

4. Environmental Setting

4.1 INTRODUCTION

This section provides a “description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, ... from both a local and a regional perspective” (Guidelines § 15125[a]), pursuant to provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines. The environmental setting provides the baseline physical conditions from which the lead agency will determine the significance of environmental impacts resulting from the General Plan Update (GPU).

4.2 REGIONAL ENVIRONMENTAL SETTING

4.2.1 Regional Location

The City of Santa Ana is in the western central portion of Orange County, approximately 30 miles southwest of the city of Los Angeles and 10 miles northeast of the city of Newport Beach (see Figure 3-1, *Regional Location*). As shown in Figure 3-2, *Citywide Aerial*, the city is bordered by the city of Orange and unincorporated areas of Orange County to the north, the city of Tustin to the east, the cities of Irvine and Costa Mesa to the south, and the cities of Fountain Valley and Garden Grove to the west. The city also includes a portion of the Santa Ana River Drainage Channel within its sphere of influence (SOI) (see Figure 3-3, *17th Street Island and Sphere of Influence*). The city and its SOI are defined in this draft program environmental impact report and referred to as the “plan area.”

4.2.2 Regional Planning Considerations

4.2.2.1 SOUTH COAST AIR BASIN AIR QUALITY MANAGEMENT PLAN

Santa Ana is in the South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (AQMD). The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants for which ambient air quality standards (AAQS) have been developed are known as criteria air pollutants and include ozone (O₃), carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide, coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead. VOC and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants, such as O₃, through chemical and photochemical reactions in the atmosphere. Air basins are classified as attainment/nonattainment areas for particular pollutants depending on whether they meet the AAQS for that pollutant. The SoCAB is designated nonattainment for O₃, PM_{2.5}, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for nitrogen dioxide (NO₂) and PM₁₀ under the California AAQS. The General Plan Update’s consistency with the applicable AAQS is discussed in Section 5.2, *Air Quality*.

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4.2.2.2 GREENHOUSE GAS EMISSIONS REDUCTION LEGISLATION

Current State of California guidance and goals for reductions in greenhouse gas (GHG) emissions are generally embodied in Executive Order S-03-05; Executive Order B-30-15; Executive Order B-55-18; Assembly Bill 32 (AB 32), the Global Warming Solutions Act (2008); Senate Bill 32 (SB 32), updating the emission limits set in AB 32; Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act; and Senate Bill 100 (SB 100), the 100 Percent Clean Energy Act of 2018.

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the State of California:

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

AB 32 was passed by the state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the emissions reduction targets established in Executive Order S-3-05. SB 32 was passed September 8, 2016, and set an interim target consistent with AB 32. Executive Order B-30-15 also established an interim goal of a 40 percent reduction below 1990 levels by 2030.

In 2008, SB 375 was adopted to connect GHG emissions reductions targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled and vehicle trips. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035.

In September 2016, Governor Brown signed SB 32 and Assembly Bill 197, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources. CARB issued an update to its Scoping Plan, which sets forth programs for meeting the SB 32 reduction target in 2017. In 2018, Governor Brown signed Executive Order B-55-18, which sets a more ambitious goal for emission reductions than Executive Order S-3-05. Executive Order B-55-18 sets a goal for the state to achieve carbon neutrality no later than 2045 and to achieve and maintain net negative emissions thereafter. SB 100 would help the state reach the goal set by Executive Order B-55-18 by requiring that the state's electricity suppliers have a source mix that consists of at least 60 percent renewable/zero carbon sources in 2030 and 100 percent renewable/zero carbon sources in 2045.

The General Plan Update's ability to meet these regional GHG emissions reduction target goals is analyzed in Section 5.7, *Greenhouse Gas Emissions*.

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Senate Bill 743

The legislature found that with the adoption of the SB 375, the state had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of GHG emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32). Additionally, AB 1358 requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users.

On September 27, 2013, SB 743 was signed into law, starting a process that fundamentally changes transportation impact analysis as part of CEQA compliance. Changes include the elimination of auto delay, level of service (LOS), and similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA. As part of the new CEQA Guidelines, the new criteria “shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses” (Public Resources Code Section 21099(b)(1)).

On December 28, 2018, the State Office of Planning and Research approved a comprehensive update to the state CEQA Guidelines which also included implementation metrics for VMT. The revised CEQA Guidelines established new criteria for determining the significance of transportation impacts and define alternative metrics to replace LOS. The new guidelines require that LOS be replaced with VMT-related metric(s) to evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects beginning on January 1, 2020. On June 18, 2019, the Santa Ana City Council adopted VMT thresholds of significance for transportation impact analysis under CEQA. The General Plan Update information on VMT is analyzed in Section 5.16, *Transportation*.

4.2.2.3 SCAG REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

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

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2016 (SCAG 2016). Major themes in the 2016 RTP/SCS include integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increase capacity through improved systems managements; providing more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth and opportunity; promoting the links between public health, environmental protection and economic opportunity; and incorporating the principles of social equity and environmental justice into the plan.

