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## CHAPTER 6.0 ALTERNATIVES

### 6.1 CEQA REQUIREMENTS AND APPROACH FOR ALTERNATIVES SELECTION

According to Section 15126.6 of the CEQA Guidelines, the purpose of the analysis of alternatives is "... focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant impacts of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." Thus, project alternatives are intended to reduce or eliminate the potentially significant adverse environmental effects of the proposed General Plan, while attempting to meet most of the basic project objectives, as stated in Chapter 3, "Project Description."

CEQA requires the consideration of alternative development scenarios and the analysis of impacts associated with the alternatives. Through comparison of these alternatives to the proposed project, the advantages of each can be weighed and analyzed. Section 15126.6 of the CEQA Guidelines requires that an EIR, "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

Additionally, the CEQA Guidelines states:

- The specific alternative of "no project" shall also be evaluated along with its impact . . . If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. [Section 15126.6(e)(1)(2)]
- . . . An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. . . . The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly discuss the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were

rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. . . Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii), infeasibility, or (iii) inability to avoid significant environmental impacts. [Section 15126.6(a) and (c)]

- “Feasible” means capable of being accomplished within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. [Section 15364]

### **6.1.1 Project Objectives**

As described in Chapter 3.0, Project Description, the following objectives have been established for the proposed project and will aid decision makers in their review of the project, the project alternatives, and associated environmental impacts:

- Adopt a General Plan that complies with current state law, and reflects current community values.
- Encourage a variety of semirural, suburban, and urban living environments, consistent with existing neighborhoods.
- Protect and enhance Orange's historic core, and expand historic preservation efforts to other neighborhoods within the City.
- Encourage new residential, commercial, industrial, and public uses within established focus areas.
- Provide a multimodal circulation network that accommodates vehicles, pedestrians, cyclists, hikers, and equestrians.
- Manage future development in a manner that ensures adequate and timely public services and infrastructure compatible with environmental objectives.
- Improve the appearance and variety of commercial, retail, industrial, and employment centers.
- Enable development of quality entertainment-oriented mixed use projects strategically located near regional tourist draws.

- Expand open space areas and promote completion of a trail system.
- Protect critical watersheds and other natural and open space resources.

## **6.2 ALTERNATIVES CONSIDERED AND REJECTED**

The City considered a range of land use alternatives during preparation of the proposed General Plan, both for the City as a whole and within each of 10 identified focus areas: (1) Tustin Street/Mall Area, (2) Chapman Avenue/Tustin Street, (3) West Katella Avenue Corridor, (4) Main Street and West Chapman Avenue, (5) West Chapman/Uptown Orange, (6) Old Towne and Santa Fe Depot, (7) Industrial Areas, (8) Lemon Street Corridor, (9) Eckhoff Street/Collins Avenue, and (10) Lincoln Avenue. The Tustin Street/Mall and Lincoln Avenue areas were subsequently dropped from consideration for land use change within the General Plan, resulting in the eight focus areas identified in the Project Description. This General Plan update process touched on many environmental issues, although social and economic issues were also involved. The previous public discussion of General Plan alternatives is distinct from the alternatives analysis presented in this EIR, although there may be overlap with certain concepts presented earlier.

Alternatives for each of the geographic areas described above were developed and reviewed with the General Plan Advisory Committee (GPAC) and the general public. The alternatives, to varying degrees, reflected the vision statement and preliminary policies developed by the GPAC and the wider community, as well as various land use changes recommended by City and Redevelopment Agency staff members. In each area, up to three alternative land use scenarios were proposed in addition to an alternative in which existing General Plan land use designations would remain.

- Alternative 1 maintained the existing General Plan's land use designations. Under this alternative, any new growth would have been accommodated in currently designated residential, commercial, industrial, or institutional areas.
- The primary concept of Alternative 2 was to maintain the existing General Plan's land use designations in most locations, but to also introduce mixed use concepts and intensified commercial land uses in numerous focus areas that were deemed by the City and GPAC to be consistent with the vision statement and preliminary policies.

- Alternative 3 generally incorporated the recommendations of Alternative 2, but at higher residential densities and nonresidential development intensities within each focus area.

Multiple community workshops, GPAC meetings, and City Council/Planning Commission study sessions were held between 2005 and 2007 to identify key community issues, develop and refine land use alternatives, and select a community-preferred land use alternative to bring forward as the proposed project. Alternatives presented to the community responded to unique priorities expressed, and constraints and opportunities present within each focus area.

### **Alternatives Rejected for Further Evaluation**

As stated above, the City considered numerous land use and circulation alternatives (up to three alternatives each in 10 focus areas) as a part of the General Plan update process. These alternatives featured varying overall development footprints. Although there may be similarities between the previously considered alternatives and those presented in this chapter, alternatives were specifically reconstituted for the purposes of this EIR analysis. The City determined that a simple repeat of the earlier range of alternatives would not serve the decision makers or public as well as the present range. For example, alternatives previously considered in some instances featured greater levels of residential, commercial, and industrial development than the proposed General Plan. This is not helpful for comparison in an EIR because the purpose of an alternatives analysis is to reduce potentially significant environmental impacts compared to the impacts of the proposed project. Many of the previous alternatives would have increased environmental impacts relative to the proposed General Plan.

### **Alternative Location**

Although CEQA Guidelines recommend considering an alternative location to reduce potential impacts of a proposed project, none of the alternatives involve an alternate location because the regulatory authority and goals and policies of the General Plan are specific to the geographic context of the City of Orange planning area. Buildout pursuant to goals and policies contained in the proposed General Plan at an alternate location would not achieve the City of Orange's specific goals.

## **6.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS**

In addition to focusing on alternatives capable of either eliminating any significant environmental effects of the project or reducing them to a less than significant level, the following analysis examines variations of the proposed project that were considered during

preparation of the General Plan and that may be considered further during the public hearing process. The following project alternatives are examined:

Alternative 1: No Project/Existing General Plan

This alternative assumes that the proposed General Plan would not be adopted and implemented. Instead, the City of Orange would be developed according to the existing General Plan's land use designations and circulation plan, and current development patterns would remain.

Alternative 2: Proposed General Plan without Meats Avenue/SR-55 Interchange

This alternative evaluates potential impacts of 2030 development of the proposed General Plan assuming 2030 buildout of the proposed Master Plan of Arterial Highways, without a future interchange at Meats Avenue and SR-55.

Alternative 3: Reduced Development Intensity

This alternative evaluates potential impacts of 2030 development of the proposed General Plan assuming 2030 buildout of the proposed Master Plan of Arterial Highways and the future interchange at Meats Avenue and SR-55. However, the development potential is reduced for both residential and nonresidential development as discussed in detail in the sections below.

The alternatives analyzed in the EIR are general in nature, as is the proposed project. The degree of specificity used in the alternatives analysis is related to the programmatic approach used in the analysis of impacts associated with implementation of the General Plan. Development over the entire planning area is addressed in the alternatives analysis, rather than specific development projects.

Pursuant to the CEQA Guidelines, a range of alternatives to the proposed project is considered and evaluated in this EIR. These alternatives were developed in the course of project planning and environmental review. The analysis in this section provides:

1. A description of alternatives considered;
2. An analysis of whether each alternative meets most of the basic objectives of the proposed project as described in the Chapter 3.0 of this EIR; and

3. A comparative analysis of the alternatives under consideration and the proposed project. The focus of this analysis is to determine if alternatives are capable of eliminating or reducing the significant environmental effects of the project to a less than significant level. Table 6-1 provides a summary of this analysis.

**Table 6-1  
Comparison of Impacts of Alternatives to the Proposed Project**

Impact	Alternative 1 No Project	Alternative 2 Proposed General Plan without Meats Avenue/ SR- 55 Interchange	Alternative 3 Reduced Development Intensity
Aesthetics	Greater	Similar	Similar
Agricultural Resources	Similar	Similar	Similar
Air Quality	Less	Greater	Less
Biological Resources	Greater	Similar	Similar
Cultural Resources	Greater	Similar	Similar
Geology/Soils	Similar	Similar	Similar
Hazards/Hazardous Materials	Less	Less	Less
Hydrology/Water Quality	Greater	Similar	Less
Land Use and Planning	Greater	Similar	Similar
Noise	Less	Similar	Less
Population and Housing	Less	Similar	Less
Public Services and Utilities	Less	Similar	Less
Recreation	Less	Similar	Less
Transportation/Traffic	Less	Greater	Less
Climate Change	Greater	Similar	Similar
<b>Conclusion</b>	<b>Environmentally Superior to Proposed project</b>	<b>Environmentally Inferior to the Proposed project</b>	<b>Environmentally Superior to the Proposed project</b>

Source: EDAW 2008

Table 6-2 provides a summary of general buildout projections determined by the three land use alternatives, including the proposed project. It is important to note that these are not growth projections. That is, they do not anticipate what is likely to occur by a certain time horizon, but rather provide a likely development scenario that would only occur if all of the areas of the planning area were to develop to the probable capacities yielded by the land use designations.

**Table 6-2  
Development Capacity Comparison**

	<b>Proposed project</b>	<b>No Project/Existing General Plan</b>	<b>Proposed Project without Meats Avenue/SR-55 Interchange</b>	<b>Reduced Development Intensity</b>
<b>Dwelling Units</b>	66,850	53,512	66,850	56,461
<b>Nonresidential Development (Square Feet) (millions)</b>	70.7	58.0	70.7	59.6
<b>Population</b>	194,543	165,352	194,543	174,465

#### **6.4 ALTERNATIVE 1: NO PROJECT/EXISTING GENERAL PLAN**

This alternative is analyzed within this EIR as it is required under CEQA Guidelines Section 15126.6(e). According to Section 15126.6(e)(2) of the CEQA Guidelines, the “no project” analysis shall discuss, “. . . what is reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” This alternative assumes that the proposed General Plan would not be adopted and implemented. Instead, the City of Orange would be developed according to the existing General Plan and current development patterns would remain. The existing General Plan would not allow for changes in land use and development potential in the eight land use focus areas through creation of four additional mixed use designations, increases in FAR within General Commercial and Light Industrial designated areas, decreases in FAR within Industrial designated areas, and establishment of the Yorba Commercial Overlay. Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed project.

For the circulation network, the existing General Plan would allow for the buildout of the existing Master Plan of Arterial Highways which does not include the Meats Avenue/SR-55 Interchange. In comparison, the proposed General Plan allows for the buildout of the existing Master Plan of Arterial Highways with the exception of improvements to Walnut Avenue, Cambridge Street, La Veta Avenue, and portions of Chapman Avenue and Glassell Street through the Orange Plaza, and other improvements more fully described in Section 5.14, Transportation/ Traffic. The proposed General Plan includes the Meats Avenue/SR-55 Interchange.

### **6.4.1 Comparison of Environmental Impacts to Proposed Project**

#### **Aesthetics**

Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed project. The majority of development under the proposed project would occur within eight land use focus areas in already developed areas of the City. Many of these areas are within the City's Redevelopment Area, which contains underutilized land, land used previously for industrial or commercial uses, and/or areas in need of revitalization. Under this alternative, reduced levels of building intensification would be permitted within the focus areas; thus, the character of areas such as Uptown Orange, Katella Avenue, Old Towne Orange, and South Main Street would generally remain unchanged. Potential for this alternative to result in adverse effects on scenic vistas, to damage scenic resources such as trees or historic resources, or to degrade the visual character of the City or its surroundings is similar to that of the proposed project, as no land use or circulation changes are proposed for east Orange, where most of these resources are located. As this alternative would result generally in less net new development at reduced building heights and intensities than the proposed project, potential to create new sources of light or glare would be less than that of the proposed project.

