



CITY OF ORANGE GENERAL PLAN

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INTRODUCTION

INTRODUCTION TO THE GENERAL PLAN

Orange is grounded by a unique and rich history that provides a foundation upon which the City is prepared to build to meet the challenges of the 21st Century. This General Plan is the primary source of long-range planning and policy direction that will be used to guide growth and change, and to preserve and enhance the quality of life within the community.



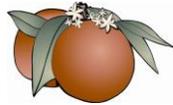
Old Towne Orange shopping district

The General Plan strives to protect those characteristics that make Orange a desirable and distinctive place to live, work, and play. Those attributes include: 1) high-quality services that residents have come to expect; 2) a variety of residential, business, and recreational environments; and 3) the important role that the history and traditions of the City play in community life.

The essence of Orange is variety, quality, and surprise. Numerous housing options are accommodated in the Plan, allowing residents a range of housing types, including homes in the largest historic district in Southern California and suburban tract homes designed by a world-famous architect. Housing locations also vary from densely populated urban neighborhoods near public transit, cultural, and recreational activities to semi-rural equestrian environments close to nature. This Plan maintains that variety of choice.

Orange is a high-quality community that boasts world class hospitals, educational institutions, and business diversity. Its public services are second to none, its parks and open spaces attract visitors from around the region, and its business environment has made the City a regional economic leader. Yet, throughout its periods of growth and development, the City has maintained its small town attitude. With countless restaurants to enjoy in the City's retail areas, many small shops to discover at the Plaza, and the Santiago Creek area to explore, Orange continues to offer welcome surprises.

As described above, Orange is already a very special place, but it is also a City at a crossroads in its history. This Plan comes at a critical juncture as the City expands its physical development one final time to the east. It ensures that the special quality of life that has defined this community is not lost as the region continues to be confronted by development pressures. Orange provides a strong sense of place and identity, and this General Plan is designed to protect those qualities for future generations.



Purpose of the General Plan

“City planning is:

- *An aid to the people in the street to visualize their city properly planned;*
- *A practical, sensible way of providing a place for everything with everything in its place;*
- *An instrument for uniting citizens to work for the city’s future; and*
- *An efficient means of avoiding duplication and waste in public improvements.”*

- adapted from John Nolen, 1926

Each city and county within California is required to adopt a general plan and update this plan at regular intervals. The purpose of the general plan is to anticipate and plan for “the physical development of the county or city, and any land outside its boundaries which bears relation to its planning” (California Government Code Section 65300).

Orange’s General Plan might be compared to a roadmap that will lead to a better future. Contained within this roadmap is a description of Orange today, a vision of a desirable Orange of tomorrow, and the outline of a path, expressed through goals, policies and implementation measures, to achieve the vision’s promise of tomorrow.

To be considered comprehensive, this General Plan must address many issues that influence land use decisions. Specifically, state law requires that the General Plan address not only land use but also circulation, housing, the conservation of natural resources, the preservation of open space, the noise environment, and the protection of public safety (Government Code Section 65302). In addition to addressing the issues required by the state, Orange’s General Plan also addresses important local issues involving cultural resources, economic development, urban design, and growth management.

The primary benefit of long range planning is that it allows the City to control, to the degree possible, its own destiny. Much of the vision statement and many of the goals and policies outlined in this Plan will, if implemented, enhance livability for residents, foster a better business climate, and provide for the city’s visitors. The links forged within the Plan between land uses and the transportation, infrastructure, and public services networks will provide the flexibility needed to accommodate growth and change over the life of the Plan. The General Plan also focuses on strengthening the connections between residential neighborhoods and adjacent commercial centers and recreational amenities. Such connections may lead to a healthier lifestyle for residents by creating mobility options that did not exist before.

Orange’s Planning Area

Orange benefits from its location near six major freeways that link the City to residential communities, shopping, and jobs throughout Orange, Los Angeles, and Riverside Counties (Figure I-1). The planning area addressed by the General Plan is illustrated in Figure I-2.

The City of Orange lies in the heart of north-central Orange County, an area undergoing a marked change in land use. To the west and south are the rapidly growing and urbanizing cities of Anaheim and Santa Ana. To the southeast is the City of Tustin. Completely contained within the borders of Orange is the City of Villa Park. To the east lies vast acreage of



unincorporated land within the County of Orange. In addition to the corporate limits of the City, the planning area generally addresses portions of unincorporated Orange County located within and adjacent to the incorporated City limits. The planning area encompasses approximately 23,800 acres, including about 22,400 acres within the City's corporate limits and 1,400 acres of unincorporated land within the sphere of influence (SOI). An additional 15,800 acres of Orange's remaining SOI are located east of the City and outside the planning area.

A primary goal of the General Plan is to realize the long-held vision of "One Orange"—a city that stretches from the Santa Ana River to the Anaheim Hills, supporting a wide variety of residential lifestyles. These residential options include the dense urban environment of Uptown, the small town flavor of Old Towne, the "modernism for the masses" neighborhoods of the Eichler tracts, and tranquil, equestrian-oriented neighborhoods such as Orange Park Acres.

Orange is connected to the surrounding region through a complex network of freeways; through Metrolink, a heavy rail commuter system; and through bus transit provided by the Orange County Transportation Authority (OCTA). The City occupies a unique geographic location that offers residents and businesses easy access to both the benefits of urban living and the quiet solitude of open spaces and suburban life.

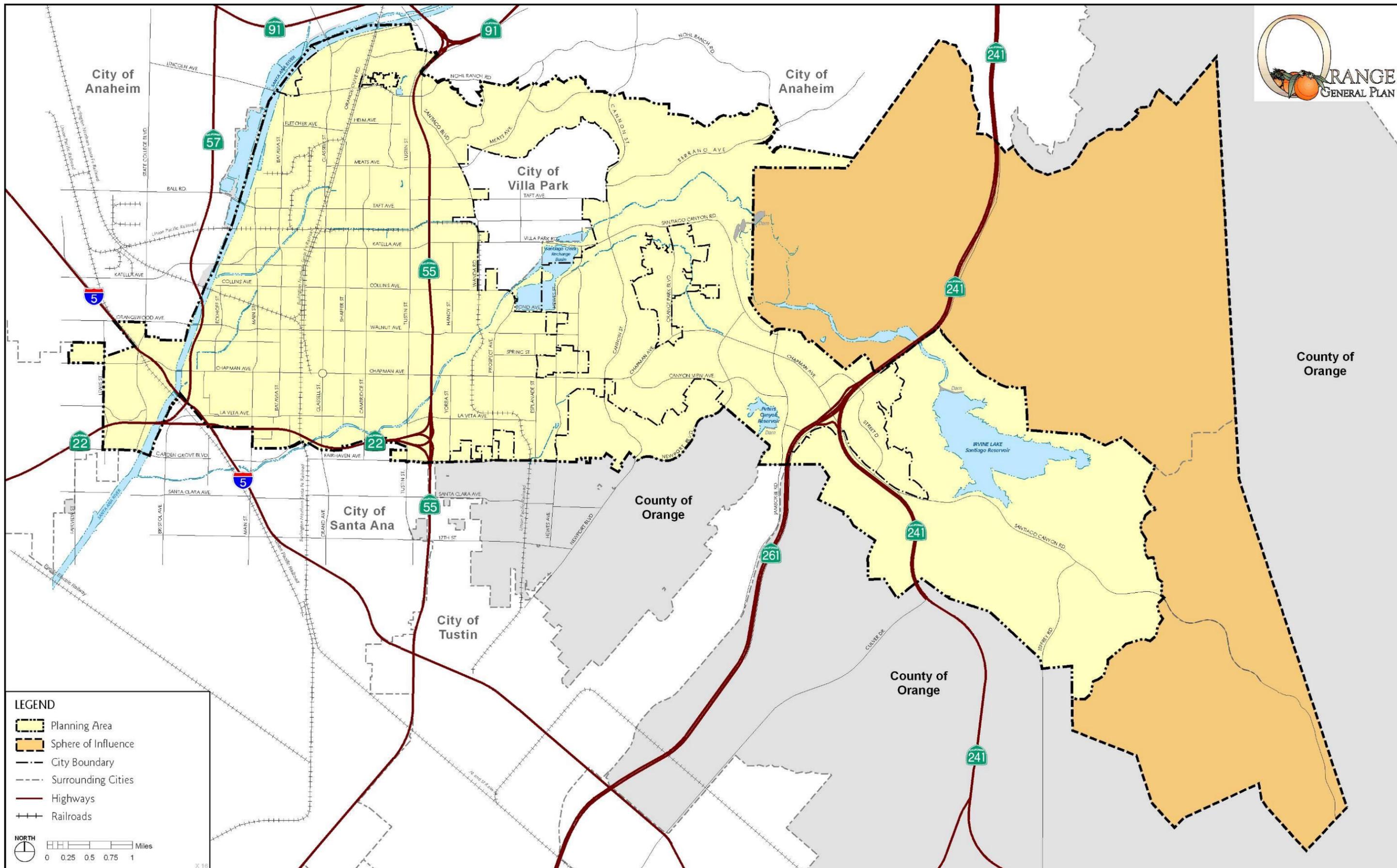
A Brief History of Orange

In order to prepare for the future, it is often worthwhile to look to the past for inspiration. A review of Orange's dynamic history reveals seven important phases: pre-colonization, colonization, early settlement, agriculture and industry, immigration and ethnic diversity, interwar development, and postwar development.

Pre-Colonization (before 1800)

The City of Orange has a rich cultural heritage stretching back perhaps as far as 15,000 years. Evidence of pre-colonial occupation indicates an evolution from mobile foraging to sedentary settlement patterns. By the Late Prehistoric Period, human settlements with high population densities and complex political, social, technological, and religious systems were typical throughout the Los Angeles Basin. This period ended abruptly when Spanish colonists began establishing missions along the California coast.

The City of Orange is situated within the ethnographic territory of the Gabrielino Indians of California. The Gabrielino people lived in either permanent or semi-permanent villages, primarily along coastal estuaries and major inland watercourses. Gabrielino culture was heavily affected by colonial Spanish missionary efforts, with disease and forced participation in the mission system disrupting most traditional culture and resulting in a catastrophic reduction of the native population.



LEGEND

-  Planning Area
-  Sphere of Influence
-  City Boundary
-  Surrounding Cities
-  Highways
-  Railroads

NORTH

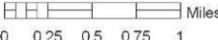
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Figure 1-2 Orange Planning Area



While traveling through the area in 1769, Father Juan Crespi, whose diaries are the first written account of interactions between Spanish priests and the indigenous populations, noted the presence of a large village, *Hotuuknga*, upstream from present day Olive on the north side of the Santa Ana River. Crespi wrote that 52 Indians came to greet their party and accepted blankets, beads, and other goods. When he returned two years later, the group was hostile and the Spaniards quickly continued on their way. As late as the 1870s, a small “Indian camp” was visible on the north side of Santiago Creek just west of the Glassell Street crossing.

Colonization (circa 1800–1870)

The first landowner in the Orange area was Juan Pablo Grijalva, a retired Spanish soldier. His land extended from the Santa Ana River and the foothills above Villa Park to the ocean at Newport Beach. Along with his son-in-law, Jose Antonio Yorba, he began a cattle ranch and built the first irrigation ditches to carry water from the Santa Ana River. After Grijalva’s death, Yorba and his nephew, Juan Pablo Peralta, received title to the Rancho Santiago de Santa Ana land grant with a total of 78,941 acres.

After California became a state in 1848, one member of the extended family that owned the Rancho—Leonardo Cota—borrowed money from Abel Stearns, who was the largest landowner in Southern California. Cota put up his share of the Rancho as collateral. When Cota defaulted on the loan in 1866, Stearns filed a lawsuit in Los Angeles Superior Court to demand a partition of the land so that Stearns could claim Cota’s section. As a result, the Rancho was subdivided into 1,000 units parceled out to the heirs and the claimants in the lawsuit.

Early Settlement (circa 1870–1920)

The early roots of the Orange we recognize today had their origins in the partitioning of the Rancho. Two of the most important historic areas within the city—Old Towne and El Modena—were established at this time.

Old Towne

When the Rancho Santiago de Santa Ana was subdivided in the late 1860s, a Los Angeles Lawyer, Alfred B. Chapman, represented several parties in the partition suit. As payment for his fees, Chapman acquired approximately 4,000 acres. In 1870, Chapman hired another lawyer, William T. Glassell, to survey and subdivide his land holdings into farm lots ranging in size from 10 to 40 acres.



Old Towne Orange commercial building, circa 1900



With an eye to the future, the founders set aside eight lots in the center of the newly subdivided blocks of land, to be used as a public square. This public amenity is now known as Plaza Square, or simply the Plaza. In honor of the founders, the two main streets, which intersected at the public square, were named Chapman Avenue (running east-west) and Glassell Street (north-south).

Orange grew rapidly during the Great Boom of the 1880s. New settlers flocked to the region due to cross-country expansion, inexpensive rail fares, and the balmy Southern California climate. Many of the new settlers entered Orange via the Santa Fe Railroad (later called the Atchison, Topeka, and Santa Fe) Depot four blocks west of the Plaza (currently the site of the historic Santa Fe Depot building and Depot Park). Much of the real estate boom of the 1880s was driven by speculation. Landowners subdivided their ranches in order to sell individual lots, which were often bought by speculators. By 1887, dozens of new subdivisions and four new townsites were laid out. Connecting these new communities were two horse-drawn streetcar systems: the Orange, McPherson and Modena; and the Santa Ana, Orange and Tustin lines.

By the late 1870s and early 1880s, the population of Orange was large enough to support the construction of civic buildings and gathering places such as churches, schools, and public parks. As the community continued to grow and lots were further subdivided, the new residents named the streets after the towns they came from in the East, such as Batavia and Palmyra.

Orange incorporated on April 6, 1888. At the time of incorporation, Orange was about three square miles, with 600 people who predominantly lived on small family ranches surrounding the town. Although most residents lived on working farms, some homes—generally for the town’s doctors, lawyers, and merchants—were built on the small lots surrounding the Plaza.

After the Great Boom of the 1880s became a bust, major construction in Orange lay dormant for over ten years. With the new century came growth in the town’s citrus industry and an increase in economic prosperity. The Plaza soon became the commercial and social hub of Orange. Radiating out from the Plaza, Chapman Avenue and Glassell Street became favored locations for the principal banks, newspapers, stores, and public institutions. Residential development, which increased to meet growing demand, occurred on the secondary streets beyond the Plaza and commercial center.



A Craftsman bungalow in Old Towne Orange, circa 1916

***El Modena***

Paralleling the early settlement of Old Towne was the establishment of another town located approximately three miles to the east. Known as El Modena, this small enclave evolved from a Quaker village into a citrus-farming Mexican-American barrio over the course of its nearly 120-year history. San Francisco millionaire and philanthropist David Hewes became one of the primary developers in the area when he bought hundreds of acres around 1885. By 1886, there were 400 people living in El Modena. In 1888, a horse drawn streetcar connected El Modena to Orange. By 1889 the building boom was over and the population declined briefly before rebounding with the successful establishment of the area as an important fruit growing location.

Agriculture and Industry (circa 1880-1950)

With the expansion of citrus farming, water quickly became a critical element for ongoing prosperity. In 1871, the A.B. Chapman canal began bringing water from the Santa Ana River to the townsite, with ranchers digging lateral ditches to their farms. By 1873, settlers began to develop wells, tapping into a water table only 18 feet below ground. A drought in 1877 motivated local ranchers to buy out the water company and form the Santa Ana Valley Irrigation Company (SAVI).

As a cooperative water venture, SAVI was vital to the agricultural development of the arid Southern California region. Beginning in the 1880s, the transcontinental railroad system granted growers in Orange County access to markets across the nation. The introduction of reliable irrigation and transportation systems was accompanied by a surge in agricultural production and productivity in Orange County. This was particularly true in Orange. From 1880 to 1950, citrus and other agricultural industries were the predominant influences on the economic, political, and cultural development of the city.

By 1893, citrus had become so dominant that the Orange County Fruit Exchange (now known as Sunkist) was organized and incorporated. Its headquarters, built at the northeast corner of Glassell Street and Almond Avenue, marked the beginning of Orange's industrial district.

The citrus industry continued to grow until the Great Depression. Between 1933 and 1935, unemployment in Orange County grew to 15 percent, leading to labor issues that culminated in a farm workers strike in 1936. Another blow to the citrus industry occurred in the 1950s with the spread of "Quick Decline" disease, which resulted in reduced crops and loss of trees. This, combined with the strong demand for housing after World War II and the need for developable real estate, began to diminish the once-powerful role of the citrus industry.

Immigration and Ethnic Diversity (circa 1910-1950)

Two international events had significant effects on El Modena and Orange in the 1910s: the Mexican Revolution and World War I. Beginning around 1910, many Mexican families came to the U.S. seeking refuge from the chaos sparked by the Mexican Revolution. When the U.S. entered World War I in 1917, men across the country were drafted into the war effort. As a result, the fruit harvesting workforce dwindled, creating employment opportunities for these new immigrants. The increased demand for workers and the influx of Mexicans supported two vibrant communities: the Cypress Street Barrio and El Modena. The ethnic diversity of Orange was also increased by many Chinese railroad workers who made it their home.



Cypress Street Barrio

Beginning in 1893, Mexican citrus workers settled on Cypress Street, a short distance west of the Plaza, when a packinghouse was built on the 300 block of North Cypress. Growers realized that having an easily accessible, stable, and permanently housed workforce assured a lessened chance of labor problems. Residents of the Cypress Street Barrio were a tight-knit group with many new residents coming from the same villages in Mexico. Today, some residents can trace their family's neighborhood roots back four generations.

In 1946, the City instituted new zoning laws that designated much of the Barrio for light industrial use. Because of this zoning, residents could not qualify for permits to rebuild or remodel their homes.

El Modena

By the 1920s, the town of El Modena began to take on a distinctly Mexican character. Many Mexican-American El Modena families worked in packinghouses and orchards. The area was isolated from surrounding communities by swathes of fruit tree groves. Property lots in El Modena were small, creating a very intimate community whose focus was on the church and the nearby schools.

Segregation

Isolation and segregation from the Anglo residents of Orange were unfortunate facets of life for the residents of El Modena and the Cypress Street Barrio. Many popular recreational activities were segregated, including movie theaters. Mexican-Americans were restricted from playing ball in public parks and their use of the community pool was limited to Mondays, because the pool was drained on Monday night. The effects of segregation were also felt in the schools, where Mexican-American student enrollment was restricted to "La Caballeriza" ("The Barn"), a two-room wooden schoolhouse behind the Lemon Street School.

A breakthrough came in 1947, when the U.S. Supreme Court ruled in favor of the League of United Latin American Citizens in the case *Mendez v. Westminster*, ordering that "school districts not segregate on the basis of national origin." El Modena was among the four school districts subject to this ruling. In the wake of *Mendez* came the landmark *Brown v. Board of Education* decision in 1954. As integration slowly commenced, many disgruntled Anglo families moved away, settling in newly drawn school districts that were often "re"-segregated.

The original town proper of El Modena, north of Chapman Avenue, continues to be an unincorporated part of Orange County, despite annexation in the 1960s and 1970s of surrounding areas by the ever-growing City of Orange. Although many additions and alterations to the area's older homes have



La Morenita general store in El Modena, circa 1930



taken place, the single-family, working-class residential character of El Modena remains.

Interwar Development (circa 1920-1941)

As the citrus economy continued to flourish into the 1920s, the demand for housing grew and fueled the architectural diversity of the city. The first residential neighborhoods were created on a compact grid of streets. The cottages and California-oriented Craftsman houses of the 1910s and early 1920s were followed by European-influenced Tudor, Provincial, Mediterranean, and Norman Revival styles. The Mediterranean Revival style was the most popular in Orange, and houses in this style that remain exist primarily on the outskirts of the original townsite. Beginning in the 1930s, Ranch and Minimal Traditional style homes became dominant due to the economic restraints created by the Great Depression. Minimal Traditional homes tend to be boxy, with flat wall surfaces and little ornamentation or other detailing; they often feature simplified features of Tudor and Colonial Revival styles. Ranch homes became the most prevalent type of housing built in the United States between the 1930s and 1960s. Throughout the 1920s and up until World War II, Orange grew slowly and methodically. The boundaries of the original townsite were expanded with new residential areas, with infill development completing the historic area that is now known as Old Towne.

Postwar Development (circa 1945-1975)

World War II brought prosperity to southern California’s economy and ended the ravages caused by the Great Depression, which had devastated fruit prices. After World War II, the face of California was changed forever by returning soldiers and a massive influx of new state residents. Orange, located centrally in the Los Angeles



A Mediterranean Revival residence in Old Towne Orange, circa 1920

metropolitan area, was no exception. Military personnel, facing housing shortages in other areas, moved into the region. Orange’s remaining open and agricultural space was highly attractive to developers of bedroom communities.

By the 1950s, many ranchers readily sold their acreage; orange groves were succumbing to the “Quick Decline” disease and the demand for real estate for housing construction soared. Orange’s explosive suburban residential growth began in 1953 and peaked in 1962, when thousands of acres of land were sold for development. Between 1950 and 1960, the local population swelled from 10,000 to 26,000 as former orchards were torn out and replaced with subdivisions of single-family homes. Most of the larger tracts (50-100 homes) were built by outside developers, though there were a few local developers who worked on a smaller scale. One of the more notable developers working in Orange during this period was Joseph Eichler, who built three tracts to the north and east of Old Towne. These Eichler



developments brought distinct elegance, originality, and modern design principles to suburban homes.

Eichler Homes



Fairhaven Tract residence designed by architect A. Quincy Jones, circa

Between 1949 and 1974, Joseph Eichler built about 11,000 homes in California, including 575 in Southern California and 350 in Orange. Frank Lloyd Wright’s Usonian building principles, which included integration with the natural landscape, the use of indigenous materials, and an aesthetic to appeal to the

“common man,” gave Eichler ideas for his own suburban tract housing. Eichler hired a series of progressive firms, including Anshen & Allen, Jones & Emmons, and Claude Oakland Associates, to design innovative, modern, and affordable homes for California’s growing middle class consumers. For over two decades, Eichler Homes would utilize streamlined production methods, specialized construction materials, an innovative marketing campaign, and one of the first non-discriminatory suburban housing policies in the country to change the shape of California’s suburbs.

Chapman University

Chapman College was founded in 1861 as Hesperian College in Woodland, California by the Disciples of Christ. By 1920, Hesperian College merged with the new Los Angeles-based California Christian College. The major benefactor to California Christian College was Fullerton citrus rancher Charles Clarke Chapman, and in 1934 the college was renamed Chapman College.

After World War II, as returning veterans with G.I. Bill funding filled college classrooms across the nation, Chapman College required a larger campus to accommodate the higher student population. When the Orange Unified School District proposed building a new high school, Chapman College purchased the old Orange Union High School campus at Glassell Street and Palm Avenue. Chapman College moved to this site in 1954 and became the first four-year, accredited college in Orange County. In 1991, the college changed its name to Chapman University.

Civic and Community Development

The surge in Orange’s population in the 1950s and 1960s created a need for new government buildings to replace the early City Hall, Fire Station, and Carnegie Library. The Orange Public Library (then addressed as 101 North Center Street, but now as 407 East Chapman Avenue) was completed in 1961. Welton Becket and Associates designed a new civic center completed in 1963. Several fire stations were constructed during the 1960s, including a new headquarters on South Grand Street in 1969. A new main post office was constructed on Tustin Avenue in 1971.



New business districts were also created during the mid-1950s, diminishing downtown Orange's importance as the city's major commercial center. Major shopping centers opened on the corners of Tustin Street, Chapman Avenue, Collins Avenue, Glassell Street, North Batavia Street, East Katella Avenue, Meats Avenue, Main Street, and La Veta Avenue, attracting supermarkets, restaurants, hardware stores, banks, and gas stations, among other businesses. Shopping centers built during the 1960s and 1970s include Town and Country Village Shopping Center, the Mall of Orange (now The Village at Orange), and The City Shopping Center (now The Block at Orange).

The industrial areas located on the City's west side continued to flourish. Lots were consolidated, allowing for larger structures. The first of the office condominiums were completed. The growth pressures in the industrial area started to affect the quality of life for those living in the Cypress Street Barrio area and other residential pockets within the industrial district.

Modern Orange: 1975–Present

During the postwar suburban construction boom, the most desirable land for subdivisions was the flat coastal plain where cities such as Garden Grove, Westminster, and Costa Mesa developed. By the late 1960s, construction slowed. Further development stalled with the energy crisis of 1973. By the 1980s, however, the foothills to the east of El Modena became prime real estate. Orange Park Acres, which lies between Chapman Avenue and Santiago Canyon Road, was first subdivided in 1928, but most of the area was annexed by the City of Orange during the 1990s. The Orange campus of Rancho Santiago Community College was constructed in 1985 and became Santiago Canyon College in 1997. As a result of this continued residential development, by the late 1990s the citrus packing industry had steadily moved out of Orange County. Today the only operating packinghouse in Orange County is in the City of Orange.

Once the flatlands were fully developed, the remaining undeveloped lands that were previously thought to be too expensive or complicated to develop, including the hillsides, became much more desirable. In 2005, the City approved a development proposal for the remaining undeveloped hillsides to the east of Orange and within its SOI. The newest neighborhoods in Orange are Santiago Hills II and East Orange, which consist of approximately 4,000 homes. Both neighborhoods are located adjacent to the Irvine Ranch Land Reserve, and have significantly expanded the boundaries of Orange towards the east. These areas comprise approximately 6,821 acres, with 4,988 acres set aside as permanent open space. Part of the development agreement called for the inclusion of amenities such as neighborhood parks, a 20-acre regional sports park, public trails, and a new fire station.

Historic Growth

As shown in Figure I-3, the birthplace of the City of Orange can be traced to a single spot—the intersection of Chapman Avenue and Glassell Street. The City founders felt that a grand public space right in the heart of the community would be an asset that would help them sell lots. Now known as Plaza Park, this park and traffic circle is the hub of the City.

The original city plot was for a 1-square-mile town divided by a north-south commercial corridor and an east-west commercial corridor. The surrounding quadrants were residential



areas. Moving outward from the Plaza, lot sizes grew progressively larger. This original area, now known as Old Towne, has become one of the most cherished destinations in Orange County.

Once the original square mile district was fully built out, the City began to grow through annexation. Nutwood Place, a residential subdivision to the south, was the first area annexed. Factors such as the Great Depression and World War II limited growth until 1950.

By 1950, the demand for housing and the decline of the citrus industry combined to change Orange forever. The first areas to see growth and then annexation were the industrial lands west of the railroad tracks, south of Sycamore Avenue, and east of the River. This included the adjoining residential neighborhood.

Between 1960 and 1970, Orange saw some of its greatest periods of growth. The original farms north of Old Towne were redeveloped as residential subdivisions. These subdivisions sought annexation to take advantage of the high quality of services for which Orange is known. The area north of Collins Avenue saw dozens of residential neighborhoods spring up. Industry found a home west of the railroad tracks, east of the Santa Ana River, and north of the Bitterbush Channel (Sycamore Avenue). Areas adjacent to the new 57 Freeway west of the Santa Ana River were also brought into the fold, including the area where the UCI Medical Center stands today. Growth also occurred east of Old Towne, including the areas surrounding the El Modena and McPherson neighborhoods.

In the 1970s, the only area newly annexed to the city was the Nohl Ranch area at the City's northern border. This suburban residential district is bisected by Meats Avenue. In the 1980's, the Irvine Company's Santiago Hills and other projects redefined Orange's eastern boundary. This growth also included the development of Santiago Canyon College. The unincorporated Orange Park Acres neighborhood was surrounded by this large scale development.

By the 1990s, the City was well established. Additional areas annexed to the City were mostly infill development projects, including residential neighborhoods adjacent to Hart Park, north of Bond Avenue along Hewes Street, suburban residential tracks near Cerro Villa Park and Belmont Park, and a residential neighborhood located near Cannon Street.

Since 2000, numerous parcels have been annexed to the City, including the Del Rio/River Bend site along the Santa Ana River at the northwest tip of the city, a residential neighborhood centered on Serrano Park, a large parcel to the east of the current boundary along Chapman Avenue where it climbs up the hillside, and about a dozen small County islands surrounded by previously incorporated areas.

The Vision for the Future

By understanding the historical factors that have helped shape today's Orange, the City is well-positioned to chart a course to achieve its vision for the future. The Vision Statement is the foundation for General Plan goals and policies. It is an expression of our shared values and requirements for Orange's future. The Vision identifies the ideal conditions to work toward over the next 20 years and provides guidance for our policy makers as they work to improve the quality of life in Orange.

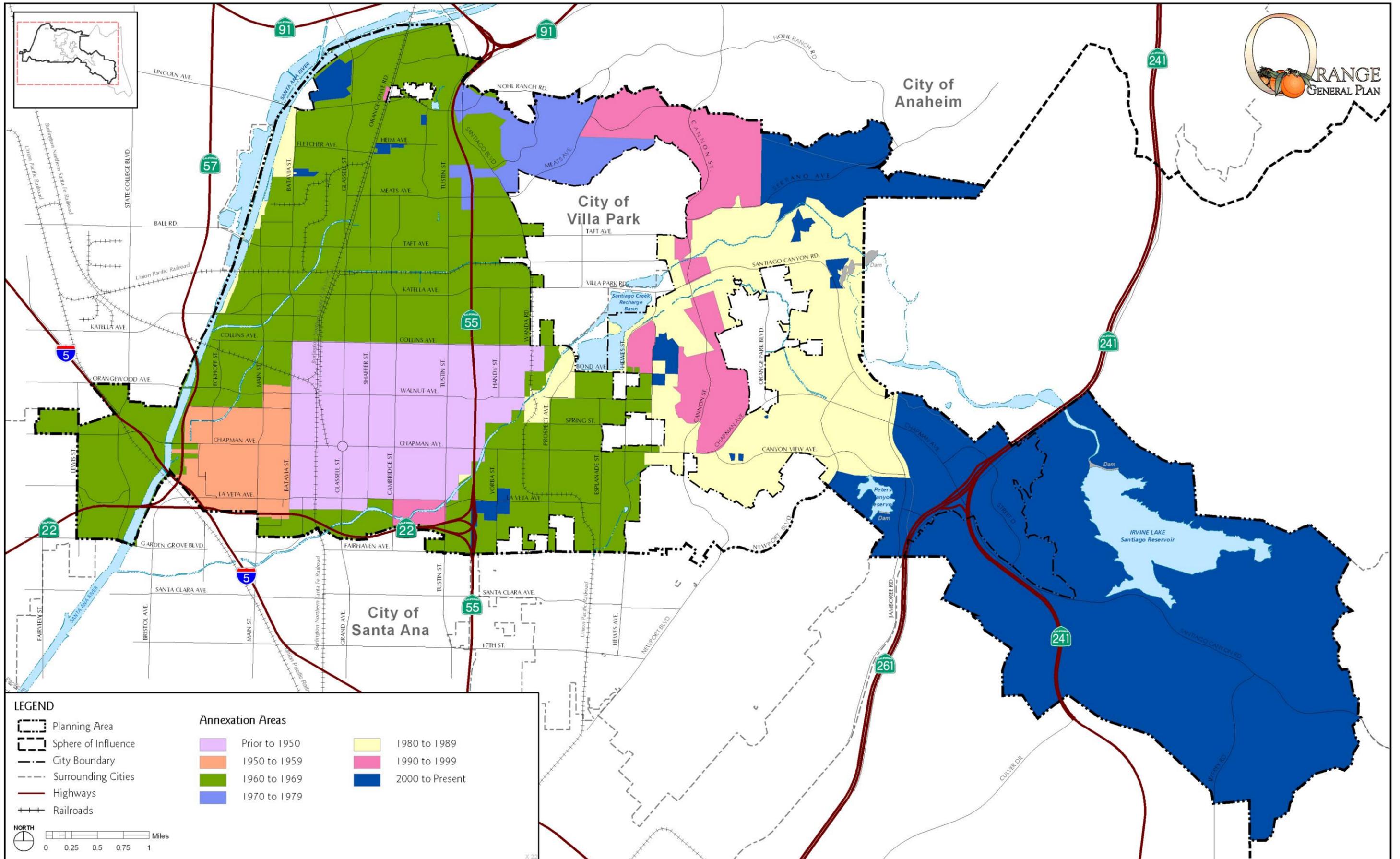


Figure 1-3 Orange's Historic Growth



A VISION FOR ORANGE: 2030

Preamble

The people, neighborhoods, businesses, and educational and religious institutions define Orange. Our identity has been enhanced because we have honored the past while creating our future. We must continue to maintain our small town character within residential neighborhoods, while providing a wide range of services, products, and amenities in our commercial, retail, and industrial districts.

Where We Live

Our vision for Orange is to continue to provide housing for all lifestyles within its diverse population. The General Plan will strive to maintain the different residential areas that make Orange unique: whether living in a semi-rural area that provides scenic views of natural beauty and convenient access to nature and trails; residing in a traditional suburban neighborhood setting; or enjoying the urban core experience near shops, restaurants, civic facilities, and public services. In the future, we will strive to achieve the following objectives:

- Orange must continue to encourage a variety of living environments for a diverse population, consistent with existing neighborhoods.
- The City will build upon existing assets to create a living, active, and diverse environment that complements all lifestyles and enhances neighborhoods, without compromising the valued resources that make Orange unique.
- The City will continue efforts to protect and enhance its historic core. This same type of care and attention will be applied throughout the rest of the City.
- The City will work to improve the quality of life for all residents by providing residential, commercial, industrial, and public uses that exist in harmony with the surrounding urban and natural environments.
- Residential areas will be connected to commercial, recreational, and open space areas, as well as educational and cultural facilities via a balanced, multi-modal circulation network that accommodates vehicles, pedestrians, cyclists, hikers, and equestrians. This network will create additional opportunities for walking and biking, enhancing safety and well-being for neighborhoods and businesses.
- The City will encourage a local economy that provides ample commercial, financial, office, and industrial opportunities that provide employment and sufficient revenue to support important community services.
- Orange recognizes the importance of managing development in a manner that ensures adequate and timely public services and infrastructure and limits impacts on the natural environment.



Where We Work

Our vision for Orange is to find an appropriate balance between residential, commercial, and industrial demands. This vision encourages the City's retail districts to improve piece by piece, so that their efforts will result in a public realm along Chapman Avenue, Tustin Street, Katella Avenue, and Main Street that will be characterized by visually attractive commercial development, active public areas, high-quality streetscapes, and innovative design that complements Orange's heritage.

To achieve our vision, we shall work toward the following objectives:

- The City will strive to provide for a range of businesses including both small, family-owned businesses and larger businesses that serve a regional market.
- The appearance and variety of commercial, retail, industrial, and employment centers will reflect the pride that residents have for Orange, as well as the long-term investments the City has made in its infrastructure.
- Orange will tap into the entertainment and hospitality markets by enabling development of high-quality facilities strategically located near other regional tourist draws.
- We will continue to support educational and medical institutions and other industries that provide high paying jobs and are major contributors to the community.

Where We Play

Our community recognizes that its quality of life will be judged by how well we connect with our surroundings. Therefore, this General Plan has focused on maintaining and creating those special places that bring us together. It is paramount to reinforce the connections between those places and the community, so that all our residents and visitors can share and enjoy the outdoors and other activities.

Therefore, our Vision includes the following objectives:

- The City will work to define neighborhoods through the use of open space areas and a trail system that provides a source of aesthetic beauty and recreational opportunities. These open space areas support a healthy and active community.
- We will continue to protect our critical watersheds, such as Santiago Creek, and other significant natural and open space resources.
- The City will strive to build a comprehensive system of parks, open space, equestrian areas, scenic resources, undeveloped natural areas, as well as a full array of recreational, educational, and cultural offerings such as libraries, sports, entertainment areas, and play facilities.
- We will develop a connected multi-modal network for traveling from one end of town to the other that provides the option for residents from different neighborhoods to access parks, open spaces, and scenic areas by vehicle, transit, foot, bicycle or, where appropriate, horse.



Visioning Process and Community Participation

Vital to the success of this General Plan update was the high level of participation from the public. The objective for the community participation component of the General Plan was to rely upon members of the community to provide direction for the Plan, to assist in the drafting of the Vision Statement, and to identify issues and opportunities that will enhance the quality of life in Orange. A variety of outreach tools allowed all who wished to participate to do so in a manner with which they felt comfortable. Outreach tools included articles in the City's quarterly newsletter, workshops targeting seniors and youth, and stakeholder interviews including talks with the City Council and City department heads. Focus group discussions were conducted with representatives of special interest groups, including business owners, developers and real estate experts, community resource organizations, open space and trail advocates, and neighborhood groups. Additional focus group sessions were conducted with representatives from housing organizations, historic preservation and arts organizations, parks and recreation advocates, and the local hospitals. Other focus groups were comprised of infrastructure experts, education representatives, and those who work in the circulation and mobility fields.

Leading the effort was the General Plan Advisory Committee (GPAC). The GPAC membership consisted of community representatives appointed by the City Council who brought broad-based insights regarding the issues and opportunities confronting Orange over the next two decades. The GPAC membership represented diverse community interests and geographic areas of the City. The GPAC was the principal body for identifying, confirming, and validating community concerns and desires, and functioned as a conduit between City, residents, property owners, and the business community. The group extensively analyzed a full spectrum of community issues, opportunities, and challenges. The GPAC met nine (9) times and successfully drafted and adopted the Vision Statement, identified and reviewed future options for land use opportunity areas, and drafted goals and policies for each General Plan element. In addition to their meetings, the GPAC toured the City by bus and shared their impressions with City staff and the rest of the group.

The City also conducted four (4) community-wide workshops. The first workshop focused on the opportunity areas selected by the GPAC. The workshop objective was to identify issues and opportunities for each area. The second workshop was based on the input from the first workshop and was a review of potential land use alternative scenarios for the opportunity areas. The direction gained from the second workshop was further refined and presented to the public at the third workshop, where the long-term impacts of each scenario were considered. Finally, a fourth workshop was held to validate



Orange residents provided numerous ideas for future land use options in many City neighborhoods during workshops.



the Vision Statement, the preferred land use scenarios, and the goals and policies crafted by the GPAC. In addition to these workshops, the City made a special effort to reach out to both youth and seniors, with individual workshops focused upon each of these groups.

Other community participation tools included Joint Workshops with the City Council and the Planning Commission, and working with the Chamber of Commerce's Junior Leadership group.

The City also invited representatives of the regions' Native American tribes to contribute to the process. The tribes contacted included the Juaneno Band of Mission Indians and the Gabrieleno/Tongva Tribal Council.

Organization and Use of the General Plan

The Orange General Plan contains goals, policies, and plans to guide land use and development decisions in the future. The General Plan consists of the following elements, or chapters:

- Land Use Element
- Circulation & Mobility Element
- Natural Resources Element
- Public Safety Element
- Noise Element
- Growth Management Element
- Cultural Resources & Historic Preservation Element
- Infrastructure Element
- Urban Design Element
- Economic Development Element
- Housing Element

As shown in Figure I-4, Orange's General Plan sometimes deviates from the state- and county-mandated elements in non-substantive ways to better conform to the objectives of the Vision Statement. For example, the state-required Conservation and Open-Space Elements have been combined in the Natural Resources Element. In addition to the state-mandated elements, stipulations of Orange County's Measure M require cities to prepare a Growth Management Element, addressing timely provision of capital facilities and public services associated with new development.

The Orange General Plan also includes optional elements that address unique concerns that will affect Orange's quality of life in the future. These optional elements include Cultural Resources & Historic Preservation, Infrastructure, Urban Design, and Economic Development.

Several supporting documents were produced during the development of the General Plan, including the General Plan Program Environmental Impact Report (Program EIR). Other technical reports and studies used in preparing the Plan include an existing land use survey, a traffic/circulation model, a historic resources inventory and cultural resources predictive model, and market studies and fiscal impact reports for opportunity areas identified in the Land Use Element.



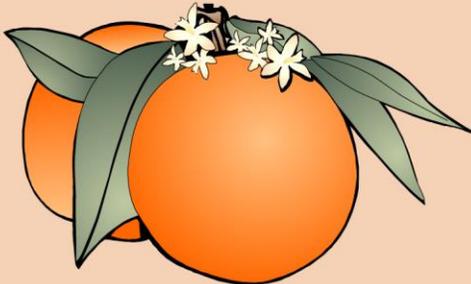
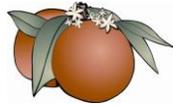
 Orange General Plan Elements	State-Mandated Elements	County-Mandated Element	Optional Elements	Orange Vision Statement		
				Where We Live	Where We Work	Where We Play
Land Use	●			●	●	●
Circulation & Mobility	●			●	●	
Natural Resources (Open Space and Conservation)	●					●
Public Safety	●			●	●	
Noise	●			●	●	
Growth Management		●		●	●	
Cultural Resources & Historic Preservation			●	●	●	●
Infrastructure			●	●	●	
Urban Design			●	●	●	●
Economic Development			●		●	
Housing	●			●		

Figure I-4 General Plan Structure



General Plan Structure

The General Plan document is comprised of this *Introduction*, and eleven elements. Each element may stand alone, but is also an integral part of the overall plan. The General Plan is accompanied by an Implementation Program and Glossary. Each of the elements is organized according to the following format: 1) Introduction; 2) Issues, Goals, and Policies; and 3) the Plan.

