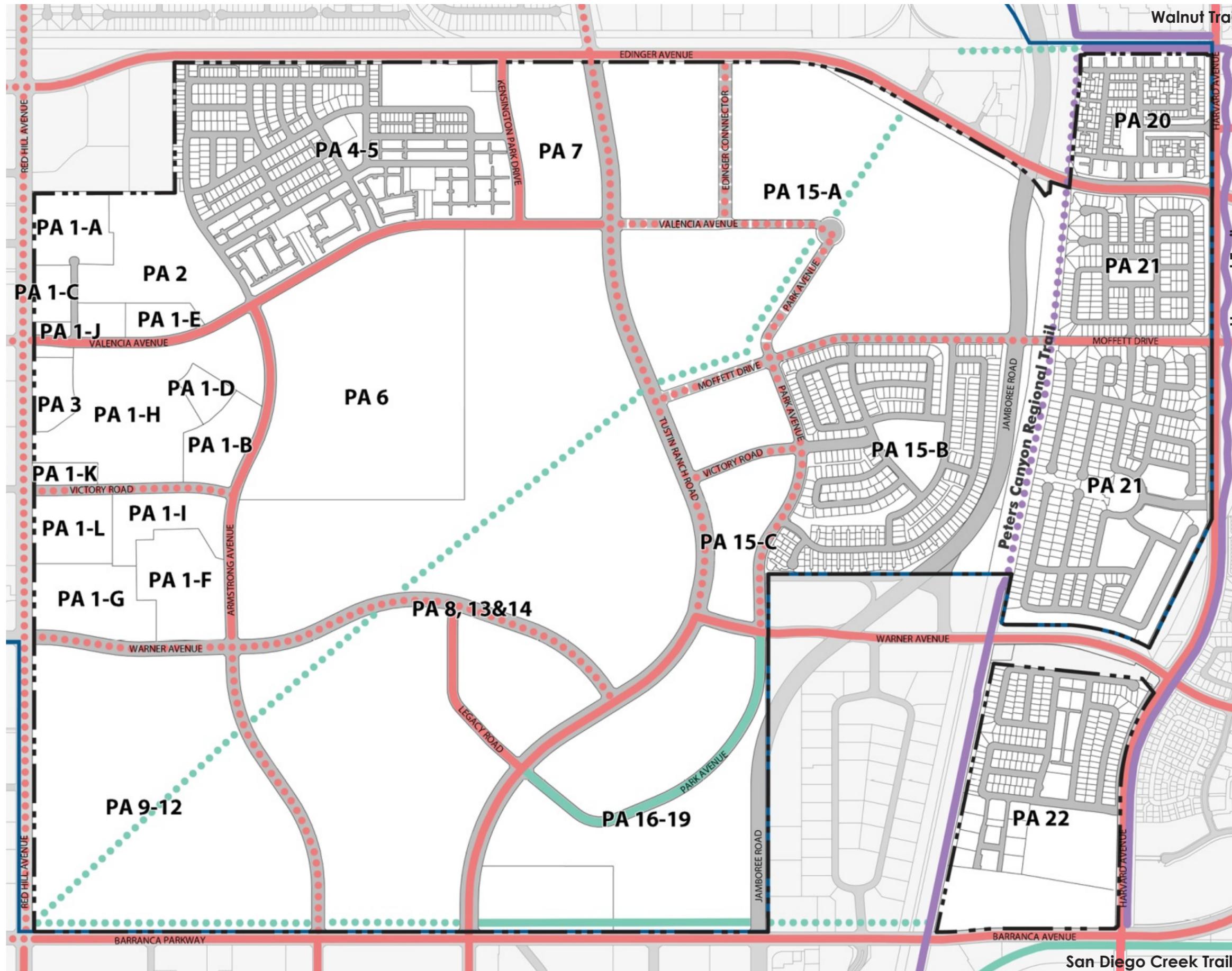


- Tustin City Limit
  - Specific Plan Boundary
  - Major Arterial (7 Lanes)
  - Major Arterial (6 Lanes)
  - Secondary Arterial (Existing)
  - Secondary Arterial (Proposed)
  - Modified Local Collector (Proposed)
  - Local Road
  - Tustin Metrolink Station
  - Existing Bus Stop
- \*Bus stop locations are approximate.

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**Bikeways and Trails Plan**



- Specific Plan Boundary
- Class I Existing
- ... Class I Proposed\*
- Class II Existing
- ... Class II Proposed
- Regional Existing
- ... Regional Proposed

\* Bikeways within the Linear Park Overlay may be Class I and/or Class II.

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TUSTIN LEGACY SPECIFIC PLAN  
**DRAFT SEIR**



San Diego Creek Trail

### 3. Project Description

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# 4. Environmental Setting

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## 4.1 INTRODUCTION

The purpose of this section is to provide, pursuant to provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, a “description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, from both a local and a regional perspective.” The environmental setting will provide a set of baseline physical conditions that will serve as a tool from which the lead agency will determine the significance of environmental impacts resulting from the Modified Project. Because this is a Supplemental Environmental Impact Report (SEIR), the baseline used for the analyses in this Draft Supplemental EIR (DSEIR) is the Adopted Specific Plan, as described in Chapter 2 of this DSEIR. The information below updates the existing conditions since certification of the previous environmental documentation.

## 4.2 REGIONAL ENVIRONMENTAL SETTING

### 4.2.1 Regional Location

The project site, the former Marine Corps Air Station Tustin (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. Regional access to the project area is provided by State Route 55 (SR-55) to the northwest and Interstate 5 (I-5; see Figure 3-1, *Regional Location*), with access from Tustin Ranch Road and Jamboree Road to the northeast.

### 4.2.2 Regional Planning Considerations

#### **Southern California Association of Governments**

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. It is the federally recognized metropolitan planning organization for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. It is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs.

#### *Regional Transportation Plan/Sustainable Communities Strategy*

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2016 (SCAG 2016). Major themes in the 2016 RTP/SCS include integrating strategies for land use and

## 4. Environmental Setting

transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increasing capacity through improved systems managements; providing more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth, and opportunity; promoting the links between public health, environmental protection, and economic opportunity; and incorporating the principles of social equity and environmental justice into the plan.

The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets identified by the California Air Resources Board. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency. The proposed project's consistency with the applicable 2016-2040 RTP/SCS policies is analyzed in detail in Section 5.2, *Greenhouse Gas Emissions*, and Section 5.3, *Land Use and Planning*.

### *High Quality Transit Areas*

Beginning with the adoption of the 2012 RTP/SCS, the areas previously known as 2% Strategy Opportunity Areas were updated by SCAG and replaced with what are now called high quality transit areas (HQTA), which are a part of—and integrated with—the SCS portion (Chapter 4) of the 2016 RTP/SCS. An HQTA is a walkable transit village or corridor, consistent with the adopted RTP/SCS, and is within one-half mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours. The overall land use pattern of the 2016 RTP/SCS focuses jobs and housing in the region's designated HQTAs (SCAG 2016). Separate goals, policies, or guidelines have not been adopted for the HQTAs; therefore, a project's consistency with the HQTA is obtained by achieving consistency with the applicable 2016 RTP/SCS policies.

A narrow corridor of the project area along Edinger Avenue is identified as a HQTA in the RTP/SCS. This corridor is within one-half mile of the Metrolink tracks that traverse central Orange County and parallel Edinger Avenue in Tustin.

### **Air Quality and Global Climate Change**

The project site is in the South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District. The SoCAB is a coastal plain bounded by the Pacific Ocean in the southwest, with high mountains forming the remainder of the perimeter, and which encompasses all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These regulated air pollutants are known as criteria air pollutants; they are carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide, coarse inhalable particulate matter (PM<sub>10</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead. VOC and NO<sub>x</sub> are criteria pollutant precursors and go on to form secondary criteria pollutants, such as ozone (O<sub>3</sub>), through chemical and photochemical reactions in the atmosphere. Air basins are classified as attainment/nonattainment areas for particular pollutants depending

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on whether they meet ambient air quality standards (AAQS) for that pollutant. The SoCAB is designated nonattainment for O<sub>3</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for nitrogen dioxide (NO<sub>2</sub>) under the California AAQS.

The proposed project's consistency with applicable AAQS is discussed in Section 5.1, *Air Quality*.

### *Greenhouse Gas Emissions*

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05; Assembly Bill 32 (AB 32), the Global Warming Solutions Act (2008); and Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act.

Executive Order S-3-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

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. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-3-05. Based on the GHG emissions inventory conducted for its 2008 Scoping Plan, the California Air Resources Board (CARB) approved a 2020 emissions limit of 427 million metric tons of carbon dioxide-equivalent (MMT<sub>CO<sub>2e</sub></sub>) for the state (CARB 2008).

Since release of the 2008 Scoping Plan, CARB has updated the statewide GHG emissions inventory to reflect GHG emissions in light of the economic downturn and measures not previously considered. The updated forecast predicts emissions to be 507 MMT<sub>CO<sub>2e</sub></sub> by 2020. The new inventory identifies that an estimated 80 MMT<sub>CO<sub>2e</sub></sub> of reductions are necessary in order to achieve the statewide emissions reduction of AB 32 by 2020 (CARB 2012).

In 2008, SB 375 was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is 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 to local land use planning to reduce vehicle miles traveled and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 17 regions in California managed by a metropolitan planning organization (MPO).

As the southern California region's MPO, 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 (CARB 2010). The proposed targets would result in 3 MMT<sub>CO<sub>2e</sub></sub> of reductions by 2020 and 15 MMT<sub>CO<sub>2e</sub></sub> of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's 2008 Scoping Plan (for AB 32) would be met (CARB 2008).

## 4. Environmental Setting

The proposed project's consistency with CARB's Scoping Plan is discussed in Section 5.2, *Greenhouse Gas Emissions*.

### Regional Water Quality Control Board/Watershed

The project area is in the jurisdictional area of the Santa Ana Regional Water Quality Control Board (Region 8). The project area is in the Newport Bay Watershed, which drains approximately 194 square miles of central Orange County from the southwestern foothills of the Santa Ana Mountains to the Pacific Ocean. Flood control channels and storm drains owned by the Orange County Flood Control District extend along several segments of the site perimeter; one such channel, Peters Canyon Channel, extends through the eastern part of the site. A network of storm drains in the western part of the site remains from past MCAS use.

### Regional Habitat Conservation Plans and Areas

#### *Central and Coastal Orange County NCCP/ HCP*

The Central and Coastal Orange County Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) and its associated implementation agreement cover 13 cities in Orange County, including Tustin and Irvine. The plan, which was adopted in 1996, created a multispecies/multihabitat reserve system and implements a long-term management program to protect coastal sage scrub and species that utilize coastal sage scrub habitat. Protected species include the coastal California gnatcatcher, cactus wren, and orange-throated whiptail. Because the cities of Tustin and Irvine are participants in the funding and development of the NCCP/HCP, all city-owned parcels fall under the plan's participating landowner system. Individual property owners are considered "nonparticipating landowners" but must also satisfy regulatory requirements under the plan.

The project area is in the Central and Coastal Subregion, a 325-square-mile area that spans the middle portion of Orange County. There are no reserves designated under the NCCP/HCP on or next to the site.

## 4.3 LOCAL ENVIRONMENTAL SETTING

### 4.3.1 Location and Land Use

#### Project Location

The Specific Plan area consists of approximately 1,606 acres, including 1,511 acres in the City of Tustin and approximately 95 acres in the City of Irvine—one of the largest infill development sites in North Orange County. 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 Eastern Transportation Corridor. Figure 3-1, *Regional Location*, and Figure 3-2, *Local Vicinity*, show the location of the project area within the regional and local contexts of Orange County and of the cities of Tustin and Irvine, respectively.

## 4. Environmental Setting

### Existing Land Uses

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 a million 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. 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 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.

### 4.3.2 Surrounding Land Uses

The project site 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 multi-family residential uses; and to the south by commercial and industrial uses.

### 4.3.3 General Plan and Zoning

Land use designations are set forth in the Adopted Specific Plan, including designations for residential, transitional/emergency housing, commercial, education, and park uses. Figure 3-3, *Existing Land Use Plan*, shows the existing land use plan of the Specific Plan area.

## 4. Environmental Setting

### Existing Zoning

The 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 this 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.

### 4.3.4 Climate and Air Quality

As noted above, Tustin is in the SoCAB, which is managed by the South Coast Air Quality Management District. The SoCAB is designated nonattainment for ozone (O<sub>3</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead (Los Angeles County only) under the California and National AAQS and nonattainment for coarse inhalable particulate matter (PM<sub>10</sub>) and nitrogen dioxide (NO<sub>2</sub>) under the California AAQS.

The SoCAB includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project plan area is the Santa Ana Fire Station Monitoring Station (ID No. 047888). The average low is reported at 43.1°F in January, and the average high is 84.7°F in August (WRCC 2016).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages 13.69 inches per year in the project area (WRCC 2016).

An air quality analysis was performed for the Modified Project and the results are discussed in Section 5.1, *Air Quality*. Project-related impacts from GHG emissions are discussed in Section 5.2, *Greenhouse Gas Emissions*. Existing climate and air quality conditions in the City are also provided in Sections 5.1 and 5.2.

## 4. Environmental Setting

### 4.3.5 Noise

The noise environment described in the FEIS/EIR for the Adopted Specific Plan 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 two miles to the southwest. The Specific Plan area is not within a 60 dB CNEL noise contour from John Wayne Airport. Refer to Section 5.4, *Noise*, for additional information concerning the noise environment and an analysis of project-related noise impacts.

### 4.3.6 Public Services and Utilities

Public services and utilities in the project area are provided by service providers listed in Table 4-1. Additional information describing the existing provision of services and utilities in the project area is in Sections 5.6, *Public Services*, and 5.8, *Utilities and Service Systems*, of this DSEIR.

**Table 4-1 Public Service and Utility Providers**

<b>Public Services</b>	
Police	Tustin Police Department
Fire Protection and Emergency Medical Services	Orange County Fire Authority (OCFA)
Public Schools	Tustin Unified School District Irvine Unified School District Santa Ana Unified School District
Library	Orange County Public Libraries (OCPL)
Parks	City of Tustin
<b>Utilities</b>	
Water	Irvine Ranch Water District (IRWD)
Wastewater Treatment	IRWD
Regional Flood Control	Orange County Flood Control District (OCFCD)
Solid Waste Collection	CR&R Waste and Recycling
Solid Waste Disposal (Landfills)	Frank R. Bowerman Olinda Alpha
Electricity	Southern California Edison (SCE)
Natural Gas	Southern California Gas Company (SoCalGas)

### 4.3.7 Transportation and Traffic

The existing local roadway network in the project area includes a number of major roadways, such as Red Hill, Edinger, Jamboree Road, and Barranca Parkway. Primary access to the project area is via these roadways.

The regional transportation system in the vicinity includes I-5, SR-55, and SR-261. The project area is next to the Tustin Metrolink Station at the intersection of Edinger Avenue and Jamboree Road. 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

## 4. Environmental Setting

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).

Refer to Section 5.7, *Transportation and Traffic*, for additional information concerning existing transportation facilities and traffic conditions and an analysis of impacts.

### 4.4 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed when a project's incremental effect is cumulatively considerable. It further states that this discussion shall reflect the level and severity of the impact and the likelihood of occurrence, but not in as great detail as that necessary for the proposed project alone. Section 15355 of the CEQA Guidelines defines cumulative impacts to be "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Cumulative impacts represent the change caused by the incremental impact of the proposed project when added to effects of past projects, other current projects, and probable future projects in the vicinity.

CEQA Guidelines Section 15130 (b)(1) states that the information used in an analysis of cumulative impacts should come from one of two sources:

1. A list of past, present and probable future projects producing related cumulative impacts, including, if necessary, those projects outside the control of the agency; or
2. A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

The cumulative impacts analyses in this DSEIR use method No. 2. Consistent with Section 15130(b)(1)(B) of the CEQA Guidelines, this DSEIR analyzes the environmental impacts of developments in accordance with buildout of the proposed land use plan. As a result, this DSEIR addresses the cumulative impacts of development within the City of Tustin.

In general, the potential for cumulative impacts is contiguous with the City boundary, since the City is the service provider for various City services and public utilities. Cumulative impacts that have the potential for impacts beyond the City boundary (e.g., traffic, air quality, noise) have been addressed through cumulative growth in the City and region through the use of the Irvine Transportation Analysis Model (ITAM). ITAM uses regional growth projections to calculate future traffic volumes. The growth projections adopted by the City and surrounding area are used for the cumulative impact analyses of this DSEIR. Please refer to Section 5 of this DSEIR for a discussion of the cumulative impacts associated with development and growth in the City and region.

### 4.5 REFERENCES

California Air Resources Board (CARB). 2008, October. Climate Change Proposed Scoping Plan, a Framework for Change.

## 4. Environmental Setting

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<http://www.aqmd.gov/home/library/documents-support-material/planning-guidance/guidance-document>.

Western Regional Climate Center (WRCC). 2016. Western U.S. Historical Summaries: Santa Ana Fire Station Monitoring Station. Station ID No. 047888. Accessed May 31, 2016. <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7888>.

## 4. Environmental Setting

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## 5. Environmental Analysis

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Chapter 5 examines the environmental setting, impacts, and mitigation measures associated with the Modified Project. This chapter is divided into sections for respective environmental issue areas that were determined to need further study in the SEIR as part of the scoping process.

The scope of the environmental analysis was determined using the Initial Study and Notice of Preparation (NOP) that were published March 2015, as well as incorporating public and agency comments received concerning the NOP comment period (April 2, 2015 to May 4, 2015; see Appendix B). Environmental issues and their corresponding sections are:

- 5.1 Air Quality
- 5.2 Greenhouse Gas Emissions
- 5.3 Land Use and Planning
- 5.4 Noise
- 5.5 Population and Housing
- 5.6 Public Services
- 5.7 Transportation and Traffic
- 5.8 Utilities and Service Systems

Sections 5.1 through 5.8 provide a detailed discussion of the environmental setting, impacts associated with the Modified Project, and mitigation measures designed to reduce significant impacts where required and when feasible. The residual impacts following the implementation of any mitigation measure also are discussed.

The initial study for the Modified Project (Appendix A) determined that some specific issues under each of the environmental topics would not result in any new impacts, or increase the severity of impacts due to implementation of the Modified Project as compared to the Adopted Specific Plan as analyzed by the FEIS/FEIR. These findings are documented in Appendix A and summarized in Chapter 8 of this DSEIR. Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, these issues are not discussed further in Chapter 5, *Environmental Analysis*, of this SEIR.

### **Organization of Environmental Analysis**

To assist the reader with comparing information between environmental issues, each section (Sections 5.1 to 5.8) is organized under these headings:

- Environmental Setting (Regulatory Setting and Existing Conditions)
- Thresholds of Significance

## 5. Environmental Analysis

- Environmental Impacts
- Cumulative Impacts
- Existing Regulations and Standard Conditions
- Level of Significance Before Mitigation
- Mitigation Measures
- Level of Significance After Mitigation
- References

In addition, the Executive Summary has a table summarizing all the impacts by environmental issue.

## 5. Environmental Analysis

### 5.1 AIR QUALITY

This section of the Draft Supplemental Environmental Impact Report (DSEIR) evaluates the potential air quality impacts of the proposed Modified Project as compared to the air quality impacts of the Adopted Specific Plan. The analysis in this section is based on buildout of the Modified Project and Adopted Specific Plan as modeled using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, and average daily trip generation and vehicle miles traveled provided by the traffic consultant, Stantec, using the Institute of Transportation Engineers' manual, *Trip Generation* (9th ed.), and the Irvine Transportation Analysis Model (ITAM) (see Appendix E to this DSEIR). The air quality model output sheets are included in Appendix C of this DSEIR.

#### 5.1.1 Environmental Setting

##### 5.1.1.1 REGULATORY SETTING

The project site is in the Orange County portion of the South Coast Air Basin (SoCAB). Land use is subject to the rules and regulations imposed by the South Coast Air Quality Management District (SCAQMD), as well as the California ambient air quality standards (AAQS) adopted by the California Air Resources Board (CARB) and National AAQS adopted by the US Environmental Protection Agency (EPA). Air pollutants for which the state and federal government have identified AAQS are known as criteria air pollutants. In addition to criteria air pollutants, both the state and federal government regulate the release of toxic air contaminants (TACs). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the Modified Project are summarized below.

#### Federal and State

##### *Ambient Air Quality Standards*

The Clean Air Act was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

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### AIR QUALITY

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.1-1, *Ambient Air Quality Standards for Criteria Pollutants*. These pollutants are ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), coarse inhalable particulate matter (PM<sub>10</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

**Table 5.1-1 Ambient Air Quality Standards for Criteria Pollutants**

Pollutant	Averaging Time	California Standard <sup>1</sup>	Federal Primary Standard <sup>2</sup>	Major Pollutant Sources
Ozone (O <sub>3</sub> ) <sup>3</sup>	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	
Respirable Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>4</sup>	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m <sup>3</sup>	
Lead (Pb)	30-Day Average	1.5 µg/m <sup>3</sup>	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m <sup>3</sup>	
	Rolling 3-Month Average	*	0.15 µg/m <sup>3</sup>	
Sulfates (SO <sub>4</sub> ) <sup>5</sup>	24 hours	25 µg/m <sup>3</sup>	*	Industrial processes.

## 5. Environmental Analysis AIR QUALITY

**Table 5.1-1 Ambient Air Quality Standards for Criteria Pollutants**

Pollutant	Averaging Time	California Standard <sup>1</sup>	Federal Primary Standard <sup>2</sup>	Major Pollutant Sources
Visibility Reducing Particles	8 hours	ExCo = 0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H <sub>2</sub> S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016a.

Notes: ppm: parts per million; µg/m<sup>3</sup>: micrograms per cubic meter

\* Standard has not been established for this pollutant/duration by this entity.

<sup>1</sup> California standards for O<sub>3</sub>, CO (except 8-hour Lake Tahoe), SO<sub>2</sub> (1 and 24 hour), NO<sub>2</sub>, and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

<sup>2</sup> National standards (other than O<sub>3</sub>, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O<sub>3</sub> standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

<sup>3</sup> On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

<sup>4</sup> On December 14, 2012, the national annual PM<sub>2.5</sub> primary standard was lowered from 15 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup>. The existing national 24-hour PM<sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m<sup>3</sup>, as was the annual secondary standard of 15 µg/m<sup>3</sup>. The existing 24-hour PM<sub>10</sub> standards (primary and secondary) of 150 µg/m<sup>3</sup> also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

<sup>5</sup> On June 2, 2010, a new 1-hour SO<sub>2</sub> standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- California Code of Regulations (CCR), Title 20: Appliance Energy Efficiency Standards
- 24 CCR, Part 6: Building and Energy Efficiency Standards
- 24 CCR, Part 11: Green Building Standards Code

## 5. Environmental Analysis

### AIR QUALITY

#### *Tanner Air Toxics Act and Air Toxics Hots Information and Assessment Act*

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health” (17 CCR § 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate “toxics best available control technology” to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **CARB Rule 2485** (13 CCR, Chapter 10 § 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- **CARB Rule 2480** (13 CCR Chapter 10 § 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- **CARB Rule 2477** (13 CCR § 2477 and Article 8), Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

#### **Air Pollutants of Concern**

##### *Criteria Air Pollutants*

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide

## 5. Environmental Analysis

### AIR QUALITY

(CO), volatile organic compounds (VOC), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), coarse inhalable particulate matter (PM<sub>10</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead (Pb) are primary air pollutants. Of these, CO, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are “criteria air pollutants,” which means that AAQS have been established for them. VOC and NO<sub>x</sub> are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O<sub>3</sub>) and nitrogen dioxide (NO<sub>2</sub>) are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and its known health effects is presented below.

**Carbon Monoxide** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005; USEPA 2016). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2015).

**Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (SCAQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O<sub>3</sub>, SCAQMD has established a significance threshold.

**Nitrogen Oxides** are a by-product of fuel combustion and contribute to the formation of ground-level O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The two major forms of NO<sub>x</sub> are nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO<sub>x</sub> produced by combustion is NO, but NO reacts quickly with oxygen to form NO<sub>2</sub>, creating the mixture of NO and NO<sub>2</sub> commonly called NO<sub>x</sub>. NO<sub>2</sub> is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO<sub>2</sub> is only potentially irritating. NO<sub>2</sub> absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO<sub>2</sub> exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO<sub>2</sub> exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO<sub>2</sub> concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD 2005; USEPA 2016). The SoCAB is designated an attainment area for NO<sub>2</sub> under the National and California AAQS (CARB 2015).

**Sulfur Dioxide** a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at

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plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO<sub>2</sub>. When sulfur dioxide forms sulfates (SO<sub>4</sub>) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO<sub>x</sub>). Thus, SO<sub>2</sub> is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO<sub>2</sub> may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO<sub>2</sub>, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing.) At lower concentrations and when combined with particulates, SO<sub>2</sub> may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (SCAQMD 2005; USEPA 2016). The SoCAB is designated attainment under the California and National AAQS (CARB 2015).

**Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM<sub>10</sub>, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or PM<sub>2.5</sub>, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM<sub>10</sub> and PM<sub>2.5</sub> may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The EPA's scientific review concluded that PM<sub>2.5</sub>, which penetrates deeply into the lungs, is more likely than PM<sub>10</sub> to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (SCAQMD 2005). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), have human health implications, because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (SCAQMD 2013). However, the EPA or CARB has yet to adopt AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,<sup>1</sup> environmental damage,<sup>2</sup> and aesthetic damage<sup>3</sup> (SCAQMD 2005; USEPA 2016). The SoCAB is a nonattainment area for PM<sub>2.5</sub> under California and National AAQS and a nonattainment area for PM<sub>10</sub> under the California AAQS (CARB 2015).<sup>4</sup>

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<sup>1</sup> PM<sub>2.5</sub> is the main cause of reduced visibility (haze) in parts of the United States.

<sup>2</sup> Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

<sup>3</sup> Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

<sup>4</sup> CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM<sub>10</sub> to attainment for PM<sub>10</sub> under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM<sub>10</sub> standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM<sub>10</sub> nonattainment area to attainment of the PM<sub>10</sub> National AAQS, effective on July 26, 2013.

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**Ozone** is commonly referred to as “smog” and is a gas that is formed when VOCs and NO<sub>x</sub>, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O<sub>3</sub> is a secondary criteria air pollutant. O<sub>3</sub> concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O<sub>3</sub> poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O<sub>3</sub> can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O<sub>3</sub> also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O<sub>3</sub> also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O<sub>3</sub> harms sensitive vegetation during the growing season (SCAQMD 2005; USEPA 2016). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2015).

**Lead** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (SCAQMD 2005; USEPA 2016). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA’s regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.<sup>5</sup> As a result of these violations, the Los Angeles County portion of the SoCAB is designated as nonattainment under the National AAQS for lead (SCAQMD 2012; CARB 2015). Because emissions of lead are found only in projects that are permitted by SCAQMD, lead is not a pollutant of concern for the Modified Project.

#### *Toxic Air Contaminants*

By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be

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<sup>5</sup> Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012).

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attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

#### *Diesel Particulate Matter*

In 1998, CARB identified diesel particulate matter as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs.

#### **Air Quality Management Planning**

SCAQMD is the agency responsible for improving air quality in the SoCAB and assuring that the National and California AAQS are attained and maintained. SCAQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

#### **2012 AQMP**

On December 7, 2012, SCAQMD adopted the 2012 AQMP, which employs the most up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources, and area sources. It also addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models. The 2012 AQMP builds upon the approach identified in the 2007 AQMP for attainment of federal PM and ozone standards and highlights the significant amount of reductions needed. It also highlights the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria air pollutant standards within the time frames allowed under the CAA. The 2012 AQMP demonstrates attainment of federal 24-hour PM<sub>2.5</sub> standards by 2014 and the federal 8-hour ozone standard by 2023. Preliminary ambient air quality data suggests that meeting the 2016 federal 24-hour PM<sub>2.5</sub> standards by the end of 2014 is not likely, largely due to the extreme drought conditions in the SoCAB (SCAQMD 2015a). It includes an update to the revised EPA 8-hour ozone control plan with new commitments for short-term NO<sub>x</sub> and VOC reductions. The plan also identifies emerging issues—ultrafine particulate matter (PM<sub>1.0</sub>), near-roadway exposure, and energy supply and demand.

#### **2016 Draft AQMP**

The SCAQMD is in the process of updating the AQMP and released a draft of the 2016 AQMP on June 30, 2016. The 2016 AQMP addresses strategies and measures to attain the 2008 federal 8-hour ozone standard by 2031, the 2012 federal annual PM<sub>2.5</sub> standard by 2025, the 2006 federal 24-hour PM<sub>2.5</sub> standard by 2019, the 1997 federal 8-hour ozone standard by 2023, and the 1979 federal 1-hour ozone standard by year 2022. It is projected that total NO<sub>x</sub> emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone standard by year 2022 (SCAQMD 2016a), which requires reducing NO<sub>x</sub> emissions in the SoCAB to 250 tpd.

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Reducing NO<sub>x</sub> emissions would also reduce PM<sub>2.5</sub> concentrations within the SoCAB. However, as the goal is to meet the 2012 federal annual PM<sub>2.5</sub> standard no later than year 2025, SCAQMD is seeking to reclassify the SoCAB from “moderate” to “serious” nonattainment under this federal standard. A “moderate” nonattainment would require meeting the 2012 federal standard by no later than 2021. Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (SCAQMD 2016a).

#### *Lead Implementation Plan*

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007-to-2009 period. The remainder of the SoCAB, outside the Los Angeles County nonattainment area, remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the State Implementation Plan (SIP) revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval.

#### *SCAQMD Rules and Regulations*

All projects are subject to SCAQMD rules and regulations in effect at the time of activity, including the following:

- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is as dark as or darker than designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.
- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403, Fugitive Dust.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made

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condition capable of generating fugitive dust, and requires best available control measures to be applied to earth moving and grading activities.

- **Rule 1113, Architectural Coatings.** This rule serves to limit the VOC content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the SCAQMD must comply with the current VOC standards set in this rule.

#### 5.1.1.2 EXISTING CONDITIONS

##### South Coast Air Basin

The project site is in the SoCAB, which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

##### *Temperature and Precipitation*

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project plan area is the Santa Ana Fire Station Monitoring Station (ID No. 047888). The average low is reported at 43.1°F in January, and the average high is 84.7°F in August (WRCC 2016).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages 13.69 inches per year in the project area (WRCC 2016).

##### *Humidity*

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 2005).

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#### *Wind*

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward transport. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 2005).

#### *Inversions*

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (SCAQMD 2005).

#### **SoCAB Nonattainment Areas**

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

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The attainment status for the SoCAB is shown in Table 5.1-2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*.

**Table 5.1-2 Attainment Status of Criteria Pollutants in the South Coast Air Basin**

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM <sub>10</sub>	Serious Nonattainment	Attainment
PM <sub>2.5</sub>	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO <sub>2</sub>	Attainment	Attainment/Maintenance
SO <sub>2</sub>	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only) <sup>1</sup>
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2015.

<sup>1</sup> In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

### Multiple Air Toxics Exposure Study IV

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and estimated the potential health risks from air toxics in the SoCAB. In 2008, SCAQMD conducted its third update to the MATES study (MATES III). The results showed that the overall basinwide risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for 84 percent of the cancer risk (SCAQMD 2008a).

SCAQMD recently released the fourth update (MATES IV). The results showed that the overall monitored basinwide risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, accounting for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basinwide population-weighted risk decreased by approximately 57 percent compared to the analysis done for the MATES III time period (SCAQMD 2015b).

The Office of Environmental Health Hazard Assessment updated the guidelines for estimating cancer risks on March 6, 2015. The new method utilizes higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher using the proposed updated methods from MATES IV (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (SCAQMD 2015b).

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### Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site and project area are best documented by measurements made by SCAQMD. The project site is in Source Receptor Area (SRA) 19 – Saddleback Valley. The air quality monitoring station in SRA 19 closest to the project is the Via Pera Monitoring Station. Because this station does not monitor SO<sub>2</sub>, data from the Costa Mesa-Mesa Verde Drive Monitoring Station was obtained. Data from these stations are summarized in Table 5.1-3, *Ambient Air Quality Monitoring Summary*. The data show that the area regularly exceeds the state and federal eight-hour O<sub>3</sub> standards and occasionally exceeds the state one hour standards. The state PM<sub>10</sub> and federal PM<sub>2.5</sub> standards are regularly exceeded. The CO, SO<sub>2</sub>, and NO<sub>2</sub> standards have not been exceeded in the last five years in the project vicinity.

**Table 5.1-3 Ambient Air Quality Monitoring Summary**

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2011	2012	2013	2014	2015
<b>Ozone (O<sub>3</sub>)<sup>1</sup></b>					
State 1-Hour ≥ 0.09 ppm	0	2	2	4	2
State 8-hour ≥ 0.07 ppm	5	6	5	10	8
Federal 8-Hour > 0.075 ppm	2	1	1	5	3
Max. 1-Hour Conc. (ppm)	0.094	0.096	0.104	0.115	0.099
Max. 8-Hour Conc. (ppm)	0.083	0.078	0.082	0.088	0.088
<b>Carbon Monoxide (CO)<sup>1</sup></b>					
State 8-Hour > 9.0 ppm	0	0	*	*	*
Federal 8-Hour ≥ 9.0 ppm	0	0	*	*	*
Max. 8-Hour Conc. (ppm)	0.95	0.79	*	*	*
<b>Nitrogen Dioxide (NO<sub>2</sub>)<sup>2</sup></b>					
State 1-Hour ≥ 0.18 ppm	0	0	0	0	0
Max. 1-Hour Conc. (ppb)	0.0605	0.0744	0.0757	0.0606	0.0524
<b>Sulfur Dioxide (SO<sub>2</sub>)<sup>2</sup></b>					
State 24-Hour ≥ 0.04 ppm	0	0	*	*	*
Max. 24-Hour Conc. (ppm)	0.002	0.001	*	*	*
<b>Coarse Particulates (PM<sub>10</sub>)<sup>1</sup></b>					
State 24-Hour > 50 µg/m <sup>3</sup>	0	0	0	0	0
Federal 24-Hour > 150 µg/m <sup>3</sup>	0	0	0	0	0
Max. 24-Hour Conc. (µg/m <sup>3</sup> )	48.0	37.0	51.0	41.0	49.0
<b>Fine Particulates (PM<sub>2.5</sub>)<sup>1</sup></b>					
Federal 24-Hour > 35 µg/m <sup>3</sup>	0	0	0	0	0
Max. 24-Hour Conc. (µg/m <sup>3</sup> )	33.4	27.6	28.0	25.5	31.5

Source: CARB 2016b.

Notes: ppm = parts per million; ppb = parts per billion; µg/m<sup>3</sup> = micrograms per cubic meter

\* Data not available.

<sup>1</sup> Data obtained from the Mission Viejo – 26081 Via Pera Monitoring Station at 26081 Via Pera in Mission Viejo.

<sup>2</sup> Data obtained from the Costa Mesa-Mesa Verde Drive Monitoring Station at 2850 Mesa Verde Drive East in Costa Mesa.

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#### Existing Emissions

The planning area consists of open space in addition to residential, commercial, retail, and institutional uses (see Section 4.3.1 of this DSEIR). These uses currently generate criteria air pollutant emissions from natural gas use for energy, heating and cooking, vehicle trips associated with each land use, and area sources such as landscaping equipment and consumer cleaning products.

#### Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, because the majority of the workers tend to stay indoors most of the time. In addition, the workforce is generally the healthiest segment of the population.

The nearest off-site sensitive receptors include the residences to the north of the planning area across Edinger Avenue and the Metrolink Inland Empire – Orange County Line and also to the south and east across Barranca Parkway and Harvard Avenue, respectively. Other nearby sensitive-receptors includes daycares and schools such as AG Currie Middle School. In addition to the off-site sensitive receptors, there are also existing sensitive receptors within the planning area. These receptors include the Tustin Field, Columbus Square, Columbus Grove Tustin, and Columbus Grove Irvine residential communities along with Heritage Middle School and Creekside High School in Irvine.

#### 5.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- AQ-3 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).

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AQ-4 Expose sensitive receptors to substantial pollutant concentrations.

AQ-5 Create objectionable odors affecting a substantial number of people.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following threshold would be less than significant:

- Threshold AQ-5

This impact will not be addressed in the following analysis.

#### 5.1.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The analysis of the Modified Project's air quality impacts follows the guidance and methodologies recommended in SCAQMD's *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD's website.<sup>6</sup> CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed below, projects are also subject to the AAQS (see Table 5.3-1), which are addressed through an analysis of localized CO impacts and localized significance thresholds (LSTs).

#### Regional Significance Thresholds

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB, shown in Table 5.1-4, *SCAQMD Regional Significance Thresholds*. The table lists thresholds that are applicable for all projects uniformly, regardless of size or scope. There is growing evidence that although ultrafine particles contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA and CARB have not adopted AAQS to regulate ultrafine particles; therefore, SCAQMD has not developed thresholds for them.

**Table 5.1-4 SCAQMD Significance Thresholds**

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Nitrogen Oxides (NO <sub>x</sub> )	100 lbs/day	55 lbs/day
Sulfur Oxides (SO <sub>x</sub> )	150 lbs/day	150 lbs/day
Particulates (PM <sub>10</sub> )	150 lbs/day	150 lbs/day
Particulates (PM <sub>2.5</sub> )	55 lbs/day	55 lbs/day

Source: SCAQMD 2015c.

<sup>6</sup> SCAQMD's Air Quality Significance Thresholds are current as of March 2015 and can be found at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>.

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Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Increases cancer risk (PM<sub>2.5</sub>, TACs)
- Aggravates respiratory disease (O<sub>3</sub>, PM<sub>2.5</sub>)
- Increases bronchitis (O<sub>3</sub>, PM<sub>2.5</sub>)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O<sub>3</sub>)
- Reduces resistance to infections and increases fatigue (O<sub>3</sub>)
- Reduces lung growth in children (PM<sub>2.5</sub>)
- Contributes to heart disease and heart attacks (PM<sub>2.5</sub>)
- Contributes to premature death (O<sub>3</sub>, PM<sub>2.5</sub>)
- Contributes to lower birth weight in newborns (PM<sub>2.5</sub>) (SCAQMD 2015d)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of PM<sub>2.5</sub> is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists, in a landmark children's health study, found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (SCAQMD 2015e).

Mass emissions in Table 5.1-4 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed above. In addition, the analysis to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment is within the scope of the AQMP. SCAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SoCAB. To achieve the health-based standards established by the EPA, SCAQMD prepares an AQMP that details regional programs to attain the AAQS.

#### Localized Significance Thresholds

SCAQMD developed LSTs to determine if emissions of NO<sub>2</sub>, CO, PM<sub>10</sub>, or PM<sub>2.5</sub> generated at a project site (offsite mobile-source emissions are not included the LST analysis) would expose sensitive receptors to substantial concentrations of criteria air pollutants. LSTs are the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS. LSTs are based on the ambient concentrations of that pollutant within the project source receptor area and the distance to the nearest sensitive receptor. LST analysis for construction is applicable to all projects of five acres or less, but it can be used to screen larger projects to determine whether or not dispersion modeling may be required. However, an LST analysis can only be conducted at a project level, and quantification of

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LSTs is not applicable for this program-level environmental analysis. For informational purposes, Table 5.1-5, *SCAQMD Localized Significance Thresholds*, is included below and shows the localized significance thresholds for projects in the SoCAB.

**Table 5.1-5 SCAQMD Localized Significance Thresholds**

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO <sub>2</sub> Standard (CAAQS)	0.18 ppm
Annual NO <sub>2</sub> Standard (CAAQS)	0.03 ppm
24-Hour PM <sub>10</sub> Standard – Construction (SCAQMD) <sup>1</sup>	10.4 µg/m <sup>3</sup>
24-Hour PM <sub>2.5</sub> Standard – Construction (SCAQMD) <sup>1</sup>	10.4 µg/m <sup>3</sup>
24-Hour PM <sub>10</sub> Standard – Operation (SCAQMD) <sup>1</sup>	2.5 µg/m <sup>3</sup>
24-Hour PM <sub>2.5</sub> Standard – Operation (SCAQMD) <sup>1</sup>	2.5 µg/m <sup>3</sup>
Annual Average PM <sub>10</sub> Standard (SCAQMD) <sup>1</sup>	1.0 µg/m <sup>3</sup>

Source: SCAQMD 2015c.  
ppm – parts per million; µg/m<sup>3</sup> – micrograms per cubic meter  
<sup>1</sup> Threshold is based on SCAQMD Rule 403. Since the SoCAB is in nonattainment for PM<sub>10</sub> and PM<sub>2.5</sub>, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

### CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

### Health Risk Analysis

Whenever a project would require use of chemical compounds that have been identified in SCAQMD Rule 1401, placed on CARB’s air toxics list pursuant to AB 1807, or placed on the EPA’s National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the SCAQMD. Table 5.1-6, *SCAQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the SCAQMD’s TAC incremental risk thresholds for operation of a project.

**Table 5.1-6 SCAQMD Toxic Air Contaminants Incremental Risk Thresholds**

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0

Source: SCAQMD 2015c.

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### 5.1.3 Environmental Impacts

#### 5.1.3.1 SUMMARY OF IMPACTS ASSOCIATED WITH THE ADOPTED PROJECT

The 2001 FEIS/EIR addressed consistency of the MCAS Specific Plan with the SCAQMD AQMPs for construction-related emissions, operational emissions, CO hotspots, and air toxics. The 2001 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 2001 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 2001 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 that impacts would be slightly reduced due to the reduction of nonresidential square footage and redistribution of residential uses. In addition, the 2006 Addendum noted that the 2003 AQMP accounted for growth projections associated with the Adopted Specific Plan. 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 Victory Road. Based on this analysis, it was determined that SCAQMD thresholds would not be exceeded and no new significant impacts would occur.

#### 5.1.3.2 ENVIRONMENTAL IMPACTS OF THE MODIFIED PROJECT

##### Methodology

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with the type and scale of development in the planning area. SCAQMD has published the *CEQA Air Quality Handbook* (Handbook) and updates on its website to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in environmental impact reports and was used extensively in the preparation of this analysis. The

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SCAQMD has published additional guidance for LSTs—*Localized Significance Threshold Methodology for CEQA Evaluations* (2008b)—that are intended to provide guidance in evaluating localized effects from emissions generated by a project. These documents were also used in the preparation of this analysis. The analysis also makes use of the CalEEMod Version 2013.2.2 for quantification of daily construction and operational emissions. For purposes of this analysis, daily short- and long-term regional criteria air pollutant emissions for both the Modified Project and the Adopted Specific Plan were quantified and compared.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.1-1: Similar to the Adopted Specific Plan, the Modified Project would be inconsistent with the applicable Air Quality Management Plan. [Threshold AQ-1]**

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**Impact Analysis:** SCAQMD is directly responsible for reducing emissions from area, stationary, and mobile sources in the SoCAB to achieve National and California AAQS. On December 7, 2012, the SCAQMD Governing Board adopted the 2012 AQMP, which is a regional and multiagency effort (SCAQMD, CARB, SCAG, and EPA). A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP.

The two principal criteria for conformance to an AQMP are:

1. Would the project exceed the assumptions in the AQMP?
2. Would the project result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards?

#### Indicator 1

The regional emissions inventory for the SoCAB is compiled by SCAQMD and SCAG. Regional population, housing, and employment projections developed by SCAG are based, in part, on cities' general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into the regional transportation plan/sustainable communities strategy (RTP/SCS), compiled by SCAG to determine priority transportation projects and vehicle miles traveled in the SCAG region. The AQMP strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the air quality-related regional plan.

The Adopted Specific Plan is considered a regionally significant project that would warrant Intergovernmental Review by SCAG under CEQA Guidelines section 15206 as it would result in the development of more than 500 total dwelling units in addition to accommodating up to more than 500 hotel rooms and over 500,000 square feet of commercial space. However, the latest 2012 AQMP, similar to the 2003 AQMP, considered the growth associated with the Adopted Specific Plan. Overall, under the Modified

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Project, the total number of dwelling units would increase by 2,212 while nonresidential square footage would decrease by 1,755,306 square feet. These changes would result in an increase in the population and a decrease in employment (see Section 5.6, *Population and Housing*). In addition, full implementation of the Modified Project would result in an increase of approximately 12,322 average daily vehicle trips although the average vehicle miles traveled per trip would decrease from approximately 7.3 miles under Adopted Specific Plan conditions to approximately 6.5 miles under Modified Project conditions. Due to the increase in growth forecast and vehicle trips, the Modified Project has the potential to be inconsistent with the 2012 AQMP.

#### Indicator 2

With respect to the second indicator, the analysis provided in Impact 5.1-3 shows that implementation of the Modified Project would generate similar long-term criteria air pollutant emissions compared to the Adopted Specific Plan. Similar to the Adopted Specific Plan, the long-term emissions associated with the Modified Project would exceed SCAQMD's regional significance thresholds for operation-phase emissions. However, the Modified Project would generally reduce the maximum daily long-term criteria air pollutant emissions compared to the Adopted Specific Plan, and the net change in emissions would not exceed the SCAQMD regional significance thresholds for operation-phase emissions. Thus, the Modified Project would not result in new or substantially greater long-term regional air quality impacts compared to the Adopted Specific Plan.

#### Summary

As discussed above for Indicators 1 and 2, the types of land uses accommodated under the Modified Project would be similar to the types of land uses accommodated under the Adopted Specific Plan. Additionally, the net change in emissions would not exceed the SCAQMD regional significance thresholds for operation-related emissions, therefore would not result in a substantial increase in the severity of a significant impact. Additionally, the Modified Project would not introduce new operation-related regional air quality impacts compared to the Adopted Specific Plan. However, the Modified Project would accommodate more dwelling units and the growth associated with these additional residential land uses, is accounted for in the 2012 AQMP. Therefore, similar to the Adopted Specific Plan, the Modified Project is not consistent with the 2012 AQMP.

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#### **Impact 5.1-2: Construction activities associated with the Modified Project would generate short-term emissions and impacts similar to the Adopted Specific Plan. [Thresholds AQ-2 and AQ-3]**

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**Impact Analysis:** Construction activities associated with development of the Modified Project would cause short-term emissions of criteria air pollutants. The primary source of NO<sub>x</sub>, CO, and SO<sub>x</sub> emissions is the operation of construction equipment. The primary sources of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) emissions are activities that disturb the soil, such as grading and excavation road construction, and building demolition and construction. The primary source of VOC emissions is the application of architectural coating and off-gas emissions associated with asphalt paving. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included under "Air Pollutants of Concern" in Section 5.1.1.1, *Regulatory Setting*.

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Construction activities would temporarily increase PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, NO<sub>x</sub>, SO<sub>x</sub>, and CO regional emissions in the SoCAB. Construction activities associated with buildout of the Modified Project are anticipated to occur sporadically over an approximately 18-year period or longer. Buildout would be comprised of multiple smaller projects, each having its own construction timeline and activities. Development of multiple properties could occur at the same time. However, there is no defined development schedule for these future projects at this time. For this analysis, the maximum daily emissions are based on a very conservative scenario, where several construction projects are occurring at one time and overlap of all construction phases occur at the same time. The amount of construction assumed is consistent with 18-year anticipated buildout of the Modified Project.

Table 5.1-7, *Comparison of Regional Construction Emissions*, shows the estimate of maximum daily construction-related emissions for the Modified Project compared to the maximum daily construction emissions for the Adopted Specific Plan as remodeled using CalEEMod Version 2013.2.2. The Adopted Specific Plan is remodeled to account for the subsequent updates after its original adoption. Furthermore, remodeling of the Adopted Specific Plan provides construction emissions that are based on the most recent emission rates for off-road equipment and applicable on-road sources and on the latest accepted SCAQMD methodology. These reasons account for the differences in the worst-case day construction emissions between the remodeled emissions and the emissions presented in the FEIS/EIR. Overall, remodeling the Adopted Specific Plan provides a direct comparison to the Modified Project.