However, the proposed General Plan Urban Design Element contains numerous policies to encourage high-quality urban design and to visually enhance and beautify streetscapes, districts, gateways, and corridors. The existing General Plan does not have an Urban Design Element and contains few policies related to community aesthetics. Thus, although less net new development would occur, such new development would not be subject to these beautification policies. This alternative would not implement the policies and programs contained in the proposed General Plan Urban Design Element aimed at improving community aesthetics. Thus, implementation of this alternative would result in greater impacts to aesthetics than the proposed General Plan in the area of visual character.

#### **Agricultural Resources**

Only limited amounts of land within the planning area are identified as Important Farmlands. Although the proposed General Plan identifies future urban uses for an area northwest of the intersection of Chapman Avenue and Jamboree Road that is identified as Important Farmland,

the area has already been converted to urban uses. Thus, the proposed land use designation reflects development patterns already existing for the property. The proposed General Plan does not change the land use designations of other areas identified as Important Farmland and conversion to urban uses is unlikely due to location constraints.

Neither the existing nor proposed General Plan contains policies to preserve Important Farmland. Implementation of the alternative would result in similar impacts to agricultural resources as the proposed General Plan.

### **Air Quality**

Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed project. Because the level of development would be less under the existing General Plan, construction-related air quality impacts would be reduced. The majority of development under the proposed project would occur within eight land use focus areas, through mixed use development and increases in maximum allowable FAR in General Commercial and Light Industrial designations in already developed areas of the City, without introducing new sensitive receptors to new sources of air pollution. Many of these areas are located adjacent to existing employment centers and services, which could reduce vehicle trips. Additionally the Circulation Element of the proposed General Plan emphasizes a multimodal system of roadways, pedestrian walkways, and bicycle paths throughout the City that could also reduce vehicle trips, as well as vehicle miles traveled. In addition, the proposed General Plan includes green building policies so emissions from buildings could be reduced as well. However, although the mixed use development strategy encourages fewer and shorter trips, ultimately the net new growth accommodated by the proposed General Plan generates additional traffic and the number of roadway segments that operate at an unacceptable level of service (LOS) under the proposed project would increase to 24 compared to 7 under the existing General Plan (Alternative 1). This alternative would not conflict with or obstruct implementation of the SCAQMD Air Quality Plan.

Implementation of this alternative would result in generally less impacts associated with construction and vehicular sources, and similar impacts associated with stationary sources. However, as with the proposed project, air quality impacts would remain significant and unavoidable, as the planning area is located within the SCAB, which is a federal nonattainment area.

## **Biological Resources**

Development under both the existing General Plan and the proposed General Plan would be subject to the same state and federal environmental review requirements and regulations for the protection of sensitive and endangered species and habitats. Additionally, the majority of new development under the proposed project would occur within eight land use focus areas in already developed areas of the City away from areas with biological resources. A relatively limited amount of the new development would occur on undeveloped land east of the current city limits, which is home to the majority of sensitive species, sensitive habitats, and wetlands found in the planning area. Land use designations within the existing and proposed General Plans are identical in these locations. Specific impacts to sensitive species, riparian habitat and wetlands, and native and migratory fish and wildlife species from future development in the planning area cannot be determined for either the existing or proposed General Plan because no specific development projects pursuant to either plan are known at this time.

The NCCP Habitat Reserve “target species” designated by the NCCP/HCP are the coastal California gnatcatcher, coastal cactus wren, and orange-throated whiptail lizard, all of which are currently on the federal list of threatened or endangered species. As both the existing and proposed General Plans designate these areas as Open Space or Recreational Commercial consistent with the NCCP, impacts to these sensitive species and their habitats would be similar with implementation of either alternative.

The existing General Plan would not, however, enable future use of the Yorba Park site for commercial development. The existing General Plan identifies this site as Open Space – Park, without applying the Yorba Commercial Overlay designation described within the proposed project. Given its location near Santiago Creek, designation of this site as Open Space – Park may present more favorable conditions for the preservation or restoration of riparian habitat along the creek than future commercial use.

Neither the existing nor proposed General Plan would alter the City’s Master Plan of Street Trees and Tree Preservation Ordinance or their continued implementation as a result of any land use changes proposed by the General Plan. Both would require adherence to the Master Street Tree Plan and the Tree Preservation Ordinance, as well as continued participation in the NCCP/HCP to avoid significant impacts to native and migratory birds.

Compared with the existing General Plan, the proposed General Plan contains enhanced policy direction to comply with provisions established by the NCCP/HCP, to protect and achieve a sensitive development interface with Santiago Creek, and to reintroduce native plants and animals along the creek corridor. Implementation of Alternative 1 would result in greater impacts compared with the proposed General Plan.

## **Cultural Resources**

Under both Alternative 1 and the proposed project, the City would continue to preserve historic resources primarily within the Old Towne area of the City through preservation policy, design standards, and environmental review. However, the proposed General Plan recommends specific reductions in residential densities in many Old Towne neighborhoods; continues to protect and enhance Old Towne's historic character; introduces neighborhood-scale mixed use along Chapman Avenue and Glassell Street, and adjacent to the BNSR railroad; encourages the adaptive reuse of existing industrial areas and the creation of transit-oriented developments around the historic Santa Fe Depot; maintains and enhances Old Towne's walkability; and provides for continued use and enhancement of the civic center. All of these policies are directed at maintaining the historic character of the NRHP-designated Old Towne Historic District and its individual listed resources. Under the existing General Plan, land use designations in Old Towne would allow for generally higher residential densities, and the City would not specifically direct the other land use changes in Old Towne described above.

With respect to archaeological and paleontological resources, policies in the proposed General Plan Cultural Resources Element and associated implementation programs (presented as mitigation measures in Section 5.5) include a variety of regulations and incentives designed to preserve buried resources, and set forth procedures for consultation with Native American groups. These policies are not present in the existing General Plan.

Under the proposed project, the Cultural Resources Element in the proposed General Plan expands historic preservation and cultural resources protection efforts beyond Old Towne to resources located throughout the City through additional policies. The proposed General Plan has identified several other historic resources intended for protection through recognition as new historic districts; Neighborhood Character Areas (NCAs); individual resources, including the Eichler Tracts, the Cypress Barrio, and El Modena neighborhoods; and the historic railroad corridor. Proposed policies also include seeking greater preservation funding, and expanding education efforts. Implementation of the existing General Plan would thus result in greater

impacts to cultural resources because the existing General Plan would not comprehensively address cultural resources throughout the community, nor would it implement additional historic preservation policies in the proposed General Plan.

### **Geology/Soils**

The majority of development under the proposed project would occur within eight focus areas in already developed areas of the City. Under both the existing General Plan and the proposed project, some development would occur in the eastern portion of the planning area, which is more susceptible to geologic hazards than the developed area of the City.

The planning area contains two possibly active faults, both of which could result in surface fault rupture during a seismic event. Therefore, development under either alternative within close proximity to these faults would have the potential to expose additional people and/or structures to hazards in the event of fault rupture.

Because the planning area is located within a seismically active region of southern California near large regional faults capable of generating strong earthquakes with high intensity ground shaking, the entire planning area is at risk for damage caused by ground shaking under either the existing or proposed General Plan.

Portions of the planning area along the Santa Ana River and Santiago Creek and developed areas adjacent to these waterways have been designated significant liquefaction hazard areas. The West Chapman/Uptown Orange, Katella Avenue, and Tustin Street/Chapman Avenue focus areas proposed within the Draft General Plan are all located within these hazard areas. Thus, development under the proposed General Plan may expose more people and property to liquefaction hazards than under the existing General Plan.

The low hills of the northern and eastern portions of the planning area have been designated as susceptible to earthquake-induced landslides. Intensified residential development in these areas under either the existing or proposed General Plan could therefore subject buildings, roadways, utilities, and persons to severe damage or injury in the event of an earthquake-induced landslide.

The eastern portion of the planning area is susceptible to soil erosion due to the hilly topography. Additionally, the urbanized portion of the planning area could also be susceptible to erosion from wind and storm water runoff associated with development activities. New development under

either the existing or proposed General Plan has the potential to increase soil erosion if undertaken without erosion control.

The planning area includes several abandoned and closed landfills, including the Yorba Park site. The existing General Plan would not enable future use of the Yorba Park site for commercial development. The existing General Plan identifies this site as Open Space – Park, without applying the Yorba Commercial Overlay designation described within the proposed project. Given its former landfill status, designation of this site for commercial use represents a more hazardous condition with respect to soil stability; thus, the existing General Plan represents less potential impact at this location.

Development within hillside areas under either the existing or proposed General Plan has the potential to expose additional people and/or structures to unstable geologic units and hazards associated with expansive soils. Soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems have not been identified in the planning area.

Like the proposed General Plan, several programs and regulations are implemented under the existing General Plan to protect people and property from geologic and seismic hazards. All new development would be subject to the California Building Code seismic safety standards for construction. Safety policies and protections under both the proposed and existing General Plans are similar. Therefore, implementation of the existing General Plan would result in similar impacts to geology and soils.

### **Hazards and Hazardous Materials**

Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed project. The majority of development under the proposed project would occur within eight land use focus areas in already developed areas of the City as a result of redevelopment. Some of these areas include industrial or commercial lands and hospitals that may use, store, or release hazardous materials. Under both the existing and proposed General Plan, future industrial uses are proposed to remain within currently industrial areas located principally at the west end of the City near the Santa Ana River. Maximum FARs in areas designated for industrial use would increase with implementation of the proposed General Plan. Hospitals within Orange are

anticipated to remain at their current locations under both the existing and proposed General Plans.

New residential and mixed use development under the proposed General Plan in areas previously zoned for commercial and industrial uses (Katella Avenue Corridor, Main Street/West Chapman Avenue, West Chapman/Uptown Orange, Old Towne and Santa Fe Depot, and Lemon Street Corridor focus areas) could lead to increased potential for residential exposure to hazardous materials. However, as industrial areas are remediated and prepared for mixed use development, potential exposure of new residents and businesses to hazardous materials would decrease over time as industrial uses employing hazardous materials and transport are reduced in these areas.

Hazards associated with land use conflicts due to the City's heliports would be similar, as the volume of helicopter activity at the hospitals and SCE substation cannot be linked to development intensities in Orange due to the medical emergency (from outside of the City) and service nature of these flights. Aircraft paths cross air space between SR-55 and Newport Boulevard under both the existing and proposed General Plans; thus, the increased number of housing units and population within the proposed General Plan could expose a greater number of people to potential mid-air collisions.

Similarly, the level of development associated with the proposed General Plan would result in greater levels of congestion at intersections and along roadways identified as evacuation routes than under the existing General Plan.

Under both the existing and proposed General Plan new development will occur in previously undeveloped areas, such as the eastern portion of the planning area, which could expose additional people to wildland fire hazards. No change will occur to land use designations in the eastern portion of the planning area under the proposed General Plan.

Development pursuant to either the existing or proposed General Plan would be subject to the same local, state, and federal regulations regarding hazards and hazardous materials. Nevertheless, the increased level of development under the proposed General Plan would potentially result in an increased presence of hazardous materials within commercial and industrial focus areas over the existing General Plan. Future development in proximity to these uses could be exposed to hazardous materials related to the use, disposal, and transport of hazardous materials. Thus, implementation of the existing General Plan would result in less impacts with respect to hazards and hazardous materials than the proposed project.

## Hydrology and Water Quality

Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed project. The majority of development under the proposed project would occur through redevelopment within eight land use focus areas in already developed areas of the City. However, because most new development would occur in the form of infill, redevelopment, or adaptive reuse in existing urbanized areas, it would not result in substantial changes to absorption rates, drainage patterns, and the rate of surface runoff. Site redevelopment will likely improve absorption and surface runoff rates, as well as the quality of urban runoff contributing to groundwater infiltration and recharge due to enforcement of NPDES permit requirements. The amount of impervious surfaces would increase as development occurs in the eastern portion of the planning area on previously undeveloped land under both the proposed General Plan and existing General Plan. Despite this development, the proposed General Plan could lead to a net reduction in citywide impervious surface in the environment when compared to the existing General Plan, due to the addition of pervious surface and landscaping occurring through retrofitting of previously developed sites, particularly in the commercial areas of the City, thus improving absorption and surface runoff rates.