The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding

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goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets identified by the California Air Resources Board. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency. The General Plan Update's consistency with the applicable 2016-2040 RTP/SCS policies is analyzed in detail in Section 5.10, *Land Use and Planning*.

4.2.2.4 AIRPORT ENVIRONS LAND USE PLAN FOR JOHN WAYNE AIRPORT

In 1975, the Airport Land Use Commission (ALUC) of Orange County adopted an Airport Environs Land Use Plan (AELUP, amended April 17, 2008) that included John Wayne Airport (JWA); Fullerton Municipal Airport; and the Joint Forces Training Base, Los Alamitos. The AELUP is a land use compatibility plan that is intended to protect the public from adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable space. Each airport's AELUP identifies standards for development in the airport's planning area based on noise contours, accident potential zones, and building heights. ALUC is authorized under state law to assist local agencies in ensuring compatible land uses in the vicinity of airports. Primary areas of concern for ALUC are noise, safety hazards, and airport operational integrity. ALUC is not an implementing agency in the manner of local governments, nor does it issue permits for a project such as those required by local governments. However, pursuant to California Public Utilities Code Section 21676, local governments are required to submit all general plan amendments and zone changes that occur in the ALUC planning areas for consistency review by ALUC. If such an amendment or change is deemed inconsistent with the ALUC plan, a local government may override the ALUC decision by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes stated in Section 21670(a)(2) of the Public Utilities Code: "to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards in areas around public airports to the extent that these areas are not already devoted to incompatible uses." A large portion of Santa Ana falls within the airport influence area of JWA. Therefore, the General Plan Update's consistency with JWA's AELUP is discussed in Sections 5.8, *Hazards and Hazardous Materials*, 5.10, *Land Use and Planning*, and 5.12, *Noise*.

4.3 LOCAL ENVIRONMENTAL SETTING

4.3.1 Location and Land Use

4.3.1.1 LOCATION

At the local level, the plan area is generally bounded by State Route 22 on the north, State Route 55 on the east, and Interstate 405 on the south (see Figure 3-2, *Citywide Aerial*). The Santa Ana River runs northeast to southwest through the western part of the city. The current General Plan does not include the 17th Street Island SOI.

4.3.1.2 EXISTING LAND USES

The plan area encompasses approximately 14,329 acres (22.4 square miles). As shown in Figure 3-4, *Existing Land Uses*, the plan area comprises a number of existing land uses, with low density residential, commercial, and industrial making up the majority. Commercial and industrial uses are primarily found along SR-55, which is a

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major corridor, and in the southwest corner of the city. Table 3-1, *Existing Land Use Designations and Statistics*, provides a statistical summary of the existing land uses within the plan area.

City Boundaries

The majority of the city is urbanized, with residential and nonresidential development, and mobility and public facilities all contributing to Santa Ana's existing built environment. The city's incorporated boundaries encompass approximately 27.4 square miles. Residential land uses occupy almost 40 percent of the land within the current city boundaries, accounting for 5,226 acres.¹ Other predominant land uses include commercial (1,588 acres) and industrial (1,628 acres).

Sphere of Influence

The City annexed the 17th Street Island area in November 2019 (see Figure 3-3). This area was previously a part of the city's SOI. The city's current SOI includes a two-mile portion of the Santa Ana River Drainage Channel along its westerly border with Fountain Valley (see Figure 3-3).

Focus Areas

The City identified five focus areas suited for new growth and development under the GPU: South Main Street, Grand Avenue and 17th Street, West Santa Ana Boulevard, 55 Freeway and Dyer Road, and South Bristol Street. These five areas are along major travel corridors, the future OC Streetcar line, and/or linked to the city's downtown area.

South Main Street Focus Area

The South Main Street focus area follows a 2.3-mile segment of Main Street north from the Union Pacific Railroad tracks up to 1st Street and the edge of Downtown Santa Ana. The focus area includes properties east to Orange Avenue and west to Broadway. Throughout its length, the Main Street corridor has a consistent pattern of retail and service commercial fronting the right-of-way, with lower density residential neighborhoods filling in behind to the east and west boundaries. In the southwest corner, a row of warehouses constitutes the only current industrial uses in the focus area. The focus area also has four public schools—Manuel Esqueda Elementary School, Cesar E. Chavez High School, Lathrop Intermediate School, and Benjamin Franklin Elementary School.

Grand Avenue and 17th Street Focus Area

The Grand Avenue and 17th Street focus area is centered around the intersection of 17th Street and Grand Avenue in northeast Santa Ana. Encompassing approximately 172 acres, the focus area extends north along Grand Avenue to State Route 22 and south to 2nd Street. The area is currently primarily business oriented, with offices and commercial storefronts occupying more than 125 acres. A number of large apartment complexes also line the Grand Avenue corridor, constituting roughly one-fifth of the focus area. The United States Postal Service North Grand office and Edison substation, near the corners of Grand and Santa Clara Avenue, account for the remaining acreage.

¹ This number does not include Live/Work and Mixed Use land uses.