The *Introduction* of each element describes the focus and the purpose of the element. The relationship of the element to other General Plan elements is also specified in the Introduction.

The *Issues, Goals, and Policies* section of each element contains a description of identified planning issues, goals, and policies related to the element topic, based on input received from the community, members of the GPAC, and members of the City Council, Planning Commission, and City staff. *Issues* represent the needs, concerns, or desires addressed by the General Plan. *Goals* are overall statements of community desires and consist of broad statements of purpose or direction. *Policies* serve as guides to the City Council and City staff in reviewing development proposals and making other decisions that affect future growth and development in Orange.

Each element also contains a *Plan* section. The Plan section offers an overview of the City's course of action to implement identified goals and policies. Many of the elements also contain one or more policy maps which consolidate the various opportunities, constraints, classifications, and policies expressed in the Element in graphic form. For example, the Land Use Element contains a "Land Use Policy Map" and a "Land Use Plan" identifying and describing the locations of future land uses by type, density, and intensity within the City of Orange.

Following the elements is the *Implementation Program*, which identifies specific actions to achieve the goals, policies, and plans identified in each General Plan element. The Implementation Program is provided as an Appendix to the General Plan.

The organization of the General Plan allows users to identify the section that interests them and quickly obtain a perspective of the City's policies on that subject. However, General Plan users should realize that the policies in the various elements are interrelated and should be examined collectively. Policies are presented as written statements, tables, diagrams, and maps. All of these components must be considered together when making planning decisions.

Related Plans and Policies

State law places the General Plan atop the hierarchy of land use planning regulations. Several local ordinances and other City plans must conform to General Plan policy direction and work to implement the General Plan. Also, regional governmental agencies, such as the Southern California Association of Governments (SCAG), the South Coast Air Quality Management District (SCAQMD), and the Regional Water Quality Control Board (RWQCB) have been established in recognition of the fact that planning issues extend beyond the boundaries of individual cities. Efforts to address regional planning issues such as air and water quality, transportation, affordable housing, and habitat conservation have resulted in the adoption



of regional plans. The policies adopted by Orange will be affected by these plans, and will in turn have effects on these other plans. The paragraphs below describe ordinances, plans, and programs that should be consulted in association with the General Plan when making development and planning decisions.

Orange Zoning Code

The Zoning Code, the primary tool used to implement the General Plan, regulates development type and intensity citywide. Development regulations imposed include those setting limits on building height, requiring setbacks, and specifying the percentage of a site that must be landscaped. The Zoning Code also outlines standards for residential planned unit development and affordable housing, among many other land use issues.

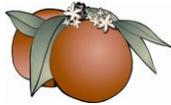
Orange Redevelopment Plans

Under California law, cities can form redevelopment agencies and adopt redevelopment plans as mechanisms for facilitating community renewal. The Orange Redevelopment Agency (Agency) was established with redevelopment authority on August 11, 1983, with the adoption of Ordinance No. 21-83. Since then, the Agency has been instrumental in upgrading the Tustin Street project area, redeveloping the Southwest Project area that includes the City's southwest quadrant and the Old Towne Historic District, and renewing the Northwest Project area, which includes a large section of the City's industrial areas. In 2001, the three redevelopment project areas were merged into one, known as the Orange Merged and Amended Redevelopment Project Area. The Agency strives to achieve its three-fold mission: to enhance the commercial and industrial areas of the City; to revitalize those areas; and to increase, improve, and preserve the community's supply of low- and moderate-income housing available at affordable housing cost. Orange's City Council acts as the governing board of the Redevelopment Agency.

Specific Plans and Neighborhood Plans in Orange

A Specific Plan is a detailed plan for the development of a particular area. Falling under the broader umbrella of the General Plan, Specific Plans are intended to provide more finite specification of the types of uses to be permitted, development standards (setbacks, heights, landscape, architecture, etc.), and circulation and infrastructure improvements within identified subareas of the City. Specific Plans are often used to ensure that multiple property owners and developers adhere to a single common development plan. Further, they can provide flexibility in development standards beyond those contained in the Zoning Ordinance. Orange has utilized Specific Plans and Neighborhood Plans as tools to achieve the coordinated development of individual parcels within a broader context. Adopted Specific Plans and Neighborhood Plans include:

- Archstone Gateway
- Chapman University
- Immanuel Lutheran Church
- Orange Park Acres
- Pinnacle at Uptown Orange
- St. John's Lutheran Church and School
- Santa Fe Depot Area



- Serrano Heights
- Upper Peters Canyon

Earlier planning efforts that have influenced the growth and change within Orange include the 1975 East Orange General Plan and the Orange Park Acres development plan.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was adopted by the state legislature in response to a public mandate for thorough environmental analysis of projects that could affect the environment. The provisions of the law and environmental review procedure are described in the CEQA Statutes and Guidelines. CEQA is the instrument for ensuring that environmental impacts of local development projects are appropriately assessed and mitigated. The City also maintains local CEQA Guidelines that provide more detailed guidance for the application of CEQA to new development in Orange.

SCAG Regional Comprehensive Plan and Regional Transportation Plan

In 1995, SCAG prepared a *Regional Comprehensive Plan* (RCP) to address regional issues, goals, objectives, and policies for the Southern California region into the early part of the 21st century. The RCP was updated in 2008 based upon the SCAG's 2000 *Compass Blueprint Growth Vision*, which calls for modest changes to current land use and transportation trends on only two percent of the land area of the region. A key component of the RCP is the *Regional Transportation Plan* (RTP). The RTP sets broad goals for the region and provides strategies to reduce problems associated with congestion and mobility. In recognition of the close relationship between traffic and air quality issues, the assumptions, goals, and programs contained in the RTP parallel those used to prepare the *Air Quality Management Plan* (AQMP). The RTP was also updated in 2008 to implement transportation provisions of the RCP.

Air Quality Management Plan

The federal Clean Air Act requires preparation of plans to improve air quality in any region designated as a nonattainment area. A nonattainment area is a geographic region identified by the Environmental Protection Agency (EPA) and/or the California Air Resources Board as not meeting state or federal standards for a given pollutant. The AQMP, prepared by SCAQMD, was first adopted in 1994 and is updated on a three-year cycle. It contains policies and measures designed to achieve federal and state air quality standards within the South Coast Air Basin. The assumptions and programs in the AQMP draw directly from regional goals, objectives, and assumptions in the RCP.

Orange County General Plan

The Orange County General Plan guides land use decision-making in unincorporated sections of the County. Orange's SOI is also governed by the County General Plan. The City's SOI is established by the Local Agency Formation Commission (LAFCO). As properties in the SOI develop, they may also be annexed to and served by the City. The County and incorporated communities within the County have agreed, through a formal Memorandum of



Understanding, to consult with each other whenever development actions are proposed within a city's SOI.

Local Agency Formation Commission Guidelines

The provisions of California's Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 set forth procedures for LAFCOs throughout the state to review annexation applications. The Act was adopted to:

- encourage orderly development;
- ensure that populations receive efficient and high quality governmental services; and
- guide development away from open space and prime agricultural lands, unless such action promotes planned, orderly, and efficient development.

The Orange County LAFCO must adhere to adopted guidelines pursuant to the Act in its review of future City annexations within or beyond the City's SOI.

County of Orange Master Plan of Arterial Highways

The County of Orange *Master Plan of Arterial Highways* (MPAH) forms part of the Orange County General Plan and designates the arterial system in the Circulation & Mobility Element of the General Plan. Defined according to specific arterial functional classifications, the MPAH serves to define the intended future roadway system for the County. Cities within the County are expected to achieve consistency with the MPAH in individual General Plan circulation elements. To implement changes to the MPAH, approval from the Orange County Transportation Authority (OCTA) is required.

Measure M

In 1990, Orange County voters approved Measure M, authorizing a half-cent retail sales tax increase for a period of 20 years effective April 1, 1991. Revenue generated by Measure M is returned to local jurisdictions for use on local and regional transportation improvements and maintenance projects. To qualify for this revenue, each jurisdiction must comply with the Countywide Traffic Improvement and Growth Management Program. Specifically, to receive an allocation of Measure M funds, Orange must submit a statement of compliance with the growth management components of the program. Requirements include the adoption of a traffic circulation plan consistent with the County MPAH, adoption of a Growth Management Element within the General Plan, adoption and adequate funding of a local transportation fee program, and adoption of a seven-year capital improvement program that includes all transportation projects funded either partially or fully by Measure M funds.

The current Measure M expires in 2011, and a November 2006 ballot measure renewed the program (now known as M2) through 2031. M2 extends the requirements of Measure M, without increasing sales taxes, to fund freeway, street, transit, and environmental projects identified in a Transportation Investment Plan considered by voters in tandem with the renewal measure.



**Orange County Central/Coastal Natural Communities
Conservation Plan**

The Orange County Central/Coastal *Natural Communities Conservation Plan* (NCCP) was approved in 1996. The NCCP is a program of the State of California designed to address the needs of habitats and species at the level of natural communities. An NCCP is a plan for conservation of natural communities that takes an ecosystem approach and encourages cooperation between private and government interests. It also provides for the regional and area-wide protection and perpetuation of plants, animals, and their habitats, while allowing compatible land use and economic activity. An NCCP seeks to anticipate and prevent the controversies caused by species listings (as federally endangered, for instance) by focusing on the long-term stability of natural communities.

National Pollution Discharge Elimination System Program

Urban pollutants degrade water quality and adversely affect wildlife and plants dependent on aquatic habitat. The City is a co-permittee with the County of Orange in the National Pollution Discharge Elimination System (NPDES) program, which is designed to reduce pollutants in runoff. According to the NPDES permit for the region, all new development projects and substantial rehabilitation projects are required to incorporate Best Management Practices (BMPs) as identified in the County *Drainage Area Master Plan* (DAMP).



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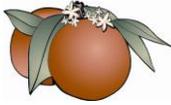
INTRODUCTION AND VISION FOR THE FUTURE

The Land Use Element describes the desired future physical and economic composition of Orange's planning area and the planned relationship of uses. The primary objectives of the Element are to determine the future location, type, and intensity of new development and redevelopment projects, and to establish the desired mix and relationship between such projects to maximize the long-term livability of the community.



The City also seeks to achieve a number of additional objectives, consistent with Orange's ***Vision for the Future***, described in the General Plan Introduction. These objectives include:

- Providing policy guidance for Orange's future based on innovative land use planning techniques, unifying the developed portion of the City with east Orange, and expressing community values.
- Encouraging a variety of semi-rural, suburban, and urban neighborhood living environments.
- Protecting and enhancing the City's historic core, and expanding historic preservation efforts to other neighborhoods within the City.
- Encouraging new residential, commercial, industrial, and public uses within established focus areas.
- Supporting a multi-modal circulation network that accommodates vehicles, pedestrians, cyclists, hikers, and equestrians.
- Managing future development in a manner that ensures adequate and timely public services and infrastructure.
- Improving the appearance and variety of the City's commercial, retail, industrial, and employment centers.
- Enabling development of high quality entertainment-oriented mixed-use projects strategically located near regional tourist draws.
- Expanding open space areas and promoting completion of a trail system.
- Protecting critical watersheds and other natural and open space resources.



The Land Use Element provides a key policy foundation for the entire General Plan. Through the use of text and diagrams, the Land Use Element establishes clear and logical patterns of land use as well as standards for new development. The goals and policies contained in this Element establish a constitutional framework for future land use planning and decision-making in the City.

Another important feature of this Element is the Land Use Policy Map, which indicates the location, density, and intensity of development for all land uses citywide. The proposed land use designations identify the types and nature of development permitted throughout the planning area. The goals and policies contained in this Element are designed to ensure land use diversity and balanced development; encourage mixed-use development; promote commercial enterprise in Orange; encourage high quality industrial development; maintain and enhance the role of Old Towne within the community; encourage an efficient and responsible relationship between land use, transit, open space, and areas of environmental sensitivity; ensure City interests are achieved through inter-jurisdictional and regional planning; and encourage public involvement in land use planning decisions.

Purpose of the Land Use Element

The Land Use Element is one of seven elements required by the State to be included in Orange's General Plan. The Land Use Element directs and defines development patterns by designating allowable uses, requirements, and locations for both existing and future development. This Element has the most wide-ranging scope in the General Plan, and affects all of the others. Although the interpretation of the Land Use Element is the responsibility of the community's policymakers, this vision of long-term land use will influence short-term plans such as infill development, Specific Plans, and public works investments.

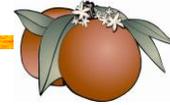
Scope and Content of the Land Use Element

The Land Use Element is divided into three sections:

- (1) Introduction
- (2) Issues, Goals, and Policies
- (3) Land Use Plan

The *Introduction* defines the purpose, scope, and content of the Land Use Element, and its relationship to other General Plan Elements. The *Issues, Goals, and Policies* section describes the City's intent to encourage diverse land uses that foster a vibrant and sustainable community, and to coordinate planning and public participation activities in determining future land uses. The *Land Use Plan* section communicates how these goals and policies will be implemented through land use diagrams and maps depicting assigned land uses, locations, and the extent of future use envisioned by the community.

The Land Use Plan complies with the requirements of the Land Use Element as stated in Section 65302 of California's Government Code. Land uses requiring future planning include "housing, business, industry, open space, forest/timber, agriculture, natural resources, recreation, scenic beauty, education, public buildings and land, solid and liquid waste disposal facilities, and other public and private uses of land." The Land Use Plan also establishes standards for residential density and non-residential building intensity for



designated land uses citywide, and it expresses the community's vision for revitalization of eight focus areas located throughout the City.

Relationship to Other General Plan Elements

The Land Use Element serves as a guide for future development in the City and determines many key issues examined in the remaining Elements. For example, different land uses generate various trip demands, which influence the capacity and service levels of Orange's transportation systems. The Circulation & Mobility Element lays out future transportation services and routes designed to meet the demands of both existing and future development.

Future residential development described in the Land Use Element affects the City's housing goals, programs and objectives, which are discussed in the Housing Element. Land use decisions and the City's long-range economic development strategy are also directly inter-related. This Element proposes new development strategies for a number of the City's most important commercial corridors, and advocates intensification of certain areas as mixed-use corridors and urban office and employment centers. These Land Use Element policies are directly related to the long-range policies of the Economic Development Element.

The Land Use Element also designates areas to be used as open spaces, areas for parks and recreation, and areas for conservation and preservation of natural resources. Goals and policies regarding the preservation and maintenance of these areas are also addressed in the Natural Resources Element.

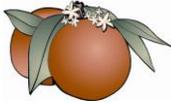
Land uses defined in the Land Use Element are also affected by the Urban Design Element. The goals and policies of the Urban Design Element address physical characteristics of the community, such as building massing, concentration, setbacks, and landscaping features that affect land use requirements. The Cultural Resources & Historic Preservation Element expresses the City's strategy for requiring preservation of structures and areas that carry historic significance.

Growth and development patterns in Orange are to be managed in a way that does not overwhelm or reduce the quality of services provided by the City's infrastructure system. The goals and policies of the Growth Management and Infrastructure Elements are related to the contents of the Land Use Element because they affect land use designations and requirements.

Safety and noise abatement issues also relate to land uses. To comply with noise level requirements, land use designations are determined in tandem with noise contour maps in the Noise Element. Provisions are made within the Noise Element to allow higher noise levels within the mixed-use environments promoted within the Land Use Element. To mitigate or avoid damage and injury from natural and human-caused hazards, hazards maps in the Safety Element must also be consistent with the Land Use Element.

ISSUES, GOALS, AND POLICIES

The goals, policies, and implementation programs of the Land Use Element address eight citywide issues, as well as issues pertaining to eight focus areas identified within the City.



Citywide land use issues represent opportunities to improve the way land is currently used and the way future land use is planned. These opportunities capitalize on existing community assets, such as hospitals, universities and colleges, transportation networks, and natural features. Land use issues include: (1) ensuring land use diversity and balanced development; (2) encouraging mixed-use development for purposes of promoting convenient and efficient relationships between housing, employment, services, and transit; (3) promoting commercial enterprise in Orange; (4) encouraging high quality industrial development; (5) maintaining and enhancing the role of Old Towne within the community; (6) considering and promoting the contextual and environmental compatibility of various land uses; (7) ensuring City interests are achieved through inter-jurisdictional and regional planning; and (8) encouraging public involvement in land use planning decisions.

Land Use Diversity and Balanced Development

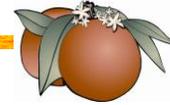
A well-balanced community provides a broad range of housing and business opportunities as well as recreational, institutional, and cultural activities that serve Orange's diverse population and enhance the overall living environment. By encouraging a mix of land uses, the City can create an active and diverse environment that complements all lifestyles and supports neighborhoods. The City will continue to work toward creating a balanced inventory of land uses that meets the housing needs of all income groups and household types, creates a stable employment and tax base, maintains logical relationships between land uses and community assets, and provides residents with a diverse range of recreational opportunities.

GOAL 1.0: Meet the present and future needs of all residential and business sectors with a diverse and balanced mix of land uses.

- Policy 1.1: Maintain a land use structure that balances jobs and housing with available infrastructure and public and human services.
- Policy 1.2: Balance economic gains from new development while preserving the character and densities of residential neighborhoods.
- Policy 1.3: Provide a range of housing densities and types to meet the diverse needs and lifestyles of residents.
- Policy 1.4: Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development.
- Policy 1.5: Prioritize recreation and open space uses at Irvine Lake and protect historic visual resources in east Orange.
- Policy 1.6: Minimize effects of new development on the privacy and character of surrounding neighborhoods.
- Policy 1.7: Provide a range of open space and park amenities to meet the diverse needs of current and new residents.

Encouraging Mixed-use

Development opportunities for creative commercial, residential, office, or mixed-use centers are emerging within older commercial corridors throughout the City. Three different styles of mixed-use are defined in the Land Use Plan and are implemented through five land use



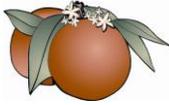
designations. The three mixed-use styles are Neighborhood, Old Towne, and Urban. Future development options for these mixed-use areas rely on high quality, pedestrian-oriented design, incorporation of community open spaces, and full integration of alternative transportation modes. Successful completion of high quality mixed-use projects in Orange will assist the City in accomplishing multiple objectives concerned with housing, circulation, land use, economic vitality, recreation, and the environment.

GOAL 2.0: Create successful, high quality mixed-use districts consisting of a mix of residential, commercial, office, civic, and common open space land uses, supported by alternative modes of transportation.

- Policy 2.1: Encourage development of mixed-use projects to revitalize older commercial areas throughout the City and industrial areas surrounding the historic Santa Fe Depot.
- Policy 2.2: Encourage transfers of development rights within areas designated Urban Mixed-use on the Land Use Policy Map to promote development of high-rise office and residential structures at compatible locations.
- Policy 2.3: Encourage transfers of development rights within areas designated Neighborhood Mixed-use and Old Towne Mixed-use on the Land Use Policy Map to promote historic preservation and creation of open spaces accessible to the community.
- Policy 2.4: Encourage mixed-use projects that contain a variety of compatible uses, and provide necessary supporting public and community facilities.
- Policy 2.5: Minimize traffic and parking impacts of proposed mixed-use projects.
- Policy 2.6: Encourage linkage in and around mixed-use areas using a multi-modal circulation network, particularly transit, pedestrian sidewalks, paths and paseos, and bicycle and trail systems.
- Policy 2.7: Ensure that the architecture, landscape design, and site planning of mixed-use projects are of the highest quality, and that they emphasize a pedestrian orientation and safe, convenient access between uses.
- Policy 2.8: Ensure that adequate gathering areas or plazas are incorporated within mixed-use projects and areas to allow for social interaction and community activities.
- Policy 2.9: Encourage mixed-use development to include ground floor retail.

Vibrant Commercial Districts

Commercial activities continue to play an important role in shaping the City. Business activities provide jobs and revenue that support important community services. Much of the City’s revenue comes from sales tax generated by commercial establishments. The City will continue to revitalize and improve the appearance of aging commercial districts. The City will encourage land use patterns and development standards that promote vibrant commercial activities, take advantage of existing land use assets, assist existing businesses that want to expand, promote the local economy and existing establishments, and reinforce the relationship between neighborhoods and adjacent business districts with respect to goods, services, and employment.

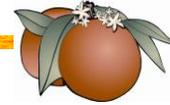


- GOAL 3.0:** Create commercial uses that provide a solid economic base and employment opportunities and identify Orange as an attractive and diverse shopping destination.
- Policy 3.1: Promote development of revenue-generating land uses that help defray the costs of high quality public services.
- Policy 3.2: Actively promote the City as a place to shop and conduct business, and encourage local patronage of Orange businesses.
- Policy 3.3: Improve vehicular, pedestrian, and visual connections between commercial areas and the rest of the community.
- Policy 3.4: Discourage commercial and industrial enterprises that have significant adverse soil, air, water, or noise impacts.

Sustainable Industrial and Office Uses

Providing options for industrial development and office uses within the City is important, because these uses contribute to the economic wellbeing and the employment base of the community. Industrial development in Orange and throughout the region has changed significantly in recent years. Although traditional manufacturing activities continue to be a key component of Orange's industrial areas, many such businesses have been replaced by warehousing uses and modern office uses that are more attractive in appearance and more compatible with adjacent neighborhoods. In some instances, large buildings and warehouses that once housed manufacturing or agriculture-oriented activities are now available for adapting to future residential, office, or commercial uses. In addition, Orange has experienced increased demand for larger, multi-story professional office complexes at locations such as South Main Street, Town and Country Road, La Veta Avenue, and The City Drive. Demand has also increased for medical office space surrounding local hospitals. The City will emphasize the important role industry continues to play in the community's future, will encourage continued development of professional offices, and will ensure that the quality of the environment is not compromised by industrial uses.

- GOAL 4.0:** Encourage high quality, sustainable, industrial and office uses that provide jobs and revenue; support environmental quality; and promote options for adaptive re-use.
- Policy 4.1: Maximize use of limited land resources for industrial and office uses within areas designated Light Industrial or Industrial on the Land Use Policy Map.
- Policy 4.2: Encourage development of professional office space located near medical institutions and County facilities.
- Policy 4.3: Protect residents and the environment from potential adverse soil, air, water, and noise impacts of industrial operations.
- Policy 4.4: Encourage development of mixed office, industrial, and support commercial uses in areas designated Light Industrial on the Land Use Policy Map.
- Policy 4.5: Accommodate a wide variety of industrial uses that contribute to a healthy and diverse economic base.



Old Towne Orange

When people think of Orange, they often think of the historic downtown district and adjoining residential neighborhoods. Old Towne Orange is an active, vibrant area that supports a variety of commercial, office, civic, and residential uses. In recent years, the City has taken steps to enable long-term preservation of many historic properties in the Old Towne area. This has created one of California’s most viable and recognized historic districts. The historic Santa Fe Depot, associated Metrolink station, and Orange [County Transportation Authority \(OCTA\)](#)–Transportation Center provide valuable commuting options. Land use policies for Old Towne call for targeted growth in the area near the Santa Fe Depot, to be achieved through increased density and more walkable and transit-oriented development. This area also provides opportunities for adaptive reuse of historic industrial buildings.

- GOAL 5.0: Maintain and enhance the vibrant, transit-accessible, pedestrian-friendly, and livable character of Old Towne’s neighborhoods and commercial core.**
- Policy 5.1: Promote targeted development of mixed-use, transit-oriented development surrounding the Santa Fe Depot to achieve development intensities compatible with the fabric of Old Towne.
- Policy 5.2: Promote adaptive re-use of previously industrial and agricultural historic structures for residential, office, or commercial purposes.
- Policy 5.3: Continue to promote institutional and civic uses located throughout Old Towne.
- Policy 5.4: Develop additional sensitively designed public parking throughout Old Towne.
- Policy 5.5: Continue to require consistent, high quality, historically-referenced design within Old Towne.
- Policy 5.6: Continue to upgrade infrastructure throughout Old Towne.
- Policy 5.7: Ensure that roadway improvements within Old Towne are designed to promote walkability and a safe pedestrian environment.
- Policy 5.8: Maintain balance between Old Towne and Chapman University’s growth, so that the University complements Old Towne.
- Policy 5.9: Promote attractive and safe pedestrian access between the Santa Fe Depot and the Plaza.

Contextual and Environmental Compatibility

The quality of the physical environment, built or natural, plays a large part in defining Orange’s quality of life. Land use conflicts often occur when newer developments are insensitive to the use, scale or character of existing development and/or the surrounding natural environment. In other cases, older, obsolete nonconforming uses remain interspersed among newer development, as when old service stations or repair shops survive in the midst of residential development. Such conflicts can lead to degradation of the built and natural environments. The following goals and policies are designed to ensure contextual and environmental compatibility of development within the City, and to achieve compliance with local, regional, state, and federal environmental requirements.



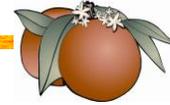
These policies also represent an overview of the City’s strategy to consider the contextual and environmental effects of new development and reuse projects. Additional related policies addressing this topic may be found in the Natural Resources, Cultural Resources & Historic Preservation, Infrastructure, Urban Design, Public Safety, and Noise Elements.

GOAL 6.0: Advance development activity that is mutually beneficial to both the environment and the community.

- Policy 6.1: Ensure that new development is compatible with the style and design of established structures and the surrounding environment.
- Policy 6.2: In areas where residential uses abut commercial or industrial land uses, use buffering techniques to improve compatibility. Such techniques include the use of setbacks, screening, soundwalls with pedestrian access, and appearance standards.
- Policy 6.3: Establish and maintain greenways, and pedestrian and bicycle connections that complement the residential, commercial and open space areas they connect.
- Policy 6.4: Create and maintain open space resources that provide recreational opportunities, protect hillside vistas and ridgelines, and conserve natural resources.
- Policy 6.5: Reduce pollutant runoff from new development and urban runoff to the maximum extent practicable.
- Policy 6.6: Enhance the walkability of both new and current development.
- Policy 6.7: Integrate natural amenities and connections, including waterways and wildlife corridors, within the design of urban and suburban spaces.
- Policy 6.8: Maximize landscaping along streetscapes and within development projects to enhance public health and environmental benefits.
- Policy 6.9: Restrict development in areas where exposure to hazards such as flood, erosion, liquefaction, dam failure, hazardous materials, and toxic gases cannot be mitigated to reduce risk to residents and liability to the City.
- Policy 6.10: Mitigate adverse air, noise, circulation, and other environmental impacts caused by new development adjacent to existing neighborhoods through use of sound walls, landscaping buffers, speed limits, and other traffic control measures.
- Policy 6.11: Recognize the value of natural and cultural resources in the undeveloped portions of the planning area.
- Policy 6.12: Maximize the land use opportunities for the Irvine Lake area by providing a mix of uses, such as lodging, housing, and recreational uses.

Coordinated Planning

Future planning considers ongoing planning efforts of other City departments, agencies, surrounding jurisdictions, and special districts. In addition, ongoing planning efforts undertaken by regional agencies such as the County of Orange, the Southern California Association of Governments, the Southern California Air Quality Management District, the



Orange County Transportation Authority, the Santa Ana Regional Water Quality Control Board, and others will be examined for consistency with the City’s long-range objectives.

GOAL 7.0: Promote coordinated planning among City departments and agencies, property owners, residents, special districts, and other jurisdictions in the region.

Policy 7.1: Coordinate with the Orange Unified School District and Community College District regarding future plans for their facilities.

Policy 7.2: Work with institutions within the City to ensure that implementation of their future plans is compatible with the City’s goals for surrounding areas.

Policy 7.3: Coordinate planning efforts with adjacent cities, special purpose agencies, utilities, and community service providers.

Policy 7.4: Ensure positive benefits for Orange from regional transportation, land use, air quality, waste management and disposal, and habitat conservation plans.

Policy 7.5: Work with and encourage other agencies and service providers to minimize potential visual and environmental impacts of their facilities on Orange.

Policy 7.6: Explore joint use agreements with other agencies to share existing and future public facilities among institutions in Orange.

Public Participation

The City recognizes that the single most important component of any future planning effort is public participation. The following goal and policies emphasize the need for continued public involvement in all parts of the planning process.

GOAL 8.0: Encourage active involvement of residents, businesses, and agencies in the planning and decision making process.

Policy 8.1: Continue to provide opportunities for public education and involvement in land use planning decisions through public hearings, community meetings, study sessions, electronic media, and any other appropriate and available means.

Policy 8.2: Emphasize public-private cooperation in implementing the General Plan and future planning activities.

Policy 8.3: Foster meaningful involvement and interaction among diverse groups within the City regarding land use planning efforts and decision making.

LAND USE PLAN

The Land Use Plan discusses how the City will grow and change over the next 20 years, and describes those aspects of the community that will be enhanced and maintained. Current and future land uses are categorized and mapped to identify where residential, commercial, industrial, and community facilities are anticipated to be located. The Land Use Plan describes the planned distribution and development intensities of all land uses in the City, and describes how the City’s land use goals will be achieved both citywide and within eight identified focus areas.



Land Use Distribution

The predominantly residential land use pattern in Orange reflects the City’s history of transition from a citrus-growing center clustered near the railroad to a town core surrounded by residential neighborhoods and supporting businesses and services. Based on a land use inventory completed in 2004, residential development represented the predominant land use within Orange’s city limits, with housing covering 46 percent of the City’s land area. Commercial and industrial uses represented about 14 percent of the City’s land area, while natural hillsides, parks, and open space represented 32 percent. Figure LU-1 identifies the division of on-the-ground land uses within the City in 2004.

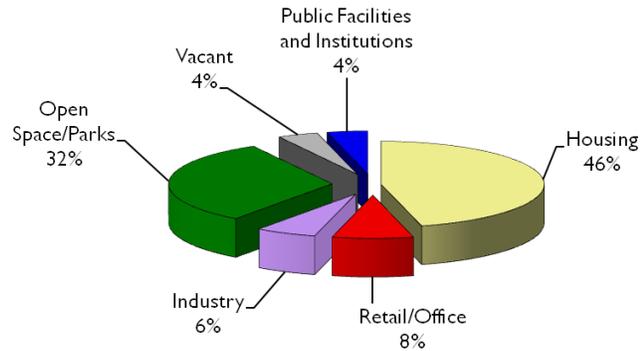


Figure LU-1
Land Use Distribution (2004)

Land Use Density and Intensity

Planners describe the extent to which properties can be or are developed using the terms *density* and *intensity*. Density is used for residential uses and refers to the population and development capacity of a given parcel or group of parcels. Density within the General Plan is described in terms of dwelling units per net acre of land (du/ac), exclusive of existing or proposed streets and rights-of-way. Typical residential densities found within Orange are illustrated in Figure LU-2.

Development intensity, which applies to non-residential uses, refers to the extent of development on a parcel of land or lot (that is, the total building square footage, building height, the floor-area ratio, and/or the percent of lot coverage). While intensity is often used to describe non-residential development levels, in a broader sense, intensity also can describe overall levels of mixed residential and non-residential development. Throughout this Element, floor-area ratio (FAR) and building floor area square footage are used as measures of non-residential development intensity.

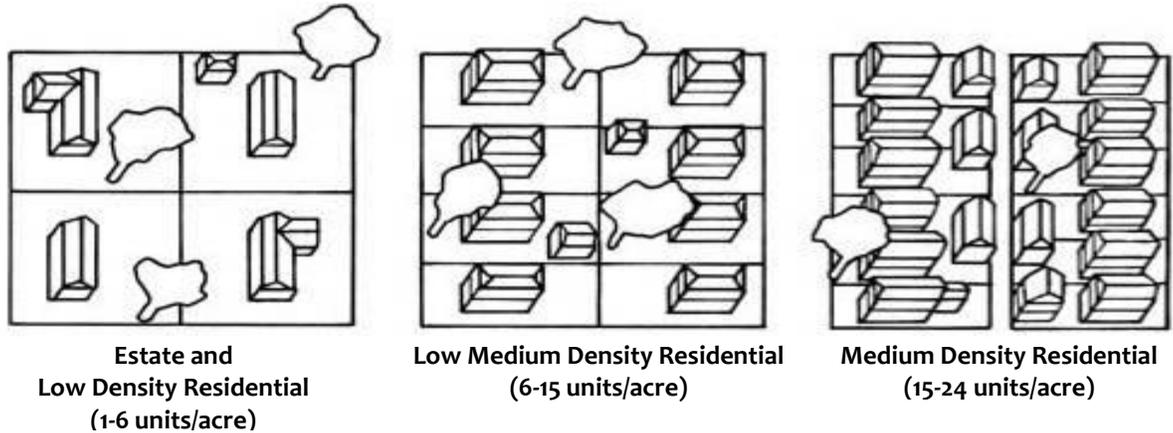
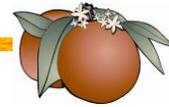


Figure LU-2
Typical Residential Densities in Orange

Floor-area ratio (FAR) expresses the intensity of use on a lot (see Figure LU-3). The FAR represents the ratio between the total gross floor area of all buildings on a lot and the total land area of that lot. For example, a 20,000-square-foot building on a 40,000-square-foot lot yields an FAR of 0.50. A 0.50 FAR describes a single-story building that covers half of the lot, a two-story building covering approximately one-quarter of the lot, or a four-story building covering one-eighth of the lot.

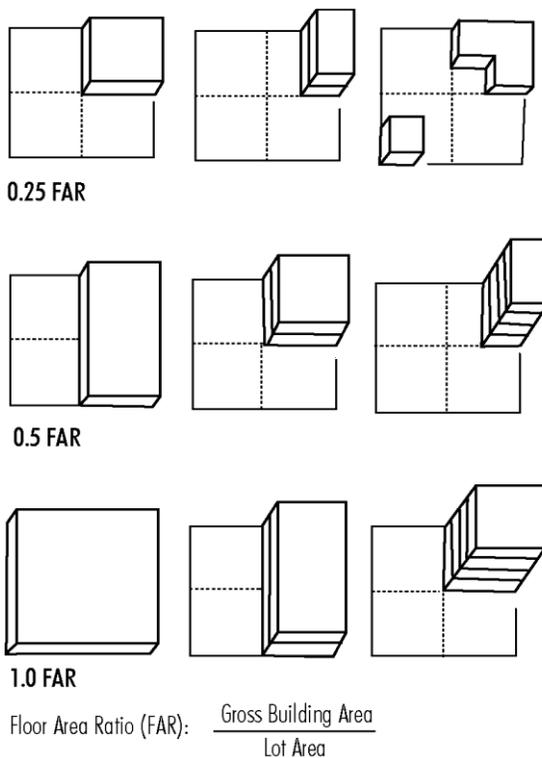
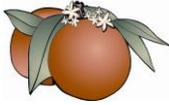


Figure LU-3
Floor Area Ratios Defined

For purposes of illustration, the diagrams in Figure LU-4 provide examples of FAR for commercial retail and office sites drawn from throughout the City. The middle example illustrates buildings within two square blocks of Old Towne Orange along Glassell Street north and south of Chapman Avenue. The lot area is approximately 549,800 square feet and the gross floor area of the buildings is approximately 549,900 square feet (most of the buildings have two stories). As shown in the diagram, when the gross building floor area is divided by the lot area, an FAR of approximately 1.0 results. The same process is illustrated for office properties located along Town and Country Road, and industrial areas located on Glassell Street, north of Taft Avenue.



Land Use Designations

The Land Use Element establishes 19 land use designations. The land use designations have been established to reflect: (1) development trends affecting the City’s near and long-term futures; (2) opportunity areas associated with major institutional uses, shopping and employment centers, and access to transportation facilities; and (3) community interests and desires expressed during the General Plan update process. Four designations are established for residential development that allow for a range of housing types and densities. Three mixed-use activity center designations encourage creative mixes of commercial retail, office, housing, civic, and entertainment uses at key locations throughout the City. Five commercial and office designations and two industrial designations provide for a range of revenue- and employment-generating businesses. Five public and semi-public use categories provide locations for important public and private facilities and institutions, including parks, open space areas, resource lands, civic facilities, hospitals, and educational institutions.

Table LU-1 presents descriptions of each General Plan land use designation and the corresponding range of density or intensity of development permitted for each. The maximum allowable development on any individual parcel is governed by these measures of density or intensity, with the anticipated yield influenced by the physical characteristics of a parcel, by access and infrastructure issues, and by compatibility considerations. The land use designations are described here in terms of general land uses and maximum densities or intensities permitted. Corresponding zoning districts specify the permitted uses for each category as well as the applicable development standards. The density or intensity maximums outlined in Table LU-1 serve as development caps. Actual development intensities are expected to be lower than the caps, based on

Glassell Street Industrial Properties



FAR: 0.33 Building Floor Area: 238,000 sq. ft.
Parcel/Lot Area: 720,300 sq. ft.

Old Towne Orange



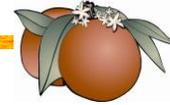
FAR: 1.0 Building Floor Area: 549,900 sq. ft.
Parcel/Lot Area: 549,800 sq. ft.

Town and Country Road Office Properties



FAR: 0.49 Building Floor Area: 449,200 sq. ft.
Parcel/Lot Area: 918,900 sq. ft.

Figure LU-4
Floor Area Ratio Examples in Orange



market factors and past development trends. In order to estimate future build-out of the City and resulting impacts on the circulation system, expected levels of density and intensity have also been assumed, and are shown in Table LU-1. The City anticipates most development will occur at or below these expected levels, although on any single property, development up to the cap is allowed. However, any development proposed in excess of the expected levels indicated in Table LU-1 may be required to perform special studies to show the development’s ability to mitigate adverse impacts on adjacent properties and the citywide circulation system.

Density ranges are provided in Table LU-1 for each of the residential land use designations and the Urban Mixed Use designation, whereas only maximum densities are established for the Neighborhood Mixed Use and Old Towne Mixed Use designations. Similarly, FAR ranges are provided in Table LU-1 for several commercial, industrial, office, and mixed commercial/residential land uses, while others feature a maximum FAR value. In cases where a range is listed, the minimum value represents the least intense land use permitted within the area, while the maximum value represents the most intense land use permitted. For designations where only a maximum value is listed, no minimum is implied.

For mixed-use designations listed in Table LU-1, both densities (du/ac) and intensities (FAR) are established. The permitted dwelling units per acre should be interpreted to be contained within the maximum FAR expressed for each category.

Table LU-1 Land Use Designations				
Land Use Designation		Density or Intensity		Description
		Range	Expected	
Residential Designations				
ESTR	Estate Low Density Residential	0-2.0 du/ac	1.8 du/ac	Large lot, single-family residential development in a rural or semi-rural setting. Private, noncommercial equestrian and agricultural uses may be allowed if associated with residential uses.
LDR	Low Density Residential	2.1-6.0 du/ac	5.0 du/ac	Conventional single-family residential development characterized by individual single-family homes constructed in subdivisions, or by custom units built on individual lots.
LMDR	Low Medium Density Residential	6.1-15.0 du/ac	8.0 du/ac	Includes small lot or zero lot line single-family subdivisions, duplexes and mobile home parks, as well as lower intensity apartment and condominium complexes.
MDR	Medium Density Residential	15.1-24.0 du/ac	16.3 du/ac	Apartment and condominium or townhouse units in areas with ready access to major circulation routes, business districts and public open space areas. Typical developments may consist of two- or three-story buildings that house multiple dwelling units and provide some form of open space.
Mixed-Use Activity Center Designations				



**Table LU-1
Land Use Designations**

Land Use Designation		Density or Intensity		Description
		Range	Expected	
NMIX	Neighborhood Mixed-use	Max. 24.0 du/ac; 1.0 - 1.5 FAR	16.3 du/ac; 1.0 FAR	Local- and neighborhood-supporting mixed-use activity centers and corridors. Commercial retail is encouraged to be the primary use on the ground floor. Professional office and housing uses are also encouraged, either integrated with a commercial use, or as separate, free-standing uses. Walkability and pedestrian access are key considerations. The lower end of the FAR range supports retail development, while the higher end supports a combination of uses including both commercial and office.
OTMIX	Old Towne Mixed-use			Local- and neighborhood-supporting mixed-use activity centers designed to be contextually appropriate within a historic area. Commercial retail is encouraged to be the primary use on the ground floor. Professional office and housing uses are also encouraged, particularly as adaptive reuse opportunities within existing structures. Transit-orientation, walkability, and pedestrian access are key considerations. The lower end of the FAR range supports retail development, while the higher end of the range supports a combination of uses including commercial and office.
Old Towne Mixed Use 15	Max. 15.0 du/ac; 0.5-1.0 FAR	8.0 du/ac; 1.0 FAR		
Old Towne Mixed Use 24	Max. 24.0 du/ac; 1.0-1.5 FAR	16.3 du/ac; 1.5 FAR		
Old Towne Mixed Use Spoke	6.0 – 15.0 du/ac; Max. 0.6 FAR	10.0 du/ac; 0.6 FAR		Local- and neighborhood-supporting mixed-use activity centers designed to be contextually appropriate within a historic area. Commercial retail is encouraged to be the primary use on the ground floor. Professional office and housing uses are also encouraged, particularly as adaptive reuse opportunities within existing structures. Transit-orientation, walkability, and pedestrian access are key considerations, as well as protection of the existing historic, residential-scale, and building character of the spoke streets outside of the downtown core. The lower end of the FAR range supports retail development, while the higher end of the range supports a combination of uses including commercial and office.
UMIX	Urban Mixed-use	30.0 – 60.0 du/ac; 1.5 - 3.0 FAR	48.0 du/ac; 1.7 FAR	Urban, high-intensity, regionally-oriented activity centers that define the character of surrounding areas and serve as gateways to the City. This designation provides for integrated commercial retail, high-rise office, housing, and civic uses. Commercial retail is intended to be the primary use on the ground floor. Convenient, high-frequency transit access, innovative housing options, and pedestrian-oriented design are key considerations.
Commercial and Office Designations				
GC	General Commercial	Max. 1.0 FAR	0.35 FAR	A wide range of retail and service commercial uses and professional offices. Regional shopping centers, mid-rise office projects, corridor shopping districts, and neighborhood corner stores are permitted uses.
RC	Recreation Commercial	Max. 0.35 FAR	0.18 FAR	Outdoor commercial recreational uses which include, but not limited to: golf courses, marinas, boat rental buildings, staging areas, fishing facilities, and other commercial sports facilities.