Neither the existing nor proposed General Plan proposes the alteration of existing streams or rivers. Development in the eastern portion of the planning area on land that is currently undeveloped under both alternatives would convert existing natural areas into impervious surfaces, potentially increasing runoff flowing into Santiago Creek and drainage channels leading into the Santiago Creek Recharge Basin.

Development associated with either the existing or proposed General Plan has the potential to convert existing undeveloped areas where groundwater recharge would naturally occur to urban uses. However, both alternatives anticipate availability of water supply associated with the Orange County Water District Groundwater Replenishment System and Orange County Sanitation District sewer water purification program, and both alternatives incorporate Open Space land use designations within the Santa Ana River and Santiago Creek floodways to preserve these areas for groundwater recharge.

Portions of the planning area are located within the FEMA 100-year floodplain, 100-year flood areas, or 100-year storm event areas. Development within the hillside and basin areas under both

the existing and proposed General Plan will contribute to the potential for flood hazards by altering existing runoff and absorption rates and placing population and development in areas with high potential for inundation in the unlikely event of catastrophic dam failure. Given proposed increases in population, housing, and nonresidential development, exposure of persons and property to flooding and dam inundation is higher under the proposed General Plan than the existing General Plan.

Construction activities related to implementation of either the proposed or existing General Plan could contribute additional pollutants to urban runoff, including sediments from grading activities and contaminants associated with construction materials, construction waste, vehicles, and equipment, among others.

There is no potential for a tsunami to affect the planning area due to its substantial distance from the ocean. It is possible that a seiche could occur with the Santiago Creek Recharge Basin or Irvine Lake under either the existing or proposed General Plan, and the increased population under the proposed General Plan would increase exposure to these risks. Also, there would be potential for mudflows during land development activities in adjacent hillsides in the eastern portion of the planning area under either alternative due to removal of natural vegetation and creation of steep graded slopes.

Development under this alternative and the proposed General Plan would be subject to local, regional, state, and federal standards for water quality. Additionally, in comparison to the existing General Plan, the proposed General Plan Natural Resources Element contains updated goals, policies and programs related to groundwater, water supply, hydrology, and water quality responsive to recent changes in federal and state regulation. Nevertheless, due to the focus of future development within already developed areas in the City's urbanized core, implementation of the existing General Plan would result in greater impacts to hydrology and water quality than the proposed project.

### **Land Use and Planning**

Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed General Plan.

Due to the urbanized character of most of the planning area, development pursuant to either the existing or proposed General Plan would not result in physically dividing established communities, as all new development would occur in the form of site redevelopment.

The character of development under the proposed project is more consistent with the goals of the Regional Comprehensive Plan and Guide, including the Compass Growth Visioning Principles, which encourage compact, mixed use communities linked by alternative transportation, compared with the development allowed under the existing General Plan. The proposed General Plan represents a shift in direction from traditional suburban sprawl to focused redevelopment and reinvestment in the City's commercial and industrial core. The majority of development under the proposed project would occur within eight land use focus areas, through mixed use development, in already developed areas of the City. Many of these areas are adjacent to existing employment centers, transit, and services that could reduce vehicle trips. Additionally the Circulation Element of the proposed General Plan emphasizes a multimodal system of roadways, pedestrian walkways, and bicycle paths throughout the City that could also reduce vehicle trips.

Implementation of either the existing or proposed General Plan would be subject to the Orange County Central and Coastal NCCP. The City's General Plan land use designations in these areas under both the existing and proposed General Plan conform to the NCCP in that all areas currently proposed for urban development are areas identified as permitted for development and "take" by the Central/Coastal NCCP. All remaining areas are designated Open Space.

Implementation of the existing General Plan would thus result in greater impacts to land use and planning than the proposed project.

## **Noise**

The majority of development under the proposed project would occur within eight land use focus areas, through mixed use development, in already developed areas of the City, many of which are located adjacent to roadways with high traffic volumes, which may expose residents to noise levels more typical of an urban environment. Many of these areas are also adjacent to existing employment centers, transit, and services that could reduce vehicle trips and resultant vehicular noise. For example, under the proposed General Plan, the Old Towne and Santa Fe Depot focus area would allow development of mixed use (including residential) projects adjacent to the rail corridor. Increased rail transit service may also further increase noise near rail corridors. These

increases could exceed noise significance thresholds and have the potential to affect noise sensitive receptors and uses located adjacent to arterials. Construction activities associated with either the existing or proposed General Plan would generate elevated noise from construction and have the potential to impact noise sensitive land uses.

Proposed changes to land use designations within the proposed General Plan relative to the existing General Plan along the rail line in the Old Towne and Santa Fe Depot focus area would also allow uses such as residential and educational facilities, which are considered vibration sensitive, within or partially within 100 feet of the railroad centerline.

Development pursuant to the proposed General Plan would result in greater concentrations of noise sensitive land uses (e.g., residential areas) below aircraft overflight areas relative to the existing General Plan.

Although the existing General Plan contains policies related to noise compatibility between land uses and noise reduction strategies, the proposed General Plan contains noise policies aimed specifically at mixed use development. Additionally, the Circulation Element of the proposed General Plan emphasizes a multimodal system of roadways, pedestrian walkways, and bicycle paths throughout the City that could also reduce vehicle trips and vehicular noise overall. Additionally, new development under the proposed General Plan would be required to assess compatibility with existing uses. Nevertheless, increased traffic volumes anticipated with implementation of the proposed project would result in increases in vehicular noise relative to the existing General Plan. Implementation of the existing General Plan would thus result in less impacts with respect to noise than the proposed project.

### **Population and Housing**

Although population growth would occur under both the existing and proposed General Plan, development pursuant to the existing General Plan would result in approximately 13,300 fewer dwelling units and approximately 29,000 fewer people than would be allowed under the proposed General Plan. The proposed General Plan provides for greater development capacity within the planning area that would induce substantially more growth than allowed under Alternative 1. Both the existing and proposed General Plans exceed SCAG growth projections for the year 2030.

While it is likely that the increased supply of housing units associated with the proposed General Plan could provide for additional housing opportunities and the replacement of substandard

housing with newer housing units relative to the existing General Plan, it is also likely that residents of older housing units could be displaced as a result of the demolition and replacement of older housing units with newer housing units. This displacement could occur within existing mobile home communities, within the identified land use focus areas, and near the proposed Meats Avenue interchange. In some instances, people could have access to City, state, and federal programs providing housing assistance. Policies in both the existing and proposed General Plans address, facilitate, and promote development of a variety of rental and ownership housing types in the planning area aimed at all income levels to meet the needs of the projected population.

The existing General Plan would result in less impacts to population and housing than the proposed project.

### **Public Services and Utilities**

Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million fewer square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed project. The lower levels of development and population under the existing General Plan would generate fewer calls associated with criminal activity, medical emergencies, fires, and accidents, as well as a reduced need for expanded public education efforts related to crime and fire prevention. With the decrease in population and new development, fewer police and fire personnel, equipment, and facilities to protect and serve the public, and ensure adequate emergency service capabilities and short response times would be required to provide acceptable service levels.

Given the reduced number of dwelling units and associated school age population under the existing General Plan, demands on school facilities and staff would be lower relative to the proposed project. Similarly, the reduced residential population under the existing General Plan would create a lower demand for additional library services requiring expansion of existing libraries and/or construction of new libraries relative to the proposed project.

Reduced population and development resulting from the existing General Plan would create less demand for additional water infrastructure as well as replacement and upgrading of water facilities relative to the proposed project. Although the majority of new development in the proposed General Plan would occur through infill and redevelopment in developed areas already served by water districts, improvement and expansion of water infrastructure would be

necessary. Additionally, development on previously undeveloped land in the eastern portion of the planning area would require the provision of new water pipelines and distribution facilities under either alternative.

The reduced population resulting from implementation of the existing General Plan relative to the proposed project would create less demand for wastewater collection and treatment facilities. Reduced population associated with the existing General Plan would also create less demand for electricity and natural gas as well as transmission infrastructure relative to the proposed project. Lower levels of development and population growth with implementation of the existing General Plan would decrease demand for solid waste collection and disposal capacity relative to the proposed project.

Overall, implementation of the existing General Plan would allow much less intensive development within proposed focus areas than would occur under implementation of the proposed General Plan. Therefore, demand for police, fire, school, and library services and infrastructure capacity would be lower than with the proposed project. Furthermore, additional development described with the proposed General Plan would require upgrades to water and sewer infrastructure that lacks capacity to support such development along portions of Katella Avenue, Tustin Street, and South Main Street. Implementation of the existing General Plan would therefore result in less impacts to public services and utilities than the proposed project.

### **Recreation**

Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed project. Given that the City is already experiencing a deficiency of parkland relative to national guidelines (1.81 acres per 1,000 population existing versus 3.0 to 5.0 acres per 1,000 recommended), additional population under either the existing or proposed General Plan would contribute to increased use and accelerated deterioration of recreational facilities, and would require acquisition of additional parkland and construction of recreation facilities to meet the City's parks to population goal of 3.0 acres per 1,000 residents. Assuming compliance with Orange Municipal Code Chapter 16.60 which requires the acquisition of or payment of in-lieu fees to achieve a parkland ratio of 3.0 acres of parkland per 1,000 residents, the City acquires parks at this standard, commensurate with population growth. Therefore, the existing parkland deficiency remains constant over all alternatives at approximately 121 acres. Under the no project

alternative, the future estimated buildout population would require 496 acres of parkland versus 584 acres under the proposed project. Because less acreage is required under this alternative, construction impacts due to park development would be less under this alternative.

The proposed General Plan contains additional policies and tools, including transfer of development rights tools, to increase the amount of parkland, which are not present within the existing General Plan. Nevertheless, implementation of the existing General Plan would result in less impacts to recreation than the proposed project.

### **Transportation/Traffic**

Tables 6-3 and 6-4 present differences between the existing and proposed General Plans with respect to deficient intersections and roadway segments identified in Section 5.14 of this EIR.

Alternative 1 represents buildout of the existing City Master Plan of Streets and Highways (MPSH) and assumes buildout of the existing General Plan land use. Under the existing General Plan, eight arterial segments operate below the acceptable LOS D threshold even with improvements identified in the MPAH, as identified in Table 6-3. The incorporation of currently planned improvements at arterials and ultimate intersection configurations at the critical intersections results in five study intersections forecast to operate at an unacceptable LOS in either the A.M. or the P.M. peak hour under no project conditions, as identified in Table 6-4.

The proposed project represents buildout of the existing Orange County MPAH, except improvements to Walnut Avenue, Cambridge Street, and Chapman Avenue and Glassell Street through the Orange Plaza, and portions of La Veta Avenue between Glassell Street and Cambridge Street. The proposed project also includes a full diamond interchange at Meats Avenue/SR-55 and assumes buildout of the proposed General Plan land use. Circulation network changes (consistent with the County MPAH) and intersection geometries for the City's critical intersections were also updated as part of the proposed General Plan. Under the proposed project, 26 arterial segments operate below the acceptable LOS D threshold even with improvements identified in the City Master Plan of Streets and Highways, as shown in Table 6-3. Even with currently planned improvements, including buildout intersection geometrics for critical intersections, eight study intersections are forecast to operate at an unacceptable LOS in either the A.M. or the P.M. peak hour, as shown in Table 6-4.