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West Santa Ana Boulevard Focus Area

The West Santa Ana Boulevard focus area encompasses more than 480 acres and is 2.7 miles long. The focus area is bounded by 5th Street/Orange County Transit Authority (OCTA) easement to the north, 1st Street to the south, Ross Street to the east, and Figueroa Street to the west. The area is primarily a mix of residential (174 acres), commercial (43 acres), and a variety of industrial (85 acres) uses, with large county and federal government complexes on the east end leading to the Downtown/Civic Center. Willowick Golf Course is also within the focus area and occupies approximately 134 acres adjacent to the Santa Ana River Channel.

55 Freeway and Dyer Road Focus Area

The 55 Freeway and Dyer Road focus area constitutes a significant portion (355 acres) of commercial and industrial activity on the eastern edge of Santa Ana. The area's boundaries extend north to Warner Avenue, south to Alton Parkway, west beyond Tech Center Drive, and east to Red Hill Avenue. Office parks and a variety of industrial facilities make up the majority of the focus area (253 acres), with hotels and other service-oriented commercial uses concentrated around the freeway (94 acres). The City recently approved the development of a large apartment complex (currently under construction) near the intersection of Dyer Road and Red Hill Avenue that will introduce residential uses to the area for the first time. The focus area also sits adjacent to the Tustin Legacy redevelopment in Tustin and Irvine Business Complex (IBC).

South Bristol Street Focus Area

The South Bristol Street focus area sits on the southern border of Santa Ana, directly adjacent to South Coast Plaza in Costa Mesa. Extending from Warner Avenue to Sunflower Avenue, the 1.5-mile-long corridor is currently almost entirely commercial focused, with more than 180 acres occupied by a variety of retail and service businesses. Commercial uses tend to be less intense north of Alton Avenue and gradually intensify toward South Coast Plaza. Although residential uses make up less than 10 percent of the focus area, the corridor is surrounded by neighborhoods on its east and west sides, with lower density neighborhoods in the north and more intense multifamily neighborhoods in the south.

Existing Surrounding Land Uses

The plan area is surrounded by developed urban areas, as shown in Figure 3-2, *Citywide Aerial*. It is bordered by residential, institutional (schools), and commercial uses to the north; residential, institutional (schools), industrial, and commercial uses to the east; residential and commercial uses to the south; and residential, commercial, and open space uses to the west. John Wayne Airport is to the southeast.

4.3.2 Environmental Resources and Infrastructure

4.3.2.1 AGRICULTURAL RESOURCES

As shown in Figure 3-4, *Existing Land Uses*, the plan area has no agricultural resources areas. According to the California Resource Agency's Department of Conservation the city does not have any significant agricultural resources (see Figure 8-1, *City of Santa Ana Agricultural Resources*). Because there are no agricultural resources

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within the plan area, the potential impacts of the General Plan Update on agricultural resources are analyzed in Chapter 8, *Impacts Found Not to Be Significant*.

4.3.2.2 BIOLOGICAL RESOURCES

Santa Ana is largely urbanized, but a few areas in the city have not been impacted by urbanization. The majority of the remaining open space areas have been set aside for parkland, flood control, or other types of utility easements. Most of this open space has undergone significant modification and no longer reflects the native habitats that existed in the area prior to European contact and subsequent settlement. Santiago Creek is not channelized, and some undisturbed habitats remain along this channel.

Plant life in Santa Ana is limited to nonnative, introduced, exotic, and ornamental species that are used for landscaping. Common trees in the city include shade trees, such as Peruvian pepper tree and Brazilian pepper. Grass associated with the City parks is primarily Kentucky bluegrass. Riparian habitat associated with Santiago Creek consists of willow species, mulefat, Fremont's cottonwood, elderberry, and western sycamore. Portions of the riparian community consist of white alder, tree tobacco, castor bean, and eucalyptus trees. Coast live oak trees are found adjacent to Santiago Creek in the northeastern portion of the city.

Animal life in the City include sparrows, starlings, doves, blackbirds, crows, lizards, snails, rats, opossums, insects, and other urban species. A number of common rodent species are likely to be found in the area and include the black rat, Norway rat, deer mouse, and house mouse. Common species of birds in the plan area include the starling, spotted dove, house sparrow, Brewer's blackbird, American crow, and house finch.

The potential impacts of the General Plan Update on biological resources are analyzed in Section 5.3, *Biological Resources*.

4.3.2.3 CULTURAL RESOURCES

Originally inhabited by indigenous Tongva tribes, the land that is now within the boundaries of Santa Ana fell under the jurisdiction of Mission San Juan Capistrano during the Mission Period under Spanish rule (1769–1821). The first European exploration of the area that would become Orange County began in 1769 when the Gaspar de Portola expedition passed through on its way from Mexico to Monterey. In 1776, Mission San Juan Capistrano was founded.

The surficial geology of Santa Ana is composed of alluvial sediments that range in age from the Holocene to early Pleistocene. Pleistocene sediments have a rich fossil history in southern California. The most common Pleistocene terrestrial mammal fossils include mammoth, horse, bison, camel, and small mammals, but other taxa have been reported, including lion, cheetah, wolf, antelope, peccary, mastodon, capybara, and giant ground sloth as well as birds, amphibians, and reptiles such as frogs, salamanders, snakes, and turtles. In addition to illuminating the striking differences between southern California in the Pleistocene and today, this abundant fossil record has been vital in studies of extinction, ecology, and climate change.