**Table 5.1-7 Comparison of Regional Construction Emissions**

Construction Phase	Construction-Related Regional Emissions (pounds/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Adopted Specific Plan (2001 FEIS/EIR)<sup>1</sup></b>						
Worst-Case Day	5,422	176	56	<1	643	
SCAQMD Standard	75	100	550	150	150	55
<b>Significant?</b>	<b>Yes</b>	<b>Yes</b>	No	No	<b>Yes</b>	No
<b>Adopted Specific Plan (CalEEMod Remodel)<sup>2,3</sup></b>						
Worst-Case Day	582	226	197	<1	30	18
SCAQMD Standard	75	100	550	150	150	55
<b>Significant?</b>	<b>Yes</b>	<b>Yes</b>	No	No	No	No
<b>Modified Project<sup>2,3</sup></b>						
Demolition	4	43	35	<1	2	2
Site Preparation	5	52	40	<1	11	7
Grading	6	70	48	<1	56	10
Building Construction	6	38	54	<1	7	3
Paving	2	20	15	<1	1	1
Architectural Coatings	588	3	6	<1	1	<1
Worst-Case Day <sup>4</sup>	611	226	198	<1	79	24
SCAQMD Standard	75	100	550	150	150	55
<b>Significant?</b>	<b>Yes</b>	<b>Yes</b>	No	No	No	No

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**Table 5.1-7 Comparison of Regional Construction Emissions**

Construction Phase	Construction-Related Regional Emissions (pounds/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Comparison to Adopted Specific Plan</b>						
<b>Net Difference from Adopted Specific Plan Remodeled</b>	29	<-1	2	<1	49	5
SCAQMD Standard	75	100	550	150	150	55
<b>Significant?</b>	No	No	No	No	No	No

Source: CalEEMod Version 2013.2.2.

Shown in pounds per day

<sup>1</sup> Based on the "Peak reduced emissions" from Table 4.13-4 of the 2001 FEIS/EIR which includes reductions from compliance with required SCAQMD control measures.

<sup>2</sup> Construction equipment mix is based on CalEEMod default construction mix. See Appendix C for a list of assumptions on emissions generated on a worst-case day.

<sup>3</sup> Consistent with Mitigation Measures AQ-1, grading includes compliance with SCAQMD Rule 403 fugitive dust control measures. Measures include requiring an application of water at least twice per day to at least 80 percent of the unstabilized disturbed onsite surface areas, replacing disturbed ground cover quickly, and restricting speeds on unpaved roads to less than 15 miles per hour. Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113.

<sup>4</sup> Based on overlap of all the construction phases.

Compared to the Adopted Specific Plan as quantified using CalEEMod, the Modified Project would result in an increase in VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> air pollutant emissions. However, the net change in emissions would not exceed SCAQMD's regional significance thresholds for construction emissions. Therefore, there would not be a substantial increase in the severity of previously identified impacts. Furthermore, while total construction criteria air pollutant emissions for the Modified Project would exceed the SCAQMD regional significance thresholds for VOC and NO<sub>x</sub>, the Adopted Specific Plan, as quantified using CalEEMod, would also similarly be in exceedance for VOC and NO<sub>x</sub>. Thus, overall, implementation of Modified Project would result in construction-related impacts similar to the Adopted Specific Plan and no new significant impact would occur.

**Impact 5.1-3: The Modified Project, similar to the Adopted Specific Plan, would result in significant long-term regional air quality impacts. [Thresholds AQ-2 and AQ-3]**

**Impact Analysis:** Buildout of the Modified Project would result in direct and indirect criteria air pollutant emissions from transportation, energy (natural gas use), and area sources (e.g., natural gas fireplaces, aerosols, landscaping equipment). Transportation sources of criteria air pollutant emission are based on the traffic impact analysis conducted by Stantec (Appendix E of this DSEIR). The results of the CalEEMod modeling for the Adopted Specific Plan and the Modified Project are included in Table 5.1-8, *Maximum Daily Operational Phase Emissions*.

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**Table 5.1-8 Maximum Daily Operational Phase Regional Emissions**

Phase	Operation-Related Regional Emissions (pounds/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Adopted Specific Plan</b>						
Area	376	5	424	<1	9	9
Energy	4	38	28	<1	3	3
Transportation	449	820	4,293	21	1,467	406
<b>Total</b>	<b>830</b>	<b>863</b>	<b>4,746</b>	<b>21</b>	<b>1,479</b>	<b>418</b>
<b>Modified Project</b>						
Area	416	7	642	<1	14	14
Energy	4	34	23	<1	3	3
Transportation	462	792	4,202	20	1,379	382
<b>Total</b>	<b>882</b>	<b>834</b>	<b>8,867</b>	<b>20</b>	<b>1,396</b>	<b>399</b>
Less Adopted Specific Plan Emissions	830	863	4,746	21	1,479	418
<b>Net Change</b>	<b>53</b>	<b>-29</b>	<b>121</b>	<b>-1</b>	<b>-83</b>	<b>-20</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Significant?</b>	No	No	No	No	No	No

Source: CalEEMod Version 2013.2.2. Based on highest winter or summer emissions using 2035 emission rates. Totals may not equal 100 percent due to rounding.

As shown in the table, the total emissions associated with implementation of the Modified Project would exceed the SCAQMD operation-related regional significance thresholds for all of the criteria air pollutants except for SO<sub>2</sub>. This result is similar to the total long-term emissions associated with the Adopted Specific Plan. However, implementation of the Modified Project would generally result in reduced emissions for NO<sub>x</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> when compared to the Adopted Specific Plan. While the Modified Project would generate a net increase of 12,322 weekday average daily trips compared to the Adopted Specific Plan, the overall average trip distance would be reduced from 7.30 miles to 6.50 miles under the Modified Project conditions (Stantec 2016). This would result in a net decrease in annual VMT of approximately 15,209,475 miles per year. Therefore, implementation of the Modified Project would not result in new significant or substantially greater regional operation-related air quality impacts compared to the Adopted Specific Plan.

**Impact 5.1-4: The Modified Project, similar to the Adopted Specific Plan, could expose sensitive receptors to substantial pollutant concentrations of criteria air pollutants during construction activities. [Threshold AQ-4]**

**Impact Analysis:** The Modified Project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevating those levels. Unlike the mass of construction emissions shown in Table 5.1-7, described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or µg/m<sup>3</sup>) and can be correlated to potential health effects. LSTs are the amount of project-related emissions at which localized concentrations would exceed the ambient air quality standards for criteria air pollutants for which the SoCAB is designated a nonattainment area.

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Buildout of the Modified Project would occur over a period of approximately 18 years or longer and would comprise several smaller projects with their own construction time frames and construction equipment. Concentrations of criteria air pollutants generated by a project depend on the emissions generated onsite and the distance to the nearest sensitive receptor. Therefore, an LST analysis can only be conducted at a project level, and quantification of LSTs is not applicable for this program-level environmental analysis. Because potential future development could occur close to existing sensitive receptors, the project has the potential to expose sensitive receptors to substantial pollutant concentrations. Construction equipment exhaust and fugitive particulate matter emissions have the potential to expose sensitive receptors to substantial concentrations of criteria air pollutant emissions and result in a significant impact. The FEIS/EIR did not provide a construction-related LST analysis for the Approved Project as it was prepared prior to adoption of the LST methodology by SCAQMD in 2006. However, based on the regional construction emissions shown in Table 5.1-7, it is anticipated that the Modified Project and Adopted Specific Plan would generate similar localized construction-related emissions and would both result in a significant localized construction-related emissions impacts. Therefore, no new significant impacts would occur.

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**Impact 5.1-5: Implementation of the Modified Project would not result in new impacts or an increased severity of impacts associated with exposure of sensitive receptors to substantial toxic air contaminant concentrations compared to the Adopted Specific Plan. [Threshold AQ-4]**

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*Impact Analysis:* Operation of new land uses consistent with the Modified Project would generate new sources of criteria air pollutants and TACs in the plan area from area/stationary sources and mobile sources.

#### Toxic Air Contaminants

Land uses that have the potential to be substantial stationary sources that would require a permit from SCAQMD for emissions of TACs include industrial land uses, such as chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. Emissions of TACs from these types of land uses would be controlled by SCAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under SCAQMD Rule 1401. Based on this rule, the FEIS/EIR determined that impacts related to air toxics would be less than significant. The permitting process ensures that stationary source emissions would be below the SCAQMD significance thresholds of 10 in a million cancer risk and 1 for acute risk at the maximally exposed individual.

While stationary sources would be subject to the SCAQMD permitting process to control emissions, mobile sources (e.g., onsite truck idling and ancillary off-road equipment) associated with a facility (permitted and nonpermitted) would be outside of the scope of Rule 1401. Emissions of TACs from mobile sources when operating at a property are regulated by statewide rules and regulations, not by SCAQMD and have the potential to generate substantial concentrations of air pollutants. Examples of land uses that could generate a substantial amount of TACs from mobile sources include warehousing and certain industrial facilities (e.g., diesel particulate matter from trucks and rail). However, the land uses that would be accommodated under the Modified Project would be similar to those under the Adopted Specific Plan. In addition, the types of land uses that could potentially generate sources of TACs would be conditionally permitted land uses under the Modified Project and would have to demonstrate compliance with the proposed Specific Plan

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requirements pertaining to air toxics (see Regulation 3.18.4c of the Specific Plan). Therefore, overall, the Modified Project would not result in new significant or substantially greater impacts related to air toxics compared to the Adopted Specific Plan.

#### CO Hotspot Analysis

The FEIS/EIR identified less than significant impacts from CO hotspots. At the time of the 1993 SCAQMD Handbook, the SoCAB was designated nonattainment under the California and National AAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined. In 2001, the SCAQMD was designated in attainment for CO under both the California AAQS and National AAQS. As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide 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). It is estimated that full implementation of the Modified Project could generate up to approximately 23,500 to 24,000 total peak hour trips. Thus, it is anticipated that the Modified Project would not produce the volumes of traffic at any one intersection that would be required to generate a CO hotspot. Similar to the 2001 Approved Project, localized CO hotspot impacts associated with the Modified Project would be less than significant. Therefore, implementation of the Modified Project would not result in new significant or substantially greater impacts than the Adopted Specific Plan.

#### 5.1.4 Cumulative Impacts

In accordance with the SCAQMD methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Cumulative projects within the local area include new development and general growth within the project area. The greatest source of emissions within the SoCAB is mobile sources. Due to the extent of the area potentially impacted from cumulative project emissions, the SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD regional emissions thresholds shown in Table 5.1-4.

#### Construction

The SoCAB is designated nonattainment for O<sub>3</sub>, PM<sub>2.5</sub>, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for NO<sub>2</sub> and PM<sub>10</sub> under the California AAQS.<sup>7</sup> Construction of cumulative projects would further degrade the regional and local air quality. Air quality would be temporarily impacted during construction activities. Implementation of mitigation measures for related projects would reduce cumulative impacts. Project-related construction emissions could still potentially

<sup>7</sup> CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM<sub>10</sub> to attainment for PM<sub>10</sub> under the national AAQS on March 25, 2010, because the SoCAB has not violated federal 24-hour PM<sub>10</sub> standards during the period from 2004 to 2007. In June 2013, the EPA approved the State of California's request to redesignate the South Coast PM<sub>10</sub> nonattainment area to attainment of the PM<sub>10</sub> National AAQS, effective on July 26, 2013.

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exceed the SCAQMD significance thresholds on a project and cumulative basis. However, in comparison to the Adopted Specific Plan, implementation of the Modified Project would not result new or substantially greater regional construction-related air quality impacts than those previously identified. Thus, the Modified Project would not result in new or substantially greater cumulative impacts related to construction. Therefore, no new significant cumulative construction-related impacts would occur.

#### Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by the SCAQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Implementation of the Modified Project would result in emissions in excess of the SCAQMD regional emissions thresholds for VOC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> for long-term operation. However, the Adopted Specific Plan would also result in exceedances of the same criteria air pollutant emissions. Furthermore, the Modified Project would generally result in lower emissions compared to the Adopted Specific Plan. Thus, implementation of the Modified Project would not introduce new or substantially greater long-term regional air quality impacts compared to the Adopted Specific Plan. Therefore, no new significant cumulative operation-related impacts would occur.

### 5.1.5 Existing Regulations and Standard Conditions

#### State

- **CARB Rule 2480** (13 CCR 2480): Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools: limits nonessential idling for commercial trucks and school buses within 100 feet of a school.
- **CARB Rule 2485** (13 CCR 2485): Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling: limits nonessential idling to five minutes or less for commercial trucks.
- **CARB Rule 2449** (13 CCR 2449): In-Use Off-Road Diesel Idling Restricts: limits nonessential idling to five minutes or less for diesel-powered off-road equipment.
- **Building Energy Efficiency Standards** (Title 24)
- **Appliance Energy Efficiency Standards** (Title 20)
- **Motor Vehicle Standards** (AB 1493)

#### Regional

- **SCAQMD Rule 201**: Permit to Construct
- **SCAQMD Rule 402**: Nuisance Odors
- **SCAQMD Rule 403**: Fugitive Dust

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- **SCAQMD Rule 1113:** Architectural Coatings
- **SCAQMD Rule 1186:** Street Sweeping
- **SCAQMD Rule 1403:** Asbestos Emissions from Demolition/Renovation Activities

#### Local

- **City of Tustin Municipal Code, Article 9, Chapter 9:** Transportation Demand Management Requirements

### 5.1.6 Level of Significance Before Mitigation

The following impacts would not result in new significant impacts or substantially increase the severity of impacts identified for the Adopted Specific Plan: Impacts 5.1-1, 5.1-2, 5.1-3, 5.1-4, and 5.1-5.

### 5.1.7 Mitigation Measures

The 2001 FEIS/EIR incorporated Mitigation Measures AQ-1 through AQ-4 for the MCAS Tustin Specific Plan pertaining to air quality. Mitigation Measure AQ-1 was revised in the 2006 Addendum due to SCAQMD Rules 402 and 403 becoming effective and accounting for the measures originally prescribed in the mitigation. Thus, Mitigation Measure AQ-1 shown below is the revised mitigation as prescribed in the 2006 Addendum. Changes to previously prescribed mitigation measures updated in this DSEIR are noted through ~~strikeout~~ for deleted text while new text is underlined.

For Impact 5.1-4, the Modified Project would not result in a new significant impact or increase the severity of impacts related to localized construction emissions impacts compared to the Adopted Specific Plan. However, new mitigation is prescribed below to address and minimize potential impacts associated with localized construction-related air quality impacts as SCAQMD adopted the LST methodology in 2006 after certification of the 2001 FEIS/EIR.

#### Impact 5.1-1

Mitigation Measures AQ-1 through AQ-4 apply.

#### Impact 5.1-2

AQ-1 During construction of the Modified Project, the City, and/or developer and its contractors shall be required to comply with regional rules, which would assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires that air pollutant emissions should not create a nuisance off-site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. The City and its contractors shall use the measures present in SCAQMD Rule 403, Tables 1, 2, and 3. This compliance measure shall be included in the contractor's specifications and verified on City projects by the Department of Public Works.

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AQ-2 ~~Unless determined by the City of Tustin and the City of Irvine, as applicable, to be infeasible on a project-by-project basis due to unique project characteristics, each city shall require individual development projects to~~ Prior to the issuance of grading permits, the project applicant shall use low VOC architectural coatings for all interior and exterior painting operations.

#### Impact 5.1-3

AQ-3 Prior to the issuance of development permits for new non-residential projects with 100 or more employees, and expanded projects where additional square footage would result in a total of 100 or more employees, the City of Tustin and the City of Irvine, as applicable, shall impose a mix of TDM measures which, upon estimation, would result in an average vehicle ridership of at least 1.5, for each development with characteristics that would be reasonably conducive to successful implementation of such TDM measures. These TDM measures may include one or more of the following, as determined appropriate and feasible by each city on a case-by-case basis:

- Establish preferential parking for carpool vehicles
- Provide bicycle parking facilities
- Provide shower and locker facilities
- Provide carpool and vanpool loading areas.
- Incorporate bus stop improvements into facility design.
- Implement shuttles to shopping, eating, recreation, and/or parking and transit facilities.
- Construct remove parking facilities
- Provide pedestrian circulation linkages.
- Construct pedestrian grade separations.
- Establish carpool and vanpool programs.
- Provide cash allowances, passes, and other public transit and purchase incentives.
- Establish parking fees for single occupancy vehicles.
- Provide parking subsidies for rideshare vehicles.
- Institute a computerized commuter rideshare matching system.
- Provide a guaranteed ride-home program for ridesharing.
- Establish alternative work week, flex-time, and compressed work week schedules.

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- Establish telecommuting or work-at-home programs.
- Provide additional vacation and compensatory leave incentives.
- Provide on-site lunch rooms/cafeterias and commercial services such as banks, restaurants, and small retail.
- Provide on-site day care facilities.
- Establish an employee transportation coordinator(s).

AQ-4

If not required under each individual development's TDM plan, the City of Tustin and the City of Irvine, as applicable, shall implement the following measures, as determined appropriate or feasible by each city on a case-by-case basis:

- Reschedule truck deliveries and pickups for off-peak hours.
- Implement lunch shuttle service from worksite(s) to food establishments.
- Implement compressed work week schedules where weekly work hours are compressed into fewer than five days, such as 9/80, 4/40, or 3/36.
- Provide on-site child care and afterschool facilities or contribute to off-site developments within walking distances.
- Provide on-site employee services such as cafeterias, banks, etc.
- Implement a pricing structure for single-occupancy employee parking, and/or provide discounts to ridesharers.
- Construct off-site pedestrian facility improvements such as overpasses and wider sidewalks.
- Include retail services within or adjacent to residential subdivisions.
- Provide shuttles to major rail transit centers or multi-modal stations.
- Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).
- Synchronize traffic lights on streets impacted by development.
- Construct, contribute, or dedicate land for the provision of off-site bicycle trails linking the facility to designated bicycle commuting routes.
- Include residential units within a commercial development.
- Provide off-site bicycle facility improvements, such as bicycle trails linking the facility to designated bicycle commuting routes, or on-site improvements, such as bicycle paths.

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- Include bicycle parking facilities such as bicycle lockers.
- Include showers for bicycling and pedestrian employees' use.
- Construct on-site pedestrian facility improvements, such as building access which is physically separated from street parking lot traffic, and walk paths.

#### Impact 5.1-4

AQ-5 Applicants for new development projects within the Tustin Legacy Specific Plan shall require the construction contractor to use equipment that meets the US Environmental Protection Agency (EPA) Tier 4 emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower during construction activities, unless it can be demonstrated to the City of Tustin that such equipment is not available.

Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine, as defined by the California Air Resources Board's regulations.

Prior to construction, the project engineer shall ensure that all demolition and grading plans clearly show the requirement for EPA Tier 4 or higher emissions standards for construction equipment over 50 horsepower. During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for verification by the City of Tustin. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.

AQ-6 Prior to the issuance of grading permits, the applicants for individual new developments shall evaluate localized construction-related air quality impacts. Localized construction emissions shall be evaluated to the South Coast Air Quality Management District's Localized Significance Thresholds for construction. Applicable mitigation measures to reduce potential localized construction-related air quality impacts shall be included in the evaluation, as necessary, to minimize impacts to the extent feasible and shall be implemented. The evaluation shall be submitted to the City of Tustin for review. In addition, all recommended mitigation measures shall be noted on all construction plans submitted to the City of Tustin Building and Public Works Department for verification.

#### Impact 5.1-5

With compliance of SCAQMD Rule 1401 and Tustin Legacy Specific Plan, Regulation 3.18.4c no further mitigation measures are required.

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### 5.1.8 Level of Significance After Mitigation

#### Impact 5.1-1

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to consistency with the AQMP. Like the Adopted Specific Plan, the Modified Project, due to the scale of development activity associated with the Modified Project, emissions would exceed the SCAQMD's significance thresholds and cumulatively contribute to the nonattainment designations of the SCAB. While implementation of Mitigation Measures AQ-1 through AQ-4 would contribute to reduce regional operational phase emissions and impacts to the extent feasible, the additional growth associated with the Modified Project would still be inconsistent with the growth forecast assumed in the AQMP. Like the Adopted Specific Plan, Impact 5.1-1 would remain significant and unavoidable after mitigation is applied.

#### Impact 5.1-2

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to construction-related air quality impacts. While the Modified Project would incrementally increase criteria pollutants related to construction compared to the Adopted Specific Plan, it would not result in the substantial increase in severity of the previously identified impact. Although incorporation of Mitigation Measures AQ-1, AQ-2, AQ-5, and AQ-6 would reduce construction-related criteria air pollutant emissions, the development of land uses accommodated under the Modified Project would exceed the SCAQMD regional construction significance thresholds due to the scale of development proposed. Like the Adopted Specific Plan, Impact 5.1-2 would remain significant and unavoidable after mitigation is applied.

#### Impact 5.1-3

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to regional construction-related air quality impacts. Incorporation of Mitigation Measures AQ-3 and AQ-4 would contribute in reducing regional operation-phase criteria air pollutant emissions associated with operation of land uses accommodated under the Modified Project. Due to the scale of development proposed, the total overall operation-phase emissions associated with the Modified Project would continue to exceed the SCAQMD regional significance thresholds for operation and would result in an incremental increase in VOC emissions. Like the Adopted Specific Plan, Impact 5.1-3 would remain significant and unavoidable after mitigation is applied.

#### Impact 5.1-4

The FEIS/FEIR did not evaluate localized construction-related criteria air pollutant emissions because this was not included in SCAQMD's guidance for evaluating air quality impacts. In 2006, SCAQMD established a methodology and in 2008 required this analysis in air quality analyses. In accordance with these changes,

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modeling was conducted to forecast localized emissions from the Adopted Specific Plan and the Modified Project.

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to localized construction-related air quality impacts. Based on the regional construction emissions shown in Table 5.1-7, it is anticipated that the Modified Project and Adopted Specific Plan would generate similar localized construction-related emissions and would both result in a significant localized construction-related emissions impacts. Implementation of Mitigation Measures AQ-1, AQ-5, and AQ-6 would reduce localized construction-related criteria air pollutant emissions associated with development of land uses accommodated under the Modified Project. However, because existing sensitive receptors may be close to project-related activities and because of the scale of development activity associated with this broad-based Modified Project, emissions generated by future individual projects have the potential to exceed SCAQMD's construction LSTs. Like the Adopted Specific Plan, Impact 5.1-4 would remain significant and unavoidable after mitigation is applied.

#### Impact 5.1-5

The FEIS/EIR determined that impacts related to TACs and CO hotspots would be less than significant and therefore, mitigation was not prescribed. As stated in the impact discussion above, land uses that would be considered as large stationary sources emitters would be subject to SCAQMD Rule 1401, which would control emissions from these land uses. Additionally, General Regulation 3.18.4c of the Specific Plan would require land uses that could generate air toxics to comply with the applicable SCAQMD standards. With respect to CO hotspot, development of the Modified Project would not result in generating the necessary vehicle trips at a given intersection to create a CO hotspot. This is consistent with the findings identified in the FEIS/EIR for the Adopted Specific Plan. Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to CO hotspots and air toxics.

#### 5.1.9 References

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### 5.2 GREENHOUSE GAS EMISSIONS

This section of the Draft Supplemental Environmental Impact Report (DSEIR) evaluates the potential for implementation of the Tustin Legacy Specific Plan Amendment to cumulatively contribute to greenhouse gas (GHG) emissions impacts. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD). Transportation-sector impacts are based on average daily vehicle trips associated with the project and vehicle miles traveled provided by Stantec (see Appendix E). GHG emissions modeling for the project is included in Appendix C of this DSEIR.

#### Terminology

The following are definitions for terms used throughout this section.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a greenhouse gas absorbs relative to a molecule of carbon dioxide (CO<sub>2</sub>) over a given period of time (20, 100, and 500 years). CO<sub>2</sub> has a GWP of 1.
- **Carbon dioxide-equivalent (CO<sub>2</sub>e).** The standard unit to measure the amount of greenhouse gases in terms of the amount of CO<sub>2</sub> that would cause the same amount of warming. CO<sub>2</sub>e is based on the GWP ratios between the various GHGs relative to CO<sub>2</sub>.
- **MTCO<sub>2</sub>e.** Metric ton of CO<sub>2</sub>e.
- **MMTCO<sub>2</sub>e.** Million metric tons of CO<sub>2</sub>e.

#### 5.2.1 Environmental Setting

##### 5.2.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and ozone (O<sub>3</sub>)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>),

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### GREENHOUSE GAS EMISSIONS

hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).<sup>1,2</sup> The major GHGs are briefly described below.

- **Carbon dioxide (CO<sub>2</sub>)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH<sub>4</sub>)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N<sub>2</sub>O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.
  - **Chlorofluorocarbons (CFCs)** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down the ozone layer. These gases are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
  - **Perfluorocarbons (PFCs)** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF<sub>4</sub>] and perfluoroethane [C<sub>2</sub>F<sub>6</sub>]) were introduced as alternatives, along with hydrofluorocarbons (HFCs), to ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high GWP.
  - **Sulfur Hexafluoride (SF<sub>6</sub>)** is a colorless gas soluble in alcohol and ether, and slightly soluble in water. SF<sub>6</sub> is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.

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<sup>1</sup> Water vapor (H<sub>2</sub>O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

<sup>2</sup> Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2014). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

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- **Hydrochlorofluorocarbons (HCFCs)** contain hydrogen, fluorine, chlorine, and carbon atoms. Although they are ozone-depleting substances, they are less potent than CFCs. They have been introduced as temporary replacements for CFCs.
- **Hydrofluorocarbons (HFCs)** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs. (IPCC 1995; EPA 2015)

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.2-1, *GHG Emissions and their Relative Global Warming Potential Compared to CO<sub>2</sub>*. The GWP is used to convert GHGs to CO<sub>2</sub>-equivalence (CO<sub>2</sub>e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Second Assessment Report GWP values for CH<sub>4</sub>, a project that generates 10 metric tons (MT) of CH<sub>4</sub> would be equivalent to 210 MT of CO<sub>2</sub>.<sup>3</sup>

**Table 5.2-1 GHG Emissions and their Relative Global Warming Potential Compared to CO<sub>2</sub>**

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup>	Fourth Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup>
Carbon Dioxide (CO <sub>2</sub> )	50 to 200	50 to 200	1	1
Methane <sup>2</sup> (CH <sub>4</sub> )	12 (±3)	12	21	25
Nitrous Oxide (N <sub>2</sub> O)	120	114	310	298
Hydrofluorocarbons:				
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF <sub>4</sub>	50,000	50,000	6,500	7,390
Perfluoroethane: C <sub>2</sub> F <sub>6</sub>	10,000	10,000	9,200	12,200
Perfluorobutane: C <sub>4</sub> F <sub>10</sub>	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C <sub>6</sub> F <sub>14</sub>	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF <sub>6</sub> )	3,200	NA	23,900	22,800

<sup>3</sup> CO<sub>2</sub>-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

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**Table 5.2-1 GHG Emissions and their Relative Global Warming Potential Compared to CO<sub>2</sub>**

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup>	Fourth Assessment Report Global Warming Potential Relative to CO <sub>2</sub> <sup>1</sup>
------	-------------------------------------------------------	-------------------------------------------------------	--------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------

Source: IPCC 1995 and IPCC 2007.

Notes: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO<sub>2</sub>. However, GWP values identified in the Second Assessment Report are still used by SCAQMD to maintain consistency in GHG emissions modeling. In addition, the 2008 Scoping Plan was based on the GWP values in the Second Assessment Report.

<sup>1</sup> Based on 100-year time horizon of the GWP of the air pollutant relative to CO<sub>2</sub>.

<sup>2</sup> The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO<sub>2</sub> is not included.

### California's GHG Sources and Relative Contribution

California is the tenth largest GHG emitter in the world and the second largest emitter of GHG emissions in the United States, surpassed only by Texas (EIA 2013). However, California also has over 12 million more people than Texas. Because of more stringent air emission regulations, in 2001, California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO<sub>2</sub> emissions from fossil fuel consumption per unit of Gross State Product (total economic output of goods and services)(CEC 2006a).

The California Air Resources Board's (CARB) last update to the statewide GHG emissions inventory was in 2012 for year 2009 emissions and used the Second Assessment Report GWPs.<sup>4</sup> In 2009, California produced 457 MMTCO<sub>2e</sub> GHG emissions. California's transportation sector is the single largest generator of GHG emissions, producing 37.9 percent of the state's total emissions. Electricity consumption is the second largest source, producing 22.7 percent. Industrial activities are California's third largest source of GHG emissions at 17.8 percent. (CARB 2011).

In 2016, the statewide GHG emissions inventory was updated for 2000 to 2014 emissions using the GWPs in IPCC's Fourth Assessment Report. Based on these GWPs, California produced 442 MMTCO<sub>2e</sub> GHG emissions in 2014. California's transportation sector remains the single largest generator of GHG emissions, producing 36.1 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent and electric power generation made up 20.0 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (8.7 percent), agriculture (8.2 percent), high global warming potential GHGs (3.9 percent), and recycling and waste (2.0 percent) (CARB 2016a).

### Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO<sub>2</sub> in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to

<sup>4</sup> Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

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combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are also hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historic trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer temperatures and fewer cold days and nights over most land areas.
- Warmer temperatures and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extremely high sea level (excludes tsunamis).

#### **Potential Climate Change Impacts for California**

Observed changes over the last several decades across the western United States reveal clear signs of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels (CCCC 2012).

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones; 4) an advanced snowmelt of 5 to 30 days earlier in the springs; and 5) a similar shift (5 to 30 days earlier) in the timing of

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spring flower blooms (CAT 2006). According to the California Climate Action Team, even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.2-1), and the inertia of the Earth’s climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are listed in Table 5.2-2, *Summary of GHG Emissions Risks to California*, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

**Table 5.2-2 Summary of GHG Emissions Risks to California**

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006b; CEC 2009; CCCC 2012; California Natural Resource Agency 2014.

Specific climate change impacts that could affect the project include:

- **Water Resources Impacts.** By the late twenty-first century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in

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projections with relatively small or no declines in precipitation, central and southern parts of the state can be expected to be drier from the warming effects alone because the spring snowpack will melt sooner, and the moisture in soils will evaporate during long dry summer months (CCCC 2012).

- **Wildfire Risks.** Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide is estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location (CCCC 2012).
- **Health Impacts.** Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing frequency of multiple hot days in succession, and simultaneous heat waves in several regions throughout the state. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California (CCCC 2012).
- **Increased Energy Demand.** Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and long summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process from higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand (CCCC 2012).

### 5.2.1.2 REGULATORY SETTING

This section describes the federal, state, and local regulations applicable to GHG emissions.

#### Federal Laws

The US 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 US Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission reduction requirements, but allowed 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).

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To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding covers emissions of six key GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, hydrofluorocarbons, perfluorocarbons, and SF<sub>6</sub>—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the Modified Project's GHG emissions inventory because they constitute the majority of GHG emissions, and according to South Coast Air Quality Management District (SCAQMD) guidance are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

#### *US Mandatory Reporting Rule for GHGs (2009)*

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MTCO<sub>2e</sub> or more per year must submit an annual report.

#### *Update to Corporate Average Fuel Economy Standards (2010/2012)*

The current Corporate Average Fuel Economy standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017–2025, which will require a fleet average of 54.5 miles per gallon in 2025.

#### *EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)*

Pursuant to its authority under the Clean Air Act, the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the President's 2013 Climate Action Plan, the EPA will be directed to develop regulations for existing stationary sources also.

### **State Laws**

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Orders S-03-05 and B-30-15, Assembly Bill 32 (AB 32), and Senate Bill 375 (SB 375).

#### *Executive Order S-03-05*

Executive Order S-3-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

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### *Executive Order B-30-15*

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It requires the Natural Resources Agency to conduct triennial updates of the California adaptation strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

### *Assembly Bill 32, the Global Warming Solutions Act (2006)*

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Assembly Bill 32 (AB 32), the Global Warming Solutions Act. 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. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

### *CARB 2008 Scoping Plan*

The final Scoping Plan was adopted by CARB on December 11, 2008. AB 32 directed CARB to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MTCO<sub>2e</sub> per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 MMTCO<sub>2e</sub> in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO<sub>2e</sub> (471 million tons) for the state. The 2020 target requires a total emissions reduction of 169 MMTCO<sub>2e</sub>, 28.5 percent from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e., 28.5 percent of 596 MMTCO<sub>2e</sub>) (CARB 2008).<sup>5</sup>

Key elements of CARB's GHG reduction plan that may be applicable to the Modified Project include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards (adopted and cycle updates in progress).
- Achieving a mix of 33 percent for energy generation from renewable sources (anticipated by 2020).
- A California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system for large stationary sources (adopted 2011).

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<sup>5</sup> CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

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- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets (several sustainable communities strategies have been adopted).
- Adopting and implementing measures pursuant to state laws and policies, including California’s clean car standards (amendments to the Pavley Standards adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating target fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state’s long-term commitment to AB 32 implementation (in progress).

Table 5.2-3, *Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target*, shows the proposed reductions from regulations and programs outlined in the 2008 Scoping Plan. In recognition of the critical role that local governments play in the successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of baseline 2005–2008 levels by 2020 to ensure that municipal and community-wide emissions match the state’s reduction target.<sup>6</sup> Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer vehicle miles traveled (VMT) (CARB 2008).

**Table 5.2-3 Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target**

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMTCO <sub>2e</sub>	Percentage of Statewide 2020 Target
<b>Cap and Trade Program and Associated Measures</b>		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets <sup>1</sup>	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
<b>Total Cap and Trade Program Reductions</b>	<b>146.7</b>	<b>87%</b>
<b>Uncapped Sources/Sectors Measures</b>		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%

<sup>6</sup> The Scoping Plan references a goal for local governments to reduce community GHG emissions by 15 percent from current (interpreted as 2008) levels by 2020, but it does not rely on local GHG reduction targets established by local governments to meet the state’s GHG reduction target of AB 32.

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**Table 5.2-3 Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target**

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMTCO <sub>2e</sub>	Percentage of Statewide 2020 Target
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
<b>Total Uncapped Sources/Sectors Reductions</b>	<b>27.3</b>	<b>16%</b>
<b>Total Reductions Counted toward 2020 Target</b>	<b>174</b>	<b>100%</b>
<b>Other Recommended Measures – Not Counted toward 2020 Target</b>		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
<b>Total Other Recommended Measures – Not Counted toward 2020 Target</b>	<b>42.8</b>	<b>NA</b>

Source: CARB 2008.

Notes: The percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 MMTCO<sub>2e</sub> and the Scoping Plan identifies 174 MTCO<sub>2e</sub> of emissions reductions strategies. Based on the Second Assessment Report GWPs.

MMTCO<sub>2e</sub>: million metric tons of CO<sub>2e</sub>

<sup>1</sup> Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.

<sup>2</sup> According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO<sub>2e</sub> (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.

### *First Update to the Scoping Plan*

CARB recently completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan was adopted at the May 22, 2014, board hearing. The update defines CARB's climate change priorities for the next five years and lays the groundwork to reach post-2020 goals in Executive Orders S-03-05 and B-16-2012. The update includes the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants. The GHG target identified in the 2008 Scoping Plan is based on IPCC's GWPs identified in the Second and Third Assessment Reports (see Table 5.2-1).<sup>7</sup> IPCC's Fourth and Fifth Assessment Reports identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with the updated GWPs in the Fourth Assessment Report, and the 427 MMTCO<sub>2e</sub> 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher at 431 MMTCO<sub>2e</sub> (CARB 2014). CARB projected that statewide BAU emissions in 2020 would be approximately 509 million MTCO<sub>2e</sub>.<sup>8</sup> Therefore, to achieve the AB 32 target of 431 million MTCO<sub>2e</sub> (i.e., 1990 emissions levels) by 2020, the state would need to reduce emissions by 78 million MTCO<sub>2e</sub> compared to BAU conditions, a reduction of 15.3 percent from BAU in

<sup>7</sup> IPCC's Fourth and Fifth Assessment Reports identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with the updated GWPs in the Fourth Assessment Report, and the 427 MMTCO<sub>2e</sub> 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher at 431 MMTCO<sub>2e</sub> (CARB 2014).

<sup>8</sup> The BAU forecast includes GHG reductions from Pavley and the 33% Renewable Portfolio Standard.

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2020 (CARB 2014).<sup>9</sup> The data from the First Update to the Scoping Plan regarding GHG emissions and reductions needed to achieve the 1990 emissions target are shown in Table 5.2-4, *State BAU Forecast in the First Update to the Scoping Plan*.

**Table 5.2-4 State BAU Forecast in the First Update to the Scoping Plan**

Recommended Reduction Measures	2020 MMTCO <sub>2e</sub> – Fourth Assessment Report GWPs
AB 32 Baseline 2020 Forecast Emissions (2020 BAU) with Pavley I and the Renewable Electricity Standard (RPS)	539
AB 32 Baseline 2020 Forecast Emissions (2020 BAU) <sup>1</sup>	509
Expected Reductions from Sector-Based Measures	
Energy	25
Transportation	23
High-GWPs	5
Waste	2
Cap-and-Trade Reductions <sup>2</sup>	23
2020 Limit	431
Percent Reduction from BAU with Pavley I and RPS	20.0%
Percent Reduction from BAU without Pavley and RPS	15.3%

Sources: CARB 2014a.

<sup>1</sup> The total projected emissions in the 2020 BAU scenario accounts for reductions anticipated from Pavley I and the Renewable Electricity Standard (30 million MTCO<sub>2e</sub> total).

<sup>2</sup> The cap-and-trade reductions depend on the emissions forecast.

The update highlights California’s progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the state’s longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals (CARB 2014).

According to the Update to the Scoping Plan, reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California’s 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014).

#### *Second Update to the Scoping Plan*

The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. The second Scoping Plan will address the new 2030 interim target to achieve a

<sup>9</sup> If the GHG emissions reductions from Pavley I and the Renewable Electricity Standard are accounted for as part of the BAU scenario (30 million MTCO<sub>2e</sub> total), then the state would need to reduce emissions by 108 million MTCO<sub>2e</sub>, which is a 20 percent reduction from BAU.

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40 percent reduction below 1990 levels by 2030. CARB released the 2030 Target Scoping Plan Update Concept Paper in June 2016 that identifies potential scenarios focusing on different emissions sectors with and without the cap-and-trade program, which is currently in litigation (CARB 2016b). Release of the second Scoping Plan Update that carries through the potential regulations and programs to achieve the 2040 target is anticipated in fall 2017.

#### *Senate Bill 32 and Assembly Bill 197*

Senate Bill 32 (SB 32) was recently adopted to codify the GHG statewide reduction target of reducing GHG emissions in the state by 40 percent of 1990 levels by year 2030 as set in Executive Order B-30-15. AB 197, a companion bill to SB 32, directs CARB to prepare and approve a new scoping plan to achieve the SB 32 target with the most technologically feasible and cost-effective reductions. Under AB 197, CARB is directed to prioritize direct emissions control strategies, which would emphasize implementing direct emissions reductions from large stationary source emitters such as power plants and refineries and also from mobile sources. Furthermore, AB 197 also establishes a legislative oversight committee for CARB and requires CARB to provide annual status reports to the legislative oversight committee. Moreover, AB 197 adds two ex officio members of the legislature to the CARB voting board.

#### *Senate Bill 375*

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is 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 to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. 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 (CARB 2010). SB 375 requires CARB to periodically update the targets, no later than every eight years. CARB plans to propose updated targets for consideration in 2016, with the intent to make them effective in 2018. Sustainable communities strategies (SCSs) adopted in 2018 would be subject to the updated targets (CARB 2015a).

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 MMTCO<sub>2e</sub> of reductions by 2020 and 15 MMTCO<sub>2e</sub> of reductions by 2035. Based

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on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

CARB is currently in the process of updating the next round of targets and methodology to comply with the requirement for updates every eight years. Considerations for the next round of targets include whether to change the nature or magnitude of the emissions reduction targets for each of the MPOs, and whether the target-setting methodology should account for advances in technologies that reduce emissions. Such changes in methodology would permit cities to account for emissions reductions from advances in cleaner fuels and vehicles and not only from land use and transportation planning strategies.

#### *SCAG's 2016-2040 RTP/SCS*

SB 375 requires the MPOs to prepare a sustainable communities strategy in their regional transportation plan. For the SCAG region, the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted on April 7, 2016, and is an update to the 2012 RTP/SCS (SCAG 2016). In general, the SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

The 2016-2040 RTP/SCS projects that the SCAG region will meet or exceed the passenger per capita targets set in 2010 by CARB. It is projected that VMT per capita in the region for year 2040 would be reduced by 7.4 percent with implementation of the 2016-2040 RTP/SCS compared to a no-plan year 2040 scenario. Under the 2016-2040 RTP/SCS, SCAG anticipates lowering GHG emissions 8 percent below 2005 levels by 2020, 18 percent by 2035, and 21 percent by 2040. The 18 percent reduction by 2035 over 2005 levels represents a 2 percent increase in reduction compared to the 2012 RTP/SCS projection. Overall, the SCS is meant to provide growth strategies that will achieve the aforementioned regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high quality transit areas and livable corridors, and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles (SCAG 2016). However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

#### *Assembly Bill 1493*

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the Corporate Average Fuel Economy standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced

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Clean Car program, by 2025, new automobiles will emit 34 percent less global warming gases and 75 percent less smog-forming emissions.

### *Executive Order S-01-07*

On January 18, 2007, the state set a new low carbon fuel standard (LCFS) for transportation fuels sold within the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

### *Senate Bills 1078 and 107, and Executive Order S-14-08*

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expands the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SBX1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.

### *Senate Bill 350*

Senate Bill 350 (de Leon), was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

### *Executive Order B-16-2012*

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

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#### *California Building Code: Building and Energy Efficiency Standards*

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2013 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which went into effect on July 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features.

Most recently, the CEC adopted the 2016 Building and Energy Efficiency Standards. The 2016 Standards will continue to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. These standards will go into effect on January 1, 2017. Under the 2016 Standards, residential buildings are 28 percent more energy efficient than the 2013 Standards, and nonresidential buildings are 5 percent more energy efficient than the 2013 Standards (CEC 2015a).

The 2016 standards will not achieve zero net energy. However, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California (CEC 2015b).

#### *California Building Code: CALGreen*

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.<sup>10</sup> The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, and were last updated in 2013.

#### *2006 Appliance Efficiency Regulations*

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as “business as usual,” they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

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<sup>10</sup> The green building standards became mandatory in the 2010 edition of the building code.

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### *Solid Waste Regulations*

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2013 CALGreen also 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 October of 2014 Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

### *Water Efficiency Regulations*

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

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#### 5.2.1.3 EXISTING CONDITIONS

The planning area consists of open space in addition to residential, commercial, retail, and institutional uses (see Section 4.3.1 of this DSEIR). These uses currently generate GHG emissions from natural gas used for energy, heating and cooking, electricity usage, vehicle trips associated with each land use, area sources such as landscaping equipment and consumer cleaning products, from water demand, wastewater generation, and solid waste generation.

#### 5.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- GHG-1           Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- GHG-2           Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following threshold would be less than significant:

- Threshold GHG-2

This impact will not be addressed in the following analysis.

#### 5.2.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

SCAQMD has adopted a significance threshold of 10,000 MTCO<sub>2e</sub> per year for permitted (stationary) sources of GHG emissions for which SCAQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010, SCAQMD identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010):

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.
- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.
- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

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For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD identified a screening-level threshold of 3,000 MTCO<sub>2e</sub> annually for all land use types or the following land-use-specific thresholds: 1,400 MTCO<sub>2e</sub> for commercial projects, 3,500 MTCO<sub>2e</sub> for residential projects, or 3,000 MTCO<sub>2e</sub> for mixed-use projects. These bright-line thresholds are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions:

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

The SCAQMD Working Group has identified an efficiency target for projects that exceed the screening threshold of 4.8 MTCO<sub>2e</sub> per year per service population (MTCO<sub>2e</sub>/year/SP) for project-level analyses and 6.6 MTCO<sub>2e</sub>/year/SP for plan level projects (e.g., program-level projects such as general plans) for the year 2020.<sup>11</sup> The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.<sup>12</sup>

Project-related GHG emissions include on-road transportation, energy use, water use and wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The SCAQMD Working Group identified that because construction activities would result in a "one-time" net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings, in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation.

For the purpose of this Modified Project, SCAQMD's project-level threshold for all land use types is used as the plan-level efficiency metric is more appropriate for general plan-level analysis. If projects exceed the thresholds, GHG emissions would be considered potentially significant in the absence of mitigation measures. However, as the Modified Project and Adopted Specific Plan horizon year is beyond year 2020 with an anticipated buildout of 2035, the efficiency target has been adjusted based on the long-term GHG reduction targets of SB 32, which establishes a target of 40 percent below 1990 levels by 2030, and Executive Order S-03-05, which sets a goal of 80 percent below 1990 levels by 2050 (see Table 5.2-5, *Forecasting the Post-2020 GHG Reduction Targets*).

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<sup>11</sup> It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this meeting.

<sup>12</sup> SCAQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

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**Table 5.2-5 Forecasting the Post-2020 GHG Reduction Targets**

1990 Emissions Sector <sup>1</sup>	GHG Emissions MTCO <sub>2</sub> e/Year	Tailoring the CARB Land Use Inventory
Electricity	96,100,000	Removed Industrial energy use
Transportation	137,990,000	Includes the on-road transportation sector emissions only
Landfills	6,260,000	Landfill extracted from the Industrial sector
Wastewater	3,170,000	Wastewater treatment extracted from the Industrial sector
Commercial	13,860,000	Removed National Security emissions
Residential	29,660,000	Includes all emissions from this sector
<b>1990 Land Use Sector Total</b>	<b>287,040,000</b>	—
<b>2035 Land Use Sector GHG Target<sup>2</sup></b>	<b>147,765,000</b>	Trend-line: 50 Percent Reduction from 1990 Levels by 2035.
<b>2035 Population and Employment Forecasts</b>	<b>Demographics</b>	<b>Notes</b>
Population <sup>3</sup>	<b>45,747,645</b>	Based the California Department of Finance forecasts
Employment	<b>20,062,090</b>	Based on Caltrans socio-economic forecasts
Service Population	<b>65,809,735</b>	—
<b>2035 Efficiency Target</b>	<b>2.2 MTCO<sub>2</sub>e/SP</b>	—

Sources:

<sup>1</sup> CARB. 2007.

<sup>2</sup> Based on the 2030 target of 40 percent below 1990 levels by 2030 under Executive Order B-30-15 and the target of 80 percent below 1990 levels by 2050 under Executive Order S-03-05.

<sup>3</sup> CDOF 2014.

<sup>4</sup> California Department of Transportation, Long-Term Socio-Economic Forecasts by County, [http://www.dot.ca.gov/hq/tpp/offices/eab/socio\\_economic.html](http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html).

Based on these long-term targets, project emissions are compared to the SCAQMD's project-level efficiency threshold of:

- The 2020 GHG estimated efficiency target would be 4.8 MTCO<sub>2</sub>e per service population per year, to align with SCAQMD's efficiency target, identified in their CEQA Guidelines, which is consistent with AB 32.
- The 2035 GHG estimated efficiency target would be 2.2 MTCO<sub>2</sub>e per service population per year, to align with the midterm GHG reduction target of SB 32 and the long-term reduction goal of Executive Order S-03-05.

## 5.2.3 Environmental Impacts

### 5.2.3.1 SUMMARY OF IMPACTS ASSOCIATED WITH THE ADOPTED PROJECT

The FEIS/EIR did not evaluate greenhouse gas (GHG) emissions impacts because, prior to SB 97 which went into effect January 1, 2010, 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.