**Table 6-3. Future Arterial Daily Level of Service Summary for Deficient Arterials**

ID	Arterial	From	To	Alternative 1: No Project			Proposed General Plan			Alternative 2		Alternative 3	
				Lanes	ADT	LOS	Lanes	ADT	LOS	ADT	LOS	ADT	LOS
8	Batavia Street	Walnut Avenue	Collins Avenue	4U	16,900	B	4U	22,300	E	22,700	E	19,300	C
9	Batavia Street	Collins Avenue	Katella Avenue	4U	18,100	C	4U	23,300	E	23,600	E	19,800	D
11	Batavia Street	Taft Avenue	Fletcher Avenue	4U	17,500	C	4U	21,800	E	22,000	E	19,800	D
12	Batavia Street	Fletcher Avenue	Lincoln Avenue	4U	17,700	C	4U	22,900	E	23,300	E	20,300	D
311	Chapman Avenue	Lemon Street	Glassell Street	4D	23,200	B	2U	12,500	F	12,300	F	14,900	F
312	Chapman Avenue	Glassell Street	Grand Street	4D	24,700	B	2U	12,600	F	12,500	F	15,300	F
35	Chapman Avenue	SR-55	Yorba Street	8D	78,700	F	8D	75,300	F	76,700	F	73,700	E
36	Chapman Avenue	Yorba Street	Prospect Street	6D	65,100	F	6D	63,600	F	65,100	F	60,500	F
37	Chapman Avenue	Prospect Street	Esplanade Street	6D	51,100	E	6D	50,900	D	51,500	E	47,700	D
47	Collins Avenue	Batavia Street	Glassell Street	4U	16,000	B	4U	23,000	E	23,900	E	20,300	D
40	Chapman Avenue	Crawford Canyon Road	Canyon View Avenue	4D	38,300	F	4D	39,700	F	40,700	F	35,800	E
49	Collins Avenue	Cambridge Street	Tustin Street	4U	16,200	B	4U	22,900	E	22,700	E	21,400	D
72	Glassell Street	SR-22	La Veta Avenue	4D	32,200	D	4D	34,600	E	35,200	E	38,500	F
74	Glassell Street	Chapman Avenue	Palm Avenue	4D	13,600	A	2U	11,900	E	12,600	F	11,500	E
77	Glassell Street	Katella Avenue	Orange Olive Road	4D	30,300	D	4D	37,700	F	40,100	F	33,400	E
89	Katella Avenue*	Struck Avenue	Main Street	6D SS	46,700	C	6D	56,500	E	57,600	E	49,900	D
90	Katella Avenue*	Main Street	Batavia Street	6D SS	43,900	C	6D	55,100	E	56,200	E	51,300	D
91	Katella Avenue*	Batavia Street	Glassell Street	6D SS	45,600	C	6D	53,700	E	53,900	E	49,800	D
92	Katella Avenue*	Glassell Street	Cambridge Street	6D SS	46,200	C	6D	54,500	E	54,500	E	52,100	D
116	Lincoln Avenue	Tustin Street	Santiago Boulevard	6D	51,500	E	6D	42,900	C	50,600	D	45,300	C
117	Main Street	Town & Country Road	La Veta Avenue	6D	48,100	D	6D	55,500	E	55,400	E	54,600	E
127	Meats Avenue	Tustin Street	SR-55 SB Ramps	4U	16,700	B	4U	53,200	F	17,500	C	51,800	F
1271	Meats Avenue	SR-55 SB Ramps	SR-55 NB Ramps	4U	16,700	B	4U	45,500	F	17,500	C	43,300	F
1272	Meats Avenue	SR-55 NB Ramps	Santiago Boulevard	4U	16,700	B	4U	31,900	F	17,500	C	29,600	F
153	Prospect Street	Chapman Avenue	Spring Street	4U	24,400	F	4U	23,000	E	24,300	F	21,700	D
154	Prospect Street	Spring Street	Walnut Avenue	4U	23,400	E	4U	22,100	E	23,700	E	21,300	D
177	Taft Avenue	West City Limit	Main Street	6D	49,100	D	6D	56,400	F	57,800	F	54,200	E
193	Tustin Street	Chapman Avenue	Walnut Avenue	6D	48,500	D	6D	49,100	D	54,800	E	44,600	C
196	Tustin Street	Collins Avenue	Katella Avenue	6D	48,400	D	6D	50,900	D	53,600	E	43,700	C
197	Tustin Street	Katella Avenue	Taft Avenue	6D	47,300	D	6D	41,000	C	51,200	E	42,400	C
210	Wanda Road	Katella Avenue	Santiago Boulevard (VP)	4U	25,800	F	4U	27,800	F	27,000	F	24,800	F

Deficient Segment, LOS E

Deficient Segment, LOS F

Note: \* Katella Avenue capacity has been increased by 5% due to classification as a smart street.

Source: Parsons Brinckerhoff Quade and Douglas, Inc. 2008

**Table 6-4  
Future Intersection Level of Service Summary for Deficient Intersections**

ID	Intersection Location	Alternative 1: No Project				Proposed Project				Alternative 2				Alternative 3			
		A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		A.M.		P.M.	
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
7	Cannon Street @ Santiago Canyon Road	0.92	E	0.96	E	0.94	E	0.93	E	0.92	E	0.93	E	0.90	D	0.88	D
8	Cannon Street @ Serrano Avenue	0.97	E	0.89	D	0.99	E	0.88	D	0.98	E	0.87	D	0.96	E	0.87	D
12	Jamboree Road @ Chapman Avenue	0.85	D	0.87	D	0.94	E	0.90	D	0.95	E	0.90	D	0.86	D	0.90	D
27	Southbound SR-55 Ramps @ Katella Avenue	0.96	E	0.89	D	0.97	E	0.87	D	0.97	E	0.90	D	0.95	E	0.85	D
30	Main Street @ La Veta Avenue	0.60	A	0.78	C	0.82	D	0.95	E	0.83	D	0.95	E	0.80	C	0.92	E
40	Santiago Boulevard @ Meats Avenue	0.85	D	0.70	B	0.91	E	0.77	C	0.81	D	0.70	B	0.88	D	0.81	D
41	Wanda Road @ Villa Park Road	1.13	F	0.93	E	1.18	F	0.97	E	1.15	F	0.92	E	1.16	F	0.92	E
46	Tustin Street @ Katella Avenue	0.65	B	0.87	D	0.68	B	0.85	D	0.70	B	0.92	E	0.64	B	0.81	D
48	Tustin Street @ Lincoln Avenue	0.89	D	1.04	F	0.93	E	1.01	F	0.93	E	1.06	F	0.87	D	1.00	E

  Deficient Intersection, LOS E

  Deficient Intersection, LOS F

Source: Parsons Brinckerhoff Quade and Douglas, Inc. 2008

Implementation of the existing General Plan would result in two additional roadway segment deficiencies relative to the proposed project:

- Chapman Avenue from Prospect Street to Esplanade Street
- Lincoln Avenue from Tustin Street to Santiago Boulevard

However, implementation of the existing General Plan would resolve the following 20 roadway segment deficiencies relative to the proposed project:

- Batavia Street from Walnut Avenue to Collins Avenue
- Batavia Street from Collins Avenue to Katella Avenue
- Batavia Street from Taft Avenue to Fletcher Avenue
- Batavia Street from Fletcher Avenue to Lincoln Avenue
- Chapman Avenue from Lemon Street to Glassell Street
- Chapman Avenue from Glassell Street to Grand Street
- Collins Avenue from Batavia Street to Glassell Street
- Collins Avenue from Cambridge Street to Tustin Street
- Glassell Street from SR-22 to La Veta Avenue
- Glassell Street from Chapman Avenue to Palm Avenue
- Glassell Street from Katella Avenue to Orange Olive Road
- Katella Avenue from Struck Avenue to Main Street
- Katella Avenue from Main Street to Batavia Street
- Katella Avenue from Batavia Street to Glassell Street
- Katella Avenue from Glassell Street to Cambridge Street
- Main Street from Town & Country Road to La Veta Avenue
- Meats Avenue from Tustin Street to SR-55 Southbound Ramps
- Meats Avenue from SR-55 Southbound Ramps to SR-55 Northbound Ramps
- Meats Avenue from SR-55 Northbound Ramps to Santiago Boulevard
- Taft Avenue from West City Limit to Main Street

Implementation of the existing General Plan would also resolve the following four intersection deficiencies relative to the proposed project:

- Jamboree Road at Chapman Avenue (A.M. peak hour)
- Main Street at La Veta Avenue (P.M. peak hour)

- Santiago Boulevard at Meats Avenue (A.M. peak hour)
- Tustin Street at Lincoln Avenue (A.M. peak hour)

Air traffic patterns and current patterns utilized by helicopters accessing facilities within the City would not be altered with implementation of either the existing or proposed General Plan. Traffic generated by new development allowed under either the existing or proposed General Plan would not increase hazards due to design features or incompatible uses. Any new roadways within the planning area and those that may be proposed for expansion or alteration under either alternative would be subject to existing City design standards for roadways that ensure that no hazards would result.

Roadway and intersection deficiencies anticipated under either alternative will generate traffic congestion along intersections and roadways that has potential to impede emergency access. To the extent that the proposed General Plan results in a greater number of such deficiencies relative to the existing General Plan, the potential to impede emergency access is also greater.

Growth in population, employment, and housing under both the existing and proposed General Plan has the potential to create parking shortages in the City. Off-street parking demand is addressed by the City's Zoning Code, which includes parking requirements that apply to all new developments and may be applied to current uses that are modified or expanded. In addition to the Zoning Code parking requirements, mitigation measures reduce off-site parking demand by encouraging use of alternative transportation modes. The potential for parking shortages is particularly acute in Old Towne Orange and could be exacerbated by proposed mixed use and increases in commercial development within the proposed General Plan relative to the existing General Plan.

Neither the existing nor the proposed General Plan would conflict with policies supporting alternative modes of transportation, or result in further extension of roadways into areas that are not serviced by bus or rail services necessitating the use of automobiles by residents beyond those currently planned.

Additional policies in the proposed General Plan include actions aimed at encouraging alternative transportation modes such as walking, biking, and using public transportation, relative to the existing General Plan. Nevertheless, under the existing General Plan, eight arterial segments and five critical intersections would operate at unaccepted levels of service. Under the proposed project, 26 arterial segments and eight critical intersections would operate at

unacceptable levels of service. Thus, implementation of the existing General Plan would result in less impacts to transportation/traffic than the proposed project due to reduced development intensity within the urban core and a greater number of deficient roadway segments and intersections. These impacts would be significant and unavoidable under both Alternative 1 and the proposed project.

### **Climate Change**

Buildout under the existing General Plan would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed General Plan.

Implementation of the existing General Plan would result in reduced levels of residential, commercial, and industrial development compared to the proposed project. Given this reduced level of development, transit opportunities would be less, reducing the potential for alternative transportation mitigation measures to reduce GHG emissions compared to the proposed General Plan, and potentially increasing VMT and GHG emissions related to employee commutes relative to the proposed project. A variety of strategies would be implemented within the proposed General Plan to reduce GHG emissions, including mixed use areas, higher density residential areas, transit options, and bicycle and pedestrian infrastructure that are not described within the existing General Plan. Given the potential increase in VMT and GHG emissions, and the lack of climate change policies and programs within the existing General Plan, this alternative may result in reduced direct GHG emissions impacts with respect to climate change than the proposed General Plan, but cumulative impacts would still be greater than those of the proposed project. These impacts would be significant and unavoidable under both alternatives.