Santa Ana has notable historic resources. Residential historic resources are mainly concentrated in early residential neighborhoods such as the French Park Historic District, Heninger Park Historic District, Floral Park, and Wilshire Square, various Historically Sensitive Neighborhoods, and surrounding the Downtown Santa Ana

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Historic District. Historic commercial resources are concentrated in the Downtown Santa Ana Historic District (refer to Figures 5.4-1 and 5.4-2). Notable institutional resources include the Spurgeon Building, the Orange County Savings and Trust building, the Methodist Episcopal Church South, the Old Orange County Courthouse, the Old City Hall, and the Chamber of Commerce building. Furthermore, notable agricultural and industrial resources include the Maag Ranch and Maag Ranch House as well as the Pacific Electric Railway Depot, the Pacific Electric Sub-station No. 14, and the Southern Counties Gas Company (Chattel 2019).

Refer to Section 5.4, *Cultural Resources*, for additional information regarding archaeological and historical resources in the city and an analysis of General Plan Update impacts on these cultural resources. Paleontological resources are discussed in Section 5.6, *Geology and Soils*.

4.3.2.4 CLIMATE AND AIR QUALITY

As noted in Section 4.2.2.1, the plan area is in the SoCAB, which is designated nonattainment for O₃, PM_{2.5}, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for NO₂ and PM₁₀ under the California AAQS.

The climate in the SoCAB is mild and tempered by cool ocean breezes. Temperatures are normally mild (62° to 72° F), with rare extremes above 100°F or below freezing (32°F). Precipitation is typically 9 to 15 inches annually. The climate of Orange County is typified by warm temperatures and seasonal winds. The average monthly high temperatures range from about 52°F in the coastal areas in January to 72°F in the inland areas of the coastal plain in August. In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rains fall between November and April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Annual average humidity is 70 percent along the coast and 57 percent in the eastern portions of the SoCAB.

An air quality analysis was performed for the General Plan Update, and the results are discussed in Section 5.2, *Air Quality*. Additionally, GPU-related impacts from GHG emissions are discussed in Section 5.7, *Greenhouse Gas Emissions*.

4.3.2.5 GEOLOGY AND LANDFORM

Santa Ana is on the southern portion of the Downey Plain—a broad alluvial plain that covers the northwestern portion of Orange County (Yerkes et al. 1965)—and situated within the Peninsular Ranges Geomorphic Province. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin to the southern tip of Baja California.

The Santa Ana Mountains rise to 5,700 feet above sea level to the northeast and east of the city, and the San Joaquin Hills are to the southeast. The Santa Ana River flows through the western part of the city on its way to the Pacific Ocean to the southwest. Santa Ana is generally flat with a gentle slope toward the southwest (USGS 2015a, 2015b, 2015c, 2015d).

The Peninsular Ranges Geomorphic Province is traversed by a group of subparallel fault zones trending roughly northwest. Major active fault systems—San Andreas, San Jacinto, Whittier-Elsinore, and Newport-Inglewood

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fault zones—form a regional tectonic framework consisting primarily of right-lateral, strike-slip movement (Jennings and Bryant 2010). Santa Ana is situated between two major active fault zones—the Whittier-Elsinore Fault Zone to the northeast and the Newport-Inglewood Fault to the southwest. Other potentially active faults near the city include the Elysian Park blind thrust, Chino-Central Avenue, San Joaquin Hills blind thrust, San Jose, Cucamonga, Sierra Madre, and Palos Verdes faults (CGS 2019; Cao et al. 2003).

Refer to Section 5.6, *Geology and Soils*, for additional information concerning the plan area’s existing geological conditions and an analysis of GPU impacts on geology and soils and paleontological resources.

4.3.2.6 HYDROLOGY

Regional Drainage

The plan area spans three separate watersheds, each of which serve the plan area as well as surrounding areas. The northwestern portion of the plan area drains to the Anaheim Bay–Huntington Harbor Watershed, the northern and southwestern portions drain to the Santa Ana River Watershed, and the southeastern and eastern portions of the plan area drain to the Newport Bay Watershed.

Local Surface Waters and Drainage

Storm drain lines throughout the plan area include both City and Orange County Flood Control District (OCFCD) drainage facilities to convey stormwater runoff. All underground lines are under jurisdiction of the City, and all the open flood control channels are maintained by OCFCD. One open trapezoidal channel than runs west from Harbor Boulevard to south of 1st Street is owned and maintained by the City. The City storm drain infrastructure feeds to a series of OCFCD regional drainage channels.

Groundwater

The Orange County (OC) Basin underlies the northern half of Orange County beneath broad lowlands. The OC Basin is managed by the Orange County Water District (OCWD), covers an area of approximately 350 square miles, and has a full volume of approximately 66 million acre-feet. The basin has been operated within its sustainable yield for more than 10 years without degrading water quality, reducing storage, or lowering groundwater levels.