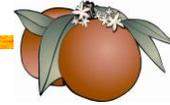


Table LU-1 Land Use Designations				
Land Use Designation		Density or Intensity		Description
		Range	Expected	
NOP	Neighborhood Office Professional	Max. 0.5 FAR	0.36 FAR	Low-rise office and professional office park development. Professional office is intended as the primary use. However, support retail and service commercial uses are also permitted as necessary to serve adjacent professional offices.
UOP	Urban Office Professional	1.5-3.0 FAR	1.5 FAR	Urban, high-intensity, mid- and high-rise office centers. Professional office is intended as the primary use. However, support retail and service commercial uses are also permitted as necessary to serve adjacent professional offices. Hospitals and supporting uses are also permitted.
YNCO	Yorba North Commercial Overlay	Max. 1.0 FAR	0.35 FAR	Allows for mixed uses compatible with a public facility or institutional use, such as a civic, college, or health care campus, including integrated retail, housing, office, and civic uses where a specific plan is approved for a public facility or institutional activity center. Innovative housing and pedestrian-oriented design are key considerations.
YSCO	Yorba South Commercial Overlay	Max. 1.0 FAR	0.35 FAR	A wide range of potential retail and service commercial uses, in conjunction with on-site parkland improvements, off-site parkland, and/or park improvements. Commercial use may only be activated through a Development Agreement with the City that identifies specific parkland obligations.
Industrial Designations				
LI	Light Industrial	Max. 1.0 FAR 3-story height limit	0.50 FAR	Allows for manufacturing, processing, and distribution of goods. Wholesale activities associated with industrial operations, as well as small-scale, support retail, service commercial and office uses may also be established in areas with ready access to major circulation routes. A 3-story building height limit applies within Light Industrial designated areas.
I	Industrial	Max. 0.75 FAR	0.65 FAR	
Public Facilities and Open Space Designations				
PFI	Public Facilities and Institutions			Provides for several types of public, quasi-public and institutional land uses, including schools, colleges and universities, City and County facilities, hospitals, and major utility easements and properties. Includes service organizations and housing related to an institutional use, such as dormitories, employee housing, assisted living, convalescent homes, and skilled nursing facilities.
Civic uses/Schools		Max. 0.50 FAR		
Cemeteries, Corporate yard, Water towers, Southern California Electric facilities			.05 FAR	
Schools, Water Department facilities			.15 FAR	
Civic Center, Libraries, Police and Fire Department facilities			.25 FAR	
Institutions		Max. 2.0 FAR		
Colleges and Universities			.35 FAR	
Hospitals			1.0 FAR	
OS	Open Space	NA	NA	Steep hillsides, creeks, or environmentally sensitive areas that should not be developed. Although designated as permanent open space, most areas will not be developed as public parks



**Table LU-1
Land Use Designations**

Land Use Designation		Density or Intensity		Description
		Range	Expected	
				with the exception of river and creekside areas that promote connectivity of the City’s trails system. Lands in this category include both privately held open spaces and public lands.
OS-P	Open Space–Park	NA	NA	Public lands used for passive and active recreation. Includes all parklands owned and maintained by the City of Orange, as well as parks operated by the County.
OS-R	Open Space–Ridgeline	NA	NA	Areas designated open space to preserve visually significant ridgelines identified on the Land Use Policy Map. No development or grading is permitted.
RA	Resource Area	NA	NA	Allows for agricultural uses and continued use of stream and river channels for aggregate mining. Passive and active recreational uses are also permitted. May serve as a holding zone for future uses compatible with established and planned land uses in surrounding areas.

Residential Uses

Four residential categories allow for a variety of housing types representing the diverse residential character of Orange. The City will continue to preserve and enhance existing single-family residential neighborhoods. Older neighborhoods, characterized by higher densities, are located throughout the western part of the City. Lower density housing, typical of newer residential development, is located principally on the City’s eastern side.

Estate Low Density Residential

Density Range: 0-2.0 du/ac

The Estate Low Density Residential designation provides for single-family detached, estate-style homes on large lots, featuring a custom character of development. Estate Low Density Residential development is primarily found in Orange Park Acres and other similar parts of east Orange. Private, noncommercial equestrian and agricultural uses may be allowed if they are associated with the residential uses.





Low Density Residential

Density Range: 2.1-6.0 du/ac

The Low Density Residential designation provides for typical single-family residential neighborhoods. Low Density Residential uses make up the majority of land uses in Orange, and are found throughout the City in both older, established areas, such as Old Towne, and newer development areas, including east Orange.



Low Medium Density Residential

Density Range: 6.1-15.0 du/ac

The Low Medium Density Residential designation provides for both detached and attached single-family homes on smaller lots, as well as duplexes and some mobile homes, multi-family townhouses, condominiums, and apartments. Low Medium Density residential uses are typically found adjacent to commercial or mixed-use activity centers, such as near South Main Street, Tustin Avenue, or El Modena. Low Medium Density residential uses are also found within newer development areas, such as Serrano Heights.



Medium Density Residential

Density Range: 15.1-24.0 du/ac

The Medium Density Residential designation provides for multi-family townhouses, condominiums, and apartments featuring some form of internal open space in areas with good access to major circulation routes, business districts, and public open space areas. Medium Density residential uses are typically found adjacent to commercial districts, such as near Lincoln Avenue, Katella Avenue, or La Veta Avenue. Medium Density residential uses are also found near major transportation corridors,





such as the Santa Fe Depot or freeway interchanges along Chapman Avenue, Tustin Street, or Glassell Street.

Mixed-Use Activity Centers

In response to the Vision and recent development trends, the General Plan provides three designations for mixed-use activity centers. All of these designations promote creative mixes of commercial retail, office, housing, civic, and entertainment uses that vary in composition and intensity based upon location, accessibility, and the surrounding development context.

Old Towne Mixed-use

*Maximum Density: Old Towne Mixed Use Spoke: 15.0 du/ ac
 Old Towne Mixed Use 15: 15.0 du/ ac
 Old Towne Mixed Use 24: 24.0 du/ac*

*Intensity Range: Old Towne Mixed Use Spoke: 0.6 FAR
 Old Towne Mixed Use 15: 0.5-1.0 FAR
 Old Towne Mixed Use 24: 1.0-1.5 FAR*

The Old Towne mixed-use designations provide for integrated commercial retail, professional office, housing, and civic uses designed to be contextually appropriate within a historic area. These areas are intended to be local- and neighborhood-supporting activity centers and corridors. Commercial retail is encouraged to be the primary use on the ground floor. Professional office and housing uses are also encouraged, particularly as adaptive reuse opportunities within historic structures. Transit-orientation, walkability, and pedestrian access are key considerations, as well as protection of the existing historic, residential-scale, and building character of the Spoke Streets outside of the downtown core. The lower end of the FAR range supports retail development, while the higher end of the range supports a combination of uses including commercial and office. Uses within this area are additionally subject to provisions of the [Old Towne Design Standards](#), [Historic Preservation Design Standards for Old Towne](#) and [Santa Fe Depot Specific Plan](#), as applicable.



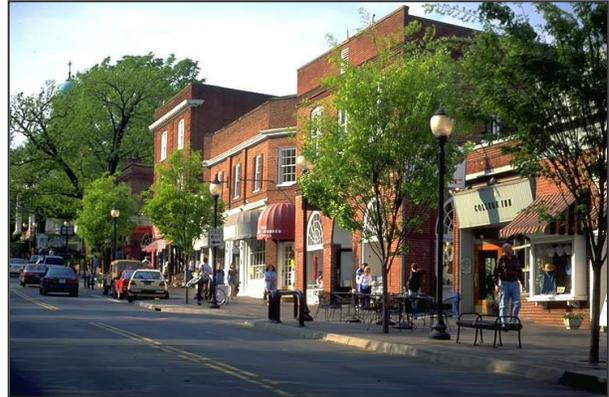


Neighborhood Mixed-use

Maximum Density: South Main Street: 24.0 du/ac

Intensity Range: 1.0-1.5 FAR

This land use designation provides for integrated commercial retail, professional office, housing, and civic uses along the South Main Street corridor. This area is intended to be a local- and neighborhood-supporting activity center and corridor. Commercial retail is encouraged to be the primary use on the ground floor. Professional office and housing uses are also encouraged, either integrated with a commercial use, or as separate, free-standing uses. Walkability and pedestrian access are key considerations. The lower end of the FAR range supports retail development, while the higher end of the range supports a combination of commercial and office uses.



Urban Mixed-use

Density Range: 30.0-60.0 du/ac

Intensity Range: 1.5-3.0 FAR

This designation provides for integrated commercial retail, professional office, housing, and civic uses along West Katella Avenue, Town and Country Road, and within Uptown Orange. These areas are intended to provide for urban, high-intensity, regionally-oriented activity centers that define the character of surrounding areas. Commercial retail is intended to be the primary use on the ground floor. Convenient transit access, innovative housing options, and pedestrian-oriented design are key considerations.



Commercial and Office Designations

The commercial and office categories consist of four designations that provide for a range of revenue- and employment-generating businesses.

General Commercial

Maximum Intensity: 1.0 FAR

The General Commercial designation provides for a wide range of retail and service commercial uses and professional offices. This designation is found along many of the City’s most highly-traveled roadway corridors, including Katella Avenue, Chapman





Avenue, and Tustin Street. Regional shopping centers, mid- and high-rise office projects, corridor shopping districts, and neighborhood corner stores are all permitted uses.

Recreation Commercial

Maximum Intensity: 0.35 FAR

Recreation commercial uses provide for the operation and development of resort or amusement oriented commercial and recreational uses. The designation refers to recreational uses of regional interest that will draw visitors from throughout the City, Orange County, and Southern California. The areas adjacent to the east and south sides of Irvine Lake in east Orange are proposed for this land use. Permitted uses include, but are not limited to, marinas, boat rental buildings, staging areas, conference centers, golf courses, clubhouses, hotels, resorts, restaurants, and other commercial sports facilities.



Neighborhood Office Professional

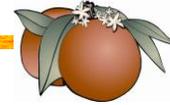
Maximum Intensity: 0.5 FAR

This land use designation provides for low-rise office and professional office park development in appropriate areas throughout the City, including portions of Chapman Avenue east of Old Towne and portions of the La Veta Avenue corridor. The principal use in this designation is intended to be professional offices; however, support retail and service commercial uses are permitted as necessary to serve adjacent professional office needs.

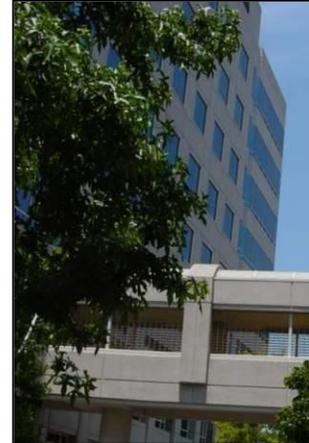


Urban Office Professional

Intensity Range: 1.5 – 3.0 FAR



The Urban Office Professional designation encourages urban, high-intensity, mid- and high-rise office centers located at the City’s edges, away from established single-family residential areas. Urban Office Professional uses are located primarily north of the SR-22 Freeway and south of La Veta Avenue, concentrated around the hospital node at the southern end of Main Street. Professional office is intended as the primary use. However, support retail and service commercial uses are also permitted as necessary to serve adjacent professional offices. Hospitals and supporting uses are also permitted.



Yorba North Commercial Overlay
Maximum Intensity: 1.0 FAR

The Yorba North Commercial Overlay designation applies to the Chapman ~~Hospital~~ **Global Medical Center (previously Chapman Hospital)** site. This designation allows for mixed uses compatible with a public facility or institutional use, such as a civic, college, or health care campus, including integrated retail, housing, office, and civic uses where a specific plan is approved for a public facility or institutional activity center. Innovative housing and pedestrian-oriented design are key considerations.

Yorba South Commercial Overlay
Maximum Intensity: 1.0 FAR

The Yorba South Commercial Overlay designation applies to the current Yorba Park site near Chapman ~~Hospital~~ **Global Medical Center**, SR-55, and Chapman Avenue. This designation provides for a wide range of potential retail and service commercial uses, in conjunction with on-site parkland improvements, off-site parkland, and/or park improvements. Commercial use may only be activated through a Development Agreement with the City that identifies specific parkland obligations.

Industrial Designations

Two industrial land use designations provide locations for offices, manufacturing, warehousing, and distribution uses within the City. The principal difference between the designations is the permitted maximum intensity of development allowed within each area. Permitted uses within industrial areas will continue to be primarily determined using the City’s Zoning Ordinance.

Light Industrial
Maximum Intensity: 1.0 FAR
Height Limit: 3 stories

The Light Industrial designation is intended for uses that are compatible with nearby commercial and residential districts and that do not produce substantial environmental



nuisances (noise, odor, dust, smoke, glare, etc.). This designation allows for manufacturing, processing, and distribution of goods. Light industrial uses are located primarily within areas west of Glassell Street and north of Walnut Avenue. Wholesale activities associated with industrial operations, as well as small-scale support retail, service commercial, and office uses may also be established in areas with ready access to major circulation routes. The maximum intensity permitted within the Light Industrial designation is 1.0 FAR, which is higher than that permitted within the Industrial designation. This distinction recognizes that ancillary office uses will be more prevalent in Light Industrial areas than within Industrial areas. A three-story height limit applies within the Light Industrial designation to maintain compatibility of scale with nearby commercial and residential districts.



Industrial
 Maximum Intensity: 0.75 FAR

Industrial uses include manufacturing and industrial activities that may lead to some environmental nuisances that would be incompatible with residential or commercial uses. Industrial uses are located primarily in areas west of Glassell Street and north of Walnut Avenue. This designation allows for manufacturing, processing, and distribution of goods. Wholesale activities associated with industrial operations, as well as small-scale support retail, service commercial, and office uses may also be established in areas with ready access to major circulation routes. The maximum intensity permitted within the Industrial designation is 0.75 FAR.



Public Facilities and Open Space

Five designations for public facilities and open space areas allow for important public and private facilities and institutions, including parks, open space areas, resource lands, civic facilities, hospitals, and educational institutions.

Public Facilities and Institutions
 Maximum Intensity: Civic uses, schools, and public facilities: 0.5 FAR
 Institutions: 2.0 FAR

The Public Facilities and Institutions designation provides for several types of public, quasi-public, and institutional land uses, including schools, colleges and universities, City and County government facilities, hospitals, and major utility easements and properties. This designation also includes service organizations and housing related to an institutional use, such as dormitories, employee housing,

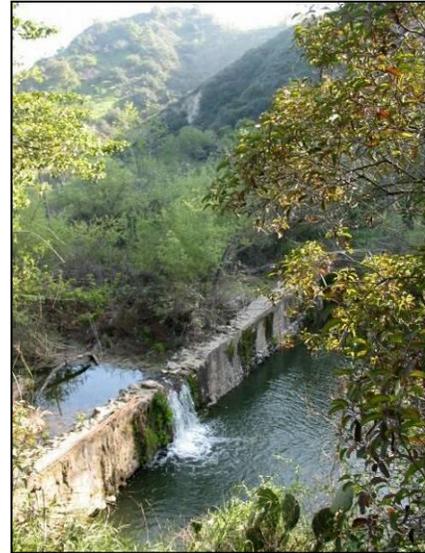




assisted living, convalescent homes, and skilled nursing facilities. The maximum permitted intensity for civic uses, schools, and public facilities is 0.5 FAR, whereas the maximum for institutions, such as universities and hospitals, is 2.0 FAR.

Open Space

The Open Space designation includes a substantial part of the eastern portion of Orange’s planning area. Much of this area includes steep hillsides or environmentally sensitive areas that should be preserved. Although these areas may be designated as permanent open space, it is not intended that they be developed as public parks. Lands within this designation include both privately held open space lands and public lands.



Open Space Park

The Open Space Park designation refers to public lands used for passive and active recreation. This includes all parklands owned and maintained by the City of Orange, as well as parks operated by the County.

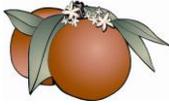


Open Space Ridgeline

The Open Space Ridgeline designation is designed to preserve visually significant ridgelines and steep hillsides. The City has adopted a hillside grading policy that prohibits development or grading on ridgelines with this designated land use.

Resource Area

The Resource Area designation provides for the continued use of areas for mining and agriculture. Passive and active recreational uses are also permitted in areas with this designation. Resource Areas also serve as a holding zone for areas that are currently used for mining and agriculture, but may not have these uses in the future.



Land Use Policy Map

The Land Use Policy Map (Figure LU-5) graphically represents the planned distribution and intensity of land use citywide. The colors shown on the map correspond to the land use designations described above.

General Plan Development Capacity

Table LU-2 identifies the development capacity associated with the planned distribution of land uses. Over time, as properties transition from one use to another or property owners rebuild, land uses and intensities will gradually shift to align with the intent of this Land Use Element. Table LU-2 summarizes the land use distribution, and the resultant residential and nonresidential levels of development that can be expected from full implementation of land use policies established by this General Plan. Given the largely built-out character of Orange and the good condition of most buildings, significant redevelopment activities may not occur over the life of this General Plan. However, within focus areas described in this Element, future land use changes are anticipated.

General Plan and Zoning Consistency

The Land Use Element is primarily implemented by the City's Zoning Code, which specifies districts and performance standards for various types of land uses described in the General Plan. Table LU-3 indicates the corresponding zone district that applies to each General Plan land use designation. The zone districts specify the permitted uses for each category as well as applicable development standards. Zone districts specified in Table LU-3 for Mixed-use General Plan designations are new districts, and will be developed as part of the Zoning Code update implementing the General Plan.

Specific Plans and Neighborhood Plans in Orange

A specific plan is a detailed plan for the development of a particular area. Specific plans are intended to provide finite specification of the types of uses to be permitted, development standards (setbacks, heights, landscape, architecture, etc.), and circulation and infrastructure improvements that are only broadly defined by the General Plan. Specific plans are often used to ensure that multiple property owners and developers adhere to a single common development plan. Specific plans are also used as a means of achieving superior design by providing flexibility in development standards beyond those contained in the Zoning Ordinance.

The City has used Specific Plans and Neighborhood Plans as tools to achieve the coordinated development of individual parcels. Specific Plans and Neighborhood Plans currently in effect include:

- Archstone Gateway
- Chapman University
- East Orange Plan (1975)
- Immanuel Lutheran Church
- Orange Park Acres

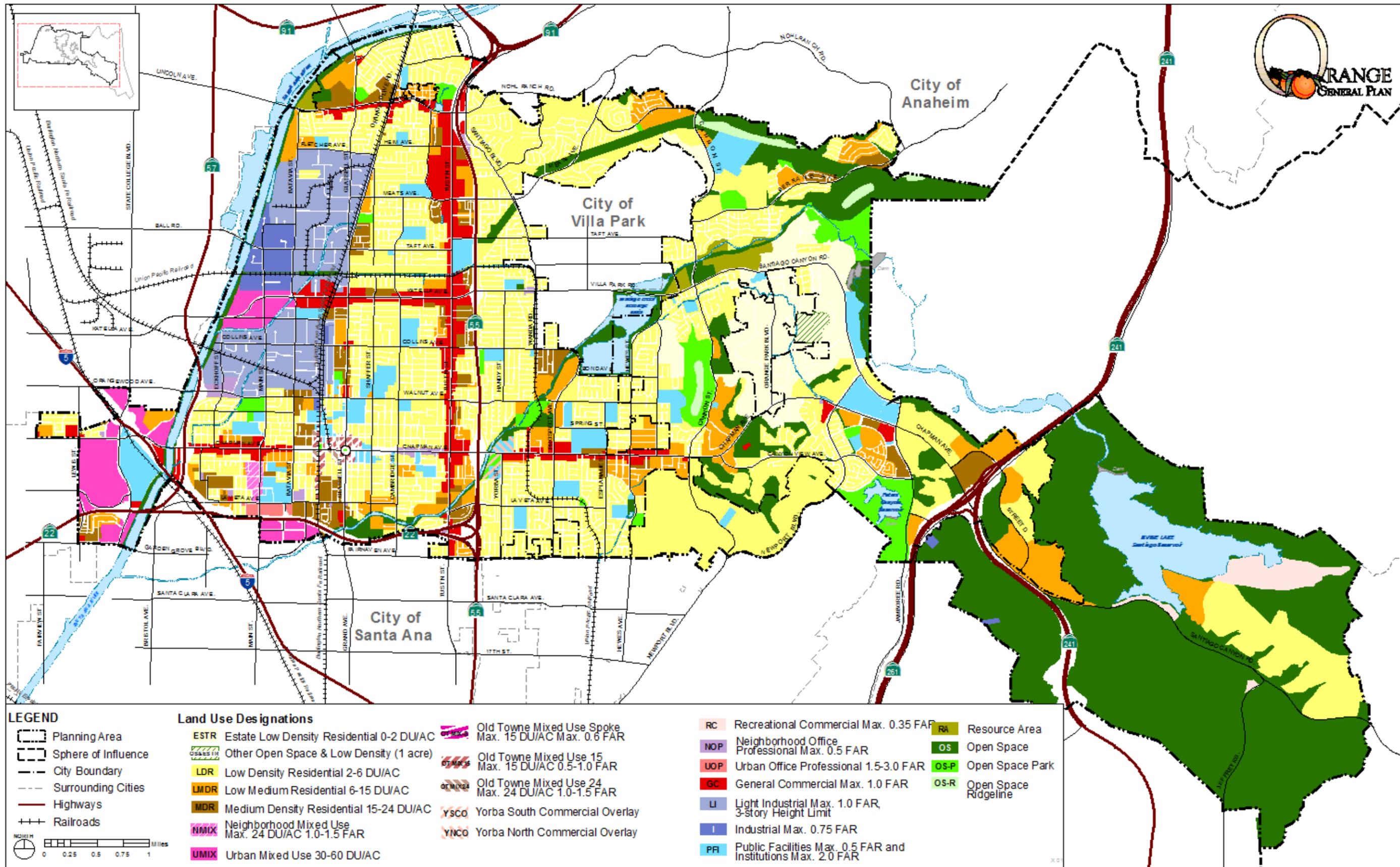


Figure LU-5 Land Use Policy Map



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**Table LU-2
General Plan Development Capacity**

Land Use Designation	Acres			Sphere of Influence	Dwelling Units			Non-Residential Square Feet (1,000s)			Population		
	Planning Area		Total		Planning Area		Total	Planning Area		Total	Planning Area		Total
	City	Unincorporated			City	Unincorporated		City	Unincorporated		City	Unincorporated	
Estate Low Density Residential	650	355	1,011	--	1,181	639	1,819	--	--	--	3,678	1,989	5,667
Low-Density Residential	5,599	814	6,413	--	27,994	4,069	32,063	--	--	--	87,203	12,674	99,877
Low-Medium Density Residential	1,298	54	1,356	--	10,414	435	10,849	--	--	--	32,439	1,357	33,796
Medium Density Residential	609	2	607	--	9,863	29	9,892	--	--	--	24,658	73	24,731
Old Towne Mixed Use													
Old Towne Mixed Use Spoke	30	--	31	--	123	--	123	403	--	403	308	--	308
Old Towne Mixed Use 15	49	1	50	--	274	5	280	640	13	652	685	17	702
Old Towne Mixed Use 24	11	--	11	--	130	--	130	224	--	224	326	--	326
Neighborhood Mixed Use	26	--	26	--	300	--	300	343	--	343	749	--	749
Urban Mixed Use	426	--	426	--	10,223	--	10,223	15,772	--	15,772	25,558	--	25,558
General Commercial	686	1	687	--	--	--	--	10,465	11	10,476	--	--	--
Recreational Commercial	218	--	218	--	--	--	--	1,659	--	1,659	--	--	--
Neighborhood Office Professional	58	--	58	--	--	--	--	897	--	897	--	--	--
Urban Office Professional	28	--	28	--	--	--	--	1,823	--	1,823	--	--	--
Light Industrial	936	--	936	--	--	--	--	20,381	--	20,381	--	--	--
Industrial	184	--	184	--	--	--	--	5,220	--	5,220	--	--	--
Public Facilities and Institutions													
Public and Civic Facilities	568	9	577	--	--	--	--	3,056	59	3,115	--	--	--
Institutions	332	--	325	--	--	--	--	9,035	--	9,035	--	--	--
Open Space	6,646	--	6,646	--	--	--	--	--	--	--	--	--	--
Open Space-Park	573	1	574	--	--	--	--	--	--	--	--	--	--
Open Space-Ridgeline	98	--	98	--	--	--	--	--	--	--	--	--	--
Resource Area	93	27	120	--	--	--	--	--	--	--	--	--	--
Streets and Rights of Way	3,268	312	3,579	--	--	--	--	--	--	--	--	--	--
Total	22,387	1,575	23,962	15,800	60,503	5,177	65,680	69,919	82	70,001	175,605	16,110	191,715

Note: Population estimates are based on average of 3.16 persons per single-family dwelling unit and 2.5 persons per multiple-family unit.



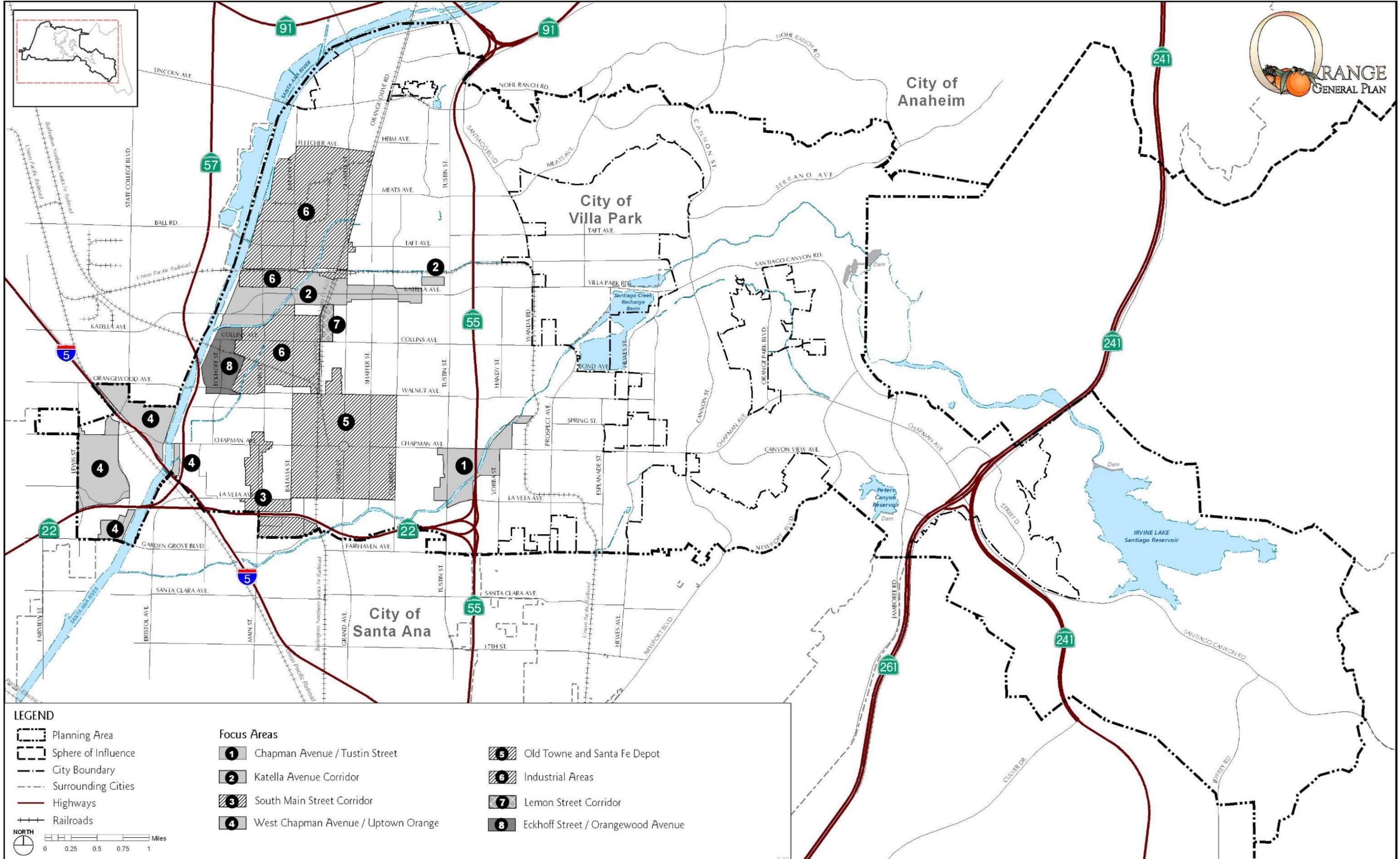
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LEGEND

- Planning Area
- Sphere of Influence
- City Boundary
- Surrounding Cities
- Highways
- Railroads

Focus Areas

- 1 Chapman Avenue / Tustin Street
- 2 Katella Avenue Corridor
- 3 South Main Street Corridor
- 4 West Chapman Avenue / Uptown Orange
- 5 Old Towne and Santa Fe Depot
- 6 Industrial Areas
- 7 Lemon Street Corridor
- 8 Eckhoff Street / Orangewood Avenue

Scale: 0 0.25 0.5 0.75 1 Miles

Figure LU-6 Land Use Focus Areas



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- Pinnacle at Uptown Orange
- St. John’s Lutheran Church
- Santa Fe Depot [Area](#)
- Serrano Heights
- Upper Peters Canyon
- [Santiago Hills II](#)
- [Orange Olive](#)

Each of these plans and any future specific plans adopted by the City must be consistent with the policies expressed in this Element. The City will continue to utilize specific plans to achieve development objectives consistent with the General Plan.

Land Use Focus Areas

Figure LU-6 identifies the following eight land use focus areas, which represent locations in the City where future land use change may occur.

- (1) Chapman Avenue/Tustin Street
- (2) Katella Avenue Corridor
- (3) South Main Street Corridor
- (4) West Chapman Avenue/Uptown Orange
- (5) Old Towne and Santa Fe Depot
- (6) Industrial Areas
- (7) Lemon Street Corridor
- (8) Eckhoff Street/Orangewood Avenue

Within portions of the City that do not lie within one of the identified focus areas, no significant land use changes are anticipated. For properties within the focus areas where uses established prior to adoption of this General Plan become non-conforming, the City recognizes these pre-existing conditions as legal. It is the City’s desire to allow these uses and the facilities in which they are located to continue until a change to the property is initiated by the property owner.

Each focus area has unique future development objectives, responding to priorities established in the Vision and input from the community. Providing additional community open space and facilitating use of transit and other alternative transportation modes are encouraged as a component of future development within many focus areas. Others focus areas maintain and enhance job growth, economic development, and affordable housing options within the City. For each area, the sections that follow provide a brief discussion of the recent planning context, a summary of each area’s market potential, and a description of the land use plan and future development objectives.

Chapman Avenue/Tustin Street

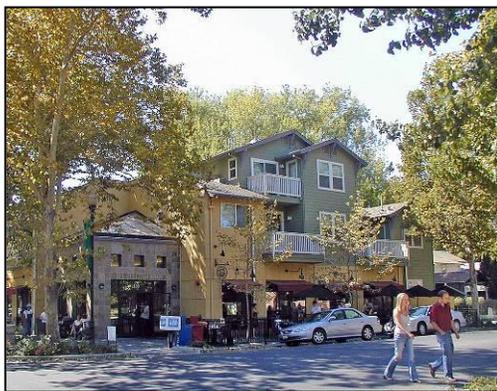
This focus area consists of residential, commercial, institutional, open space, and park uses surrounding the intersection of Chapman Avenue and Tustin Street. The focus area includes Chapman ~~Hospital~~ [Global Medical Center \(previously Chapman Hospital\)](#), Yorba Park, and Santiago Creek. SR-55 passes through this focus area in a north-south direction, with an interchange at Chapman Avenue. Key considerations within this area include the continued



viability of commercial and institutional uses at the intersection of Chapman Avenue and Tustin Street, potential for more productive use of properties on both sides of Tustin Avenue from Chapman Avenue to La Veta Avenue, maintaining public access to Santiago Creek throughout the focus area, and the future use of the Yorba Park site east of the SR-55. Although the Open Space–Park designation has not been changed on the Yorba Park site, the Yorba South Commercial Overlay has been applied to the park and the adjacent Orange Unified School District (OUSD) Education Center. The Yorba South Commercial Overlay designation provides for the future potential of the Yorba Park site to be used for commercial purposes that take advantage of its proximity to the SR-55 interchange. Any future commercial use of the Yorba Park site would require the City and potential developer to identify commensurate parkland and/or facilities per the terms of a Development Agreement.

This area is well-served by the SR-55 freeway, but is not a regional destination. Market studies completed for the General Plan update have concluded that this area is likely to develop as an office and professional service center. The Chapman [Hospital-Global Medical Center](#) site includes continued hospital and medical office use. This focus area ~~is located completely within the City’s Redevelopment Project Area, which~~ can allow for ongoing revitalization and/or intensification of existing commercial uses. The Yorba North Commercial Overlay has been applied to the Chapman [Hospital-Global Medical Center](#) site. This Overlay designation provides for mixed uses compatible with a public facility or institutional use subject to approval of a specific plan. The integration of housing, small-scale commercial uses and pedestrian-orientated features in this area desirable given its relationship to existing neighborhood-serving commercial uses, the Santiago Creek Trail corridor, and Grijalva Park.

The land use plan for this focus area is based upon the following future development objectives, which are consistent with citywide Land Use Element policies and the Vision:



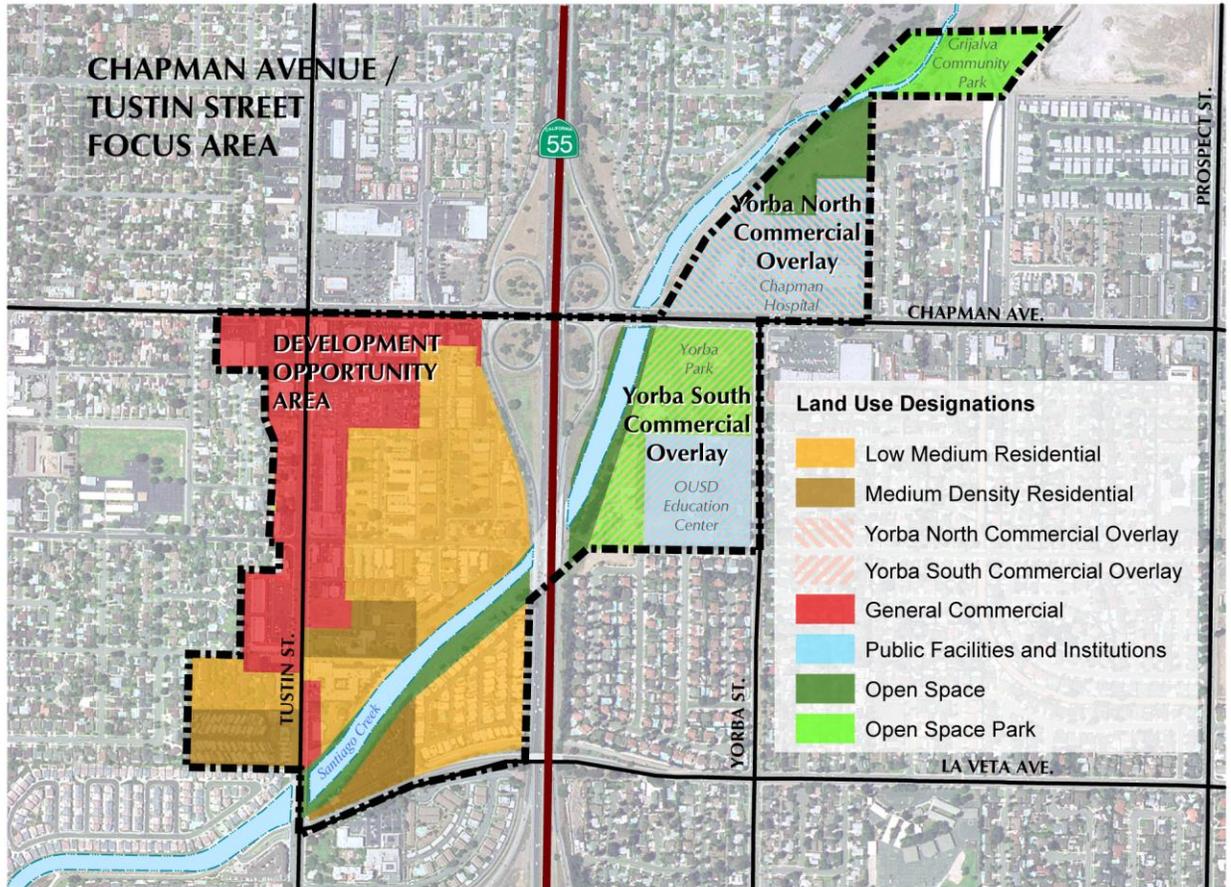
- Emphasize continued commercial and multiple-family residential designations west of SR-55.
- Promote viable open space recreation uses of Grijalva Park, and Santiago Creek.
- Allow potential future commercial uses on the Yorba Park and OUSD Education Center sites in conjunction with on- or off-site parkland improvements.
- Maintain hospital and medical office uses near Chapman [Hospital-Global Medical Center](#).

[Center.](#)

The plan maintains the Public Facilities and Institutions designation on the Chapman [Hospital-Global Medical Center](#) site east of SR-55, allowing continued hospital and medical office uses. Most ~~currently~~ commercial areas along Tustin Street are designated General Commercial to



provide for retail and service uses that support surrounding residential areas. Areas along Tustin Street approaching Santiago Creek are designated Low Medium and Medium Density Residential, allowing a combination of duplexes, mobile home parks, and apartments and condominiums. East of SR-55, an Open Space-Park designation is applied to Yorba Park and to Grijalva Park, located northeast of the Chapman Hospital-Global Medical Center site. An Open Space designation surrounds much of Santiago Creek throughout the focus area. An additional Open Space area is located between Grijalva Community Park and Chapman Hospital-Global Medical Center.