#### **6.4.2 Conclusion**

Buildout under Alternative 1 would result in approximately 13,300 fewer dwelling units, approximately 12 million less square feet of nonresidential development, and approximately 29,000 fewer people than would be allowed under the proposed project. This alternative would result in similar environmental impacts to the proposed General Plan in the areas of agricultural resources, and geology and soils. This alternative would result in greater environmental impacts to aesthetics, biological resources, cultural resources, hydrology/water quality, land use and planning, and climate change. Less impacts can be expected to occur under this alternative for air quality, hazards/hazardous materials, noise, population and housing, public services and

utilities, recreation, and transportation/traffic. Therefore, Alternative 1 is environmentally superior to the proposed project.

Alternative 1 would not implement the proposed General Plan. As such, Alternative 1 would not achieve most of the objectives of the proposed General Plan, such as expanding historic preservation efforts, planning for and accommodating anticipated growth through infill redevelopment in key focus areas, encouraging new development that strives to achieve greater efficiencies between land use and transportation and maintain the viability of the industrial areas within focus areas, providing a multimodal circulation system to benefit air quality and reduce GHGs, improving community aesthetics, and enabling mixed use projects near regional employment, transit, and tourist destinations.

## **6.5 ALTERNATIVE 2: PROPOSED GENERAL PLAN WITHOUT MEATS AVENUE INTERCHANGE**

This alternative evaluates potential impacts of 2030 development of the proposed General Plan assuming 2030 buildout of the proposed MPSH, without the proposed interchange at Meats Avenue/SR-55. This alternative would not include the following features of the proposed project, described in the Caltrans Project Study Report prepared by Caltrans for the interchange in 1998:

- Construction of new tight diamond on/off-ramps at Meats Avenue/SR-55
- Restriping of lanes on the Meats Avenue overcrossing
- Installation of traffic signals on Meats Avenue
- Installation of street lighting on Meats Avenue ramps
- Installation of ramp meters
- Construction of auxiliary lanes between Katella Avenue and Lincoln Avenue both northbound and southbound on SR-55
- Right-of-way acquisition and displacement of approximately 30 housing units
- Relocation of inlets and culverts
- New drainage system for the Meats Avenue ramps
- Placement of sound walls at on-ramps
- Relocation of six existing sound walls
- Redesign of two existing sound walls
- Addition of pile footing on some walls
- Revision of design at Meats Avenue fill slopes
- Landscaping of areas after building demolition

- Widening the Taft Avenue undercrossing on the northbound side of SR-55.

### **6.5.1 Comparison of Environmental Impacts to Proposed project**

#### **Aesthetics**

This alternative would not result in either degradation or improvement to aesthetics citywide relative to the proposed project because policies and implementation programs contained in the proposed Urban Design and Cultural Resources elements would be identical to those under this alternative. Although constructing the Meats Avenue/SR-55 interchange would change the existing visual character of the immediate area, it is a logical extension of the current commercial context of the area. Constructing the interchange would not substantially degrade the visual quality of the City as a whole, which is established by views of natural areas to the east of the City and the character of the City's commercial areas, and would not create new sources of light or glare as the interchange is not proposed to include highly reflective materials, or have an adverse effect on scenic resources or vistas as there is already an existing overpass at Meats Avenue. Since 2030 development of the proposed General Plan is assumed for this alternative, similar impacts to aesthetics related to development intensification within the land use focus areas would occur.

#### **Agricultural Resources**

Neither Alternative 2 nor the proposed project would change the land use designation of areas identified as Important Farmland, and conversion to urban uses is unlikely due to location constraints. Since 2030 development of the proposed General Plan is assumed for this alternative and no agricultural resources exist within the Meats Avenue/SR-55 Interchange area, similar impacts to agricultural resources would occur relative to the proposed project.

#### **Air Quality**

Alternative 2 may conflict with or obstruct implementation of either the SCAQMD Air Quality Plan or SCAG RTP, as the Meats Avenue interchange is a listed improvement in the RTP. Even though the proposed project is based on the same level of development and would generate a similar number of vehicular trips, greater levels of congestion would cause the following four additional arterials to exceed acceptable level of service thresholds relative to the proposed project:

- Chapman Avenue from Prospect Street to Esplanade Street
- Tustin Street from Chapman Avenue to Walnut Avenue
- Tustin Street from Collins Avenue to Katella Avenue
- Tustin Street from Katella Avenue to Taft Avenue

Implementation of Alternative 2 would also resolve an intersection deficiency at Santiago Boulevard at Meats Avenue in the A.M. peak hour, while creating an additional intersection deficiency at Tustin Street and Katella Avenue in the P.M. peak hour.

These differences would result in increases in localized vehicular emissions resulting in greater air quality impacts under Alternative 2 without the Meats Avenue/SR-55 Interchange than would be experienced under proposed project conditions. Construction-related air quality impacts would be reduced without the Meats Avenue/SR-55 interchange.

Implementation of this alternative would result in generally greater impacts associated with vehicular sources and stationary sources. However, as with the proposed project, air quality impacts would remain significant and unavoidable, as the planning area is located within the SCAB, which is a federal nonattainment area.

### **Biological Resources**

The majority of new development under both Alternative 2 and the proposed project would occur within already developed areas of the City away from areas with biological resources. As both Alternative 2 and the proposed project designate these areas as Open Space or Recreational Commercial consistent with the NCCP, impacts to sensitive species and their habitats would be similar with implementation of either alternative. Both Alternative 2 and the proposed project would enable future use of the Yorba Park site for commercial development through activation of the proposed Yorba Commercial Overlay designation. Neither Alternative 2 nor the proposed project would alter the City's Master Plan of Street Trees and Tree Preservation Ordinance or their continued implementation as a result of any land use changes proposed by the General Plan.

Since 2030 development of the proposed General Plan is assumed for this alternative, no biological resources exist within the Meats Avenue/SR-55 Interchange area. Policies within the General Plan to comply with provisions established by the NCCP/HCP, to protect and achieve a sensitive development interface with Santiago Creek, and to reintroduce native plants and

animals along the creek corridor are part of both Alternative 2 and the proposed project; therefore, similar impacts to biological resources would occur.

### **Cultural Resources**

The area surrounding the Meats Avenue/SR-55 Interchange is urbanized, no cultural resources have been identified within the area, and the immediate area is not proposed as a potential resource in the Cultural Resources Element. The area immediately surrounding the proposed interchange is characterized by post-World War II residential development, a mobile home park, and commercial development. Although potential exists to uncover previously undiscovered cultural resources if the interchange was developed, existing regulatory controls would ensure appropriate handling of any buried resources during construction and similar impacts would occur under Alternative 2 relative to the proposed project.

### **Geology/Soils**

The planning area contains two possibly active faults, both of which could result in surface fault rupture during a seismic event. The proposed Meats Avenue interchange is located approximately one-half mile south of the Peralta Hills Fault. Because the planning area is located within a seismically active region of southern California near large regional faults capable of generating strong earthquakes with high intensity ground shaking, the entire planning area is at risk for damage caused by ground shaking under either Alternative 2 or the proposed General Plan.

The planning area includes several abandoned and closed landfills, including the Yorba Park site. Both Alternative 2 and the proposed project could enable future commercial development of the Yorba Park site through activation of the Yorba Commercial Overlay.

The area surrounding the Meats Avenue/SR-55 Interchange would be exposed to similar geology/soils impacts with or without the interchange. Since 2030 development of the proposed General Plan is assumed for this alternative, similar impacts to geology and soils would occur under Alternative 2 at this program level of analysis. Project-specific soils impacts would be addressed at the design stage of the interchange pursuant to CEQA.

## **Hazards and Hazardous Materials**

Under both Alternative 2 and the proposed General Plan, future industrial uses are proposed to remain within currently industrial areas located principally at the west end of the City near the Santa Ana River. Maximum FARs in areas designated for industrial use would be similar under both alternatives. Therefore, the potential rates of use and generation of hazardous materials for industrial and hospital uses would be similar. Hospitals within Orange are anticipated to remain at their current locations and have similar development potential under both alternatives. Areas located immediately near the Meats Avenue interchange would likely be exposed both to fewer hazardous materials transportation incidents and lower levels of particulate matter originating from diesel exhaust if the interchange were not constructed, as trucks would not access SR-55 at that location.

Under Alternative 2, congestion at intersections and along roadways identified as evacuation routes would be higher than under the proposed General Plan, as Alternative 2 results in additional intersection and roadway segment deficiencies. Thus, the area surrounding the Meats Avenue/SR-55 Interchange would be exposed to less hazards/hazardous materials impacts without the interchange.

## **Hydrology and Water Quality**

The majority of development under both Alternative 2 and the proposed project would occur through redevelopment in already developed areas of the City. Because most new development would occur in the form of infill, redevelopment, or adaptive reuse in existing urbanized areas, it would not result in substantial changes to absorption rates, drainage patterns, and the rate of surface runoff. Site redevelopment will likely improve absorption and surface runoff rates, as well as the quality of urban runoff contributing to groundwater infiltration and recharge due to enforcement of NPDES permit requirements. Alternative 2 could result in a slight net decrease in citywide impervious surface when compared to the proposed project, since construction of on- and off-ramps at Meats Avenue and widening of the Taft Avenue underpass associated with the interchange would not occur.

Construction activities related to the proposed Meats Avenue interchange could contribute additional pollutants to urban runoff relative to the proposed project that would not be present under Alternative 2, including sediments from grading activities and contaminants associated with construction materials, construction waste, vehicles, and equipment, among others.

Since 2030 development of the proposed General Plan is assumed for both Alternative 2 and the proposed project, similar impacts to hydrology and water quality would occur relative to the proposed project.

### **Land Use and Planning**

The character of development under both Alternative 2 and the proposed project is consistent with the goals of the Regional Comprehensive Plan and Guide, including the Compass Growth Visioning Principles, which encourage compact, mixed use communities linked by alternative transportation. However, Alternative 2 may conflict with or obstruct implementation of SCAG's Regional Transportation Plan, as the Meats Avenue interchange is a listed improvement in the RTP. Since 2030 development of the proposed General Plan is assumed for this alternative, similar land use and planning impacts would occur relative to the proposed project.

### **Noise**

The majority of development under both Alternative 2 and the proposed project would occur through mixed use development, in already developed areas of the City, many of which are located adjacent to roadways with high traffic volumes, which may expose residents to noise levels more typical of an urban environment. Increases in traffic volumes in these areas would lead to increases in noise, which could exceed noise significance thresholds and have the potential to affect noise sensitive receptors and uses located adjacent to arterials. Even though Alternative 2 and the proposed project are based on the same level of development and would generate a similar number of vehicular trips, greater levels of congestion due to the lack of the Meats Avenue interchange under Alternative 2 would cause the following four additional arterials to exceed acceptable LOS thresholds relative to the proposed project:

- Chapman Avenue from Prospect Street to Esplanade Street
- Tustin Street from Chapman Avenue to Walnut Avenue
- Tustin Street from Collins Avenue to Katella Avenue
- Tustin Street from Katella Avenue to Taft Avenue

Most of these corridors are commercial in character and do not include sensitive receptors that could be exposed to greater levels of noise under this alternative relative to the proposed project. Construction activities associated with the proposed Meats Avenue interchange may generate elevated short-term noise and have the potential to impact noise sensitive land uses.

Since 2030 development of the proposed General Plan is assumed for this alternative, similar noise impacts would occur under Alternative 2 relative to the proposed project. In the vicinity of the Meats Avenue/SR-55 Interchange and along roadway segments listed above, greater localized noise impacts would occur at surrounding uses relative to the proposed project.

### **Population and Housing**

Identical population growth would occur under Alternative 2 and the proposed General Plan. Both Alternative 2 and the proposed General Plan exceed SCAG growth projections for the year 2030.