Groundwater Quality

OCWD is responsible for managing the OC Basin. To maintain groundwater quality, OCWD has an extensive monitoring program to manage the OC Basin’s groundwater production, control groundwater contamination, and comply with all required laws and regulations. Salinity is a significant water quality problem in many parts of southern California, including Orange County. Salinity is a measure of the dissolved minerals in water, including both total dissolved solids and nitrates. The concentration of total dissolved solids in the OC Basin is expected to decrease over time due to the groundwater replenishment system operated by OCWD, the Municipal Water District of Orange County, and the Metropolitan Water District of Southern California.

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Flood Hazards

Parts of the plan area are within 100-year flood zones designated by the Federal Emergency Management Agency. Additionally, much of the central and western parts of the plan area are in the dam inundation area for Prado, Santiago Creek, and Villa Park dams. Small parts of the northern portion of the plan area, north of Fairhaven Memorial Park, are in the dam inundation area for Santiago Creek and Villa Park dams.

Section 5.9, *Hydrology and Water Quality*, analyzes the General Plan Update's impacts on storm drainage, water quality, flooding, and groundwater. Water resources are also discussed in Section 5.18, *Utilities and Service Systems*.

4.3.2.7 NOISE

The plan area is impacted by a multitude of existing noise sources, and the noise environment is variable depending on location. However, freeway, rail, and local roadway traffic noise tend to dominate the noise environment. Major mobile sources include vehicular and truck traffic along major corridors such as the Garden Grove Freeway (SR-22), the Orange Freeway (SR-57), the Santa Ana Freeway (1-5), the Costa Mesa Freeway (SR-55), and the San Diego Freeway (I-405). Air traffic from the nearby John Wayne Airport contributes to the noise environment in the plan area.

Refer to Section 5.12, *Noise*, for further information concerning existing noise conditions in the plan area and an analysis of the General Plan Update's impacts on the local and regional noise environment.

4.3.2.8 SCENIC FEATURES

Santa Ana does not have County-designated scenic highways, but the scenic corridors element of the existing General Plan has identified scenic corridors that serve as major view and vantage points. These scenic corridors include:

- Primary street corridors that are significant transportation and activity corridors in the city and are accessible from all freeways. They include the 1st/4th Street, Main Street/Broadway, and MacArthur Boulevard corridors.
- Secondary street corridors link neighborhoods, district centers, and mixed-use corridors. They include 17th Street, Edinger Avenue, and Bristol Street.
- Intercity corridors are major image makers for the city. They include Harbor Boulevard and Fairview Street.
- High-speed scenic corridors that operate at a regional scale to influence the city's image. They include the Newport, Santa Ana, and Garden Grove freeways.
- Watercourse corridors operate at a regional scale and are part of the county's open space network. They include the Santa Ana River and Santiago Creek.

These corridors provide views of Santa Ana and largely influence the public's aesthetic and visual experience of the city. Furthermore, Santa Ana's downtown area (generally bound by Washington Place to the north, Bristol

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Street to the west 1st Street to the south, and Bristol Street to the west) contains many of the oldest buildings in the city, including a number of national, state, and county historical landmarks.

Section 5.1, *Aesthetics*, further discusses the scenic vistas and community character of the plan area and the General Plan Update's potential to impact visual resources in the plan area.

4.3.2.9 PUBLIC SERVICES AND UTILITIES

The plan area is in an urbanized area with existing public services and utilities.

Public Services

Police protection is provided by the Santa Ana Police Department, which currently has six facilities throughout the city. Fire protection services are provided by the Orange County Fire Authority, a regional fire service agency that serves several cities in Orange County as well as all unincorporated areas. The OCFA Operations Division 6 serves Santa Ana (OCFA 2019).

The Santa Ana Unified School District, Garden Grove Unified School District, Tustin Unified School District, and Orange Unified School District provide service to the city. Additionally, there are a number of private and charter schools throughout the city.

Residents of the city are served by two libraries and four community centers. The Main Library is in downtown Santa Ana. Residents also have access to the Newhope Library Learning Center, Garfield Community Center, Roosevelt-Walker Community Center, Jerome Community Center, and the Delhi Center (Santa Ana 2019).

Utilities and Service Systems

The plan area obtains water from two primary sources: local groundwater from the OC Basin, which is managed by the OCWD, and imported water from Metropolitan Water District of Southern California. The city also receives recycled water from OCWD. Overall, the city has documented that it is 100 percent reliable for a normal year, a single dry year, and multiple dry-year events from 2020 through 2040 (Santa Ana 2016).

The City's water utility provides water service within a 27-square-mile service area. The service area includes the City of Santa Ana and a small neighborhood in Orange near Tustin Avenue and Fairhaven, by the northeast corner of Santa Ana. Irvine Ranch Water District (IRWD) water lines also serve portions of the city. IRWD operates the Dyer Road Well Field located in the City of Santa Ana, which is connected to IRWD's potable distribution system.

The City operates and maintains the sewer system, which serves the entire plan area as well as portions of Garden Grove and Orange. The city's sewer collection system consists of approximately 450 miles of sewer mains, including approximately 60 miles of Orange County Sanitary District (OCSD) regional trunk facilities. The system operates largely by gravity and discharges at several locations into OCSD gravity trunk sewers for conveyance to OCSD Treatment Plant #1. The plant has a capacity of about 76 million gallons per day.