Katella Avenue Corridor



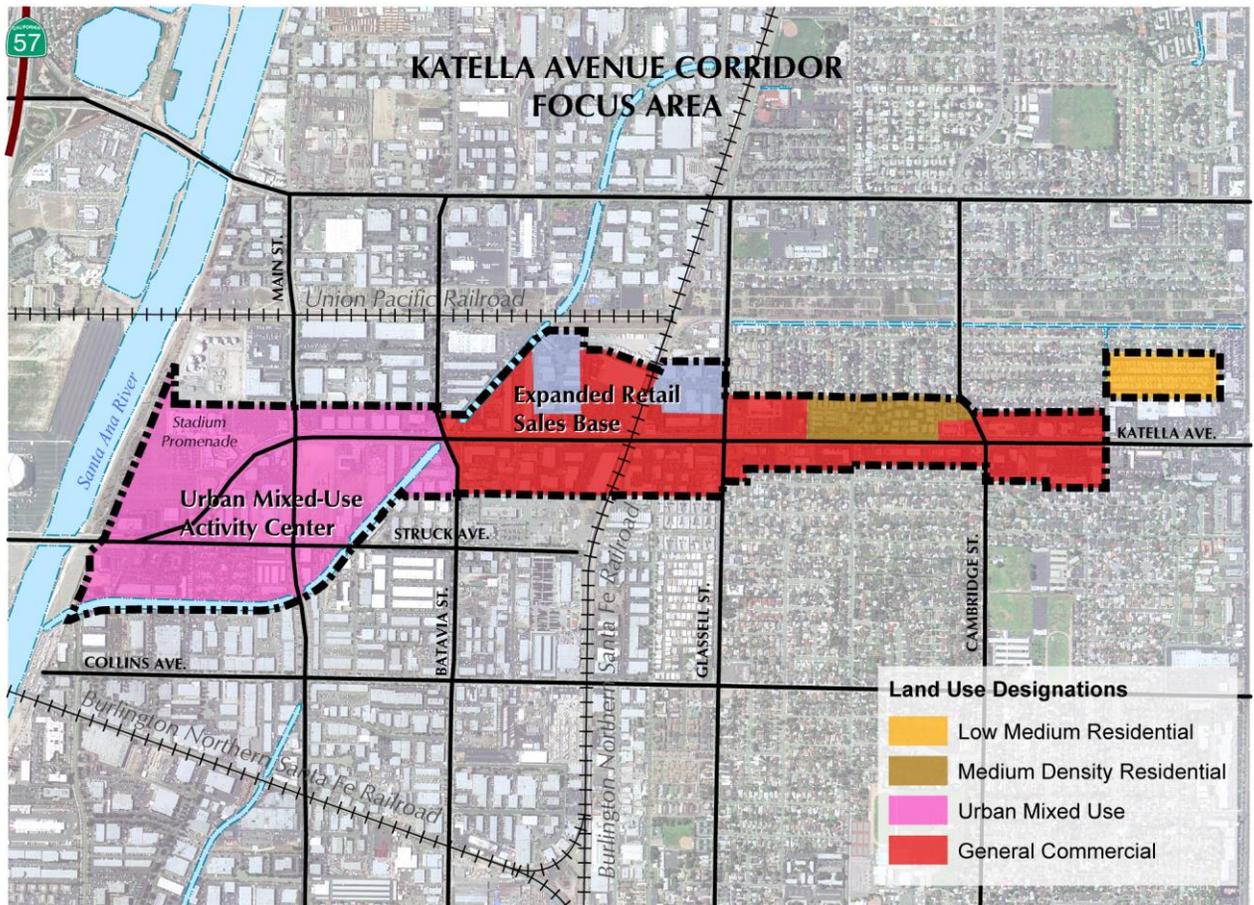
The Katella Avenue Corridor consists of properties located north and south of Katella Avenue between the Santa Ana River on the west and California Street on the east. The focus area also includes portions of Main Street between the Collins Channel and Katella Avenue, and portions of Struck Avenue between Katella Avenue and the Collins Channel. West Katella serves as a gateway into the City from Anaheim and interfaces with the highly active area surrounding The Pond-Honda Center and Angel Stadium, the Santa Ana River, and the Platinum Triangle. While the



West Katella corridor functions as a solid commercial district for the City, the westernmost portion of Katella Avenue has untapped potential due to its strategic location and underutilized properties.

~~This western portion of this focus area is located within the City's Redevelopment Project Area.~~ The Katella Avenue Corridor includes a good variety of both retail and small office uses. Its location at the midpoint of the City's industrial area provides service and support functions for these uses. The current Stadium Promenade site could maximize development potential to include mixed housing and retail uses that complement the current uses on the site.

Market studies completed for the General Plan update concluded that the western-most portion of this focus area could support mixed-use development, including housing at high densities. By employing this land use strategy, the City could encourage design of a signature development project on West Katella Avenue, serving as a gateway from the Platinum Triangle in Anaheim into the City of Orange.



The land use plan for this focus area is based upon the following future development objectives, which are consistent with citywide Land Use Element policies and the Vision statement:



- Establish an active, vibrant urban mixed-use residential gateway to the City featuring high-density residential uses.
- Capitalize on development of expanded entertainment uses and housing across the Santa Ana River in Anaheim.
- Enhance retail options and convenience throughout west Orange.

The land use plan features an Urban Mixed-use designation within the portion of the area between the Santa Ana River and Batavia Street, General Commercial and Industrial between Batavia Street and Glassell Street, and General Commercial and Medium Density Residential uses between Glassell Street and California Street. The Urban Mixed-use area is intended to be a regionally-oriented activity center, characterized by mid- to high-rise structures with uses that could include housing (30.0 to 60.0 du/ac), commercial retail uses, restaurants, offices, and civic uses. The General Commercial designation recognizes the contributions of the Katella Avenue corridor to the City’s overall retail sales base, and encourages some expansion and intensification of these uses, up to a maximum FAR of 1.0. Additionally, public input regarding this area emphasizes the need to incorporate youth and teen activities within the uses; to improve the appearance of Katella Avenue in the context of new development, conveying the identity of a grand boulevard; and to gradually phase out strip commercial uses along certain segments of the corridor. The Neighborhood Mixed-use designation allows local- and neighborhood-supporting mixed-use activity centers and corridors, which could include housing (at up to 15.0 du/ac). This designation maintains the commercial nature of the corridor with housing uses that help to transition into adjacent Low Density Residential designations.



The Neighborhood Mixed-use designation allows local- and neighborhood-supporting mixed-use activity centers and corridors, which could include housing (at up to 15.0 du/ac). This designation maintains the commercial nature of the corridor with housing uses that help to transition into adjacent Low Density Residential designations.

South Main Street Corridor

The South Main Street Corridor includes the Children’s Hospital of Orange County (CHOC) and St. Joseph Hospital medical centers on La Veta Avenue, as well as various commercial and office uses on Main Street between La Veta Avenue and Chapman Avenue. Multiple-family residential apartments located west of Main Street and south of Chapman Avenue form a buffer between the Main Street corridor and single-family neighborhoods to the west. The South Main Street corridor also includes areas south of SR-22 along Town and Country Road, characterized by mid-rise office, senior housing, and commercial retail



Multiple-family residential apartments located west of Main Street and south of Chapman Avenue form a buffer between the Main Street corridor and single-family neighborhoods to the west. The South Main Street corridor also includes areas south of SR-22 along Town and Country Road, characterized by mid-rise office, senior housing, and commercial retail

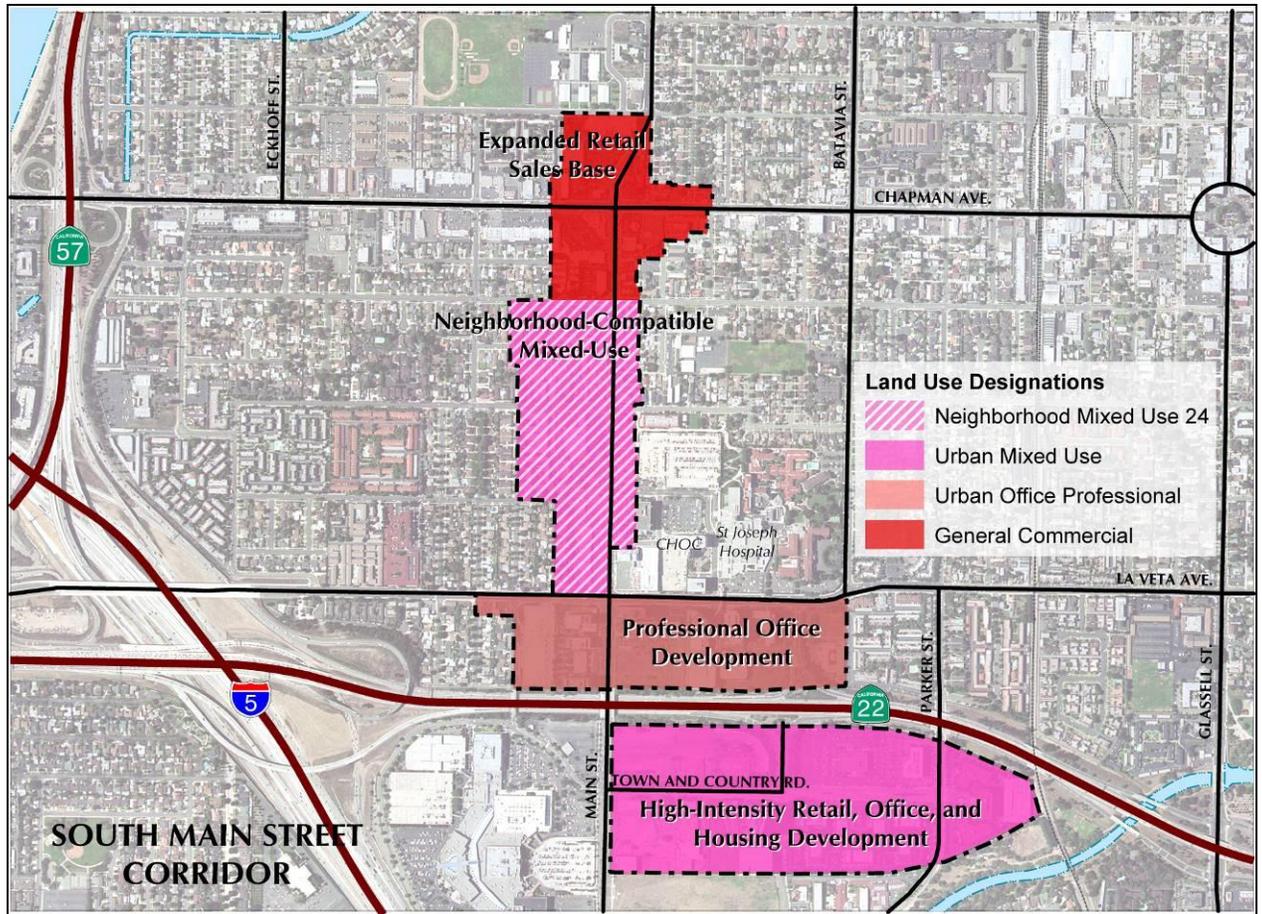
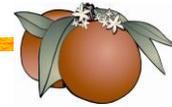


uses.

~~Most of this focus area is located within the City's Redevelopment Project Area.~~ South Main Street serves as a key approach to the major medical hub created by CHOC and St. Joseph Hospital medical centers. These medical facilities have generated a spin-off demand for medical office space and other complementary uses that existing land use policies and parcel sizes do not easily accommodate. In recent years, new medical office buildings have been constructed on redeveloped sites, but many commercial properties remain that are incompatible with desired medical uses. The corridor also abuts established single- and multi-family neighborhoods, making expansion and intensification a challenge. Market studies completed for the General Plan update concluded that this area has good potential to provide for relatively high density housing and mixed-use development that supports current and future medical facilities in the area, while the Town and Country shopping center and Main Place regional mall in Santa Ana continue to provide nearby retail amenities.

The land use plan for this focus area is based upon the following future development objective, which is consistent with citywide Land Use Element policies and the Community Vision:

- Encourage compatible and integrated residential, commercial, and office uses.
- Promote development of a medical corridor that capitalizes on existing hospital and medical uses.



The plan encourages mid- to high-rise office, medical, housing, and retail uses south of La Veta Avenue. It applies the Urban Mixed-use and Urban Office Professional designations to properties along La Veta Avenue, Town and Country Road, and Parker Street. Urban Mixed-use areas south of SR-22 are intended to provide for integrated commercial retail, professional office, housing, and civic uses. Commercial retail uses are intended to be the

primary use on the ground floor within these areas. Urban Office Professional areas north of SR-22 are intended to provide for urban, high-intensity, mid- and high-rise office centers. Professional office is intended as the primary use. Both designations allow for a maximum allowable intensity of 3.0 FAR within this area. A limited number of high-rise office and residential projects may also be permitted within this focus area through the use of transferable development rights.

The plan also features Neighborhood Mixed-use designations for portions of Main Street south of Almond Avenue. This designation encourages compatible and integrated residential, commercial, office, and medical uses, either as multiple-story projects with ground-floor retail, or as stand-alone projects with pedestrian connections to the arterial corridors.



Neighborhood-scale mixed-use at this location is intended to support the ongoing transformation of south Main Street into a medical corridor in a manner sensitive to surrounding single-family residential areas. On south Main Street, Neighborhood Mixed-use areas are permitted at a maximum density of 24.0 du/ac, and a maximum FAR of 1.5. In the Town and Country Road area south of SR-22, high intensity retail, office and housing development is encouraged within the Urban Mixed-use designation, which allows a maximum density of 60.0 du/ac, and a maximum FAR of 3.0. The General Commercial designation present at the intersection of Main Street and Chapman Avenue allows for a maximum development intensity of 1.0 FAR, to enable more productive use of retail properties near the intersection.

West Chapman Avenue/Uptown Orange

The West Chapman/Uptown Orange focus area consists of mostly commercial and industrial properties located west of SR-57, as well as commercial areas located along Anita Drive, just east of the Santa Ana River. In recent years, the City has experienced a high level of interest in sites available for redevelopment in Uptown Orange (generally bounded by SR-57 and State College Boulevard). Large multi-family developments have recently been constructed and property owners and developers remain interested in increased office, retail, and housing opportunities. Factors influencing redevelopment interest in this area include expansion of the University of California Irvine (UCI) Medical Center, freeway accessibility, improvements at The [Block-Outlets](#) at Orange, County government facilities located in the area, and the City of Anaheim’s Platinum Triangle Plan.

Uptown Orange is the most urban of the eight focus areas. It adjoins Anaheim, Garden Grove, and Santa Ana, where substantial higher-density development is already underway. Uptown is well-served by freeways and contains a mix of major destination uses, including shopping, entertainment, offices, hotels, and a hospital. As a regional mixed-use node, Uptown should accommodate additional development intensity, including high-density multifamily residential development.

Market studies completed for the General Plan update concluded that Uptown Orange has the potential to complement similar residential/mixed-use development in surrounding cities. Existing and proposed retail/entertainment facilities at [The Blockthe Outlets at Orange](#) provide the atmosphere to create a live, work, and play destination once higher-density residential units are introduced. This mixed-use development strategy and increased residential densities will require improved transit access. Additionally, the presence of the Santa Ana River and associated regional bike trail along the eastern edge of the focus area provides great opportunity to improve the community’s access to and relationship with the river, and to integrate access to and views of the river corridor in the design of mixed-use projects.

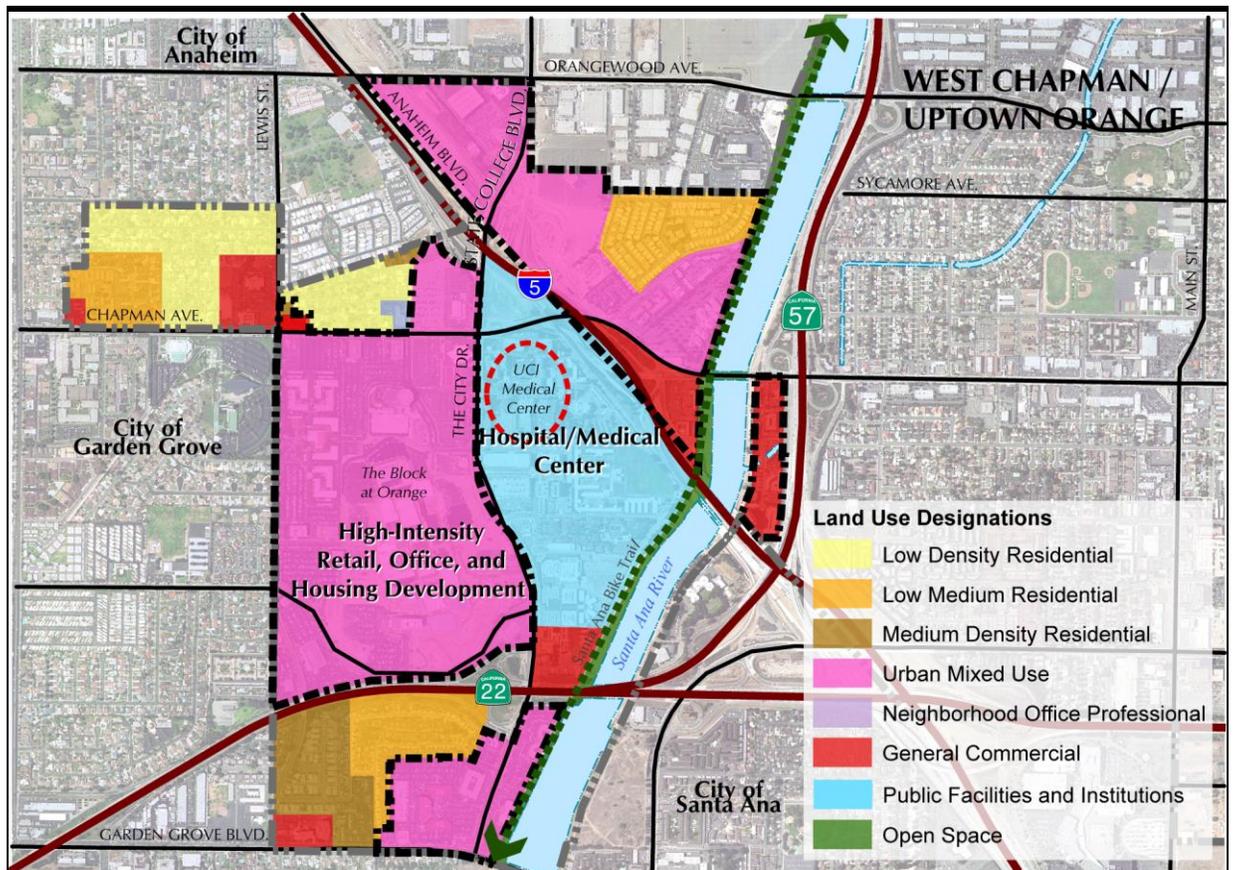


The land use plan for this focus area is based upon the following future development objectives, which are consistent with citywide Land Use Element policies and the Vision Statement:



- Encourage integrated commercial retail, professional office, housing, and civic uses.
- Provide convenient transit access, innovative housing options, and pedestrian-oriented design.
- Require new development projects to provide community open space areas and retain or improve access to the Santa Ana River Trail.

The plan features an Urban Mixed-use designation for most of the focus area, which provides for integrated commercial retail, professional office, housing and civic uses. Convenient transit access, innovative housing options, and pedestrian-oriented design will be encouraged. High intensity retail, office and housing development is encouraged within the Urban Mixed-use designation, which allows a maximum density of 60.0 du/ac, and a maximum FAR of 3.0. A limited number of high-rise office and residential projects that exceed the maximum density or intensity may also be permitted within this focus area through the use of transferable development rights. New development projects in this area will be required to demonstrate provision of community open space areas, and, for projects adjacent to the Santa Ana River, to provide access to the River Trail when possible.





Old Towne and Santa Fe Depot



The Old Towne and Santa Fe Depot focus area is generally bounded



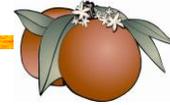
by Walnut Avenue to the north, La Veta Avenue to the south, Cambridge Street to the east, and Batavia Street to the west. Uses within Old Towne consist of a variety of commercial retail, service, restaurant, and office uses lining the Chapman Avenue and Glassell Street corridors; Hart, Plaza, and Depot Parks; industrial and warehouse buildings lining the Burlington Northern/Santa Fe (BNSF) Railway west of Glassell Street; several churches; Orange City Hall; the Orange Public Library & History Center; the Senior Center; much of the Chapman University campus; and numerous single-family and multiple-family residential units at varying densities.

Over the past several years, the City has taken steps to enable long-term preservation of historic properties in Old Towne, and in the process, has created one of California’s most intact and recognized historic districts. Today, strong interest exists among segments of the community to reduce overall residential densities in the Old Towne residential quadrants, and to make the areas surrounding the Santa Fe Depot more pedestrian friendly and transit-oriented.

The Santa Fe Depot and associated Metrolink station and [OCTA-Orange Transportation Center](#) provide commuting options to people living and working in Orange. Opportunities for land use changes in this area arise because of its proximity to The Plaza and Chapman University, and due to the presence of Depot Park, under-utilized industrial properties, and surface parking lots. Land use changes could better integrate this area with its surroundings and could lead to more transit-oriented housing and creative re-use of historic industrial and commercial buildings.

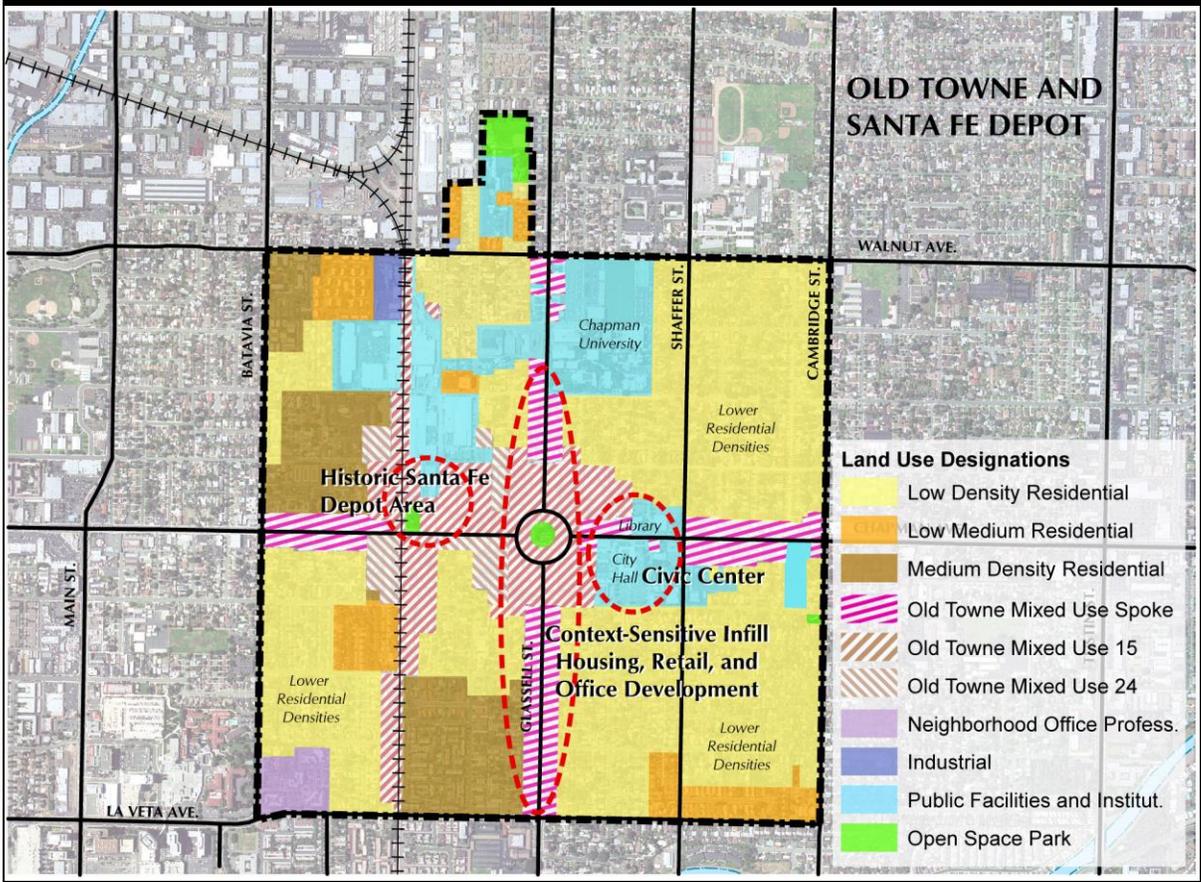
Old Towne is the heart of the City, and the General Plan seeks to protect the small-scale fabric of the area, as well as the existing predominantly single-family neighborhoods that surround the Plaza. Residents in this “small town” district enjoy proximity to key quality-of-life amenities, such as restaurants, shopping, commuter rail services, and other public facilities. The area provides amenities that are compatible with and supportive of new mixed-use development, which may include small-scale office development, additional storefront retail, and new housing. Market studies completed for the General Plan update concluded that mixed-use designations in this area are more likely to build out as residential use than as non-residential use. Residential uses will in turn drive support for additional non-residential development.

The land use plan for this focus area is based upon the following future development objectives, which are consistent with citywide Land Use Element policies and the Vision statement:



- Reduce residential densities in many Old Towne neighborhoods.
- 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 re-use of existing industrial areas and the creation of transit-oriented developments around the historic Santa Fe Depot.
- Maintain and enhance Old Towne’s walkability.
- Provide for continued use and enhancement of the Civic Center.

The plan features lower residential densities within the northeast, southwest and southeast quadrants of Old Towne, and introduces mixed-use within the historically industrial areas adjacent to the BNSF railroad. Low Density (maximum 6.0 du/ac) residential designations are applied to most current residential areas located east of Glassell Street. West of Glassell Street, a combination of Low, Low Medium, and Medium Density Residential designations are found, consistent with current development patterns. The intent of these designations is to ensure that infill development within Old Towne over time is consistent with the style, density, character, and intensity of the historic residential neighborhood character.



Two Old Towne Mixed-use designations with a maximum density of 15.0 du/ac surround the Plaza and line much of Chapman Avenue, Glassell Street, and the BNSF railroad corridor. One



of these is designed with a lower floor area ratio to maintain the historic residential character associated with the Spoke Streets. A higher-density Old Towne Mixed Use designation that allows up to 24.0 du/ac generally occurs along Olive Street, north and south of Chapman Avenue, and around Pixley Street. The higher-density designation supports future plans for transit-oriented development near the Metrolink station outlined within the *Santa Fe Depot Specific Plan*. The Old Towne Mixed Use designations encourage and support development



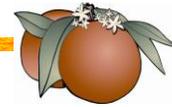
up to the property lines in the downtown core and Santa Fe Depot Specific Plan area in order to maintain the historic streetscape and building pattern that characterizes these portions of the Old Towne area. Ground floor retail uses are encouraged for most infill development projects, which could be supported by residential or office uses on subsequent stories. Stand alone commercial, residential, or office projects may also be appropriate, provided they do not interrupt the historic streetscape. The Old Towne Mixed-use designations also encourage the adaptive re-use of the existing industrial areas, and support improved walkability within the area.

Chapman University and the Orange Civic Center are contained within the Public Facilities and Institutions designation. The civic center includes City Hall, the Orange Public Library & History Center, the Chamber of Commerce, Fire Department Station 1, St. John’s Lutheran School, Emanuel Lutheran School, the Women’s Club, and the Ainsworth House.

Industrial Areas

This focus area generally consists of properties located north of Orangewood Avenue/Walnut Avenue and west of the BNSF Railway. Portions of the area, including the Katella Avenue Corridor and the Orangewood/Eckhoff area, are also addressed in more detail in other focus areas. Orange’s industrial area is characterized by a broad mix of business park, office, manufacturing, warehousing and commercial uses. A limited number of single-family homes are located in the industrial area, mostly concentrated along Cully Drive.

~~The entirety of this focus area is located within the City’s Redevelopment Project Area.~~ Over time, market forces may create demand for more office space or for more intense business park or warehouse uses than currently exist. Considering ways to increase the intensity of uses throughout the City’s industrial areas will encourage more productive use of limited land resources. Care must also be exercised to ensure adequate buffering between higher intensity industrial uses and surrounding residential areas to the north and east. Market studies completed for the General Plan update concluded that demand for industrial and office use in this area is strong, particularly among those who want to own their buildings.

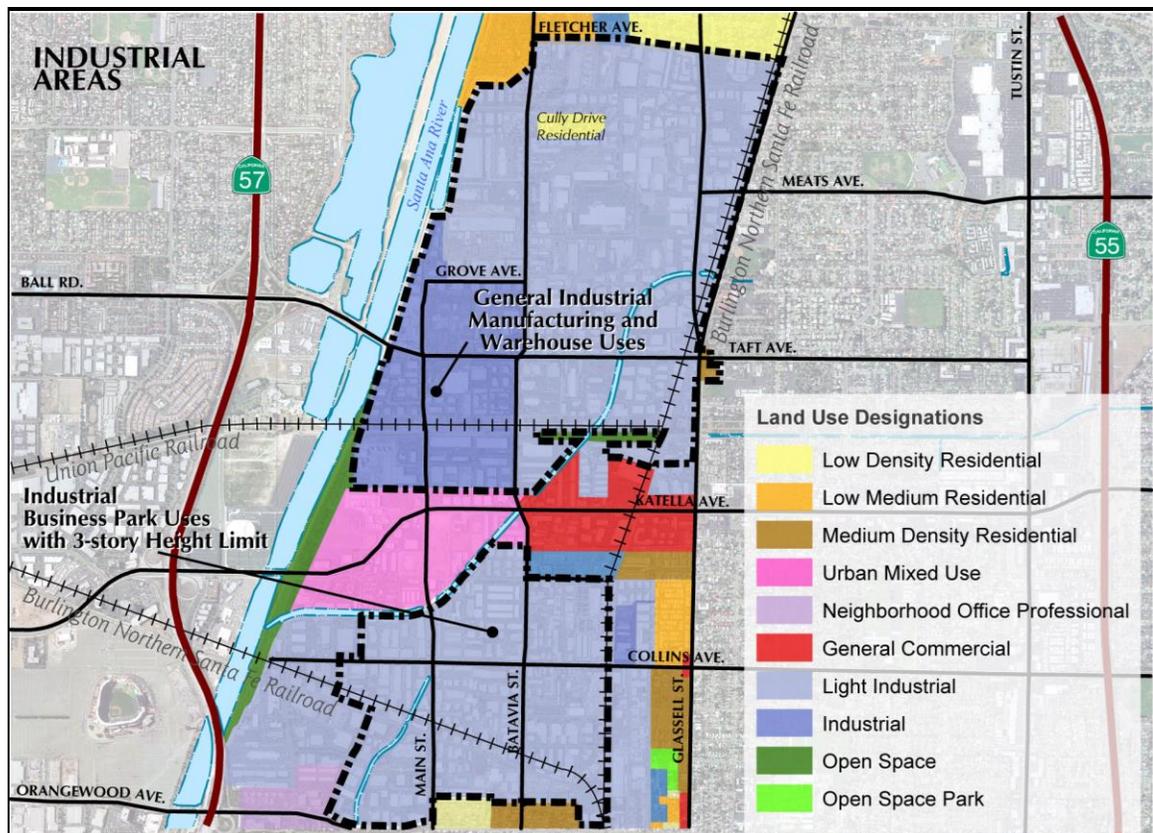


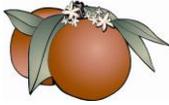
Therefore, the City seeks to preserve the primary industrial land use found in this area and to encourage intensification and/or redevelopment of underutilized parcels.

The land use plan for this focus area is based on the following future development objectives, which are consistent with citywide Land Use Element policies and the Vision statement:

- Decrease the maximum allowed intensity within areas located west of Batavia Street and generally south of Grove Avenue to discourage professional office uses within this area in favor of true industrial uses.
- Provide room for expansion of current businesses and infill of vacant properties in remaining portions of this area by increasing the maximum allowed development intensity.
- Preserve the single-family residential character of the Cully Drive neighborhood.

The plan features Industrial land use designations west of Batavia Street and generally south of Grove Avenue. At these locations, the maximum allowed intensity is 0.75 FAR. The remaining portions of the industrial area are designated Light Industrial. In these areas, the maximum allowed intensity is 1.0 FAR with a three-story height limit to ensure a sensitive interface with nearby residential areas. These changes provide capacity for current businesses to expand, and enable more intensive uses to provide infill of currently vacant properties.





Properties on the east side of the Taft Avenue/Orange-Olive Road intersection are designated Medium Density Residential (permitting up to 24.0 du/ac). Additionally, to protect the integrity and character of the Cully Drive neighborhood, currently residential lots located on Cully Drive, east of Batavia Street, are designated for Low Density Residential use, permitting up to 6.0 du/ac.

Lemon Street Corridor

The Lemon Street corridor is bounded by Lemon Street on the east, the BNSF Railway on the west, Hoover Avenue on the north, and Collins Avenue on the south. The corridor includes predominately industrial and office uses and vacant lots. This corridor represents an opportunity to redefine and improve the industrial interface with single- and multi-family residential uses to the east.



Market studies completed for the General Plan update indicate that developers have shown interest in providing residential uses within the Lemon Street corridor. ~~This focus area is located in the City's Redevelopment Project Area, and it~~ is likely that the ~~Redevelopment~~

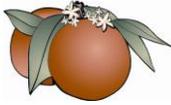


~~Agency will need to provide financial and lot assembly would be needed assistance~~ in order to successfully transition this area to desirable residential development.

The land use plan for this focus area is based upon the following future development objective, which is consistent with citywide Land Use Element policies and the Vision statement:

- Establish a corridor of well-insulated, higher density residential uses, gradually transitioning, from west to east, into a single-family residential area.

The plan features a Medium Density Residential designation to the north of the focus area, allowing a maximum density of 24.0 du/ac and industrial in the southern two-thirds of the area. Future development in this area should also incorporate accessible open spaces for residents and workers and take advantage of opportunities for future trails parallel to the railroad tracks.



Eckhoff Street/Orangewood Avenue

This focus area encompasses the area generally east of the Santa Ana River, north of Orangewood Avenue, west of Bitterbush Channel, and south of Collins Channel. The focus area largely consists of professional offices, commercial uses, warehouses, and distribution centers. It has historically been planned and zoned for industrial use; however, over the years, properties have been allowed to develop as offices, and areas adjacent to the offices have been allowed to develop as industrial parks.

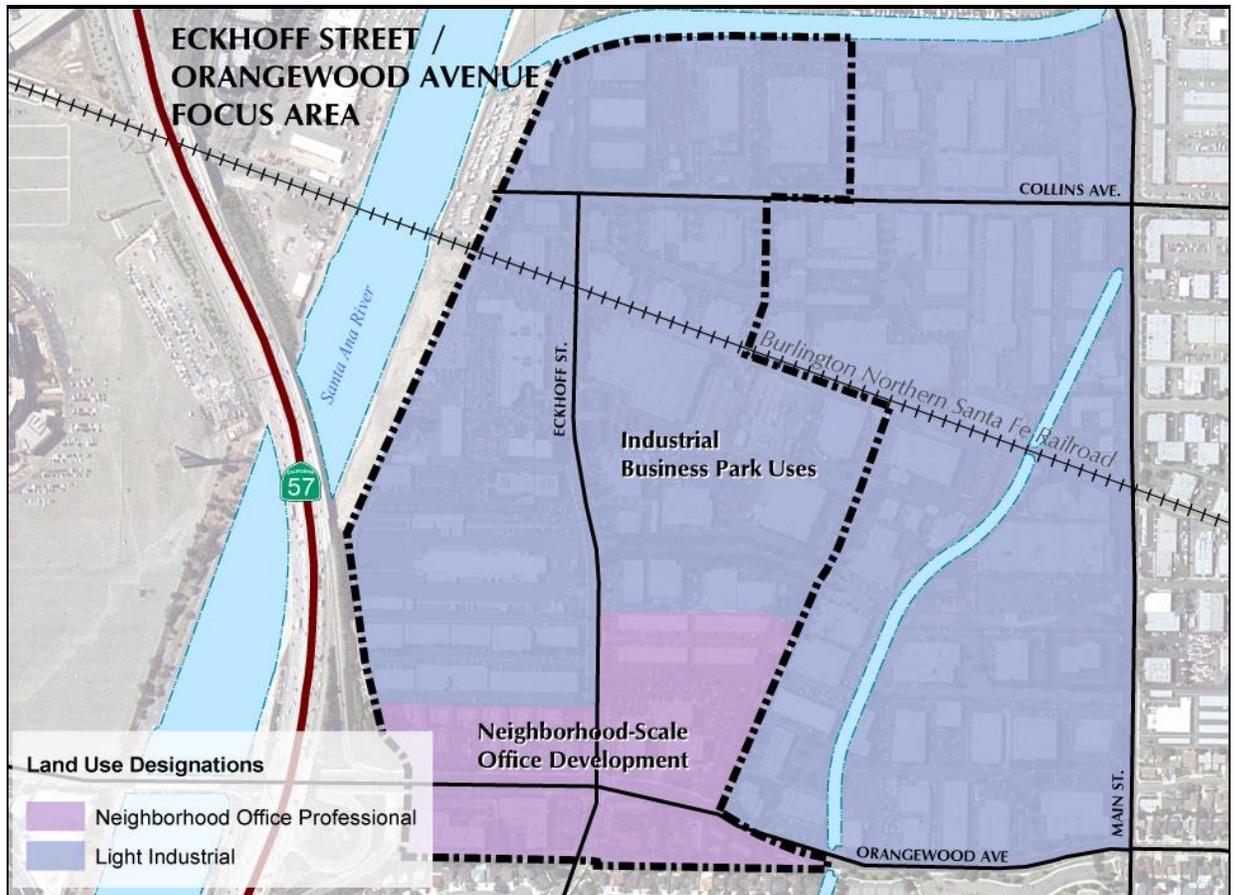
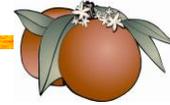
~~This focus area is located within the City's Redevelopment Project Area.~~ As in the City's industrial area as a whole, demand for industrial and office use in the Eckhoff Street/Orangewood Avenue area has been strong, particularly among those who want to own their buildings. The City seeks to encourage intensification and/or redevelopment of underutilized parcels.

The land use plan for this focus area is based on the following objectives for future development, which are consistent with citywide Land Use Element policies and the Community Vision:

- Recognize the potential of areas north of Orangewood Avenue to continue to provide options for lower-scale office uses and business-park oriented light industrial uses, as well as warehouse and distribution uses.
- Expand current neighborhood-scale office activities along Orangewood Avenue.

The plan supports an expansion of current neighborhood office uses along Orangewood Avenue and north of the Eckhoff Street intersection. All areas designated Light Industrial have a maximum allowable building intensity of 1.0 FAR and a 3-story height limit. Properties designated for Neighborhood Office Professional use have a maximum allowable building intensity of 0.5 FAR.

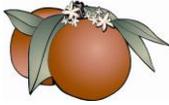




Land Use Diversity and Balanced Development

A well-balanced community provides a broad range of housing and business opportunities as well as recreational, institutional, and cultural activities that enhance the overall living environment. By encouraging a mix of land uses, the City can create an active and diverse environment that complements all lifestyles and supports neighborhoods. A balanced inventory of land uses is needed to meet the housing needs of all income groups and lifestyles, to create a stable employment and tax base, to maintain logical relationships between land uses and community assets, and to provide residents with a range of recreational opportunities. Maintaining a variety of complementary land uses will continue to be a high priority for the City.

A key challenge that the City will face when reviewing future development is that newer areas of Orange (mostly located in the eastern portion of the City) and long-established areas of the City (mostly located in the western portion) have very different development and community service needs. Priorities in the City's western area tend to be more established, focusing on reinvention of older commercial and industrial areas and on new opportunities to provide open space as part of infill development. This contrasts with priorities for east Orange, which is characterized by more recent suburban residential development. Here, providing adequate levels of roadway, utility infrastructure, and community services that are in step with new development and do not degrade service levels in other parts of the City is a key priority.



Mixed-use Development

As this Element has discussed, mixed-use refers to the mixing of compatible uses such as residential, commercial, and office, which increases the diversity of land uses within a given area. Mixed-use developments create vital urban areas that accommodate residents, employment, retail, and amenities within walking distance. Mixed-use will also activate neighborhoods throughout the day, unlike single-use office districts, for instance, that are often deserted at night. Mixed-use buildings are often vertically mixed, with commercial space on the first floor and residential or office space above. Horizontal mixed-use is also desirable at some locations, allowing commercial to be adjacent to an office or residential use.



The Land Use Policy Map identifies multiple types of mixed-use within the City. All of the mixed-use designations encourage a creative blend of commercial retail, office, housing, civic, and entertainment uses that may vary in composition and intensity based upon location, accessibility, and the surrounding development context. Figure LU-7 identifies potential configurations of mixed-use, in both plan and elevation, which may be found in Orange pursuant to the policies outlined in this Element. As shown in the figure, the style and intensity of mixed-use in Orange varies by location. For example, in areas designated for Urban Mixed-use, vertical mixed-use is encouraged, and mid-to-high rise buildings reaching upwards of 10 or more stories may be allowed. By contrast, in Neighborhood and Old Towne Mixed-use areas, either horizontal or vertical mixed-use is encouraged. Buildings tend not to exceed three stories, and they are designed to blend in with their surroundings. The City encourages this diversity of mixed-use development as a way of establishing vibrant activity centers, providing diverse housing opportunities, and encouraging walkable districts with convenient access to goods and services.