While it is likely that the increased supply of housing units associated with Alternative 2 and with the proposed General Plan could provide for additional housing opportunities and the replacement of substandard housing with newer housing units, it is also likely that residents of older housing units could be displaced as a result of the demolition and replacement of older housing units with newer housing units. This displacement could occur within existing mobile home communities and near the proposed Meats Avenue/SR-55 interchange. Construction of the Meats Avenue/SR-55 Interchange would result in the acquisition and demolition of housing (on the order of approximately 30 units) that would not occur under Alternative 2. This would represent displacement and relocation of approximately 0.05 percent of citywide dwelling units in 2030. In some instances, people could have access to City, state, and federal programs providing housing assistance. General Plan policies address, facilitate, and promote development of a variety of rental and ownership housing types in the planning area aimed at all income levels to meet the needs of the projected population under both alternatives.

Since 2030 development of the proposed General Plan is assumed for this alternative, similar population and housing impacts would occur under Alternative 2 relative to the proposed project. Although the interchange would result in localized impacts, it would not displace a substantial amount of housing or number of people necessitating the construction of replacement housing elsewhere. These localized impacts to housing would not occur under Alternative 2.

### **Public Services and Utilities**

Since 2030 development of the proposed General Plan is assumed for this alternative, similar public services and utilities impacts would occur under Alternative 2 relative to the proposed project. Alternative 2 would not require a different level of public services or utility services to

serve the planning area population than would be required if the Meats Avenue/SR-55 interchange were constructed.

### **Recreation**

No parks or recreation uses are located within the Meats Avenue/SR-55 Interchange area and this alternative would not increase the demand for recreational resources beyond that described for the proposed project. Since 2030 development of the proposed General Plan is assumed for Alternative 2, similar recreation impacts would occur under this alternative relative to the proposed project.

### **Transportation/Traffic**

Tables 6-3 and 6-4 presented within the discussion of Transportation/Traffic effects of Alternative 1 present differences between Alternative 2 and the proposed project with respect to deficient intersections and roadway segments identified in Section 5.14 of this EIR.

Alternative 2 represents buildout of the proposed MPAH (except improvements to Walnut Avenue, Cambridge Street, and Chapman Avenue and Glassell Street through the Orange Plaza, and portions of La Veta Avenue between Glassell Street and Cambridge Street consistent with the traffic analysis for the project). This alternative assumes buildout of the proposed General Plan land use but does not include a full diamond interchange at Meats Avenue/SR-55. Under Alternative 2, 27 arterial segments operate below the acceptable LOS D threshold even with buildout of improvements and critical intersection geometries identified in the MPAH, as identified in Table 6-3. Alternative 2 would result in eight study intersections forecast to operate at an unacceptable LOS in either the A.M. or the P.M. peak hour, as identified in Table 6-4.

The proposed project represents buildout of the proposed MPAH except improvements to Walnut Avenue, Cambridge Street, and Chapman Avenue and Glassell Street through the Orange Plaza, and a segment of La Veta Avenue between Glassell Street and Cambridge Street. The proposed project also includes a full diamond interchange at Meats Avenue/SR-55 and assumes buildout of the proposed General Plan land use. Under the proposed project, 26 arterial segments operate below the acceptable LOS D threshold even with improvements identified in the City Master Plan of Streets and Highways, as identified in Table 6-3. Even with currently planned improvements, including buildout intersection geometrics for critical intersections, eight

study intersections are forecast to operate at an unacceptable LOS in either the A.M. or the P.M. peak hour under the proposed project, as identified in Table 6-4.

Alternative 2 would therefore result in the following four new roadway segment deficiencies relative to the proposed project:

- Chapman Avenue from Prospect Street to Esplanade Street
- Tustin Street from Chapman Avenue to Walnut Avenue
- Tustin Street from Collins Avenue to Katella Avenue
- Tustin Street from Katella Avenue to Taft Avenue

Alternative 2 would also resolve the following three roadway segment deficiencies relative to the proposed project:

- Meats Avenue from Tustin Street to SR-55 Southbound Ramps
- Meats Avenue from SR-55 Southbound Ramps to SR-55 Northbound Ramps
- Meats Avenue from SR-55 Northbound Ramps to Santiago Boulevard

Implementation of Alternative 2 would resolve an intersection deficiency at Santiago Boulevard at Meats Avenue in the A.M. peak hour, while creating an additional intersection deficiency at Tustin Street and Katella Avenue in the P.M. peak hour relative to the proposed project.

Roadway and intersection deficiencies anticipated under either alternative will generate traffic congestion along intersections and roadways that has potential to impede emergency access. To the extent that Alternative 2 results in a greater number of such deficiencies relative to the proposed General Plan, the potential to impede emergency access is also greater.

Implementation of Alternative 2 would result in greater impacts to transportation/traffic when compared to the proposed project, primarily due to additional congestion along Meats Avenue and the Tustin Street/Katella Avenue intersection without the Meats Avenue interchange. These impacts would be significant and unavoidable under both Alternative 2 and the proposed project.

### **Climate Change**

Implementation of Alternative 2 would result in identical levels of residential, commercial, and industrial development compared to the proposed project. However, Alternative 2 would remove

the proposed Meats Avenue interchange from the circulation system, which may potentially increase VMT and GHG emissions related to commutes that might otherwise use the interchange to shorten travel distances. Since the level of future development within this alternative and the proposed project is the same, implementation of Alternative 2 would result in similar GHG emissions impacts with respect to climate change to the proposed General Plan. These impacts would be significant and unavoidable under both alternatives.

### **6.5.2 Conclusion**

Alternative 2 would allow the same level of residential and nonresidential development to occur in the planning area as the proposed project but would not include the proposed Meats Avenue interchange at SR-55. This alternative would result in less impacts to hazards and hazardous materials than the proposed General Plan. This alternative would result in similar environmental impacts to the proposed General Plan in the areas of aesthetics, agricultural resources, biological resources, cultural resources, geology and soils, hydrology/water quality, land use and planning, noise, population and housing, public services and utilities, recreation, and climate change. Greater impacts can be expected for air quality and transportation/traffic under this alternative. Therefore, Alternative 2 is environmentally inferior to the proposed project.

Alternative 2 would implement the proposed General Plan with the exception of the Meats Avenue interchange. As such, this alternative would achieve most of the objectives of the proposed project.

## **6.6 ALTERNATIVE 3: REDUCED DEVELOPMENT INTENSITY**

This alternative evaluates potential impacts of a reduced level of 2030 development relative to the proposed General Plan. Specifically, Alternative 3 would incorporate the following site-specific changes to the proposed General Plan:

- Areas along Tustin Street surrounding The Village at Orange would be designated for Neighborhood Mixed Use, rather than General Commercial (as under the proposed General Plan) resulting in additional dwelling units and a reduced amount of nonresidential square feet.
- Areas surrounding Chapman Hospital would be designated for Neighborhood Mixed Use (for Chapman Hospital) and Open Space – Park (for the Yorba Park site), rather than Public Facilities and Institutions (for Chapman Hospital) and Open Space-Park with a

commercial overlay allowing retail and service uses (for the Yorba Park site) under the proposed General Plan, resulting in additional dwelling units.

- The western portion of Katella Avenue would be designated for Commercial Recreation Mixed Use, allowing a substantially lower amount of both dwelling units and nonresidential square feet than the Neighborhood Mixed Use and Urban Mixed Use designations within the proposed project.
- Portions of Lincoln Avenue would be designated for Neighborhood Mixed Use, rather than General Commercial and Medium Density Residential (as under the existing and proposed General Plan), resulting in additional dwelling units and a reduced amount of nonresidential square feet.
- Portions of the Old Towne and Santa Fe Depot focus area would be designated for Low Density Residential or Neighborhood Mixed Use (15 dwelling units per acre [du/ac] maximum) under Alternative 3 that are designated for Low Medium or Medium Density Residential or Old Towne Mixed Use (24 du/ac maximum) under the proposed General Plan.

In addition, estimated densities and intensities for the Neighborhood Mixed Use, Urban Mixed Use, General Commercial, Light Industrial, and Public Facilities and Institutions land use designations presented in the Land Use Element within the proposed General Plan vary from those assumed under Alternative 3, as shown in Table 6.5 below.

**Table 6-5  
Estimated Densities and Intensities of Land Use Designations: Alternative 3**

Land Use Designation	Estimated Density/Intensity	
	Proposed Project	Alternative 3
Neighborhood Mixed Use 15	8.0 du/ac; 1.0 FAR	9.3 du/ac; 1.0 FAR
Neighborhood Mixed Use 24	16.3 du/ac; 1.0 FAR	16.0 du/ac; 1.0 FAR
Urban Mixed Use	48 du/ac; 1.7 FAR	43.3 du/ac; 1.7 FAR
General Commercial	0.35 FAR	0.25 FAR
Light Industrial	0.50 FAR	0.35 FAR
Public Facilities	Utilities: 0.05 FAR Schools: 0.15 FAR Civic Facilities: 0.25 FAR	All Facilities: 0.15 FAR
Institutions	College/University: 0.35 FAR Hospitals: 1.0 FAR	All Institutions: 0.15 FAR

The net effect of these changes for Alternative 3 is a reduction of approximately 10,389 dwelling units (15.5 percent), 11.1 million nonresidential square feet (15.7 percent), and 20,078 resident population (10.3 percent) within the planning area compared to the proposed General Plan. These reductions would be most noticeable within the identified focus areas due to the land use changes described above and elsewhere Citywide based on variations in building square footage and dwelling units listed in Table 6-5. Alternative 3 assumes full buildout of the proposed 2030 MPAH roadway system, excluding improvements to Walnut Avenue, Cambridge Street, and Chapman Avenue and Glassell Street through the Orange Plaza. Alternative 3 also includes the proposed Meats Avenue/SR-55 Interchange.

### **6.6.1 Comparison of Environmental Impacts to Proposed project**

#### **Aesthetics**

Buildout under Alternative 3 would result in fewer dwelling units, less square feet of nonresidential development, and fewer people than would be allowed under the proposed project. Whereas the majority of development under the proposed project would occur within 8 focus areas in already developed areas of the City, development under Alternative 3 would occur in 10 focus areas. Many of these areas are within the City's Redevelopment Area, which contains underutilized land, land used previously for industrial or commercial uses, and/or areas in need of revitalization. Under Alternative 3, reduced levels of building intensification would be permitted within most focus areas; thus, the character of areas such as Uptown Orange, Katella Avenue, Old Towne Orange, Tustin Street, Lincoln Avenue, and South Main Street would generally remain unchanged. As Alternative 3 would result generally in less net new development at reduced intensities than the proposed project, potential to create new sources of light or glare would be less than that of the proposed project.

Under both Alternative 3 and the proposed project, the Urban Design Element contains numerous policies to encourage high-quality urban design and to visually enhance and beautify streetscapes, districts, gateways, and corridors. Urban development is assumed for the Tustin Street area, portions of the Chapman Hospital area that are not designated for Open Space, western Katella Avenue, and Lincoln Avenue under both the proposed project and Alternative 3 (even though it is lower density and intensity). The General Commercial intensity throughout the City would be lower. Proposed policies aimed at improving community aesthetics would be implemented. Therefore, overall aesthetic impacts in terms of visual character would be similar to the proposed project, although overall density and intensity would be reduced.

## **Agricultural Resources**

The reduced density and intensity of development proposed under Alternative 3 do not apply to the limited amounts of land within the planning area, which are identified as Important Farmlands. Neither alternative changes the land use designations of other areas identified as Important Farmland and conversion to urban uses is unlikely due to location constraints. Therefore, agricultural resources impacts under this alternative would be similar to those of the proposed project.