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Waste Management of Orange County provides residential, commercial, and industrial trash collection; recycling services; and dumpster rentals. Residential and commercial solid waste is primarily transported to the Frank R. Bowerman, Olinda Alpha, Chiquita Canyon, and Azusa Land Reclamation sanitary landfills.

Electric power is provided by Southern California Edison. Natural gas is provided by the Southern California Gas Company. Internet, phone, and satellite TV services are currently provided by a variety of private companies, including AT&T, Spectrum, Windstream, and Mediacom.

The General Plan Update's impacts on the provision of public services are analyzed in Section 5.14, *Public Services*, and impacts to utilities and service systems are analyzed in Section 5.18, *Utilities and Service Systems*.

4.3.2.10 TRANSPORTATION, TRAFFIC, AND CIRCULATION

Regional and Local Circulation

Regional circulation to and through the plan area is provided by Interstate 5 (I-5) passing southeast-northwest through the plan area, State Route 55 (SR-55) along the city's eastern border, and SR-22 along the city's northern border (see Figure 3-1, *Regional Location*). As shown in Figure 3-1, other major highways in the region and in close proximity include I-405, which runs east-west to the city's south; SR-57, which runs north-south to the city's north; and SR-73, which runs southeast-northwest to the city's south. The circulation network serving the plan area is essentially a grid system of arterials generally oriented north-south and east-west. South Bristol Street, Fairview Street, South Main Street, and Grand Avenue are continuous arterials that span the entire length of the plan area south to north. 1st Street, 17th Street, Edinger Avenue, Warner Avenue, and MacArthur Boulevard span the city east to west. The plan area's arterial system links local roadways, extending local access to Costa Mesa, Irvine, Tustin, Fountain Valley, Garden Grove, and Orange. The arterials also link to SR-55, I-5, and SR-22 (see Figure 5.16-1, *Current Master Plan of Streets and Highways*).

Goods Movements

The interstate freeway system and California highways across and near Santa Ana provide routes for the movement of goods. These include I-5, SR-22, SR-55, SR-57, and I-405. Access to freeways is restricted to interchange ramps. Under the authority of Caltrans, these freeways and associated ramps are part of a statewide and national network of truck routes that carry a vast amount of goods through California.

Public Transit

OCTA is the leading transit provider in Orange County, offering a wide range of fixed-route bus service. OCTA has developed an extensive network of transit routes to connect residents and commuters of Santa Ana to key destinations (see Figure 5.16-2, *Current Transit Network*). The Southern California Regional Rail Authority also provides commuter and passenger rail service to Santa Ana. The Metrolink Orange County Line and the Inland Empire-Orange County commuter lines travel through Santa Ana, with scheduled stops at the Santa Ana Regional Transportation Center. Amtrak's Pacific Surfliner also provides passenger rail service through Santa Ana, connecting to communities throughout the Los Angeles and San Diego metropolitan regions.

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Santa Ana is working with Garden Grove and OCTA to build a fixed guideway system called the OC Streetcar. Expected to begin operations in 2021, the OC Streetcar will link the Santa Ana Regional Transportation Center to a new multimodal hub at Harbor Boulevard/Westminster Avenue in Garden Grove.

Pedestrian and Bicycle Circulation/Trails

Santa Ana's pedestrian system consists of pathways, sidewalks, and crossings. Existing pedestrian pathways include the Santa Ana River Trail. Sidewalks are provided on both sides of streets throughout most of the city. Pedestrian crossings are provided at most intersections, with a variety of crossing treatments. These treatments include parallel-striped crosswalks at signals, countdown signals, pedestrian-activated signals with audio/visual warnings, bulb-outs, and median refuges that reduce crossing distances.

Santa Ana's bikeway network includes four types of classifications. Class 1 bicycle paths are paved rights-of-way for the exclusive use of bicyclists and pedestrians. Class 1 bike paths include the Santa Ana River Trail and several segments of Alton Avenue/Maple Street, Santiago Creek Trail, Flower Street, Santa Ana Gardens Channel/Bear Street, and MacArthur Boulevard. Class 2 bicycle lanes are one-way routes denoted by a striped lane on a roadway to delineate the rights-of-way assigned to vehicles and bikes. Existing Class 2 bike lanes in Santa Ana are provided along Bristol Street, Greenville Street, Memory Lane, and Ross Street. Class 3 bicycle routes are bikeways where cyclists share the travel lane with motor vehicles. Although not always designated by signage, most streets in low-traffic-volume residential neighborhoods are classified Class 3 routes. Class 4 bicycle cycle tracks are local roads that have been enhanced with treatments that prioritize bicycle travel. Bristol Street has a Class 4 cycle track under construction. Figure 5.16-3, Current Bikeway Network, shows the current bikeways in Santa Ana.

Air Travel

As shown in Figure 3-2, *Citywide Aerial*, the John Wayne Airport is outside of the city's southeast boundary. JWA is an international, commercial-service airport owned and operated by the County of Orange. The service area includes more than three million people in 34 cities and unincorporated areas of Orange County. In 2018, there were 204,561 civil take-offs or landings and 706 military take-offs or landings, for a total of 205,267 take-offs or landings (FAA 2019).