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### 5.2.3.2 ENVIRONMENTAL IMPACTS OF THE MODIFIED PROJECT

#### Methodology

The analysis in this section is based on buildout of the Modified Project compared to the Adopted Specific Plan as modeled using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, for the following sectors:

- **Transportation:** GHG emissions are based on trip generation and vehicle miles traveled data provided by Stantec (see Appendix E to this DSEIR).
- **Solid Waste Disposal:** Indirect emissions from solid waste generation are generally based on CalRecycle waste generation rates (see Table 11 of Chapter 5.17, *Utilities and Service System*, of the Initial Study).
- **Water/Wastewater:** GHG emissions from electricity used to supply water, treat water, distribute water, and then treated wastewater are based on indoor and outdoor demands of the residential uses and nonresidential land uses within the Specific Plan Area (see Table 5.9-xx of Section 5.9, *Utilities and Service System*, of the DSEIR).
- **Area Sources:** GHG emissions are from use of landscaping equipment used for property maintenance.
- **Energy:** GHG emissions from use of electricity and natural gas by residential and nonresidential land uses. For purposes of this analysis, new buildings are assumed to comply with the 2016 Building Energy Efficiency Standards, which are 5 percent more energy efficient for nonresidential buildings and 28 percent more energy efficient for residential buildings than the 2013 Building and Energy Efficiency Standards. The 2013 Standards are 30 percent more efficient for nonresidential buildings and 25 percent more efficient for residential buildings than the 2008 Standards.
- **Construction:** GHG emissions are from construction-related vehicle and equipment use and are based on CalEEMod defaults for the construction equipment mix and worker, vendor, and haul trips. Emissions are amortized over a 30-year period and are included as part of the overall inventory.

Life cycle emissions are not included in this analysis because not enough information is available for the Modified Project, and therefore life cycle GHG emissions would be speculative.<sup>13</sup> GHG modeling is included in Appendix C.

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<sup>13</sup> Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the Modified Project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

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The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

**Impact 5.2-1:** Similar to the Adopted Specific Plan, implementation of the Modified Project would result in a substantial increase of GHG emissions that would exceed the South Coast Air Quality Management District’s proposed significance thresholds. However, the Modified Project would reduce annual emissions by 12,239 MTCO<sub>2</sub>e per year and per capita emissions by 0.7 MTCO<sub>2</sub>e/SP compared to the Adopted Specific Plan. [Threshold GHG-1]

**Impact Analysis:** In accordance with the amendments to the CEQA Guidelines, emissions inventories were compiled to project GHG emissions generated by the Adopted Specific Plan and the Modified Project. The GHG emissions associated with the Modified Project were compared to the Adopted Specific Plan, which constitute the CEQA baseline. In addition, the significance of the emissions associated with the Modified Project was assessed using the forecast Year 2035 target efficiency of 2.2 MTCO<sub>2</sub>e per service population per year and a bright-line threshold for the relative increase in emissions, as discussed above.

As a project does not generate enough GHG emissions on its own to influence global climate change, the GHG chapter measures a project’s contribution to the cumulative environmental impact. The development contemplated by the Modified Project would contribute to global climate change through direct emissions of GHG from onsite area sources and vehicle trips associated with the Modified Project, and indirectly through offsite energy production required for onsite activities, water use, and waste disposal. Annual GHG emissions were calculated for construction and operation-phase emissions associated with both the Adopted Specific Plan and the Modified Project. Construction emissions were amortized into the operational phase in accordance with SCAQMD’s proposed methodology. The total and net increases in GHG emissions are shown in Table 5.2-6, *Annual Operational Phase GHG Emissions*.

**Table 5.2-6 Annual Operational Phase GHG Emissions**

Source	GHG Emissions MTCO <sub>2</sub> e/Year: 2035			
	Adopted Specific Plan <sup>1</sup>	Modified Project <sup>1</sup>	Net Change	Percent Change
Area <sup>2</sup>	1,327	2,015	688	52%
Energy	53,031	45,524	-7,507	-14%
Transportation	188,746	184,278	-4,468	-2%
Waste	7,248	7,198	-50	-1%
Water	4,936	4,020	-916	-19%
Construction-Amortized <sup>3</sup>	607	622	14	2%
<b>Total All Sectors</b>	<b>255,896</b>	<b>243,657</b>	<b>-12,239</b>	<b>-5%</b>
<b>SCAQMD Bright-line Threshold</b>	<b>3,000</b>	<b>3,000</b>	<b>3,000</b>	<b>NA</b>
<b>Exceeds Bright-line Threshold?</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>NA</b>
<b>Per Service Population (SP)<sup>4</sup></b>	<b>32,995</b>	<b>34,702</b>	<b>NA</b>	<b>5%</b>
<b>Project Efficiency (MTCO<sub>2</sub>e/SP)</b>	<b>7.8</b>	<b>7.0</b>	<b>-0.7</b>	<b>-9%</b>
<b>Proposed SCAQMD AB 32 Efficiency Metric</b>	<b>4.8</b>	<b>4.8</b>	<b>NA</b>	<b>NA</b>
<b>Forecasted SB 32 Efficiency Metric</b>	<b>2.2</b>	<b>2.2</b>	<b>NA</b>	<b>NA</b>
<b>Exceeds Efficiency Metric</b>	<b>Yes</b>	<b>Yes</b>	<b>NA</b>	<b>NA</b>

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**Table 5.2-6 Annual Operational Phase GHG Emissions**

Source	GHG Emissions MTCO <sub>2</sub> e/Year: 2035			
	Adopted Specific Plan <sup>1</sup>	Modified Project <sup>1</sup>	Net Change	Percent Change
Source: CalEEMod Version 2013.2.2. Based on 2035 mobile emission rates. Totals may not equal 100 percent due to rounding.				
<sup>1</sup> For purposes of this analysis, new buildings are assumed to comply with the 2016 Building Energy Efficiency Standards, which are 5 percent more energy efficient for nonresidential buildings and 28 percent more energy efficient for residential buildings than the 2013 Building and Energy Efficiency Standards. The 2013 Standards are 30 percent more efficient for nonresidential buildings and 25 percent more efficient for residential buildings than the 2008 Standards. Includes water efficiency improvements required under CALGreen.				
<sup>2</sup> Comprised of emissions from architectural coatings, household consumer products, and landscaping equipment.				
<sup>3</sup> Construction emissions are amortized over a 30-year project lifetime.				
<sup>4</sup> Service population based on: Adopted Specific Plan – 9,374 residents and 23,621 employees within the specific plan boundaries. Modified Project – 15,900 residents and 18,802 employees within the specific plan boundaries.				

As shown in the table, annual GHG emissions associated with both the Adopted Specific Plan and the Modified Project would exceed the SCAQMD bright-line threshold of 3,000 MTCO<sub>2</sub>e per year. In addition, both the Adopted Specific Plan and Modified Project would also exceed the AB 32 and forecasted SB 32 efficiency metrics. However, under full buildout conditions, the Modified Project would reduce annual emissions by 12,239 MTCO<sub>2</sub>e per year compared to the Adopted Specific Plan, which represents a 5 percent overall decrease. The reductions would primarily be from the energy and transportation sectors. For the energy sector, the reduction is attributed to the overall decrease in non-residential square footage. While there would be an increase in residential units, energy efficiency requirements under the 2016 Building Energy Efficiency Standards are generally more stringent for residential land uses. For the transportation sector, the reduction is also due to the overall decrease in non-residential land uses and to the decrease in the average vehicle trip distance under the Modified Project conditions. The average trip distance under the Modified Project conditions would be 6.5 miles per trip compared to the 7.3 miles per trip under the Adopted Specific Plan conditions. This results in a net decrease in annual VMT of approximately 15,209,475 miles per year.

Overall, while the total emissions associated with the Modified Project would exceed the bright-line threshold, it would reduce overall emissions compared to the Adopted Specific Plan, and the net change in emissions would be below the SCAQMD 3,000 MTCO<sub>2</sub>e per year bright-line threshold. Furthermore, the Modified Project would also reduce per capita emissions by 0.7 MTCO<sub>2</sub>e/SP compared to the Adopted Specific Plan. Therefore, implementation of the Modified Project would not introduce new significant impacts or substantially greater GHG emissions impacts compared to the Adopted Specific Plan.

### 5.2.4 Cumulative Impacts

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, impacts identified under Impact 5.2-1 are not project-specific impacts to global warming, but the Modified Project's contribution to this cumulative impact. Implementation of the Modified Project would result in a decrease in GHG emissions compared to the Adopted Specific Plan. Thus, the Modified Project's GHG emissions and contribution to global climate change impacts are not considered cumulatively considerable, and therefore are less than significant.

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#### 5.2.5 Existing Regulations and Standard Conditions

##### 5.2.5.1 STATE

- California Global Warming Solutions Act (AB 32)
- California Global Warming Solutions Act of 2006: Emissions Limit (SB 32)
- Sustainable Communities and Climate Protection Act (SB 375)
- Greenhouse Gas Emission Reduction Targets (Executive Order S-3-05)
- Clean Car Standards – Pavley (AB 1493)
- Renewable Portfolio Standards (SB 1078)
- California Integrated Waste Management Act of 1989 (AB 939)
- California Mandatory Commercial Recycling Law (AB 341)
- California Advanced Clean Cars CARB (Title 13 CCR)
- Low-Emission Vehicle Program – LEV III (Title 13 CCR)
- Heavy-Duty Vehicle Greenhouse Gas Emissions Reduction Measure (Title 17 CCR)
- Low Carbon Fuel Standard (Title 17 CCR)
- California Water Conservation in Landscaping Act of 2006 (AB 1881)
- California Water Conservation Act of 2009 (SBX7-7)
- Statewide Retail Provider Emissions Performance Standards (SB 1368).
- Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools (13 CCR 2480)
- Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling (13 CCR 2485)
- In-Use Off-Road Diesel Idling Restriction (13 CCR 2449)
- Building Energy Efficiency Standards (Title 24, Part 6)
- California Green Building Code (Title 24, Part 11)
- Appliance Energy Efficiency Standards (Title 20)

##### 5.2.5.2 LOCAL

- **City of Tustin Municipal Code, Article 9, Chapter 7:** Water Efficient Landscapes
- **City of Tustin Municipal Code, Article 9, Chapter 9:** Transportation Demand Management Requirements

#### 5.2.6 Level of Significance Before Mitigation

The following impacts would not result in new significant impacts or substantially increase the severity of impacts identified for the Adopted Specific Plan: Impact 5.2-1

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### 5.2.7 Mitigation Measures

The FEIS/EIR incorporated Mitigation Measures AQ-3 and AQ-4 for the MCAS Tustin Specific Plan pertaining to air quality. These measures would also be applicable in reducing GHG emissions.

#### Impact 5.2-1

AQ-3 Prior to the issuance of development permits for new non-residential projects with 100 or more employees, and expanded projects where additional square footage would result in a total of 100 or more employees, the City of Tustin and the City of Irvine, as applicable, shall impose a mix of TDM measures which, upon estimation, would result in an average vehicle ridership of at least 1.5, for each development with characteristics that would be reasonably conducive to successful implementation of such TDM measures. These TDM measures may include one or more of the following, as determined appropriate and feasible by each city on a case-by-case basis:

- Establish preferential parking for carpool vehicles
- Provide bicycle parking facilities
- Provide shower and locker facilities
- Provide carpool and vanpool loading areas.
- Incorporate bus stop improvements into facility design.
- Implement shuttles to shopping, eating, recreation, and/or parking and transit facilities.
- Construct remove parking facilities
- Provide pedestrian circulation linkages.
- Construct pedestrian grade separations.
- Establish carpool and vanpool programs.
- Provide cash allowances, passes, and other public transit and purchase incentives.
- Establish parking fees for single occupancy vehicles.
- Provide parking subsidies for rideshare vehicles.
- Institute a computerized commuter rideshare matching system.
- Provide a guaranteed ride-home program for ridesharing.
- Establish alternative work week, flex-time, and compressed work week schedules.

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- Establish telecommuting or work-at-home programs.
- Provide additional vacation and compensatory leave incentives.
- Provide on-site lunch rooms/cafeterias and commercial services such as banks, restaurants, and small retail.
- Provide on-site day care facilities.
- Establish an employee transportation coordinator(s).

AQ-4

If not required under each individual development's TDM plan, the City of Tustin and the City of Irvine, as applicable, shall implement the following measures, as determined appropriate or feasible by each city on a case-by-case basis:

- Reschedule truck deliveries and pickups for off-peak hours.
- Implement lunch shuttle service from worksite(s) to food establishments.
- Implement compressed work week schedules where weekly work hours are compressed into fewer than five days, such as 9/80, 4/40, or 3/36.
- Provide on-site child care and afterschool facilities or contribute to off-site developments within walking distances.
- Provide on-site employee services such as cafeterias, banks, etc.
- Implement a pricing structure for single-occupancy employee parking, and/or provide discounts to ridesharers.
- Construct off-site pedestrian facility improvements such as overpasses and wider sidewalks.
- Include retail services within or adjacent to residential subdivisions.
- Provide shuttles to major rail transit centers or multi-modal stations.
- Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).
- Synchronize traffic lights on streets impacted by development.
- Construct, contribute, or dedicate land for the provision of off-site bicycle trails linking the facility to designated bicycle commuting routes.
- Include residential units within a commercial development.
- Provide off-site bicycle facility improvements, such as bicycle trails linking the facility to designated bicycle commuting routes, or on-site improvements, such as bicycle paths.

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- Include bicycle parking facilities such as bicycle lockers.
- Include showers for bicycling and pedestrian employees' use.
- Construct on-site pedestrian facility improvements, such as building access which is physically separated from street parking lot traffic, and walk paths.

### 5.2.8 Level of Significance After Mitigation

#### Impact 5.2-1

While implementation of Mitigation Measures AQ-3 and AQ-4 would contribute in minimizing GHG emissions to the extent possible, total emissions associated with the Modified Project would exceed SCAQMD's significance thresholds for GHG. Table 5.2-5 shows that the Modified Project would reduce annual emissions by 12,239 MTCO<sub>2e</sub> per year compared to the Adopted Specific Plan, which represents a 5 percent overall decrease. Furthermore, the Modified Project would also reduce per capita emissions by 0.7 MTCO<sub>2e</sub>/SP compared to the Adopted Specific Plan. Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to GHG emissions impacts.

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### 5.3 LAND USE AND PLANNING

This section of the Draft Supplemental Environmental Impact Report (DSEIR) evaluates the potential impacts to land use in the City of Tustin from implementation of the proposed Tustin Legacy Specific Plan Amendment (Modified Project). This section is based on the proposed land use designations and land uses described in detail in Chapter 3, *Project Description*, and shown in Figure 3-4, *Proposed Land Use Plan*. The Modified Project has been evaluated to determine its consistency with relevant goals and policies of the Tustin General Plan, the City's Zoning Code, and the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Land use impacts can be either direct or indirect. Direct impacts are those that result in land use incompatibilities, division of neighborhoods or communities, or interference with other land use plans, including habitat or wildlife conservation plans. This section focuses on direct land use impacts. Indirect impacts are secondary effects resulting from land use policy implementation, such as an increase in demand for public utilities or services, or increased traffic on roadways. These impacts are addressed in other applicable sections of this DSEIR.

#### 5.3.1 Environmental Setting

##### 5.3.1.1 REGULATORY BACKGROUND

Regional laws, regulations, plans, or guidelines that are potentially applicable to the Modified Project are summarized below.

#### Regional Plans

##### *Southern California Association of Governments*

SCAG is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the southern California region's MPO, SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation (Caltrans), and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives. The plans most applicable to the Modified Project are discussed below.

The Tustin Legacy Specific Plan is considered a project of regionwide significance pursuant to the criteria outlined in SCAG's Intergovernmental Review Procedures Handbook (November 1995) and Section 15206 of the CEQA Guidelines. Therefore, this section addresses the Modified Project's consistency with the applicable SCAG regional planning guidelines and policies.

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#### *Regional Transportation Plan/Sustainable Communities Strategy*

On April 7, 2016, SCAG's Regional Council adopted the 2016–2040 RTP/SCS. This long-range visioning plan balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the National Ambient Air Quality Standards. It balances the region's future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS is required by the state of California and the federal government and is updated by SCAG every four years as demographic, economic, and policy circumstances change. The RTP/SCS is a living, evolving blueprint for the region's future (SCAG 2016).

Unique to the SCAG region is the option for subregions to create their own SCS. The Orange County Council of Governments and Orange County Transportation Authority adopted an SCS for the Orange County subregion—of which the City of Tustin is a member jurisdiction—on June 14, 2011. Sustainability strategies identified in the Orange County SCS were incorporated into SCAG's RTP/SCS.

#### *High Quality Transit Areas*

With the adoption of the 2012 RTP/SCS, the areas previously known as 2% Strategy Opportunity Areas were updated by SCAG and renamed high quality transit areas (HQTA), which are a part of the 2016–2040 RTP/SCS. An HQTA is a walkable transit village or corridor that is within a half mile of a well-served transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours. The overall land use pattern of the 2016–2040 RTP/SCS focuses jobs and housing in the region's designated QTAs. Separate goals, policies, or guidelines have not been adopted for the QTAs; therefore, a project's consistency with the HQTA is obtained by achieving consistency with the applicable 2016–2040 RTP/SCS policies.

A narrow corridor of the project area along Edinger Avenue is identified as a HQTA in the 2016–2040 RTP/SCS. This corridor is within one-half mile of the Metrolink tracks that traverse central Orange County and parallel Edinger Avenue in Tustin.

### **Local Plans**

#### *Tustin General Plan and Zoning Ordinance*

The City's General Plan is its comprehensive, long-range plan for future growth and development. As mandated by state law, the General Plan identifies goals and policies for a number of specific topics; Tustin's General Plan organizes these topics into seven elements: land use, housing, circulation, conservation/open space/recreation, public safety, noise, and growth management. The General Plan land use map designates the portion of the project area in the City of Tustin as MCAS Tustin Specific Plan (MCAS). This designation defers to the Adopted Specific Plan for establishing the desired distribution of land uses onsite (as shown in Figure 3-3).

## 5. Environmental Analysis LAND USE AND PLANNING

As in the General Plan land use plan, the City's zoning map designates the project area as being in the MCAS Tustin Specific Plan zoning district and defers to the Adopted Specific Plan for applicable development standards.

### *Adopted Specific Plan*

The current land use plan governing the project area is the MCAS Tustin Specific Plan, which was most recently amended by the City in 2013. As shown in Figure 3-3, the Adopted Specific Plan identifies 12 land use categories in the project area:

- Low Density Residential (1–7 units/acre)
- Medium Density Residential (8–15 units/acre)
- Medium High Density Residential (16–25 units/acre)
- Transitional/Emergency Housing
- Residential Core (varying densities)
- Commercial Business
- Commercial
- Village Services
- Community Core
- Education Village
- Community Park
- Urban Regional Park

The planned acreages of these land use categories, along with the maximum number of housing units and nonresidential building space allowed in each planning area, are identified in Table 3-2 of this DSEIR.

The Adopted Specific Plan includes the necessary plans, development standards, regulations, infrastructure requirements, design guidelines, and implementation programs on which subsequent, project-related development in the project area 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.

### **5.3.1.2 EXISTING CONDITIONS**

#### **Onsite Land Uses**

The 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.

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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. 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 has a small campus with approximately 14,680 square feet of educational uses—the first phase of a larger mixed-use educational campus referred to as the Advanced Technology & Education Park. These existing institutional uses total approximately 450,825 square feet. Three residential projects were recently constructed—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 (under construction).

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. The project area currently has 12 acres of public and private neighborhood parks in residential neighborhoods between both cities.

### 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 the Irvine Business Complex (residential, commercial and industrial uses) in the City of Irvine. The Tustin Metrolink Station is located north of the project area across Edinger Avenue.

### 5.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- LU-1        Physically divide an established community.
- LU-2        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.
- LU-3        Conflict with any applicable habitat conservation plan or natural community conservation plan.

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The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold LU-1
- Threshold LU-3

These impacts will not be addressed in the following analysis.

### 5.3.3 Environmental Impacts

#### 5.3.3.1 SUMMARY OF IMPACTS ASSOCIATED WITH THE ADOPTED PROJECT

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.

#### 5.3.3.2 ENVIRONMENTAL IMPACTS OF THE MODIFIED PROJECT

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.3-1: Modified Project implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]**

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*Impact Analysis:* As under the Adopted Specific Plan, implementation of the Modified Project would result in the project area’s development over time and within the framework established by the Tustin Legacy Specific Plan. The Modified Project calls for a diverse range of residential, commercial, institutional, and recreational land uses to be constructed on the portion of the project area within the City of Tustin. Table 3-2, *Land Use Plan Statistical Summary*, provides a comparison between the land uses allowed under the Adopted Specific and those allowed under the Modified Project. Figure 3-4, *Proposed Land Use Plan*, shows the proposed distribution of land uses.

As shown in the Figures 3-3 and 3-4, changes to the overall layout and distribution of land uses proposed by the Modified Project are relatively minor. Areas east of Jamboree Road are still designated for lower density residential uses; the northwest corner of the project area is still planned as an educational village; the

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southwestern quadrant of the project area is still planned for commercial/business uses; and the project area is still anchored by a central regional park. Planned right-of-ways for Moffett Drive, Tustin Ranch Road, Valencia Avenue, and Warner Avenue are nearly identical between the Adopted Specific Plan and the Modified Project. Revisions to the proposed land use pattern are largely limited to the central portion of the project area. Perhaps the most notable difference between the two scenarios is the expansion of recreational space in the center of the project area. Planning Area 8, 13 & 14 is currently designated Community Core in the Adopted Specific Plan, but is designated Mixed-Use Urban in the Modified Project. As shown in Table 3-2, buildout of the Modified Project would result in the development of 2,212 additional dwelling units and 1,755,306 fewer square feet of nonresidential uses compared to the Adopted Specific Plan.

The analysis below evaluates the Modified Project’s consistency with the Tustin General Plan, SCAG 2016–2040 RTP/SCS, and the Airport Environs Land Use Plan (AELUP) for John Wayne Airport.

### Tustin General Plan

Table 5.3-1 demonstrates the Modified Project’s relationship with goals and policies in the Tustin General Plan. This analysis primarily relies on goals, but also evaluates the project’s consistency with individual policies that pertain to the project area specifically (see Land Use Policies 13.1 through 13.11).

**Table 5.3-1 Consistency with Relevant General Plan Goals and Policies**

Goal/Policy	Project Compliance with Goal/Policy
<b>Land Use Element –Goals</b>	
<b>Goal 1:</b> Provide for a well-balanced land use pattern that accommodates existing and future needs for housing, commercial and industrial land, open space and community facilities and services, while maintaining a healthy, diversified economy adequate to provide future City services.	<b>Consistent.</b> The Modified Project allows a broad range of residential product types and other land uses, including educational, retail, commercial/business, entertainment, and recreational uses. The Modified Project revises the mix of these uses precisely to better respond to market conditions and community needs.
<b>Goal 2:</b> Ensure that future land use decisions are the result of sound and comprehensive planning.	<b>Consistent.</b> Specific plans act as a bridge between the General Plan and individual development proposals. Rather than allow ad-hoc development, circulation improvements, and public amenities, the Modified Project plans for these in a comprehensive manner. The plan contains maps, diagrams, development standards, and design guidelines that emphasize compatibility between development projects and between neighborhoods. The mix of allowable land uses in the Specific Plan area is aimed at allowing long-term, phased growth in Tustin while ensuring that each land use type is not overbuilt. The circulation system is designed to be a highly connective, multimodal network of roadways and trails that are appropriately designed and sized for the land uses they access.
<b>Goal 3:</b> Ensure that new development is compatible with surrounding land uses in the community, the City’s circulation network, availability of public facilities, existing development constraints and the City’s unique characteristics and resources.	<b>Consistent.</b> See response to Goal 2, above.
<b>Goal 4:</b> Assure a safe, healthy and aesthetically pleasing community for residents and businesses.	<b>Consistent.</b> The Modified Project includes development standards, regulations, infrastructure requirements, design guidelines, and implementation programs on which subsequent, project-related development are founded. The revised site layout, land use pattern, and

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**Table 5.3-1 Consistency with Relevant General Plan Goals and Policies**

Goal/Policy	Project Compliance with Goal/Policy
	<p>circulation system proposed by the Modified Project addresses safety by creating a hierarchy of streets that differentiates between streets that are designed to provide through-traffic and those that access homes and businesses. Provisions in the Modified Project also require compliance with state and local regulations related to hazardous materials and demolition and remediation of decommissioned military facilities.</p> <p>The Modified Project promotes the health of existing and future residents by expanding the planned network of parks and open space to include a linear park overlay that diagonally traverses the project area. This overlay is intended to provide opportunities for exercise and recreation and create an overall more walkable community.</p> <p>Aesthetic concerns are addressed by the Modified Project's design guidelines, which address land use compatibility issues; landscaping design; architectural character and design; setbacks and buffers; and signage. The guidelines are designed to ensure that high quality design is implemented throughout the Specific Plan area while allowed each planning area to have its own community character.</p>
<p><b>Goal 5:</b> Revitalize older commercial, industrial and residential uses and properties.</p>	<p><b>Not applicable.</b> The project area is predominantly vacant or has been developed with new commercial, residential, or institutional uses.</p>
<p><b>Goal 6:</b> Improve urban design in Tustin to ensure development that is both architecturally and functionally compatible, and to create uniquely identifiable neighborhoods, commercial and business park districts.</p>	<p><b>Consistent.</b> See last paragraph of response to Goal 4, above. The Modified Project includes design guidelines that address urban design at the project, neighborhood, and community levels.</p>
<p><b>Goal 7:</b> Promote expansion of the City's economic base and diversification of economic activity.</p>	<p><b>Consistent.</b> The Modified Project allows up to 9,532,419 square feet of nonresidential uses, including retail, office, service commercial, and specialized employment and merchandizing uses. Buildout of this development capacity would greatly diversify the City's economic activity.</p> <p>In addition to more traditional types of employment-generating uses, the Modified Project includes two districts that would generate additional economic activity. The Mixed Use Urban in Planning Area 8, 13-14, would allow a range of uses that emphasize hotel, commercial retail, commercial entertainment, and public recreation. The Education Village in Planning Area 1 would provide for a mix of public-serving, office, institutional, and/or government uses. Supporting office, research and development, and commercial uses would be permitted to complement educational uses.</p>
<p><b>Goal 8:</b> Ensure that necessary public facilities and services should be available to accommodate development proposed on the Land Use Policy Map.</p>	<p><b>Consistent.</b> The proposed Land Use Plan designates a location for a new High School in Planning Area 8, near the intersection of Valencia and Tustin Ranch Road. This school would be operated by Tustin Unified School District (TUSD). The Specific Plan area is already home to several public and quasi-public facilities, including Heritage Elementary School, the Orange County Sheriff's Regional Training Academy, Orange County Rescue Mission, and the Advanced Technology &amp; Education Park. Per the proposed Land Use Plan, additional public facilities would be allowed elsewhere in the Specific Plan area, particularly in the Education Village. Educational, governmental, and other institutional uses would be allowed in this designation.</p> <p>Public services, including school services, library services, police protection and law enforcement services, fire protection, water,</p>

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**Table 5.3-1 Consistency with Relevant General Plan Goals and Policies**

Goal/Policy	Project Compliance with Goal/Policy
	wastewater treatment, and utilities would be expanded as necessary to serve new residents and other new development in the Specific Plan area.
<b>Goal 9:</b> Continue to provide for a planned community in East Tustin compatible with the land use characteristics of the local area and sensitive to the natural environment.	<b>Not applicable.</b> The project area is not in East Tustin.
<b>Goal 10:</b> Improve and strengthen the Tustin Old Town/First Street area with a unique pedestrian environment and diverse mix of goods, services, and uses.	<b>Not applicable.</b> The project area does not contain the Tustin Old Town/First Street area.
<b>Goal 11:</b> Provide for an integrated business park environment in the Pacific Center East Area which both capitalizes on market opportunities and is compatible with adjacent developed land uses.	<b>Not applicable.</b> The project area does not contain the Pacific Center East Area.
<b>Goal 12:</b> Maintain the semi-rural and low-density character of North Tustin.	<b>Not applicable.</b> The project area is not in North Tustin.
<b>Goal 13:</b> Continue to implement the Specific Plan/Reuse Plan for MCAS Tustin which maximizes the appeal of the site as a mixed use, master planned development and that includes the following qualities seeking to create results that are very special and worthy of the site's present and historical importance.	<b>Consistent.</b> The Modified Project is a continuation of 16 years of efforts to plan a mixed-use master planned community on the MCAS Tustin site. The Modified Project is intended to maximize the appeal of the site by revising its layout and land use mix to reflect changing market conditions and community needs. Responses for Land Use Element Policies 13.1 through 13.11, below, further demonstrate the Modified Project's consistency with this goal.
<b>Land Use Element – Policies for Reuse of the MCAS Tustin Site</b>	
<b>Policy 13.1:</b> Promote new uses and design which will peacefully coexist with surrounding residences and businesses in Tustin and adjacent cities, minimizing impacts on noise, air quality, traffic, and other environmental features wherever possible.	<b>Consistent.</b> The land uses shown in the proposed Land Use Plan have been arranged to reflect land use patterns in adjacent neighborhoods and cities. The easternmost portion of the Specific Plan area east of Jamboree Road (PA 20 through PA 22) and the northwest corner of the Specific Plan area (PA 4 and PA 5) have already been developed with residential uses reflecting those to the east and north, in Irvine and Tustin, respectively. Nonresidential uses are primarily planned for the southern (PA 16-19) and western (PA 1 and PA 9-12) portions of the Specific area, where they would, in a way, serve as an extension of nonresidential uses in the Irvine Business Complex (IBC) to the south and west. Mixed-Use Transit is proposed for PA 15 to provide mixed-use transit oriented development and residential uses that would connect to the Tustin Metrolink Station at the intersection of Edinger Avenue and Jamboree Road. Furthermore, the circulation system is designed to tie into the surrounding street network and provide new routes through the former MCAS base, rather than be inwardly focused and push all new traffic out to its periphery.
<b>Policy 13.2:</b> Encourage a development pattern that offers a connectedness between buildings and uses, and has a strong sense of place through architectural style and creative landscape design.	<b>Consistent.</b> The linear park overlay introduced by the Modified Project would improve connectedness between uses in the Specific Plan area because it would provide a continuous linear park that would run in a diagonal direction across the project area. The linear park would traverse commercial/business uses (PA 9-12); a walkable mixed use district (PA 8, 13-14); and a transit-oriented district (PA 15-A). The linear park would create a unifying element—both physically and visually—to the Specific Plan area and promote walking and biking between land uses.  The Modified Project's design guidelines provide further direction on adequate building-to-building adjacencies, ensuring that pedestrian

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**Table 5.3-1 Consistency with Relevant General Plan Goals and Policies**

Goal/Policy	Project Compliance with Goal/Policy
	circulation and sight lines are highly prioritized. The guidelines also address architectural and community character and their role in creating a cohesive sense of place.
<p><b>Policy 13.3:</b> Encourage a mixture of uses that enable people living or working on the site to choose to meet a significant part of their daily needs within the site.</p>	<p><b>Consistent.</b> At buildout, the project area would feature approximately 6,813 residential units, an 85-acre regional park, and 11.3 million square feet of nonresidential building space, including commercial/business, retail, entertainment, office, educational, and institutional uses. These uses would allow people to live, work, shop, and spend leisure time all within the boundaries of the Specific Plan area. The diverse mix of uses allowed in the project area is already represented by existing retail (The District at Tustin Legacy), residential neighborhoods (Columbus Grove, Columbus Square, Tustin Fields, Amalfi Apartments, Anton Legacy affordable apartments, and Greenwood), and public facilities (Heritage School, South Orange County Community College District campus, Tustin Family Campus, Village of Hope, Army Reserves Center and the Orange County Sheriff's Regional Training Academy) constructed in the project area during the last decade.</p> <p>The Modified Project increases the mixed-use nature of the Specific Plan area by proposing two walkable mixed-use districts near the center of the site. PA 8, 13-14 would be a 314 acre mixed-use district, which allows for a variety of residential and commercial/business uses. PA 15 would consist of 184 acres of transit-oriented, mixed-use development and 86 acres of residential uses. The Mixed-Use Transit designation provides flexibility for residential, office, commercial retail, and commercial service uses in a vertical or horizontal configuration. In addition to providing housing and employment opportunities, both these areas would be accessed by the proposed linear park, which would provide opportunities for recreation. Additionally, these new uses would be placed near the Education Village providing a range of public-serving uses (Neighborhood A) and affordable housing provided in Neighborhood B.</p>
<p><b>Policy 13.4:</b> Implement the balanced reuse plan that responds to community needs but which does not drain City resources. Wherever possible, tax revenues generated by uses on the site should offset the costs of public services.</p>	<p><b>Consistent.</b> See response to Goal 7, above. Buildout of the Modified Project would result in a diverse array of employment-generating and tax-revenue-generating land uses.</p> <p>Although the cost to increase public services and infrastructure in the Specific Plan area would be paid for, in part, with municipal tax revenues, much of this cost would be incurred by private development as it is constructed.</p>
<p><b>Policy 13.5:</b> Promote high quality architecture, landscaping, signage, open space design, circulation patterns, and landscape patterns distinct from surrounding areas.</p>	<p><b>Consistent.</b> See response to Goal 4, above.</p>
<p><b>Policy 13.6:</b> Encourage the distinguished history of the Base to be preserved in one or more locations on site.</p>	<p><b>Consistent.</b> The Modified Project includes language requiring compliance with the Memorandum of Agreement (MOA) between the State Historic Preservation Office, the Advisory Council on Historic Preservation, Department of Navy, County of Orange, and City of Tustin. The City has complied with the requirements of the MOA to document the history of the hangers and former Base.</p>
<p><b>Policy 13.7:</b> Promote uses and institutions which will accommodate and attract 21st Century jobs and technologies.</p>	<p><b>Consistent.</b> As outlined in Table 3-2 of this DSEIR, the Modified Project allows for a wide variety of nonresidential uses to be developed in the Specific Plan area. Rather than prescribe specific types of employment-generating uses in specific locations, the plan is intended to be flexible</p>

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**Table 5.3-1 Consistency with Relevant General Plan Goals and Policies**

Goal/Policy	Project Compliance with Goal/Policy
	<p>and oriented to the long-range economic health of Tustin. The IBC, to the south and west, is already home to many innovative technology firms, consulting companies, and other knowledge-economy industries. Buildout of the Modified Project would promote more of these types of jobs in a 117-acre commercial district proposed for the southwest corner of the Specific Plan area (PA 9-12). This district would include 94 acres designated for Commercial/Business uses, allowing for up to 1.6 million square feet of research and development, professional and creative office, retail, senior care facilities, and specialized employment and merchandizing uses.</p> <p>The Education Village proposed to the north of PA 9-12 in PA 1 allows a variety of educational and institutional uses that would be expected to serve as an incubator for technological innovation in Orange County's job centers, especially those in adjacent business parks. PA 1 is already home to the Advanced Technology &amp; Education Park, a career-training school that focuses on advanced technology and technical workforce development. The campus is operated as a partnership between Irvine Valley College and Saddleback College.</p>
<p><b>Policy 13.8:</b> Encourage uses that benefit broader community's needs and which are balanced with development that is compatible with the Tustin community.</p>	<p><b>Consistent.</b> See responses to Goal 1 and Goal 2, above.</p>
<p><b>Policy 13.9:</b> Ensure that land and water are clean and safe to use and that other environmental considerations are taken into account during design.</p>	<p><b>Consistent.</b> Soil and groundwater remediation has been ongoing since certification of the 2001 FEIS/EIR. Responsibility for cleanup in the Specific Plan area remains unchanged by the Modified Project. Since almost all hazardous materials sites have been fully remediated and "closed" with no further action needed, a majority of the land in the Specific Plan area can be safely developed with new land uses.</p>
<p><b>Policy 13.10:</b> Promote a successful transition from military to civilian use that reasonably satisfies the public interests at local, countywide, regional, state and federal levels consistent with the need for any reuse plan to be fiscally sound and to foster economic development.</p>	<p><b>Consistent.</b> The Modified Project is consistent with the MOA between the State Historic Preservation Office, the Advisory Council on Historic Preservation, Department of Navy, County of Orange, and City of Tustin. Changes to the Specific Plan proposed by the Modified Project are specifically tailored to respond to changing market conditions for residential, office, and retail development, with the goal of fostering long-term economic development in Tustin.</p>
<p><b>Policy 13.11:</b> Strategically place development in a manner responsive to requirements for hazardous material cleanup, circulation and infrastructure capacity, and market absorption.</p>	<p><b>Consistent.</b> Soil and groundwater remediation has been ongoing since certification of the 2001 FEIS/EIR. Most hazardous material sites in the project area, including asbestos-containing materials and buildings containing lead-based paint, have been demolished.</p> <p>Three hazardous material sites continue to be monitored for compliance. The Navy is responsible for remediating all such sites which would be overlain by proposed residential uses to residential standards pursuant to the compliance programs.</p>
<p><b>Circulation Element – Goals</b></p>	
<p><b>Goal 1:</b> Provide a system of streets that meets the needs of current and future inhabitants and facilitates the safe and efficient movement of people and goods throughout the City consistent with the City's ability to finance and maintain such a system.</p>	<p><b>Consistent.</b> As under the Adopted Specific Plan, implementation of the Modified Project would involve the construction of an extensive network of arterial roadways, local streets, bike lanes/trails, and pedestrian routes. For additional information about the funding of roadway improvements in the Specific Plan area, see Section 5.8, <i>Transportation and Traffic</i>, of this DSEIR.</p>

5. Environmental Analysis  
LAND USE AND PLANNING

**Table 5.3-1 Consistency with Relevant General Plan Goals and Policies**

Goal/Policy	Project Compliance with Goal/Policy
<p><b>Goal 2:</b> Provide for a truck circulation system that provides for the effective transport of commodities while minimizing the negative impacts throughout the City.</p>	<p><b>Consistent.</b> The Circulation Element of the Tustin General Plan mentions only Irvine Boulevard and Red Hill Avenue (in the vicinity of Irvine Boulevard) as truck routes. Red Hill Avenue serves as the western boundary of the Specific Plan area. However, implementation of the Modified Project would not impede continued truck travel on that roadway. Nonresidential uses are proposed for areas adjacent to Red Hill Avenue to minimize localized air quality and noise impacts associated with truck travel and sensitive receptors.</p>
<p><b>Goal 3:</b> Support development of a network of regional transportation facilities which ensure the safe and efficient movement of people and goods from within the City to areas outside its boundaries, and which accommodate the regional travel demands of developing areas outside the City.</p>	<p><b>Consistent.</b> Section 5.8, <i>Transportation and Traffic</i>, of this DSEIR evaluates the Modified Project's impact on regional transportation facilities, including intersections and roadway segments identified in the Orange County Congestion Management Program. Furthermore, land use changes proposed by the Modified Project are designed to create a transit-oriented district in PA 15-A near the Tustin Metrolink station, incentivizing use of the station for commuting in and out of the Specific Plan area. See also Circulation Element Goal 2.</p>
<p><b>Goal 4:</b> Maximize the efficiency of the circulation system through the use of transportation system management and demand management strategies.</p>	<p><b>Consistent.</b> Mitigation Measures AQ-3 and AQ-4 in the 2001 FEIS/EIR require project applicants for specific types of nonresidential development projects, and in some cases the City of Tustin, to identify and implement transportation demand measures. Mitigation Measures AQ-3 and AQ-4 remain applicable under the Modified Project.</p>
<p><b>Goal 5:</b> Support development of a public transportation system that provides mobility to all City inhabitants and encourages use of public transportation as an alternative to automobile travel.</p>	<p><b>Consistent.</b> See responses to Circulation Element Goals 3 and 4, above. The Modified Project includes a land use pattern designed to ensure convenient access to—and encourage use of—the Tustin Metrolink Station. Furthermore, as shown in Figure 3-7, <i>Vehicular Circulation Plan</i>, of the Modified Project, the plan is designed to be served by the Orange County Transportation Agency's (OCTA's) bus network, which would be modified to utilize existing and new roadways in the Specific Plan area.</p>
<p><b>Goal 6:</b> Increase the use of non-motorized modes of transportation.</p>	<p><b>Consistent.</b> The Modified Project dramatically increases the amount of the Specific Plan dedicated to mixed uses. These areas, including a mixed-use district designed with a linear park (PA 8, 13-14), and transit-oriented district near the Tustin Metrolink station (PA 15-A), are designed to minimize impediments to walking and biking between uses, and encourage use of existing transit service.</p> <p>The overall mix of uses allowed in the Specific Plan area is also aimed at making the area somewhat self-sufficient. Conceivably, a person could work in the commercial/business district (PA 9-12) or go to school in the Education Village (PA 1); shop in The District (PA 16-19); exercise and/or play in the Recreation (PA 2); and live in one of the Specific Plan area's numerous residential neighborhoods. While this diversity of land uses would not totally eliminate vehicle trips within the Specific Plan area, it, along with the proposed network of streets and trails, would allow for many residents to travel by nonmotorized modes on a regular basis if they choose.</p> <p>The most powerful incentive for nonmotorized travel proposed by the Modified Project is the introduction of the Linear Park Overlay. At buildout, the linear park would diagonally traverse a large cross-section of the project area, including residential, commercial, institutional, and recreational land uses. The linear park is designed specifically to create an opportunity for people to move throughout the area without relying on car travel.</p>

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**Table 5.3-1 Consistency with Relevant General Plan Goals and Policies**

Goal/Policy	Project Compliance with Goal/Policy
<b>Growth Management Element – Goals</b>	
<b>Goal 1:</b> Reduce traffic congestion.	<b>Consistent.</b> Section 5.7, <i>Transportation and Traffic</i> , of this DSEIR evaluates the Modified Project’s impact on regional transportation facilities, including intersections and roadway segments identified in the Orange County Congestion Management Program. When compared to buildout of the Adopted Specific Plan, the Modified Project would not exacerbate future levels of service at area intersections or freeway segments.
<b>Goal 2:</b> Ensure adequate transportation facilities are provided for existing and future inhabitants of the City.	<b>Consistent.</b> See responses to Circulation Element Goals 1 through 6, above.
<b>Goal 3:</b> Cooperate with neighboring jurisdictions and the County to achieve reduction in regional traffic congestion	<b>Not Applicable.</b> This is not a project-specific goal and is therefore not applicable.
<b>Goal 4:</b> Strive to develop and maintain a balance between jobs and housing in Tustin.	<b>Consistent.</b> Section 5.6, <i>Population and Housing</i> , of this DSEIR evaluates the Modified Project’s impact on jobs-housing balance. As discussed in that section, the 2,212 additional housing units and approximately 18,802 jobs generated by the Modified Project would create a more balanced jobs-housing ratio in the City (1.76) compared to buildout of the Adopted Specific Plan (2.03).

Source: Tustin General Plan, 2013.

As shown in Table 5.3-1, the Modified Project is consistent with both citywide goals and policies addressing reuse of the former MCAS Tustin site. Although the General Plan includes additional elements, goals, and policies, these were generally not adopted for the purpose of “avoiding or mitigating an environmental effect.” The Initial Study for this DSEIR determined that impacts of the Modified Project to recreation would be less than significant. Therefore, analysis of consistency with policies found in the Conservation/Open Space/Recreation Element is not necessary.

### SCAG 2016–2040 RTP/SCS

The Modified Project is considered a project of regionwide significance pursuant to the criteria outlined in SCAG’s Intergovernmental Review Procedures Handbook (November 1995) and Section 15206 of the CEQA Guidelines. Therefore, this section addresses the project’s consistency with applicable SCAG planning guidelines and policies. Table 5.3-2 provides an assessment of the Modified Project’s relationship to pertinent 2016–2040 SCAG RTP/SCS goals.

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LAND USE AND PLANNING

**Table 5.3-2 Consistency with SCAG's 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy Goals**

RTP/SCS Goal	Project Compliance with Goal
<p><b>RTP/SCS G1:</b> Align the plan investments and policies with improving regional economic development and competitiveness.</p>	<p><b>Not Applicable.</b> This is not a project-specific goal and is therefore not applicable.</p>
<p><b>RTP/SCS G2:</b> Maximize mobility and accessibility for all people and goods in the region.</p> <p><b>RTP/SCS G3:</b> Ensure travel safety and reliability for all people and goods in the region.</p> <p><b>RTP/SCS G4:</b> Preserve and ensure a sustainable regional transportation system.</p> <p><b>RTP/SCS G5:</b> Maximize the productivity of our transportation system.</p>	<p><b>Consistent.</b> The circulation network proposed by the Modified Project is designed to be consistent with the City of Tustin General Plan Circulation Element and prioritize multimodal travel.</p> <p>The Modified Project accommodates current and future bus service to the area as planned by the OCTA. A Metrolink transit plaza is located across from the project area on the corner of Edinger Avenue and Jamboree Road. The Modified Project requires PA 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.</p> <p>As part of the development plan for the Modified Project, 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 Modified Project into the City's transportation network. As shown in Figure 3-7 of this DSEIR, 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.</p> <p>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, Victory Road, 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.</p> <p>The Modified Project maximizes the sustainability and efficiency of the project area's transportation network by modifying the layout and width of street right-of-ways to reflect proposed changes to permitted land uses. Although the proposed circulation system is not a dramatic departure from the Adopted Specific Plan, it better reflects the walkable nature of the Modified Project. Under the Modified Project, major arterial highways such as Tustin Ranch Road and Warner Avenue would still traverse the site, increasing connectivity in the area's existing roadway network. However, areas designated for walkable mixed use development (PA 8, 13-14 and PA 15-A) are now proposed to have through-traffic distributed among a larger number of lower-traffic, lower-speed collector streets compared the Adopted Specific Plan. Implementation of this conceptual street layout would increase the safety of pedestrians and bicyclists.</p>
<p><b>RTP/SCS G6:</b> Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).</p>	<p><b>Consistent.</b> The various sections of this DSEIR outline existing regulations, standard conditions, and mitigation measures that reduce and/or eliminate environmental and health-related impacts of the Modified Project, as applicable and feasible. For example, Section 5.1, <i>Air Quality</i>, of this DSEIR addresses air quality impacts, and Section 5.2, <i>Greenhouse Gas Emissions</i>, addresses climate impacts of the Modified Project. Note that even with mitigation incorporated, the project would result in significant and unavoidable impacts related to air quality and greenhouse gas emissions impacts.</p> <p>For the Modified Project's encouragement of active transportation modes, see the response to Tustin General Plan Circulation Element Goal 6, above.</p>

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**Table 5.3-2 Consistency with SCAG's 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy Goals**

RTP/SCS Goal	Project Compliance with Goal
<b>RTP/SCS G7:</b> Actively encourage and create incentives for energy efficiency, where possible.	<b>Not Applicable.</b> This is not a project-specific goal and is therefore not applicable.  For information about the Modified Project's impact on energy use, see Sections 5.2, <i>Greenhouse Gas Emissions</i> , of this DSEIR.
<b>RTP/SCS G8:</b> Encourage land use and growth patterns that facilitate transit and active transportation.	<b>Consistent.</b> See response to RTP/SCS Goals G2 through G5.
<b>RTP/SCS G9:</b> Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	<b>Not Applicable.</b> This is not a project-specific goal and is therefore not applicable.

Source: 2016–2040 SCAG Regional Transportation Plan/Sustainable Communities Strategy.

As demonstrated in Table 5.3-2, the Modified Project would be consistent with applicable RTP/SCS goals. Therefore, implementation of the Modified Project would not result in significant land use impacts related to the RTP/SCS.

### Airport Environs Land Use Plan for John Wayne Airport

The Specific Plan area is within the airport planning area for John Wayne Airport, which is approximately 1.5 miles to the southwest in an unincorporated portion of Orange County adjacent to the cities of Costa Mesa, Irvine, and Newport Beach. The Specific Plan area is not within the airport impact zone or in airport safety compatibility zones 1 through 5, where residential and public buildings are restricted or prohibited (ALUC 2008). Therefore, land uses proposed for the project area do not conflict with the AELUP for John Wayne Airport.

However, the Specific Plan area is within the AELUP-designated notification area and is subject to Federal Aviation Administration (FAA) notification and height restrictions pursuant to Federal Aviation Regulations Part 77 (FAR Part 77). As under the Approved Specific Plan, structures that exceed height restrictions outlined in the AELUP would require an obstruction evaluation by FAA and the airport land use commission to determine whether hazards to airport operations would result. As determined in the Initial Study for this DSEIR, height restrictions applicable to the Specific Plan area have not changed. Therefore, impacts related to the Modified Project's AELUP consistency remain less than significant.

### Conclusion

The Modified Project is consistent with all of the aforementioned land use plans. Impacts would be less than significant.