## **Air Quality**

Buildout under Alternative 3 would result in fewer dwelling units, less square feet of nonresidential development, and fewer people than would be allowed under the proposed project. Whereas the majority of development under the proposed project would occur within 8 focus areas in already developed areas of the City, development under Alternative 3 would occur in 10 focus areas without introducing new sensitive receptors to new sources of air pollution. Many of these areas are located adjacent to existing employment centers and services, which could reduce vehicle trips. Additionally the Circulation Element emphasizes a multimodal system of roadways, pedestrian walkways, and bicycle paths throughout the City that could also reduce vehicle trips, as well as VMT. Both Alternative 3 and the proposed General Plan include green building policies so emissions from buildings could be reduced as well. Although incremental reductions in VMT associated with mixed use development on Tustin Street, Lincoln Avenue, and Chapman Avenue at Yorba Street may be expected, ultimately the net new additional growth accommodated by the proposed General Plan generates additional traffic and the number of roadway segments that operate at an unacceptable LOS under the proposed project would increase under Alternative 3.

Alternative 3 would not conflict with or obstruct implementation of the SCAQMD Air Quality Plan. Construction emissions would also be lower under this alternative due to the reduced amount of potential development relative to the proposed project. Implementation of this alternative would result in less air quality impacts and fewer emissions associated with vehicular sources. Under this alternative, 14 arterial segments and five intersections would operate at unacceptable LOS. Under the proposed project, 26 arterial segments and eight critical intersections would operate at unacceptable LOS. Therefore, air emissions associated with both vehicle traffic and construction emissions would be less than the proposed project. As with the

proposed project, air quality impacts would remain significant and unavoidable, as the planning area is located within the SCAB, which is a federal nonattainment area.

### **Biological Resources**

Development under both Alternative 3 and the proposed General Plan would be subject to the same state and federal environmental review requirements and regulations for the protection of sensitive and endangered species and habitats. Land use designations within Alternative 3 and the proposed General Plan are identical in areas where such species or habitats are known to exist.

Alternative 3 would not enable future use of the Yorba Park site for commercial development. Alternative 3 designates this site as Open Space – Park, without applying the Yorba Commercial Overlay designation described within the proposed project. Given its location near Santiago Creek, designation of this site as Open Space – Park may present more favorable conditions for the preservation or restoration of riparian habitat along the creek than future commercial use.

Neither Alternative 3 nor the proposed General Plan would alter the City’s Master Plan of Street Trees and Tree Preservation Ordinance or their continued implementation. Both would require adherence to the Master Street Tree Plan and the Tree Preservation Ordinance, as well as continued participation in the NCCP/HCP to avoid significant impacts to native and migratory birds.

The reduced density and intensity of development under this alternative occurs in already developed commercial areas of the City and does not apply to land containing important biological resources. Although this alternative would result in less localized impact to Santiago Creek given the Open Space – Park designation of the Yorba Park site, citywide impacts to biological resources under this alternative would be similar to those of the proposed project.

### **Cultural Resources**

Under both Alternative 3 and the proposed project, the City would continue to preserve historic resources primarily within the Old Towne area of the City through preservation policy, design standards, and environmental review. Both alternatives propose specific reductions in residential densities in many Old Towne neighborhoods (although Alternative 3 contains more such reduction than the proposed General Plan); continue to protect and enhance Old Towne’s historic

character; introduce neighborhood-scale mixed use along Chapman Avenue and Glassell Street, and adjacent to the BNSF railroad; encourage the adaptive reuse of existing industrial areas and the creation of transit-oriented developments around the historic Santa Fe Depot; maintain and enhance Old Towne's walkability; and provide for continued use and enhancement of the civic center. All of these policies are directed at maintaining the historic character of the National Register-designated Old Towne Historic District and its individual listed resources.

Urban development involving alteration of land is assumed within Alternative 3 for the Tustin Street area, Chapman Hospital area, western Katella Avenue, and Lincoln Avenue, under this alternative, and these areas are characterized by existing urban development and anticipated increases in commercial intensity within the proposed General Plan. Localized impacts in the Lincoln Avenue corridor may be greater than under the proposed project, given its proximity to the historic Olive area and presence of adobe sites in the vicinity. However, citywide cultural resources impacts would be similar to those of the proposed project.

### **Geology/Soils**

The majority of development under both Alternative 3 and the proposed project would occur within already developed areas of the City. The planning area contains two possibly active faults, both of which could result in surface fault rupture during a seismic event. The Peralta Hills Fault crosses through both the Tustin Street and Lincoln Avenue mixed use areas that would be part of Alternative 3 (but are not included in the proposed project), which may expose more people to fault rupture hazards.

Portions of the planning area along the Santa Ana River and Santiago Creek and developed areas adjacent to these waterways have been designated significant liquefaction hazard areas. The West Chapman/Uptown Orange, Katella Avenue, and Tustin Street/Chapman Avenue focus areas proposed within both alternatives are all located within these hazard areas. The Lincoln Avenue area proposed for mixed use under Alternative 3 is also located near a liquefaction hazard area, which may expose more people and property to liquefaction hazards.

Alternative 3 would not enable future use of the Yorba Park site for commercial development. Alternative 3 designates this site as Open Space – Park, without applying the Yorba Commercial Overlay designation described within the proposed project. Given its former landfill status, designation of this site for commercial use represents a more hazardous condition with respect to soil stability; thus, Alternative 3 represents less potential impact at this location.

Urban development is assumed for the Tustin Street area, Chapman Hospital area, western Katella Avenue, and Lincoln Avenue under this alternative, and these areas are characterized by existing urban development and anticipated increases in commercial intensity within the proposed General Plan. The same regulatory controls and safety policies apply under both alternatives. Thus, geology/soils impacts would be similar to those of the proposed project.

### **Hazards and Hazardous Materials**

New residential and mixed use development under the proposed General Plan in areas previously zoned for commercial and industrial uses (Tustin Street area, Chapman Hospital area, western Katella Avenue, and Lincoln Avenue) that are proposed for residential use within the proposed project could lead to increased potential for residential exposure to hazardous materials. However, as these are remediated and prepared for mixed use development, potential exposure of new residents and businesses to hazardous materials would decrease over time as industrial uses employing hazardous materials and transport are reduced in these areas. Development potential for hospitals under this alternative is similar to the proposed project, so would therefore potentially use and generate similar amounts of hazardous materials.

Hazards associated with land use conflicts due to the City's heliports would be similar, as the volume of helicopter activity at the hospitals and SCE substation cannot be linked to development intensities in Orange due to the medical emergency (from outside of the City) and service nature of these flights. Aircraft paths cross air space between SR-55 and Newport Boulevard under both alternatives; thus, the reduced number of housing units and population within Alternative 3 relative to the proposed General Plan could expose fewer people to potential mid-air collisions. Similarly, the reduced level of development associated with Alternative 3 would result in lower levels of congestion at intersections and along roadways identified as evacuation routes than under the proposed General Plan.

Development pursuant to either alternative would be subject to the same local, state, and federal regulations regarding hazards and hazardous materials. Nevertheless, the increased level of development under the proposed General Plan would potentially result in an increased presence of hazardous materials within commercial and industrial focus areas relative to Alternative 3. Thus, fewer employees and residents may be subjected to hazards and fewer hazardous materials may be used under Alternative 3, and impacts would be less than those identified for the proposed project.

## Hydrology and Water Quality

The majority of development under both Alternative 3 and the proposed project would occur through redevelopment within already developed areas of the City. Because most new development would occur in the form of infill, redevelopment, or adaptive reuse in existing urbanized areas, it would not result in substantial changes to absorption rates, drainage patterns, and the rate of surface runoff. Site redevelopment will likely improve absorption and surface runoff rates, as well as the quality of urban runoff contributing to groundwater infiltration and recharge due to enforcement of NPDES permit requirements. Alternative 3 could lead to some reduction in citywide impervious surface in the environment when compared to the proposed project, due to the addition of pervious surface and landscaping occurring through retrofitting of additional previously developed sites along Tustin Street and Lincoln Avenue, as well as the reduced level of overall development compared to the proposed project.

Portions of the planning area are located within the FEMA 100-year floodplain, 100-year flood areas, or 100-year storm event areas. Development within the hillside and basin areas under both the existing and proposed General Plan will contribute to the potential for flood hazards by altering existing runoff and absorption rates and placing population and development in areas with high potential for inundation in the unlikely event of catastrophic dam failure. Given lower levels of population, housing, and nonresidential development relative to the proposed project, exposure of persons and property to flooding and dam inundation is lower under Alternative 3.

Construction activities related to implementation of either alternative could contribute additional pollutants to urban runoff, including sediments from grading activities and contaminants associated with construction materials, construction waste, vehicles, and equipment, among others. Given lower levels of potential development relative to the proposed project, these construction-related impacts would be lower under Alternative 3. There is no potential for a tsunami to affect the planning area due to its substantial distance from the ocean. It is possible that a seiche could occur with the Santiago Creek Recharge Basin or Irvine Lake under either alternative, and the lower population under Alternative 3 would reduce exposure to these risks.

Urban development is assumed for the Tustin Street area, Chapman Hospital area, western Katella Avenue, and Lincoln Avenue under Alternative 3, and these areas are characterized by existing urban development and anticipated increases in commercial intensity within the proposed General Plan. Development under both alternatives would be subject to local, regional, state, and federal standards for water quality. However, buildout under this alternative results in

approximately 10,389 fewer dwelling units, a reduction of 11.1 million fewer square feet of nonresidential development, and population reduction of 20,078. Water demand would be less under this alternative, citywide reductions in impervious surfaces would occur, and fewer people would be exposed to potential flood hazards. Therefore, hydrology and water quality impacts would be less than those of the proposed project.

### **Land Use and Planning**

The character of development under both Alternative 3 and the proposed General Plan is consistent with the goals of the SCAG Regional Comprehensive Plan and Guide, including the Compass Growth Visioning Principles, which encourage compact, mixed use communities linked by alternative transportation. The majority of development under either alternative would occur through mixed use development in already developed areas of the City. Many of these areas are adjacent to existing employment centers, transit, and services that could reduce vehicle trips. Alternative 3 would add two additional corridors to this redevelopment strategy relative to the proposed project: North Tustin Street and Lincoln Avenue, increasing the citywide potential for people to locate near both employment and transit.

Implementation of either alternative would be subject to the Orange County Central and Coastal NCCP. General Plan land use designations in these areas under both alternatives conform to the NCCP in that all areas currently proposed for urban development are areas identified as permitted for development and “take” by the Central/Coastal NCCP. All remaining areas are designated Open Space.

Urban development is assumed for the Tustin Street area, Chapman Hospital area, western Katella Avenue, and Lincoln Avenue under Alternative 3, and these areas are characterized by existing urban development and anticipated increases in commercial intensity within the proposed General Plan. Therefore, land use and planning impacts under Alternative 3 would be similar to those of the proposed project.

### **Noise**

The majority of development under either Alternative 3 or the proposed project would occur through mixed use development in already developed areas of the City, many of which are located adjacent to roadways with high traffic volumes, which may expose residents to noise levels more typical of an urban environment. Alternative 3 adds two additional proposed mixed

use corridors relative to the proposed project: North Tustin Street and Lincoln Avenue. Increased traffic volumes anticipated with implementation of the proposed General Plan would result in increases in vehicular noise relative to Alternative 3. These increases could exceed noise significance thresholds and have the potential to affect noise sensitive receptors and uses located adjacent to arterials.

Construction activities associated with either alternative would generate elevated noise from construction and have the potential to impact noise sensitive land uses. To the extent that Alternative 3 results in less additional development than the proposed project, resulting decreases in citywide construction noise would also be expected. Development pursuant to the proposed General Plan would also result in greater concentrations of noise sensitive land uses (e.g., residential areas) below aircraft overflight areas relative to Alternative 3.