Transfer of Development Rights for Residential Development or Open Space

The City seeks to promote flexibility in future development of urban mixed-use environments, to encourage and support historic preservation within Old Towne, and to encourage expansion of open space opportunities in neighborhood scale mixed-use areas. Transfers of development rights are encouraged for these four future development conditions, which are summarized in Table LU-4 and discussed below.

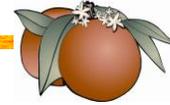


Table LU-4 Transfer of Development Rights Conditions				
Purpose	Site Characteristics		Maximum Transferable Unused FAR (Receiver Site)	Other Requirements
	Receiver Site Land Use Designation(s)	Donor Site Land Use Designation(s)		
Provide for increased levels of residential use at appropriate sites.	Urban Mixed-use	Urban Mixed-use	0.25 FAR	Development Agreement
Encourage development of well-designed high rise development consisting of buildings 10 stories or higher at identified locations.	Urban Mixed-use	Urban Mixed-use	1.0 FAR	Development Agreement 20 percent of receiver site must be developed as permanent improved open space
Expand and preserve open space in Neighborhood mixed-use environments	Neighborhood Mixed-use	Neighborhood Mixed-use	Variable (determined by Development Agreement)	Development Agreement
		Old Towne Mixed-use		
Encourage and support historic preservation in Old Towne mixed-use environments.	Old Towne Mixed-use	Old Towne Mixed-use	Variable (determined by Development Agreement)	Development Agreement
	Neighborhood Mixed-use			

For properties within the Urban Mixed-use designation, (see Figure LU-8) allowable land uses include residential (at 30.0 to 60.0 du/ac) or commercial retail or office, or any combination of those uses that does not exceed a maximum FAR of 3.0. For properties with proposed commercial retail and/or office development that do not exceed the maximum FAR, any unused FAR on that donor site, up to a maximum 0.25 FAR of an identified receiver site, may be transferred to other Urban Mixed-use designated properties for the purpose of developing additional residential units on the property that receives the unused FAR. This approach to development is known as a transfer of development rights (TDR) and must be completed under a development agreement in accordance with City ordinances. This TDR technique is allowed in addition to density bonus provisions of State law (section 65915 of the California Government Code). Transfers of development rights from a donor site under this strategy may be limited to one receiver site, or may involve multiple receiver sites.

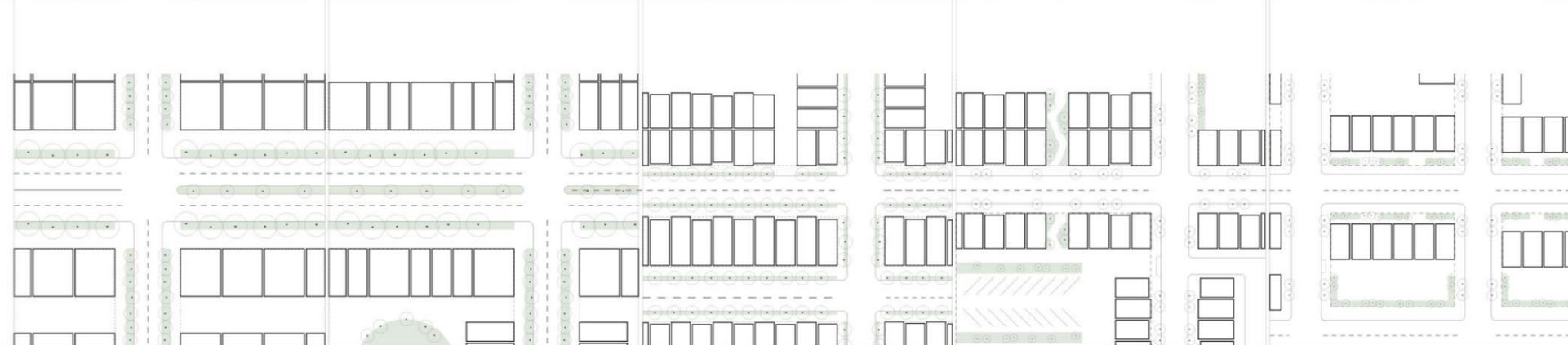
Legend

- Residential
- Commercial

ELEVATION



PLAN



**General Plan
Land Use Designation**

Vertical
Very High-Density

Vertical
High-Density

Vertical
Medium-Density

Horizontal
Medium-Density

Horizontal
Low-Density

Old Towne Mixed Use Spoke



Old Towne Mixed Use 15



Old Towne Mixed Use 24



Neighborhood Mixed Use



Urban Mixed-use
Uptown Orange, West Katella
Avenue, and Town and
Country Road

*(With Transfer of
Development Rights)*



N.T.S.

Figure LU-7 Mixed-use Types



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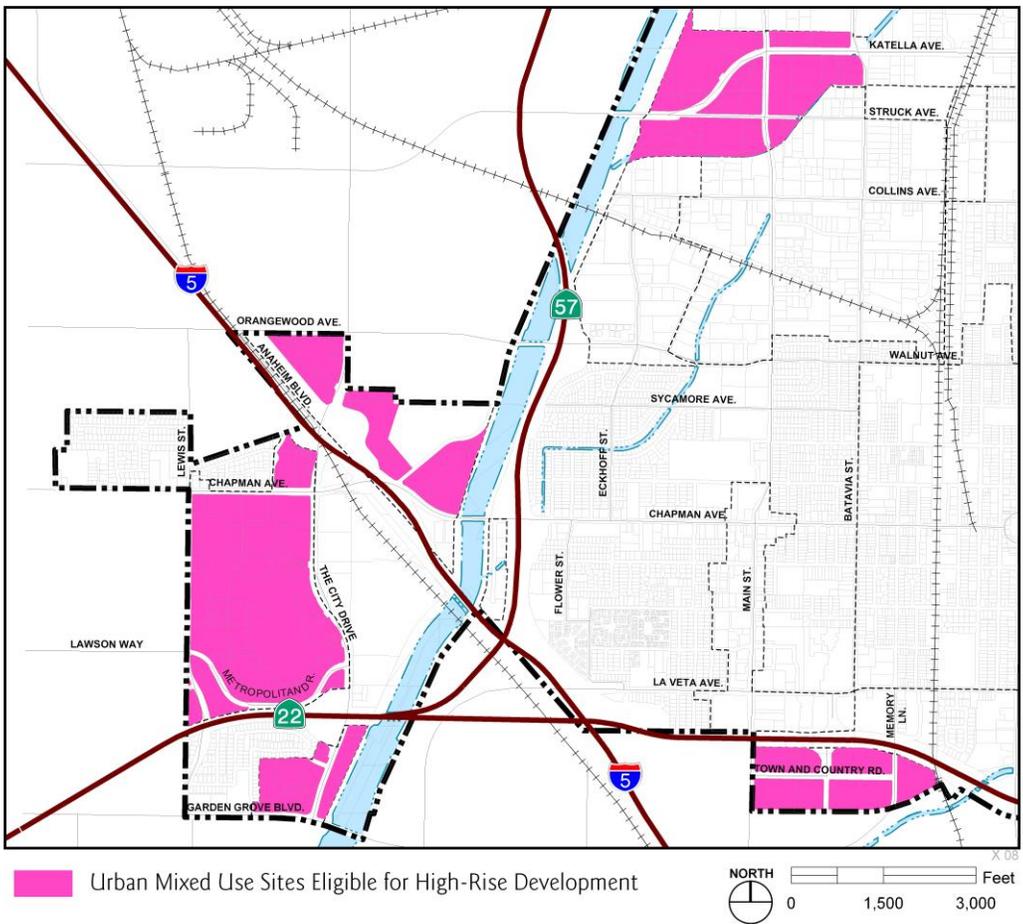
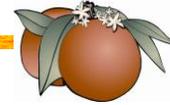


Figure LU-8
Urban Mixed-use Sites Eligible for High Rise Development

To determine the number of residential units that can be added to the receiver property, unused FAR is converted to building floor area square footage; for example, 0.25 FAR for a receiver property of 10 acres in size is 108,900 square feet. The resulting square feet of building floor area is then divided by 1,000 square feet (the average size of a residential unit) to determine the number of additional residential units that can be added to the receiver property above and beyond the allowed 30.0-60.0 du/ac already allowed on that property. In this example, dividing 108,900 by 1,000 equals a maximum of 109 dwelling units that can be added to the receiver property, above and beyond the 300-600 dwelling units already allowed.

For some properties within the Urban Mixed-use designation, the City desires well-designed high-rise development consisting of buildings 10 stories or higher. For any unused FAR, up to a maximum of 1.0 FAR of the receiving property may be transferred from other Urban Mixed-use designated properties, if proposed development on the receiving property results in the construction of a well designed high-rise building, and at least 20 percent of the property is developed as permanent improved, publicly accessible open space.



For properties in the Neighborhood Mixed-use designation, transfers of unused FAR are permitted and encouraged for the purpose of creating open space. Similarly, in the Old Towne Mixed-use designation, transfers of unused FAR are permitted to support historic preservation within the Old Towne neighborhood.

Industrial and Office Uses

Providing options for industrial development and office uses within the City contributes to the economic and employment base of the community. A variety of industrial and warehouse facilities are located in the area north and south of the western end of Katella Avenue. Uses range from large beverage and grocery distributors, to masonry and foam manufacturers, down to small one-person printing operations. Office spaces that support industrial practices can also be found in this area.

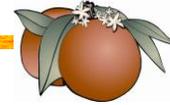
Industrial development in Orange and throughout the region has undergone some transitions in recent years. Even though traditional manufacturing activities dominate these areas, in some cases warehousing uses and a few modern office parks are starting to replace manufacturing. In addition, Orange has experienced increased demand for larger, multi-story professional office complexes at locations such as South Main Street, Town and Country Road, La Veta Avenue, and The City Drive. Demand has also grown for medical office space surrounding local hospitals.

The Land Use Policy Map indicates a change in proposed land use designations directly west of the core of Old Towne, from Industrial to Old Towne Mixed-use. By changing the land use designation, the City is encouraging the adaptive reuse of several industrial sites to support walkability and transit presence in the area. The City continues to support industrial and office uses in areas currently characterized by these uses, and encourages a mixture of office, commercial, and residential uses in the area near the Old Towne core.



Contextual and Environmental Compatibility

The quality of the built and natural environments plays a large part in defining Orange's quality of life. Land use conflicts often occur when newer development is allowed to occur that is insensitive to the use, scale, or character of current development and the surrounding environment. In other cases, older, obsolete and nonconforming uses remain, interspersed



among newer developments, as when old service stations or repair shops are located in the midst of residential development. Such conflicts can lead to degradation of the built environment. The City has ensured that all proposed land use designations in this Element are designed to complement and enhance adjacent and surrounding land uses and the natural environment.

Coordinated Planning

Future planning considers ongoing planning efforts of all City departments, agencies, surrounding jurisdictions and special districts. In addition, ongoing planning efforts undertaken by regional agencies such as the County of Orange, the Southern California Association of Governments, the South Coast Air Quality Management District, the Santa Ana Regional Water Quality Control Board, and others need to be examined for consistency with the City's long-range objectives.

The following plans and programs, which are administered by federal, state, county, and special purpose agencies, will help achieve the goals of the Land Use Element. The City will continue to coordinate with the agencies responsible for administering these plans to ensure that City interests are considered and met.

National Pollutant Discharge and Elimination System

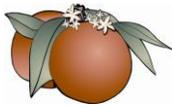
The City of Orange is under the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB), which implements the National Pollutant Discharge and Elimination System (NPDES) permit for the northern and central portions of Orange County. The NPDES permit, a requirement under the Clean Water Act, addresses pollution from urban runoff that threatens water quality of receiving waters (such as streams and lakes). Under the NPDES permit, Orange must implement measures to reduce urban runoff during all phases of development: planning, construction, and existing use. Requirements include incorporating Best Management Practices to reduce runoff from construction and current uses, reporting any violations to the RWQCB, and education regarding the negative water quality impacts of urban runoff.

California Environmental Quality Act and Guidelines

The California Environmental Quality Act (CEQA) was adopted by the state legislature in response to a public mandate for more thorough environmental analysis of projects that might affect the environment. Provisions of the law and environmental review procedures are described in the CEQA Statutes, State CEQA Guidelines, and the City's guidelines implementing CEQA. Implementation of CEQA ensures that during the decision making stage of development, City officials and the general public will be able to assess the environmental impacts associated with private and public development projects.

Southern California Association of Governments Growth Management Plan

The Southern California Association of Governments (SCAG) Growth Management Plan recommends methods to redirect regional growth to minimize traffic congestion and better protect environmental quality. The goals of the Growth Management Plan include balancing



jobs and housing. While SCAG has no authority to mandate implementation of the Growth Management Plan, principal goals have implications for the land use composition of Orange.

LAND USE IMPLEMENTATION

The goals, policies and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaboration with regional agencies and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.



CIRCULATION & MOBILITY

INTRODUCTION AND VISION FOR THE FUTURE

Orange's circulation system has been influenced by a variety of historical factors, including the presence of the Santa Fe Railroad, the vision of Alfred B. Chapman and William T. Glassell, the agricultural history of the area, and alternative transportation modes including a historic streetcar system.

In 1887, the Santa Fe Railroad came to Orange and built a station four blocks west of the Plaza. The coming of the railroad set off a real estate boom that brought hundreds of settlers to the area. The railroad also influenced the City's early economic success by providing a means to transport goods, especially citrus, to the entire country. Today, the railroad tracks continue to serve freight trains and provide a critical link to the region via the Metrolink heavy rail transit system.

In the 1870s, Alfred B. Chapman and William T. Glassell subdivided their land into residential and small farm lots centered on a roundabout known today as Plaza Park. Plaza Park was dedicated in 1886 and established the City's two main streets – Chapman Avenue and Glassell Street – as well as the compact street grid of Old Towne Orange. The street grid and railroad system were supported historically by a streetcar system that connected the small towns and settlements that make up the City today.

Over time, the small farms on the outer edges of Orange's core district began to disappear. Two factors influenced this change: the demand for housing after World War II and the appearance of "Quick Decline" disease that destroyed the local citrus industry. As each farm was developed independently, the grid system expanded outward and commercial corridors were established. Orange's roadways began to take on a more suburban pattern of collectors, connectors, and arterials. As development reached the eastern portion of the City, the grid gave way to curvilinear street patterns.

The historic roadways and railways that form the basis for the current circulation network have been complemented over the years by the development of a streetcar system, a transit service, an emerging and continually expanding bicycle trail and route network, and routes for equestrian use in the eastern portion of the City. The City will continue to be served by these multiple modes of transportation and other emerging mobility technologies.



Orange's ***Vision for the Future***, described in the General Plan Introduction, recognizes that the circulation system is a key component of the quality of life in the City. Accordingly, the vision includes the following objectives:

- Residential areas will be connected to commercial, recreational, and open space areas, as well as educational and cultural facilities via a balanced, multi-modal circulation network that accommodates vehicles, pedestrians, cyclists, hikers, and equestrians. This network will create additional opportunities for walking and biking, enhancing safety and well-being for neighborhoods and businesses.
- The City will work to define neighborhoods through the use of open space areas and a trail system that provides a source of aesthetic beauty and recreational opportunities. These open space areas support a healthy and active community.
- We will develop a connected multi-modal network for traveling from one end of town to the other that provides the option for residents from different neighborhoods to access parks, open spaces, and scenic areas by vehicle, transit, foot, bicycle or, where appropriate, horse.

Purpose of the Circulation & Mobility Element

California's General Plan Guidelines mandate that the Circulation & Mobility Element fulfill the following objectives:

- Show a direct relationship to the Land Use Element to ensure that any changes to land use as stated by the Land Use Element and growth occur with adequate circulation and transportation facilities in mind.
- Address relevant issues including the adequacy of "major thoroughfares, transportation routes, terminals, other local public utilities and facilities." The goal of the Circulation & Mobility Element is to identify circulation problems related to these facilities in the early stages and resolve them in local goals and policies without costly delays.

Other relevant issues discussed in the Circulation & Mobility Element include those that address streets, highways, public transit routes, railroads, bicycle and pedestrian routes, recreational trails, paratransit, parking, transportation system management, and air pollution. The hierarchy of streets within the residential areas helps to frame the urban form. Connections between neighborhoods can be achieved by a comprehensive network of sidewalks and trails. Also, the commercial corridors can be enhanced with adequate street capacity, public transit, and pedestrian-friendly environments.

The state also recommends that the Circulation & Mobility Element address coordination efforts among the local, regional, and state transportation plans to better resolve circulation issues. Since many transportation concerns are regional, addressing them requires intergovernmental and regional transportation management plans and policy implementation. These partnerships ensure the most efficient use of funding, infrastructure, and other resources. The state also recommends the "preservation of transportation corridors for future system improvements."



The Circulation & Mobility Element prioritizes the issues and opportunities that exist within Orange's transit network. It is directly responsive to proposed changes in land use and anticipates the impacts of those changes. This Element also seeks to reassure residents and businesses that the City recognizes the link between transportation and land uses, and provides a means to mitigate the impacts of growth.

Another goal of the Circulation & Mobility Element is to increase transportation options and provide increased access to the circulation system for all residents of Orange. This goal includes improved rail and bus transit connections and frequency, implementation of a *Bikeway Master Plan*, and completion of a trails system. Transforming many of Orange's historically auto-oriented commercial corridors, such as Katella Avenue, Main Street, and portions of La Veta Avenue, Chapman Avenue, and Glassell Street into more pedestrian-friendly mixed-use environments is an overarching goal. Where possible, the development of equestrian trails is also encouraged.

One of the main functions of the Circulation & Mobility Element is to guide and direct enhancement of the current circulation system for existing and future developments. Thus, circulation provisions correlate with the Land Use Element to avoid unchecked growth and unnecessary congestion.

Another key objective of the Element is to work toward a future circulation network that provides meaningful alternatives for getting around the community by less auto-dependent means. The City's topography, street and sidewalk system, transit and trail framework, and land use relationships provide an excellent foundation for pursuit of this objective.

The Circulation & Mobility Element does not simply determine automobile routes. It also guides the movement of people and goods, directly affecting Orange's physical, social, and economic environment. Since circulation permits accessibility to places and social amenities, it can either improve or cause deterioration in quality of life. Circulation efficiency also plays a major role in progress and development of the City's economy.

Scope and Content of the Circulation & Mobility Element

The Circulation & Mobility Element comprises three sections:

- (1) Introduction;
- (2) Issues, Goals, and Policies; and
- (3) The Circulation & Mobility Plan.

The first section introduces the contents of the Circulation & Mobility Element. The second section presents issues, goals, and policies for improving circulation. The third section includes the Circulation & Mobility Plan, which designates locations and standards for roadways and non-motorized circulation facilities, and states the community's desired level of transportation service.

Implementation measures designed to promote achievement of the goals and policies are provided in an Appendix to the General Plan.



Relationship to other General Plan Elements

California planning law requires that the Circulation & Mobility Element correlate and maintain consistency with the other General Plan elements. The Circulation & Mobility Element relates most closely to the Land Use, Natural Resources, Noise, Economic Development, Housing, and Urban Design Elements.

The Circulation & Mobility Element is linked to the Land Use Element because the General Plan land use designations identified in the Land Use Element serve as a basis for the allocation of vehicle trips and establishment of capacity levels for circulation planning. The Land Use Element also provides land use designations that accommodate mixed commercial and residential development, which encourage shorter trips and improve the efficiency of the transportation network. The Circulation & Mobility Plan is established to define and provide for adequate levels of service and facilities to support future land uses. This Element recommends roadway and intersection improvements that may require land acquisition. Location of public transportation facilities will also influence pedestrian activity and transit-oriented development, and the physical size of streets will affect urban land uses and the physical appearance of the City.

The Natural Resources Element identifies regional air quality objectives and provides appropriate mitigation efforts that affect the Circulation & Mobility Element. Improving access, encouraging alternative modes of travel, and maintaining air quality and conservation standards are common objectives of the Natural Resources and the Circulation & Mobility Elements.

The Noise Element addresses future noise levels associated with roadways, rail, and other transportation facilities. Future volumes of traffic on the circulation system are directly related to future noise levels and mitigation strategies.

The Economic Development Element identifies desirable economic conditions and land uses that enhance and promote business activity, employment growth, and economic stability. The goals and policies of the Circulation & Mobility Element will determine road capacity in Orange, which will impact the type and location of uses, and parking and access considerations associated with future uses. Both elements share a common objective of planning for future transportation infrastructure needs. Maintaining roadways, bikeways and bus and rail transit facilities is critical to the success of both current and future businesses in Orange.

The Urban Design Element is a framework for shaping the future form and character of Orange. The quality of Orange's physical environment contributes to its identity, attracts new residents, and sets the stage for economic activity. The Urban Design Element builds on the foundation of Orange's already strong sense of place to preserve and strengthen the streetscape environment of commercial corridors and landmarks within the city. The Urban Design Element and Circulation & Mobility Element share a common objective to reinvent City streets as more functional and walkable public places.



ISSUES, GOALS, AND POLICIES

The goals, policies, and implementation programs of the Circulation & Mobility Element seek to achieve a better balance between vehicular, pedestrian, and bicycle travel, and to provide a wide range of viable transportation options to Orange residents. The following six issues are addressed: (1) enhancing the local circulation system; (2) maintaining the regional circulation system; (3) maintaining a viable public transportation network; (4) creating a comprehensive system of sidewalks, trails, and bikeways; (5) providing adequate parking facilities; and (6) improving circulation system aesthetics and safety.

Local Circulation System

The local roadway system serves the community's primary needs for mobility and access, and consists of a hierarchy of City streets to meet those needs. The City's original street system was established as a grid pattern long before a Master Plan of Arterial Highways (MPAH) was adopted. The Old Towne area and many postwar neighborhoods were designed in a classic grid configuration, while in newer parts of the City, physical features such as the Santa Ana River, Santiago Creek, hilly terrain, freeways and the presence of the City of Villa Park have resulted in a system without a definitive pattern. Some major roads do not connect the eastern and western portions of the City and consequently do not provide effective through circulation. A well-designed roadway system will provide convenient access to activities in Orange.

GOAL 1.0: Provide a safe, efficient, and comprehensive circulation system that serves local needs, meets forecasted demands, and sustains quality of life in neighborhoods.

Policy 1.1: Plan, build, and maintain an integrated, hierarchical, and multi-modal system of roadways, pedestrian walkways, and bicycle paths throughout the City.

Policy 1.2: Identify key intersections and streets with historical or projected traffic congestion problems and apply creative traffic management measures to improve overall circulation.

Policy 1.3: Consider various methods to increase safety on City arterials and neighborhood streets, including landscaping, provision of bike/transit lanes, and consideration of traffic calming on neighborhood streets in accordance with the City's Neighborhood Residential Traffic Management Program.

Policy 1.4: Prohibit on-street parking where possible to reduce bicycle/automobile conflicts in appropriate target areas as recommended by the *Bikeways Master Plan*.

Policy 1.5: Address possible safety and noise effects of increased rail activity on grade crossings throughout the City.

Policy 1.6: Maintain and repair roadways and sidewalks as necessary to improve circulation and safety.

Policy 1.7: Consolidate driveways along roadways that provide access to commercial uses to minimize side street interruption and promote smooth traffic flows.



On-street parking is prohibited on commercial access streets to provide adequate curb-to-curb width for travel lanes.

Regional Circulation System

Mobility in Orange is directly related to the regional transportation network, as the City lies at the confluence of several regional freeways: the Santa Ana Freeway (Interstate 5), Orange Freeway (State Route [SR] 57), Garden Grove Freeway (SR-22), Costa Mesa Freeway (SR-55), Riverside Freeway (SR-91) and Eastern Transportation Corridor (SR-241). In addition to the freeways, other connections to the region include the commuter rail system known as Metrolink, a freight and goods rail transport system, and a regional bikeways system with connections to the Santa Ana River and other locations. Orange is also connected to the region via the Orange County Transportation Authority (OCTA) bus system. City infrastructure must accommodate regional through traffic originating in other communities in addition to providing local residents access to the regional network.

GOAL 2.0: Provide an effective regional transportation network.

- Policy 2.1: Ensure consistency with the County MPAH in order to qualify for funding programs.
- Policy 2.2: Coordinate with adjacent cities to plan and develop major east/west and north/south arterials and rapid transit to connect the City with the cities of Anaheim, Tustin, Santa Ana, Garden Grove, and Villa Park, as well as developing areas within the City's sphere of influence.
- Policy 2.3: Cooperate with and support local and regional agencies' efforts to improve regional arterials and transit in order to address increasing traffic congestion.
- Policy 2.4: Coordinate land use planning with anticipated future development of roadways and other transportation facility improvements as well as the expansion of commuter rail and bus service.
- Policy 2.5: Ensure that transportation facilities and improvements do not degrade the quality of Orange's commercial and residential areas.
- Policy 2.6: Encourage the use of regional rail, transit, bicycling, carpools, and vanpools for work trips to relieve traffic congestion.
- Policy 2.7: Continue to support the use of rail corridors within the City for the movement of freight and goods, and work with rail operators to minimize associated traffic delays.

Public Transportation

Public transportation is a crucial component of a comprehensive circulation system. In addition to reducing air pollution and traffic congestion, a successful public transit system provides an alternative mode of travel for those with limited mobility, residents who may not have access to a car, and persons who choose not to drive.

GOAL 3.0: Connect centers within the City to each other and to the region through efficient and accessible public transportation.



- Policy 3.1: Work with OCTA and other agencies to assess City public transportation needs and to ensure delivery of services when and where they are needed.
- Policy 3.2: Enhance and encourage provision of convenient and attractive transit amenities and streetscapes to encourage use of public transportation (e.g., benches, trash cans, shelters, and lighting).
- Policy 3.3: Require incorporation of transit-oriented design features within major commercial and employment areas as well as in medium density residential and mixed-use development areas.

Sidewalks, Trails, and Bikeways

In addition to offering recreational and public health benefits, non-vehicular modes of transportation offer commuting options. Also, the mixed-use environments advocated by Land Use Element policies will encourage increased pedestrian activity on City sidewalks for both business and pleasure. An effective pedestrian, bicycle, and equestrian network must be safe and accessible, and must connect key activity centers within the City with each other and with the regional trail system. A comprehensive network of on-street bicycle lanes, off-street bicycle paths, sidewalks, and trails should be developed and maintained to increase the safety and utility of the system, with a particular focus on the City's sidewalk deficient industrial areas

GOAL 4.0: Provide efficient and accessible modes of pedestrian, bicycle, and equestrian transportation and improved facilities and amenities.

- Policy 4.1: Create a comprehensive bicycle network that is integrated with other transportation systems by establishing complementary on-street and off-street facilities as identified in the *City of Orange Bikeways Master Plan* and *OCTA Commuter Bikeways Strategic Plan*, including Santiago Creek, the Santa Ana River, and the Tustin Branch Trail.
- Policy 4.2: Install racks and safe storage facilities at parking areas for City facilities, as appropriate, and encourage incorporation of such facilities within privately-developed projects.
- Policy 4.3: Improve citywide awareness of automobile and bicycle safety.
- Policy 4.4: Encourage use of the bikeway system by providing adequate signage, trail markings, and other amenities.
- Policy 4.5: Ensure that pedestrian sidewalks, trails, and bikeways are safe environments through the use of crime prevention-oriented trail design features, lighting where appropriate, pedestrian and bicycle safety improvements at at-grade rail crossings, access for emergency vehicles, and links to the roadway signal system.
- Policy 4.6: Explore opportunities to convert abandoned rail corridors into segments of the City's bikeway and pedestrian trail system.
- Policy 4.7: Provide ADA accessible sidewalks and pedestrian amenities throughout the City.



Policy 4.8: Expand and maintain an equestrian trail network and provide for appropriate staging areas and infrastructure.

Parking Facilities

A shortage of parking can cause circulation problems and could lead to a reduction or loss of business activity. Old Towne Orange has been identified as an area of particular concern. As the City develops, providing adequate parking adjacent to other activity centers is increasingly important.

GOAL 5.0: Provide adequate parking to meet the needs of activity centers throughout the City.

Policy 5.1: Provide adequate parking to protect and support the economic vitality and diversity of Old Towne.

Policy 5.2: Plan for and design parking facilities throughout the City that are adequate to meet demand, but also consider land use-parking efficiencies, and the surrounding natural and built environment.

Policy 5.3: Encourage adjacent businesses to consolidate parking facilities and access points.

Policy 5.4: Encourage well-designed structured parking in commercial areas where such features would be economically feasible, safe, and visually integrated with existing development.

Circulation System Aesthetics

Streets that have been made or modified to include visual and pedestrian amenities can improve the overall look and feel of City streets, as well as enhancing functionality for all users. As major commercial corridors are beautified and changed to include a pleasant pedestrian environment, this will have positive effects on the feelings of safety and security for pedestrians, bicyclists, and motorists.

GOAL 6.0: Provide roadway corridors that are aesthetically pleasing and contribute to a feeling of safety, security, and comfort for motorists, bicyclists, and pedestrians.

Policy 6.1: Supply adequate, clear, and correctly placed signage to direct both motorists and non-motorists toward destinations and away from hazards.

Policy 6.2: Provide clear indicators in the right-of-way for where pedestrians and bicyclists are encouraged to walk, bike, or cross safely. These may include special paving, line stripes, and crosswalks.

Policy 6.3: Provide lighting, landscaping, street trees, and other appropriately scaled streetscape features that accommodate all users on commercial corridors. Where appropriate, lighting should be scaled for autos as well as pedestrians.



CIRCULATION & MOBILITY PLAN

The objective of the Circulation & Mobility Plan is to document existing transportation facilities in the planning area used for the movement of people and goods. The Element addresses the desired future condition of these facilities, and their relationship to future land uses identified in the Land Use Element. The Plan describes the circulation system, including the arterial network and intersections, the public transit system, bicycle paths, recreation facilities, parking, and railroad operations. The City's circulation network includes an extensive system of roadways, bus transit service, commuter rail, and freight rail.

Local Circulation System

A well-designed local arterial roadway system that connects to a well-developed regional circulation system provides safe and convenient access to employment, housing, recreation, and commercial areas in Orange. City arterial roadways located on the western side of SR-55 generally follow north-south and east-west orientations. On the eastern side of the freeway, arterials are characterized by curvilinear streets due to undulating geographical surroundings. Key north-south arterials include Tustin Street, Glassell Street, Main Street, and The City Drive. Key east-west arterials include Chapman Avenue, Katella Avenue, Taft Avenue, and parts of La Veta Avenue. These arterial roadways are in turn supported by a network of collector and local streets that provide access to homes and businesses throughout the City.

Roadway Classification System

The City's roadway network is distinguished by a hierarchical classification system that differentiates roads by size, function, and approximate daily capacity based upon Level of Service D (LOS D). LOS is a qualitative measure that characterizes traffic congestion on a scale of A to F with LOS A representing a free-flow condition and LOS F representing extreme congestion. LOS standards can apply to either intersections or links (a section of street between two intersections). Generally speaking, LOS represents the ability of a roadway or an intersection to accommodate traffic.

In the City, intersections are used as actual control points. City roadways consist of both divided and undivided roadways. Divided roadways generally contain a physical barrier or buffer, such as a raised median or a continuous two-way left turn lane, between each direction of travel. Divided roadways remove vehicles making a left turn from the travel lanes so as not to impede through traffic and constrict roadway capacity. Undivided roadways do not contain a buffer between each direction of travel, and therefore left-turning traffic can impede through traffic. Undivided roadways may provide turn movement pockets at intersections. The six categories of roadways in Orange are summarized in Table CM-1. Proposed cross-sections for each type of roadway are shown in Figure CM-1.

The City's policy is to use a link capacity standard of LOS D. The following paragraphs represent link capacities of each roadway type at LOS D.



Classification	Facility Type	Characteristics
Smart Street	Smart Street	4-8 lane divided, with possible signal coordination, intersection capacity improvements and/or grade separations
Principal Arterial	8 Lane Divided	Primarily serves through traffic with limited local access
Major Arterial	6 Lane Divided	Serves mostly through traffic with some local access allowed
Primary Arterial	4 Lane Divided	Serves through and local traffic
Secondary Arterial	4 Lane Undivided	Serves through and local traffic
Collector Street	2 Lane	Serves mostly local traffic

Smart Streets are typically four- to eight-lane roadways with enhanced capacity and smoother traffic flow than standard arterial streets. These streets have enhanced features such as traffic signal synchronization, bus bays, intersection improvements, and the addition of travel lanes by removing on-street parking and consolidating driveways. The traffic carrying capacities of Smart Streets can range from 60,000 to 79,000 vehicles per day, depending on the number of lanes, degree of access control, peak period loading, and the configurations of major intersections.

Principal Arterials are typically eight-lane divided roadways with medians or continuous two-way left turn lanes. They can accommodate up to 67,500 vehicles on an average weekday at LOS D conditions, depending on the degree of access control, peak period traffic loadings, and lane configurations at major intersections. Principal arterials prohibit on-street, curbside parking, and connect directly to freeways.

Major Arterials are six-lane divided roadways with medians or continuous two-way left turn lanes. They can accommodate up to 50,700 vehicles on an average weekday at LOS D conditions, depending on the degree of access control, peak period traffic loadings, and lane configurations at major intersections. Major arterials facilitate traffic circulation within Orange, and ~~also may~~ prohibit on-street, curbside parking.

Primary Arterials are four-lane divided roadways with medians or continuous two-way left turn lanes. They can accommodate up to 33,750 vehicles on an average weekday at LOS D conditions, depending on the degree of access control and peak period loadings. Primary Arterials provide for easy circulation in the City, and allow for limited on-street, curbside parking.

Secondary Arterials are four-lane undivided roadways without medians. They can accommodate up to 21,600 vehicles on an average weekday at LOS D conditions, depending on the degree of access control and peak period loadings. Secondary arterials allow for on-street, curbside parking.

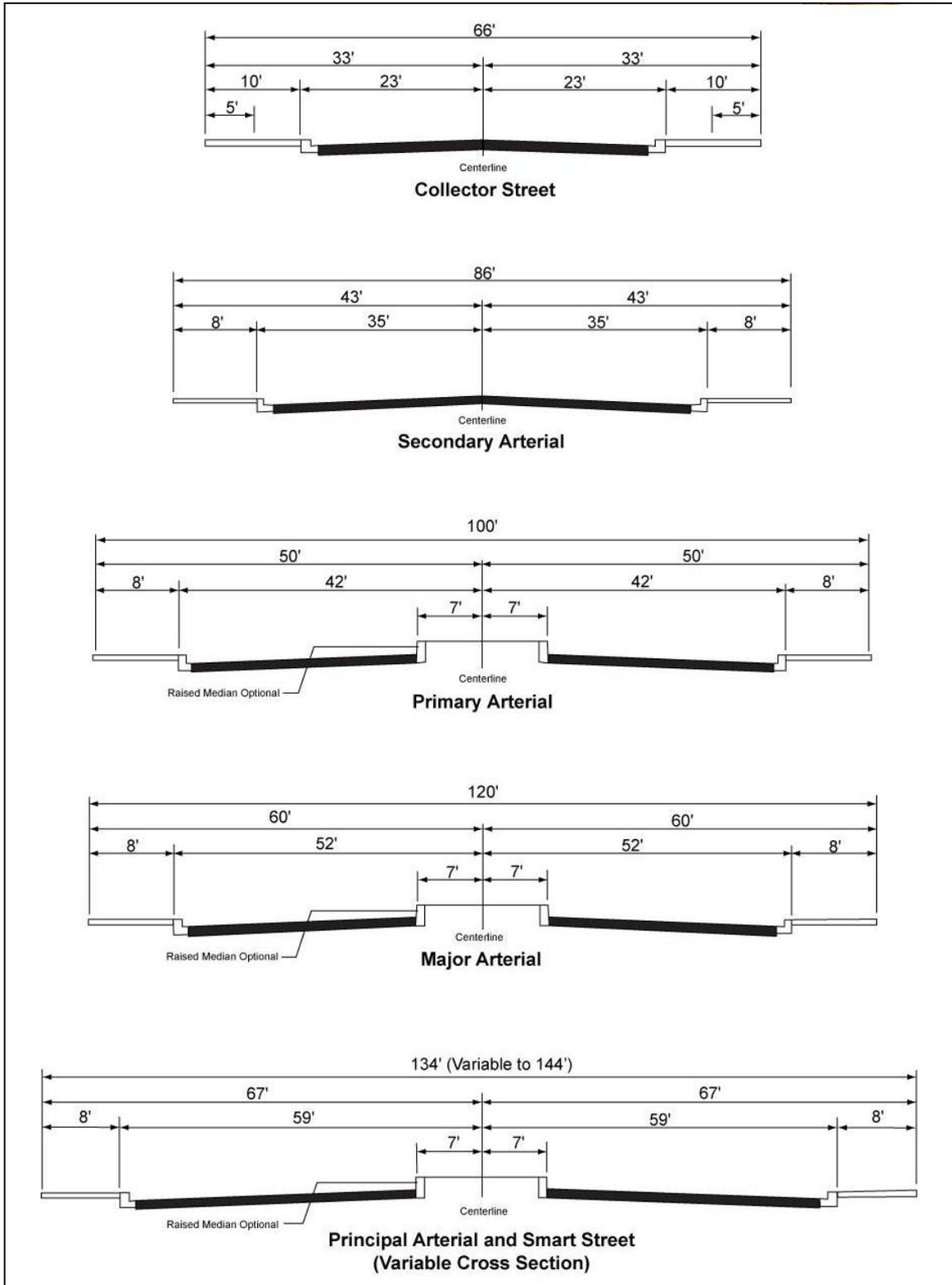


Figure CM-1
Roadway Cross Sections



Collector Streets are typically two-lane roadways without medians that gather and distribute traffic to higher-capacity arterials. They can accommodate up to 10,800 vehicles per average weekday at LOS D conditions, depending on the degree of access control and peak period traffic loadings. Centerline striping is typically not provided on collector streets, and on-street parking is allowed. There are several types of two-lane streets in the City, including divided, undivided, residential, and collector streets. Each type serves a slightly different purpose and may have different capacity thresholds based on various factors.

Performance Criteria

Evaluating the ability of the circulation system to serve residents and businesses in Orange requires establishing performance criteria. Performance criteria have a policy component that establishes a desired LOS, and a technical component that specifies how traffic forecast data can be used to measure criteria achievement.

The LOS definition for intersections is based on a volume-to-capacity (V/C) ratio and provides a more quantitative description of traffic conditions. Table CM-2 presents LOS based on traffic volumes and the design capacity of intersections.

Table CM-2 Level of Service Definitions for Intersections		
Level of Service	Volume-to-Capacity Ratio	Description
A	0.00-0.60	Free Flow/Insignificant Delays: No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.
B	0.61-0.70	Stable Operation/Minimal Delays: An occasional approach phase is fully utilized. Many drivers feel somewhat restricted within platoons of vehicles.
C	0.71-0.80	Stable Operation/Acceptable Delays: Major approach phases fully utilized. Most drivers feel somewhat restricted.
D	0.81-0.90	Approaching Unstable/Tolerable Delays: Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly, without excessive delays.
E	0.91-1.00	Unstable Operation/Significant Delays: Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	N/A	Forced Flow/Excessive Delays: Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington DC, 2000.

Although roadway capacity is generally a function of peak hour intersection performance and the corresponding peak hour volumes, daily arterial segment capacities (link capacities) also provide a measure of the overall LOS of the arterial system. Generally, traffic impact mitigation focuses on peak hour intersection performance, since system performance is typically a function of intersection performance. The City’s policy is to use a link capacity standard of LOS D. Table CM-3 presents arterial daily capacities at LOS D and LOS E.



**Table CM-3
Arterial Daily Capacity Threshold Assumptions**

Street Type	Daily Capacity	
	LOS D	LOS E
Smart Street – 6- to 8-lane divided	71,100	79,000
Principal – 8-lane divided	67,500	75,000
Major – 6-lane divided	50,700	56,300
Primary – 4-lane divided	33,750	37,500
Secondary – 4-lane undivided	21,600	24,000
Collector – 2-lane undivided	10,800	12,000

Source: City of Orange General Plan Update Traffic Report, 2008.

Various LOS policy standards have been established to evaluate observed traffic conditions, future development plans, and circulation system modifications. At the local level, the City of Orange has established LOS D as the lowest acceptable level of service for both roadway segments and peak-hour signalized intersection movements. At the regional planning level, Orange County’s Congestion Management Plan (CMP) specifies LOS E as the operating standard for roadways and intersections on the CMP highway system. The CMP Highway System consists of the Orange County smart street network plus the state highway system. Thus, the SR-55 northbound and southbound ramps at Katella Avenue are CMP intersections within the City’s jurisdiction. The City does not have an adopted LOS standard for unsignalized intersections. Performance of unsignalized intersections is evaluated on a case-by-case basis.