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#### 5.3.4 Cumulative Impacts

The Modified Project involves an amendment to the Adopted Specific Plan, which are specific to the Specific Plan area. The proposed land uses changes would not be magnified by new development elsewhere in Tustin. Although implementation of other planned projects in Tustin (see Section 4.4, *Assumptions Regarding Cumulative Impacts*, in Chapter 4, *Environmental Setting*, of this DSEIR) will result in new dwelling units and nonresidential development in the city, areas surrounding the Specific Plan area are largely built out and would not be expected to experience substantial redevelopment as a result of growth in the Specific Plan area. Growth in the project area would extend existing patterns of residential and nonresidential uses outside the project area, such as residential use to the north and east, and commercial/business uses to the south and east in the IBC. Furthermore, the proposed land use pattern does not represent a dramatic departure from that in the Adopted Specific Plan. Because implementation of the Modified Project would not introduce a novel land use or circulation pattern in central Orange County, it would not be expected to spur redevelopment in adjacent communities (i.e., Irvine or Santa Ana) that would conflict with those cities' land use plans.

From a land use and planning perspective, the cumulative population and economic growth resulting from the Modified Project in combination with buildout of the Tustin General Plan is a desired and intended impact of the policies outlined in the General Plan and 2016–2040 RTP/SCS. The goals identified in those documents advocate a balance of residential and nonresidential development, and neighborhoods designed around multimodal travel. As illustrated in the tables above, implementation of the proposed Specific Plan would be consistent with those goals. The project's land use and relevant planning impacts are considered less than significant, and cumulative impacts from the Modified Project are also considered less than significant.

#### 5.3.5 Existing Regulations and Standard Conditions

- City of Tustin Municipal Code and Zoning Code
- Airport Environs Land Use Plan for John Wayne Airport
- Federal Aviation Regulations Part 77

#### 5.3.6 Level of Significance Before Mitigation

The following impacts would not result in new significant impacts or substantially increase the severity of impacts identified for the Adopted Specific Plan: Impact 5.3-1.

#### 5.3.7 Mitigation Measures

The 2001 FEIS/EIR incorporated the following two mitigation measures for the MCAS Tustin Specific Plan pertaining to land use and planning:

- LU-1            The City of Tustin shall amend its General Plan and zoning ordinance to be consistent with planned land uses. Any zoning ordinance shall include site design measures such as buffering, landscaping, screening, and setbacks, to ensure high quality development and

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### LAND USE AND PLANNING

compatibility between land uses. The goal is to assure that the overall appearance of development on the site is at least similar in quality to other master planned areas in Tustin and other adjacent cities.

LU-2 The City of Irvine shall amend its General Plan and zoning ordinance to be consistent with planned land uses. Any zoning ordinance shall include site design measures such as buffering, landscaping, screening, and setbacks, to ensure high quality development and compatibility between land uses. The goal is to assure that the overall appearance of development on the site is at least similar in quality to other master planned areas in Tustin and other adjacent cities.

The City of Tustin's General Plan and zoning ordinance were amended to be consistent with the Adopted Specific Plan. The City's zoning ordinance contains site design measures that address the quality and appearance of new development in the City. Therefore, Mitigation Measure LU-1 has been satisfied. Mitigation Measure LU-2 applies only to the portions of the project area that are in the City of Irvine. Because the proposed Modified Project only applies to the portion of the project area that is in the City of Tustin, Mitigation Measure LU-2 does not apply to the Modified Project.

### 5.3.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts relating to land use and planning would result on a project-specific or cumulative basis. The Modified Project is consistent with the City's General Plan, SCAG's 2016-2040 RTP/SCS, and the AELUP for John Wayne Airport, therefore impacts would be less than significant. This is consistent with the findings identified in the FEIS/EIR for the Adopted Specific Plan. Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to land use and planning impacts.

### 5.3.9 References

- Airport Land Use Commission (ALUC) for Orange County. 2008. Airport Environs Land Use Plan for John Wayne Airport (as amended; originally adopted in 1975). <http://www.ocair.com/commissions/aluc/>.
- Southern California Association of Governments (SCAG). 2016, April. Final 2016 Regional Transportation Plan/Sustainable Communities Strategy. <http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx>.
- Tustin, City of. 2013. City of Tustin General Plan. <http://tustinca.org/departments/commdev/index.html#planningZoning>.

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### 5.4 NOISE

This section of the Draft Supplemental Environmental Impact Report (DSEIR) evaluates the potential for implementation of the Modified Project to result in noise impacts in the City.

This section discusses the fundamentals of sound; examines federal, state, and local noise guidelines, policies, and standards; reviews noise levels at existing receptor locations; evaluates potential noise impacts associated with the Modified Project; and provides mitigation to reduce noise impacts at sensitive residential locations. This evaluation uses procedures and methodologies as specified by Caltrans and the Federal Highway Administration (FHWA).

#### 5.4.1 Environmental Setting

##### 5.4.1.1 NOISE FUNDAMENTALS

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.” The following are brief definitions of terminology used in this section.

- **Sound.** A vibratory disturbance that, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals (20  $\mu$ Pa).
- **Vibration Decibel (VdB).** A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the U.S., the standard reference velocity is 1 micro-inch per second ( $1 \times 10^{-6}$  in/sec).
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels which approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (Leq); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the  $L_{eq}$  metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.
- **Statistical Sound Level ( $L_n$ ).** The sound level that is exceeded “n” percent of time during a given sample period. For example, the  $L_{50}$  level is the statistical indicator of the time-varying noise signal that is

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exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the “median sound level.” The  $L_{10}$  level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the “intrusive sound level.” The  $L_{90}$  is the sound level exceeded 90 percent of the time and is often considered the “effective background level” or “residual noise level.”

- **Day-Night Level ( $L_{dn}$  or DNL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10 PM to 7 AM.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring during the period from 7 PM to 10 PM and 10 dB added to the A-weighted sound levels occurring during the period from 10 PM to 7 AM. For general community/environmental noise, CNEL and  $L_{dn}$  values rarely differ by more than 1 dB. As a matter of practice,  $L_{dn}$  and CNEL values are interchangeable and are treated as being equivalent in this assessment.
- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

### Characteristics of Sound

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Changes of 1 to 3 dB are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A 3 dB change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dB is readily discernible to most people in an exterior environment whereas a 10 dBA change is perceived as a doubling (or halving) of the sound.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are “felt” more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

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#### Measurement of Sound

Sound intensity is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dB is 10 times more intense than 1 dB, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dB for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dB for each doubling of distance.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called  $L_{eq}$ ), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the  $L_{50}$  noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the  $L_2$ ,  $L_8$  and  $L_{25}$  values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. These "L" values are typically used to demonstrate compliance for stationary noise sources with a city's noise ordinance, as discussed below. Other values typically noted during a noise survey are the  $L_{min}$  and  $L_{max}$ . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and the City of Highland require that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level ( $L_{dn}$ ). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 p.m. to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The  $L_{dn}$  descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 p.m. and 10:00 p.m. Both descriptors give roughly the same 24-hour level with the CNEL being only slightly more restrictive (i.e., higher).

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#### Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA could result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear.

#### 5.4.1.2 VIBRATION FUNDAMENTALS

Vibration is a trembling, quivering, or oscillating motion of the earth. Like noise, vibration is transmitted in waves, but in this case through the earth or solid objects. Unlike noise, vibration is typically of a frequency that is felt rather than heard.

Vibration can be either natural as in the form of earthquakes, volcanic eruptions, sea waves, landslides, or man-made as from explosions, the action of heavy machinery or heavy vehicles such as trains. Both natural and man-made vibration may be continuous such as from operating machinery, or transient as from an explosion.

As with noise, vibration can be described by both its amplitude and frequency. Amplitude may be characterized in three ways including displacement, velocity, and acceleration. Particle displacement is a measure of the distance that a vibrated particle travels from its original position and for the purposes of soil displacement is typically measured in inches or millimeters. Particle velocity is the rate of speed at which soil particles move in inches per second or millimeters per second. Particle acceleration is the rate of change in velocity with respect to time and is measured in inches per second or millimeters per second. Typically, particle velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration. Table 5.4-1 presents the human reaction to various levels of peak particle velocity.

**Table 5.4-1 Human Reaction to Typical Vibration Levels**

Vibration Level Peak Particle Velocity (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of “architectural” (i.e., not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to “architectural” damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

Source: Caltrans 2002.

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Vibrations also vary in frequency and this affects perception. Typical construction vibrations fall in the 10 to 30 Hz range and usually occur around 15 Hz. Traffic vibrations exhibit a similar range of frequencies; however, due to their suspension systems, buses often generate frequencies around 3 Hz at high vehicle speeds. It is less common, but possible, to measure traffic frequencies above 30 Hz.

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression and shear waves. Surface waves, or Raleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation."

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

#### 5.4.1.3 REGULATORY FRAMEWORK

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

#### Federal Regulations

##### *Federal Highway Administration*

The FHWA values are the maximum desirable values by land use type and area based on a trade-off between what is desirable and what is reasonably feasible. These values recognize that in many cases lower noise exposures would result in greater community benefits. The FHWA design noise levels are included in Table 5.4-2, *FHWA Design Noise Levels*.

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**Table 5.4-2 FHWA Design Noise Levels**

Activity Category	Design Noise Levels <sup>1</sup>		Description of Activity Category
	L <sub>eq</sub> (dBA)	L <sub>10</sub> (dBA)	
A	57 (exterior)	60 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	70 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties, or activities not included in Categories A or B, above
D	–	–	Undeveloped lands.
E	52 (interior)	55 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: FHWA, 1978.

<sup>1</sup> Either L<sub>eq</sub> or L<sub>10</sub> (but not both) design noise levels may be used on a project.

#### *United States Environmental Protection Agency*

In addition to FHWA standards, the EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, a L<sub>eq</sub> of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L<sub>eq</sub> of 55 dBA and interior levels at or below 45 dBA. These levels are relevant for planning and design and useful for informational purposes, but they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA also set 55 dBA L<sub>dn</sub> as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals as well as the difficulty of actually achieving a goal of 55 dBA L<sub>dn</sub>, have settled on the 65 dBA L<sub>dn</sub> level as their standard. At 65 dBA L<sub>dn</sub>, activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

#### *Occupational Health and Safety Administration*

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Such limitations would apply to the operation of construction equipment and could also apply to any proposed industrial land uses. Noise exposure of this type is dependent on work conditions and is addressed through a facility's Health and Safety Plan, as required under OSHA, and is therefore not addressed further in this analysis.

#### *US Department of Housing and Urban Development*

The US Department of Housing and Urban Development (HUD) has set a goal of 65 dBA L<sub>dn</sub> as a desirable maximum exterior standard for residential units developed under HUD funding (HUD 1985). (This level is also generally accepted in the State of California.) While HUD does not specify acceptable interior noise levels, standard construction of residential dwellings under Title 24 standards typically provides in excess of

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20 dBA of attenuation with the windows closed. Based on this premise, the interior  $L_{dn}$  should not exceed 45 dBA.

### California State Regulations

The California Department of Health Services' Office of Noise Control has studied the effects of noise levels on various land uses. The State of California Interior and Exterior Noise Standards are shown in Table 5.4-3.

**Table 5.4-3 State of California Interior and Exterior Noise Standards**

Categories	Land Use Uses	CNEL (dBA)	
		Interior <sup>1</sup>	Exterior <sup>2</sup>
Residential	Single- and multifamily, duplex	45 <sup>3</sup>	65
	Mobile homes	–	65 <sup>4</sup>
Commercial	Hotel, motel, transient housing	45	–
	Commercial retail, bank, restaurant	55	–
	Office building, research and development, professional offices	50	–
	Amphitheater, concert hall, auditorium, movie theater	45	–
	Gymnasium (Multi-purpose)	50	–
	Sports Club	55	–
	Manufacturing, warehouse, wholesale, utilities	65	–
	Movie Theaters	45	–
Institutional/ Public	Hospital, school classrooms/playground	45	65
	Church, library	45	–
Open Space	Parks	–	65

<sup>1</sup> Indoor environment, excluding bathrooms, kitchens, toilets, closets, and corridors.

<sup>2</sup> Outdoor environment limited to private yard of single-family dwellings; multifamily private patios or balconies accessed from within the dwelling (balconies 6 feet deep or less are exempt); mobile home parks; park picnic areas; school playgrounds; and hospital patios.

<sup>3</sup> Noise level requirement with closed windows; mechanical ventilation or other means of natural ventilation shall be provided as per Chapter 12, Section 1205 of the Uniform Building Code.

<sup>4</sup> Exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL.

Table 5.4-4, *Community Noise and Land Use Compatibility*, presents a land use compatibility chart for community noise prepared by the California Office of Noise Control. This table provides urban planners with a tool to gauge the compatibility of land uses relative to existing and future noise levels. It identifies normally acceptable, conditionally acceptable, and clearly unacceptable noise levels for various land uses. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements.

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**Table 5.4-4 Community Noise and Land Use Compatibility**

Land Uses	CNEL (dBA)					
	55	60	65	70	75	80
Residential-Low Density Single Family, Duplex, Mobile Homes	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Residential- Multiple Family	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Transient Lodging: Hotels and Motels	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Schools, Libraries, Churches, Hospitals, Nursing Homes	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Auditoriums, Concert Halls, Amphitheaters	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Sports Arena, Outdoor Spectator Sports	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Playground, Neighborhood Parks	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Office Buildings, Businesses, Commercial and Professional	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
Industrial, Manufacturing, Utilities, Agricultural	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded

**Explanatory Notes**

	<p><b>Normally Acceptable:</b> With no special noise reduction requirements assuming standard construction.</p>		<p><b>Normally Unacceptable:</b> New construction is discouraged. If new construction does not proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.</p>
	<p><b>Conditionally Acceptable:</b> New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design.</p>		<p><b>Clearly Unacceptable:</b> New construction or development should generally not be undertaken.</p>

Source: California Office of Noise Control. *Guidelines for the Preparation and Content of Noise Elements of the General Plan*. February 1976. Adapted from the US EPA Office of Noise Abatement Control, Washington D.C. *Community Noise*. Prepared by Wyle Laboratories. December 1971.

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### City of Tustin Noise Standards

#### General Plan Noise Element

The Noise Element of the Tustin General Plan guides noise policy in the City. The primary purpose of the noise element is to reduce the number of people exposed to excessive noise and minimize the future effects of noise on the City. The noise element defines the City's goals and policies with respect to noise intrusion. Its three primary goals are 1) the use of noise control measures to reduce the impact from transportation-related noise, 2) the incorporation of noise considerations into land use planning decisions, and 3) the development of measures to control nontransportation noise impacts. These goals are pursued through the various element policies. The City sets a noise standard of 65 dBA CNEL for exterior habitable areas and 45 dBA CNEL for interior habitable areas for new residential land uses and acceptable noise levels from development. Because typical construction under the California Building Code results in more than 20 dBA attenuation with windows closed (15 dBA with windows open), the 45 dBA CNEL is easily achieved so long as dwelling units are equipped with forced air ventilation, allowing residents to leave their windows closed. These standards are included in Table 5.4-5, *Interior and Exterior Noise Standards in the City of Tustin Noise Element*.

**Table 5.4-5 Interior and Exterior Noise Standards in the City of Tustin Noise Element**

Land Use	Noise Standard	
	Interior <sup>1,2</sup>	Exterior
Residential: Single-family, multifamily, duplex, mobile home	45 dBA CNEL	65 dBA CNEL <sup>3</sup>
Residential: Transient lodging, hotels, motels, nursing homes, hospitals	45 dBA CNEL	65 dBA CNEL <sup>3</sup>
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting rooms, etc.	45 dBA Leq(12)	--
Schools	45 dBA Leq(12)	67 dBA Leq(12) <sup>4</sup>
General offices, reception, clerical, etc.	50 dBA Leq(12)	
Bank lobby, retail store, restaurant, typing pool, etc.	55 dBA Leq(12)	
Manufacturing, kitchen, warehousing, etc.	65 dBA Leq(12)	
Parks, playgrounds		65 dBA CNEL <sup>4</sup>
Golf courses, outdoor spectator sports, amusement parks		70 dBA CNEL <sup>4</sup>

Source: City of Tustin General Plan Noise Element, 2012.

Notes: CNEL = Community Noise Equivalent Level; Leq(12) = A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation)

<sup>1</sup> Noise standard with windows closed. Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment.

<sup>2</sup> Indoor environment excluding bathrooms, toilets, closets, and corridors.

<sup>3</sup> Outdoor environment limited to rear yard of single family homes, multifamily patios, and balconies (with a depth of 6 feet or more) and common recreation areas.

<sup>4</sup> Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.

#### City Code

The City regulates noise through the Tustin City Code, Article 4, Chapter 6. The code presents permissible noise intrusion levels by land use, as shown in Table 5.4-6, *Exterior Noise Standards in the Tustin City Code*. These

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standards are not to be exceeded for a cumulative period of 30 minutes in any hour, but higher noise levels are permissible for shorter durations. The standards are not to be exceeded by 5 dBA for a cumulative period of 15 minutes in any hour, by 10 dBA for a cumulative period of 5 minutes in any hour, by 15 dBA for a cumulative period of 1 minute in any hour, or by 20 dBA for any period of time. In the event that the ambient noise already exceeds these standards, the allowable noise shall be increased to reflect the ambient noise accordingly. Note that these standards do not apply to noise that is preempted by state or federal standards (such as that produced by motor vehicles when operating on City streets).

**Table 5.4-6 Exterior Noise Standards in the Tustin City Code**

Land Use	Noise Level	Time Period
Residential	55 dBA	7:00 am–10:00 pm
	50 dBA	10:00 pm–7:00 am
Commercial	60 dBA	Any time
Industrial	70 dBA	Any time
Institutional (e.g., hospitals, convalescent homes, schools, libraries, churches)	55 dBA	Any time
Mixed Use	60 dBA	Any time

Source: Tustin City Code, Article 4, Chapter 6.

Note: These standards do not apply to noise that is preempted by other state and federal standards (i.e., motor vehicles operating on city streets).

The City of Tustin recognizes that some forms of noise are required for urban development and maintenance and are difficult to control. City Code Section 4617(e), “Exemptions,” exempts “Noise sources associated with construction, repair, remodeling, or grading of any real property between the hours of 7:00 am and 6:00 pm Monday through Friday and the hours of 9:00 am and 5:00 pm on Saturdays, excluding City observed federal holidays.” Note that, according to Section 4616(1), this exemption also applies to “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.”

### City of Irvine Noise Standards

#### *General Plan Noise Element*

The Irvine General Plan Noise Element sets a noise standard of 65 dBA CNEL for exterior habitable areas and 45 dBA CNEL for interior habitable areas, as shown in Table 5.4-7, *Interior and Exterior Noise Standards in the City of Irvine Noise Element*.

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**Table 5.4-7 Interior and Exterior Noise Standards in the City of Irvine Noise Element**

Land Use		Noise Standard (Energy Average CNEL)	
		Interior <sup>1</sup>	Exterior <sup>2</sup>
Residential	Single-Family	45 <sup>3</sup> / 55 <sup>4</sup>	65 <sup>5</sup>
	Multiple-Family		
	Mobile Home	--	65 <sup>6</sup>
Commercial / Industrial	Hotel, Motel, Transient Lodging	45	65 <sup>7</sup>
	Commercial, Retail, Bank, Restaurant	55	--
	Office Building, Professional Office, Research and Development	50	--
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	--
	Gymnasium (multipurpose)	50	--
	Health Clubs	55	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
Institutional	Movie Theater	45	--
	Hospital, School Classroom	45	65
	Church, Library	45	--
Open Space	Parks	--	65

Source: City of Irvine General Plan Noise Element.

<sup>1</sup> Interior environment excludes bathrooms, toilets, closets, and corridors.

<sup>2</sup> Outdoor environment limited to private yard of single-family or multifamily residences; private patio accessed from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.

<sup>3</sup> 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.

<sup>4</sup> Noise level requirement with open windows, if they are used to meet natural ventilation requirement.

<sup>5</sup> Multifamily 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.

<sup>6</sup> Exterior noise level shall be such that interior noise level will not exceed 45 CNEL.

<sup>7</sup> Except those areas affected by aircraft noise.

### *Municipal Code*

The city regulates noise through the Irvine Municipal Code, Division 8, Chapter 2. The code presents permissible noise intrusion levels by land use, as shown in Table 5.4-8, *Irvine Municipal Code Noise Standards*.

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**Table 5.4-8 Irvine Municipal Code Noise Standards**

Noise Zone		Time Period	Noise Levels (dBA) for a Period Not Exceeding (minutes / hour)				
			30	15	5	1	0 (anytime)
Zone 1: All hospitals, libraries, churches, schools, and residential properties	Exterior	7:00 am–10:00 pm	55	60	65 <sup>1</sup>	70	75
		10:00 pm–7:00 am	50	55	60	65 <sup>1</sup>	70
	Interior	7:00 am–10:00 pm	—	—	55	60	65
		10:00 pm–7:00 am	—	—	45	50	55
Zone 2: All professional office and public institutional properties	Exterior	Any time	55	60	65	70	75
	Interior	Any time	—	—	55	60	65
Zone 3: All commercial properties excluding professional office properties	Exterior	Any time	60	65	70	75	80
	Interior	Any time	—	—	55	60	65
Zone 4: All industrial properties	Exterior	Any time	70	75	80	85	90
	Interior	Any time	—	—	55	60	65

<sup>1</sup> This standard does not apply to multifamily residence private balconies. Multifamily 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.

The City of Irvine recognizes that some forms of noise are required for urban development and maintenance and are difficult to control. Municipal Code Section 6-8-205, “Special Provisions,” allows for construction activities between the hours of 7:00 am and 7:00 pm Monday through Friday and the hours of 9:00 am and 6:00 pm on Saturdays, excluding City-observed federal holidays. This exemption also applies to “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.”

### Vibration Standards

The City of Tustin does not have specific limits or thresholds for vibration. However, the US Department of Transportation Federal Transit Administration (FTA), sets vibration-annoyance criteria. Mitigation measures must be implemented if 78 VdB is exceeded during the daytime. Therefore, thresholds for vibration will be based on the FTA standards.

This analysis uses the FTA criteria for acceptable levels of ground-borne vibration for human annoyance and structural damage. The limit for human annoyance in residential uses during the daytime is 78 VdB, and 84 VdB at office uses. Industrial uses are not considered sensitive to vibration annoyance. The threshold for architectural damage for buildings with reinforced concrete, steel, or timber (commercial and industrial uses) is 0.5 in/sec peak particle velocity; for buildings with nonengineered timber and masonry (residential uses) the criteria is 0.2 in/sec peak particle velocity.

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### On-Road Vehicles

Noise from motor vehicles is generated by engine vibrations, the interaction between tires and the road, and the exhaust system. Reducing the average motor vehicle speed reduces the noise exposure of receptors adjacent to the road. Each reduction of five miles per hour reduces noise by about 1.3 dBA.

In order to assess the potential for mobile-source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. Average daily traffic (ADT) volumes were based on the existing daily traffic volumes provided by Stantec Consulting Services. The results of this modeling indicate that average noise levels along arterial segments currently range from approximately 57 dBA to 82 dBA CNEL as calculated at a distance of 50 feet from the centerline of the road. State Route 55 (SR-55) would have noise levels of approximately 83 dBA CNEL at a distance of 100 feet from the centerline of the roadway. Noise levels for existing conditions along analyzed roadways are presented in Table 5.4-9, *Existing Noise Traffic Levels*.

**Table 5.4-9 Existing Traffic Noise Levels**

Roadway	Segment	ADT Volumes	CNEL (dBA @ 50 ft)	Distance to CNEL Contour (Feet from Centerline)		
				70 (dBA CNEL)	65 (dBA CNEL)	60 (dBA CNEL)
Red Hill Av.	Walnut to Edinger	29,000	76.7	139	299	644
Red Hill Av.	Edinger to Valencia	25,200	76.0	126	272	587
Red Hill Av.	Bell to Warner	26,100	76.2	129	279	601
Red Hill Av.	Warner to Carnegie	28,800	76.6	138	298	641
Red Hill Av.	Carnegie to Barranca	28,800	76.6	138	298	641
Red Hill Av.	Barranca to Alton	28,000	76.5	136	292	629
Edinger Av.	SR-55 ramps to Newport	37,400	77.8	164	354	763
Armstrong Av.	Warner to Barranca	N/A	--	--	--	--
Tustin Ranch Rd.	Walnut to Valencia	17,000	75.5	116	251	540
Tustin Ranch Rd.	Barranca to Legacy	20,400	76.3	131	283	609
Von Karman Av.	Barranca to Alton	25,800	74.2	95	205	441
Jamboree Rd.	Walnut to Edinger	82,400	82.4	333	718	1546
Jamboree Rd.	Edinger to Warner	65,200	81.3	285	614	1322
Jamboree Rd.	Warner to Barranca	58,200	80.8	264	569	1226
Jamboree Rd.	Barranca to Alton	50,900	80.3	242	520	1121
Harvard Av.	Poplar to Edinger	9,600	69.2	44	96	206
Harvard Av.	Edinger/Irvine Center to Moffett	11,400	70.6	55	119	256
Harvard Av.	Moffett to Warner	13,300	71.3	61	132	283
Harvard Av.	Warner to Barranca	14,500	71.7	65	139	300
Harvard Av.	Barranca to Alton	18,000	72.6	75	161	347
Walnut Av.	Tustin Ranch to Myford	24,200	71.5	63	135	290
Walnut Av.	Myford to Jamboree	18,900	73.5	86	185	398
Walnut Av.	Jamboree to Harvard	18,400	73.4	84	181	391
Warner Av.	Armstrong to Legacy	N/A	--	--	--	--
Valencia Av.	Armstrong to Kensington Park	5,700	66.5	29	63	135

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**Table 5.4-9 Existing Traffic Noise Levels**

Roadway	Segment	ADT Volumes	CNEL (dBA @ 50 ft)	Distance to CNEL Contour (Feet from Centerline)		
				70 (dBA CNEL)	65 (dBA CNEL)	60 (dBA CNEL)
Edinger Av.	Newport to Del Amo	24,500	77.1	148	320	689
Edinger Av.	Del Amo to Red Hill	26,000	77.3	154	333	716
Edinger Av.	Red Hill to Kensington Park	22,000	76.6	138	298	641
Edinger Av.	Kensington Park to Jamboree	27,100	77.5	159	342	737
Edinger Av.	Jamboree to Harvard	24,000	77.0	146	315	679
Valencia Av.	Red Hill to Armstrong	8,400	68.1	38	81	174
Warner Av.	Red Hill to Armstrong	N/A	--	--	--	--
Warner Av.	Tustin Ranch to Park	18,900	69.0	43	92	198
Jamboree Rd. NB	n/o Warner Av.	10,100	73.2	82	177	381
Warner Av.	Jamboree NB Ramps to Harvard	11,100	70.5	54	117	251
Dyer Rd.	SR-55 NB Ramps to Red Hill	30,800	75.6	119	256	551
Barranca Pkwy.	Red Hill to Aston	38,100	79.0	199	429	924
Barranca Pkwy.	Aston to Armstrong	38,100	79.0	199	429	924
Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman Av.	35,700	78.7	191	411	885
Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	31,200	78.1	174	376	809
Barranca Pkwy.	District to Jamboree	35,100	78.6	189	406	875
Barranca Pkwy.	Jamboree to Harvard	27,800	75.2	111	239	515
Alton Pkwy.	Red Hill to Gillette	13,800	70.3	52	113	243
Alton Pkwy.	Von Karman to Jamboree	16,600	71.1	59	127	275
Alton Pkwy.	Jamboree to Harvard	19,000	71.7	65	140	301
Warner Av.	Grand to Red Hill	14,600	73.7	88	189	408
Park Av.	Jamboree SB Ramps to Warner	11,600	68.3	38	83	178
Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	18,800	72.1	69	148	320
Del Amo Av.	Edinger to Newport	5,000	63.2	18	38	82
Warner Av.	Park/Loop to Jamboree NB Ramps	12,100	70.9	57	124	266
Park Av.	Warner to District	14,400	69.2	44	95	205
Park Av.	Victory to Jamboree SB Ramps	N/A	--	--	--	--
Jamboree Rd. SB Ramps	e/o Park Av.	11,600	68.9	42	91	195
Tustin Ranch Rd.	Victory to Warner <sup>1</sup>	18,400	75.8	123	264	569
Red Hill Av.	Valencia to Bell	26,100	76.2	129	279	601
Valencia Av.	Newport to Red Hill	5,800	66.5	29	63	136
Valencia Av.	Tustin Ranch to Park	N/A	--	--	--	--
Tustin Ranch Rd.	Valencia to Moffett	16,200	75.3	113	243	523
Park Av.	Valencia to Moffett	N/A	--	--	--	--
Park Av.	Moffett to Victory	N/A	--	--	--	--
District Dr.	Barranca to Park	19,300	58.6	9	19	40
Tustin Ranch Rd.	Warner to Legacy/Park	18,400	75.8	123	264	569
Park Av.	Tustin Ranch to District	10,400	67.8	36	77	165

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**Table 5.4-9 Existing Traffic Noise Levels**

Roadway	Segment	ADT Volumes	CNEL (dBA @ 50 ft)	Distance to CNEL Contour (Feet from Centerline)		
				70 (dBA CNEL)	65 (dBA CNEL)	60 (dBA CNEL)
Legacy Rd.	Warner to Tustin Ranch	N/A	--	--	--	--
Kensington Park Dr.	Edinger to Valencia	4,500	64.2	20	44	95
Valencia Av.	Kensington Park to Tustin Ranch	5,700	66.5	29	63	135
Tustin Ranch Rd.	Moffett to Victory	16,200	75.3	113	243	523
Victory Rd.	Tustin Ranch to Loop	N/A	--	--	--	--
Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	9,400	69.1	43	93	201
Victory Rd.	e/o Red Hill Av.	N/A	--	--	--	--
Armstrong Av.	Valencia to Victory	900	57.2	7	15	32
Armstrong Av.	Victory to Warner	N/A	--	--	--	--
Warner Av.	Legacy to Tustin Ranch	N/A	--	--	--	--
Moffett Dr.	Tustin Ranch to Park	N/A	--	--	--	--
Moffett Dr.	Park to Sonora/Meridian	N/A	--	--	--	--
Freeway	Segment	ADT Volumes	CNEL (dBA @ 100 ft)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
SR-55	Edinger to Dyer	287,900	82.9	726	1,563	3,368

Note: Traffic Noise Model Calculations included in Appendix E.

<sup>1</sup> 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 a redundant segment.

### Stationary Source Noise

Stationary sources of noises may occur on all types of land uses. Residential uses would generate noise from landscaping, maintenance activities, and air conditioning systems. Commercial uses would generate noise from HVAC systems, loading docks, and other sources. Industrial uses may generate noise from HVAC systems, loading docks, and possibly machinery. Noise generated by residential or commercial uses is generally short and intermittent. Industrial uses may generate more continuous noise depending on activities of individual uses. For the developed land in the vicinity of the Specific Plan area, land uses are primarily residential, commercial, and light industrial. Noise from stationary sources is regulated through the Tustin City Code and Irvine Municipal Code.

### Project and Nearby Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration, including residences, schools, hospital facilities, houses of worship, and open space/recreation areas where quiet environments are necessary for the enjoyment, public health, and safety of the community. Commercial and industrial uses are not considered noise- or vibration-sensitive uses.

The Modified Project would include residential, mixed-use, commercial, educational, and park uses. Land uses surrounding the Specific Plan area consist primarily of residential, commercial, and light industrial uses.

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#### 5.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would result in:

- N-1 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.
- N-2 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- N-3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- N-4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- N-5 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, expose people residing or working in the project area to excessive noise levels.
- N-6 For a project within the vicinity of a private airstrip, expose people residing or working the project area to excessive noise levels.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would have no impact:

- Threshold N-5
- Threshold N-6

These impacts will not be addressed in the following analysis.

#### 5.4.3 Environmental Impacts

##### 5.4.3.1 SUMMARY OF IMPACTS ASSOCIATED WITH THE ADOPTED PROJECT

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.

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

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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.

#### 5.4.3.2 ENVIRONMENTAL IMPACTS OF THE MODIFIED PROJECT

##### 5.4.3.3 METHODOLOGY

#### Traffic Noise Modeling

The traffic noise levels for the Modified Project were estimated using the FHWA Highway Traffic Noise Prediction Model (RD-77-108). The FHWA model determines a predicted noise level through a series of adjustments to a reference sound level. These adjustments account for traffic flows, speed, truck mix, varying distances from the roadway, length of exposed roadway, and noise shielding. Vehicle speeds on each roadway were assumed to be the posted speed limit, and no reduction in speed was assigned due to congested traffic flows. Current roadway characteristics, such as the number of lanes and speed limits, were determined from field observations and according to roadway classification.

#### Project Land Use Compatibility

Land use compatibility is determined by the future noise level anticipated on a site and the type of existing or proposed land use on that site. In an urban environment (such as the Specific Plan area), transportation-related noise is the primary concern. Therefore, the analysis for land use compatibility addresses traffic noise impacts on proposed uses. Traffic noise contour boundaries are often used by local land use planning and zoning authorities to evaluate sound level exposures on land adjacent to highways that is being considered for development. The noise contours do not take into account the effect of any existing noise barriers that may affect ambient noise levels or the noise contribution from traffic on other roadways, aircraft noise, railway noise, or transit facilities.

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The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant changes and increases in impacts previously identified. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.4-1: Construction activities would not create temporary noise increases in the vicinity of the Modified Project that would result in a significant change compared to the Adopted Specific Plan. [Threshold N-4]**

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*Impact Analysis:* The Modified Project would increase the number of residential units in the Specific Plan area to 6,813 (2,212 more than the Adopted Specific Plan) and decrease nonresidential space (educational, park, commercial, and transit) to 9,532,419 square feet (1,755,306 square feet less than the Adopted Specific Plan). The nearest off-site noise-sensitive receptors are the residences north of Edinger Avenue and east of Harvard Avenue. On-site noise-sensitive receptors are the residences, including the communities of Columbus Square, Tustin Field, and Columbus Grove. Potential construction-related noise impacts could result from land use developments accommodated by the Modified Project, as compared to those of the Adopted Specific Plan.

Two types of temporary noise impacts could occur during construction activities associated with the Modified Project. First, the transport of workers and movement of materials to and from a project site could incrementally increase noise levels along local access roads. The second type of temporary noise impact is related to demolition, site preparation, grading, and/or physical construction. Construction is performed in distinct steps, each of which has its own mix of equipment, and, consequently, its own noise characteristics. Table 5.4-10, *Construction Equipment Noise Emission Levels*, lists typical construction equipment noise levels recommended for noise-impact assessments, based on a distance of 50 feet between the equipment and noise receptor.

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**Table 5.4-10 Construction Equipment Noise Emission Levels**

Construction Equipment	Typical Max Noise Level (dBA L <sub>max</sub> ) <sup>1</sup>	Construction Equipment	Typical Max Noise Level (dBA L <sub>max</sub> ) <sup>1</sup>
Air Compressor	81	Pile-Driver (Impact)	101
Backhoe	80	Pile-Driver (Sonic)	96
Ballast Equalizer	82	Pneumatic Tool	85
Ballast Tamper	83	Pump	76
Compactor	82	Rail Saw	90
Concrete Mixer	85	Rock Drill	98
Concrete Pump	71	Roller	74
Concrete Vibrator	76	Saw	76
Crane, Derrick	88	Scarifier	83
Crane, Mobile	83	Scraper	89
Dozer	85	Shovel	82
Generator	81	Spike Driver	77
Grader	85	Tie Cutter	84
Impact Wrench	85	Tie Handler	80
Jack Hammer	88	Tie Inserter	85
Loader	85	Truck	88
Paver	89		

Source: FTA 2006.

<sup>1</sup> Measured at 50 feet from the source.

As shown in the table, construction equipment generates high levels of noise, with maximums ranging from 71 dBA to 101 dBA. Construction of individual development projects associated with the Modified Project would temporarily increase the ambient noise environment and would have the potential to affect noise-sensitive land uses in the vicinity of an individual development project. Per Section 4617(e) of the Tustin City Code, construction activities are restricted to the hours of 7:00 am to 6:00 pm Mondays through Fridays. Construction is prohibited on Sundays and holidays.

Significant noise may result from operation of heavy earthmoving equipment and truck haul during construction of individual developments. Construction noise levels are dependent upon the specific locations, site plans, and construction details of individual development projects, which have not yet been developed and are not known at this time. Construction-related noise would be localized and would occur intermittently for varying periods of time.

As in the Adopted Specific Plan, the Modified Project would be required to comply with the construction hours in the municipal codes. The Modified Project must also implement any mitigation measures from the Adopted Specific Plan. Since the Specific Plan boundaries would remain the same and the Modified Project would accommodate the same uses as the Adopted Specific Plan, any changes to noise levels at off-site sensitive receptors generated by construction under the Modified Project are expected to be negligible. Therefore, although sensitive receptors may be exposed to elevated noise levels during construction, the Modified Project would not introduce any impacts beyond those of the Adopted Specific Plan. Therefore, there would be no change and no increase in the impacts previously identified.

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#### Impact 5.4-2 Implementation of the Modified Project would result in long-term operation-related noise that would substantially increase traffic noise along two roadway segments compared to the Adopted Specific Plan. [Thresholds N-1 and N-3]

*Impact Analysis:* The following discusses the potential traffic-related and stationary-source noise impacts resulting from buildout of the Modified Project and compares them to those of the Adopted Specific Plan.

#### Traffic Noise

Future development in accordance with the Modified Project would cause changes in traffic along local roadways when compared to the Adopted Specific Plan. Traffic volumes for 2035 conditions, under the Adopted Specific Plan and under the Modified Project, were obtained from the Traffic Impact Analysis prepared by Stantec Consulting Services (see Appendix E). The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, traffic flows, vehicle speeds, car/truck mix, length of exposed roadway, and road width. The distances to the 70, 65, and 60 CNEL contours for selected roadway segments in the vicinity of the Specific Plan are included in Appendix D.

A significant impact could occur if development that would be accommodated by the Modified Project would increase noise by 3 dBA over the Adopted Specific Plan.

Table 5.4-11, *Year 2035 Conditions Traffic Noise Increases*, presents the noise level increases on roadways for the Modified Project and the Adopted Specific Plan, 50 feet from the centerline of each roadway segment and in buildout year 2035.

**Table 5.4-11 Year 2035 Conditions Traffic Noise Increases**

Roadway	Segment	Adopted SP	Amended SP	Increase	Potentially Significant?
Red Hill Av.	Walnut to Edinger	76.7	76.8	0.1	No
Red Hill Av.	Edinger to Valencia	77.2	77.0	-0.2	No
Red Hill Av.	Bell to Warner	77.1	77.6	0.5	No
Red Hill Av.	Warner to Carnegie	77.1	77.3	0.2	No
Red Hill Av.	Carnegie to Barranca	76.8	77.4	0.6	No
Red Hill Av.	Barranca to Alton	77.4	77.5	0.1	No
Edinger Av.	SR-55 ramps to Newport	79.2	79.3	0.1	No
Armstrong Av.	Warner to Barranca	67.7	67.8	0.1	No
Tustin Ranch Rd.	Walnut to Valencia	77.7	78.4	0.7	No
Tustin Ranch Rd.	Barranca to Legacy	78.7	78.4	-0.3	No
Von Karman Av.	Barranca to Alton	75.6	75.7	0.1	No
Jamboree Rd.	Walnut to Edinger	82.5	82.6	0.1	No
Jamboree Rd.	Edinger to Warner	82.6	82.7	0.1	No
Jamboree Rd.	Warner to Barranca	81.7	81.8	0.1	No
Jamboree Rd.	Barranca to Alton	81.4	81.5	0.1	No
Harvard Av.	Poplar to Edinger	70.2	70.3	0.1	No
Harvard Av.	Edinger/Irvine Center to Moffett	71.0	70.7	-0.3	No

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**Table 5.4-11 Year 2035 Conditions Traffic Noise Increases**

Roadway	Segment	Adopted SP	Amended SP	Increase	Potentially Significant?
Harvard Av.	Moffett to Warner	71.2	71.8	0.6	No
Harvard Av.	Warner to Barranca	71.9	72.3	0.4	No
Harvard Av.	Barranca to Alton	72.9	73.1	0.2	No
Walnut Av.	Tustin Ranch to Myford	70.3	70.4	0.1	No
Walnut Av.	Myford to Jamboree	75.0	75.2	0.2	No
Walnut Av.	Jamboree to Harvard	74.2	74.2	0.0	No
Warner Av.	Armstrong to Legacy	73.2	75.5	2.3	No
Valencia Av.	Armstrong to Kensington Park	69.9	70.0	0.1	No
Edinger Av.	Newport to Del Amo	78.3	78.5	0.2	No
Edinger Av.	Del Amo to Red Hill	78.1	78.3	0.2	No
Edinger Av.	Red Hill to Kensington Park	78.8	79.2	0.4	No
Edinger Av.	Kensington Park to Jamboree	78.3	78.3	0.0	No
Edinger Av.	Jamboree to Harvard	77.9	77.6	-0.3	No
Valencia Av.	Red Hill to Armstrong	71.1	72.1	1.0	No
Warner Av.	Red Hill to Armstrong	77.5	79.0	1.5	No
Warner Av.	Tustin Ranch to Park/Park	71.7	71.8	0.1	No
Jamboree Rd. NB Ramps	n/o Warner Av.	72.5	72.7	0.2	No
Warner Av.	Jamboree NB Ramps to Harvard	72.3	72.4	0.1	No
Dyer Rd.	SR-55 NB Ramps to Red Hill	77.4	77.4	0.0	No
Barranca Pkwy.	Red Hill to Aston	79.6	79.8	0.2	No
Barranca Pkwy.	Aston to Armstrong	79.5	79.7	0.2	No
Barranca Pkwy.	Armstrong to Tustin Ranch Rd./Von Karman Av.	79.6	79.7	0.1	No
Barranca Pkwy.	Tustin Ranch Rd./Von Karman Av. to District	79.8	79.8	0.0	No
Barranca Pkwy.	District to Jamboree	79.9	79.8	-0.1	No
Barranca Pkwy.	Jamboree to Harvard	76.4	76.3	-0.1	No
Alton Pkwy.	Red Hill to Gillette	72.7	72.8	0.1	No
Alton Pkwy.	Von Karman to Jamboree	72.3	72.2	-0.1	No
Alton Pkwy.	Jamboree to Harvard	72.8	72.7	-0.1	No
Warner Av.	Grand to Red Hill	77.6	78.2	0.6	No
Park Av.	Jamboree SB Ramps to Warner	66.3	65.9	-0.4	No
Newport Av.	Edinger to SR-55 NB Ramps/Del Amo	74.4	74.5	0.1	No
Del Amo Av.	Edinger to Newport	62.0	62.2	0.2	No
Warner Av.	Park/Park to Jamboree NB Ramps	72.6	72.7	0.1	No
Park Av.	Warner to District	67.3	67.8	0.5	No
Park Av.	Victory to Jamboree SB Ramps	63.4	64.9	1.5	No
Jamboree Rd. SB Ramps	e/o Park Av.	65.6	66.7	1.1	No
Tustin Ranch Rd.	Victory to Warner <sup>1</sup>	79.1	78.9	-0.2	No
Red Hill Av.	Valencia to Victory	77.5	77.2	-0.3	No
Valencia Av.	Newport to Red Hill	69.9	70.2	0.3	No
<b>Valencia Av.</b>	<b>Tustin Ranch to Park</b>	<b>63.7</b>	<b>67.5</b>	<b>3.8</b>	<b>Yes</b>
Tustin Ranch Rd.	Valencia to Moffett	78.5	79.2	0.7	No
Park Av.	Valencia to Moffett	62.8	62.7	-0.1	No
Park Av.	Moffett to Victory	62.5	61.8	-0.7	No

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**Table 5.4-11 Year 2035 Conditions Traffic Noise Increases**

Roadway	Segment	Adopted SP	Amended SP	Increase	Potentially Significant?
District Dr.	Barranca to Park	57.4	57.4	0.0	No
Tustin Ranch Rd.	Warner to Legacy/Park	78.2	78.1	-0.1	No
Park Av.	Tustin Ranch to District	70.1	69.3	-0.8	No
Legacy Rd.	Warner to Tustin Ranch	71.5	69.3	-2.2	No
Kensington Park Dr.	Edinger to Valencia	66.9	67.8	0.9	No
Valencia Av.	Kensington Park to Tustin Ranch	68.1	69.2	1.1	No
Tustin Ranch Rd.	Moffett to Victory	78.3	79.8	1.5	No
Victory Rd.	Tustin Ranch to Park	63.7	64.7	1.0	No
Newport Av.	SR-55 NB Ramps/Del Amo to Valencia	69.6	69.8	0.2	No
Victory Av.	e/o Red Hill Av.	64.3	59.6	-4.7	No
Armstrong Av.	Valencia to Victory	65.3	67.1	1.8	No
Armstrong Av.	Victory to Warner	66.8	67.1	0.3	No
Warner Av.	Legacy to Tustin Ranch	73.7	72.8	-0.9	No
Moffett Dr.	Tustin Ranch to Park	N/A	66.1	N/A	No
<b>Moffett Dr.</b>	<b>Park to Jamboree</b>	<b>63.3</b>	<b>68.6</b>	<b>5.3</b>	<b>Yes</b>
Moffett Dr.	Jamboree to Sonora/Meridian	63.3	~ 64 <sup>2</sup>	< 1	No
Freeway	Segment	Adopted SP (CNEL dBA @ 100 ft.)	Amended SP (CNEL dBA @ 100 ft.)	Increase	Potentially Significant?
SR-55	Edinger to Dyer	83.2	83.2	0.0	No

Notes: Traffic Noise Model Calculations included in Appendix E.

Segments with an increase of greater than 3 dBA are shown in **bold**.

A potentially significant impact would occur if the project would cause an increase greater than 3 dBA.

<sup>1</sup> 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.

<sup>2</sup> The value for the "Amended SP" noise level on this segment takes into account the effect of the existing sound wall, which was not included in the "Adopted SP" analysis.

The table shows that differences between the Modified Project and the Adopted Specific Plan traffic noise levels along roadways would range between -4.7 and 5.3 dBA CNEL. The roadway segment along Moffett Drive from Park Avenue to Sonora Street / Meridian Way has an existing soundwall, which reduces noise levels at the outdoor spaces of the residences by approximately 5 dB CNEL. The effects of the soundwall were not taken into consideration during preparation of the Adopted Specific Plan, as the homes and soundwall were not yet constructed. The soundwall is taken into account for the resulting noise level for the Amended Specific Plan in Table 5.4-11, reducing it to below 65 dBA CNEL. The roadway segments on Moffett Drive from Park Avenue to Jamboree Road, and on Valencia Avenue from Tustin Ranch Road to Park Avenue would have noise increases greater than 3 dBA. These segments are completely within the undeveloped portion of the Specific Plan site. Impacted segments within the Specific Plan boundaries would not affect off-site receptors, and their effect on the future residences within the Specific Plan boundaries will be reduced to less than significant by the Mitigation Measures that are required as part of the FEIS/EIR. The Modified Project would not introduce any impacts beyond those of the Adopted Specific Plan. There would be no change and no increase in the impacts previously identified.

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### Stationary-Source Noise

Noise is regulated by numerous codes and ordinances across federal, state, and local agencies. In addition, Tustin and Irvine regulate noise through their respective municipal codes. The potential stationary-source noise impacts resulting from buildout of the Modified Project land uses, in comparison to those of the Adopted Specific Plan, are addressed below.

Buildout of the Modified Project would cause an increase of 2,212 dwelling units compared to the Adopted Specific Plan and a 1,755,306-square-foot decrease in nonresidential space (educational, park, commercial, and transit). The primary noise sources from these land uses are landscaping, maintenance activities, mechanical equipment, and air conditioning systems, and loading docks. Noise generated by residential, educational, park, transit, or commercial uses is generally short and intermittent, and these uses are not a substantial source of noise. Tustin and Irvine prohibit stationary sources from exceeding the noise standards of the land use of receiving properties, as specified in Table 5.4-6 and Table 5.4-8 in the regulatory discussion above. Consequently, stationary-source noise from these types of proposed land uses would not substantially increase the ambient noise levels. Although the number of dwelling units and the square footage of nonresidential space would change, the nature of the noise produced by these uses would not, and the noise levels produced by stationary sources would be affected by a negligible amount. Therefore, there would be no change and no increase in the impacts previously identified in the Adopted Specific Plan.