A detailed discussion of the existing traffic conditions and the General Plan Update's impacts on the transportation and circulation system is provided in Section 5.16, *Transportation and Traffic*.

4.4 LOCAL PLANNING CONSIDERATIONS

4.4.1 General Plan

The current General Plan for the City of Santa Ana consists of 16 elements adopted in separate years—from 1982 to 2014:

- Airport Environs Element (adopted February 11, 2009)
- Circulation Element (adopted February 2, 1998)
- Conservation Element (adopted September 20, 1982)

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- Economic Development Element (adopted July 6, 1998)
- Education Element (adopted January 19, 1988)
- Energy Element (adopted September 20, 1982)
- Growth Management Element (adopted July 1, 1991)
- Housing Element (adopted February, 2014)
- Land Use Element (adopted February 2, 1998)
- Noise Element (adopted September 20, 1982)
- Open Space, Parks and Recreation Element (adopted September 20, 1982)
- Public Facilities Element (adopted September 20, 1982)
- Public Safety Element (adopted September 20, 1982)
- Scenic Corridors Element (adopted September 20, 1982)
- Seismic Safety Element (adopted September 20, 1982)
- Urban Design Element (adopted July 6, 1998)

Figure 3-6, *Current General Plan Land Use Plan*, shows the existing land use designations of the current General Plan. Table 3-2, *Current General Plan Land Use Designations and Statistics*, presents a breakdown of current General Plan land use designations. As shown in Figure 3-6 and Table 3-2, 11 land use designations currently regulate development in the city. The largest land use designation within the city boundaries are Low Density Residential and Industrial.

The GPU is an update to the existing General Plan. Each of the elements presents an overview of its scope, summary of conditions, and planning issues goals and policies. The goals and policies are applicable to all lands within the City of Santa Ana. In addition to the general goals and policies that apply to all lands, Santa Ana has distinct planning subareas that have custom goals and policies that ensure the preservation and enhancement of these special districts. As shown in Figure 3-11, *Focus Areas and Special Planning Areas*, these areas are:

- Adaptive Reuse Project Incentive Area
- Bristol Street Corridor Specific Plan
- Harbor Mixed Use Transit Corridor Specific Plan
- Midtown Specific Plan
- MainPlace Specific Plan
- Metro East Mixed-Use Overlay Zone
- Transit Zoning Code Specific Development

4.4.2 Zoning

The zoning designations of the areas within the city's incorporated boundaries (see Figure 3-2, *Citywide Aerial*) are defined by the City's zoning map. The zoning map contains the various zoning designations throughout the city, including residential, commercial, industrial, professional, open space, and the specific plan areas mentioned above (Santa Ana 2017). Chapter 41 (Zoning) of the Santa Ana Municipal Code provides the basis for current zoning in the city that carries out the policies of the existing General Plan.

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4.4.3 Environmental Justice Communities

In 2016, the California Legislature passed Senate Bill 1000 (SB 1000), Planning for Healthy Communities Act, to incorporate environmental justice into the local land use planning process. SB 1000's definition of a disadvantaged community includes areas that:

- Are disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation;
- And have concentrations of people with low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

Once such communities are identified, local governments can better understand their needs and target resources appropriately to improve conditions and outcomes. The California Communities Environmental Health Screening Tool, or CalEnviroScreen (CES), was developed by the Office of Environmental Health Hazards Assessment on behalf of CalEPA. CES is a method for identifying communities that are disproportionately burdened by pollution and/or have a disproportionately vulnerable populations in those communities.

CES generates a composite score that assesses disproportionate impacts on California communities. It uses 21 indicators organized across four categories—pollution exposure, environmental effects, sensitive populations, and socioeconomic factors. These categories are summed into two primary metrics—pollution burden and population characteristics—which CES multiplies to arrive at the CES composite score. Pollution burden represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution. Population characteristics represent biological traits, health status, or community characteristics that can result in increased vulnerability to pollution. CES uses a census tract as a proxy for community. The results for each census tract are then measured against every other census tract in California. The outcome is a scale that sorts census tracts from the least impacted to the most impacted as a ranked percentile. Those ranked in the top 25 percent are a disadvantaged or environmental justice community.

As shown in Figure 2-1, *EJ Communities, Neighborhoods, and Focus Areas*, there are 23 census tracts within Santa Ana that are EJ communities. The figure also shows the overlap of the EJ communities with the city's neighborhood map. The following neighborhoods are partially or entirely within EJ communities:

- Artesia Pilar
- Bella Vista
- Casa Bonita
- Cedar Evergreen
- Centennial Park
- Central City
- Cornerstone Village
- Delhi
- Downtown
- Floral Park
- Logan
- Lyon Street
- Madison Park
- Memorial Park
- Pacific Park
- Pico Lowell
- Riverview West
- Sandpointe
- Santa Ana Triangle
- Santa Anita

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- Flower Park
- French Court
- French Park
- Heninger Park
- Lacy
- Valley Adams
- Washington Square
- West Floral Park
- Willard

Volume III, Appendix A-b, *Environmental Justice Background and Analysis for the General Plan Update*, includes tables that provide a summary of CalEnviroScreen scores for each of the 23 census tracts. The tables provide the score for the combined pollution indicators, combined population indicators, and overall composite score. The tables also identify the pollution and population factors that contributed the most to the composite score.