In addition to the LOS standards for roadways and intersections, the California Environmental Quality Act (CEQA) Guidelines (Section 15064.3), require “vehicle miles traveled” (VMT), to measure transportation impacts on the community. VMT refers to the amount and distance of automobile travel attributable to a project.

For purposes of compliance with CEQA, a significant impact would occur if the baseline and/or cumulative project-generated VMT per service population (population plus employment) exceeds the anticipated City of Orange General Plan Buildout VMT per service population. One vehicle traveling one mile would generate one VMT. Additionally, the project’s effect on VMT would be considered significant if it resulted in the baseline and/or cumulative link-level boundary citywide VMT per service population increases under the plus project condition compared to the no project condition. Link-level boundary VMT is calculated by summing all weekday VMT on a roadway network within the City boundary and includes all trips including trips that pass through the City’s roadway network but do not start and end with in City.

These thresholds are designed to reduce the number of miles traveled by automobiles, and are implemented within the City of Orange *Traffic Impact Analysis Guidelines*.



In order to maximize the efficiency of its circulation system, the City will look at where physical improvements to the circulation infrastructure can be made to expand capacity and increase traffic flow. To maximize efficiency of the road system, the City will support traffic signal coordination and spacing, and will also discourage on-street parking along arterials. In addition, the City will explore ways to reduce the demand for vehicular transportation, specifically through the provision and maintenance of bike lanes, bikeways, and trails, and will also encourage additional regional transit services and support facilities. The City's Transportation Demand Management (TDM) ordinance (Chapter 10.83 of the Municipal Code) further specifies a variety of techniques available to employers with 100 or more employees to advance the goals of efficiently utilizing the existing and planned transportation system and reducing vehicle emissions.



City Master Plan of Streets and Highways

Land Use Element policy will allow land use changes and intensification to occur in specific focus areas within the City. The City's Master Plan of Streets and Highways displayed in Figure CM-2 has been developed in close coordination with land use policy to ensure that traffic generated by new development will not compromise the City's goal to ensure that intersections and roadway segments operate efficiently. The map identifies components of the City's roadway circulation system. The map also indicates where augmented roads are needed, and pinpoints locations for enhanced intersections, including the future Meats Avenue interchange at SR-55. Although most of Orange is already built out, most remaining developable land is located in the eastern part of the City. New development in east Orange will require construction of new roads to provide circulation and traffic flow to residents and businesses. Land Use Element policies enabling reuse and redevelopment within established portions of the City, particularly within the focus areas, may also necessitate roadway widening and intersection enhancements. The City will continue to collect funds for necessary circulation system capital improvements through a program that sets up a fee structure for all new development and redevelopment projects. This program will require developers to pay their fair share for transportation system improvements required by new projects. The City will use the annual seven-year Capital Improvement Program (CIP) process to prioritize, fund, and complete improvements required to achieve build-out of the proposed roadway system identified in Figure CM-2.

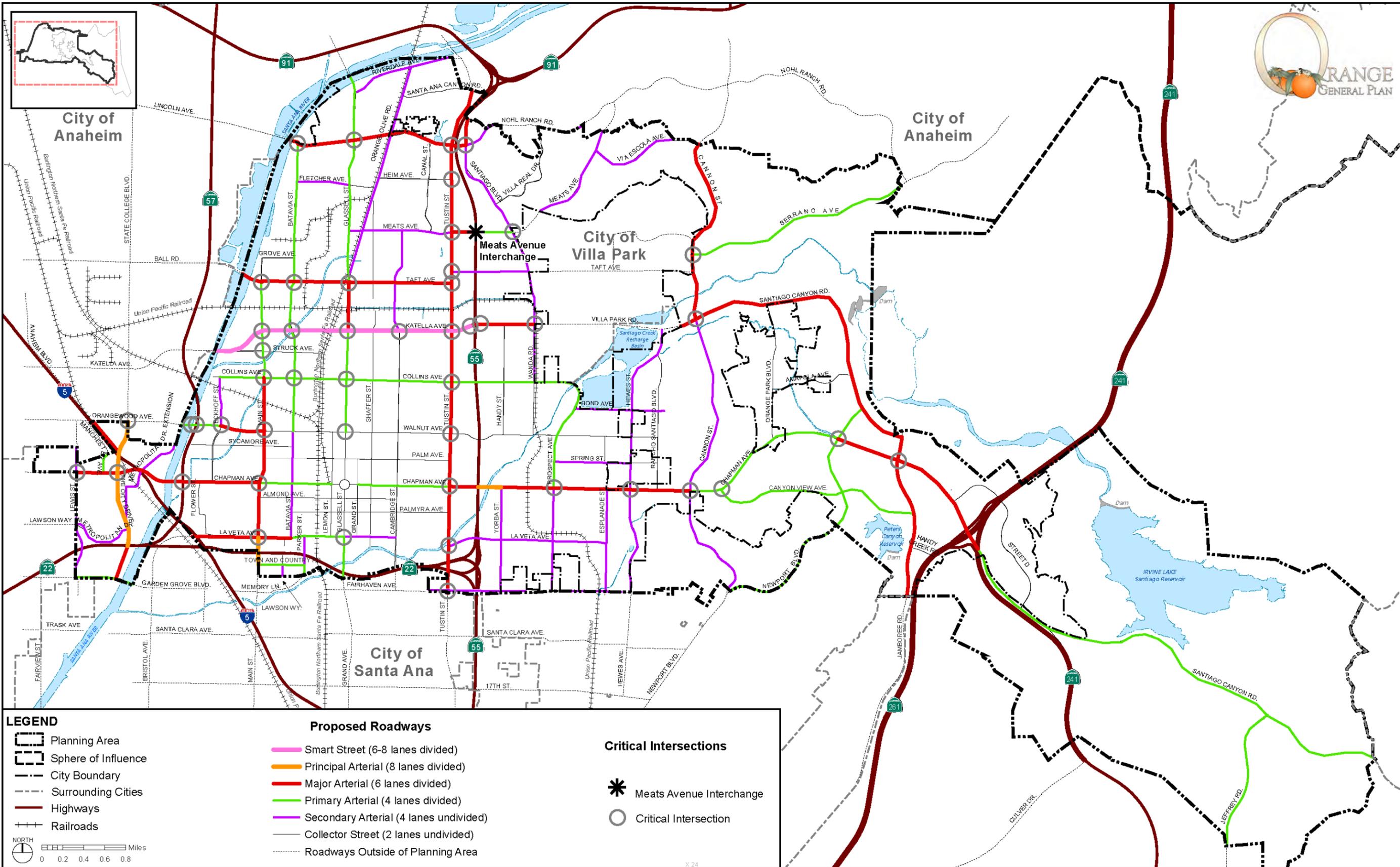
Roadway Widening

Roadway widening in specific locations will be necessary to obtain new travel lanes. Additional travel lanes may be acquired either by obtaining additional rights-of-way as necessary or by constructing new lanes within existing rights-of-way. Parking restrictions may be applied to allow additional lanes to be provided within existing rights-of-way.



Old Towne Street Network

The Old Towne street network is a clear example of Orange’s grid street pattern. Parallel roadways have been established in both the north-south and east-west direction to distribute traffic evenly. The Plaza area at Glassell Street and Chapman Avenue is a unique feature that creates discontinuous traffic flows along these two primary roadways. However, no plans have been made to modify the National Register-listed Historic Plaza to increase its traffic carrying capacity.



LEGEND

	Planning Area		Smart Street (6-8 lanes divided)		Meats Avenue Interchange
	Sphere of Influence		Principal Arterial (8 lanes divided)		Critical Intersection
	City Boundary		Major Arterial (6 lanes divided)		
	Surrounding Cities		Primary Arterial (4 lanes divided)		
	Highways		Secondary Arterial (4 lanes undivided)		
	Railroads		Collector Street (2 lanes undivided)		
			Roadways Outside of Planning Area		

Proposed Roadways

Critical Intersections

0 0.2 0.4 0.6 0.8 Miles

Figure CM-2 City Master Plan of Streets and Highways

GPA 2014-0001 (12/8/15)
GPA 2010-0001 (8/10/10)

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In light of these conditions, parallel roadways such as Almond Avenue, Palmyra Avenue, Lemon Street, Olive Street, Shaffer Street, Grand Street, Palm Avenue, and Maple ~~Street~~ **Avenue** will continue to serve as local collectors around The Plaza.

Metropolitan Drive Extension

Extending Metropolitan Drive behind the University of California, Irvine (UCI) Medical Center will help facilitate the movement of north-south traffic near ~~The Block~~ **The Outlets** at Orange shopping area, improve access to Interstate 5 (I-5), and relieve congestion on The City Drive. Metropolitan Drive will be extended from The City Drive/State College Boulevard to the Metropolitan Drive/Rampart Street connection.

Critical Intersection Program

Intersections serve as traffic control points for the circulation system, regulating the flow of vehicles along City streets and sometimes limiting the capacity of the system. In the long term, system capacity and efficiency can both be increased if intersections are designed to handle future anticipated traffic volumes. Typically, the design of the roadways forming an intersection dictates the intersection configuration. Department of Public Works standards indicate that a left-turn pocket may or may not be provided, depending on traffic volumes through the intersection. However, one pocket may not be adequate to handle vehicles during peak hours. Traffic may back up into a through travel lane, resulting in congestion at the intersection and at other locations along the roadway.

One way of providing additional intersection capacity at critical locations is through the use of special intersection configurations known as “critical intersections.” Critical intersections deviate from typical City design standards by increasing the number of lanes at an intersection beyond what typically would be required. By increasing capacity at the intersection, the circulation link increases overall system capacity.

The Master Plan of Streets and Highways (Figure CM-2) identifies the locations of critical intersections within Orange. A list of these intersections and diagrams depicting their geometries are on file in the Public Works Department.

Regional Roadway System

The City’s local circulation network is connected to an efficient regional circulation system. Figure CM-2 shows the freeways that traverse the Orange planning area. The Santa Ana Freeway (I-5) provides interstate and regional access to the City. In addition, SR-57, SR-55, and SR-22 all provide connections to the City from northern Orange County and neighboring Los Angeles County, San Diego County, Riverside County, and San Bernardino County. SR-91 and SR-241 provide additional, more limited freeway access. SR-241 is a toll facility controlled by the Transportation Corridor Agency (TCA).

I-5 is a northwest-southeast freeway that passes through the southwest corner of the City, and provides direct access to Los Angeles County to the north and San Diego County to the south. I-5 has two interchanges within Orange—one located at its junction with SR-57 and SR-22 (commonly known as the Orange Crush) and the other at State College Boulevard/The



City Drive. The junction at the Orange Crush currently has the most severe congestion, which directly affects the roadway system in the City. With projected future growth in Orange and in the region, traffic flow at this junction is expected to worsen. The City will continue to work with and support the efforts of local and regional agencies to mitigate the increased traffic congestion in this area.

SR-91 is an east-west freeway that provides access to key arterial facilities in Orange, including interchanges at Tustin Street and Glassell Street. SR-91 also provides regional access through interchanges with SR-55 and SR-57 and SR-241.

SR-22 is an east-west freeway that crosses through the southern portion of the City. Five SR-22 interchanges are located in the City, at Tustin Street, Glassell Street, Main Street/La Veta Avenue, Bristol Street, and The City Drive.

SR-55 is a north-south freeway that passes through the center of Orange, and provides access to the coastal communities of Orange County. SR-55 has four interchanges in Orange, located at Lincoln Avenue, Katella Avenue, Chapman Avenue, and SR-22. An additional future interchange at Meats Avenue is contemplated within this General Plan.

SR-57 is a north-south freeway that originates at the junction of I-5 and SR-22 and extends to San Dimas in Los Angeles County. It provides access for the eastern parts of Los Angeles County, and central and northern parts of Orange County. SR-57 has three interchanges in Orange, at Chapman Avenue, Orangewood Avenue, and the junctions of I-5 and SR-22.

The Eastern Transportation Corridor (SR-241) is a north-south toll facility located in the eastern portion of the planning area. This facility provides direct access to east Orange. SR-241 has three toll lanes in each direction and provides regional access through an interchange at Santiago Canyon Road.

Consistency with County Master Plan of Arterial Highways

Maintaining consistency with the County's Master Plan of Arterial Highways (MPAH) is required in order to ensure that the City's circulation system develops in a manner that promotes regional mobility. At a practical level, consistency is also required in order for the City to receive transportation funding under Measure M, [also known as OC Go](#). Orange's Master Plan of Streets and Highways (Figure CM-2) is generally consistent with the MPAH.

While the City's Master Plan of Streets and Highways has been consistent with the County MPAH to maintain funding eligibility, both the City of Orange and OCTA have the goal of a realistic and implementable MPAH. ~~In keeping with this spirit, in 2010 as a follow up to adoption of this General Plan, the City worked with OCTA on amendments to the MPAH and Master Plan of Streets and Highways that downgraded the long-standing classification of Chapman Avenue and Glassell Street from 4-lane Primary Arterials to 2-lane Collector Streets, and removed the Critical Intersection classification of the Plaza.~~ A remaining desire of the City is to work with OCTA to downgrade La Veta Avenue between Glassell Street and Cambridge Street from a Secondary Arterial to a Collector Street to reflect physical constraints related to historic buildings and features in the Old Towne National Register Historic District.



To initiate the MPAH amendment process, a local agency must submit a written request to OCTA describing the amendment requested and provide documentation to support the basis for the request. A copy of the request must be submitted concurrently to the City Managers of adjoining cities. For the facilities under consideration, this would require a letter to be forwarded to the City of Santa Ana.

Once the initial request is forwarded to OCTA, a conference between the City of Orange, OCTA, and potential affected jurisdictions is held to determine whether mutual agreement exists for the MPAH amendment. If mutual agreement exists, then Orange is expected to proceed with adopting this revision to the Circulation & Mobility Element. Upon adoption, the City of Orange would submit the Circulation & Mobility Element to OCTA and request OCTA Board approval of the Orange County MPAH amendment.

Public Transportation

Effective regional transportation strategies are required to successfully implement City and County plans for accommodating future growth. Such strategies must link the City of Orange with other regional employment and commercial centers, as well as airports and other transportation hubs, and should fully integrate alternatives to the automobile. Alternative modes of transportation, including public transportation, bicycling, and walking, are important components of a comprehensive circulation system. These modes of transportation also help reduce air pollution and road congestion.

Public transportation plays a key role in future land use development and mobility. As the roadway system reaches capacity, alternative modes of transportation provide additional capacity as well as an enhanced degree of mobility for residents, workers, and visitors. Existing services are expected to continue while enhancements, many of them currently in the planning stages, will increase the viability of alternative modes of travel. The integration into the circulation system of alternative modes of transportation, such as bus, rail, bicycle, and pedestrian, is essential to maximizing mobility opportunities for residents, workers, and visitors.

Bus Service

OCTA provides public bus service for the City of Orange. In addition, the Riverside Transit Agency (RTA) provides long-distance service between The Village at Orange and the Downtown Terminal in Riverside. Table CM-4 identifies local bus routes that connect various activity centers in Orange to each other and to the region.

Table CM-5 shows the different community, station link, and inter- or intra-County routes that serve Orange. Community routes are express bus routes that provide faster connections to activity centers within and outside Orange County. Station link shuttles provide services between the Orange Transportation Center (OTC) and Orange. Both community and station link routes operate only at peak commuter times.

In addition to the fixed-route service, OCTA also offers several types of specialized community transportation services, such as standard service (curb-to-curb service), door-to-door service, subscription service, and same-day taxi service. Some of these services cater to senior citizens and people with disabilities residing in the City.



OCTA has forecast bus ridership to increase by approximately 75 percent by 2030. Some of this ridership increase will be the result of enhanced services, including express bus routes and introduction of bus rapid transit service. Much of the increase will be driven by increased arterial and freeway congestion levels in conjunction with improved local bus service. ~~OCTA is planning to introduce bus rapid transit (BRT) services by 2011 on the Bristol Street State College Boulevard, Harbor Boulevard, and Westminster Avenue corridors. This service would include planned BRT stops in Orange on State College Boulevard south of Orangewood Avenue and on The City Drive south of Chapman Avenue. With the projected success of this service, which is comparable to the Los Angeles Metro Rapid service, it is likely that BRT will be implemented on other key corridors. Corridors that have been considered for potential future application include Katella Avenue.~~

Convenient, accessible, frequent, and easy-to-use public transit is a cornerstone element of the proposed land use plan. Planned mixed-use residential and commercial areas and intensified commercial and professional office corridors must be coupled with increases in transit service. Orange’s land use plan features mixed-use districts that strategically concentrate population density near alternative transit facilities, such as the OTC in Old Towne, transit hubs at ~~The Block~~The Outlets at Orange and South Main Street, and the ~~future~~ Anaheim Regional Transportation Intermodal Center (ARTIC) station in Anaheim near the City’s western boundary at Katella Avenue.

Route #	Route Type	Route Service	Service Corridors	Key Orange Activity Centers Served
24	Local	Fullerton–Orange	Malvern Ave. / Chapman Ave. / Tustin St..	The Village at Orange Lincoln Park and Ride
42	Local	Orange–Seal Beach	Lincoln Ave. / Los Alamitos Blvd. / Seal Beach Blvd.	The Village at Orange Lincoln Park and Ride
46	Local	Los Alamitos–Orange	Ball Rd. / Taft Ave.	The Village at Orange Lincoln Park and Ride
47	Local	Brea–Newport Beach	Brea Blvd. / Anaheim Blvd. / Fairview St.	Theo Lacy Jail Orangewood Children's Home UCI Medical Center The Block at Orange
50	Local	Long Beach–Orange	Katella Ave.	The Village at Orange Lincoln Park and Ride
53	Local	Brea–Irvine	Main St.	Batavia Industrial Parks Children's Hospital – CHOC St. Joseph's Hospital OCTA Offices
54	Local	Garden Grove–Orange	Chapman Ave.	Orange Civic Center Orange Transportation Center The Plaza UCI Medical Center The Block at Orange Rancho Santiago Community College



Table CM-4 Local Bus Routes				
Route #	Route Type	Route Service	Service Corridors	Key Orange Activity Centers Served
56	Local	Garden Grove–Orange	Garden Grove Blvd.	Orange Transportation Center OCTA Offices Children's Hospital–CHOC St. Joseph's Hospital
57	Local	Brea–Newport Beach	State College Blvd. / Bristol St.	The Block at Orange UCI Medical Center Theo Lacy Jail Orangewood Children's Home
59	Local	Brea–Irvine	Kraemer Blvd. / Glassell St. / Grand Ave. / Von Karman Ave.	Orange Transportation Center Chapman University Orange Plaza
71	Local	Yorba Linda–Balboa	Tustin St. / Red Hill Ave. / Newport Blvd.	The Village at Orange Lincoln Park and Ride

Source: Orange County Transportation Authority, 2006

Table CM-5 Community, Station Link, Intra- and Inter-County Bus Routes				
Route #	Route Type	Route Service	Service Corridors	Key Orange Activity Centers Served
131	Community	Yorba Linda–Orange	Lakeview Ave./ Riverdale Ave. / Tustin St.	The Village at Orange Lincoln Park and Ride
147	Community	Brea–Santa Ana	Raiit St. / Greenville St. / Fairview St.	UCI Medical Center The Block at Orange OCTA Offices St. Joseph's Hospital Children's Hospital – CHOC
167	Community	Anaheim–Irvine	Santiago Blvd. / Hewes St. / Bryan Ave.	The Village at Orange Lincoln Park and Ride
453	Station Link	Orange Transportation Center –St. Joseph's Hospital	Chapman Ave. / Main St. / La Veta Ave.	Orange Transportation Center Children's Hospital–CHOC St. Joseph's Hospital OCTA Offices
454	Station Link	Orange Transportation Center –The Block at Orange	Chapman Ave./ Metropolitan Dr.	Orange Transportation Center UCI Medical Center The Block at Orange Bergen Brunswig Nexus



**Table CM-5
Community, Station Link, Intra- and Inter-County Bus Routes**

Route #	Route Type	Route Service	Service Corridors	Key Orange Activity Centers Served
213	Intra County	Brea-Irvine Express	SR-55	Lincoln Park and Ride The Village at Orange
757	Inter County	Diamond Bar -Santa Ana Express	SR-57	UCI Medical Center The Block at Orange
RTA 149	Inter County	Riverside-Orange (Operated by RTA)	SR-91	The Village at Orange Downtown Riverside

Source: Orange County Transportation Authority and Riverside Transit Agency, 2006.

The City recognizes that ridership of both the bus and rail transit systems will increase, and has designed a land use plan that both enables and accommodates increased transit use. A large part of the City’s role in accommodating additional transit use includes providing convenient and attractive transit amenities and streetscape features that improve user comfort and perception of safety, thus encouraging transit use. Transit-oriented Development (TOD) design features will be encouraged in major commercial and employment areas within the City, such as the Town and Country Road corridor, South Main Street, Katella Avenue, Uptown Orange, and Old Towne. Such TOD features may consist of streetscape measures such as bus turn-outs, benches, trash receptacles, shelters from wind and rain, and lighting. TOD features may also be more fundamental to the permitted uses and design within projects, such as incorporating child care centers, convenience stores, or personal services within the retail component of mixed-use projects, or near professional office concentrations. These and other measures help to make the transit system more accessible to a wide range of people.

The City will continue to work with OCTA to pursue expanded community circulators, such as the current Station Link service, that will connect people to rail transit, employment centers, residential areas, and commercial corridors. Additional options, such as jitney services that function as group taxis, will also be explored.

The City will also continue to support OCTA initiatives and services that promote the mobility of Orange’s senior, disabled, and youth populations. To accommodate the needs of these groups, the City will continue to work with OCTA to offer para-transit services, and will seek ways to improve mobility for Orange youth through transit.

The City of Orange will continue to cooperate with OCTA and other regional providers to establish new bus routes and stops, and to provide transit amenities. New subdivision plans will be reviewed by OCTA to assess impacts on bus services, and to examine the need to provide bus stops or bays. Orange will also work with OCTA to maintain and, if needed, expand successful transfer stations in Old Towne, the Village at Orange, and The **Block Outlets** at Orange.

Rail Transit

Many current passenger and commuter fixed-rail transit options in the City will be expanded in the future, offering significant alternatives to automobile transit for many individuals who



commute to or from the City for housing or employment. Rail transit now has a proven track record in Orange, and Metrolink seeks to expand rail services in support of land use transformations near current and future rail stations.

Metrolink

Metrolink operates seven commuter rail lines in Southern California, two of which pass through Orange. The Orange County Line offers direct connections to Union Station in Los Angeles to the north and to Oceanside to the south. The Inland Empire–Orange County Line provides direct connections to Riverside/San Bernardino to the east and San Juan Capistrano to the south. Roughly 30 Metrolink trains pass through the City on a daily basis. The Metrolink station in Orange is located three blocks from The Plaza at the OTC, close to a variety of stores and civic uses in Old Towne. ~~Amtrak and Metrolink operate a cooperative program called “Rail 2 Rail”, which allows all Metrolink monthly pass holders to use Amtrak within the limits specified on the pass.~~

~~Another~~ much-anticipated rail service improvement is intra-county rail service along the County’s core transit corridor. This service, which will be provided by Metrolink on behalf of OCTA, is an attempt to provide intra-county trips with a high degree of reliability. This 30-minute service is planned to operate between the Irvine Transportation Center (and possibly Laguna Niguel) and the Fullerton Transportation Center throughout the day to supplement Metrolink’s peak period commuter service.

The City recognizes that plans to increase daily service on the current Metrolink lines, improvements to the OTC, and future expansion of Metrolink services to new destinations would be beneficial to Orange by providing multi-modal transportation options for people living and working in the community, thus reducing auto dependence for business and leisure purposes.

Anaheim Regional Transportation Intermodal Center

The Platinum Triangle, which borders Angel Stadium in the City of Anaheim, proposes a variety of high-density multiple-family high-rise housing, office space, and commercial uses. ~~The Anaheim Regional Transportation Intermodal Center (ARTIC)~~ is located adjacent to the proposed development, between Angel Stadium and the Honda Center. ~~ARTIC will be~~is a major regional transportation center similar in scale to Union Station in Los Angeles and Ontario International Airport in Ontario. The intermodal center ~~will is~~ be a stopping point for Amtrak, Metrolink, buses, and future high-speed rail systems that connect to Ontario Airport, Las Vegas, and the Bay Area.



The City of Orange will coordinate with the City of Anaheim, OCTA, and others to ensure that the City is able to take full advantage of the regional mobility benefits offered by ARTIC. Potential benefits offered to the City by ARTIC include:



- ~~BRT service along Katella Avenue;~~
- a dynamic mixed-use commercial and residential center at the westernmost end of Katella Avenue; and
- bicycle and pedestrian connections to the Santa Ana River.

California High Speed Rail Corridor

The California High-Speed Rail Authority was established as a state agency in 1996 to direct the planning, design, construction, and operation of a future high-speed train system extending from Sacramento, San Francisco, and Oakland in the north to Los Angeles and San Diego in the south. This high-speed train is proposed to stop at ARTIC. OCTA estimates that by 2025, the California High Speed Rail Corridor will serve between 150,000 and 230,000 passengers each week.

Magnetic Levitation Train

~~A magnetic levitation train is being planned that would connect Anaheim to Ontario, Victorville, Barstow, Primm, and Las Vegas. The California-Nevada Super Speed Train (SST) will use Magnetic Levitation Systems (Maglev), a type of transportation technology that uses electric power and non-contact electromagnetic levitation to sustain speeds in excess of 300 mph.~~

~~The trip from ARTIC to Las Vegas on the California-Nevada SST will take about 90 minutes, with an estimated 40.4 million annual riders. A key future benefit offered by the Maglev train is a high-speed connection to Ontario International Airport, which is planned to grow substantially and to expand international service in coming decades. The City will support efforts of the California High Speed Rail Authority, OCTA, and Southern California Association of Governments to construct these important rail corridors, and will cooperate with all parties involved in any future studies conducted to examine the noise and other impacts associated with the corridors within Orange.~~

Sidewalks, Trails and Bikeways

Walking and biking contribute to a healthy community, and play increasingly significant roles as alternatives to the automobile. The City recognizes this by providing and maintaining sidewalks, trails, and bikeways to support pedestrians and cyclists.

Pedestrian Facilities

In addition to providing basic transportation routes, sidewalks and pathways offer the opportunity to create appealing public spaces that reflect community pride and invite people to walk. Proposed mixed-use areas and reinvigorated commercial areas throughout the City will provide new and reinvented spaces for people to walk and shop. Walkability and access are essential components of a circulation system that easily and specifically accommodates pedestrians. Features that contribute to walkability include wide sidewalks, safe street crossings, design elements that encourage cautious driving, and a pleasant and safe walking environment. Sidewalks, walkways, well-designed pedestrian crossings, pathways, and pedestrian short-cuts allow people to get from one destination point to another with ease.



Dedicated pedestrian paths can provide access between residential and activity areas, especially if streets do not connect. Access strategies for school children, seniors, and people with disabilities should also be incorporated into street and sidewalk plans. The City supports proactive integration of pedestrian improvements and amenities within the circulation system to improve walkability.

The City will create and implement a pedestrian-oriented streetscape master plan addressing key commercial corridors, including Tustin Street, Chapman Avenue, Main Street, Lincoln Avenue, and Katella Avenue. The master plan will address all functional aspects of the pedestrian environment. It will identify pedestrian links that need improvement and strengthening, determine new pedestrian links to underserved areas, ensure adequate sidewalk widths to accommodate lighting and street trees, develop sidewalks in the industrial area that create links between bus stops, encourage safe routes to schools and recreation facilities, and minimize barriers to pedestrian and bicycle access.

Recreational Trails and Bikeways

A comprehensive network of recreational trails and bikeways greatly benefits Orange residents and visitors by providing popular modes of transportation for recreation. In addition to recreation activities, the City also supports walking and bicycling as viable commute alternatives to the automobile. The City's plan for recreational trails and bikeways is shown in Figure CM-3.

The plan includes trails maintained by the County and private homeowners associations, and is consistent with the OCTA *Commuter Bikeways Strategic Plan*. It is also consistent with the County's major riding and hiking trails and off-road paved bikeways. As described in the ***Vision for the Future***, the plan will enable the City to connect parks to activity centers and residential areas using a combination of recreational trails and bikeways that truly allows people to travel from place to place within the City without needing an automobile.

Recreational Trails

As shown in Figure CM-3, over 70 miles of existing recreational trails are located within the City, connecting a large number of neighborhoods and community parks. In addition, 104 miles of proposed future trails are planned throughout Orange on land currently utilized for a variety of purposes, including flood control, railroad rights-of-way, and roadways.

The City will use the annual **sevenfive**-year Capital Improvement Program (CIP) process to prioritize, fund, and build proposed trail segments identified in Figure CM-3. These trails have been and will continue to be constructed and administered through cooperative efforts of the City, County, developers, and private homeowner associations.

Desired cross-sections for recreational trails are identified in Figure CM-4. The City may require construction of portions of proposed trails identified in Figure CM-3 as a condition of development approval for projects located adjacent to the proposed trail alignments. Funding for recreational trails and associated restoration projects comes from a variety of federal, state, and regional sources. Priority for funding of trail improvements will be given to projects that complete loops within the system, provide missing links for regional and local



trail systems, or serve as destination links to schools, parks, retail businesses, or regional trails.

Priorities for the recreational trail system include:

- trail connections to the Santiago Oaks Regional Park extension west of Cannon Street, consisting of a connection between Calle Grande and Cannon Street, and the Jamestown trail from the Orange Park Acres equestrian arena to Cannon Street;
- trail connection from Serrano Avenue near Fred Barrera Park to Santiago Oaks Regional Park;
- Mabury Ranch Trail connection from the proposed Cerro Villa Park to the Santiago Oaks Regional Park;
- Serrano Avenue connection near Cannon Street; and
- Additional trail connection into Santiago Oaks Regional Park from Orange Park Acres.

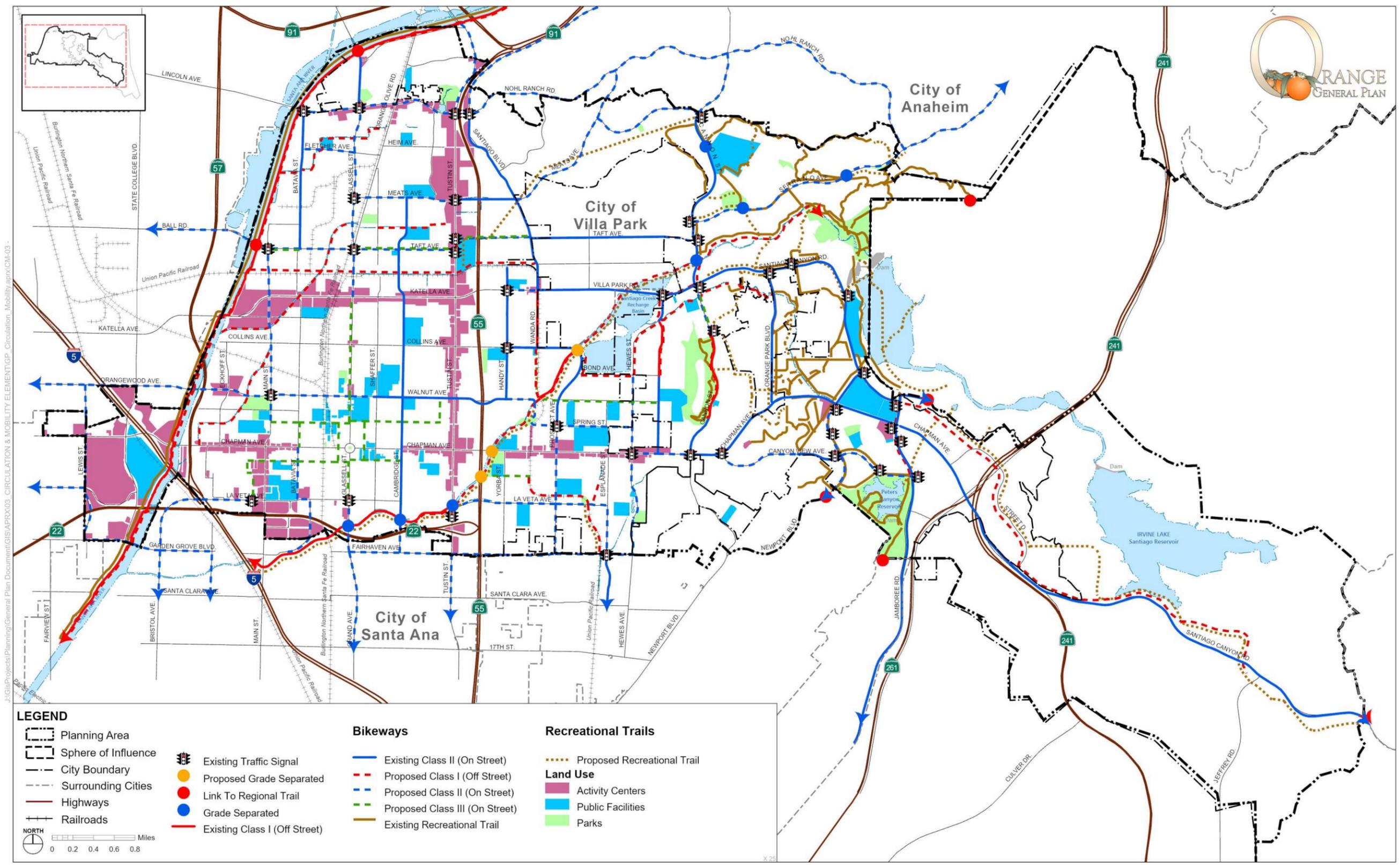
To increase the number of people using non-vehicular means of transportation, the City will encourage putting in place a safe network of crosswalks, grade separations, and walkways to ensure the safety of pedestrians, bicyclists, and equestrians. Where appropriate, traffic calming devices and methods such as median landscaping and provision of bike or transit lanes should be used to slow traffic, improve roadway capacity, and address potential safety issues. The City will continue to work towards improving the overall condition, appearance, and safety of both medians and sidewalks in Orange.

Bikeways

Orange’s relatively mild climate permits bicycle riding year-round, and the growing popularity of bicycling has drawn enthusiasts onto the streets and bike trails throughout the City. The plan for recreational trails and bikeways (Figure CM-3) shows the planned system of bikeways within the City. The *Orange Bikeway Master Plan* has established three classes of bicycle routes that adhere to California Department of Transportation (Caltrans) standards:

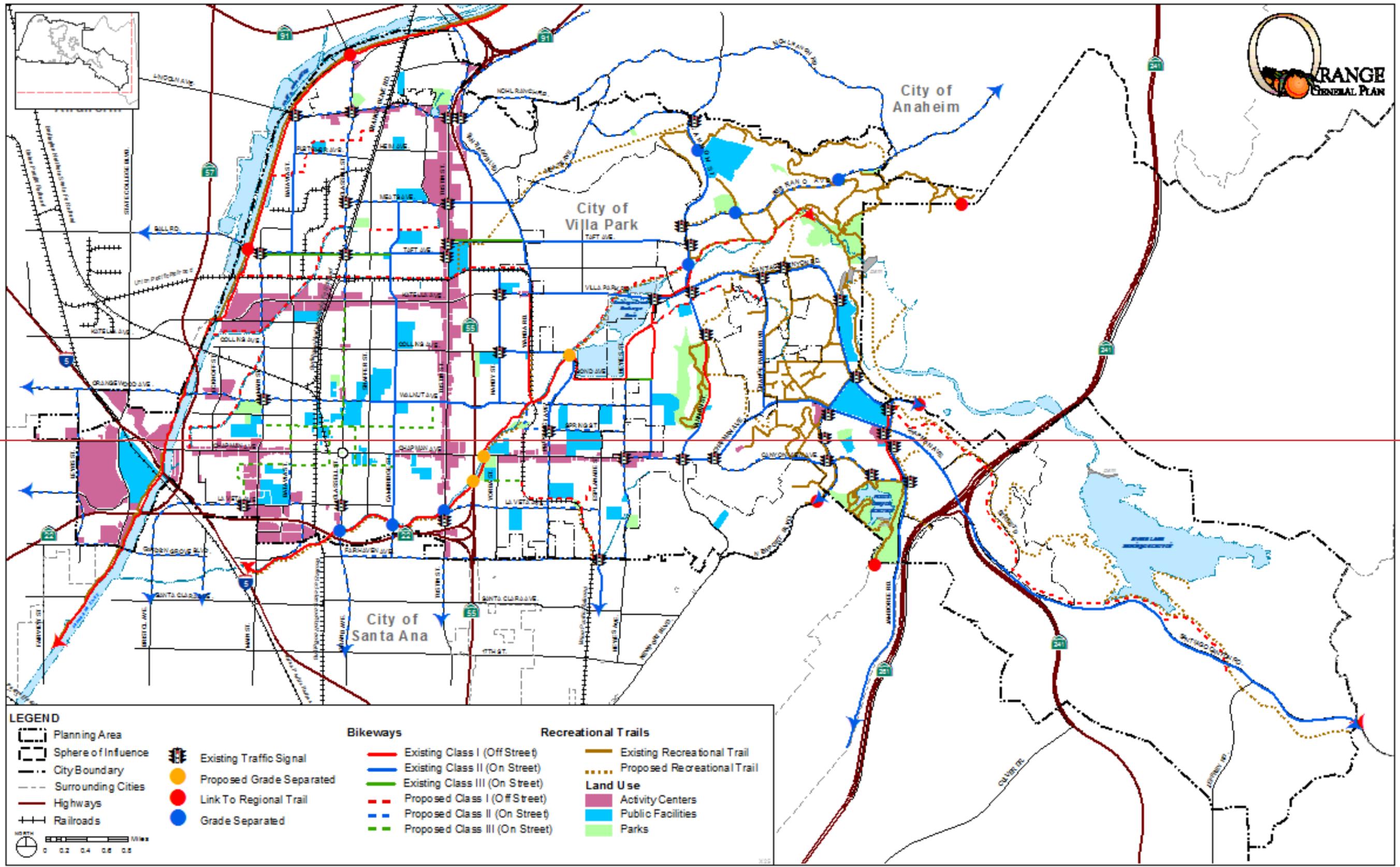


- **Class I** Off-road bike paths are located on vacated rail lines, water corridors, or areas otherwise separated from streets.
- **Class II** On-road bike lanes are located along arterial roadways that are delineated by painted stripes and other features.
- **Class III** On-road bike routes share use with motor vehicle traffic. They provide a route that is signed but not striped.



Source: City of Orange Community Services Department, 2006.

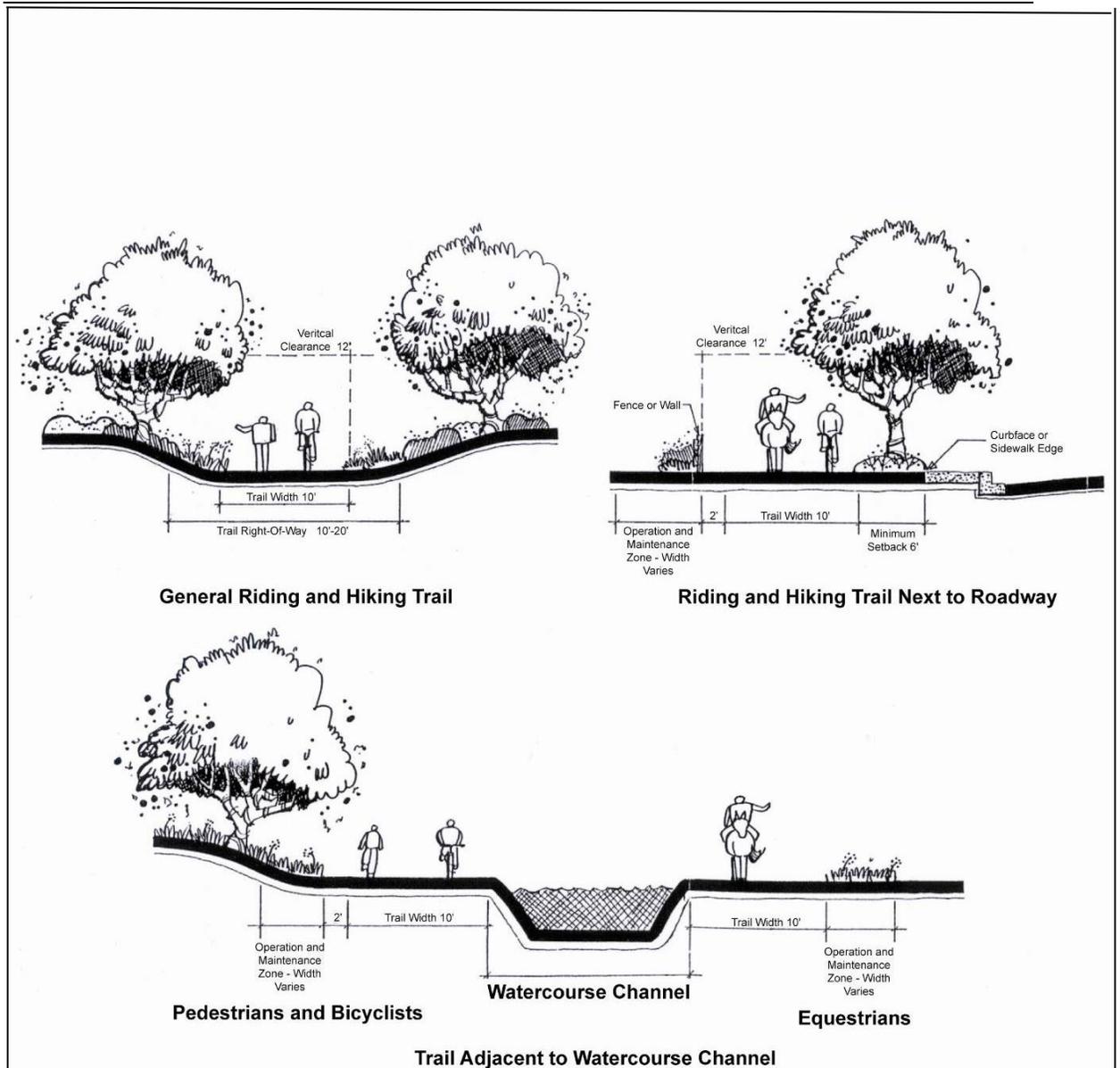
Figure CM-3 Plan for Recreational Trails and Bikeways



Source: City of Orange Community Services Department, 2015.