Buildout under this alternative results in approximately 10,389 fewer dwelling units, a reduction of 11.1 million fewer square feet of nonresidential development, and a population reduction of 20,078, when compared to the proposed project. However, due to the reduction of traffic volumes under this alternative, noise volumes on planning area arterials would be less. Therefore, noise impacts would be less under this alternative than those of the proposed project.

### **Population and Housing**

Although population growth would occur under both Alternative 3 and the proposed General Plan, development pursuant to Alternative 3 would result in approximately 10,389 fewer dwelling units and approximately 20,078 fewer people than would be allowed under the proposed General Plan. Alternative 3 provides less development capacity within the planning area that would induce less growth than allowed under the proposed project. Both Alternative 3 and the proposed General Plan exceed SCAG growth projections for 2030.

While it is likely that the increased supply of housing units associated with the proposed General Plan relative to Alternative 3 could provide for additional housing opportunities and the replacement of substandard housing with newer housing units, it is also likely that a greater number of residents of older housing units could be displaced as a result of the demolition and replacement of older housing units with newer housing units under the proposed project. In some instances, people could have access to City, state, and federal programs providing housing assistance. Policies in the General Plan under both alternatives address, facilitate, and promote

development of a variety of rental and ownership housing types in the planning area aimed at all income levels to meet the needs of the projected population.

Given the overall reduction in both housing and population within Alternative 3 and reduced potential for residents to be displaced as a result of demolition and replacement of older housing, impacts to population and housing would be less under this alternative than those of the proposed project.

### **Public Services and Utilities**

Buildout under Alternative 3 would result in approximately 10,389 fewer dwelling units, approximately 11.1 million fewer square feet of nonresidential development, and approximately 20,078 fewer people than would be allowed under the proposed project. The lower levels of development and population under Alternative 3 would generate fewer calls associated with criminal activity, medical emergencies, fires, and accidents, as well as a reduced need for expanded public education efforts related to crime and fire prevention. With the decrease in population and new development, fewer police and fire personnel, equipment, and facilities to protect and serve the public, and ensure adequate emergency service capabilities and short response times would be required to provide acceptable service levels.

Given the reduced number of dwelling units and associated school age population under Alternative 3, demands on school facilities and staff would be lower relative to the proposed project. Similarly, the reduced residential population under Alternative 3 would create a lower demand for additional library services requiring expansion of existing libraries and/or construction of new libraries relative to the proposed project.

Reduced population and development under Alternative 3 would create less demand for additional water infrastructure as well as replacement and upgrading of water facilities relative to the proposed project, and less demand for wastewater collection and treatment facilities. Reduced population associated with the existing General Plan would also create less demand for electricity and natural gas as well as transmission infrastructure relative to the proposed project. Lower levels of development and population growth under Alternative 3 would decrease demand for solid waste collection and disposal capacity relative to the proposed project.

Overall, implementation of Alternative 3 would allow less intensive development than would occur under implementation of the proposed General Plan. Therefore, demand for police, fire,

school, and library services and infrastructure capacity would be lower than with the proposed project. Furthermore, additional development described within the proposed General Plan would require upgrades to water and sewer infrastructure that lacks capacity to support such development along portions of Katella Avenue, Tustin Street, and South Main Street. Alternative 3 would therefore result in less impacts to public services and utilities than the proposed project.

### **Recreation**

Buildout under Alternative 3 results in approximately 10,389 fewer dwelling units, approximately 11.1 million fewer square feet of nonresidential development, and approximately 20,078 fewer people when compared to the proposed project. Given that the City is already experiencing a deficiency of parkland relative to national guidelines (1.81 acres per 1,000 population existing versus 3.0 to 5.0 acres per 1,000 recommended), additional population under either alternative would contribute to increased use and accelerated deterioration of recreational facilities and would require acquisition of additional parkland and construction of recreation facilities to meet the City's parks to population goal of 3.0 acres per 1,000 residents. Assuming compliance with Orange Municipal Code Chapter 16.60 which requires the acquisition of or payment of in-lieu fees to achieve a parkland ratio of 3.0 acres of parkland per 1,000 residents, the existing parkland deficiency remains constant over all alternatives at approximately 121 acres. Adherence to this standard requires the City to acquire parks at a ratio of 3.0 acres per 1,000 residents commensurate with population growth. Under Alternative 3, the future estimated buildout population would require 523 acres of parkland versus 584 acres under the proposed project. Because less acreage is required under this alternative, construction impacts due to park development would be less under this alternative.

The General Plan contains additional policies and tools, including transfer of development rights tools, to increase the amount of parkland under both alternatives. Nevertheless, Alternative 3 would result in less impacts to recreation than the proposed project.

### **Transportation/Traffic**

Tables 6-3 and 6-4 presented within the discussion of Transportation/Traffic effects of Alternative 1 current differences between Alternative 3 and the proposed project with respect to deficient intersections and roadway segments identified in Section 5.14 of this EIR.

Alternative 3 represents buildout of the proposed MPAH (except improvements to Walnut Avenue, Cambridge Street, and Chapman Avenue and Glassell Street through the Orange Plaza, and portions of La Veta Avenue between Glassell Street and Cambridge Street, which were also assumed in the traffic analysis for the project). This alternative assumes buildout of the proposed General Plan land use at reduced development intensity compared to the proposed project and includes a full diamond interchange at Meats Avenue/ SR-55. Under Alternative 3, 14 arterial segments operate below the acceptable LOS D threshold even with buildout of improvements and critical intersection geometries identified in the MPAH, as shown in Table 6-3. Alternative 3 results in five study intersections forecast to operate at an unacceptable LOS in either the A.M. or the P.M. peak hour, as shown in Table 6-4.

The proposed project also represents buildout of the proposed MPAH except improvements to Walnut Avenue, Cambridge Street, and Chapman Avenue and Glassell Street through the Orange Plaza, and portions of La Veta Avenue between Chapman Street and Cambridge Street. The proposed project also includes a full diamond interchange at Meats Avenue/SR-55 and assumes buildout of the proposed General Plan land use. Under the proposed project, 26 arterial segments operate below the acceptable LOS D threshold even with improvements identified in the City Master Plan of Streets and Highways, as shown in Table 6-3. Even with currently planned improvements, including buildout intersection geometrics for critical intersections, eight study intersections are forecast to operate at an unacceptable LOS in either the A.M. or the P.M. peak hour, as shown in Table 6-4.

Alternative 3 would resolve the following 12 roadway segment deficiencies relative to the proposed project:

- Batavia Street from Walnut Avenue to Collins Avenue
- Batavia Street from Collins Avenue to Katella Avenue
- Batavia Street from Taft Avenue to Fletcher Avenue
- Batavia Street from Fletcher Avenue to Lincoln Avenue
- Collins Avenue from Batavia Street to Glassell Street
- Collins Avenue from Cambridge Street to Tustin Street
- Katella Avenue from Struck Avenue to Main Street
- Katella Avenue from Main Street to Batavia Street
- Katella Avenue from Batavia Street to Glassell Street
- Katella Avenue from Glassell Street to Cambridge Street
- Prospect Street from Chapman Avenue to Spring Street

- Prospect Street from Spring Street to Walnut Avenue

Alternative 3 would also resolve the following four intersection deficiencies relative to the proposed project:

- Cannon Street at Santiago Canyon Road (A.M. and P.M. peak hour)
- Jamboree Road at Chapman Avenue (A.M. peak hour)
- Santiago Boulevard at Meats Avenue (A.M. peak hour)
- Tustin Street at Lincoln Avenue (A.M. peak hour)

Air traffic patterns and current patterns utilized by helicopters accessing facilities within the City would not be altered with implementation of either Alternative 3 or the proposed project. Traffic generated by new development allowed under either Alternative 3 or the proposed project would not increase hazards due to design features or incompatible uses.

Roadway and intersection deficiencies anticipated under either alternative will generate traffic congestion along intersections and roadways that has potential to impede emergency access. To the extent that Alternative 3 results in a lower number of such deficiencies relative to the existing General Plan, the potential to impede emergency access is also reduced.

Growth in population, employment, and housing under both alternatives has the potential to create parking shortages in the City. Neither Alternative 3 nor the proposed General Plan would conflict with policies supporting alternative modes of transportation, or result in further extension of roadways into areas that are not serviced by bus or rail services necessitating the use of automobiles by residents beyond those currently planned.

The General Plan recommends actions aimed at encouraging alternative transportation modes such as walking, biking, and using public transportation under both alternatives. Nevertheless, implementation of Alternative 3 would result in less impacts to transportation/traffic when compared to the proposed project, primarily due to reduced congestion resulting from lower levels of overall development. These impacts would be significant and unavoidable under both Alternative 3 and the proposed project.

## **Climate Change**

Buildout under Alternative 3 would result in approximately 10,389 fewer dwelling units, approximately 11.1 million fewer square feet of nonresidential development, and approximately 20,078 fewer people when compared to the proposed project. A variety of strategies would be implemented to reduce GHG emissions, including mixed use areas, higher density residential areas, transit options, and bicycle and pedestrian infrastructure throughout the proposed project. However the proposed project's contribution to cumulative GHG emissions would still be significant and unavoidable.

The Reduced Intensity Development Alternative would include development at a comparatively lower density than the proposed project; this alternative would include about 11.1 million fewer square feet of job-generating nonresidential development and 10,389 fewer housing units on the same acreage as the proposed project. Because of the lower residential and employment density in Alternative 3, transit opportunities would be relatively less. With reduced transit options, the per capita VMT would be higher for Alternative 3 than for the proposed project, leading to increased per capita GHG emissions. These emissions would represent a significant and unavoidable contribution to cumulative GHG emissions. This alternative would result in similar impacts with respect to climate change than the proposed project.

### **6.6.2 Conclusion**

Alternative 3 would allow reduced levels of residential and nonresidential development to occur in the planning area relative to the proposed project. Buildout under this alternative would result in approximately 10,389 fewer dwelling units, 11.1 million fewer square feet of nonresidential development, and 20,078 fewer people when compared to the proposed project. This alternative would result in similar environmental impacts to the proposed General Plan in the areas of aesthetics, agricultural resources, biological resources, cultural resources, geology and soils, land use and planning, and climate change. Less impacts can be expected to occur under this alternative for air quality, hazards and hazardous materials, hydrology/water quality, noise, population and housing, public services and utilities, recreation, and transportation/traffic. Therefore, this alternative is environmentally superior to the proposed project.

Alternative 3 would achieve most of the project objectives. However, implementation of this alternative would not encourage urban development within established focus areas to as great an extent as the proposed project. In addition, Alternative 3 could also adversely affect the objective of providing a viable multimodal circulation network, as it would result in lower

densities and building intensities, which would not support alternative transportation as effectively as those of the proposed project. Although Alternative 3 would promote expanded economic development and improved transit accessibility, it would result in less opportunity for affordable housing, offer fewer opportunities for residential development in urban environments, and thus reduce potential variety of semirural, suburban, and urban living environments. Alternative 3 would allow for mixed use development in additional areas relative to the proposed project, such as Tustin Street and Lincoln Avenue, which would increase the interface of such development with existing single-family neighborhoods. Alternative 3 also would not enable the development of entertainment-oriented mixed use projects located near regional tourist destinations to as great an extent as the proposed project.

## **6.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

CEQA requires a lead agency to identify the “environmentally superior alternative” and, in cases where the “No-Project” Alternative is environmentally superior to the proposed project, the environmentally superior development alternative must be identified.

Table 6-1 summarizes the impacts of each of the alternatives relative to the proposed General Plan. Alternative 3, Reduced Development Intensity, has the potential to reduce air quality, hazards and hazardous materials, hydrology/water quality, noise, population and housing, public services and utilities, recreation, transportation/traffic, and climate change impacts. This alternative would also achieve most, but not all, of the objectives of the proposed General Plan, as explained above in Section 6.5.2.

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