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**Impact 5.4-3: The Modified Project would not result in a substantial increase in groundborne vibration or groundborne noise impacts compared to the Adopted Specific Plan. [Threshold N-2]**

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*Impact Analysis:* The potential vibration impacts resulting from development of the Modified Project, in comparison to those of the Adopted Specific Plan, are addressed below.

### Construction Vibration Impacts

Construction operations can generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the construction site depends on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches levels that can damage structures, but can achieve the audible and perceptible ranges in buildings close to the construction site. Table 5.4-12 lists vibration levels for construction equipment.

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**Table 5.4-12 Vibration Levels for Construction Equipment**

Equipment	Approximate Velocity Level at 25 Feet (VdB)	Approximate RMS <sup>1</sup> Velocity at 25 Feet (in/sec)
Pile Driver (impact) Upper Range	112	1.518
Pile Driver (impact) Lower Range	104	0.644
Pile Driver (sonic) Upper Range	105	0.734
Pile Driver (sonic) Lower Range	93	0.170
Large Bulldozer	87	0.089
Caisson Drilling	87	0.089
Jackhammer	79	0.035
Small Bulldozer	58	0.003
Loaded Trucks	86	0.076
FTA Criteria: Human Annoyance (Daytime/Nighttime)	78/72	—
FTA Criteria: Structural Damage	—	0.200

Source: FTA 2006.

<sup>1</sup> RMS velocity calculated from vibration level (VdB) using the reference of 1 microinch/second.

As shown in Table 5.4-12, vibration generated by construction equipment has the potential to be substantial, since it has the potential to exceed the FTA criteria of 78 VdB for human annoyance and 0.200 in/sec for structural damage. However, groundborne vibration is almost never annoying to people who are outdoors, so it is usually evaluated in terms of indoor receivers (FTA 2006). Construction details and equipment for individual development projects are not known at this time. Vibration impacts may occur from construction equipment associated with implementation of the Modified Project. However, since the Specific Plan boundaries would remain the same and the Modified Project would accommodate the same uses as the Adopted Specific Plan, any changes at off-site sensitive receptors between vibration levels generated by the Modified Project and those generated by the Adopted Specific Plan are expected to be negligible. Although sensitive receptors may be exposed to elevated vibration levels during construction, there would be no change from construction-related vibration impacts previously identified in the Adopted Specific Plan.

### Roadway-Related Vibration Impacts

Operation of new commercial land uses could generate additional truck trips over existing conditions, which could potentially generate various levels of vibration along the traveled roadways. Additionally, truck trips could also be generated during construction of new development projects in the Specific Plan area. Caltrans has studied the effects of vehicle vibration on sensitive land uses and notes that “heavy trucks, and quite frequently buses, generate the highest earthborne vibrations of normal traffic.” Caltrans further notes that the highest traffic-generated vibration is along freeways and state routes and finds that “vibrations measured on freeway shoulders (five meters from the centerline of the nearest lane) have never exceeded 0.08 inches per second, with the worst combinations of heavy trucks. This level coincides with the maximum recommended safe level for ruins and ancient monuments (and historic buildings).” Typically, trucks do not generate high levels of vibration because they travel on rubber wheels and do not have vertical movement, which generates ground vibration (Caltrans 2002). Roadways in the Specific Plan area are not expected to generate excessive vibration. Any changes to traffic-induced vibration levels generated by the Modified Project, in comparison to

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the Adopted Specific Plan, would be negligible. Therefore, there would be no change in the roadway-related vibration impacts previously identified in the Adopted Specific Plan.

#### Other Operations Vibration Impacts

Commercial operations can possibly generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations would spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Because specific project-level information is not available at this time for individual development projects that would be accommodated by the Modified Project, it is not possible to quantify future vibration levels at vibration-sensitive receptors that may be in close proximity to existing and future vibration sources. Any potential changes in vibration levels due to the changes in the commercial uses as part of the Modified Project, in comparison to the Adopted Specific Plan, are expected to be negligible. Although sensitive receptors may be exposed to vibration levels associated with commercial uses, the Modified Project would not introduce any impacts beyond those of the Adopted Specific Plan. Therefore, there would be no change in the impacts previously identified.

#### 5.4.4 Existing Regulations and Standard Conditions

- City of Tustin General Plan Noise Element
- Tustin City Code, Article 4, Chapter 6: Noise Control

#### 5.4.5 Level of Significance Before Mitigation

The following impacts would not result in new significant impacts or substantially increase the severity of impacts identified for the Adopted Specific Plan: Impacts 5.4-1 and 5.4-3.

Without mitigation, the following impacts would be a substantial change from the previous analysis:

- **Impact 5.4-2** Traffic noise impacts along Moffett Drive from Park Avenue to Sonora Street/Meridian Way and along Valencia Avenue from Tustin Ranch to Park Avenue would increase noise impacts compared to the Adopted Specific Plan.

#### 5.4.6 Mitigation Measures

The 2001 FEIS/EIR incorporated the following mitigation measures that would apply to the Modified Project.

- N-1                      Prior to reuse of any existing residential units within the reuse area for civilian use, the City of Tustin or the City of Irvine, as applicable, and where necessary and feasible, shall require the installation of noise attenuation barriers, insulation, or similar devices to ensure that

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### NOISE

interior and exterior noise levels at these residential units do not exceed applicable noise standards.

N-3 For new development within the reuse area, the City of Tustin and City of Irvine, as applicable shall ensure that interior and exterior noise levels do not exceed those prescribed by state requirements and local city ordinances and general plans. Plans demonstrating noise regulation conformity shall be submitted for review and approval prior to building permits being issued to accommodate reuse.

The following mitigation measures from the 2001 FEIS/EIR have already been completed:

N-2 During design of the grade separated intersection of Tustin Ranch Road at Edinger Avenue, the City of Tustin shall evaluate potential noise impacts on surrounding properties to the northeast of Edinger Avenue and shall incorporate into the design of this intersection noise attenuation measures determined appropriate and feasible by the City of Tustin, in order to ensure that these surrounding properties do not experience noise levels that exceed City of Tustin noise standards.

N-4 Prior to the connection of Warner Avenue to the North Loop Road or the South Loop Road, the City of Tustin shall conduct an acoustical study to assess reuse traffic noise impacts to existing sensitive receptors adjacent to Warner Avenue, between Harvard Avenue and Culver Drive. If mitigation of reuse traffic noise impacts is required, the City of Tustin and the City of Irvine shall enter into an agreement that defines required mitigation and which allocates the cost of mitigation between the City of Tustin and the City of Irvine on a fair share basis.

The 2004 SEIR incorporated the following mitigation measures that would apply to the Modified Project

NR-1 Prior to opening the proposed segment of Tustin Ranch Road to traffic, the City will install a soundwall that ranges from six feet to 12 feet in height. Following are the heights of the soundwall in relation to the elevation of the proposed roadway adjacent to the residential receptors (see Exhibit 5.3-2 of the SEIR for receptor locations).

- Receptor 1 - Existing 6-foot wall
- Receptors 2 through 4 - Proposed 12-foot wall
- Receptors 5 and 6 - Proposed 10-foot wall
- Receptors 7 and 8 - Proposed 8-foot wall
- Receptors 9 through 15 feet south of Receptor 21 - Proposed 6-foot wall

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- NR-2 Receptors 1 through 13 require forced air ventilation (see Exhibit 5.3-2 receptor location). If receptors 1 through 13 do not currently have forced air ventilation, the City shall provide forced air ventilation prior to the opening of the proposed segment of Tustin Ranch Road to traffic.
- NR-3 Receptors 14 through 21 that have a second story will require forced air ventilation in the second story. If these residential receptors do not currently have forced air ventilation, the City shall provide forced air ventilation in the second story prior to the opening of the proposed segment of Tustin Ranch Road to traffic.
- NR-4 Prior to the opening of the proposed segment of Tustin Ranch Road to traffic, all second-story windows and/or sliding glass doors in habitable rooms of the residences along the proposed alignment that view the proposed alignment shall be fitted with acoustic-rated window/door assemblies. These assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise level of no more than 45 dBA CNEL. Non-sensitive uses (e.g., bathrooms) do not require such assemblies.
- NR-5 All second-story exterior doors in habitable rooms of the residences along the proposed alignment that view the proposed alignment shall be fitted with solid-core assemblies that are well sealed with weather-stripping.
- NR-6 Prior to opening of the proposed segment of Tustin Ranch Road to traffic, the City will install a 10-foot high wall along the eastern easement of Tustin Ranch Road from Walnut Avenue to the southern property line of the First Baptist Church.
- NR-7 The second-story windows that view the proposed alignment shall be fitted with acoustic-rated window assemblies. The assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise of no more than 45 dBA CNEL.

### 5.4.7 Level of Significance After Mitigation

#### Impact 5.4-2

Implementation of the adopted mitigation measures identified above would reduce noise impacts to less than significant. This is consistent with the findings identified in the FEIS/EIR for the Adopted Specific Plan. Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project after incorporation of mitigation measures would not result in any new impacts, or increase the severity of impacts, with respect to noise impacts.

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#### 5.4.8 References

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### 5.5 POPULATION AND HOUSING

This section of the Draft Supplemental Environmental Impact Report (DSEIR) examines the potential for socioeconomic impacts of the Modified Project on the City of Tustin related to changes in population, employment, and demand for housing, including housing cost/rent ranges defined as “affordable.”

Analysis in this section is partially based on population, housing, and employment data from the following sources:

- **US Census.** The official United States Census is described in Article I, Section 2 of the Constitution of the United States. It calls for an actual enumeration of the people every 10 years, to be used for apportionment among the states of seats in the House of Representatives. The United States Census Bureau publishes population and household data gathered in the decennial census. This information provides a record of historical growth rates in Orange County and the City of Tustin.
- **California Department of Finance.** The Department of Finance (DOF) prepares and administers California’s annual budget. Other duties include estimating population demographics and enrollment projections. DOF’s “Table E-5: City/County Population and Housing Estimates,” reports on population and housing estimates for the state, counties, and cities, January 2011–2016, benchmarked to base year 2010.
- **Southern California Association of Governments.** Policies and programs adopted by SCAG to achieve regional objectives are expressed in its 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy.

Throughout this section, data for the City of Tustin and Orange County are utilized to describe existing conditions and demographic trends in the vicinity and region of the project site. Although the Specific Plan area spans portions of both Irvine and Tustin, all land use changes and additional housing units proposed by the Modified Project are located in Tustin. Accordingly, the analysis below focuses on population and housing impacts in Tustin.

#### 5.5.1 Environmental Setting

##### 5.5.1.1 REGULATORY SETTING

###### California Housing Element Law

California planning and zoning law requires each city and county to adopt a general plan for future growth (California Government Code Section 65300). This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the Housing and Community Development Department (HCD) estimates the relative share of California’s projected population growth that would occur in each county based on DOF population projections and historical growth trends. These figures are compiled by HCD in a Regional Housing Needs Assessment (RHNA) for each region of California. Where there is a regional council of governments, HCD

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### POPULATION AND HOUSING

provides the RHNA to the council. Such is the case for the City of Tustin, which is a member of SCAG. The council, in this case SCAG, then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares gives cities and counties the opportunity to comment on the proposed allocations. HCD oversees the process to ensure that the council of governments distributes its share of the state's projected housing need.

State law recognizes the vital role local governments play in the supply and affordability of housing. To that end, California Government Code requires that housing elements achieve legislative goals to:

- Identify adequate sites to facilitate and encourage the development, maintenance, and improvement of housing for households of all economic levels, including persons with disabilities.
- Remove, as legally feasible and appropriate, governmental constraints to the production, maintenance, and improvement of housing for persons of all incomes, including those with disabilities.
- Assist in the development of adequate housing to meet the needs of low and moderate income households.
- Conserve and improve the condition of housing and neighborhoods, including existing affordable housing. Promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status, or disability.
- Preserve for lower income households the publicly assisted multifamily housing developments in each community.

The State of California housing element laws (Section 65580 to 65589 of the California Government Code) require that each city and county identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community commensurate with local housing needs.

#### *2013–2021 Tustin Housing Element*

The City's most recent housing element was adopted by City Council on October 1, 2013. For the 2013–2021 planning period, SCAG determined that Tustin's RHNA allocation was 1,227 units. Consistent with state housing law, the 2013–2021 Housing Element demonstrates that the City can accommodate its RHNA allocation through the construction of planned residential projects and utilization of its inventory of appropriate housing sites. The housing element also identifies goals, policies, and programs designed to address the City's overall housing needs.

#### **Regional Planning**

Refer to Section 4.2.2 of this DSEIR for a detailed description of SCAG and the most recent Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the SCAG region.

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### *Southern California Association of Governments*

SCAG is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. It is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles. SCAG actions in Orange County are partially the result of input from the Orange County Council of Governments (OCCOG), which offers recommendations regarding SCAG’s initiatives.

### *Regional Transportation Plan/Sustainable Communities Strategy*

On April 7, 2016, SCAG’s Regional Council adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016–2040 RTP/SCS). This long-range visioning plan balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the National Ambient Air Quality Standards. It balances the region’s future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS is required by the state of California and the federal government and is updated by SCAG every four years as demographic, economic, and policy circumstances change. The RTP/SCS is a living, evolving blueprint for the region’s future (SCAG 2016).

Unique to the SCAG region is the option for subregions to create their own SCS. OCCOG and the Orange County Transportation Authority adopted a SCS for the Orange County subregion—of which the cities of Irvine and Tustin are member jurisdictions—on June 14, 2011.

### **Population Trends**

Table 5.5-1 shows population and housing data collected by the U.S. Census Bureau during the last two decennial censuses.

**Table 5.5-1 Census Data for Orange County and Tustin, 2000 and 2010**

	2000	2010	Change, 2000–2010	
			Total	Percent
<b>Orange County</b>				
Population	2,846,289	3,010,232	163,943	5.8
Dwelling Units	969,484	1,048,907	79,423	8.2
<b>Tustin</b>				
Population	67,504	75,540	8,036	11.9
Dwelling Units	25,501	26,476	975	3.8

Source: U.S. Census 2015a.

As shown in Table 5.5-1, Orange County’s population grew 5.8 percent between 2000 and 2010, while the City of Tustin grew by 11.9 percent. During the same period, housing units grew by 8.2 percent in Orange County and by 3.8 percent in Tustin.

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### POPULATION AND HOUSING

Unlike Table 5.5-1, which shows overall positive growth in Tustin and Orange County between 2000 and 2010, Table 5.5-2 identifies yearly population figures, illustrating that yearly growth rates have fluctuated parallel to the health of the state’s economy. For example, effects of the 2007–2009 recession can be seen in year 2010, when Tustin and Orange County both experienced their lowest rates of population growth (0.2 percent and 0.0 percent growth, respectively). This pause in incremental growth is likely due to the collapse of the pre-recession housing production industry; many proposed development projects in Orange County were put on hold or canceled altogether during this period.

**Table 5.5-2 Population Growth Trends in Tustin and Orange County, 2000–2016**

Year	Orange County		City of Tustin	
	Population <sup>1</sup>	Percent Change	Population <sup>1</sup>	Percent Change
2000	2,846,289	N/A	67,504	N/A
2001	2,871,926	0.9	68,189	1.0
2002	2,902,207	1.1	68,875	1.0
2003	2,927,118	0.9	69,455	0.8
2004	2,948,135	0.7	69,985	0.8
2005	2,956,847	0.3	70,116	0.2
2006	2,960,659	0.1	70,880	1.1
2007	2,974,321	0.5	71,493	0.9
2008	2,990,805	0.6	74,340	4.0
2009	3,008,855	0.6	75,400	1.4
2010	3,010,232	0.0	75,540	0.2
2011	3,028,846	0.6	75,772	0.3
2012	3,057,875	1.0	76,618	1.1
2013	3,085,269	0.9	78,071	1.9
2014	3,113,991	0.9	78,360	0.4
2015	3,151,910	1.2	80,968	3.3
2016	3,183,011	1.0	82,717	2.7

Source: DOF 2012; DOF 2016a.

<sup>1</sup> Population counts for the years 2000 and 2010 are derived from U.S. Census data; counts for other years consist of estimates calculated by the DOF.

Table 5.5-2 demonstrates that growth in Tustin and Orange County has modestly accelerated as the state and national economies have recovered.

### Population Forecasts

Population forecasts for the City of Tustin and Orange County are listed in Table 5.5-3. The 2035 and 2040 population forecasts are from the 2016–2040 RTP/SCS Regional Forecast. SCAG household and employment projections, which are also shown in Table 5.5-3, are discussed later in this subsection.

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**Table 5.5-3 Adopted SCAG Growth Forecasts**

Forecast	2035 Estimates		2040 Estimates		Projected Increase, 2015–2040 <sup>1</sup>	
	Orange County	City of Tustin	Orange County	City of Tustin	Orange County	City of Tustin
Population	3,431,200	83,100	3,461,500	83,000	309,590 8.9%	2,032 2.5%
Households	1,135,300	27,800	1,152,300	27,900	133,717 13.1%	1,328 5.0%
Employment <sup>2</sup>	1,870,500	64,600	1,898,900	66,400	–	–

Source: SCAG 2016.

<sup>1</sup> Although 2016 estimates are available for some datasets, 2015 estimates are used here since 2015 was considered “existing conditions” at the time the Notice of Preparation for the Modified Project was released for public review. See 2015 population estimates in Table 5.5-2; see 2015 households estimates in Table 5.5-4.

<sup>2</sup> Projected employment increases cannot be calculated because the SCAG forecasts in this table describe total employment in the City and County (much of which consists of non-City or non-County residents), but the numbers for existing employment (see Table 5.5-8) reflect a different data set, i.e., the employment of City and County residents only.

As shown in the table, the population of the City is forecast to increase to 83,000 by 2040, an increase of 2,034 residents, or 2.5 percent greater than its 2015 population. This represents substantially slower growth than Orange County’s projected population growth of 8.9 percent during the same period.

### Housing Trends

Housing units and households as counted in the 2010 Census and in 2016 DOF estimates are shown in Tables 5.5-4.

**Table 5.5-4 Existing Housing Units and Households in Tustin, 2010, 2015, and 2016**

	2010 U.S. Census	DOF Estimates	
		2015	2016
<b>Orange County</b>			
Housing Units	1,048,907	1,069,450	1,075,705
Households	992,781	1,018,583	1,024,810
Vacant Housing Units	56,126	50,867	50,895
Vacancy Rate	5.4%	4.8%	4.7%
<b>City of Tustin</b>			
Housing Units	26,476	27,262	27,697
Households	25,203	26,572	27,029
Vacant Housing Units	1,273	690	668
Vacancy Rate	4.8%	2.5%	2.4%

Source: U.S. Census 2015a; DOF 2016b.

The housing vacancy rate in Tustin was 4.8 percent in 2010, as reported in the 2010 Census. In 2016, DOF estimates that the vacancy rate is 2.4 percent. Orange County’s vacancy rate was only slightly higher than Tustin’s in 2010 (5.4 percent) but is notably higher in 2016 (4.7 percent). Of the 1,273 vacant housing units counted in the Census, 820 units—64 percent of the total—were for rent or rented but not occupied (Census 2015a).

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As shown in Table 5.5-3, the number of households in Tustin is forecast to increase by 5 percent between 2015 and 2040. Households in Orange County are forecast to increase by 13.1 percent during the same period.

#### *Housing Tenure*

Tenure refers to whether a household owns or rents a home. As of the 2010 Census, 51 percent (12,813) of households owned a home and 49 percent (12,390) rented a home in Tustin. Orange County's homeownership rate was 59 percent in 2010 (U.S. Census 2015a).

#### *Housing Unit Types*

Existing housing units in Tustin are classified by unit type in Table 5.5-5.

**Table 5.5-5 Housing Units in Tustin by Unit Type**

Type of Housing Unit	2015 Estimate		2016 Estimate	
	Number of Units	Percent of Units	Number of Units	Percent of Units
Single-Family Detached	9,453	34.7	9,559	34.5
Single-Family Attached	3,564	13.1	3,564	12.9
Multifamily (2 to 4 Units)	4,048	14.8	4,048	14.6
Multifamily (5+ units)	9,288	34.1	9,617	34.7
Mobile Homes	909	3.3	909	3.3
<b>Total</b>	<b>27,262</b>	<b>100%</b>	<b>27,697</b>	<b>100%</b>

Source: DOF 2016b.

As shown in the table, existing housing in Tustin consists of a near equal balance between single-family units (47.4 percent) and multifamily units (52.6 percent).

#### *Household Size*

The average household size was reported as 2.98 persons in Tustin and 2.99 persons in Orange County in the 2010 U.S. Census. The DOF calculates that Tustin had an average household size of 3.03 in 2015 and 3.04 in 2016 (DOF 2016b).

#### *Current and Future Housing Needs*

The City of Tustin Housing Element was adopted by the Tustin City Council on October 1, 2013, and was determined by HCD as complying with state housing law on November 6, 2013. The housing element provides a thorough discussion of housing conditions and issues in the City and provides goals and policies that address housing affordability.

#### *Regional Housing Needs Allocation*

The RHNA is mandated by state housing law as part of the periodic process of updating housing elements of local general plans. State law requires that housing elements identify RHNA targets set by HCD to

## 5. Environmental Analysis POPULATION AND HOUSING

encourage each jurisdiction in the state to provide its fair share of very low, low, moderate, and upper income housing. The RHNA does not promote growth, but provides a long-term outline for housing within the context of local and regional trends and housing production goals.

SCAG determines total housing need for each community in southern California based on three general factors: 1) the number of housing units needed to accommodate future population and employment growth; 2) the number of additional units needed to allow for housing vacancies; and 3) the number of very low, low, moderate, and above moderate income households needed in the community. Additional factors used to determine the RHNA include tenure, the average rate of units needed to replace housing units demolished, and other factors.

The City of Tustin’s RHNA allocation for the 2013–2021 period was approved in 2012 and is shown in Table 5.5-6. The City is required to ensure that sufficient sites planned and zoned for housing are available to accommodate its need and to implement proactive programs that facilitate and encourage the production of housing commensurate with its housing needs.

**Table 5.5-6 City of Tustin Regional Housing Needs Allocation for 2013–2021**

Income Category	Definition	RHNA	
		Number of Units	Percentage
Very Low <sup>1</sup>	50% or Less of MFI <sup>2</sup>	283	23.1
Low	51–80% of MFI	195	15.9
Moderate	81–120% of MFI	224	18.3
Above Moderate	above 120% of MFI	525	42.8%
<b>Total</b>		<b>1,227</b>	<b>100%</b>

Source: City of Tustin 2013.

<sup>1</sup> Includes Extremely Low

<sup>2</sup> MFI = median family income

The housing element demonstrates that the City can accommodate its RHNA allocation through the construction of planned residential projects and utilization of its inventory of appropriate housing sites.

### Employment

Table 5.5-7 shows the City’s workforce by occupation and industry. According to estimates calculated by the U.S. Census for the five-year period between 2010 and 2014 (the most recent period for which data are available), the City of Tustin had an employed civilian labor force (16 years and older) of 39,466. The largest occupational category is “management, business, science, and arts occupations,” which accounts for 40.3 percent of the civilian jobs available in the City (U.S. Census 2016a). During the period between 2010 and 2014, Tustin’s workforce was approximately 2.7 percent of Orange County’s employed civilian workforce of 1,478,643. It is worth noting that these statistics describe the employment status of Tustin residents and do not account for the many employees who work in Tustin but live elsewhere.

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**Table 5.5-7 Existing Tustin Employment by Business Sector, 2010–2014**

Occupation/Industry	Number	Percent
<b>Occupation</b>		
Management, business, science, and arts occupations	15,916	40.3
Service occupations	7,282	18.5
Sales and office occupations	9,767	24.7
Natural resources, construction, and maintenance occupations	2,444	6.2
Production, transportation, and material moving occupations	4,057	10.3
<b>Total</b>	<b>39,466</b>	<b>100%</b>
<b>Industry</b>		
Agriculture, forestry, fishing and hunting, and mining	202	0.5
Construction	1,990	5.0
Manufacturing	5,329	13.5
Wholesale trade	1,141	2.9
Retail trade	4,510	11.4
Transportation and warehousing, and utilities	820	2.1
Information	1,008	2.6
Finance and insurance, and real estate and rental and leasing	4,108	10.4
Professional, scientific, and management, and administrative and waste management services	5,614	14.2
Educational services, and health care and social assistance	7,751	19.6
Arts, entertainment, and recreation, and accommodation and food services	4,306	10.9
Other services, except public administration	1,776	4.5
Public administration	911	2.3
<b>Total</b>	<b>39,466</b>	<b>100%</b>

Source: U.S. Census 2016a and 2016b.

Note: Employment figures count civilian employees that are 16 years and over only.

### *Employment Trends*

According to the California Employment Development Department, Tustin lost jobs in the late 2000s consistent with the national recession seen throughout the region and state. However, as shown in Table 5.5-8<sup>1</sup>, the City and County have both experienced healthy job growth since 2011. As shown in the table, Tustin's employment growth trend closely follows that of Orange County.

<sup>1</sup> Employment estimates in Table 5.5-8 reflect the employment of County and City residents and cannot be subtracted from SCAG forecasts in Table 5.5-3 to calculate projected increases in employment, because the SCAG forecasts reflect total employment in the County and City. Therefore, they represent two different sets of data.

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**Table 5.5-8 Historic Employment Growth Trends in Orange County and Tustin**

Year	Orange County		City of Tustin	
	Total Employment (Persons) <sup>1</sup>	Percent Change	Total Employment (Persons) <sup>1</sup>	Percent Change
2000	1,430,100	N/A	37,300	N/A
2001	1,452,100	1.5	38,000	1.9
2002	1,449,500	-0.2	38,100	0.3
2003	1,472,500	1.6	38,800	1.8
2004	1,502,700	2.1	39,400	1.5
2005	1,526,600	1.6	40,000	1.5
2006	1,543,500	1.1	40,500	1.3
2007	1,543,700	0.0	40,400	-0.2
2008	1,529,700	-0.9	40,100	-0.7
2009	1,451,700	-5.1	37,900	-5.5
2010	1,387,400	-4.4	36,300	-4.2
2011	1,406,400	1.4	37,100	2.2
2012	1,441,400	2.5	38,300	3.2
2013	1,465,900	1.7	38,900	1.6
2014	1,491,800	1.8	40,300	3.6
2015	1,525,600	2.3	41,200	2.2

Source: EDD 2016.

<sup>1</sup> Employment is defined as the number of individuals, aged 16 years or older, who are working.

### 5.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- P-1 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).
- P-2 Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- P-3 Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold P-2
- Threshold P-3

These impacts impact will not be addressed in the following analysis.

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### POPULATION AND HOUSING

#### 5.5.3 Environmental Impacts

##### 5.5.3.1 SUMMARY OF IMPACTS ASSOCIATED WITH THE ADOPTED SPECIFIC PLAN

The 2001 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 2001 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 2001 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 2001 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 2001 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) prepared by the Center for Demographic Research (CDR) at California State University, Fullerton. 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.

##### 5.5.3.2 ENVIRONMENTAL IMPACTS OF THE MODIFIED PROJECT

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.5-1: Like the Adopted Specific Plan, the Modified Project would directly induce population growth in the project area. [Threshold P-1]**

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*Impact Analysis:* As shown in Table 3-2 of this DSEIR, implementation of the Adopted Specific Plan would result in the construction of 4,601 residential units and 11,287,725 square feet of nonresidential building space. Implementation of the Modified Project would result in the construction of 6,813 residential units and 9,532,419 square feet of nonresidential building space. The difference between these two scenarios represents an overall increase of 2,212 dwelling units and a decrease of 1,755,306 square feet of building space.

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### Population Growth

The Modified Project 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 2015 was estimated to be 3.03 persons (DOF). The vacancy rate in the City of Tustin in 2015 was estimated at 2.5 percent (DOF 2016b). Thus, the average number of persons per housing unit in the City of Tustin in 2015 is estimated as the average household size (3.03 persons) times the occupancy rate (97.5 percent), or 2.95 persons. Therefore, buildout of the Modified Project would increase the project area’s population by an estimated 6,526 additional residents compared to the Adopted Specific Plan, which was estimated to generate 9,374 residents (BonTerra Consulting 2006). This represents an increase of 69.6 percent increase from the Adopted Specific Plan.

Table 5.5-9 shows estimated buildout populations for the Adopted Specific Plan and Modified Project, as well as projections for Tustin prepared by CDR and SCAG.

**Table 5.5-9 Estimated Population Growth for the Adopted Specific Plan and Modified Project**

Scenario		Number of Residents	
Project Area	Adopted Specific Plan (per 2006 Addendum)	9,374	
	Modified Project	Population Generated by Additional Units	6,526
		Total Population	15,900
City of Tustin	Existing Conditions (2015) <sup>1</sup>	80,968	
	CDR Projections (OCP 2010)	2020	81,310
		2025	83,534
		2030	83,944
		2035	82,878
	SCAG Projection	2035	83,100
		2040	83,000
Tustin General Plan <sup>2</sup>	Buildout	89,177	

Sources: City of Tustin 2013; SCAG 2012; CDR 2011.

<sup>1</sup> Although 2016 estimates are available for some datasets, 2015 estimates are used here since 2015 was considered “existing conditions” at the time the Notice of Preparation for the Modified Project was released for public review.

<sup>2</sup> Based on 30,186 units (per 2013–2021 Housing Element), a household size of 3.03 persons, and an occupancy rate of 97.5 percent.

SCAG forecasts that Tustin’s population will be 83,100 in 2035 and 83,000 in 2040 (SCAG 2016), a net increase of 2,132 residents and 2,032 residents, respectively, compared to existing conditions in 2015. These projections closely mirror those prepared by CDR, which estimated Tustin’s population at approximately 82,878 in 2035, an increase of 1,910 residents. Housing unit projections in the housing element of the Tustin General Plan predict that buildout of the General Plan would result in 30,186 total dwelling units in Tustin. Using a household size of 3.03 persons and an occupancy rate of 97.5 percent—the same rates used to calculate buildout of the Modified Project—this would represent a buildout population of approximately 89,177 residents, or 8,209 more residents than in 2015.

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### POPULATION AND HOUSING

The additional 6,526 residents that would be generated in Tustin upon buildout of the Modified Project would exceed the amount of growth anticipated to occur in the City by regional projections: 4,616 more residents than CDR projections for 2035, 4,394 more residents than SCAG's projection for 2035, and 4,494 more residents than SCAG's projection for 2040. Furthermore, additional residents generated by the Modified Project compared to those generated by the Adopted Specific Plan would represent 79.5 percent of the population growth anticipated for buildout of the City by the Tustin General Plan. Based on all three of these metrics, the Modified Project would induce substantial growth in the area beyond that studied in the Certified EIR. However, Orange County remains a jobs-rich region, and housing proposed by the Modified Project would result in a beneficial impact to the region related to the balance of jobs and housing. The topic of jobs-housing balance is analyzed further in the following subsection.

#### **Relationship between Jobs and Housing**

The jobs-housing ratio is a general measure of the total number of jobs to housing units in a defined geographic area, without regard to economic constraints or individual preferences. The balance of jobs and housing in an area—in the total number of jobs and housing units as well as the type of jobs versus the price of housing—has implications for mobility, air quality, and the distribution of tax revenues.

Jobs-housing balance is somewhat of an artificial construct, since even in a “balanced” community, in- and out-commuting between it and other parts of a region are to be expected. However, the jobs-housing ratio is one indicator of a project's effect on growth and quality of life in the project area. Furthermore, although full jobs-housing balance may not be an appropriate goal for the City of Tustin, analysis of the relationship between jobs and housing at the regional level is useful because it takes into account regional commuting patterns and regional land use patterns.

SCAG applies the jobs-housing ratio at the regional and subregional levels to analyze the fit between jobs, housing, and infrastructure. A major focus of SCAG's regional planning efforts has been to improve this balance. No ideal jobs-housing ratio has been adopted in state, regional, or city policies; jobs-housing goals and ratios are advisory only. SCAG applies the jobs-housing ratio at the regional and subregional level as a tool for analyzing the fit between jobs, housing, and infrastructure. The American Planning Association (APA) is an authoritative resource for community planning best practices, including recommendations for assessing jobs-housing ratios. Although the APA recognizes that an ideal jobs-housing ratio will vary from jurisdiction to jurisdiction, its recommended target is about 1.5, with a recommended range of 1.3 to 1.7 (Weltz 2003). A well-balanced ratio of jobs and housing reduces commuting trips because more employment opportunities are closer to residential areas. Such a reduction in vehicle trips lowers air pollutant emissions (including lower greenhouse gas emissions) and causes less congestion on area roadways and intersections.

#### ***Project Area Jobs-Housing Ratio***

As shown in Table 5.5-10, buildout of the Modified Project would result in a jobs-housing ratio of 2.76. Although both scenarios are exceptionally jobs-rich, the Modified Project is substantially more balanced than the Adopted Specific Plan, which had a jobs-housing ratio of 5.11.

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**Table 5.5-10 Project Area Jobs-Housing Balance**

Scenario	Jobs <sup>1</sup>	Units	Jobs-Housing Ratio
Adopted Specific Plan	23,621	4,621	5.11
Modified Project	18,802	6,813	2.76

Source: BonTerra Consulting 2013.

<sup>1</sup> Assumes 507 square feet per employee (Natelson 2001).

*City of Tustin Jobs-Housing Ratio*

Table 5.5-11 compares housing and employment for the City of Tustin under the Adopted Specific Plan and Modified Project to SCAG’s projections for the City. As shown in the table, buildout of both project scenarios would result in a more jobs-rich community compared to existing conditions. But when combined with existing jobs and housing units, the jobs and units proposed by the Modified Project would result in a more balanced ratio of jobs and housing (1.76) compared to the ratio that would result from buildout of the Adopted Specific Plan (2.03).

**Table 5.5-11 City of Tustin Jobs-Housing Balance**

Scenario	Jobs	Units	Jobs-Housing Ratio	
Existing Conditions	41,200	27,262	1.51	
Existing Conditions plus Adopted Specific Plan	64,821	31,883	2.03	
Existing Conditions plus Modified Project	60,002	34,075	1.76	
SCAG Estimates <sup>1</sup>	2035	64,600	28,513 <sup>1</sup>	2.27
	2040	66,400	28,615 <sup>1</sup>	2.32

Sources: BonTerra Consulting 2013; DOF 2016b; SCAG 2016.

<sup>1</sup> Calculated using the projected number of households and the existing vacancy rate of 2.5 percent.

The 2035 and 2040 SCAG projections for Tustin shown in Table 5.5-11 demonstrate that the City is anticipated to become more jobs-rich with or without the Modified Project.

*Orange County Jobs-Housing Ratio*

Table 5.5-12 compares housing and employment for the County under the Adopted Specific Plan and Modified Project to SCAG’s projections. As shown in the table, buildout of both project scenarios would have little effect on the County’s jobs-housing ratio.

**Table 5.5-12 Orange County Jobs-Housing Balance**

Scenario	Jobs	Units	Jobs-Housing Ratio	
Existing Conditions	1,525,600	1,069,450	1.43	
Existing Conditions plus Adopted Specific Plan	1,549,221	1,074,071	1.44	
Existing Conditions plus Modified Project	1,544,402	1,076,263	1.43	
SCAG Estimates <sup>1</sup>	2035	1,870,500	1,106,918 <sup>1</sup>	1.69
	2040	1,898,900	1,123,493 <sup>1</sup>	1.69

Sources: BonTerra Consulting 2013; DOF 2016b; SCAG 2016.

<sup>1</sup> Calculated using the projected number of households and the existing vacancy rate of 2.5 percent.

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### POPULATION AND HOUSING

The 2035 and 2040 SCAG projections for Tustin shown in Table 5.5-12 demonstrate that the City is anticipated to become more jobs-rich in the future. Because the housing and population growth proposed by the Modified Project is less than the growth projected under buildout of the Tustin General Plan (see Table 5.5-8) and SCAG projections take into account growth planned by local jurisdictions, the Modified Project would not be expected to have a noticeable effect on the County's future balance between jobs and housing. The Modified Project, like the Adopted Specific Plan, would create substantial new employment opportunities in the County while also providing a complementary amount of housing.

#### **Consistency with SCAG's 2016–2040 RTP/SCS**

As identified in Table 5.3-2 in Section 5.3, *Land Use and Planning*, of this DSEIR, implementation of the Modified Project would be consistent with applicable goals of the 2016–2040 RTP/SCS. Additionally, as discussed in Section 5.3, a portion of the project area is identified as a high quality transit area (HQTA) in the RTP/SCS, including the corridor along Edinger Avenue (SCAG 2016). An HQTA is a walkable transit village or corridor that is within one-half-mile of a well-served transit corridor. The purpose of identifying these areas is to balance employment, housing, and services on a regional level to reduce vehicle miles traveled, reduce air pollutant emissions, enhance livability, expand prosperity, and increase sustainability in the SCAG region.

The Modified Project is consistent with the HQTA map because it encourages a broad mix of uses, including residential uses and employment-generating nonresidential land uses. The Modified Project would increase livability by providing higher density housing and commercial opportunities along corridors where a range of transportation modes are available. By creating job opportunities near housing, the project creates an opportunity to reduce vehicle miles traveled by commuters. The proposed General Plan is consistent with SCAG's vision for the area and proposed implementation of the HQTA goals because it accommodates population growth in the SCAG region, encourages growth in existing and emerging centers and along major transportation corridors, encourages mixed-use opportunities, and promotes employment opportunities in the housing-rich region.

#### **Conclusion**

The Modified Project, like the Adopted Specific Plan, would both directly and indirectly induce population growth in the City and County. However, the Modified Project represents a more balanced ratio of jobs and housing in the project area (see Table 5.5-10) and in the City (see Table 5.5-11) compared to buildout of the Adopted Specific Plan. The comparatively more housing-rich Modified Project is also consistent with SCAG's intent to place more housing in jobs-rich portions of Orange County, which as a whole is jobs-rich. Therefore, implementation of the Modified Project would result in a less than significant impact relating to population growth.

#### **5.5.4 Cumulative Impacts**

Because it analyzes the long-term impacts of the Modified Project on the greater City of Tustin and Orange County, the analysis under Impact 5.5-1, above, is inherently a discussion of cumulative impacts. Like the Adopted Specific Plan, implementation of the Modified Project would induce physical growth that, combined

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with other growth in the region, would grow the City and County's population. However, as discussed above, the Modified Project would create a greater balance between jobs and housing compared to buildout of the Adopted Specific Plan, and the Modified Project would not have an adverse effect on the overall region's balance of jobs and housing.

### 5.5.5 Existing Regulations and Standard Conditions

- California Housing Code Sections 65580 to 65589: Housing Element Requirements
- 2016-2040 RTP/SCS
- 2013-2021 City of Tustin Housing Element

### 5.5.6 Level of Significance Before Mitigation

The following impacts would not result in new significant impacts or substantially increase the severity of impacts identified for the Adopted Specific Plan: Impact 5.5-1.

### 5.5.7 Mitigation Measures

No mitigations were identified in the FEIS/EIR related to population and housing and no mitigation measures are required.

### 5.5.8 Level of Significance After Mitigation

No significant adverse impacts related to population and housing were identified, and no mitigation is necessary. This is consistent with the findings identified in the FEIS/EIR for the Adopted Specific Plan. Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to population and housing.

### 5.5.9 References

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### 5.6 PUBLIC SERVICES

This section addresses impacts related to school services. Public and private utilities and service systems are addressed in Section 5.8. The Initial Study, included as Appendix A, substantiates that impacts associated with fire protection services, police protection services, parks, and library services would be less than significant. Therefore, these topics are not addressed in the following analysis and this section analyzes impacts to school services. Although Irvine Unified School District (IUSD) and Santa Ana Unified School District (SAUSD) serve a portion of the Specific Plan area, they do not serve the portion of the project area affected by the Modified Project. Therefore, additional information on these school districts is limited to updating the existing conditions and documenting the previous environmental findings. The impact analysis addresses the Modified Project's impact to the Tustin Unified School District (TUSD).

#### 5.6.1 School Services

##### 5.6.1.1 REGULATORY SETTING

###### School Impact Fees

To assist in providing school facilities to serve students generated by new development projects, the State passed Assembly Bill (AB) 2926 in 1986. This bill allows school districts to collect impact fees from developers of new residential and commercial/industrial building space. Development impact fees are also referenced in the 1987 Leroy Greene Lease-Purchase Act, which requires school districts to contribute a matching share of costs for construction, modernization, and reconstruction projects.

Senate Bill (SB) 50, which passed in 1998, provides a comprehensive school facilities financing and reform program, and enables a statewide bond issue to be placed on the ballot. The provisions of SB 50 allow the state to offer funding to school districts to acquire school sites, construct new school facilities, and modernize existing school facilities. SB 50 also establishes a process for determining the amount of fees developers may be charged to mitigate the impact of development on school facilities resulting from increased enrollment. Under this legislation, a school district could charge fees above the statutory cap only under specified conditions, and then only up to the amount of funds that the district would be eligible to receive from the state. According to Section 65996 of the California Government Code, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation."

SB 50 establishes three levels of developer fees that may be imposed upon new development by the governing board of a school district depending upon certain conditions within a district:

- **Level 1:** Level 1 fees are the base statutory fees. These amounts are the maximum that can be legally imposed upon new construction projects by a school district unless the district qualifies for a higher level of funding.

Pursuant to Section 65995 of the California Government Code, as of January 2008, the statutory maximum Level 1 school fees that may be levied by a school district on new development are \$3.36 per assessable square foot of residential construction and \$0.54 per square foot of enclosed and covered

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space for commercial/industrial development. These rates are established by the State Allocation Board and may be increased to adjust for inflation based on a statewide cost index for Class B construction. To implement Level 1 fees, the governing board of a school district must adopt a nexus study linking development impacts and the need for construction of new facilities. Although not standard, such studies are frequently referred to as developer fee justification studies.

- **Level 2:** Level 2 fees allow the school district to impose developer fees above the statutory level, up to 50 percent of new school construction costs. To implement Level 2 fees, the governing board of the school district must adopt a school facilities needs analysis (SFNA) and meet other prerequisites in accordance with Section 65995.6 of the California Government Code.

The SFNA determines the need for new school facilities attributable to growth from new residential development (California Government Code § 65995.6). It documents that the district has met prerequisite eligibility tests and calculates the fee per square foot of new development. If the school district is eligible for state new construction funding, the state will match the Level 2 fees if funds are available. According to the Office of Public School Construction, although they are currently not being released for funding school facilities, state funds for new school construction are available from existing bond measures.

- **Level 3:** School districts' ability to levy Level 3 fees was suspended by SB 1016 effective June 25, 2012.<sup>1</sup>

SB 50 also relieves jurisdictions of the authority to deny approval of a legislative or adjudicative action under CEQA based upon the inadequacy of school facilities. Although the increased demand for school facilities would result in substantial impact, payment of impact fees in compliance with SB 50 reduces impacts to an acceptable level.

Effective May 29, 2012, TUSD collects \$3.20 per square foot for building residential additions and \$4.08 per square foot for new residential construction, and \$0.51 per square foot for commercial and industrial development.

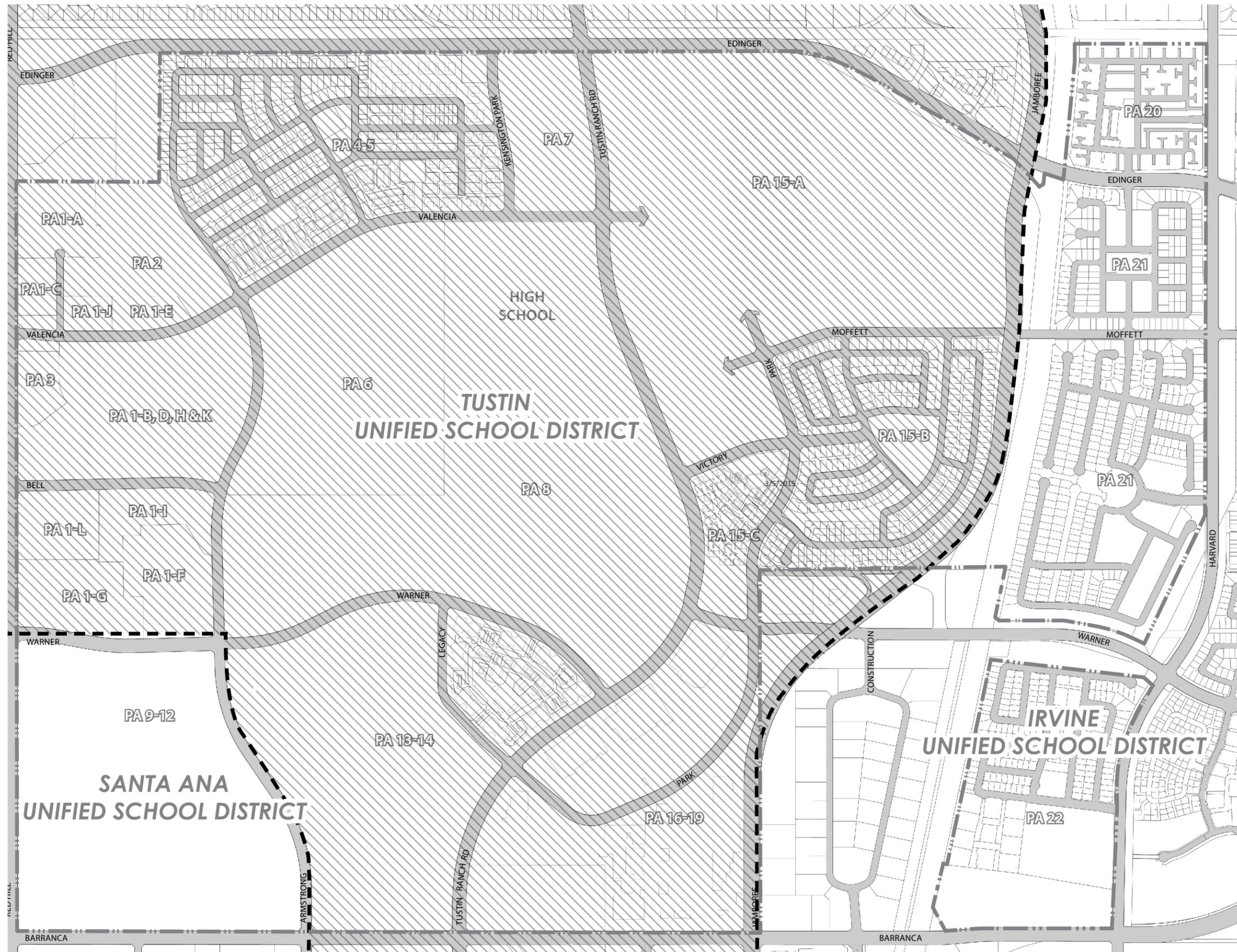
#### 5.6.1.2 ENVIRONMENTAL SETTING

As shown in Figure 5.6-1, *School District Service Areas*, the project area is within the service areas of TUSD, IUSD, and SAUSD. TUSD serves the majority of the Specific Plan area, including Planning Areas 1; 2; 4-5; 6; 7; 8, 13-14; 15; 16-19. IUSD serves development east of Jamboree Road (Planning Areas 20, 21, and 22). SAUSD serves Planning Area 9-12.

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<sup>1</sup> SB 1016 is Chapter 38, Statutes of 2012.

**School District Service Areas**



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

CITY OF TUSTIN  
TUSTIN LEGACY SPECIFIC PLAN  
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### Tustin Unified School District

TUSD's approximately 24-square-mile service boundaries include the City of Tustin, portions of Santa Ana, unincorporated areas of Orange County (North Tustin), and portions of Irvine. The District serves approximately 24,000 students in 18 elementary schools, six middle schools, three comprehensive high schools, and one continuation high school. Table 5.6-1 summarizes the current enrollment at TUSD schools.