Figure CM-3 Plan for Recreational Trails and Bikeways

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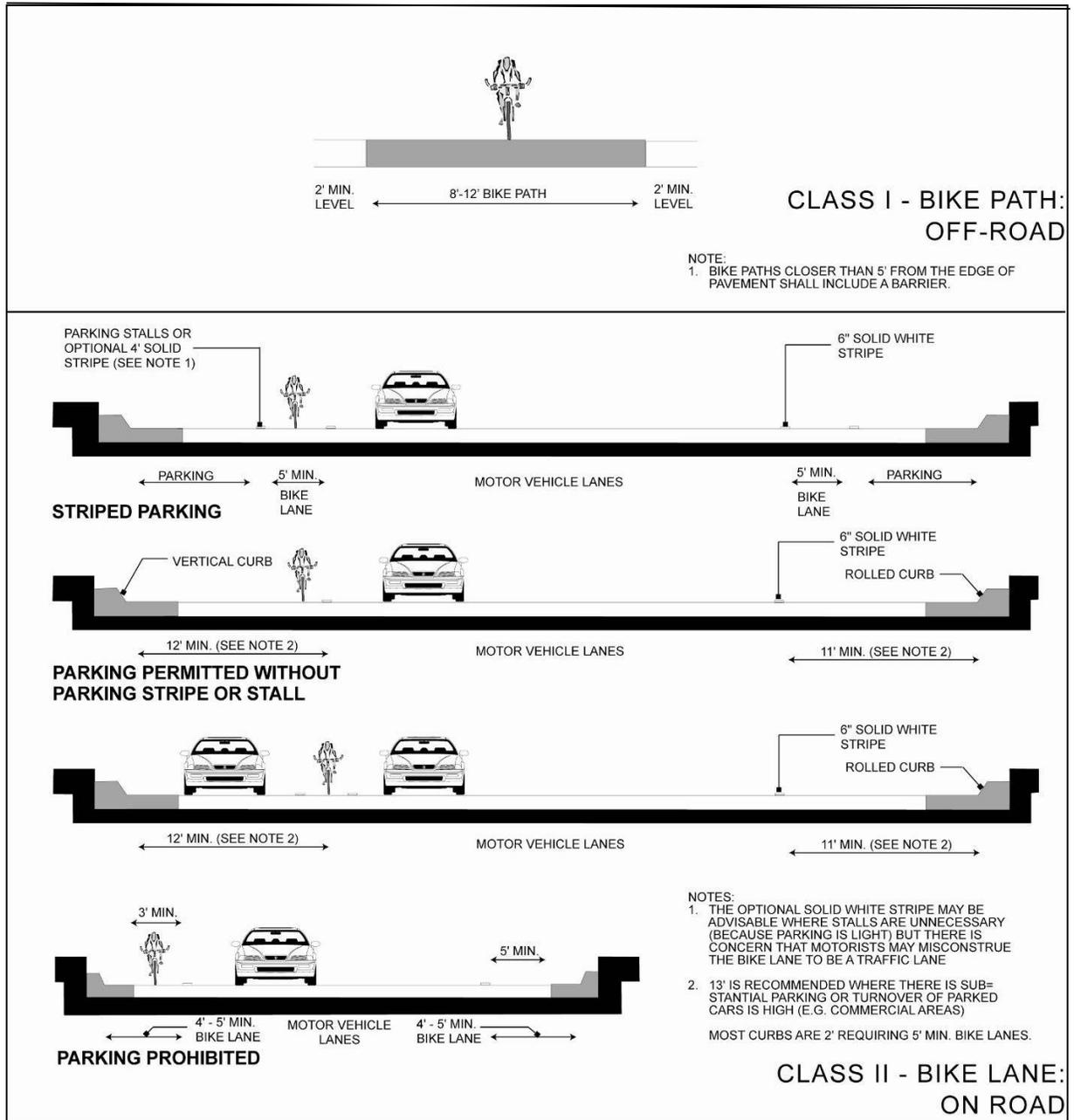


**Figure CM-4
Trail Standards**

Cross-sections for each type of route are shown in Figure CM-5.

As shown in Figure CM-3, several future bike routes are planned within Orange, including the following high-priority projects:

- Completing Class I bike routes along Santiago Creek and the Tustin Branch Trail
- Establishing Class II bike lanes, including:



**Figure CM-5
Bikeway Standards**



- An east/west corridor on Walnut Avenue from the western City limits to Santiago Boulevard
- North/south corridors on Main Street from Taft Street to Palm Street, on Batavia Street from Chapman Avenue to La Veta Avenue, and on Parker Street from La Veta Avenue to the City limits
- Establishing Class III routes along Almond ~~Street~~Avenue, Feldner Street, and Bedford Street

The City has ~~recently~~ completed a paved bike trail along Santiago Creek from Tustin Street to the western City limit that continues on to Main Place Mall and the Discovery Science Center as well as two additional segments to the bike trail, which ~~will~~ extends the Santiago Creek Trail from Tustin Street to Grijalva Park, and also connect Grijalva Park at Santiago Creek to Collins Avenue along the City-owned portion of the Tustin Branch Trail right-of-way between Walnut and Collins Avenues. The Santiago Creek trail is planned to extend through and beyond the City, connecting the regional Santa Ana River Trail to Santiago Oaks Regional Park and wilderness areas east of Orange. The City will continue to work towards designing a comprehensive bike trail system that is highly accessible and safe for those who wish to use it.

The City has proposed Class II and III routes along many north-south and east-west arterials, all of which connect to pedestrian trails and Class I routes. The City responds to the need to provide safe and efficient bike travel by making every effort to provide bikeways separate from the roadway. When bicyclists must share the road with automobiles, the City will work to improve overall safety.

Currently, ~~only one two~~ bicycle parking facilities ~~are~~ located in Orange, at the OTC (Metrolink station) ~~and the Old Towne West Metrolink Orange Parking Structure~~. The City will work to provide greater bike amenities including delineated bike lanes and clear signage along bike trails. The City will also install bicycle racks and safe storage facilities at parking areas for City facilities, as appropriate, and will require privately developed projects to incorporate on-site bicycle facilities in accordance with the City’s Zoning Code (Title 17 of the Orange Municipal Code).

Parking Facilities

Although parking is often considered a separate issue from vehicle circulation, it is important to address on-street parking because it has a direct effect on roadway capacity. In order to facilitate improved traffic flow along Orange’s major arterials, the City generally plans to

permit on-street parking only on streets classified as Primary or Secondary Arterials or Collector Streets.



Off-street parking deficiencies can reduce business activity, and can cause vehicles to re-circulate on public streets, which increases traffic volumes and congestion by reducing capacity for through traffic. The City’s Zoning Code



includes parking requirements to ensure that an adequate number of spaces are provided on-site for most uses. The Code also establishes minimum stall dimensions consistent with current standards for other jurisdictions. These regulations apply to all new developments, and may be applied to current uses that are modified or expanded.

Particular concern has been expressed within the community regarding current and expected future parking shortages in Old Towne. Figure CM-6 identifies the location of existing public parking lots in Old Towne. Most Old Towne parking lots have a maximum time limit of three hours, with or without a permit. However, some parking lots, such as the OTC parking located off Chapman Avenue, have no time limit.

Orange will continue to provide sufficient parking to meet community demands. In Old Towne, the City will study the benefits of creating a parking district and the feasibility of developing underutilized parking lots surrounding The Plaza as public parking facilities. The City may encourage the use of shared parking, consolidated parking facilities, and underground parking or parking structures to provide additional off-street parking to meet future demands in areas throughout the City with higher concentrations of commercial uses.

Circulation System Aesthetics

The City has determined that it is necessary and desirable to improve certain roadways and their rights-of-way to enhance the experience for all users of these corridors. Major commercial corridors have been designated within the Urban Design Element to be improved with pedestrian-scale enhancements. Enhancements could include street trees, sidewalk improvements, lighting, bus shelters, and crosswalks. These improvements not only offer a more aesthetically-pleasing experience for all users in these corridors, they also may offer increased safety and security.

Streetscape improvements offer safety and security to both motorists and non-motorists through increased visual cues, better visibility, and increased activity. Many streetscape enhancements provide not only a comfortable environment for the pedestrian and bicyclist, but also offer drivers visual cues that a non-motorist could be expected in an area. Improvements such as striping, bus shelters, and pedestrian-scaled signage guide the non-motorist towards areas that are most appropriate for their use. These same cues help the motorist to see where the presence of pedestrians and bicyclists is most likely to occur. For example, a well-marked crosswalk guides the pedestrian towards the location in the right-of-way most appropriate for crossing, while also alerting the motorist to slow down and look out for pedestrian traffic.

Visibility offered by pedestrian-scaled lighting benefits non-motorists and motorists alike. Pedestrians and bicyclists are better able to see their way, which increases their feelings of security. Improvements that create a sense of security for pedestrians encourage increased use and activity. This increased activity, in turn, leads to a greater feeling of safety. The City has acknowledged the importance of improving the experience of users on many of its major commercial corridors.



*Note: Possession of City issued parking permit enables holder to exceed specified time limit

Figure CM-6
Public Parking Lots in Old Towne Orange



*Note: Possession of City issued parking permit enables holder to exceed specified time limit
GPA 2010-0001 (8/10/10)

Figure CM-6

Public Parking Lots in Old Towne Orange

CIRCULATION & MOBILITY IMPLEMENTATION

The goals, policies, and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaboration with regional agencies and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.



GROWTH MANAGEMENT

INTRODUCTION AND VISION FOR THE FUTURE

The Growth Management Element contains policies for the planning and provision of traffic improvements that are necessary for the City's orderly growth and development. The policies and programs presented in this Element are for the establishment of traffic Level of Service (LOS) standards, a development mitigation program, a development phasing program, and an annual monitoring program.

Orange's *Vision for the Future*, presented in the General Plan introduction, includes the following objectives related to the Growth Management Element:

- The City will build upon existing assets to create a living, active, and diverse environment that complements all lifestyles and enhances neighborhoods, without compromising the valued resources that make Orange unique.
- Orange recognizes the importance of managing development in a manner that ensures adequate public services and infrastructure and limits impacts on the natural environment.

Policies, plans, and programs outlined within this Element are designed to improve residents' quality of life by ensuring that needed roadway and circulation improvements are completed in step with both new development and future infill development.

Purpose of the Growth Management Element

The purpose of the Growth Management Element is to mandate that (1) growth and development be based upon the City's ability to provide an adequate circulation system, and that (2) such growth and development meet the requirements of the Orange County voter-approved Revised Traffic Improvement and Growth Management Ordinance, also known as Measure M [or OC Go](#).

Scope and Content of the Growth Management Element

The Growth Management Element comprises three sections:

- 1) Introduction;
- 2) Issues, Goals, and Policies; and
- 3) Growth Management Plan.

The Issues, Goals, and Policies section provides guidance to the City with regard to complying with Measure M growth management requirements. Contents of the Growth Management Element describe the City's approach to managing future growth concurrently with



transportation infrastructure. The Plan also explains how the goals and policies will be achieved and implemented.

The Growth Management Element applies to all new development within the City with the possible exception of approved vested projects or projects with development agreements. Those projects would require individual legal review to determine Growth Management Element applicability. The City may consider, on a case-by-case basis, future project exemptions to encourage redevelopment activities or the development of affordable housing. Privately initiated Land Use Element amendments, zone changes, and other discretionary projects will be specifically reviewed for consistency with the Growth Management Element policies.

Relationship to Other General Plan Elements

A major goal of the Growth Management Element is to ensure that the management and implementation of traffic improvements within the City are coordinated and timed concurrently with anticipated development and redevelopment projects, consistent with policies and plans set forth in the Land Use, Circulation & Mobility, Housing and Infrastructure Elements. This Element does not replace or supersede other General Plan elements—such as the Circulation & Mobility Element—that also specify goals and policies for transportation and circulation issues. Instead, the Growth Management Element addresses, amplifies, and supports traffic Level of Service (LOS) standards included in the Circulation & Mobility Element and provides a means to implement the City’s Master Plan of Streets and Highways.

Similarly, the Growth Management Element supports the vision, conditions, and parameters under which future development and redevelopment may occur, as expressed within the Land Use Element. The Growth Management Element consists of goals, objectives, and policies to serve as a guide for the selection of mitigation measures and conditions of approval for projects processed in the City. It has been crafted to minimize duplication of Measure M and Congestion Management Program (CMP) requirements.

The Growth Management Element works in tandem with the Housing Element to direct housing to the most appropriate sites. It also describes the desired relationship between the phasing and construction of development and roadway infrastructure to serve new development. Similarly, the Infrastructure Element describes the City departments and other service providers responsible for providing sewer, water, storm drains, and dry utilities to future development within Orange’s planning area.

Definitions

For the purposes of this Element and compliance with Measure M, several terms used throughout the Element are defined in Table GM-1.



Table GM-1 Growth Management Terms Defined	
Term	Definition
Capital Improvement Program (CIP)	A 57-year list of capital projects to meet, maintain, and improve the City’s adopted traffic Level of service (LOS) and performance standards. The CIP includes: 1) the description of the proposed project improvements, 2) the anticipated funding source, and 3) the estimated cost in current dollars.
Critical Movement	Any of the conflicting through or turning movements at an intersection which determine the allocation of green signal time.
Deficient Intersection Fund	A trust fund that may be established to implement necessary improvements to existing intersections which do not meet the LOS standards adopted in this Element. Such a fund may be established from transportation fees, mutually agreed upon by the Growth Management Element in which the deficiency exists.
Deficient Intersection List	A list of intersections that: 1) do not meet the City’s LOS standards for reasons that are beyond the control of the City (e.g. ramp metering effects, traffic generated outside the City’s jurisdiction,) and 2) are not brought into compliance with the LOS standard in the most current 57-year CIP. Additional intersections may be added to the list only as a result of conditions that are beyond the City’s control.
Development Phasing Program	A program which establishes the requirement that building and grading permits shall be approved or issued in a manner that assures implementation of required transportation improvements through either construction of said improvements and/or timely provision of mitigation fees as determined by the City during the development’s approval process. The City shall specify the order of improvements and/or timing of payment of the required mitigation fees (as they relate to the number of dwelling units, square feet of development, or trip generation), based, at a minimum, on mitigation measures adopted in conjunction with the environmental documentation and other relevant factors.
Growth Management Areas (GMAs)	Subregions of Orange County established by the Regional Advisory Planning Committee to promote inter-jurisdictional coordination to address infrastructure concerns and implement needed improvements. GMAs are comprised of elected officials and staff from local agencies whose jurisdictions are covered, at least in part, by the GMA. The City of Orange is included in three of 11 Growth Management Areas (#3, #4, and #7) in the County, requiring representatives of the City to meet regularly with the surrounding communities of Anaheim, Santa Ana, Villa Park, Irvine, Tustin, Garden Grove, and Yorba Linda.
Growth Management Element	The Growth Management Element of the City’s General Plan as required by the Orange County voter-approved Revised Traffic Improvement and Growth Management Ordinance, also known as Measure M or OC Go .
Level of Service (LOS)	A qualitative measure of the relationship between the volume and capacity of a roadway, usually described by the letters “A” through “F.” LOS A describes freely flowing traffic conditions and LOS F describes congested roadways. LOS D is usually considered the industry standard for traffic analysis purposes.
Local Transportation Authority	The body responsible for the implementation of Measure M as designated by the Orange County Board of Supervisors and the Orange County Transportation Authority (OCTA).
Measurable Traffic	A traffic volume resulting in a one percent increase in the sum of the critical movements at an intersection.
Measure M	The Revised Traffic Improvement and Growth Management Ordinance adopted by Orange County voters on November 6, 1990. The Measure authorized the imposition of a half-cent retail sales tax for a period of 20 years effective April 1, 1991. A November 2006 ballot measure renewed the program through 2031. The sales tax increase will be allocated to local Orange County jurisdictions for use on local and regional transportation improvements and maintenance projects. As of fall 2020, Measure M, also known as OC Go, is expected to generate approximately \$11.6 billion through 2041.
Performance Monitoring Program (PMP)	A comprehensive road improvement and financing plan which monitors the level of service requirements in this Element while taking into account measurable traffic impacts on the circulation system. This program will annually review the status of public and private roadway improvements associated with the 7-year CIP and Development Phasing Programs to assure that the City is taking



Table GM-1 Growth Management Terms Defined	
Term	Definition
	appropriate actions to achieve the LOS standards described in this Element.

Measure M Requirements

In 1990, Orange County voters approved Measure M, authorizing a half-cent retail sales tax increase for a period of 20 years effective April 1, 1991. County voters approved the renewal of Measure M, [known as OC Go](#), extending the half-cent sales tax increase through 2031. [As of fall 2020, OC Go is expected to generate approximately \\$11.6 billion through 2041.](#)

Revenue generated by Measure M is returned to local jurisdictions for use on local and regional transportation improvements and maintenance projects. To qualify for this revenue, each jurisdiction must comply with the Countywide Traffic Improvement and Growth Management Program. The Countywide Growth Management Program is designed to foster a cooperative process among local Orange County jurisdictions to coordinate and implement traffic improvements, and to promote stronger planning on a countywide basis, while maintaining local authority over land use decisions. It is also designed to maintain local authority regarding performance standards, such as traffic LOS, while considering regional impacts.

Specifically, to receive an allocation of Measure M funds, the City of Orange must submit a statement of compliance with the growth management components of the program. Requirements include the following:

- adoption of a Growth Management Element that includes:
 - traffic LOS standards;
 - a development mitigation program; and
 - a development phasing and annual monitoring program;
- participation in interjurisdictional planning forums;
- development of a [57-year CIP](#);
- addressing housing options and job opportunities; and
- adoption of a Transportation Demand Management Ordinance.

The City’s compliance with these components has been addressed elsewhere in the Growth Management Element or is referenced where adopted by a separate action in a separate document.

Implementation of the Growth Management Element is incorporated throughout the City’s established development review and monitoring process where possible. The processes related to the Element are also crafted to be compatible with regional programs, including applicable Congestion Management and Air Quality Management Plans. This element will be reviewed annually to determine if appropriate changes are needed based on experience and changed circumstances.





ISSUES , GOALS , AND POLICIES

The City of Orange's population is projected to increase by approximately 27.5 percent between 2008 and 2030, based upon buildout of the City's General Plan. Strong demand for transportation facilities and services will require continued reinvestment by the City and other service providers. It is important to balance future growth within Orange with roadways and other transportation services and facilities. The goals and policies of the Growth Management Element address two key issues: 1) reducing traffic congestion and 2) ensuring provision of adequate regional transportation facilities. These goals and policies tie together all development goals under the unifying theme of growth management, and indicate Orange's commitment to continue to work with other jurisdictions to address regional concerns.

GOAL 1.0: Reduce traffic congestion within the City.

- Policy 1.1: Establish LOS D as the level of service standard for traffic circulation within the City for both roadway segments and peak-hour signalized intersection movements.
- Policy 1.2: Ensure completion of transportation improvements as agreed upon by the City and developer prior to completion of a development project.
- Policy 1.3: Ensure that new development pays its fair share of street improvement costs, including regional traffic mitigation. New revenues generated from Measure M, if available, shall not be used to replace private developer funding which has been omitted for any project.
- Policy 1.4: Continue to collect transportation impact fees for improvements within the City boundaries and work with adjacent jurisdictions to determine that an appropriate level of transportation impact fees are maintained within the established County GMAs.
- Policy 1.5: Require new development projects to link issuance of building permits for the appropriate portion of the development plan to roadway improvements required to achieve the appropriate LOS. Monitor the implementation of this requirement for each new development project on an annual basis.
- Policy 1.6: Integrate land use and transportation planning to provide adequate transportation system service standards.
- Policy 1.7: Promote the expansion and development of alternative methods of transportation.
- Policy 1.8: Encourage the development of housing within close proximity to jobs and services.
- Policy 1.9: Ensure that new developments incorporate non-motorized and alternative transit amenities such as bike racks, bus benches and shelters, and pedestrian connections.



- Policy 1.10: Apply traffic calming measures, where appropriate, to residential neighborhoods affected by cut-through traffic in accordance with the City's Residential Neighborhood Traffic Management Program.
- Policy 1.11: Adopt and maintain a 57-year CIP in conformance with the provisions of Measure M for the purpose of maintaining the LOS standards established in this Element.
- Policy 1.12: Promote traffic reduction strategies through the measures adopted within the City's Transportation Demand Management (TDM) Ordinance.
- GOAL 2.0: Provide for adequate regional and local transportation facilities.**
- Policy 2.1: Cooperate with other agencies to address regional issues and opportunities related to growth, transportation, infrastructure, and other planning issues.
- Policy 2.2: Plan for future maintenance and expansion of the City's roadway and bikeway systems and other infrastructure on an annual basis. Anticipate changes in funding availability, project priority, and project feasibility.
- Policy 2.3: Continue to work toward achieving a balance between residential, industrial, commercial, and public land uses. Support programs that match Orange residents with local jobs to reduce long commutes and improve the fiscal and public health of the community.
- Policy 2.4: Explore infill development or mixed-use opportunities wherever possible as developable space becomes more limited.
- Policy 2.5: Continue to work with OCTA and other regional transit agencies to provide such amenities as bus shelters, shade, and other special streetscape treatments at transit stations that encourage the use of regional bus and train services.
- Policy 2.6: Participate in interjurisdictional planning forums within the City's established GMAs as adopted by the Regional Advisory Planning Council.

GROWTH MANAGEMENT PLAN

The Growth Management Element expresses the City's approach to managing future growth. Consequently, although there is some overlap among the policies presented in this Element and in other General Plan elements, this Element is defined as the key resource document for growth management policies and issues and Measure M compliance. The following section presents the key growth management challenges facing the City in coming years and the City's approach to addressing the challenges.

Interjurisdictional Coordination and Cooperation

The City recognizes that federal and state highways are a significant part of Orange's transportation system, and therefore greatly influence operation of the City roadway system. The City is bisected by the Costa Mesa Freeway (SR 55) in addition to being ringed by the Riverside Freeway (SR 91) to the north, the Orange Freeway (SR 57) and Santa Ana Freeway (I-5) to the west, the Garden Grove Freeway (SR 22) to the south, and the Eastern



Transportation Corridor (SR 241) to the east. The state and federal highway and freeway systems are therefore an integral part of the City's transportation planning process. Coordination with Caltrans and the Transportation Corridor Agencies regarding future improvements to these roadways is imperative to prevent unintended traffic impacts on the City's roadway system.

~~Growth Management Areas~~

~~A significant effort in the transportation planning process will be undertaken by the City in its involvement in the GMAs established by the Regional Advisory Planning Committee. The purpose of the GMAs is to enable local jurisdictions to focus their mutual concern, coordinate improvements, and implement those improvements through an interjurisdictional process. City staff will work with staff from other cities represented in each of the GMAs to address the transportation issues identified by mutual consensus of the representatives of each GMA.~~

~~In addition, the City will continue to work with adjacent cities through existing formal agreements to fulfill any obligations not covered by the GMA activities. GMA activities do not supersede prior participative planning agreements between respective agencies.~~

Freeway System Deficiencies

Many of the transportation problems facing the City and Orange County are based on the inadequate capacity of freeways to serve peak period travel demands. This lack of capacity has resulted in poor levels of service, characterized by severe congestion and low travel speeds, as well as diversion to local streets during peak periods. The most severe congestion on the freeway system that affects the City's roadway system occurs at the "Orange Crush," where the Santa Ana, Orange, and Garden Grove Freeways come together. In addition, the Riverside Freeway is severely congested by commuters coming from the Inland Empire to jobs in the South Central Orange County area during peak periods. As freeways become more congested, additional impacts result on the City's roadway system.

City Roadway Deficiencies

The Orange County Master Plan of Arterial Highways (MPAH) defines an arterial highway system intended to support and serve existing and projected land uses within both incorporated and unincorporated areas of the County. The arterial system is designed to serve as part of a balanced transportation system (autos, trucks, buses, bicycles, pedestrians, and emerging technologies). Smart Streets, Principal, Major and Primary Arterial Highways are intended to accommodate the bulk of intra-regional traffic and complement both the freeway system and the local street network. Secondary Arterials and Commuter Streets serve mainly as collectors which move traffic from local streets to the Smart Street, Principal, Major and Primary Arterial system.

As congestion continues to increase on the freeway system, more drivers will switch to using City arterials, particularly those parallel to freeways, or arterials serving the same trip destinations as the freeways. Consequently, these arterials, such as Tustin Street and Lincoln Avenue, will become increasingly congested at peak hours, pending improvements to the freeway system. Likewise, arterials providing access to the Costa Mesa and Garden Grove



Freeways, such as Chapman, Katella, Lincoln, and Taft Avenues, are experiencing similar congestion. ~~The Garden Grove Freeway has recently undergone a major renovation to add capacity and enhance safety.~~ Chapman Avenue east of the Costa Mesa Freeway acts as the absent easterly extension of the Garden Grove Freeway, attempting without adequate capacity to serve a major population and recreational demand in east Orange and the South County area.

Level of Service Standards

Level of service is a qualitative measure that characterizes traffic congestion on a scale of A to F with LOS A representing a free-flow condition and LOS F representing extreme congestion. The LOS standard for traffic circulation in the City is LOS D for all roadway segments and signalized intersections. The circulation system shall be implemented in a manner that is designed to achieve LOS D or the current level; whichever is the farthest from LOS A. Intersections exempt from this standard include facilities under the jurisdiction of another City or the state; facilities that are part of the Orange County Congestion Management Program (CMP); or those included on a Deficient Intersection List established by a GMA in which the City participates. LOS will be measured according to the procedures outlined in the LOS Policy Implementation Manual established by OCTA.

In order to achieve this standard, the City will require that the necessary improvements to transportation facilities identified as adversely impacted shall be completed prior to completion of a development project.

Achieving the adopted LOS standard and implementing exacted transportation improvements will also take into consideration extraordinary transportation circumstances that may affect identified intersections and/or timing of the required improvements. An example of an extraordinary circumstance would be when arterial roadways serve temporarily as substitute freeway access (thus affecting LOS performance) while construction of additional freeway improvements is underway.

Development Mitigation

New development in accordance with the policies of the Land Use Element may occur throughout the planning area over the next 20 years. Most new development will occur either within one of eight focus areas identified in the Land Use Element, or within the eastern portion of the planning area.

Infill Development within Focus Areas

Infill is the development of vacant sites in previously built-up areas. Infill development in Orange may occur in the future within eight focus areas as described in the Land Use Element. Much of this infill development will take the form of mixed-use residential, office, and commercial projects, designed to provide opportunities for people to live, work, and shop within more compact locations or districts. However, potential exists for infill development to further degrade traffic congestion on some of the City's major arterial roadways, including South Main Street, Chapman Avenue, Katella Avenue, Tustin Street and La Veta Avenue. Growth management strategies for these areas focus on timely



development of circulation system improvements related to infill development projects. Strategies emphasize use of alternative transportation methods, particularly transit, within the focus area corridors.

New Development in East Orange

Most new development in Orange's planning area will occur in currently undeveloped areas located generally east of Jamboree Road. This area is well served by the SR 241 and SR 261 toll roads, and future improvements to Santiago Canyon Road will provide arterial connections between the toll roads and future residential and commercial recreation areas. This circulation system provides beneficial connections to those living in east Orange who travel north to Riverside County or south to Irvine or other destinations in the South County. Growth management strategies for new development in east Orange focus on collecting transportation impact fees and ensuring that needed roadway improvements are completed in step with new development as new homes and businesses are occupied.

Traffic Impact Analysis and Fees

To ensure that traffic impacts associated with new development are adequately addressed, the City will require a Traffic Impact Analysis of all new projects, as required by the City's Traffic Impact Analysis Guidelines or at the discretion of the City Traffic Engineer when insufficient information is available to make a preliminary assessment of a proposal's traffic impacts. The City will also ensure that new development pay for or implement its fair share of street improvement costs associated with development, including regional traffic mitigation. The City will not use any new revenues generated from Measure M to pay for improvements incurred by a private development project.

The City will continue to collect transportation impact fees for improvements within its boundaries and will work with adjacent jurisdictions to ensure that an appropriate level of transportation impact fees is maintained within the GMAs. In the future, the City may also give consideration to a Deficient Intersection Fund Fee on all development contributing measurable impacts to intersections on the Deficient Intersection List of the Orange County CMP. This fee, if determined necessary, shall be approved by the jurisdictions in the GMA and locally administered as part of the City's CIP.

Development Phasing

New development in the City will be required to establish a Development Phasing Program that links issuance of building permits for portions of the development plan to roadway improvements required to achieve the appropriate LOS. During the development approval process, it will be determined whether to link to construction of the designated improvement(s) by others and/or link to construction of the designated improvement(s) at a certain time designated by the City.

The phasing plan must include an overall buildout plan which can demonstrate the ability of the infrastructure to support the planned development. The phasing plan for new projects will be a component of the development review and entitlement process and must be approved prior to issuance of building or grading permits.



Annual Monitoring

The City will monitor the implementation of the Development Phasing Program for each new development projects on an annual basis and prepare an annual report, which will indicate the status of development approval in relationship to the status of the required traffic improvements.

GROWTH MANAGEMENT IMPLEMENTATION

The goals, policies, and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaboration with regional agencies and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.



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NATURAL RESOURCES

INTRODUCTION AND VISION FOR THE FUTURE

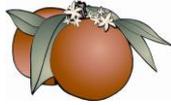


Orange benefits from and relies upon its natural resources, which include a variety of landforms that provide the setting for the City, as well as the open spaces and parks that define many of the community's neighborhoods. These amenities provide visual relief from the intensity of urban areas. Open spaces offer areas for passive and active recreation, and for horticulture. They provide habitat for plant and animal life. Used as parks, they house facilities for recreational and civic activities

that are accessed by residents and visitors of all ages. Striking a balance between the built environment and Orange's natural resources is vital to the long-term sustainability of the community. Such sustainability requires that growth occur in a responsible manner that allows natural resources to be preserved and enhanced for future generations.

Orange's *Vision for the Future* is described in the General Plan Introduction. The Vision recognizes that the City's quality of life will be judged by how well we connect with our surroundings. Therefore, this Element focuses on how Orange can maintain and create special places that bring us together, and how the City can reinforce connections between open spaces and the community, so that all of our residents and visitors can share and enjoy the outdoors and other activities. The Vision includes the following objectives related to Orange's natural resources:

- Define neighborhoods through the use of open space areas and a trail system that provides a source of aesthetic beauty and recreational opportunities. These open space areas support a healthy and active community.
- Continue to protect our critical watersheds, such as Santiago Creek, and other significant natural and open space resources.
- Strive to build a comprehensive system of parks, open space, equestrian areas, scenic resources, and undeveloped natural areas, as well as a full array of recreational, educational, and cultural offerings such as sports, entertainment areas, and play facilities.
- Develop a connected multi-modal network for traveling from one end of town to the other that provides the option for residents from different neighborhoods to access parks, open spaces, and scenic areas by vehicle, transit, foot, bicycle or, where appropriate, by horse.



The natural resources, open space, and parks and recreational facilities described throughout this Element are key physical components that are essential to the quality of life in Orange. These facilities provide a variety of benefits. For example, open space provides recreational areas and wilderness areas. Urban parks provide relief and offer a soothing contrast to office, commercial, and residential areas. They provide for both active and passive recreational activities, and are key contributors to neighborhood identity and interaction. Trails and bicycle paths offer non-motorized alternatives for getting around the City. In addition, modern day recreational and visual connections to the Santa Ana River and Santiago Creek are reminders of our Native American and agricultural heritage.

Orange's General Plan combines two state-required General Plan elements – Open Space and Conservation – into a single Natural Resources Element. In addition to meeting other open space and conservation requirements, the Natural Resources Element also provides guidance regarding strategies for reducing urban runoff, maintaining water quality, preserving air quality and combating climate change within the City.

Purpose of the Natural Resources Element

The Natural Resources Element satisfies State requirements for the Open Space and Conservation Elements as stated in the Government Code Section 65302(d) and Section 65301(e). The goals and policies regarding nature conservation must adhere to the underlying intent of the Natural Communities Conservation Plan (NCCP). The Natural Resources Element also includes an optional Parks and Recreation Element, under provisions of General Plan law, which includes designation of parks and recreation facilities to meet the requirements of the state's Quimby Act imposed on cities and counties. The Quimby Act allows the City to collect exactions, in the form of impact fees, conservation easements, or park improvement fees from developers by demonstrating a close relationship between the park demands of a project and the need for additional parkland or recreational facilities.

The purpose of the Natural Resources Element is to establish programs and policies for: (1) preservation and use of open space; (2) renewable and non-renewable nature conservation; and, (3) parks and recreation. The scope of the Natural Resources Element spans areas of land and water used for open-space uses such as:

- preservation of renewable and non-renewable natural resources;
- managed production of resources, such as energy and groundwater supply;
- outdoor recreation; and
- trail-oriented recreational use.

Scope and Content of the Natural Resources Element

The Natural Resources Element contains goals and policies that reflect the community's intent to preserve and efficiently operate programs associated with open spaces, natural resources, and recreational spaces. The Element is divided into three sections:

- (1) Introduction
- (2) Issues, Goals, and Policies
- (3) Natural Resource Plans

The *Issues, Goals, and Policies* section identifies community open space, resource management, and recreational needs. This section also identifies goals and policies related to



various natural resource *issues*. *Goals* are broad statements that reflect the City’s desires and guide the City regarding these issues. The *policies* provide directions for preserving open space, improving parks and recreation, and conserving natural resources. Implementation measures designed to promote achievement of goals and policies are provided in an Appendix to the General Plan.

Relationship to Other General Plan Elements

Successful achievement of the goals and policies within the Natural Resources Element depends, in part, upon their consistency with those of the other Elements in the General Plan. The Natural Resources Element most closely relates to the Land Use, Circulation & Mobility, Housing, Public Safety, and Cultural Resources & Historic Preservation Elements.

The Land Use Element identifies desired future uses for all lands within the City. Such uses include parks, recreational facilities, and public and privately owned open spaces to meet the needs of existing and future generations. The goals and policies of the Land Use Element assign location, intensity of use, and unit densities to properties that influence the contents of the Natural Resources Element. In addition, the Land Use Element provides for Transfer of Development Rights strategies that may increase the availability of future open space resources described in the Natural Resources Element.

The goals and policies of the Circulation & Mobility Element identify, and ensure access to, open spaces and recreational areas requiring access. The Circulation & Mobility Element assigns the location of streets and trail systems for pedestrians, bicyclists, and equestrians in open spaces. The Public Safety Element provides goals and policies addressing public health and safety within the City, including open space lands such as parks, trails, lakes, and wildland areas. Public health issues include natural and man-made hazards in open space. The Cultural Resources & Historic Preservation Element is a companion element to the Natural Resources Element, and provides policies and programs related to conservation of historic and cultural resources within Orange’s planning area.

ISSUES , GOALS AND POLICIES

The goals, policies, and implementation programs of the Natural Resources Element address seven issues: (1) preserving and expanding open space resources; (2) protecting air, water, energy, and land resources; (3) reducing greenhouse gas emissions and adapting to effects of climate change; (4) preserving significant ecological, biological, and mineral resources; (5) providing and expanding recreational facilities and programs; (6) creating a comprehensive trails network; and (7) preserving visual and aesthetic resources.

Open Space Resources

Open space areas are important biological, aesthetic, and recreational resources. They become increasingly valuable as the City develops and the landscape becomes more urbanized. Open spaces create buffers to development and provide both wildlife habitat and recreational opportunities.



- GOAL 1.0:** Provide recreational use, scenic enjoyment, and the protection of natural resources and features in open space areas.
- Policy 1.1: Conserve open space through various public-private funding mechanisms and management strategies including, but not limited to, conservation easements.
- Policy 1.2: Actively seek out new public open space opportunities through land recycling.
- Policy 1.3: Promote development of additional open spaces and access points adjacent to waterways and planned trails.

Air, Water, and Energy Resources

Orange lies within the heart of north-central Orange County, where the best qualities of Southern California living continue to attract new residents every year. Clean water and air, carefully managed land resources, and an efficient circulation network are critical elements of a healthy, sustainable City and watersheds. Orange will maintain and protect these resources through a range of measures to protect public health and quality of life.

- GOAL 2.0:** Protect air, water, and energy resources from pollution and overuse.
- Policy 2.1: Cooperate with the South Coast Air Quality Management District (SCAQMD) and other regional agencies to implement and enforce regional air quality management plans.
- Policy 2.2: Support alternative transportation modes, alternative technologies, and bicycle- and pedestrian-friendly neighborhoods to reduce emissions related to vehicular travel.
- Policy 2.3: Reduce the amount of water used for landscaping through the use of native and drought-tolerant plants, proper soil preparation, and efficient irrigation systems as parks and other City facilities are built or renovated.
- Policy 2.4: Encourage the production, distribution, and use of recycled and reclaimed water for landscaping projects, while maintaining urban runoff water quality objectives.
- Policy 2.5: Continue to work toward local and regional waste-reduction and diversion/recycling goals and promote public education programs.
- Policy 2.6: Encourage sustainable building and site designs for new construction and renovation projects.
- Policy 2.7: Coordinate with energy suppliers to ensure adequate energy supplies to meet community needs, and to promote energy conservation and public education programs for that purpose.
- Policy 2.8: Encourage development that incorporates pedestrian- and transit-oriented design and landscape elements.
- Policy 2.9: Promote City operations as a model for energy efficiency and green building.
- Policy 2.10: Work toward replacing existing City vehicles with ultra low or zero emission vehicles. At a minimum, new City vehicles shall be low emission vehicles as



defined by the California Air Resources Board, except if certain vehicle types are not available in the marketplace. Public safety vehicles are exempted from this requirement.

- Policy 2.11: Protect the ecological integrity and overall health of Orange’s watersheds.
- Policy 2.12: Cooperate with water supply agencies to protect the quantity and quality of local groundwater supplies.
- Policy 2.13: Control surface runoff water discharges into the stormwater conveyance system to comply with the City’s National Pollutant Discharge Elimination System (NPDES) Municipal Permit and other regional permits issued by the Santa Ana Regional Water Quality Control Board.
- Policy 2.14: Reduce pollutant runoff from new development by requiring the use of the most low/low impact development ~~impact~~ practices and the most effective Best Management Practices (BMPs) currently available.
- Policy 2.15: Minimize the amount of impervious surfaces and associated urban runoff pollutants in new development and significant redevelopment throughout the community.
- Policy 2.16: Protect in-stream habitat and natural stream and channel features.
- Policy 2.17: Educate City residents and businesses on the effects of urban runoff, and water and energy conservation strategies.

Climate Change

The scientific community believes that increasing levels of greenhouse gases (GHGs) in the earth’s atmosphere are contributing to rising global average temperatures. The most abundant GHG is carbon dioxide (CO₂), which is a byproduct of fossil fuel combustion. CO₂ is removed from the atmosphere through sequestration by vegetation and dissolution into the ocean. Carbon sequestration is the absorption or removal from the air of carbon dioxide by plants or natural processes. These sequestration processes happen naturally, but human-generated emissions may be outpacing these removal processes, resulting in excessive GHG concentrations accumulating in the atmosphere, and leading to a subsequent trend of unnatural global warming.