4.5 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS

Section 15355 of the CEQA Guidelines defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” Cumulative impacts are the change caused by the incremental impact of an individual project compounded with the incremental impacts from closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time.

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed when the project’s incremental effect is considerable. It further states that this discussion of cumulative impacts shall reflect the severity of the impacts and the likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The CEQA Guidelines (Section 15130 [b][1]) state that the information utilized in an analysis of cumulative impacts should come from one of two sources:

- 1) A list of past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or
- 2) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

The cumulative impacts analyses in this program environmental impact report (PEIR) use method No. 2. The GPU consists of a comprehensive update to the Santa Ana General Plan. Consistent with Section 15130(b)(1)(B) of the CEQA Guidelines, this updated Draft PEIR analyzes the environmental impacts of developments in accordance with buildout of the proposed land use plan. As a result, this updated Draft PEIR addresses the cumulative impacts of development within the plan area, which includes the city (incorporated area) and its sphere of influence (SOI) (see Figure 3-2, *Citywide Aerial*) and the greater Orange County area surrounding it, as appropriate. In most cases, the potential for cumulative impacts is contiguous with the City boundary. Potential cumulative impacts that have the potential for impacts beyond the City boundary (e.g., traffic, air quality, noise) have been addressed through cumulative growth in the City and region. Regional growth outside Santa Ana has

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accounted for traffic, air quality, and noise impacts through use of the Orange County Transportation Authority Model (OCTAM), which is a model that uses regional growth projections to calculate future traffic volumes. The growth projections adopted by the City and surrounding area are used for the cumulative impact analyses of this updated Draft PEIR. Please refer to Chapter 5, *Environmental Analysis*, for a discussion of the cumulative impacts associated with development and growth in the City and region. A summary of the extent of cumulative impacts is also identified below:

- Aesthetics: Contiguous with the City and SOI boundary.
- Agricultural and Forestry Resources: Contiguous with the City and SOI boundary.
- Air Quality: Based on the regional boundaries of the South Coast Air Basin.
- Biological Resources: Contiguous with the City and SOI boundary.
- Cultural Resources: Contiguous with the City and SOI boundary.
- Energy: Based on energy use in the City and SOI boundary.
- Geological Resources: Contiguous with the City and SOI boundary.
- Greenhouse Gas Emissions: Based on the sectors in the Scoping Plan emissions in California (boundary).
- Hazards and Hazardous Materials: Contiguous with the City and SOI boundary.
- Hydrology and Water Quality: Hydrology and water quality impacts would be contiguous with the Anaheim Bay–Huntington Harbor, Santa Ana River, and Newport Bay Watersheds and the Orange County Groundwater Basin Groundwater Basin, and flood impacts would be contiguous with the City and SOI boundary.
- Land Use and Planning: Contiguous with the City and SOI boundary but considers regional land use planning based on SCAG and OCTA.
- Mineral Resources: Contiguous with the City and SOI boundary.
- Noise: Contiguous with the City and SOI boundary.
- Population and Housing: Contiguous with the City and SOI boundary.
- Public Services: Contiguous with the service area boundaries of the Orange County Fire Authority; Santa Ana Police Department; Santa Ana Unified School District, Tustin Unified School District; Garden Grove Unified School District; Orange Unified School District; and the Santa Ana Public Library System.
- Recreation: Contiguous with the City and SOI boundary.
- Transportation: Considers regional transportation improvements identified in OCTAM.SCAG.

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- Tribal Cultural Resources: Contiguous with the City and SOI boundary.
- Utilities and Service Systems: Water supply and distribution systems impacts would be contiguous with the service areas of the City, Orange County Water District, and Metropolitan Water District of Southern California; wastewater conveyance and treatment would be contiguous with the service areas of the City and the Orange County Sanitary District; storm drainage systems would be contiguous with the City and Orange County Flood Control District service areas; solid waste collection and disposal services would be contiguous with the Waste Management of Orange County service area; natural gas and electricity services would be contiguous with the Southern California Gas Company and Southern California Edison service areas, respectively.
- Wildfire: Contiguous with the service area boundaries of the Orange County Fire Authority and CAL FIRE.

Potential cumulative impacts related to traffic, air quality, and noise, which have the potential for impacts beyond the plan area, have been addressed through use of the Orange County Traffic Analysis Model (OCTAM), which was developed consistent with and based on the Orange County Council of Government's Regional Transportation Plan to forecast cumulative growth within the plan area and regionally. Regional growth outside of the plan area has accounted for traffic, air quality, and noise impacts through use of the OCTAM, which is a socioeconomic traffic model that uses regional growth projections to calculate future traffic volumes. The growth projections adopted by the City and surrounding area are used for the cumulative impact analyses of this updated Draft PEIR.

Please refer to Chapter 5, *Environmental Analysis*, for a discussion of the environmental impacts associated with cumulative development pursuant to implementation of the General Plan Update.

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