**Table 5.6-1 Current Enrollment at TUSD Schools**

School/Location	Location	Address	Grade Levels	2015-2016 Enrollment
<b>Elementary Schools</b>				
Arroyo	North Tustin (unincorporated)	11112 Coronel Rd.	K-5	640
Barbara Benson	Tustin	3588 Bryan Ave.	K-5	371
Benjamin Beswick	Tustin	12712 Elizabeth Way	K-5	638
Helen Estock	Tustin	14741 North B St.	K-5	350
Guin Foss	North Tustin (unincorporated)	18492 Vanderlip Ave.	K-5	432
Robert Heideman	Tustin	15571 Williams St.	K-5	641
Hicks Canyon	Irvine	3817 Viewpark Ave.	K-5	936
Ladera	Tustin	2515 Rawlings Way	K-5	381
C.C. Lambert	Tustin	1151 San Juan St.	K-5	426
Loma Vista	Santa Ana	13822 Prospect Ave.	K-5	534
Myford	Irvine	3181 Trevino Dr.	K-5	727
W.R. Nelson	Tustin	14392 Browning Ave.	K-5	617
Peters Canyon	Tustin	26900 Peters Canyon Rd.	K-5	560
Red Hill	North Tustin (unincorporated)	11911 Red Hill Ave.	K-5	590
Jean Thorman	Tustin	1402 Sycamore Ave.	K-5	572
Tustin Connect Center	Tustin	15400 Lansdowne Rd.	K-8 <sup>1</sup>	42
Tustin Memorial Academy	Santa Ana	12712 Browning Ave.	K-5	618
Tustin Ranch	Tustin	12950 Robinson Dr.	K-5	654
Marjorie Veeh	Tustin	1701 San Juan St.	K-5	381
<b>Subtotal</b>				<b>10,110</b>
<b>Middle Schools</b>				
Columbus Tustin	Tustin	17952 Beneta Way	6-8	907
A.G. Currie	Tustin	1402 Sycamore Ave.	6-8	776
Hewes	Santa Ana	13232 Hewes Ave.	6-8	983
Orchard Hills	Irvine	11555 Culver Dr.	5-8	1,156
Pioneer	Tustin	2700 Pioneer Rd.	6-8	1,286
C.E. Utt	Tustin	13601 Browning Ave.	6-8	949
<b>Subtotal</b>				<b>6,057</b>
<b>High Schools</b>				
Arnold O. Beckman	Irvine	3588 Bryan Ave.	9-12	2,847
Hillview	Tustin	1151 San Juan Street <sup>2</sup>	9-12	225
Foothill	Santa Ana	19251 Dodge Ave.	9-12	2,510

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**Table 5.6-1 Current Enrollment at TUSD Schools**

School/Location	Location	Address	Grade Levels	2015-2016 Enrollment
Tustin	Tustin	1171 El Camino Real	9-12	2,287
Sycamore/Tustin Adult School	Tustin	1151 San Juan Street <sup>2</sup>	9-12	22
<b>Subtotal</b>				<b>7,891</b>
<b>TOTAL</b>				<b>24,079</b>

Source: CDE 2017.

<sup>1</sup> Tustin Connect Center, an online/independent study school, will expand to a K-12 program in the 2017-18 school year.

<sup>2</sup> Hillview Continuation High School and Sycamore High School (independent study)/Tustin Adult School recently moved from the former Heritage Elementary School campus to 1151 San Juan Street in Tustin, opposite San Juan Street from Tustin High School.

As shown in Table 5.6-1, TUSD currently serves 10,110 elementary students, 6,057 middle school students, and 7,891 high school students.

Table 5.6-2 shows the capacity, current enrollment, and remaining capacity at schools currently serving the project area and approved future schools.

**Table 5.6-2 Capacities and Enrollments of TUSD Schools Serving the Project Area**

	Capacity	Enrollment	Remaining Capacity
<b>Existing Schools</b>			
Veeh Elementary School (K-5)	602	381	221
Currie Middle School	889	776	113
Tustin Connect Center	600	42	558
Tustin High School	2,583	2,287	296
<b>Subtotal</b>	<b>4,674</b>	<b>3,486</b>	<b>1,188</b>
<b>Planned Schools</b>			
6-12 Legacy Academy	1,200-1,400	-	1,200-1,400
Heritage K-5 School Expansion	300	-	300
<b>Subtotal</b>	<b>1,500-1,700</b>	<b>-</b>	<b>1,500-1,700</b>
<b>TOTAL</b>	<b>6,074</b>	<b>-</b>	<b>2,688</b>

Source: CDE 2015.

#### *Tustin Connect Center (Heritage School)*

The project site currently features Tustin Connect Center, a K-8 school completed in 2011. The school includes six school buildings spanning a total of 40,000 square feet, hardcourts, turf playfield, kindergarten playfield, parking lot (104 spaces), and drop-off areas. Tustin Connect Center was originally constructed to serve up to 600 students that were anticipated to be generated in the Tustin Legacy Specific Plan area. However, the downturn in housing development resulting from the national recession failed to generate a sufficient number of K-5 students to justify the school's opening and TUSD temporarily used the school it to accommodate various educational and administrative functions. These functions included relocation of Sycamore High School/Tustin Adult School (13780 Orange Street, Tustin), Hillview High School (19061 Foothill Boulevard, Tustin), and TUSD's administrative offices (300 South C Street, Tustin). Students from

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the Specific Plan area attended other schools in the District (i.e., Barbara Benson and Marjorie Veeh elementary schools). Tustin Connect Center recently opened as an online/independent study K-8 school offering a flexible combination of learning at home and on-campus learning and began accepting enrollment in 2016. The school will expand to a K-12 program in the 2017-18 school year (TUSD 2017).

### **Irvine Unified School District**

IUSD serves a 53-square mile area that is, with a few exceptions, largely coterminous with the City of Irvine. The district educates approximately 30,000 K-12 students in 24 elementary schools, six middle schools, four comprehensive high schools, and one continuation high school. IUSD schools are consistently among the highest rated schools in the state; they have earned the California Distinguished School designation 61 times since 1986 (IUSD 2014).

### **Santa Ana Unified School District**

SAUSD provides school services to a 24-square mile area that includes most of the City of Santa Ana and portions of Costa Mesa, Irvine, Newport Beach, and Tustin. The district serves approximately 56,000 students at 36 elementary schools, nine middle schools, seven comprehensive high schools, three alternative high schools, and six special or charter schools. SAUSD is the sixth largest school district in California and the largest in California (SAUSD 2015).

#### **5.6.1.3 THRESHOLDS OF SIGNIFICANCE**

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- SS-1 Result in a substantial adverse physical impact associated with the provisions 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 school services.

#### **5.6.1.4 ENVIRONMENTAL IMPACTS**

##### **Summary of Impacts Associated with the Adopted Specific Plan**

###### *Tustin Unified School District*

The 2001 FEIS/EIR determined that the project would generate a total of 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

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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 5.6-3, and TUSD confirmed that these rates would also apply to the balance of the Specific Plan area.

**Table 5.6-3 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.

The 2006 Addendum used the generation rates provided in Table 5.6-3 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 2001 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 Adopted Specific Plan includes 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 2001 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 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 2001 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.

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**Environmental Impacts of the Modified Project**

*Methodology*

Although IUSD and SAUSD serve a portion of the Specific Plan area, they do not serve the portion of the project area affected by the Modified Project. Therefore, the impact analysis focuses on impacts to TUSD since all of the increase in dwelling units would occur within TUSD boundaries.

**Impact 5.6-1: The Modified Project would generate new students within TUSD boundaries. [Threshold SS-1]**

**Impact Analysis:** Buildout of the Modified Project would result in the construction of 6,813 total residential units in the Specific Plan Area. Overall, this represents an increase of 2,212 units when compared to the 4,601 units allowed under the Adopted Specific Plan. Assuming the potential for density bonus units, the Modified Project would result in the potential addition of 2,722 dwelling units<sup>2</sup> within the TUSD boundaries.

Using the student generation rates found in Table 5.6-3, the additional residential units have the potential to generate about 1,250 additional students within TUSD boundaries. Table 5.6-4, below, summarizes the number of students that would be generated by different residential unit types.

**Table 5.6-4 Project-Related Student Generation**

	Generation Rate	Units	Students
<b>K-8 Students</b>			
Single-Family Detached	0.465	575	267
Single-Family Attached	0.219	537	118
Apartments	0.350	1,610	564
<b>Subtotal</b>	—	<b>2,722</b>	<b>949</b>
<b>High School Students</b>			
Single-Family Detached	0.135	575	78
Single-Family Attached	0.077	537	41
Apartments	0.113	1,610	182
<b>Subtotal</b>	—	<b>2,722</b>	<b>301</b>
<b>TOTAL</b>	—	—	<b>1,250</b>

Source: Tustin 2006; PlaceWorks 2016.

Note: Assumes 575 single-family attached units with the remaining units to be divided with 75 percent to apartments (which has a higher student generation rate) and 25 percent to single-family attached to provide a conservative estimate.

The addition of 1,250 students to the schools serving the project area has the potential to exceed the available capacity for some schools if all development were to occur at the time of project approval. As shown on Tables 5.6-2 and 5.6-4, buildout of the Specific Plan could generate 949 K-8 students and 301 high school students, which represents 57 K-8 and 5 high school students over the available existing capacity. However, buildout of the Specific Plan is expected to occur incrementally over a 20 year period. Assuming a maximum

<sup>2</sup> This total includes units that have already been constructed, including 180 of the 1,075 units in Planning Area 4-5, and 33 of the 1,247 units in the Standard Pacific community in Planning Area 15.

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of 50 percent of the additional units could be built at any one time, TUSD schools serving the project area would have available remaining capacity to serve the increase in student population. Additionally, TUSD approved the Tustin Legacy School Facilities Project which would add an additional capacity for 300 K-8 students by Year 2020 and 1,200-1,400 6-12 students from 2019 through project buildout, as described in more detail below. Therefore, impacts would be less than significant and no new significant impacts would occur.

The need for additional services is addressed through compliance with school impact fee assessment. SB 50 (Chapter 407 of Statutes of 1998) sets forth a state school facilities construction program that includes restrictions on a local jurisdiction's ability to condition a project on mitigation of a project's impacts on school facilities in excess of fees set forth in Education Code Section 17620. These fees are collected by school districts at the time of issuance of building permits for commercial, industrial, and residential projects.

### Proposed School Facilities

Several school facilities are planned for the Specific Plan area, including an expansion of the existing Heritage School enrollment capacity from 600 students to 900 students; development of a 40.03-acre site to house Legacy Academy, a 6–12 magnet science, technology, engineering and math (STEM) school; development of an alternative education facility, and possible development of additional District administrative facilities. TUSD adopted the Tustin School Facilities Project on May 18, 2015.

#### *Heritage K–5 School (Tustin Connect Center)*

The Tustin Conn would be expanded to house an additional 300 students, from its original enrollment capacity of 600 K–5 students, for a total of 900 students. Expansion of the school would be completed in year 2020 and would involve installation of 12 portable classrooms totaling 11,520 square feet and walkways around the modular buildings.

#### *Legacy Academy Campus*

The proposed Legacy Academy would operate as a magnet STEM school, designed for approximately 1,200 to 1,400 students in grades 6 through 12, with an estimated 105,158 square feet of building area at buildout.

- **Phase I: Site Preparation.** Phase I includes site preparation and outdoor sport fields and equipment. Same as the Approved Project, the campus is assumed to include a track, sport fields, and nighttime lighting. Due to the academy's function as a STEM program and the limited size of the campus, the project does not include a football stadium.
- **Phase II: 9–12 STEM School (July 2019).** Phase II would include facilities totaling approximately 59,825 SF for grades 9–12 with 22 standard and support classrooms (26,400 SF), 8 STEM labs (13,300 SF), a gymnasium/multipurpose room (14,500 SF), and a locker/restroom building (5,625 SF). The main access and drop-off for the 6–8 facilities would be from the future Moffett Drive through an easement from the City's linear park to the south. It is anticipated that a secondary access would be provided from the future Kensington Park Drive on the west through a licensed driveway across City's property.

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- **Phase III: 6–8 STEM School (Beyond 2020).** Phase III would include facilities totaling approximately 45,333 square feet (SF) for grades 6–8 with 12 standard classrooms (14,400 SF); 8 STEM labs (13,000 SF); administrative building (5,268 SF); and kitchen/cafeteria (12,365 SF). It is assumed that a third access and parking lot would be provided from Kensington Park Drive. The date for Phase III construction has not been identified and depends on completion of Phase I and II development and future funding availability.
- **Phase IV: Alternative Education Program.** Phase IV includes a 15,000-square-foot facility with 12 classrooms would house approximately 384 alternative education students and 19 staff members. It is anticipated that access and parking would be separate from the 6–12 school facilities. Development of the alternative education program would occur subsequent to the 6–12 school facilities development, and the timing is unknown at this time, depending on funding availability.
- **Phase V: District Office.** The District may relocate District’s administrative offices and facilities from various locations to this site. The District facility would house approximately 175 employees in 50,000 square feet of building space. The District office would share site access with the alternative education program. District office development has the lowest priority of the facilities in Legacy Academy and would occur subsequent to or in concurrence with the alternative education program, if funding allows.

### 5.6.1.5 CUMULATIVE IMPACTS

The Modified Project and other development within the TUSD service area would generate additional students resulting in the need to expand or construct new schools. As school district enrollments expand, short-term and long-term plans must be made to accommodate the additional students. As stated above, the State Legislature provided authority for school districts to assess impact fees for both residential and nonresidential development projects. Fees collected in accordance with Education Code Section 17620(a) and Government Code Section 65995(b) allows TUSD to plan and construct for future growth. Although the fees are seldom adequate to accommodate the true costs incurred by affect districts to construct new facilities the Legislature has declared that the payment of those fees constitutes full mitigation for the impacts generated by new development, per Government Code Section 65995.

### 5.6.1.6 EXISTING REGULATIONS AND STANDARD CONDITIONS

Government Code Section 65995 requires individual applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts.

### 5.6.1.7 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

The following impacts would not result in new significant impacts or substantially increase the severity of impacts identified for the Adopted Specific Plan: Impact 5.6-1.

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#### 5.6.1.8 MITIGATION MEASURES

No mitigation measures are required.

#### 5.6.1.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to school services impacts. While the Modified Project would increase the number of students compared to the Adopted Specific Plan, it would not result in the substantial increase in severity of the previously identified impact. Like the Adopted Specific Plan, the Modified Project requires the payment of fees pursuant to Government Code Section 65995.

### 5.6.2 References

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Santa Ana Unified School District (SAUSD). 2015, March. Quick Facts. <http://www.sausd.us/domain/3>

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### 5.7 TRANSPORTATION AND TRAFFIC

This section of the supplemental environmental impact report (DSEIR) evaluates the potential for implementation of the Tustin Legacy Specific Plan Amendment (Modified Project) to result in transportation and traffic impacts in the project and surrounding area, including the cities of Tustin, Irvine, and Santa Ana. The traffic impact study was prepared in accordance with the City of Irvine's Irvine Transportation Analysis Model (ITAM) version 12.4, which is consistent with Orange County Transportation Authority (OCTA) guidelines.

The traffic study prepared for the 2001 FEIS/EIR used the most recent traffic modeling software available at the time of the analysis. Traffic forecasting data for the analysis was derived from the Central County Traffic Model, a subarea derivation of the Orange County Traffic Analysis Model (OCTAM). Socioeconomic data forecasts adopted by the County of Orange as OCP-96 Modified (July 1997) and quantified in OCTAM version 2.8 was used as the basis for the traffic forecasts. These tools provided an areawide set of demographic projections consistent with the local and regional forecast data. Traffic was evaluated for three time periods existing, year 2005, and year 2020.

Since the analysis was prepared for the 2001 FEIS/EIR, updated traffic models have been developed, which take into account the current circulation system, funded improvements, and updated local and regional growth projections. In order to provide a valid comparison of the Modified Project's traffic impacts to the Adopted Specific Plan, this traffic analysis shows the traffic impacts of the Adopted Specific Plan and Modified Projects using the updated traffic model—ITAM version 12.4.

The traffic study includes an assessment of traffic conditions for 66 intersections for the following time frames:

- Existing Conditions
- Existing Plus Project
- Year 2035 No-Project
- Year 2035 With-Project

The analysis in this section is based in part on the following technical report:

- *Draft Tustin Legacy Specific Plan Update Traffic Impact Study*, Stantec Consulting Services, March 8, 2017

A complete copy of this study is in Appendix E of this DSEIR.

#### 5.7.1 Environmental Setting

##### 5.7.1.1 REGULATORY BACKGROUND

The regulatory framework discusses the regulatory agencies/policies that affect transportation in the City of Tustin and the project area. Major policy documents impacting the transportation system in Tustin include laws at the state level and planning documents at a regional level

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#### State

##### *Assembly Bill 1358: The California Complete Streets Act*

The California Complete Streets Act (AB 1358) of 2008 was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 requires circulation elements to address the transportation system from a multimodal perspective. The bill states that streets, roads, and highways must “meet the needs of all users in a manner suitable to the rural, suburban, or urban context of the general plan.” Essentially, this bill requires a circulation element to plan for all modes of transportation where appropriate, including walking, biking, car travel, and transit.

The Complete Streets Act also requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled. AB 1358 tasks the Governor’s Office of Planning and Research (OPR) to release guidelines for compliance, which are so far undeveloped.

##### *Sustainable Communities and Climate Protection Act*

The Sustainable Communities and Climate Protection Act (SB 375) was signed into law on September 30, 2008. The SB 375 regulation provides incentives for cities and developers to bring housing and jobs closer together and to improve public transit. The goal behind SB 375 is to reduce automobile commuting trips and length of automobile trips, thus helping to meet the statewide targets for reducing greenhouse gas (GHG) emissions set by AB 32. SB 375 requires each metropolitan planning organization to add a broader vision for growth, called a “sustainable communities strategy” (SCS), to its transportation plan. The SCS must lay out a plan to meet the region’s transportation, housing, economic, and environmental needs in a way that enables the area to lower greenhouse gas emissions. The SCS should integrate transportation, land use, and housing policies to plan for achievement of the regional emissions target.

##### *Senate Bill 743*

On September 27, 2013, Senate Bill (SB) 743 was signed into law. The legislature found that with the adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the state had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of greenhouse gas emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32). Additionally, AB 1358, described above, requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users.

SB 743 started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes will include the elimination of auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts in many parts of California (if not statewide). As part of the new CEQA Guidelines, the new criteria “shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses” (Public Resources Code § 21099[b][1]). On January 20, 2016, the Governor’s Office of Planning and Research released revisions to its proposed CEQA guidelines for the implementation of SB743. Final review

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and rulemaking for the new guidelines are targeted for early 2017. Once the guidelines are prepared and certified, “automobile delay, as described solely by level of service of similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment” (Public Resources Code § 21099[b][2]). Certification and implementation of the guidelines are also expected in early 2017. Since the Governor’s Office of Planning and Research has not yet amended the CEQA Guidelines to implement this change, automobile delay is still considered a significant impact, and the City of Tustin will continue to use the established LOS criteria.

### **Regional**

#### *Southern California Association of Governments*

The Southern California Association of Governments’ 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) provides a regional transportation plan for six counties in Southern California: Orange, San Bernardino, Riverside, Los Angeles, Ventura, and Imperial. The primary goal of the regional transportation plan is to increase mobility for the region. With recent legislation, this plan also encompasses sustainability as a key principle in future development.

#### *Orange County Transportation Authority*

The Orange County Transportation Authority (OCTA) serves as transportation planner and coordinator, designer, builder, and operator for Orange County. OCTA funds improvements to all modes of transportation through several programs, including the Congestion Management Program (CMP). OCTA operates bus transit services throughout Orange County, including Tustin.

#### *Orange County Congestion Management Plan*

The Orange County Congestion Management Program (CMP) was established in 1991 to reduce traffic congestion and to provide a mechanism for coordinating land use and development decisions. Compliance with the CMP requirements ensures a city’s eligibility to compete for the State gas tax funds for local transportation projects.

As part of the CMP, a CMP Highway Network was identified for Orange County that consists of Orange County’s State highway system, and highway and arterials from OCTA’s Smart Street network. OCTA has implemented an Intersection Capacity Utilization (ICU) monitoring method, developed with technical staff members from local and State agencies, for measuring the Level of Service (LOS) at CMP Highway System (CMPHS) intersections.

The Congestion Management Plan (CMP) requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System. Per the CMP guidelines, this number is based on the desire to analyze any impacts that comprise 3 percent or more of the existing CMP highway system facilities’ capacity. Therefore, the CMP traffic impact analysis requirements relate only to the designated CMP highway system. Within the defined CMP highway network, CMPHS intersections are not allowed to deteriorate to a condition which is worse

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than LOS E or the base year LOS, if worse than E, without mitigation being prescribed in an acceptable deficiency plan.

CMP roadways include all freeways, tollways, select arterial roadways, and interchange ramp intersections. CMP roadways in the study area include Jamboree Road, Edinger Avenue, Irvine Boulevard, and SR-55, including all freeway ramps. There are 8 CMP intersections located within the study area of the Modified Project:

- SR-55 SB Ramps at Edinger Avenue
- Jamboree Road at Edinger Avenue – NB Ramp
- Jamboree Road at Edinger Avenue – SB Ramp
- SR-55 NB Ramps at Edinger Avenue
- I-405 NB Ramps at Jamboree Road
- I-405 SB Ramps at Jamboree Road
- I-5 NB Ramps at Jamboree Road
- I-5 SB Ramps at Jamboree Road

#### Local

##### *City of Tustin General Plan Circulation Element*

The City of Tustin circulation element (updated in 2013) governs the long-term mobility system in the City. The circulation element includes goals and policies that are closely correlated with the land use element and are intended to provide the best possible balance between the City's future growth and land use development, roadway size, traffic service levels, and community character. Applicable transportation plans, policies relating to transportation, and analysis of project consistency with each of the policies are included in Table 5.3-1, *General Plan Consistency Analysis*, in Section 5.3, *Land Use and Planning*.

#### 5.7.1.2 PERFORMANCE CRITERIA

The efficiency of traffic operations is measured in terms of level of service (LOS). The LOS refers to the quality of traffic flow along roadways and at intersections. Evaluation of roadways and intersections involves the assignment of grades from "A" to "F," with LOS A representing the highest level operating conditions and LOS F representing extremely congested and restricted operations.

#### Intersections

Peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU value translates to an LOS estimate. Descriptions of the LOS letter grades for signalized intersections and the relationship between the various volume-to-capacity (V/C) ratios are provided in Table 5.7-1.

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The minimum acceptable level of service for CMP intersections in the City of Tustin and in the Irvine Business Complex (IBC) is E. For all other intersections, D is the minimum acceptable LOS.

Intersections are considered significantly impacted if an unacceptable peak hour level of service is projected; or if it would cause the total ICU to increase by 0.02 or greater if the intersection is operating at an unacceptable LOS in the baseline conditions. Mitigation measures would be required to return the ICU value back to the “without project” condition.

### Freeway Ramp Intersections

Caltrans freeway ramp intersections are analyzed in this study using the Highway Capacity Manual (HCM) methodology for signalized intersections. In this methodology, the LOS at an intersection is determined based on the estimated average delay experienced by all traffic using the intersection. For unsignalized intersections, the LOS is determined based on the estimated average delay experienced by traffic at the approach with the highest delays. The vehicle delay ranges that correspond to LOS A through F, as specified in the HCM, are summarized in Table 5.7-1.

The LOS standard for freeway ramp intersections is D. For average delays greater than the acceptable level of service, mitigation of the project contribution is required to bring the intersection back to no-project conditions or better if project contribution is 2 seconds or greater.

**Table 5.7-1 Intersection Level of Service Descriptions**

LOS	Interpretation	Intersections Capacity Utilization (V/C)	HCM for Signalized Intersections (seconds)	HCM for Unsignalized Intersections (seconds)
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.	0.00–0.60	0.0–10.0	0.0–10.0
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.	0.61–0.70	10.1–20.0	10.1–15.0
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.	0.71–0.80	20.1–35.0	15.1–25.0
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.	0.81–0.90	35.1–55.0	25.1–35.0

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**Table 5.7-1 Intersection Level of Service Descriptions**

LOS	Interpretation	Intersections Capacity Utilization (V/C)	HCM for Signalized Intersections (seconds)	HCM for Unsignalized Intersections (seconds)
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.	0.90–1.00	55.1–80.0	35.1–50.0
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.	>1.00	>80.0	>50.0

Source: Stantec 2016.

### Freeway Mainlines

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.

Table 5.7-2 summarizes the V/C ranges that correspond to LOS A through F for freeway segments. The 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. The LOS standard for freeway main line segments is E. For V/C greater than the acceptable level of service, mitigation of the project contribution is required to bring a freeway main line location back to an acceptable level of service or to no-project conditions if the project contribution is greater than 0.03, which is the impact threshold specified in the Orange County CMP.

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**Table 5.7-2 Freeway Level of Service Descriptions**

LOS	Interpretation	V/C Ranges
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.	0.00–0.30
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.	0.31–0.50
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.	0.51–0.71
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.	0.72–0.89
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.	0.90–1.00
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.	Above 1.00

Source: Stantec 2016.

### Freeway Ramps

The level of service at freeway ramps is also based on the V/C and LOS relationships shown in Table 5.7-2. The LOS standard for freeway ramps is E. For V/C greater than the acceptable level of service, mitigation of the project contribution is required to bring the ramp back to an acceptable level of service or to no-project conditions if the project contribution is 0.02 or greater.

#### 5.7.1.3 EXISTING TRAFFIC CONDITIONS

The City of Tustin conducted traffic counts in 2014 in the Tustin Legacy Specific Plan study area. The peak hour ICU results for the intersections in the study area are summarized in Table 5.7-3. Detailed calculation worksheets are provided in Appendix A of the traffic study (Appendix E of this DSEIR). Table 5.7-3 shows that all intersections currently operate at acceptable levels of service, with LOS E or better (ICU is 1.00 or less) for locations in the Irvine Business Complex and CMP intersections in the city of Tustin, and LOS D or better (ICU is 0.90 or less) for the remaining intersections in the study area.

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**Table 5.7-3 Tustin Legacy: Existing LOS Summary**

Intersection Location (N/S Road at E/W Road)	Jurisdiction	AM Peak		PM Peak	
		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*	Tustin	0.47	A	0.62	B
5. SR-55 SB Ramps at Edinger Av.*	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.*	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.*	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.*	Irvine	0.51	A	0.68	B
29. Aston St. at Barranca Pkwy.*	Irvine/Tustin	0.39	A	0.42	A
30. Armstrong Av. at Barranca Pkwy.*	Irvine/Tustin	0.32	A	0.64	B
31. Tustin Ranch Rd./Von Karman Av. at Barranca Pkwy.*	Irvine/Tustin	0.67	B	0.75	C
32. Millikan Av. at Barranca Pkwy.*	Irvine/Tustin	0.36	A	0.55	A
33. Jamboree Rd. at Barranca Pkwy.*	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.*	Irvine	0.46	A	0.78	C
36. Von Karman Av. at Alton Pkwy.*	Irvine	0.80	C	0.86	D
37. Jamboree Rd. at Alton Pkwy.*	Irvine	0.66	B	0.82	D
38. Harvard Av. at Alton Pkwy.	Irvine	0.58	A	0.67	B

Source: Stantec 2016.

Notes: NB = northbound, SB = southbound

\* 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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### 5.7.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project could:

- T-1 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.
- T-2 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.
- T-3 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.
- T-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- T-5 Result in inadequate emergency access.
- T-6 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Thresholds T-3, T-4, T-5, and T-6

These impacts will not be addressed in the following analysis.

### 5.7.3 Environmental Impacts

#### 5.7.3.1 SUMMARY OF IMPACTS ASSOCIATED WITH THE ADOPTED PROJECT

The 2001 FEIS/EIR determined that Adopted Specific Plan buildout was estimated to generate 216,445 average daily vehicle trips (ADT). The Adopted Specific Plan buildout was forecast to result in potentially significant impacts to 16 intersections for long-range (Year 2020) conditions:

- Newport Av. at Edinger Av.
- Red Hill Av. at Edinger Av.
- Tustin Ranch Rd. at Walnut Av.
- Red Hill Av. at Warner Av.

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- Jamboree Rd. at Barranca Pkwy.
- Hutton Center Dr. at MacArthur Blvd.
- Grand Av. at Edinger Av.
- Grand Av. at Warner Av.
- Grand Av. at Dyer Rd.
- Lyon at Edinger Av.
- Standard at Edinger Av.
- Red Hill Av. at Main St.
- Von Karman Av. at Michelson Dr.
- Jamboree Rd. at Alton Blvd.
- Harvard Av. at Alton Av.
- Culver Dr. at Warner Av.

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. 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 were less than significant after mitigation. Additional mitigation measures required phased completion of roadway improvements onsite based on cumulative project-generated ADT. The 2001 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 2001 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 found that the project would eliminate 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 budget caps established by and agreed upon between the cities of Tustin, Santa Ana, and Irvine.

In summary, the FEIS/EIR (which includes the 2001 FEIS/EIR, 2004 Supplemental EIR, and 2006 Addendum) identified significant impacts at 16 intersections in addition to freeway ramp intersections.

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5.7.3.2 ENVIRONMENTAL IMPACTS OF THE MODIFIED PROJECT

Methodology

*Project Trip Generation*

The Modified Project’s trip generation was estimated using rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition. The forecast daily trip volumes for the Tustin Legacy Specific Plan area are summarized in Table 5.7-4.

**Table 5.7-4 Daily Trip Generation Comparison for Tustin Legacy Specific Plan Area (ADT)**

Land Use	Existing (2015)	Adopted Specific Plan	Modified Project	Project Difference
Neighborhood A	2,288	26,213	17,677	-8,536
Neighborhood B	7,140	16,114	15,721	-393
Neighborhood C	0	4,343	4,327	-16
Neighborhood D	3,544	84,029	103,097	19,068
Neighborhood E	0	17,975	17,656	-319
Neighborhood F	34,298	35,450	38,524	3,074
Neighborhood G	12,840	39,155	38,936	-219
Neighborhood H	4,196	4,196	3,859 <sup>1</sup>	-337
<b>TOTAL</b>	<b>64,306</b>	<b>227,475</b>	<b>239,797</b>	<b>12,322</b>

Source: Stantec 2016.

<sup>1</sup> Same land uses as existing/adopted but latest Institute of Transportation Engineers’ Trip Generation Manual Ninth Edition rates used.

*Trip Distribution*

Trip distribution patterns for the Modified Project land uses were developed using the ITAM traffic model. The Modified 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. The project’s trip distribution is shown on Figure 5.7-1, *Traffic Study Area and Trip Distribution*.

*Planned Circulation System*

The circulation system that is planned in the traffic analysis study area under 2035 conditions is illustrated in Figure 3-4, *Proposed Land Use Plan*. 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, Victory Road is proposed to be extended from Bell Avenue at Red Hill Avenue to Armstrong Avenue, and Moffett Drive is proposed to be extended to Tustin Ranch Road. Red Hill Avenue northbound is proposed to be widened from three lanes to four lanes between Edinger Avenue and Dyer Road/Barranca Parkway. 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

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Avenue, Bell Avenue/Victory Road, 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.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.7-1: Similar to the Adopted Specific Plan, traffic volumes associated with buildout of the Modified Project would result in deficient intersections for the existing and future roadway system, however, no new significant impacts would occur. [Thresholds T-1 and T-2]**

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*Impact Analysis:* The following described the project's trip generation, trip distribution, the proposed circulation system, and the anticipated traffic impacts under existing plus project and 2035 conditions.

#### Existing Plus Project

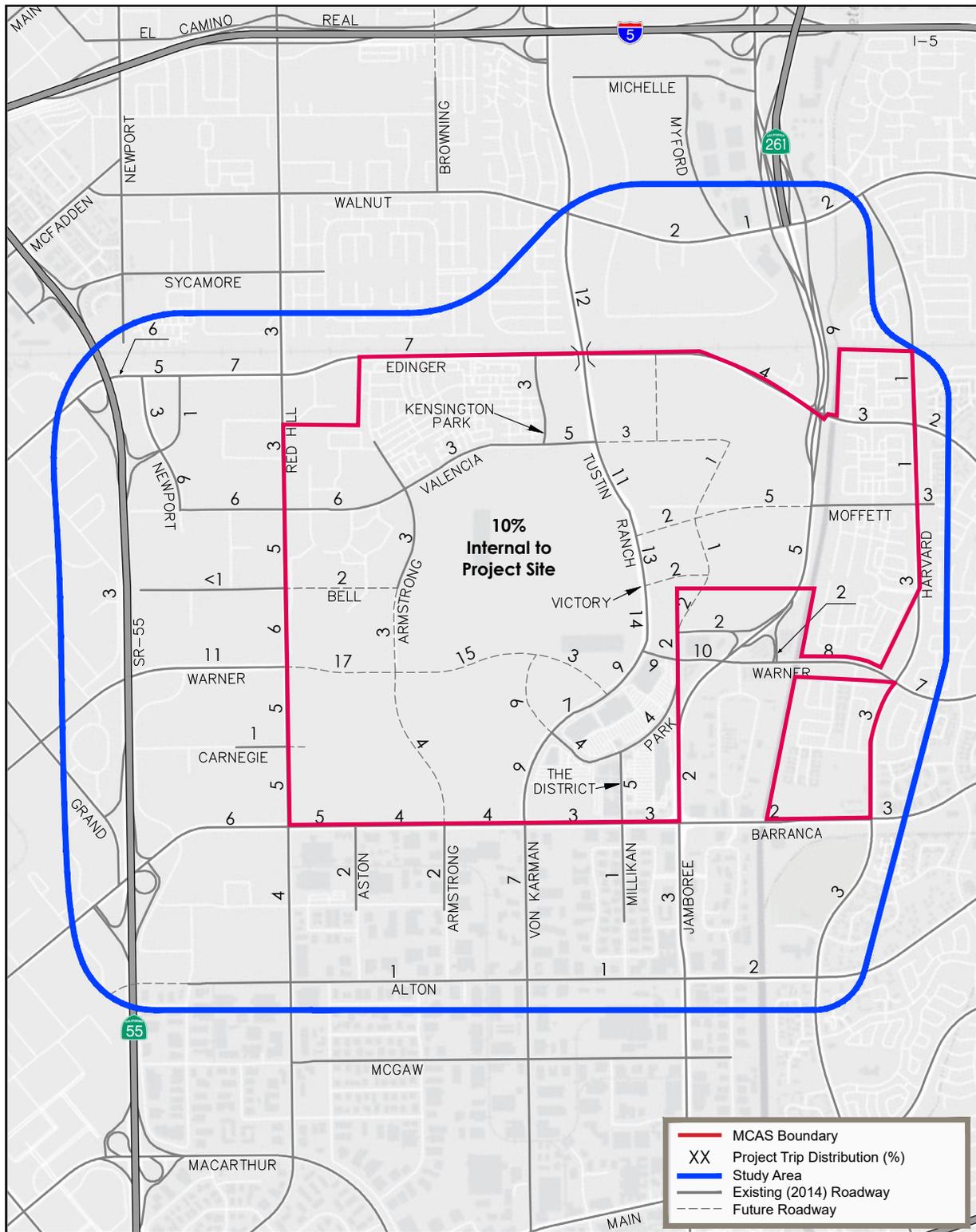
This scenario analyzes potential impacts to the existing circulation system due to buildout of the Modified Project. This scenario assumes that traffic generated by the Modified Project is added to the existing present-day traffic conditions.

The ICU values during the AM and PM peak hours are summarized in Table 5.7-5. The following intersections are forecast to be significantly impacted by the Modified Project under existing-plus-project conditions:

- Red Hill Avenue at Edinger Avenue
- Red Hill Avenue at Valencia Avenue
- Red Hill Avenue at Warner Avenue

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 Modified Project would be fully built out immediately upon adoption of the Specific Plan Amendment 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) would not change over the long-term buildout of a Modified Project. As a result, future increases in traffic volumes attributable to other development projects that are planned with or without the Modified Project (i.e., cumulative traffic volumes) are not accounted for in an existing plus project analysis. As a result, project impacts may be understated because capacity that otherwise would be utilized by future development that precedes a proposed project is now available to that project.

**Traffic Study Area and Trip Distribution**

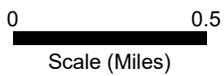


Base Map Source: Stantec

CITY OF TUSTIN

TUSTIN LEGACY SPECIFIC PLAN

**DRAFT SEIR**



TUS.11-1  
10/12/2016



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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.

**Table 5.7-5 Existing Plus Project Intersection LOS Summary**

Intersection Location (N/S Road at E/W Road)	AM Peak		PM Peak	
	ICU	LOS	ICU	LOS
1. Tustin Ranch Rd. at Walnut Av.	0.62	B	0.78	C
2. Jamboree Rd. SB at Walnut Av.	0.52	A	0.57	A
3. Jamboree Rd. NB at Walnut Av.	0.36	A	0.58	A
4. Newport Av. at SR-55 NB Ramps	0.52	A	0.69	B
5. SR-55 SB Ramps at Edinger Av.	0.61	B	0.59	A
6. Newport Av. at Edinger Av.	0.86	D	0.56	A
7. Del Amo Av. at Edinger Av.	0.34	A	0.37	A
8. Red Hill Av. at Edinger Av.	0.63	B	<b>0.91</b>	<b>E</b>
9. Kensington Park Dr. at Edinger Av.	0.32	A	0.43	A
10. Jamboree Rd. at Edinger Av.	0.53	A	0.58	A
11. Harvard Av. at Edinger Av.	0.28	A	0.52	A
12. Harvard Av. at Moffett Dr.	0.39	A	0.50	A
13. Red Hill Av. at Valencia Av.	0.84	D	<b>0.92</b>	<b>E</b>
14. Armstrong Av. at Valencia Av.	0.68	B	0.54	A
15. Kensington Park Dr. at Valencia Av.	0.29	A	0.41	A
16. Tustin Ranch Rd. at Valencia Av.	0.52	A	0.65	B
17. Red Hill Av at Warner Av.	0.79	C	<b>1.16</b>	<b>F</b>
18. Tustin Ranch Rd. at Warner Av.	0.44	A	0.54	A
19. Park Av. at Warner Av.	0.48	A	0.68	B
20. Jamboree Rd. NB at Warner Av.	0.40	A	0.72	C
21. Harvard Av. at Warner Av.	0.51	A	0.63	B
22. Red Hill Av. at Carnegie Av.	0.37	A	0.66	B
23. Tustin Ranch Rd. at Legacy Rd.	0.59	A	0.76	C
24. The District Dr. at Park Av.	0.68	B	0.90	D
25. Hotel Terrace Dr./SR-55 SB Ramps at Dyer Rd.	0.56	A	0.71	C
26. Grand Av. at Dyer Rd.	0.59	A	0.67	B
27. SR-55 NB Ramps at Dyer Rd.	0.66	B	0.41	A
28. Red Hill Av. at Dyer Rd./Barranca Pkwy.*	0.53	A	0.71	C
29. Aston St. at Barranca Pkwy.*	0.48	A	0.62	B
30. Armstrong Av. at Barranca Pkwy.*	0.47	A	0.69	B

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**Table 5.7-5 Existing Plus Project Intersection LOS Summary**

Intersection Location (N/S Road at E/W Road)	AM Peak		PM Peak	
	ICU	LOS	ICU	LOS
31. Tustin Ranch Rd./Von Karman Av at Barranca Pkwy.*	0.67	B	0.82	D
32. Millikan Av. at Barranca Pkwy.*	0.41	A	0.63	B
33. Jamboree Rd. at Barranca Pkwy.*	0.79	C	0.99	E
34. Harvard Av at Barranca Pkwy.	0.52	A	0.61	B
35. Red Hill Av. at Alton Pkwy.*	0.48	A	0.80	C
36. Von Karman Av. at Alton Pkwy.*	0.79	C	0.89	D
37. Jamboree Rd. at Alton Pkwy.*	0.68	B	0.85	D
38. Harvard Av. at Alton Pkwy.	0.66	B	0.68	B
57. Red Hill Av. at Bell Av./Victory Rd.	0.65	B	0.64	B
58. Armstrong Av. at Victory Rd.	0.26	A	0.30	A
59. Armstrong Av. at Warner Av.	0.47	A	0.60	A
60. Legacy Rd. at Warner Av.	0.25	A	0.26	A
61. Tustin Ranch Rd. at Victory Rd.	0.60	A	0.65	B
62. Tustin Ranch Rd. at Moffet Dr.	0.71	C	0.61	B
63. Park Av. at Moffett Dr.	0.29	A	0.28	A
64. Park Av. at Victory Rd.	0.19	A	0.20	A
65. Park Av. at Jamboree Rd. S	0.22	A	0.22	A
66. Tustin Ranch Rd. at Warner Av. S	0.44	A	0.34	A

Source: Stantec 2016.

Notes: **Bold** indicates unacceptable LOS, NB = northbound, SB = southbound

\* LOS E is acceptable at this location (Congestion Management Program (CMP) locations in the City of Tustin and Irvine Business Complex (IBC) intersections x.

### Year 2035 Conditions

The FEIS/EIR identified significant impacts at 16 intersections in Year 2020 conditions. After mitigation measures were applied it found impacts would remain significant and unavoidable at Jamboree Road at Barranca Parkway<sup>1</sup>. The FEIS/EIR did not evaluate Year 2035 conditions.

The Modified Project is assumed to be fully developed under 2035 with-project conditions. A traffic impact study (Appendix E) was prepared to identify traffic impacts of the Modified Project and compare them to the Adopted Specific Plan for buildout (Year 2035) conditions. Table 5.7-6 shows Year 2035 No-Project (Adopted Specific Plan) and With-Project (Modified Project) AM and PM peak hour intersection capacity utilization (ICU) values.

Table 5.7-6 shows that the significant and unavoidable impact at Jamboree Road at Barranca Parkway identified in the FEIS/EIR would be eliminated under Year 2035 conditions.

<sup>1</sup> The 2006 Addendum found that the project would eliminate significant and unavoidable impact at the intersection of Tustin Ranch Road and Walnut Avenue in 2020 With Project conditions, as identified in the 2001 FEIS/EIR.

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The traffic study found that the Adopted Specific Plan would significantly impact two intersections during the PM peak hour: Tustin Ranch Road at Warner Avenue North and Tustin Ranch Road at Legacy Road/Park Avenue. However, the Modified Project would eliminate the PM peak hour deficiencies, reducing Tustin Ranch Road at Warner Avenue North from LOS E to C and Tustin Ranch Road at Legacy Road/Park Avenue from LOS F to D.

Two intersections were identified that are forecast to operate deficiently under both 2035 No-Project and With-Project conditions:

- Jamboree Road Northbound at Warner Avenue
- Von Karman Avenue at Alton Parkway

Based on growth that has occurred in Orange County and surrounding cities, these intersections operate at deficient levels of service in the Year 2035. However, the Modified Project would reduce the ICU and improve conditions at these two intersections, compared to the Adopted Specific Plan. Therefore, the Modified Project would not result in a new significant environmental effect or a substantial increase in severity of previously identified significant impacts.

**Table 5.7-6 2035 Conditions Project Intersection LOS Summary (ICU Method)**

Intersection	Jurisdiction	No-Project (Adopted Specific Plan)				With-Project (Modified 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 *	Tustin	0.46	A	0.85	D	0.48	A	0.83	D
5. SR-55 SB Ramps at Edinger Av. *	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. *	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	<b>0.95</b>	<b>E</b>	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. *	Irvine	0.55	A	<b>1.06</b>	<b>F</b>	0.54	A	<b>1.05</b>	<b>F</b>
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

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**Table 5.7-6 2035 Conditions Project Intersection LOS Summary (ICU Method)**

Intersection	Jurisdiction	No-Project (Adopted Specific Plan)				With-Project (Modified Project)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
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. *	Irvine	0.61	B	0.82	D	0.62	B	0.92	E
29. Aston St. at Barranca Pkwy. *	Irvine/Tustin	0.58	A	0.69	B	0.62	B	0.69	B
30. Armstrong Av. at Barranca Pkwy. *	Irvine/Tustin	0.49	A	0.68	B	0.55	A	0.67	B
31. Tustin Ranch Rd./Von Karman Av. at Barranca Pkwy. *	Irvine/Tustin	0.76	C	0.96	E	0.77	C	0.94	E
32. Millikan Av. at Barranca Pkwy. *	Irvine/Tustin	0.65	B	0.69	B	0.63	B	0.67	B
33. Jamboree Rd. at Barranca Pkwy. *	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. *	Irvine	0.78	C	0.87	D	0.79	C	0.89	D
36. Von Karman Av. at Alton Pkwy. *	Irvine	0.94	E	1.03	F	0.95	E	1.01	F
37. Jamboree Rd. at Alton Pkwy. *	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 *	Irvine	0.75	C	0.69	B	0.75	C	0.70	B
52. MacArthur Bl. at I-405 SB Ramps *	Irvine	0.68	B	0.82	D	0.67	B	0.81	D
53. Jamboree Rd. at I-405 NB Ramps *	Irvine	0.80	C	0.85	D	0.81	D	0.86	D
54. Jamboree Rd. at I-405 SB Ramps *	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./Victory Rd	Tustin	0.43	A	0.76	C	0.46	A	0.64	B
58. Armstrong Av. at Victory Rd.	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
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 Moffett 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

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**Table 5.7-6 2035 Conditions Project Intersection LOS Summary (ICU Method)**

Intersection	Jurisdiction	No-Project (Adopted Specific Plan)				With-Project (Modified Project)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
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

Source: Stantec 2016.

Notes: **Bold** indicates unacceptable LOS, NB = northbound, SB = southbound

\* LOS E is acceptable at this location (Congestion Management Program (CMP) locations in the City of Tustin and Irvine Business Complex (IBC) intersections.

### Freeway Ramp Intersections

The FEIS/EIR recognized that the Adopted Specific Plan would impact freeway facilities and required the payment of fair share fees towards improvements to freeway ramp intersections. As previously stated, a traffic impact study (Appendix E) was prepared to identify traffic impacts of the Modified Project and compare them to the Adopted Specific Plan for buildout (Year 2035) conditions. Table 5.7-7 presents the Caltrans freeway ramp intersections LOS based on the HCM signalized intersection methodology. All freeway ramp intersections in the study area are forecast to operate at acceptable LOS with the exception of four freeway ramp intersections:

- Newport Avenue at the I-5 northbound on-ramp
- Newport Avenue at the SR-55 northbound ramps/Del Amo Avenue
- Newport Avenue at the I-5 southbound off-ramp/Nisson Road<sup>2</sup>
- Jamboree Road at the I-405 southbound ramps<sup>3</sup>

As shown in Table 5.7-7, these deficiencies are forecast under both no-project and with-project conditions. Based on growth that has occurred in Orange County and surrounding cities, these intersections operate at deficient levels of service in the Year 2035. Compared to the Adopted Specific Plan, the Modified Project would reduce the average vehicle delays at the three of the intersections—Newport Avenue at the SR-55 northbound ramps/Del Amo Avenue, Newport Avenue at the I-5 northbound on-ramp, and Newport Avenue at the I-5 southbound off-ramp/Nisson Road. The Modified Project would increase average vehicle delays at Jamboree Road at the I-405 southbound ramps by 0.8 seconds compared to the Adopted Specific Plan. An increase of 0.8 seconds is not considered a substantial increase which would result in a significant impact. Therefore, the Modified Project would not result in a new significant environmental effect or a substantial increase in severity of previously identified significant impacts.

<sup>2</sup> Table 5.12-4 of the 2001 FEIS/EIR identified that the Adopted Project would cause a deficiency at this location in the AM peak hour under existing plus project conditions.

<sup>3</sup> Table 5.12-4 of the 2001 FEIS/EIR identified that the Adopted Project would contribute to a deficiency at this location in the AM and PM peak hours under existing plus project conditions.

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**Table 5.7-7 2035 Conditions Project Intersection LOS Summary (HCM Method)**

Intersection	No-Project (Adopted Specific Plan)				With-Project (Modified Project)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS
4. Newport Ave & SR-55 NB Ramps/Del Amo Ave	20.7	C	<b>63.5</b>	<b>E</b>	21.7	C	<b>56.6</b>	<b>E</b>
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	15.7	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)	<b>64.5</b>	<b>F</b>	33.7	D	<b>53.8</b>	<b>E</b>	27.7	D
40. Newport Ave & I-5 SB Off-Ramp/Nisson Road	28.3	C	<b>68.3</b>	<b>E</b>	22.0	C	<b>67.5</b>	<b>E</b>
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	25.7	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	<b>87.9</b>	<b>F</b>	32.7	C	<b>88.7</b>	<b>F</b>	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

Source: Stantec 2016.

Notes: **Bold** indicates unacceptable LOS, NB = northbound, SB = southbound

**Impact 5.7-2: Trip generation associated with the Modified Project would not impact levels of service at freeway ramps and freeway main line segments, as compared to the Adopted Specific Plan. [Threshold T-1]**

*Impact Analysis:* This impact statement discusses potential impacts with the Modified Project related to freeway ramps and main line segments.

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#### Freeway Ramps

Table 5.7-8 shows the AM and PM peak hour freeway ramp V/C ratios for no-project and with-project conditions. Based on growth that has occurred in Orange County and surrounding cities, seven freeway ramps are forecast to operate deficiently under both 2035 no-project and with-project conditions, as follows:

- I-405 at MacArthur (NB On-ramp) – PM Peak hour
- I-405 at MacArthur (NB Off-ramp) – AM Peak hour
- I-405 at Jamboree (SB Off-ramp) – AM Peak hour
- I-405 at Jamboree (NB Off-ramp) – AM Peak hour
- SR-55 at Edinger (NB On-ramp) – PM Peak hour
- SR-55 at Dyer/Barranca (NB Loop On-ramp) – PM Peak hour
- SR-55 at Dyer/Barranca (NB Off-ramp) – AM Peak hour

The Modified Project would not result in a new significant environmental effect or a substantial increase in severity of previously identified significant impacts at these intersections based on the peak hour freeway ramp impact thresholds (see Section 5.7.1.3). Compared to the Adopted Specific Plan, the Modified Project would have the same or reduced V/C ratio at all deficient intersections except for I-405 at Jamboree (NB Off-ramp). At this ramp, the Modified Project trips would result in a 0.01 V/C increase compared to the Adopted Specific Plan, which is not considered a substantial increase resulting in a new significant impact.

#### Freeway Mainlines

Table 5.7-9 shows the AM and PM peak hour freeway mainline V/C ratios for no-project and with-project conditions. Based on growth that has occurred in Orange County and surrounding cities, twelve freeway mainline segments are forecast to operate deficiently under both 2035 no-project and with-project conditions, as follows:

- I-5 north of Newport (NB) – AM and PM peak hour
- I-5 north of Newport (SB) – AM and PM peak hour
- I-5 north of Red Hill (NB) – AM and PM peak hour
- I-5 north of Red Hill (SB) – AM and PM peak hour
- I-5 north of Tustin Ranch (NB) – AM and PM peak hour
- I-5 north of Tustin Ranch (SB) – AM and PM peak hour
- I-5 north of Jamboree (NB) – AM and PM peak hour
- I-5 north of Jamboree (SB) – AM and PM peak hour
- I-405 north of MacArthur (SB) – AM peak hour
- I-405 north of Jamboree (NB) – AM peak hour
- I-405 north of Jamboree (SB) – AM peak hour (Impact under Adopted Specific Plan only)
- I-405 north of Culver (NB) – AM peak hour

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The Modified Project would not result in a new significant environmental effect or a substantial increase in severity of previously identified significant impacts at these freeway mainline segments based on the peak hour freeway mainline impact thresholds (see Section 5.7.1.2). Compared to the Adopted Specific Plan, the Modified Project would have the same or reduced V/C ratios at all impacted intersections except for four segments, which increase by 0.01— I-5 north of Red Hill (NB), AM peak hour; I-5 north of Tustin Ranch (SB), PM peak hour; I-5 north of Jamboree (SB), PM peak hour; and I-405 north of Culver (NB), AM peak hour. An increase of 0.01 V/C is not considered a substantial increase which would result in a new significant impact. Additionally, the Modified Project would eliminate the deficiency at I-405 north of Jamboree (SB) during the AM peak hour, compared to the Adopted Specific Plan.

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Table 7.5-8 2035 Freeway Ramp LOS Summary

Interchange	Ramp	No-Project (Adopted Specific Plan)						With-Project (Modified 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	630	.42	A	830	.55	A	630	.42	A	830	.55	A
	SB Off	1,010	.34	A	1,061	.35	A	960	.32	A	1,061	.35	A
I-5 at Red Hill	SB On	1,047	.70	B	968	.65	B	1,062	.71	C	1,018	.68	B
	NB On	1,030	.69	B	811	.54	A	1,031	.69	B	810	.54	A
	SB Off	680	.45	A	711	.47	A	680	.45	A	710	.47	A
I-5 at Tustin Ranch	NB Off	838	.56	A	940	.63	B	834	.56	A	950	.63	B
	SB On	703	.47	A	566	.38	A	708	.47	A	626	.42	A
	NB On	410	.23	A	1,120	.62	B	411	.23	A	1,120	.62	B
	SB Off	1,560	.69	B	1,080	.48	A	1,561	.69	B	1,079	.48	A
I-5 at Jamboree	NB Off	531	.35	A	548	.37	A	550	.37	A	611	.41	A
	SB Direct On	300	.20	A	1,012	.67	B	302	.20	A	1,019	.68	B
	SB Loop On	841	.78	C	516	.48	A	845	.78	C	514	.48	A
	NB Direct On	600	.56	A	480	.44	A	600	.56	A	480	.44	A
	NB Loop On	600	.56	A	560	.52	A	630	.58	A	580	.54	A
	SB Off	1,360	.45	A	1,322	.44	A	1,360	.45	A	1,325	.44	A
I-405 at MacArthur	NB Off	1,433	.96	E	1,446	.96	E	1,443	.96	E	1,454	.97	E
	SB On	580	.32	A	1,130	.63	B	581	.32	A	1,140	.63	B
	NB On	641	.43	A	1,750	<b>1.17</b>	<b>F</b>	650	.43	A	1,743	<b>1.16</b>	<b>F</b>
	SB Off	2,061	.92	E	1,115	.50	A	2,041	.91	E	1,125	.50	A
I-405 at Jamboree	NB Off	2,080	<b>1.39</b>	<b>F</b>	931	.62	B	2,084	<b>1.39</b>	<b>F</b>	941	.63	B
	SB Direct On	701	.47	A	1,300	.87	D	701	.47	A	1,310	.87	D
	SB Loop On	230	.15	A	730	.49	A	230	.15	A	730	.49	A
	NB Direct On	1,180	.79	C	1,000	.67	B	1,191	.79	C	1,000	.67	B
	NB Loop On	640	.43	A	970	.65	B	651	.43	A	960	.64	B
	SB Off	2,990	<b>1.33</b>	<b>F</b>	2,074	.92	E	2,959	<b>1.32</b>	<b>F</b>	2,084	.93	E
NB Off	2,371	<b>1.05</b>	<b>F</b>	1,214	.54	A	2,381	<b>1.06</b>	<b>F</b>	1,202	.53	A	

## 5. Environmental Analysis TRANSPORTATION AND TRAFFIC

**Table 7.5-8 2035 Freeway Ramp LOS Summary**

Interchange	Ramp	No-Project (Adopted Specific Plan)						With-Project (Modified 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 Direct On	330	.22	A	853	.57	A	330	.22	A	855	.57	A
	SB Loop On	380	.42	A	391	.43	A	380	.42	A	382	.42	A
	NB Direct On	1,060	.71	C	510	.34	A	1,060	.71	C	510	.34	A
	NB Loop On	790	.53	A	350	.23	A	790	.53	A	340	.23	A
I-405 at Culver	SB Off	981	.33	A	1,670	.56	A	961	.32	A	1,670	.56	A
	NB Off	928	.41	A	857	.38	A	907	.40	A	867	.39	A
SR-55 at Edinger	SB On	970	.65	B	797	.53	A	950	.63	B	800	.53	A
	NB On	368	.25	A	1,681	<b>1.12</b>	<b>F</b>	441	.29	A	1,621	<b>1.08</b>	<b>F</b>
	SB Off	903	.60	A	571	.38	A	901	.60	A	571	.38	A
	NB Off	993	.66	B	459	.31	A	976	.65	B	488	.33	A
SR-55 at Dyer/ Barranca	SB On	1,011	.67	B	1,311	.87	D	1,021	.68	B	1,284	.86	D
	NB Direct On	370	.25	A	1,360	.91	E	390	.26	A	1,380	.92	E
	NB Loop On	550	.61	B	1,020	<b>1.13</b>	<b>F</b>	550	.61	B	1,020	<b>1.13</b>	<b>F</b>
	SB Direct Off	844	.56	A	569	.38	A	821	.55	A	570	.38	A
	SB Loop Off	570	.38	A	298	.20	A	572	.38	A	320	.21	A
	NB Off	1,578	<b>1.05</b>	<b>F</b>	327	.22	A	1,552	<b>1.03</b>	<b>F</b>	347	.23	A
SR-55 at MacArthur	SB Direct On	717	.48	A	950	.63	B	705	.47	A	950	.63	B
	SB Loop On	143	.16	A	690	.77	C	141	.16	A	700	.78	C
	NB Direct On	230	.26	A	791	.88	D	230	.26	A	794	.88	D
	NB Loop On	730	.49	A	1,026	.68	B	730	.49	A	1,005	.67	B
	SB Off	2,158	.96	E	1,107	.49	A	2,078	.92	E	1,105	.49	A
	NB Off	1,739	.77	C	1,352	.60	A	1,751	.78	C	1,334	.59	A

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**Table 5.7-9 2035 Freeway Mainline LOS Summary**

Location	Direction	No-Project (Adopted Specific Plan)						With-Project (Modified 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	15,530	<b>1.34</b>	<b>F</b>	13,840	<b>1.19</b>	<b>F</b>	15,590	<b>1.34</b>	<b>F</b>	13,790	<b>1.19</b>	<b>F</b>
	Southbound	14,160	<b>1.22</b>	<b>F</b>	13,260	<b>1.14</b>	<b>F</b>	14,070	<b>1.21</b>	<b>F</b>	13,260	<b>1.14</b>	<b>F</b>
I-5 n/o Red Hill	Northbound	14,880	<b>1.28</b>	<b>F</b>	13,150	<b>1.13</b>	<b>F</b>	14,930	<b>1.29</b>	<b>F</b>	13,090	<b>1.13</b>	<b>F</b>
	Southbound	14,160	<b>1.22</b>	<b>F</b>	13,260	<b>1.14</b>	<b>F</b>	14,070	<b>1.21</b>	<b>F</b>	13,260	<b>1.14</b>	<b>F</b>
I-5 n/o Tustin Ranch	Northbound	15,620	<b>1.35</b>	<b>F</b>	13,750	<b>1.19</b>	<b>F</b>	15,660	<b>1.35</b>	<b>F</b>	13,720	<b>1.18</b>	<b>F</b>
	Southbound	14,870	<b>1.28</b>	<b>F</b>	14,090	<b>1.21</b>	<b>F</b>	14,840	<b>1.28</b>	<b>F</b>	14,160	<b>1.22</b>	<b>F</b>
I-5 n/o Jamboree	Northbound	15,280	<b>1.32</b>	<b>F</b>	13,350	<b>1.15</b>	<b>F</b>	15,330	<b>1.32</b>	<b>F</b>	13,380	<b>1.15</b>	<b>F</b>
	Southbound	14,210	<b>1.23</b>	<b>F</b>	13,600	<b>1.17</b>	<b>F</b>	14,200	<b>1.22</b>	<b>F</b>	13,730	<b>1.18</b>	<b>F</b>
I-405 n/o MacArthur	Northbound	13,620	1.00	E	13,500	.99	E	13,650	1.00	E	13,490	.99	E
	Southbound	15,190	<b>1.12</b>	<b>F</b>	13,290	.98	E	15,080	<b>1.11</b>	<b>F</b>	13,310	.98	E
I-405 n/o Jamboree	Northbound	14,310	<b>1.05</b>	<b>F</b>	12,660	.93	E	14,340	<b>1.05</b>	<b>F</b>	12,650	.93	E
	Southbound	13,690	<b>1.01</b>	<b>F</b>	13,140	.97	E	13,610	1.00	E	13,160	.97	E
I-405 n/o Culver	Northbound	14,470	<b>1.06</b>	<b>F</b>	11,330	.83	D	14,490	<b>1.07</b>	<b>F</b>	11,320	.83	D
	Southbound	11,410	.84	D	12,770	.94	E	11,360	.84	D	12,800	.94	E
SR-55 n/o Edinger	Northbound	9,100	.78	D	10,550	.91	E	9,210	.79	D	10,520	.91	E
	Southbound	11,460	.99	E	8,680	.75	D	11,410	.98	E	8,740	.75	D
SR-55 n/o Dyer	Northbound	8,870	.76	D	10,000	.86	D	8,900	.77	D	10,050	.87	D
	Southbound	10,890	.94	E	8,320	.72	D	10,840	.93	E	8,360	.72	D
SR-55 n/o MacArthur	Northbound	8,860	.76	D	9,200	.79	D	8,840	.76	D	9,240	.80	D
	Southbound	10,500	.91	E	8,780	.76	D	10,480	.90	E	8,780	.76	D
SR-55 s/o MacArthur	Northbound	9,130	.67	C	8,250	.61	C	9,110	.67	C	8,270	.61	C
	Southbound	9,360	.69	C	8,990	.66	C	9,460	.70	C	9,020	.66	C

Source: Stantec 2016.

Notes: **Bold** indicates unacceptable LOS.

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#### 5.7.4 Cumulative Impacts

The Modified Project cumulative analysis incorporated regional growth projections and assesses traffic impacts of all cumulative development reasonably anticipated by Year 2035. As discussed above, the Modified Project evaluated the incremental difference for long range 2035 conditions with the Modified Project compared to the Adopted Specific Plan. As identified above, the Modified Project would not result in a substantial increase in impacts compared to the Adopted Specific Plan. Two intersections, four freeway ramp intersections, seven freeway ramps, and eleven freeway mainline segments would operate deficiently in the no-project and with-project conditions; one additional freeway mainline would operate deficiently in the no-project condition. Since the Modified Project would not result in a new significant impact and would not substantially increase previously identified significant impacts at any of the identified deficient intersections, the Modified Project would not result in a cumulative impact.

#### 5.7.5 Level of Significance Before Mitigation

Without mitigation, the following impact would be **potentially significant**:

- **Impact 5.7-1:** Two intersections and four freeway ramp intersections would operate deficiently under no-project (Adopted Specific Plan) and with-project (Modified Project) conditions. However, the Modified Project would not result in a new significant impact or a substantial increase in the severity of previously identified significant impacts.
- **Impact 5.7-2:** Seven freeway ramps and eleven freeway mainline segments would operate deficiently under no-project (Adopted Specific Plan) and with-project (Modified Project) conditions and one additional freeway mainline would operate deficiently in the no-project condition. However, trip generation associated with the Modified Project would not result in a new significant impact or substantial increase in the severity of previously identified significant impacts.

#### 5.7.6 Existing Regulations and Standard Conditions

##### State and Regional

- The California Complete Streets Act (Assembly Bill 1358)
- Sustainable Communities and Climate Protection Act (Senate Bill 375)
- SCAG 2016 Regional Transportation Plan/Sustainable Communities Strategy

##### Local

- City of Tustin General Plan Circulation Element

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#### 5.7.7 Mitigation Measures

Mitigation Measures incorporated into the FEIS/EIR are identified below. Changes to previously prescribed mitigation measures updated in this DSEIR are noted through ~~strikeout~~ for deleted text while new text is underlined. New mitigation is prescribed below in underline to address and minimize potential impacts two intersections and freeway facilities.

##### Impact 5.7-1

The 2001 FEIS/EIR incorporated 15 mitigation measures for the MCAS Tustin Specific Plan pertaining to transportation and traffic. Mitigation Measures T/C-1 through T/C-9 were applicable to the Adopted Specific Plan and apply to the Modified Project. Mitigation Measure T/C-3 is no longer applicable because the intersection is no longer deficient or the improvement has been implemented. With respect to Mitigation Measure T/C-2, improvements identified in Table 4.12-9 for intersections #30, 42, 77, 103, and 118 are no longer required because they have either already been implemented or a deficiency no longer occurs.

T/C-1 In conjunction with the approval of a site development permit, the City of Tustin and the City of Irvine as applicable (for that portion of the reuse plan within Irvine), shall require each developer to provide traffic operations and control plans that would minimize the traffic impacts of proposed construction activity. The plans shall address roadway and lane closures, truck hours and routes, and notification procedures for planned short-term or interim changes in traffic patterns. The City of Tustin and the City of Irvine, as applicable, shall ensure that the plan would minimize anticipated delays at major intersections. Prior to approval, the City of Tustin or the City of Irvine, as applicable shall review the proposed traffic control and operations plans with any affected jurisdiction.

T/C-2 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), shall ensure that the arterial intersection improvements required in 2005 and 2020 and as indicated in Tables 4.12-7 and 4.12-9 [of the 2001 FEIS/EIR] are implemented for their respective jurisdictions according to the cumulative ADT thresholds identified in each table and according to the fair share basis noted. The ADT threshold represents the traffic volume which would result in an impact and the fair share percentage reflects the percent of the traffic impact resulting from the reuse generated traffic. In some cases, reuse traffic would generate 100 percent of the impact thereby assuming full financial responsibility for the identified improvements. In other cases, reuse traffic would generate only a fraction of the traffic impacting the intersection and financial responsibility would correspond.

~~T/C-3 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), shall contribute, on a fair share basis, to improvements to freeway ramp intersections as listed in Table 4.12-8. The method of implementing the improvements, e.g. restriping ramp widening, shall be based on special design studies, in association with Caltrans.~~

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- T/C-4 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), shall ensure that all on-site circulation system improvements for the reuse plan area assumed in the 2005 and 2020 traffic analysis and as shown in Table 4.12-10 [of the 2001 FEIS/EIR] are implemented according to the cumulative ADT thresholds identified in the table. Under this Phasing Plan, the City of Tustin shall monitor all new development within the site, accounting for the cumulative ADT generated by development projects. As each ADT threshold is reached, the roadway improvements listed in Table 4.12-10 shall be constructed before any additional projects within the reuse plan area would be approved.
- T/C-5 Prior to approval of a site development permit or vesting tract, except for financing or conveyance purposes, for all land use designation areas in Alternative 1 with exception of the Learning Village, Community Park and Regional Park, a project developer shall enter into an agreement with the City of Tustin and City of Irvine, as applicable (for that portion of the reuse plan area with Irvine) which assigns improvements required in the EIS/EIR to the development site and which requires participation in a fair share mechanism to design and construct required on-site and arterial improvements consistent with the ADT generation thresholds shown on Tables 4.2-7, 4.2-8, 4.2-9, and 4.2-10 [of the 2001 FEIS/EIR].
- T/C-6 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), will monitor new development within the reuse plan area, accounting for the cumulative ADTs generated by development projects within the reuse plan area. As each cumulative ADT threshold shown in Table 4.2-10 [of the 2001 FEIS/EIR] is reached, the roadway improvements listed shall be constructed before any additional projects within the reuse plan area are approved.
- T/C-7 The City of Tustin shall adopt a trip budget for individual portions of the reuse plan area to assist in the monitoring of cumulative ADTs and the amount and intensity of permitted non-residential uses as evaluated in the EIS/EIR.
- T/C-8 Alternative improvements that provide an equivalent level of mitigation in 2005 or 2020 to what identified in Tables 4.12-7, 4.12-8, and 4.12-9 [of the 2001 FEIS/EIR] may be identified in consultation between the City of Tustin and the City of Irvine, as applicable, and the impacted jurisdiction.
- T/C-9 The City of Tustin shall enter into agreements with Caltrans and the cities of Santa Ana and Irvine to ensure that the off-site roadway improvements needed to mitigate the effects of the proposed alternative are constructed pursuant to improvement programs established by the respective jurisdiction.

In order to properly coordinate the timing and improvements in the adjacent jurisdictions, the City of Tustin shall hold a scoping-like meeting with the respective jurisdictions. The purpose of said scoping-like meeting shall be to identify the concerns of the respective jurisdictions prior to the initiation of the fair share study. The purpose of the study would

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be to fully identify, with each jurisdiction, the scope and costs of feasible improvements (as determined by the respective jurisdiction). The improvements would be acceptable to each jurisdiction toward fulfilling the timing and cost of the transportation improvement obligations as required to mitigate transportation impacts in each jurisdiction. The funding for the improvements to be incorporated into the agreement would be utilized by the respective agency to improve the capacity of the impacted intersections/links to be used for substituted improvements, as determined by mutual agreement.

Prior to execution of the agreement, each jurisdiction would be allowed ten (10) working days to review the technical report prior to being provided with a copy of the proposed agreement. Each jurisdiction would have ten (10) working days to review and comment as to its concurrence with the improvement programs contained in the agreement. The comments of each jurisdiction would be considered to ensure that the City of Tustin's responsibility for fair share funding of the improvements in each jurisdiction as stated above is fully addressed.

Mitigation Measure T/C-1 from the 2004 SEIR no longer applies because the intersection is not deficient.

The 2006 Addendum incorporated the following implementation actions for the MCAS Tustin Specific Plan pertaining to transportation and traffic:

- IA-1 Table 4.12-10 of the FEIS/EIR, as revised and presented in Table 4-4 of the revised Specific Plan Phasing Plan, presents the Phasing Plan for the on-site circulation system. The Phasing Plan is based upon traffic circulation impact and mitigation analysis contained in the Tustin Legacy Traffic Analysis (Austin-Foust Associates, Inc., February 2006). Under this Specific Plan Phasing Plan, the City of Tustin shall monitor all new development within the Specific Plan, accounting for the cumulative ADT generated by development projects. As each ADT threshold is reached, the roadway improvements listed in Tables 4-3 (attached) and 4-4 of the revised Specific Plan Phasing Plan (attached) shall be constructed before any additional projects within the Specific Plan would be approved.
- IA-2 Table 3-3, as revised and presented in Section 3 of this addendum, presents the Trip Budget which summarizes the square footage of non-residential uses allocated to each neighborhood by Planning Area and the associated ADT. (Residential uses are shown for information only; they are not part of the budget.) Pursuant to Section 3.2.4 of the Specific Plan, the City of Tustin shall implement the trip budget by neighborhood to control the amount and intensity of non-residential uses. Trip Budget transfers between neighborhoods shall also be implemented as directed in subsection 3.2.4 of the Specific Plan.
- IA-3 Prior to approval of (1) a Planning Area Concept Plan pursuant to Section 4.2 of the Specific Plan, (2) a site development permit, or (3) a vesting tentative map for new square footage (not for financing or conveyance purposes), a project developer shall provide traffic information consistent with the provisions of the Specific Plan, the FEIS/EIR, and this Addendum and the requirements of the City of Tustin Traffic Engineer. The traffic

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information shall (a) identify and assign traffic circulation mitigation measures required in the EIS/EIR pursuant to the Phasing Plan described in Tables 4-2 and 4-3 ~~Table 4-4 of the revised of the Tustin Legacy Specific Plan Phasing Plan~~; (b) evaluate the effects of either the delay of any previously committed circulation improvements or the construction of currently unanticipated circulation improvements, and (c) utilize the circulation system and capacity assumptions within the EIS/EIR and any additional circulation improvements completed by affected jurisdictions for the applicable timeframe of analysis.

- IA-4 Prior to issuance of building permits for new development within planning areas requiring a concept plan, a project developer shall enter into an agreement with the City of Tustin to (a) design and construct roadway improvements consistent with the ADT generation phasing Plan described in Tables 4-2 and 4-3 of the Table 4-4 of the revised Tustin Legacy Specific Plan Phasing Plan and (b) address the impact of and specify the responsibility for any previously committed circulation improvements assumed in the EIS/EIR which have not been constructed.
- IA-5 If a subsequent traffic Phasing Plan demonstrates that certain circulation improvements should be included in a different phase of Specific Plan development (accelerated or delayed) or that a circulation improvement can be substituted, the mitigation Phasing Plan may be amended, subject to approval of the City of Tustin and any other affected jurisdiction, provided that the same level of traffic mitigation and traffic capacity would be provided.

### Impact 5.7-2

Mitigation Measure T/C-9 applies.

### 5.7.8 Level of Significance After Mitigation

The FEIS/EIR concluded that with the Adopted Specific Plan all intersections would operate at acceptable levels of service with the existing or planned improvements, with the exception of Jamboree Road at Barranca Parkway. Based on the revised analysis prepared for the Modified Project, this impact would be eliminated under Year 2035 conditions.

Two intersections were identified that are forecast to operate deficiently under both 2035 No-Project and With-Project conditions:

- Jamboree Road Northbound at Warner Avenue and
- Von Karman Avenue at Alton Parkway

Four freeway ramp intersections would operate deficiently under the no-project and with-project conditions:

- Newport Avenue at the I-5 northbound on-ramp
- Newport Avenue at the SR-55 northbound ramps/Del Amo Avenue

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- Newport Avenue at the I-5 southbound off-ramp/Nisson Road<sup>4</sup>
- Jamboree Road at the I-405 southbound ramps

Seven freeway ramps would operate deficiently under the no-project and/or with-project conditions:

- I-405 at MacArthur (NB On-ramp) – PM Peak hour
- I-405 at MacArthur (NB Off-ramp) – AM Peak hour
- I-405 at Jamboree (SB Off-ramp) – AM Peak hour
- I-405 at Jamboree (NB Off-ramp) – AM Peak hour<sup>5</sup>
- SR-55 at Edinger (NB On-ramp) – PM Peak hour
- SR-55 at Dyer/Barranca (NB Loop On-ramp) – PM Peak hour
- SR-55 at Dyer/Barranca (NB Off-ramp) – AM Peak hour

Twelve mainline segments would operate deficiently under the no-project and/or with-project conditions:

- I-5 north of Newport (NB) – AM and PM peak hour
- I-5 north of Newport (SB) – AM and PM peak hour
- I-5 north of Red Hill (NB) – AM and PM peak hour
- I-5 north of Red Hill (SB) – AM and PM peak hour
- I-5 north of Tustin Ranch (NB) – AM and PM peak hour
- I-5 north of Tustin Ranch (SB) – AM and PM peak hour
- I-5 north of Jamboree (NB) – AM and PM peak hour
- I-5 north of Jamboree (SB) – AM and PM peak hour
- I-405 north of MacArthur (SB) – AM peak hour
- I-405 north of Jamboree (NB) – AM peak hour
- I-405 north of Jamboree (SB) – AM peak hour<sup>6</sup>
- I-405 north of Culver (NB) – AM peak hour

The analysis provided in Section 5.7.4, substantiates that impacts associated with the Modified Project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts compared to the Adopted Specific Plan under 2035 conditions. The FEIS/EIR identified cumulative impacts of project traffic at the identified deficient intersections, freeway ramps, and freeway mainline locations would be mitigated through a combination of regional programs, improvements, and fair share fees (see Mitigation Measures T/C-1 through T/C-9). These mitigation measures would also apply to the Modified Project and no new significant impacts would occur.

---

<sup>4</sup> This freeway ramp intersection was identified as significantly impacted in the FEIS/EIR under existing plus project conditions.

<sup>5</sup> This freeway ramp intersection was identified as significantly impacted in the FEIS/EIR under existing plus project conditions.

<sup>6</sup> Impact under Adopted Specific Plan only.

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### 5.7.9 References

Stantec. 2017, March 8. Draft Tustin Legacy Specific Plan Update Traffic Impact Study.

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### 5.8 UTILITIES AND SERVICE SYSTEMS

This section of the Draft Supplemental Environmental Impact Report (DSEIR) evaluates the potential for implementation of the proposed Tustin Legacy Specific Plan Amendment (Modified Project) to impact utilities and services systems. The utilities and services systems analyzed in this section include water supply and distribution systems, and wastewater (sewage) conveyance and treatment. The analysis in this section is based, in part, on the following technical report:

- Tustin Legacy Specific Plan Amendment Sub Area Master Plan, Michael Baker International, March 16, 2017

A complete copy of this technical report is included as Appendix G to this DSEIR.

#### 5.8.1 Wastewater Treatment and Collection

##### 5.8.1.1 ENVIRONMENTAL SETTING

###### Regulatory Background

Laws, regulations, and plans that are potentially applicable to the Modified Project are summarized below.

###### *Federal*

###### *Clean Water Act*

The federal Clean Water Act (CWA), United States Code, Title 33, Sections 1251 et seq. establishes regulations to control the discharge of pollutants into the waters of the United States and regulates water quality standards for surface waters. Under the CWA, the U.S. Environment Protection Agency (EPA) is authorized to set wastewater standards for industry and runs the National Pollutant Discharge Elimination System (NPDES) permit program. Under the NPDES program, permits are required for all new developments that generate discharges that go directly into Waters of the United States. Additionally, Sections 1251 et seq. of the CWA requires wastewater treatment of all effluent before it is discharged into surface waters.

###### *Local*

###### *Orange County Sanitation District*

In order for the Orange County Sanitation District (OCSD) to keep its facilities in good condition to prevent system failures, permit violations, sewage spills, and beach closures, residential and nonresidential developments are assessed a yearly sewer service fee by OCSD. The sewer service fee is for the collection, treatment, and disposal of wastewater that is collected, treated, and/or recycled by OCSD. The fee is collected annually as a line item on property tax bills (OCSD 2016).

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#### Wastewater Collection and Conveyance

The Irvine Ranch Water District (IRWD) collects and conveys wastewater from the Specific Plan area through its regional collection systems in Harvard Avenue (which runs north-south and abuts the eastern boundary of the Specific Plan area) and Armstrong Avenue (which runs north-south within the western portion of the Specific Plan area). The onsite wastewater collection and conveyance system consists of the two primary sewersheds flowing to each of the aforementioned trunk sewer systems. Gravity flow from the established residential neighborhoods of the Specific Plan area—Planning Areas 20, 21 and 22 east of Peters Canyon Channel, which area east of Peters Canyon Channel (see Figure 3-4, *Proposed Land Use Plan*)—generally flow to the east to the 45-inch Harvard Avenue trunk sewer, which flows south along the Harvard Avenue, Main Street and Michelson Drive trunk sewer systems to IRWD’s Michelson Water Recycling Plant (MWRP).

The project area west of Peter’s Canyon Channel, Planning Areas 1 through 19 (see Figure 3-4), including all of the City’s Disposition Areas, generally flow west to the 20-inch Tustin Ranch Road trunk sewer system or to the 27-inch trunk sewer system in Armstrong Avenue. The vast majority of the flows of the Specific Plan area are served by the Armstrong Avenue trunk sewer system. From the confluence of these two onsite trunk systems at Armstrong Avenue and Barranca Parkway, project area tributary flows are conveyed southwesterly through the Armstrong Avenue, MacArthur Boulevard, and Main Street trunk sewer systems to OCSD’s treatment facility—Reclamation Plant No. 1.

Onsite drainage basins further subdivide the Armstrong Avenue sewershed within the Specific Plan area into six basins: Tustin Ranch Road North, Tustin Ranch Road Central, Tustin Ranch Road South, Armstrong North, Armstrong East, and Armstrong West. Separate onsite sewer trunk systems have recently been constructed to convey flows from each of these basins. The Tustin Ranch Road trunk sewer system is proposed to serve the Tustin Unified School District High School and Planning Ares 7 and 15, as well as portions of Planning Areas 4, 5, 8, 13, and 14. The Armstrong Avenue trunk sewer system is proposed to serve Planning Areas 1, 2, 3, and 9 through 12, as well as portions of Planning Areas 4, 5, 8, 13, and 14. The sewer drainage basins are shown in Figure 5.8-1, *Sewer Drainage Basins*.

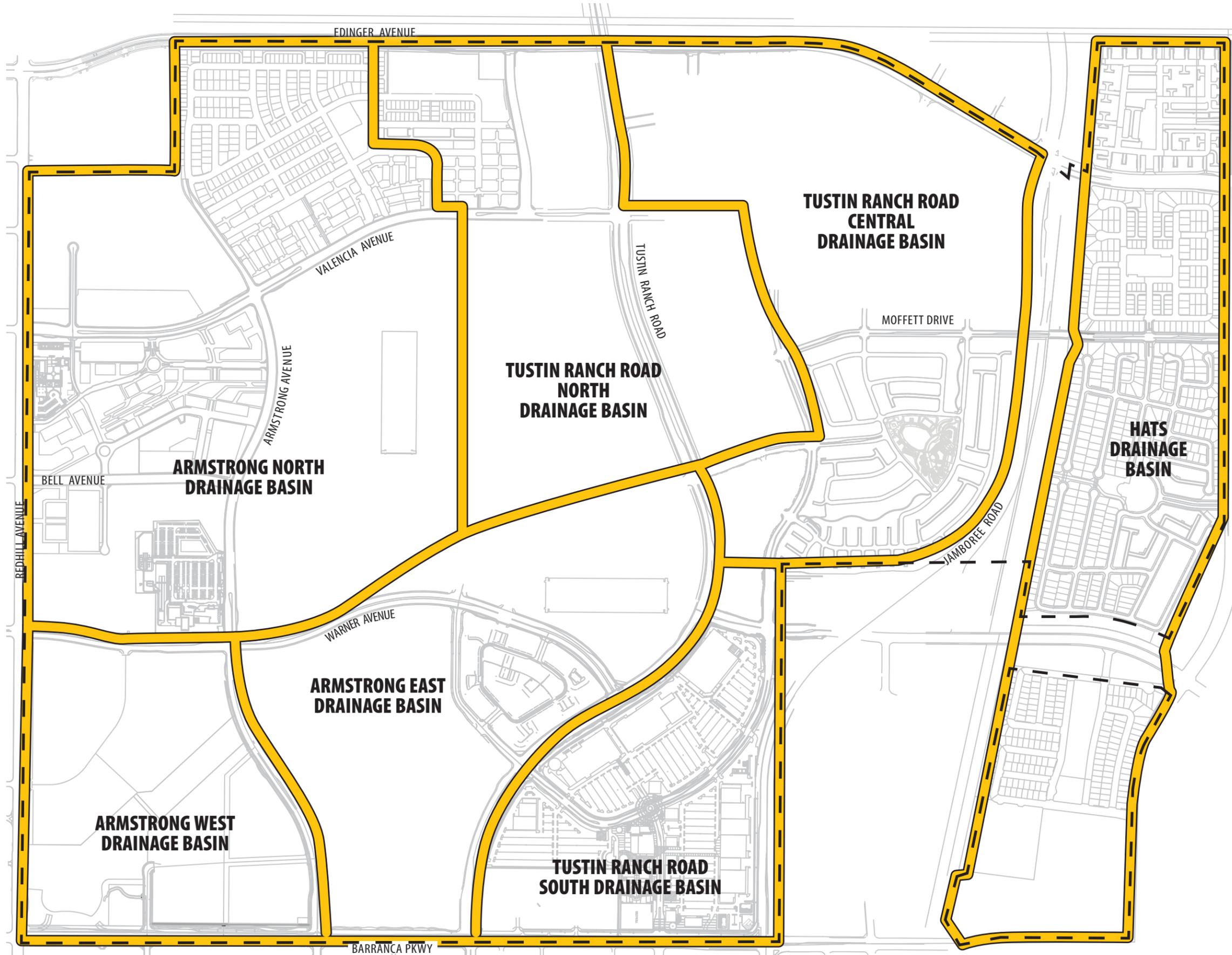
#### Wastewater Treatment

As noted above, IRWD and OCSD provide treatment services for wastewater generated within the Specific Plan area. Wastewater generated by the established residential neighborhoods of the Specific Plan area—Planning Areas 20, 21 and 22—is treated at the MWRP, which is southwest of the intersection of Michelson Drive and Harvard Avenue in the City of Irvine. The MWRP has a capacity of 28 million gallons per day (mgd); wastewater flows through the facility in 2015 were at 19.9 mgd (IRWD 2016a). A forecast Phase III expansion of the MWRP is planned to increase capacity to 33 mgd by 2025 (IRWD 2016b).

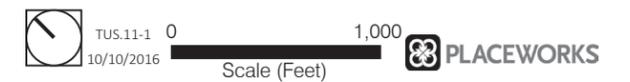
Reclamation Plant No. 1, which is in the City of Fountain Valley, has a capacity of 204 mgd for advanced primary and secondary treatment; the plant treats an average of 97 mgd, and the remaining capacity at this plant is approximately 107 mgd (OCSD 2013).

### Sewer Drainage Basins

-  Project Boundary
-  Sewer Drainage Basin Boundary



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### 5.8.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-1 Would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- U-2 Would 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.
- U-5 Would result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold U-1
- Threshold U-5

These impacts will not be addressed in the following analysis.

### 5.8.1.3 ENVIRONMENTAL IMPACTS

#### Summary of Impacts Associated with the Adopted Project

##### *2001 FEIS/EIR*

The 2001 FEIS/EIR determined that at buildout of the MCAS Tustin Specific Plan (“Adopted Specific Plan”), the project area would generate approximately 2.5 mgd of wastewater, with a peak flow of 7.7 mgd. The 2001 FEIS/EIR determined that impacts to wastewater conveyance and treatment were less than significant with no mitigation required. Existing wastewater infrastructure required to serve development under the Adopted Specific Plan would be replaced and sized to accommodate the proposed land uses.

##### *Sub-Area Master Plans*

In 2008, an updated Sub-Area Master Plan (SAMP)—the MCAS Tustin/Legacy Park Revised Sub-Area Master Plan completed by RBF Consulting and finalized by IRWD in April 2008 (2008 SAMP)—was prepared to provide a comprehensive potable water, wastewater collection and non-potable water distribution, and sewer infrastructure analysis in support of the infrastructure needed to serve the project area covered under the Adopted Specific Plan. The 2008 SAMP was prepared as an update to the Marine Corps Air Facility Tustin Redevelopment Sub-Area Master Plan, which was adopted by Irvine Ranch Water District in 1999.

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The 2008 SAMP determined that buildout of the project area under the Adopted Specific Plan would generate 1,702,953 gpd, or approximately 1.7 mgd. The 2008 SAMP underwent two subsequent addendums—in September 2008 and January 2013.

### Environmental Impacts of the Modified Project

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.8-1: Similar to the Adopted Specific Plan, wastewater generated by the Modified Project could be adequately treated by the wastewater service providers. [Threshold U-2]**

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*Impact Analysis:* Wastewater generated by the Modified Project would be treated by IRWD and OCSD. Specifically, wastewater would be treated by IRWD at its MWRP in Irvine, and by OCSD at its Reclamation Plant No. 1 in Fountain Valley.

Wastewater generation by land uses developed pursuant to the Modified Project is estimated at just under 2 mgd, as shown in Table 5.8-1. Overall, the Modified Project would generate approximately 0.5 mgd less wastewater when compared to the amount of wastewater that would be generated under the Adopted Specific Plan—anticipated at 2.5 mgd of wastewater, as identified in the 2001 FEIS/EIR. Therefore, in comparison to the Adopted Specific Plan, the Modified Project would result in a reduction in not only the amount of wastewater that would be generated, but also in the level of impact to wastewater treatment facilities.

**Table 5.8-1 Estimated Wastewater Generation by Modified Project**

	Residential Uses (in gpd)	Nonresidential Uses (in gpd)	Total (in gpd)
Potable Water	1,190,663 <sup>1</sup>	201,478	1,392,141
Nonpotable Water	—	604,493 <sup>2</sup>	604,493
<b>Total</b>	<b>1,190,663</b>	<b>805,971</b>	<b>1,996,634</b>

Source: MBI 2017.

Note: gpd = gallons per day

<sup>1</sup> Total estimated potable water demand in residential uses of 1,767,323 gpd would consist of 1,190,663 gpd indoor demands and 576,660 gpd irrigation of private areas within residential uses. Wastewater generation would include 100 percent of indoor demands in residential uses.

<sup>2</sup> Nonresidential uses would be dual-plumbed; nonpotable water would be used for toilet flushing.

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However, to determine the Modified Project’s impacts in comparison to the wastewater generation numbers provided in the 2008 SAMP (1.7 mgd due to buildout of the project area under the Adopted Specific Plan), an updated SAMP was prepared for the Modified Project (2017 SAMP), which is included as Appendix G to this DSEIR. The 2017 SAMP was prepared to update the 2008 SAMP based on the proposed new land uses of the Modified Project. The purpose of the 2017 SAMP was 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 Specific Plan area and the proposed land use plan of the Modified Project for the remaining Specific Plan area. The 2017 SAMP’s objective included revising the systems proposed in the 2008 SAMP, and complying with the current SAMP guidelines of IRWD.

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As demonstrated in Table 3-4 (Estimated Wastewater Flow - Current TLSP vs 2008 SAMP) of the 2017 SAMP (see Appendix G), the Modified Project would result in an increase in wastewater generation of approximately 0.17 mgd when compared to the Adopted Specific Plan analyzed in the 2008 SAMP. As indicated in Table 3-3 (Summary of Estimated Wastewater Flows By Drainage Basin) of the 2017 SAMP, of the approximate 2 mgd of wastewater that would be generated by the Modified Project, approximately 1.6 mgd would be conveyed to and treated by OCSD's Reclamation Plant No. 1, and approximately 0.3 mgd would be conveyed to and treated by IRWD's MWRP.

However, the total amount wastewater that would be generated by the Modified Project (including the approximate 0.17 mgd increase over what the Adopted Specific Plan was anticipated to generate) could be accommodated by OCSD's and IRWD's wastewater treatment facilities.

As noted earlier, OCSD's Reclamation Plant No. 1 has a capacity of 204 mgd for advanced primary and secondary treatment; the plant treats an average of 97 mgd, and the remaining capacity at this plant is approximately 107 mgd (OCSD 2013). Additionally, IRWD's MWRP currently has capacity to treat 28 mgd of wastewater and has average wastewater flows of 19.9 mgd. Therefore, its residual capacity is approximately 8.1 mgd. The total wastewater that would be generated by the Modified Project would equate to approximately one percent of OCSD's and IRWD's combined total remaining daily treatment capacity.

Additionally, a forecast Phase III expansion of IRWD's MWRP would increase the capacity to 33 mgd by 2025 (IRWD 2016b), resulting in an additional capacity of 5 mgd at this treatment plant. Furthermore, in order for OCSD to keep its facilities in good condition to prevent system failures, permit violations, sewage spills, and beach closures, residential and nonresidential developments are assessed a yearly sewer service fee by OCSD. The sewer service fee is for the collection, treatment, and disposal of wastewater that is collected, treated, and/or recycled by OCSD. The fee is collected annually as a line item on property tax bills (OCSD 2016).

Based on the preceding and similar to the Adopted Specific Plan, the Modified Project's wastewater generation could be adequately treated by both OCSD's and IRWD's wastewater treatment facilities—and would therefore not exceed OCSD's or IRWD's treatment facility capacities. Therefore, implementation of the Modified Project would not result in a new significant impact or substantially greater impact to a previously identified significant effect when compared to the Adopted Specific Plan.

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**Impact 5.8-2: Similar to the Adopted Specific Plan, wastewater generated by the Modified Project could be adequately collected and conveyed. [Threshold U-2]**

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### *Impact Analysis:*

#### *Onsite*

IRWD collects and conveys wastewater from the Specific Plan area through its regional collection systems in Harvard Avenue (which runs north-south and abuts the eastern boundary of the Specific Plan area) and Armstrong Avenue (which runs north-south within the western portion of the Specific Plan area). Onsite drainage basins further subdivide the Armstrong Avenue sewerhed within the Specific Plan area into six

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basins: Tustin Ranch Road North, Tustin Ranch Road Central, Tustin Ranch Road South, Armstrong North, Armstrong East, and Armstrong West. Separate onsite sewer trunk systems have recently been constructed to convey flows from each of these basins, which are shown in Figure 5.8-1, *Sewer Drainage Basins*.

The majority of the onsite sewer collection system for the Specific Plan areas is constructed and in operation. Proposed development and roadway patterns are still in the early planning stages for Planning Area 15A, as well as Planning Area 8, 13-14. Relatively flat topography of these future planning areas could result in design of in-tract sewer systems in any direction. Multiple sewer options for these planning areas could optimize sewer flows through existing trunk sewer systems. For future development in Planning Area 15A, this would mean optimizing the distribution of tributary flows through Planning Area 15B, or direct conveyance to existing manholes on the trunk sewer systems in Legacy Park Drive, Moffett Drive, Tustin Ranch Road, and/or Victoria Road.

Proposed sewer mains would be built under proposed developments, mostly under proposed roadways. Impacts of construction of the proposed sewer mains would be part of the impacts of construction of the whole project analyzed throughout Chapter 5 of this DSEIR. No new significant impact would occur.

Based on the preceding and similar to the Adopted Specific Plan, the Modified Project would not cause a substantial impact on IRWD's wastewater collection and conveyance system. Therefore, implementation of the Modified Project would not result in a new significant impact or substantially greater impact to a previously identified significant effect when compared to the Adopted Specific Plan.

#### *Offsite*

Existing and proposed onsite sewers would connect to two existing trunk sewers, the Armstrong Avenue Trunk Sewer and the Harvard Avenue Trunk Sewer. The Sub Area Master Plan (SAMP) prepared for the Modified Project concluded that the two trunk sewers have sufficient capacity to convey wastewater from the Modified Project at project buildout, and no off-site sewer improvements are required.

#### **5.8.1.4 CUMULATIVE IMPACTS**

The area considered for cumulative impacts IRWD's wastewater service area. Three agencies treat wastewater collected in IRWD's service area: IRWD, OCSD, and the Santa Margarita Water District. As discussed above, project area wastewater is treated at OCSD's Reclamation Plant No. 1 and IRWD's MWRP. Table 5.8-2 shows the total wastewater collection in IRWD's service area. In 2015 total wastewater collection in IRWD's service area was 33,890 acre-feet (af). In the same year, approximately 26,072 af of wastewater—that is, about 77 percent of wastewater collected in IRWD's service area—was treated at IRWD's two water recycling plants, the MWRP and the Los Alisos Water Recycling Plant in the City of Lake Forest (see Table 5.8-2, below) (IRWD 2016a).

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**Table 5.8-2 Wastewater Collection in IRWD's Service Area, 2015**

Agency	Facility	Wastewater Collected, af
IRWD	MWRP	22,267
	Los Alisos Water Recycling Plant	3,805
	<b>Subtotal</b>	<b>26,072</b>
Orange County Sanitation District	Treatment Plant No. 1	7,288
Santa Margarita Water District	Chiquita Water Reclamation Plant	529
<b>Total</b>		<b>33,890</b>

Source: IRWD 2016a.

Wastewater generation in IRWD's wastewater service area is projected to increase to 32,792 af in 2035.<sup>1</sup> The total wastewater treatment capacity of IRWD's two facilities in 2035 is estimated to be 33 mgd for the MWRP and 7.5 mgd for the Los Alisos plant, for a total of 40.5 mgd or about 45,400 acre-feet per year (afy) (IRWD 2016a; IRWD 2016b; IRWD 2016c). As discussed previously, Reclamation Plant No. 1 has a remaining capacity of approximately 107 mgd (119,935 afy) (OCSD 2013). Therefore, the wastewater treatment plants have adequate capacity to serve growth within IRWD's service area. Furthermore, plant design capacities are required to be based on SCAG's regional growth forecasts. Like the Adopted Specific Plan, no significant cumulative impact on wastewater treatment capacity is anticipated, and Modified Project impacts would not be cumulatively considerable.

**5.8.1.5 EXISTING REGULATIONS AND STANDARD CONDITIONS**

**Federal**

- United States Code, Title 33, Sections 1251 et seq.: Clean Water Act

**5.8.1.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION**

The following impacts would not result in new significant impacts or substantially increase the severity of impacts identified for the Adopted Specific Plan: 5.8-1.

**5.8.1.7 MITIGATION MEASURES**

No mitigation measures are required.

**5.8.1.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

**Impact 5.8-1**

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to

<sup>1</sup> Estimated as by pro-rating the 2015 collection volume (26,072 af) by the forecast population increase in IRWD's service area over the 2015-2035 period. Such forecast population increase is from 381,463 in 2015 to 479,783 in 2035—an increase of 98,320 or about 26 percent (IRWD 2016a)

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wastewater treatment facilities. The Modified Project would reduce the average and peak demand wastewater, compared to the analysis provided in the FEIS/EIR. Like the Adopted Specific Plan, the Modified Project would result in less than significant impacts and no mitigation measures would be required.

#### Impact 5.8-2

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of previously identified significant impacts, with respect to wastewater conveyance facilities. The Modified Project would reduce the average and peak demand wastewater, compared to the analysis provided in the FEIS/EIR and construction of the future conveyance facilities would be similar. Like the Adopted Specific Plan, the Modified Project would result in less than significant impacts and no mitigation measures would be required.

### 5.8.2 Water Supply and Distribution Systems

The information in this Section is based in part on the following technical studies:

- *Water Supply Assessment for the Tustin Legacy Specific Plan Amendment (WSA)*, approved by the Irvine Ranch Water District Board of Directors on July 13, 2015. A complete copy of the WSA is included as Appendix F of this DSEIR.
- *Tustin Legacy Specific Plan Amendment Sub Area Master Plan*, Michael Baker International, March 16, 2017. A complete copy of this plan is included as Appendix G of this DSEIR.

#### 5.8.2.1 ENVIRONMENTAL SETTING

##### Regulatory Background

Laws, regulations, and plans that are potentially applicable to the Modified Project are summarized below.

##### *State*

##### *Urban Water Management Planning Act*

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires preparation of a plan that:

- Plans for water supply and assesses reliability of each source of water, over a 20-year period, in five-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (Senate Bill 7 of

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Special Extended Session 7 (SBX7-7)), which amends the act and adds new water conservation provisions to the Water Code.

### *20x2020 Water Conservation Plan*

The 20x2020 Water Conservation Plan, issued by the Department of Water Resources (DWR) in 2010 pursuant to the Water Conservation Act of 2009 (SBX7-7), established a water conservation target of 20 percent reduction in water use by 2020 compared to 2005 baseline use.

### *Senate Bill 610: Water Supply Assessments*

Senate Bill 610 (SB 610; 2001) amended the California Urban Water Management Planning Act, Section 10610 et seq. of the California Water Code. It mandates that a city or county approving certain projects subject to CEQA 1) identify any public water system that may supply water for the project, and 2) request those public water systems to prepare a specified water supply assessment. The assessment is to include the following:

1. A discussion of whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection would meet the projected water demand associated with the proposed project in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.
2. The identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts.
3. A description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights, or water service contracts.
4. A demonstration of water supply entitlements, water rights, or water service contracts.
5. The identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts to the same source of water as the public water system.
6. Additional information is required if groundwater is included in the supply for the proposed project.

The water supply assessment shall be included in any environmental document prepared for the project. The assessment may include an evaluation of any information included in that environmental document. A determination shall be made whether the projected water supplies would be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

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SB 610 requires new information to be included as part of an urban water management plan if groundwater is identified as a source of water available to the supplier. Information must include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 prohibits eligibility for funds from specified bond acts until the plan is submitted to the state.

#### *Executive Orders Regarding Current Drought*

California is in its fourth consecutive year of drought, and most of California remains in exceptional drought conditions.<sup>2</sup> On April 1, 2015, Governor Brown issued Executive Order B-29-15, finding that, among other things, "...conditions of extreme peril to the safety of persons and property continue to exist in California due to water shortage and drought conditions..." and ordering that the "State Water Resources Control Board shall impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016" (Brown 2015). The State Water Resources Control Board issued final water conservation targets for water suppliers on July 15, 2015. The water conservation requirement for the IRWD is 16 percent (SWRCB 2015). On November 13, 2015, Governor Brown issued Executive Order B-36-15 calling for an extension of urban water use restrictions until October 31, 2016, should drought conditions persist. While the state experienced some much-needed snow and rainfall in December 2015 and January 2016, surface storage remains at or near historic lows, precipitation has been inconsistent, and snowpack is about average (SWRCB 2016).

Governor Brown issued Executive Order B-37-16 on May 9, 2016, including the following provisions:

- Making permanent several previous temporary prohibitions on wasteful outdoor water uses such as hosing off paved areas, washing automobiles with hoses not equipped with a shut-off nozzle, and watering lawns in a manner that causes runoff.
- Water providers' Water Shortage Contingency Plans must be strengthened to include plans for droughts lasting at least five years.
- The Department of Water Resources and the State Water Resources Control Board will require urban water suppliers to report water use, conservation, and enforcement monthly; and will develop new water efficiency targets for water suppliers (Executive Department 2016).

The State Water Resources Control Board issued an emergency regulation on May 18, 2016, pursuant to Executive Order B-37-16 requiring water providers to certify that they had sufficient water supplies to meet demands in their service areas for three consecutive dry years. This requirement replaced the mandatory water use reductions, averaging 25 percent compared to 2013 use, ordered by the SWRCB in July 2015 (SWRCB 2016).

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<sup>2</sup> Exceptional drought is the most severe of five stages of dry to drought conditions defined by the National Drought Mitigation Center at the University of Nebraska, Lincoln (NDMC 2016).

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### *Regional*

An Integrated Regional Water Management Plan for the Santa Ana Watershed (called *One Water One Watershed*) was updated in 2014. The Integrated Regional Water Management Plan includes planning of future water demands and supplies over a 20-year time horizon within the watershed as a hydrologic and interconnected system. The plan represents collaboration across jurisdictions and political boundaries involving multiple agencies, stakeholders, individuals, and groups; and attempts to address the issues and differing perspectives of all the entities involved through mutually beneficial solutions. The plan reflects a new suite of innovative approaches that instead of relying solely on continued imported water deliveries to meet growing water demands in the region, is leading with a water demand reduction strategy. (SAWPA 2014).

### *Local*

The IRWD approved its 2015 Urban Water Management Plan (UWMP) on June 27, 2016. The UWMP describes IRWD's water system; historic, current, and forecast water demands and supplies; and water supply reliability over a 20 year planning horizon. The UWMP describes IRWD's Water Shortage Contingency Plan (WSCP), consisting of four levels ranging from a 10-percent water supply reduction (Level 1) to a 50-percent water supply reduction (Level 2). IRWD declared a Level 2 Shortage Condition in July 2015 (IRWD 2016).

### *City of Tustin Municipal Code*

The City of Tustin's Water Efficient Landscapes ordinance is set forth in Sections 9701 et seq. of its Municipal Code.

The City of Tustin's Water Conservation Program is set forth in Sections 4950 et seq. of its Municipal Code. The Water Conservation Program consists of four stages of increasing restrictions on water use. Compliance with Stage 1 is voluntary, while compliance with stages 2 through 4 is mandatory. Stages 1 and 2 consist largely of restrictions on outdoor water use; while stages 3 and 4 also include restrictions on commercial, industrial, institutional, manufacturing or processing use.

## **Existing Conditions**

### *Potable Water*

IRWD supplies water to the project site. IRWD potable water supplies consist of groundwater and treated imported water from northern California and the Colorado River. IRWD potable water supplies in 2015 consisted of about 21 percent imported water and 79 percent groundwater (IRWD 2016). IRWD's projected potable water demand supply capability for 2025 through 2035 consists of about 41 percent imported water, 55 percent groundwater, and 4 percent surface water from Irvine Lake (IRWD 2015).

### *Imported Water*

IRWD obtains water imported from the Colorado River, and from northern California via the State Water Project by the Metropolitan Water District of Southern California and purchased through the Municipal Water District of Orange County. In 2015 IRWD's total water supplies included about 13 percent treated

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imported water and 6 percent raw imported water. Raw imported water is used for agricultural and landscape irrigation and to supplement recycled water supplies during peak demands (IRWD 2015).

#### *Groundwater*

Over half of IRWD's water is groundwater from the Main Orange County Groundwater Basin (Basin), the Irvine Subbasin, and the Lake Forest Subbasin. The Basin and the Irvine Subbasin are managed by the Orange County Water District. Groundwater from the Irvine Subbasin is generally higher in total dissolved solids, color, and nitrates than groundwater from the Basin. IRWD operates the Irvine Desalter, which treats some of the groundwater from the Irvine Subbasin for potable use; has 5 mgd capacity; and produces about 4.6 mgd treated water. Some groundwater from near the former Marine Corps Air Station El Toro is contaminated with volatile organic compounds. IRWD operates two treatment plants that clean up contaminated groundwater and have combined capacity of about 3.7 mgd; the treated water is used as recycled water (IRWD 2015).

#### *Surface Water*

IRWD uses surface water from Irvine Lake, which originates from Santiago Creek – a stream on the west side of the Santa Ana Mountains tributary to Irvine Lake – for agricultural irrigation and recycled water uses. IRWD's share of surface water from Irvine Lake ranges from approximately 4,000 afy in normal water years to about 1,000 afy in dry years (IRWD 2015).

#### *Future Potable Water Sources*

Future potable water sources identified in the WSA consist of the Baker Water Treatment Plant (Baker WTP) and additional groundwater production. The Baker WTP, a joint project between IRWD and four other water districts, will treat raw imported water and local surface water from Irvine Lake for potable use. The Baker WTP will have 31,500 afy capacity, of which IRWD will own rights to about 7,607 afy (IRWD 2015; IRWD 2016). Construction of the Baker WTP was recently completed, and testing of the facility is underway (IRWD et al. 2016).

IRWD has seven groundwater wells in the west Irvine, Tustin Legacy, and Tustin Ranch portions of the Basin, and a site for another well and treatment facility in addition to the seven aforementioned wells. Forecast future supplies by 2025 amount to about 19,211 afy, consisting of 7,607 afy from the Baker WTP and 11,604 afy additional groundwater production (IRWD 2015).

#### *Potable Water Supplies Summary*

Current and planned IRWD potable water supplies are summarized in Table 5.8-3.

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**Table 5.8-3 Current and Planned IRWD Potable Water Supplies, afy**

		2015	2020	2025	2030	2035
Current Supplies	Imported Water, Treated	41,929	41,929	41,929	41,929	41,929
	Groundwater	49,171	49,171	49,171	49,171	49,171
	<b>Subtotal</b>	91,100	91,100	91,100	91,100	91,100
Supplies Under Development	Baker Water Treatment Plant	0	7,607	7,607	7,607	7,607
	Groundwater	0	2,721	11,604	11,604	11,604
	<b>Subtotal</b>		10,328	19,211	19,211	19,211
<b>Maximum Supply Capability</b>		<b>91,100</b>	<b>101,427</b>	<b>110,311</b>	<b>110,311</b>	<b>110,311</b>
Existing/Projected Demand		63,762	70,487	77,658	81,470	83,657
Reserve Supply		27,338	30,940	32,653	28,841	26,654

Source: IRWD 2015; IRWD 2016.

*Nonpotable Water*

Nonpotable water sources include recycled water, raw imported water, groundwater treated at the Irvine Desalter, and surface water from Irvine Lake.

*Recycled Water*

Wastewater from IRWD’s service area is treated at the MWRP, IRWD’s Los Alisos Water Recycling Plant, Orange County Sanitation District’s two wastewater treatment plants, and the Santa Margarita Water District’s Chiquita Water Reclamation Plant in the City of Rancho Santa Margarita. In 2015 about 83 percent of recycled water in IRWD’s service area was used for landscape irrigation, and 12 percent for agricultural irrigation (IRWD 2016). IRWD obtains raw imported water from the Municipal Water District of Orange County. Some of the groundwater treated at the Irvine Desalter is used for irrigation.

Water from Irvine Lake is currently used to supplement IRWD’s recycled water supply. By 2020, IRWD’s Irvine Lake water supply will be treated at the Baker WTP and included in IRWD’s potable water supplies; Irvine Lake water is thus omitted from nonpotable supply projections for 2020 through 2035.

*Nonpotable Water Supplies Summary*

Actual 2015 nonpotable water supplies are summarized in Table 5.8-4 as well as projected demand through 2035.

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**Table 5.8-4 Existing IRWD Nonpotable Water Supplies, afy**

		2015	2020	2025	2030	2035
Recycled Water	Existing	18,657	18,657	18,657	18,657	18,657
	Future	---	10,100	10,100	10,100	10,100
Raw Imported Water		17,826	17,826	17,826	17,826	17,826
Groundwater – Irvine Desalter		3,514	3,514	3,514	3,514	3,514
Irvine Lake Surface Water		3,000	---	---	---	---
<b>Maximum Supply Capability</b>		<b>42,997</b>	<b>50,097</b>	<b>50,097</b>	<b>50,097</b>	<b>50,097</b>
Existing/Projected Demand		28,239	29,785	30,690	30,294	29,896
Reserve Supply		14,758	20,312	19,407	19,803	20,201

Source: IRWD 2015.

### *Water Reliability and Ongoing California Drought*

As stated, California is in its fifth consecutive year of drought, and much of California remains in exceptional drought conditions.<sup>3</sup> IRWD determined—in the WSA for the Modified Project as well as in its 2015 Urban Water Management Plan—that it has sufficient forecast water supplies over the 2020-2035 period to meet water demands in its service area for three consecutive dry years, thus meeting the requirement issued by the SWRCB in May 2016. IRWD also found that it has adequate water supplies to meet demands over the same period during normal and single-dry years.

### *Imported Water*

#### *Constraints on State Water Project Supplies*

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. In 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. In 2009 a federal biological opinion imposed rules that further restrict water diversions from the Delta to protect endangered salmon and other endangered fish species. MWD forecast in its 2010 Integrated Water Resources Plan (IRP) Update that it will be able to meet retail water demands in its service area in all foreseeable hydrologic conditions. MWD estimates that imported water supplies could be reduced by up to 16 percent over the 2015-2035 period compared to supplies forecast in its 2004 IRP Update.

MWD states it is sufficiently reliable to meet full-service demands at the retail level for all foreseeable hydrologic conditions.

Based on IRWD's evaluation of MWD's SWP supplies, IRWD estimates that the 22 percent used by MWD's October 2007 IRP Implementation Report as a potential reduction of MWD's SWP supplies conservatively translates to approximately 16 percent reduction in all of MWD's imported supplies over the years 2015

<sup>3</sup> Exceptional drought is the most severe of five stages of dry to drought conditions defined by the National Drought Mitigation Center at the University of Nebraska Lincoln (NDMC 2016).

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through 2035. For this purpose it is assumed that MWD's total supplies consist only of imported SWP and Colorado deliveries. 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 percent reduction of SWP supplies equates to 370,000 acre-feet which is approximately 16 percent of MWD's total imported supplies.

As an alternative means of analyzing the 22 percent stated reduction, IRWD estimated supplies under a short-term MWD allocation scenario whereby MWD declares a Level 5 Regional Shortage Level under its Water Supply Allocation Plan, adopted in February 2009 and a cutback is applied to IRWD's actual usage rather than its connected capacity. IRWD's 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 percent 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 percent of its total supplies.

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. 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. 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.

IRWD's approach is conservative, in that IRWD evaluates the effect of the 16 percent 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*

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. MWD continues to incorporate current climate change science into its planning efforts. 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.

### **5.8.2.2 THRESHOLDS OF SIGNIFICANCE**

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

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- U-2            Would 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.
- U-4            Would not have sufficient water supplies available to serve the project from existing entitlements and resources, and new and/or expanded entitlements would be needed.
- HYD-2        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).

#### 5.8.2.3 ENVIRONMENTAL IMPACTS

##### Summary of Impacts Associated with the Adopted Project

###### *FEIS/EIR*

The 2001 FEIS/EIR determined that at buildout the MCAS Tustin Specific Plan would demand 2.8 million gallons per day (mgd) of water and 1.8 mgd of reclaimed water. All utility infrastructure, would be designed to adequately accommodate development. The IRWD determined that it had sufficient water supplies, and offsite delivery system, for the Adopted Project as analyzed in the 2001 FEIS/EIR. The IRWD also determined that water distribution improvements would be required within the project site to convey water required by the Adopted Project as analyzed in the 2001 FEIS/EIR.

###### *2008 SAMP*

###### *Potable Water*

The MCAS Tustin/Legacy Park Revised Sub-area Master Plan (SAMP) completed by RBF Consulting in September 2008 determined that potable water demands in the MCAS Tustin Study Area would average 2.3 mgd (RBF 2008). It determined that the existing water mains would be inadequate for distribution of potable water Adopted Project at buildout. The Adopted Specific Plan required the construction of a network of new water mains and phased abandonment of existing mains.

###### *Reclaimed Water*

The 2008 SAMP estimated that the Adopted Specific Plan's nonpotable water demands would average 1.7 mgd. IRWD had reclaimed water treatment capacity of about 18 mgd and total reclaimed water demands of approximately 14 mgd, and thus had sufficient residual reclaimed water treatment capacity to meet estimated project demands. The Adopted Project included a network of reclaimed water lines.

##### Environmental Impacts of the Modified Project

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.8-3: Similar to the Adopted Specific Plan, water supplies would be adequate to meet requirements of the Modified Project. Existing water treatment facilities in the region have sufficient capacity to meet Modified Project water demands, and no new or expanded water treatment facilities would be required. [Thresholds U-4 and HYD-2]**

*Impact Analysis:*

**Potable Water**

Potable water demands by the Modified Project are estimated at 2.0 mgd (1,968,801 gpd), consisting of 1.2 mgd (1,190,663 gpd) indoor demands in residential uses, 0.2 mgd (201,478 gpd) indoor demands in nonresidential uses, and 0.5 mgd (576,660 gpd) irrigation demands on private areas in residential uses (see Table 5.8-5). Total estimated potable water demands of the Modified Project are about 0.8 mgd (775,533 gpd) less than analyzed in the certified FEIS/EIR and 0.2 mgd (227,694 gpd) less than estimated demands of the Adopted Project analyzed in the 2008 SAMP.

**Table 5.8-5 Estimated Potable Water Demand by Modified Project, gpd**

	Residential Uses	Nonresidential Uses	Total
Indoor	1,190,663	201,478	1,392,141
Irrigation (private areas)	576,660	---	576,660
<b>Total</b>	<b>1,767,323</b>	<b>201,478</b>	<b>1,968,801</b>

Source: Michael Baker International 2016.

The WSA determined that IRWD has sufficient residual water supplies to meet the potable water demands of the Modified Project based on very conservative water demand estimates. Furthermore, forecast water demand for the Modified Project has decreased compared to demands for the Adopted Specific Plan accounted for in IRWD’s 2015 Urban Water Management Plan (UWMP); and, therefore, are included in the water demand projections used in the UWMP. Modified Project buildout would not require IRWD to obtain new or expanded water supplies, and no additional impacts would occur.

**Nonpotable Water**

Nonpotable water would be used in nonresidential uses—for toilet flushing (buildings would be dual plumbed for potable and nonpotable water) and for irrigation of common landscaped areas. Nonpotable water demands by the Modified Project are estimated at 1,691,572 gpd—604,493 gpd for flushing toilets in nonresidential uses and 1,087,079 gpd common area irrigation (see Table 5.8-6). Total estimated nonpotable water demand by the Modified Project is almost equal to the 1,692,370 gpd nonpotable water demand estimated for the Adopted Project in the 2008 SAMP.

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**Table 5.8-6 Estimated Nonpotable Water Demand by Modified Project, gpd**

	Residential Uses	Nonresidential Uses	Common Area Irrigation	Total
Indoor	---	604,493 <sup>1</sup>	---	604,493
Irrigation	---	---	1,087,079	1,087,079
<b>Total</b>	---	<b>604,493</b>	<b>1,087,079</b>	<b>1,691,572</b>

Source: Michael Baker International 2016.

<sup>1</sup> Nonresidential uses would be dual-plumbed with nonpotable water used for toilet flushing.

The WSA determined that IRWD has sufficient residual water supplies to meet the nonpotable water demand of the Modified Project and that buildout of the Modified Project would not require IRWD to obtain new or expanded water supplies. Impacts would be less than significant.

### Groundwater Supplies

The WSA assessed IRWD groundwater supplies compared to groundwater demands over the 2015-2035 period. As the WSA concluded that IRWD has sufficient overall forecast water supplies to meet forecast demands in addition to demands of the Modified Project over the aforementioned period; and groundwater comprises part of both IRWD's potable and nonpotable water supplies; thus, water demands of the Modified Project would not substantially diminish groundwater supplies. No additional impacts would occur.

### Groundwater Recharge

The project site is not used for intentional groundwater recharge. Existing soils onsite have poor infiltration capacity due to high groundwater levels and groundwater contamination. The Modified Project would include development of vegetated strips and swales, bioretention systems, and biofiltration planter boxes and basins. Each of these types of features would allow runoff to infiltrate into engineered soil and biofiltration of the infiltrated runoff. Each of these types of features would also include underdrains that would convey treated runoff into storm drains (MBI 2017).

The Modified Project also includes a planned large detention basin, including a vegetated swale for biofiltration, in the southeast corner of the project site. The detention basin would provide water quality treatment for runoff and would help control peak runoff flows to downstream storm drains during storms (MBI 2017).

Considering the limited existing groundwater recharge onsite, and the water quality features proposed as part of the Modified Project, buildout of the Modified Project would not substantially interfere with groundwater recharge. No new significant impacts would occur.

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**Impact 5.8-4: Similar to the Adopted Specific Plan, water needed by the Modified Project could be adequately treated by the water service treatment providers. [Thresholds U-2 (part)]**

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*Impact Analysis:* As demonstrated above, buildout of the Modified Project would reduce overall water demand as compared to the Adopted Specific Plan and the 2008 SAMP forecasts.

## 5. Environmental Analysis UTILITIES AND SERVICE SYSTEM

### Potable Water Treatment Facilities

IRWD receives imported water treated at the Robert Diemer Filtration Plant, near the City of Yorba Linda, which has 520 mgd capacity. Treated water production at the Diemer Filtration Plant in 2015 was 249,666 af or about 223 mgd (MWD 2106); thus, residual capacity at the facility is approximately 297 mgd. IRWD's Irvine Desalter has capacity of 5 mgd and produces about 4.6 mgd; some treated water from the Irvine Desalter is used as potable water. There are sufficient water treatment facilities in the region for forecast Modified Project water demands, and Modified Project buildout would not require construction of new or expanded water treatment facilities. No new significant impacts would occur.

### Recycled Water Treatment Facilities

Recycled water treatment capacity is addressed above in Section 5.8.1, *Wastewater Treatment and Collection*. There is sufficient wastewater treatment capacity in the region to meet forecast Modified Project recycled water demands, and Modified Project buildout would not require construction of new or expanded wastewater treatment facilities. No new significant impacts would occur.

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**Impact 5.8-5: Similar to the Adopted Specific Plan, water delivery improvements within the project site would be required to meet Modified Project water demands. [Thresholds U-2 (part)]**

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#### *Impact Analysis:*

#### **Potable Water**

The Modified Project includes a proposed backbone potable water distribution system with backbone pipelines ranging from 8 to 16 inches in diameter. Much of the on-site backbone system for the Specific Plan area has been built. Additional service pipelines proposed in Planning Areas 8, 9-12, 13, 14, and 15A would provide additional looping to enhance system reliability and maximize capacity of the potable water system (see Figure 5.8-2, *Potable Water System*). Proposed backbone water pipelines would be built under proposed roadways. Impacts of pipeline construction would be part of the impacts of construction of the whole project analyzed throughout Chapter 5 of this DSEIR. No new significant impacts would occur.

#### **Nonpotable Water**

The Modified Project includes a proposed system of backbone nonpotable water pipelines ranging from 4 to 27 inches in diameter (see Figure 5.8-3, *Nonpotable Water System*). The backbone facilities in Armstrong Avenue, Valencia Avenue, Moffett Drive, and Barranca Parkway are complete and in operation. The 16-inch Moffett Drive transmission system is proposed to extend to IRWD's Valencia Avenue system by way of in-tract piping through Planning Area 15A. Until Planning Area 15-A is developed, the nonpotable water system will not have the benefit of this major circulation system, and interim service for near-term development in the Specific Plan area will be impacted. Proposed backbone water pipelines would be built under proposed roadways. Impacts of pipeline construction would be part of the impacts of construction of the whole project analyzed throughout Chapter 5 of this DSEIR. No new significant impacts would occur.

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

#### 5.8.2.4 CUMULATIVE IMPACTS

Cumulative impacts are addressed in estimates of IRWD systemwide supplies and demands over the 2015-2035 period (see Section 5.8.2.3, above). IRWD forecasts that it will have adequate water supplies to meet demands in its service area over the 2015-2035 period in normal-year and dry-year conditions, and cumulative impacts would be less than significant. Like the Adopted Specific Plan, Modified Project impacts would not be cumulatively considerable.

As discussed under Impact 5.8-4, there is adequate capacity to treat water demand in IRWD's service area at the Robert Diemer Filtration Plant and Irvine Desalter. The Diemer Filtration Plant has residual capacity of about 297 mgd (MWD 2016), and the Irvine Desalter has residual capacity of about 0.4 mgd (IRWD 2015).

#### 5.8.2.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

##### State

- California Water Code Sections 10610 et seq.: Urban Water Management Planning Act
- Senate Bill X7-7 (2009): Water Conservation Act of 2009
- Executive Order B-37-16

##### City of Tustin

- Water Efficient Landscape Ordinance (Municipal Code Sections 9701 et seq.)
- Water Conservation Program (Municipal Code Sections 4950 et seq.)

##### Irvine Ranch Water District

- Water Shortage Contingency Plan

#### 5.8.2.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

The following impacts would not result in new significant impacts or substantially increase the severity of impacts identified for the Adopted Specific Plan: Impacts 5.8-3, 5.8-4, and 5.8-5.

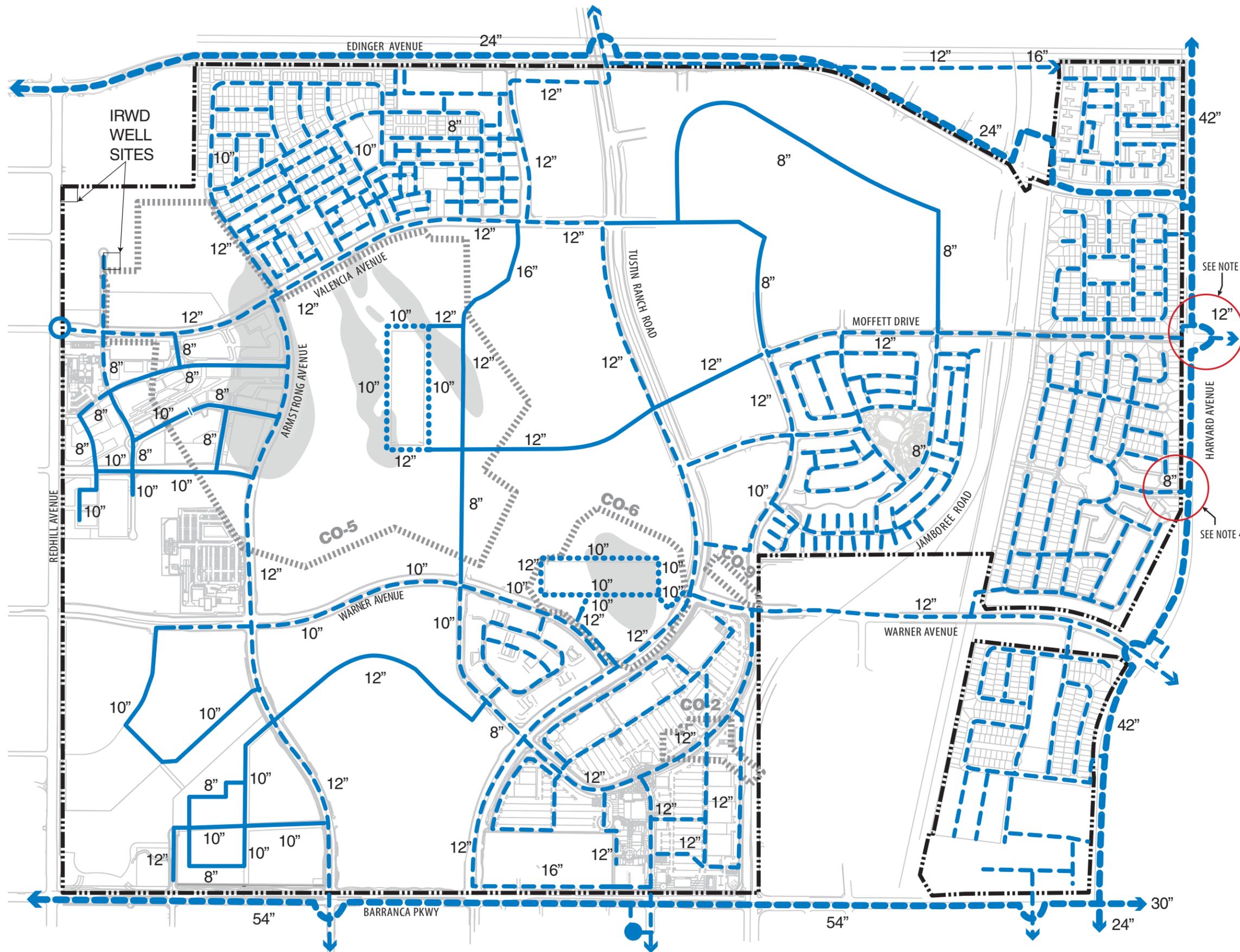
#### 5.8.2.7 MITIGATION MEASURES

No mitigation measures are necessary.

5. Environmental Analysis

Figure 5.8-2

Potable Water System



- Project Boundary
- City of Tustin Interconnect (Closed)
- Closed Valve
- Existing Pipelines (Private System)
- Existing Transmission Mains
- Existing Pipelines or Pipelines with Approved Design
- Proposed Potable Water Pipelines
- Carve-Out Areas
- 10" Pipe Diameter
- VOC "Plume" Areas

NOTES:

1. Pipelines are 8 inch unless noted otherwise.
2. If the 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.

CITY OF TUSTIN  
TUSTIN LEGACY SPECIFIC PLAN  
**DRAFT SEIR**



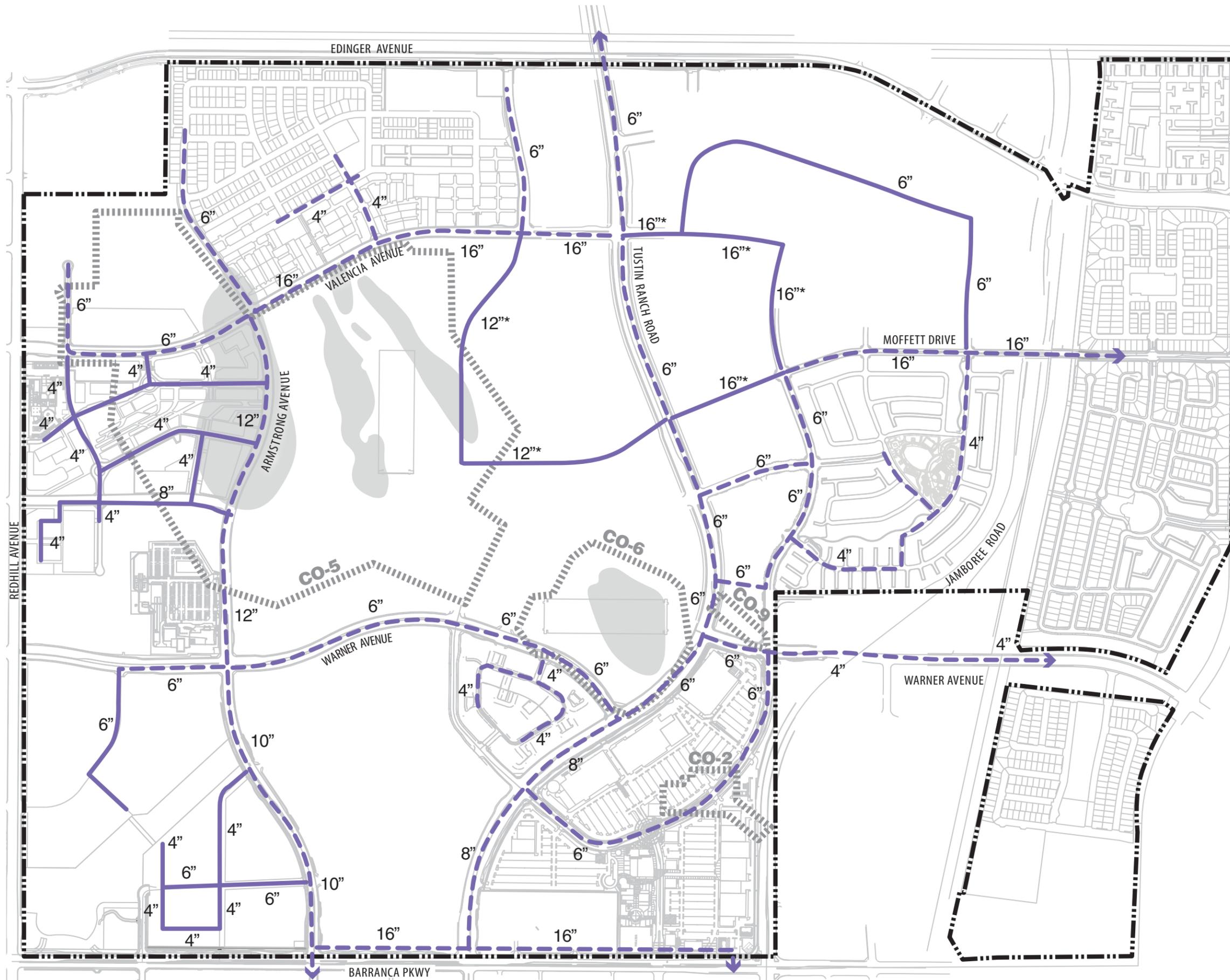
## 5. Environmental Analysis UTILITIES AND SERVICE SYSTEMS

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5. Environmental Analysis

Figure 5.8-3

Nonpotable Water System



- Project Boundary
- Existing Pipelines or Pipelines with Approved Design
- Proposed Non-Potable Water Pipelines
- Minimum Pipe Diameter Under Ultimate TLSP Buildout
- Carve-Out Areas
- VOC "Plume" Areas

\* Pipe sizes marked with an asterisk indicate the pipe size required if either PA-8/HS or PA-15a develops first. It is the responsibility of the developer's engineer to prepare a SAMP amendment addressing the possibility of reducing the pipe sizes of the area that develops second.

## 5. Environmental Analysis UTILITIES AND SERVICE SYSTEMS

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## 5. Environmental Analysis UTILITIES AND SERVICE SYSTEM

### 5.8.2.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

#### Impact 5.8-3

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to water supply. Like the Adopted Specific Plan, IRWD determined that it has sufficient residual water supplies to meet the potable and nonpotable water demands of the Modified Project. Furthermore, forecast water demand for the Modified Project has decreased compared to demands for the Adopted Specific Plan. Like the Adopted Specific Plan, Impact 5.8-3 would be less than significant.

#### Impact 5.8-4

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to water treatment facilities. Buildout of the Modified Project would reduce overall water demand as compared to the Adopted Specific Plan and the 2008 SAMP forecasts and impacts to the water treatment facilities would be less. The water treatment facilities have adequate capacity to treat the water demand of the Modified Project. Like the Adopted Specific Plan, Impact 5.8-4 would be less than significant.

#### Impact 5.8-5

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to water conveyance facilities. The Modified Project would reduce the overall water demand, compared to the analysis provided in the FEIS/EIR and construction of the future conveyance facilities would be similar. Like the Adopted Specific Plan, Impact 5.8-5 would be less than significant.

### 5.8.3 References

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## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

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## 6. Significant Unavoidable Adverse Impacts

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Table 1-3 of Chapter 1, *Executive Summary*, summarizes the Modified Project's impacts, mitigation measures, and levels of significance before and after mitigation is applied. Mitigation measures would reduce the level of impact, but the following impacts would remain significant, unavoidable, and adverse after mitigation measures are applied:

### 6.1 AIR QUALITY

Impacts related to air quality were identified as significant and unavoidable under the FEIS/EIR.

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**Impact 5.1-1: Similar to the Adopted Specific Plan, the Modified Project would be inconsistent with the applicable Air Quality Management Plan.**

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Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to consistency with the AQMP. Like the Adopted Specific Plan, the Modified Project, due to the scale of development activity associated with the Modified Project, emissions would exceed the SCAQMD's significance thresholds and cumulatively contribute to the nonattainment designations of the SCAB. While implementation of Mitigation Measures AQ-1 through AQ-4 would contribute to reduce regional operational phase emissions and impacts to the extent feasible, the additional growth associated with the Modified Project would still be inconsistent with the growth forecast assumed in the AQMP. Like the Adopted Specific Plan, Impact 5.1-1 would remain significant and unavoidable after mitigation is applied.

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**Impact 5.1-2: Construction activities associated with the Modified Project would generate short-term emissions and impacts similar to the Adopted Specific Plan.**

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Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to regional construction-related air quality impacts. While the Modified Project would incrementally increase criteria pollutants related to construction compared to the Adopted Specific Plan, it would not result in the substantial increase in severity of the previously identified impact. Although incorporation of Mitigation Measures AQ-1, AQ-2, AQ-5, and AQ-6 would reduce construction-related criteria air pollutant emissions, the development of land uses accommodated under the Modified Project would exceed the SCAQMD regional construction significance thresholds due to the scale of development proposed. Like the Adopted Specific Plan, Impact 5.1-2 would remain significant and unavoidable after mitigation is applied.

## 6. Significant Unavoidable Adverse Impacts

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**Impact 5.1-3: The Modified Project, similar to the Adopted Specific Plan, would result in significant long-term regional air quality impacts.**

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Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to regional construction-related air quality impacts. Incorporation of Mitigation Measures AQ-3 and AQ-4 would contribute in reducing regional operation-phase criteria air pollutant emissions associated with operation of land uses accommodated under the Modified Project. Due to the scale of development proposed, the total overall operation-phase emissions associated with the Modified Project would continue to exceed the SCAQMD regional significance thresholds for operation and would result in an incremental increase in VOC emissions. Like the Adopted Specific Plan, Impact 5.1-3 would remain significant and unavoidable after mitigation is applied.

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**Impact 5.1-4: The Modified Project, similar to the Adopted Specific Plan, could expose sensitive receptors to substantial pollutant concentrations of criteria air pollutants during construction activities.**

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The FEIS/FEIR did not evaluate localized construction-related criteria air pollutant emissions because this was not included in SCAQMD's guidance for evaluating air quality impacts. In 2006, SCAQMD established a methodology and in 2008 required this analysis in air quality analyses. In accordance with these changes, modeling was conducted to forecast localized emissions from the Adopted Specific Plan and the Modified Project.

Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of impacts, with respect to localized construction-related air quality impacts. Based on the regional construction emissions shown in Table 5.1-7, it is anticipated that the Modified Project and Adopted Specific Plan would generate similar localized construction-related emissions and would both result in a significant localized construction-related emissions impacts. Implementation of Mitigation Measures AQ-1, AQ-5, and AQ-6 would reduce localized construction-related criteria air pollutant emissions associated with development of land uses accommodated under the Modified Project. However, because existing sensitive receptors may be close to project-related activities and because of the scale of development activity associated with this broad-based Modified Project, emissions generated by future individual projects have the potential to exceed SCAQMD's construction LSTs. Like the Adopted Specific Plan, Impact 5.1-4 would remain significant and unavoidable after mitigation is applied.

## 7. Impacts Found Not to Be Significant

California Public Resources Code Section 21003 (f) states: "...it is the policy of the state that...[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." This policy is reflected in the State California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that "[a]n EIR [Environmental Impact Report] shall identify and focus on the significant environmental impacts of the proposed project" and Section 15143, which states that "[t]he EIR shall focus on the significant effects on the environment." The Guidelines allow use of an Initial Study to document project effects that are less than significant (Guidelines Section 15063[a]). Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant, and were therefore not discussed in detail in the Draft EIR.

### 7.1 ASSESSMENT IN THE INITIAL STUDY

As described in Section 1.2.2, *Type and Purpose of This EIR*, this DSEIR has been prepared as a supplement to the FEIS/EIR consistent with Public Resources Code Section 21166 and CEQA Guidelines Sections 15162 and 15163. Pursuant to those sections, the Modified Project, as compared to the Adopted Specific Plan, would not result in any new significant impacts or an increase in the severity of significant impacts previously identified for the Adopted Specific Plan for the impacts listed below.

**Table 7-1 Impacts Found Not to Be Significant**

Environmental Issues	Initial Study Determination
<b>I. AESTHETICS. Would the project:</b>	
a) Have a substantial adverse effect on a scenic vista?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
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
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
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

## 7. Impacts Found Not to Be Significant

**Table 7-1 Impacts Found Not to Be Significant**

Environmental Issues	Initial Study Determination
<b>II. AGRICULTURE AND FOREST RESOURCES. 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 project:</b>	
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
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
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
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
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
<b>III. AIR QUALITY. 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 project:</b>	
e) Create objectionable odors affecting a substantial number of people?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
<b>IV. BIOLOGICAL RESOURCES. Would the project:</b>	
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
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
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
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
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
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

## 7. Impacts Found Not to Be Significant

**Table 7-1 Impacts Found Not to Be Significant**

Environmental Issues	Initial Study Determination
<b>V. CULTURAL RESOURCES. Would the project:</b>	
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
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
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
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
<b>VI. GEOLOGY AND SOILS. Would the project:</b>	
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
ii) Strong seismic ground shaking?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
iii) Seismic-related ground failure, including liquefaction?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
iv) Landslides?	No Impact
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
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
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
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
<b>VII. GREENHOUSE GAS EMISSIONS. Would the project:</b>	
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
<b>VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:</b>	
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
b) Create a significant hazard to the public or the environment through reasonable 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
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
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

## 7. Impacts Found Not to Be Significant

**Table 7-1 Impacts Found Not to Be Significant**

Environmental Issues	Initial Study Determination
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?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
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
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
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
<b>IX. HYDROLOGY AND WATER QUALITY. Would the project:</b>	
a) Violate any water quality standards or waste discharge requirements?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
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
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
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
f) Otherwise substantially degrade water quality?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
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
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
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
j) Inundation by seiche, tsunami, or mudflow?	No Impact
<b>X. LAND USE AND PLANNING. Would the project:</b>	
a) Physically divide an established community?	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	No Impact
<b>XI. MINERAL RESOURCES. Would the project:</b>	
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
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
<b>XII. NOISE. Would the project result in:</b>	
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
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

## 7. Impacts Found Not to Be Significant

**Table 7-1 Impacts Found Not to Be Significant**

Environmental Issues	Initial Study Determination
<b>XIII. POPULATION AND HOUSING. Would the project:</b>	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	No Impact
<b>XIV. PUBLIC SERVICES. Would the 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:</b>	
a) Fire protection?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
b) Police protection?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
d) Parks?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
e) Other public facilities?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
<b>XV. RECREATION.</b>	
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
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
<b>XVI. TRANSPORTATION/TRAFFIC. Would the project:</b>	
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
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
e) Result in inadequate emergency access?	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR
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
<b>XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:</b>	
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
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
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
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
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

## 7. Impacts Found Not to Be Significant

**Table 7-1 Impacts Found Not to Be Significant**

Environmental Issues	Initial Study Determination
<b>XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.</b>	
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

### Energy

#### *Electricity*

Buildout under the Modified Project would result in a net decrease in electricity demand of approximately 23,694 MWhr annually compared to the Adopted Specific Plan, as shown in Table 7-2. This net decrease is a result in the conversion of nonresidential uses to residential uses. Energy efficiency standards are higher for residential uses because of the California Energy Commission (CEC) goal to attain zero net energy for residential buildings by the year 2020. Therefore, there are sufficient planned electricity supplies in the region and buildout under the Modified would not require expanded electricity supplies.

**Table 7-2 Estimated Electricity Demands from Modified Project Buildout**

Land Use	Megawatt-hour per Year		
	Adopted Specific Plan	Modified Project	Net Change
Residential	18,693	30,905	12,213
Nonresidential	138,859	102,952	-35,906
<b>Total</b>	<b>157,552</b>	<b>133,858</b>	<b>-23,694</b>

Notes: Electricity demand factors used in estimating the demands shown above are from the California Emissions Estimator Model Version 2013.2.2 by California Air Pollution Control Officer's Association (CAPCOA) 2013.

Additionally, plans submitted for building permits of development projects in the Modified Project area would be required to include verification demonstrating compliance with the 2016 Building and Energy Efficiency Standards and are also required to be reviewed. Future projects would also be required adhere to the provisions of CALGreen, which established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

SCE submitted a comment letter on the Notice of Preparation mapping SCE's existing 66 kilovolt (kV) subtransmission lines and 220 kV transmission line. These include:

- 66 kV subtransmission line along Barranca Parkway
- 66 kV subtransmission line along the west side of PA 22 and between PA 21 and 22.
- 66 kV subtransmission line along the east side of PA 21 and 20.

## 7. Impacts Found Not to Be Significant

- 220 kV transmission lines along Barranca Parkway (south of PA 16-19, 8, 13-14, 9-12; west of PA 22 between PA 21 and 22; and east of PA 21 and 20).

Changes to the Specific Plan proposed as part of the Modified Project, are not expected to impact these facilities. Future development proposed as part of the Specific Plan would be required to initiate an electrical service evaluation and obtain the required electrical facilities to service the project. Encroachment permits from SCE would be required for any development that would encroach SCE's right-of-way. However, since the Modified Project would result in an overall decrease in electricity demand and the areas allowed for development would remain the same as the Adopted Specific Plan, no new significant impacts would occur. Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of previously identified significant impacts, with respect to energy impacts.

### *Natural Gas*

Buildout under the Modified Project would result in a net decrease in natural gas demands of approximately 13,039 MBTU annually, as shown in Table 7-3. SoCalGas's natural gas supplies are forecast to decrease by 0.299 bcf/d by 2035 to 2.382 bcf/d. Because the Modified Project's natural gas demand would decrease, the Modified Project is still well within SoCalGas's forecasts of natural gas supplies, and therefore, would not require new or expanded natural gas supplies. Pursuant to Public Resources Code § 21166 and CEQA Guidelines § 15162, the changes proposed by the Modified Project would not result in any new impacts, or increase the severity of previously identified significant impacts, with respect to energy impacts.

**Table 7-3 Estimated Natural Gas Demands from Modified Project Buildout**

Land Use	MBTU per Year		
	Adopted Specific Plan	Modified Project	Net Change
Residential	36,240	59,666	23,427
Nonresidential	108,457	71,992	-36,465
<b>Total</b>	<b>144,696</b>	<b>131,658</b>	<b>-13,039</b>

Notes: Natural Gas demand factors used in estimating the demands shown above are from the California Emissions Estimator Model Version 2013.2.2 by California Air Pollution Control Officer's Association (CAPCOA) 2013.

## 7. Impacts Found Not to Be Significant

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## 8. Organizations and Persons Consulted

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### **CITY OF TUSTIN**

#### **Community Development**

Elizabeth Binsack, Director of Community Development

Justina Willkom, Assistant Director of Community Development

#### **Public Works**

Doug S. Stack, Public Works Director

Ken Nishikawa, Deputy Director of Public Works/Engineering

Krys Saldivar, Public Works Manager

### **CITY OF IRVINE**

Tim Gehrich, Acting Director of Community Development

Barry Curtis, AICP, Manager of Planning Services

Bill Jacobs, Principal Planner

David R. Law, AICP, Senior Planner

Kerwin Lau, Project Development Administrator

Sun-Sun Murillo, Supervising Transportation Analyst

### **SCHOOL DISTRICTS**

#### **Tustin Unified School District**

- Submitted NOP

#### **Irvine Unified School District**

- Submitted NOP

## 8. Organizations and Persons Consulted

### **Santa Ana Unified School District**

- Submitted NOP

### **FUSCOE ENGINEERING**

Ian Adam, Principal/Stormwater Manager

Stephanie Castle Zinn, Water Resources Specialist

### **PACE ADVANCED WATER ENGINEERING**

Mark Krebs, President

### **STANTEC CONSULTING SERVICES, INC**

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## 9. Qualifications of Persons Preparing EIR

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- MURP, University of California, Irvine

**Cary Nakama**

Graphic Artist

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- AA, Computer Graphic Design, Platt College of Computer Graphic Design

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