- GOAL 3.0: Prepare for and adapt to the effects of climate change and promote practices that decrease the City’s contribution to climate change.**
- Policy 3.1: Evaluate the potential effects of climate change on the City’s human and natural systems and prepare strategies that allow the City to appropriately respond and adapt.
- Policy 3.2: Develop and adopt a comprehensive strategy to reduce greenhouse gasses (GHGs) within Orange by at least 15 percent from current levels by 2020.

Ecological, Biological and Mineral Resources

Wildlife habitat is crucial for the survival of native animal and plant species, and for maintaining the biodiversity of the City and larger Orange County region. Significant wildlife



habitat can be found in the City’s undeveloped hillside areas, East Orange, and parks and open spaces (particularly near Santiago Creek, Santiago Oaks Regional Park, Irvine Regional Park, and Peters Canyon Regional Park). Human-created landscaping is also an important environmental element, particularly in urban areas. Landscaping elements such as street trees contribute to an improved aesthetic and biological environment while providing a natural means of cleansing the air and minimizing urban heat. Sand and gravel resources in the planning area provide valuable sources of aggregate material for new construction. These resources benefit the region as a whole. In accordance with guidelines established by the State Mining and Geology Board, City policy recognizes the need to protect these resources from premature urbanization.

The following goals and policies reflect the City’s desire to maintain and support prudent management of these important environmental resources.

GOAL 4.0: Conserve and protect wildlife habitat, plant and animal species of concern, and general biodiversity.

- Policy 4.1: Preserve and protect native and habitat-supporting plant resources throughout the City.
- Policy 4.2: Work with agencies, including the Orange County Flood Control District, to identify opportunities to enhance the natural qualities of Santiago Creek to protect habitat and reintroduce native plants and animals.
- Policy 4.3: Reduce the impact of urban development on important ecological and biological resources.
- Policy 4.4: Repair or improve ecological and biological conditions in the urban and natural environments when reviewing proposals for site development and redevelopment, as well as public improvements.
- Policy 4.5: Protect the Santiago Creek and Santa Ana River corridors from premature urbanization to ensure the continued availability of important sand and gravel, flood control, water recharge, biological, and open space resources.

Recreational Facilities and Programs

The City’s active and passive recreational resources consist of designated parks, trails, and open space areas. Continued provision of recreational opportunities through preservation of open space, park maintenance and development, and the creation of new facilities will ensure improved quality of life for residents.

GOAL 5.0: Provide recreational facilities and programs that adequately serve the needs of residents.

- Policy 5.1: Maintain existing City parks at levels that provide maximum recreational benefit to City residents.
- Policy 5.2: Provide a range of high quality recreational facilities and programming to serve a broad cross section of residents, including youth, seniors, young adults, mature adults, and people with disabilities.



- Policy 5.3: Establish joint recreational use of open space land and facilities owned by school districts and/or the City.
- Policy 5.4: Develop new public parks and open space resources by establishing incentives to use creative techniques available to property owners and developers that support public-private open space partnerships.
- Policy 5.5: Explore and pursue new approaches to new park development and to providing a balanced mix of amenities and facilities.
- Policy 5.6: Identify areas within the City that are currently underserved by existing open space, and develop programs to purchase land and build park amenities at a minimum level of 3 acres per 1,000 persons and the goal of 5 acres per 1,000 persons. Support provision of a total of 10 acres of parkland per 1,000 persons, inclusive of County regional parks within the planning area.
- Policy 5.7: Consider the use of Transfer of Development Rights (TDR) as a means to acquire and develop more publicly accessible open space.

Comprehensive Trails Network

Trails within the City serve important recreational and transportation needs, but are currently disconnected and in some areas incomplete. The Santiago Creek corridor has been recognized as a potential spine for a City-wide network of multi-use trails that connect parks, open spaces, recreational facilities, and other City amenities. Other opportunities to improve trail networks may include the conversion of active and inactive railroad rights-of-way to trails, and joint use of utility easements and flood control rights-of-way for trail purposes. While providing for pedestrian, bicycle, and equestrian circulation, a trails network would also create a valuable greenway system throughout the City and would support the physical health and active lifestyle of Orange residents.

- GOAL 6.0: Provide for alternative modes of transportation and access to recreational resources through a multi-use trail system that links the City’s parks and regional open space amenities.**
- Policy 6.1: Complete multi-use trail links throughout the City that serve recreational and circulation purposes as funding is available.
- Policy 6.2: Ensure consistent, safe, and efficient maintenance of trails, and minimal impacts to the environment.
- Policy 6.3: Work with the Rails-to-Trails Conservancy, surrounding residents, utility providers, flood control and water agencies, and community organizations to pursue the joint use of local rights-of-way and easements for multi-use trails.
- Policy 6.4: Link existing equestrian trails and provide outlets to open space areas, particularly in the northeast region of the City, to reach regional parks such as Santiago Oaks, Irvine, Peters Canyon, and the Cleveland National Forest.
- Policy 6.5: Ensure that the trail system has a safe interface with existing development.
- Policy 6.6: Encourage an integrated relationship between trails and developed areas through the site planning and design of private development and trail projects.



Visual and Aesthetic Resources

Portions of Orange are characterized by scenic vistas that include hillsides, ridgelines, or open space areas that provide a unifying visual backdrop to the urban environment. These “viewsheds” contribute to the City’s identity and quality of life. The City will preserve open space areas and view corridors where possible and will encourage landscaping in urban areas to improve boulevards, neighborhoods, and commercial and industrial districts.

GOAL 7.0: Protect significant view corridors, open space, and ridgelines within the urban environment.

Policy 7.1: Preserve the scenic nature of significant ridgelines visible throughout the community.

Policy 7.2: Designate Santiago Canyon Road east of Jamboree Road as a City Scenic Highway to preserve the scenic nature of the open space adjacent to the road.

Policy 7.3: Encourage the development of landscaped medians and parkway landscaping along arterial streets in public and private projects, and encourage the state to provide freeway landscaping.

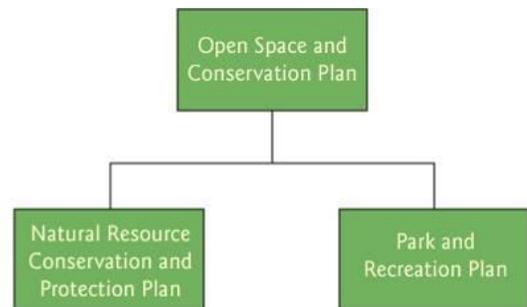
Policy 7.4: Coordinate with Southern California Edison and other utilities to place utility lines underground wherever possible.

Policy 7.5 Encourage the retention and enhancement of scenic corridors and visual focal points within the community.

NATURAL RESOURCE PLANS

The Natural Resources Element establishes the City’s approach to protecting and enhancing its natural, open space, and recreation resources. The City has established goals and policies to preserve these resources. The following Natural Resource Plans provide an outline for future actions to conserve and improve the natural resources in Orange’s planning area. Implementation programs, which describe and detail the City’s specific actions, are included in an Appendix to the General Plan.

The Natural Resources Element covers a wide range of diverse issues, from the protection of water resources to the establishment of recreational trails. In order to focus policy and implementation programs on each specific issue, the Natural Resource Plan is divided into two “mini-plans”—a Natural Resource Conservation and Protection Plan, and a Park and Recreation Plan.



NATURAL RESOURCE CONSERVATION AND PROTECTION PLAN

Before Orange was an incorporated city, people were attracted to the area by its wealth of natural resources—the temperate climate, clean air, abundance of water, variety of plants





and animals, and vast acres of open space, from the alluvial plains below the Santa Ana Mountains to the rolling hills and shaded canyons. People found Orange to be a desirable place to farm, raise a family, and pursue a high quality lifestyle.

Population growth in the 20th century transformed Orange from a quiet farming community into a sizable urban city. The sand and gravel resources of the Santa Ana River and Santiago Creek were used to support urban development, first on the flatlands, and then into the hills of east Orange.

Growth has been accompanied by a gradual reduction in the quality and quantity of the natural resources which first attracted people to the area. Growth in Orange, as well as throughout the region, has contributed to a decline in air and surface water quality, reduction in local groundwater supplies, and elimination of some open space areas suitable for agricultural production and wildlife habitat.

Despite the reduction and loss of some resources, Orange residents have not lost sight of the benefits natural resources provide the community. Clean air and water are vital to ensure the protection of public health and to support wildlife. Plant and wildlife resources enrich the urban setting by providing changes in scenery and environment. They contribute to the biodiversity and ecology of the region. Also, preservation of some open space areas (floodplains, steep hillsides) is necessary to protect public safety. Finally, aggregate resources (sand and gravel) provide the community with a source of income and a source of readily available building materials to support new construction and growth in appropriate areas of the community.

Open Space Resources

Open space lands may be set aside for many purposes, including the provision or preservation of: (1) parks for recreation or wildlife habitat preservation; (2) water resources for groundwater recharge and support of plant and animal habitat; (3) environmental hazard zones for the protection of public safety; and, (4) prominent geologic features and scenic resources for the visual enhancement of the urban environment.

As shown in Figure NR-1, Orange's planning area includes approximately 7,400 acres of open space, which is about one-third of the planning area's total land area. Open spaces include lands used as City or County parks, ridgelines, and areas designated as Open Space on the Land Use Policy Map. The greatest concentration of open space within the planning area is in the Cleveland National Forest, a portion of which is located within the City's Sphere of Influence. This open space includes several hundred acres in the Peralta Hills area and several hundred acres in the hills south and east of Orange Park Acres, consisting of Santiago Oaks Regional Park, Irvine Regional Park, and Peters Canyon Regional Park. An additional 15,800 acres of open space lies within the City's Sphere of Influence, east of the planning area.

The open space areas also include a portion of the 37,000-acre reserve area established by the *Central and Coastal Orange County Natural Communities Conservation Plan/Habitat Conservation Plan* (NCCP/HCP). This area encompasses portions of Santiago Hills II and east Orange. Additionally, the Irvine Ranch Land Reserve affects the pattern of developable and undevelopable land in the eastern portion of the planning area. The reserve stretches from Weir Canyon near State Route (SR) 91 at the north end of Irvine Ranch, connects with the



Cleveland National Forest along the northeast border of the ranch, continues south to include large regional open space systems in the northern and southern hillsides of the City of Irvine, and extends to the Laguna Coast Wilderness Park and Crystal Cove State Park near Laguna Beach.

Conserving current open spaces and creating new open spaces are important concerns. As development pressure increases in the hillside areas east of the City, one key to preserving the quality of life for Orange residents lies in providing open spaces that preserve scenic vistas, provide habitat for wildlife, and maintain the ecological balance of the area. Additionally, because most of Orange's open spaces are located adjacent to the many reservoirs and creeks located within the City, opportunity exists to improve water quality in the region by enhancing and adding open spaces around these reservoirs and creeks.

To increase the amount of open space within the City, Orange will work with large landowners to secure open space dedications where feasible. The City will also work with land trusts and non-profit agencies to secure grant funds for acquisition and conservation of open space areas. Where appropriate, this process may include the use of conservation easements, which are voluntary agreements that allow landowners to limit the type or amount of development on their property while retaining private ownership of the land. The easement is signed by the landowner, who is the easement donor, and by a government agency or non-profit organization, which is the party receiving the easement. The landowner continues to privately own and manage the land, and may receive tax advantages for having donated the conservation easement. The government or non-profit accepts the easement with the understanding that it must enforce the terms of the easement in perpetuity. After the easement is signed, it is recorded with the County Clerk and applies to all future owners of the land.

Air, Water, and Energy Resources

The quality of air, water, energy, and land resources must be preserved, not only for public health, environmental, and economic reasons, but also to improve and maintain the quality of life for Orange residents. All of these resources generate regional issues. Therefore, resolving issues related to air, water, energy and land resources requires the coordinated efforts of many jurisdictions. Collectively, smaller local actions can have wide-reaching impacts.

Air Resources

Orange has seen steady growth in both population and development over the past decades, which has urbanized a once rural town. The population growth in Orange and surrounding jurisdictions has led to declining air quality in the regional air basin. Orange is located within the South Coast Air Basin, managed by the South Coast Air Quality Management District (SCAQMD), which is the regional agency responsible for regulating pollutant emissions in the air basin.



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In order to protect and improve air quality at a regional level, the City will continue to cooperate with SCAQMD to implement the *Air Quality Management Plan*. At a local level, the City will carry out the following programs to help improve regional air quality:

- Assess project impacts on air quality as part of the environmental review process. Whenever appropriate, environmental review and mitigation measures will be coordinated with SCAQMD.
- Support efforts to provide public transit, and routes that are user-friendly for bicyclists and pedestrians throughout the City.
- Support the development of pedestrian-friendly neighborhoods. As described in the Land Use Element, more intensely used commercial and mixed-use areas will be concentrated in identified opportunity areas located throughout the western portion of the City. Centralizing these uses may encourage mass transit to better serve core employment areas. Also, increased business opportunities within the City may reduce the number of area residents commuting greater distances to work (e.g. to downtown Los Angeles or Irvine).
- Require major employers to institute Transportation Demand Management (TDM) Plans. Such plans establish incentives to encourage employees to carpool, take public transportation, bicycle, walk, or use some means other than private automobiles to get to and from work.

Water Resources

Water is a resource that must be preserved, not only for public health, environmental, and economic reasons, but also to improve and maintain quality of life. Water quality is most definitely a regional issue. Pollutants entering the hydrologic system are dispersed outward, with the potential to affect all who use the water within the system.

Water sources are considered most vulnerable to contamination from industrial activities and/or environments such as chemical processing, petroleum pipelines and storage, gas stations, and sewer collection systems. The local issue of household chemicals entering water sources is also a challenge to water safety. Pollution of urban runoff and stormwater, and threats to the City's water supply arise from improper use of household hazardous materials, such as solvents, fuels, paints, swimming pool chemicals, miscellaneous flammable and corrosive substances, and from improper disposal of household hazardous wastes, including used motor oil. Reliable water supplies are essential to public health, safety, and welfare, and the City tests all water supply sources to assure safety and compliance with all drinking water standards.

Ground Water Quality and Supplies

Protection of water supply and ground and surface water quality is imperative for the health and quality of life of Orange residents, businesses, and visitors. Between 60-80 percent of the water supply to the City is drawn from municipal wells drilled into the Santa Ana River Aquifer from the Lower Santa Ana River groundwater basin managed by the Orange County



Water District (OCWD). The City is a member of this District, which manages the Orange County Groundwater Basin and monitors and maintains ground water quality in the region.

Other water sources include surface water runoff into Irvine Lake purchased from the Serrano Water District. The Lower Santa Ana River basin, which extends from San Bernardino County southwest to the Pacific Ocean, underlies the entire western portion of the planning area. The Santa Ana Mountains and foothills form the basin's eastern boundary. The ground water supply is supplemented by imported water purchased through the Metropolitan Water District of Orange County (MWDOC).

Figure NR-2 identifies major surface water bodies, waterways, and watershed areas in the planning area. A watershed is the geographic area draining into a river system, ocean, or other body of water through a single outlet and includes receiving waters. Watersheds are usually bordered and separated from other watersheds by mountain ridges or other naturally elevated areas. Three watersheds are located within Orange's corporate boundaries: the Santa Ana River Watershed (Lower Santa Ana River drainage basin), the San Diego Creek Watershed, and the Westminster Watershed (Los Alamitos/East Garden Grove/Bolsa Chica drainage basin). Most of Orange falls within the Santa Ana River Watershed. The southeastern portion of the planning area falls within the San Diego Creek Watershed, and consists primarily of residential communities with scattered neighborhood-serving commercial areas. A small southwestern portion of the planning area falls within the Westminster Watershed. These watersheds are based on the hydrologic areas delineated by the Orange County Flood Control District.

Irvine Lake, Villa Park Reservoir, and Peters Canyon Reservoir are artificial lakes constructed to provide water storage and flood control capabilities. All three lakes lie within areas designated for open space uses on the Land Use Policy Map. Villa Park Reservoir and Peters Canyon Reservoir lie within areas designated for public park uses. Therefore, land use policy ensures the preservation of these water resources for both resource conservation and recreation uses.

Irvine Lake is planned for continued use as a water reservoir, and such use includes related recreational uses such as fishing, sailing, and boating. Resort and commercial recreation uses on adjacent lands enhance the lake's recreation function. In determining the mix of recreation uses for the lake, the Irvine Ranch Water District and the Serrano Irrigation District recognize the primary use of the lake as an agricultural and domestic water supply reservoir. Desilting activities may continue as a part of the lake's management program to assure sufficient capacity for water storage.

The Santa Ana River, which forms the City's western boundary, is the major drainage course for the Santa Ana River basin. The river performs valuable flood control and groundwater recharge functions along its entire route. In recognition of the important role the river plays in providing groundwater recharge areas and adequate flood protection for Orange County, land use policy calls for open space uses along the river.

Santiago Creek flows from the Santa Ana Mountains through Orange and empties into the Santa Ana River in the City of Santa Ana. In addition to controlling floodwaters and recharging the groundwater basin, Santiago Creek has become a defining feature of the community, characterized by trails and recreational open space throughout portions of its

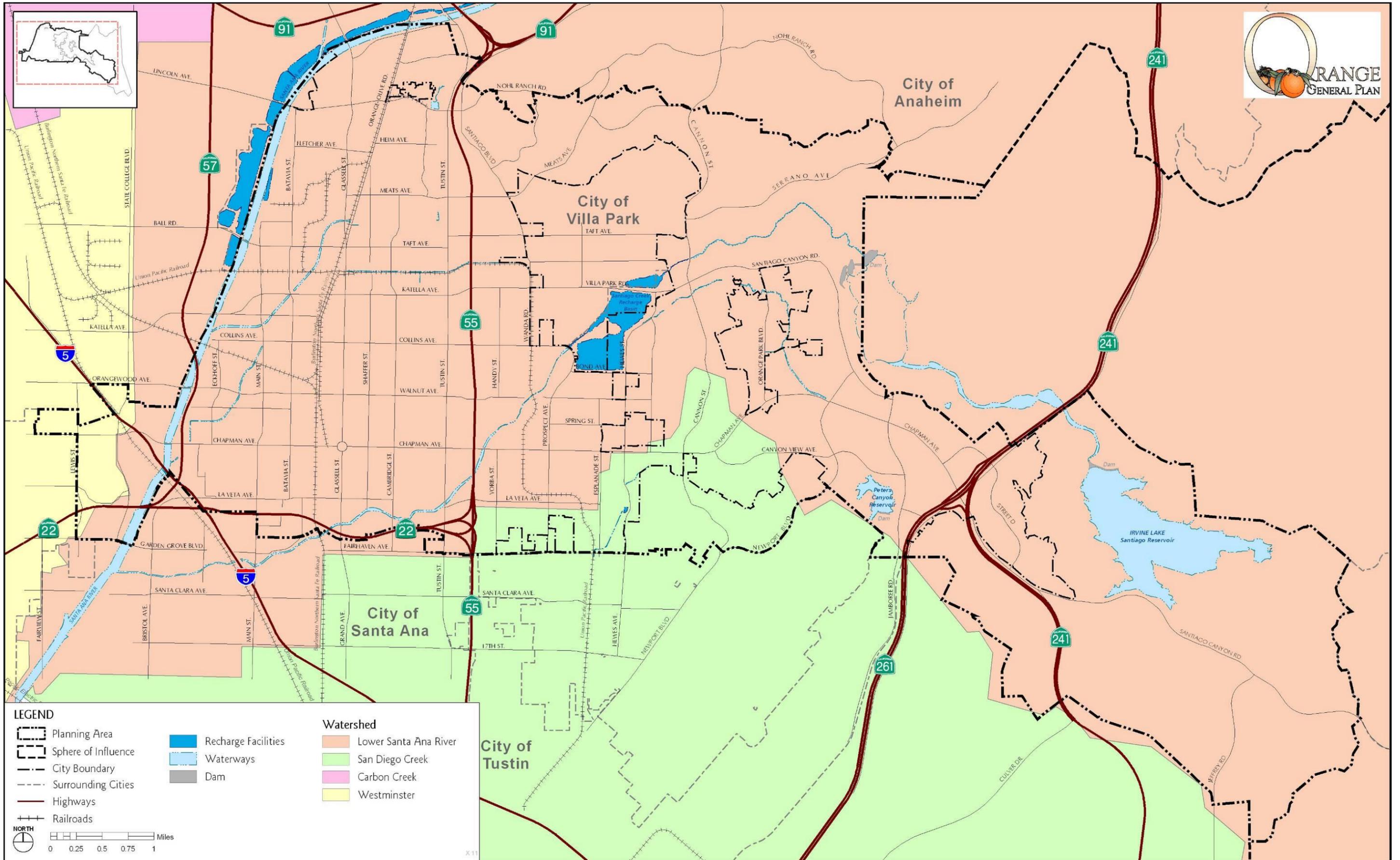


Figure NR-2 Drainage Areas and Water Recharge Facilities



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length within Orange. Community members identify with the creek, and the City seeks to incorporate natural characteristics of Santiago Creek in the design of adjacent future projects. The upper portions of Santiago Creek are characterized by large, abandoned mining pits. In particular, the pits near Bond Street serve valuable groundwater recharge purposes. Land use policy recognizes these uses by designating the creek and several surrounding properties as Open Space or Open Space-Park.

Handy Creek is a minor drainage course flowing from Peters Canyon Reservoir to Santiago Creek. Water flows from Peters Canyon Reservoir are channeled through Handy Creek to the recharge basin system at Santiago Creek near Bond Street, where it replaces water pumped from wells and helps maintain levels of groundwater supply for the area.

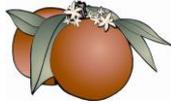
To promote water conservation, the City will encourage all developments to utilize water conservation measures in accordance with the City's Municipal Code, and will encourage sustainability in project site planning and building design. The City will use native and drought-tolerant plants for landscaping, and will use recycled and reclaimed water for irrigating landscape projects whenever feasible. Reclaimed water is the reuse of treated wastewater, and is usually used for non-drinking purposes. Using recycled or reclaimed water instead of expensive and increasingly scarce potable water helps to ensure the long-term availability of drinking water to Orange residents.

Urban Runoff

Urban stormwater runoff occurs when rainfall that in a nonurban environment would have been absorbed by groundcover or soil is instead collected by storm drains. In urbanized areas such as Orange, vegetation and top soil have been largely replaced by impervious surfaces such as buildings, roads, sidewalks, and parking lots. When it rains, trash, litter, silt, automotive chemicals, fertilizers, animal wastes and other contaminants ~~are~~ can be washed into the storm drain system. Since storm drains are designed to carry only stormwater, these drains typically are not equipped with filters or cleaning systems. Consequently, they can carry contaminants found in urban runoff directly into local flood control channels, lakes and the ocean. Many of the contaminants found in this runoff affect water quality and can, at elevated concentration levels, be toxic to aquatic and marine life.

National Pollutant Discharge Elimination System

Local stormwater pollution control measures are implemented in accordance with the 1972 Federal Water Pollution Control Act (Clean Water Act) and the National Pollutant Discharge Elimination System (NPDES). The Clean Water Act prohibits any person from discharging pollutants through a "point source" into a "water of the United States" unless they have a NPDES permit. The NPDES Program, mandated by Congress under the Clean Water Act, is a comprehensive program for addressing the nonagricultural sources of stormwater discharges that adversely affect the quality of the nation's waters. The Program uses the NPDES permitting mechanism to require the implementation of control and monitoring measures designed to prevent harmful pollutants from being washed into local water bodies by stormwater runoff. The NPDES program requires the owner or operator of any facility, including publicly owned facilities, or any person responsible for any activity that discharges waste into the surface waters of the U.S., to obtain an NPDES permit. The Clean Water Act



amendments of 1987 established a framework for regulating stormwater discharges from municipal, industrial, and construction activities under the NPDES program.

The Clean Water Act provides that states are authorized to operate their own NPDES programs, provided that such programs meet minimum federal requirements. In California, the NPDES Program is administered by the State Water Resources Control Board and its nine Regional Water Quality Control Boards. The NPDES Municipal Storm Water Permit for northern and central Orange County, including the City of Orange, is issued by the Santa Ana Regional Water Quality Control Board (Region 8). The City of Orange, along with other northern and central Orange County cities, currently operates under Santa Ana Regional Board Order No. R8-2009-0030 (NPDES Permit No. CAS 618030) as amended by Order R8-2010-0062. The Permit, issued in May 2009 and amended in October 2010, requires the City of Orange to minimize short- and long-term impacts on receiving water quality from stormwater and non-stormwater discharges, potential impacts associated with new development and significant redevelopment ~~to implementare reduced through the implementation of~~ low impact development practices (LID) and other onsite retention practices to the maximum extent practicable. As part of the NPDES permit program, Orange adopted a *Local Implementation Plan* in 2003, which was revised and readopted in September 2011 to conform to the May 2008 permit.

The City will require all new development and ~~modifications to existing developments~~significant redevelopment projects to use LID and Best Management Practices (BMPs) to reduce stormwater runoff and increase on-site retention. BMPs are effective methods that prevent and control the amount of pollutants entering the storm drain system, where pollutants eventually enter the surface water system. These practices closely follow federal stormwater requirements and regulations. In addition, the Orange County Model Water Quality Management Plan, adopted in August 2011 provides BMPs for source, structural and treatment control. Source control BMPs include such techniques as site planning and landscaping, and ~~use of pervious pavements~~activity restrictions. Structural BMPs include providing ~~protection from rain, secondary containment, and other construction BMPs~~messaging on catch basins to prevent illegal dumping, trash storage design, and energy dissipation for runoff. Treatment control BMPs include natural treatment options such as constructed wetlands, biofiltration planters and vegetated swales. The City will continue to support implementation of NPDES requirements on new development and significant redevelopment projects.

Energy Resources

The City will continue to promote energy conservation, both by encouraging conservation measures on the part of homeowners, the business community, and institutions, as well as by encouraging green building techniques for new construction and renovation projects.

Green Building

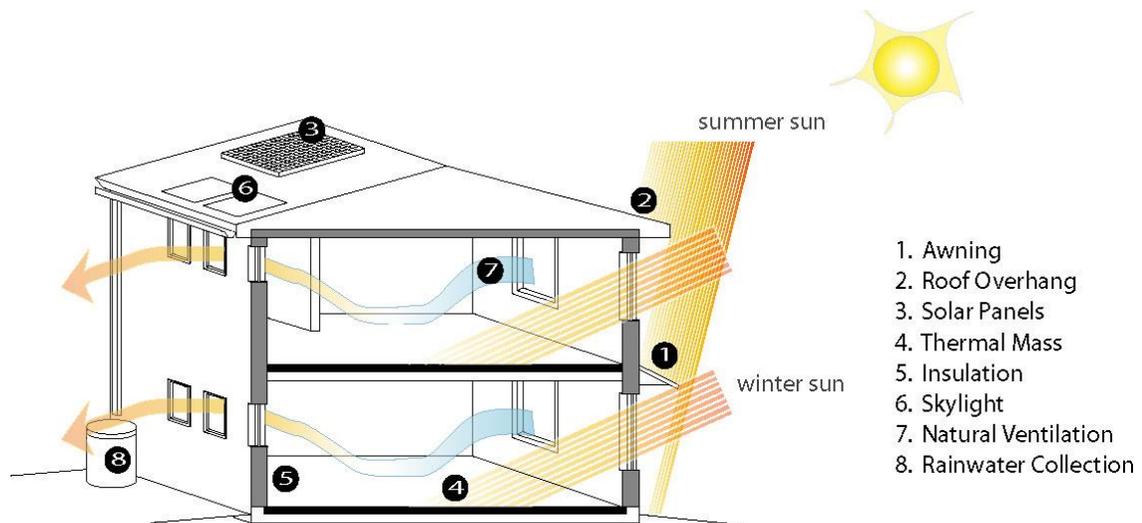
Green building concepts can be incorporated into site and building design to reduce energy use within the City as a whole, to improve aesthetics and comfort, and to provide a more cost-effective means of living. According to the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED), seven concepts of green building can help conserve energy and preserve the environment:



- Location and transportation
- Sustainable sites
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation and design process

Sustainable sites require development designs that work with existing topography, building on previously developed sites, integrating natural surroundings, using existing infrastructure, building on brownfields (sites previously used for industry) through site remediation, and selecting sites near public transportation and diverse land uses. These measures will ultimately help preserve natural habitats, reduce negative effects on water and air quality, and minimize automobile use.

Incorporating water efficiency at the time of construction will maximize water conservation through a building's lifetime. Using non-potable water or gray water to irrigate landscaping or using xeriscape (landscaping requiring minimal water usage) to conserve water, installing water-efficient fixtures, and incorporating innovative wastewater technologies and plans will reduce water demand and limit extraction and pollution of groundwater supply.



Green building incorporates site orientation, window placements, skylights, solar panels, and high insulation to improve indoor comfort and to conserve valuable natural resources.

Providing natural ventilation and effective insulation in buildings can reduce energy demand and utility bills. Natural ventilation will allow residents to cool living spaces without relying on air conditioners, and increased building insulation will sustain moderate variations to indoor temperature. Orienting buildings to invite natural light or using solar panels will reduce electricity demand. These measures will not only reduce demand for natural resources and minimize effects on climate change, but they will also increase comfort for residents and should encourage street-fronting design using more windows and detailing.



Judicious selection of materials and maximizing landscaping in parking lots, rights-of-way, and overall building sites can further provide natural indoor cooling and reduce heat island effects and glare in our urban environment. Choosing natural materials will improve indoor environmental quality by limiting toxic emissions associated with components such as adhesives and formaldehyde often found in building materials. Constant monitoring and innovation in sustainable building design will enhance the aesthetics of the built environment while improving the comfort and health of residents.

The City already practices building material waste reduction through its protection of historic building resources. These efforts, combined with construction waste management and efforts to incorporate recycled content and natural materials into new construction, will reduce the amount of waste destined for landfills and conserve non-renewable resources.

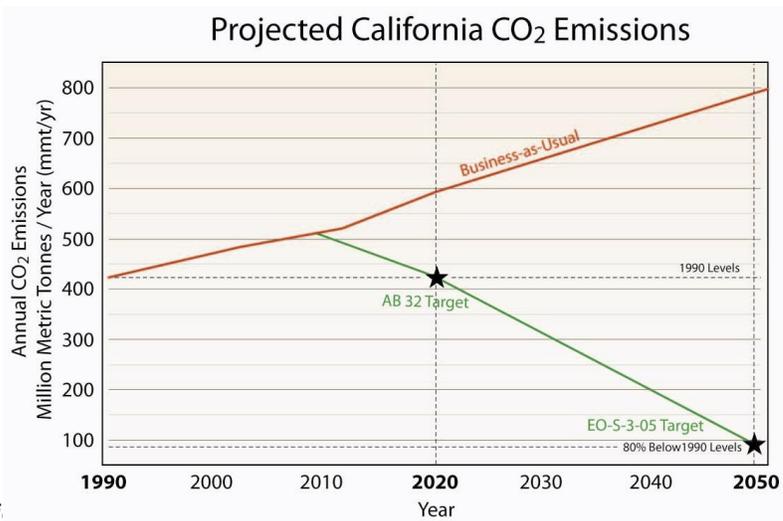
Climate Change

Climate change refers to a change in the state of the climate that persists for an extended period, due to natural processes, human-caused changes in the composition of the atmosphere, or land use changes that lead to atmospheric changes. According to the United Nations Intergovernmental Panel on Climate Change (IPCC)¹, the scientific authority on the subject of climate change, certain findings are widely accepted by the scientific community:

- Greenhouse gases (GHGs) such as carbon dioxide (CO₂), when introduced into the atmosphere, have a warming effect on the earth;
- Human activities have increased the levels of GHGs in the atmosphere since pre-industrial times; and
- The global climate has warmed by an average of 1.0-1.7 degrees Fahrenheit from 1906-2005.

Greenhouse gases are gases that trap heat in the atmosphere. GHGs include CO₂, methane, nitrous oxide, and fluorinated gases. The human activities during which these gases are emitted include burning, manufacturing, and transportation-related combustion of fossil fuels. Livestock and solid waste emissions also contribute to the buildup of GHGs.

The effects of climate change include increased global average temperature, subsequent altered precipitation patterns, thermal expansion of the ocean, and loss of polar and global sea ice extent. In Orange, these changes would translate to water and energy supply issues, increased risk of wildfire and



¹ IPCC 2007; *Climate Change 2007: The Physical Assessment Report of the IPCC*. Cambridge University Press. Cambridge, UK.



floods, and possible human health complications.

Responding to climate change requires a two-pronged approach. On one hand, the City must adapt to change and prepare for the already-foreseeable effects of global warming that have already occurred and, on the other hand, the City must coordinate with agencies, residents, and businesses to modify behavior to decrease the citywide contribution to GHG emissions and associated effects on the climate.

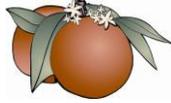
Greenhouse Gas Emissions

The California Global Warming Solutions Act of 2006 (AB 32) was created by the state legislature to address the threat global warming poses to the state’s “economic well-being, public health, natural resources, and the environment”. The Act directs the California Air Resources Board (ARB) to “adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990 to be achieved by 2020.” California Executive Order 03-05 (EO-S-3-05, June 2007) requires statewide GHG emissions to be reduced to a level 80 percent below 1990 levels by 2050. These laws require maintenance of a statewide inventory of emission levels as well as taking action to decrease emission levels. Actions needed to decrease emission levels statewide were documented in a Scoping Plan approved in 2008, and subsequently amended in 2011, ~~and~~ 2014 and 2017.

Senate Bill 375 (2008) requires metropolitan planning organizations (such as the Southern California Association of Governments (SCAG)) to include sustainable communities strategies in regional transportation plans for the purpose of reducing GHG emissions from automobiles and light trucks through integrated transportation, housing, and use and environmental planning. In compliance with SB 375, the Orange County Council of Governments (in coordination with the Orange County Transportation Authority) prepared a sub-regional Sustainable Communities Strategy for Orange County (OCSCS), which was incorporated into the Regional Transportation Plan adopted by the SCAG. However, all jurisdictions in California have a responsibility to contribute to this effort with changes in operations, technology, and policies that enable residents and businesses to follow suit. This General Plan provides a comprehensive framework for Orange’s approach to climate change and GHG emission reduction. The types of policies that deal with climate change and GHG emission are far ranging. The City has located policies and programs throughout the General Plan that have multiple outcomes. They help the City to achieve a high quality of life for its current and future residents and businesses, reduce the City’s contributions to climate change, and help residents and businesses adapt to changing circumstances.

State and local governments will play a critical role in addressing this important issue. The OCSCS identifies policies and measures that will minimize GHG emissions at a regional level. However, the City believes that in order to achieve the emission reductions mandated in AB 32 and EO-S-3-05, each sector must do its fair share to reduce total emissions, and local action is needed to manage and measure activity within each sector as it relates to land use planning. For this reason the City is establishing a GHG emissions reduction goal of at least 15 percent of current levels by 2020.

To achieve this goal, the General Plan advocates primarily compact “infill” future development, focusing on introducing urban-scale mixed-use projects at locations near transportation corridors and transit, and creating additional retail and employment



opportunities within the City that increase the range of goods and services available to residents and improve the community's jobs-housing balance. Future "greenfield" development is limited to previously-approved entitlements in east Orange. The General Plan includes a broad spectrum of policies related to climate change. These policies have been integrated throughout the relevant General Plan elements, as detailed in Table NR-1.

Adaptation Strategies

Climate change has been recognized as a threat that could alter social, economic, and ecological conditions in the City. Concentrations of GHGs have dramatically increased in the atmosphere due to the use of fossil fuel-based energy sources. Additionally, the earth's capacity to capture and store GHGs has been reduced due to extensive deforestation and the conversion of grasslands and other carbon rich natural communities, as well as saturation of the ocean with dissolved CO₂. Rigorous scientific analysis conducted by the IPCC, the National Research Council of the National Academies, and other agencies indicates that increased concentrations of GHGs have already begun to result in significant warming, and will lead to changes in precipitation patterns, sea level rise, and more frequent extreme weather events. Other effects could include constrained water and energy availability, more frequent flooding, health impacts related to increases in vector borne diseases, air pollution, and habitat loss.

Wildfire Hazards

Research conducted at the U.S. Department of Energy's Lawrence Berkeley National Laboratory indicates that climate change will increase the frequency and size of wildfires in California. Hotter, drier climates, aided by prolonged drought, will promote increased accumulation of fire-prone vegetation. When fires occur, stronger winds will continue to fan the flames, spreading fires faster and farther than previously experienced. This will expand the size of the urban-wildland interface, because more residential communities will be within reach of wildfire activity. An expanded urban-wildland interface will require increased resources, planning, and funding to maintain and defend.

Adaptability is important in considering how the City can protect its citizens from the negative effects of climate change. In terms of fire protection, The City will continue to adapt by regularly updating fire protection requirements, especially in transition areas between developed and undeveloped land, and by enforcing the strongest construction and design standards. Additionally, the City will work to preserve open space where significant hazards exist.

Flooding

The California Climate Change Center, a research arm of the California Energy Commission, has found that climate change will result in new flooding concerns throughout California. Climate change will result in increased severity of winter storms, particularly in El Niño years. Such weather events will result in higher levels of seasonal flooding than those currently experienced. This will strain dam capacity and increase floodplain areas. Policies regarding flood protection under Goal PS-2 (in the Public Safety Element) will help the City deal with existing and increased potential for flooding. The City will continue to work with the Orange County Hazard Mitigation Task Force in its planning and implementation of the Hazard Mitigation Plan, and will update its Emergency Operations Plan to identify and fund flood control improvements regularly. Public

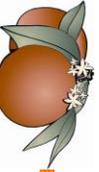


NATURAL RESOURCES

facilities must be flood-proofed, and buildings in floodplains must adhere to construction standards.



<p align="center">Table NR-1 Climate Change Related Policies</p>		
Issues	Topic	Policies¹
Community form	Compact development	<p>Land Use Element 1.1: Jobs and housing balance 2.1: Mixed-use projects in older commercial and industrial areas 2.4: Mixed-use projects with compatible uses and supporting public and community facilities 2.2: Transfers of development rights for high-rise office and residential structures 2.9: Mixed-use development to include ground floor retail</p> <p>Cultural Resources & Historic Preservation Element 1.4 and 1.5: Alternatives to building demolition</p> <p>Urban Design Element 1.4: Pedestrian-oriented places and connections 1.6: Street-oriented development, parking and commercial activities 2.1: Commercial corridors as pedestrian-friendly streets that balance mobility and accommodate compact development 2.4: Building design and orientation to promote active street life</p> <p>Economic Development Element 4.3: Lot consolidation for integrated development with improved pedestrian and vehicular circulation 5.4: Redevelop and rehabilitate underutilized and vacant lands and public rights-of-way</p>
	Commercial use locations	<p>Land Use Element 3.2: City business promotion and local patronage 3.4: Clean commerce and industry</p> <p>Urban Design Element 2.1: Pedestrian-friendly commercial corridors that balance mobility and accommodate compact development 2.2: Pedestrian and transit access through commercial and mixed-use corridors 2.5: Design standards for urban parks and open spaces within mixed-use corridors 4.6: Pedestrian linkages between commercial districts and neighborhoods 6.1: Development standards for high quality building and site design integrated with infrastructure and circulation 6.2: Infill development to benefit surrounding corridors/neighborhoods and provide additional park space</p> <p>Economic Development Element 4.2: Reduce land, infrastructure and environmental deficiencies within commercial corridors</p>



**Table NR-1
Climate Change Related Policies**

Issues	Topic	Policies ¹
	Industrial use locations	<p>Land Use Element 4.1: Maximize industrial land resources for industrial and office uses 4.3: Protect residents and the environment from impacts of industrial operations 4.4: Mixed office, industrial, and support commercial uses in light industrial areas 4.5: Environmentally friendly business atmosphere</p>
	Live-work uses	<p>Land Use Element 5.1: Targeted development of mixed-use, transit-oriented development surrounding the Santa Fe Depot 5.2: Adaptive re-use of industrial and agricultural historic structures</p>
	Access to employment centers	<p>Land Use Element 2.2: Transfers of development rights for high-rise office and residential structures</p> <p>Circulation & Mobility Element 3.3: Transit-oriented design within commercial, employment, medium density residential, and mixed-use areas</p> <p>Growth Management Element 1.8: Housing within close proximity to jobs and services 2.3: Match residents with local jobs to reduce long commutes and improve community fiscal and public health</p> <p>Economic Development Element 2.1: Public-private partnerships to support business and employment growth 2.5: Retention of existing retail businesses 3.4: Higher density residential and mixed-use projects to provide community-based workforce and market 7.1: Sites appropriate for housing development for all income groups that support commercial development 7.2: Mixed-use developments providing housing close to employment hubs</p>
	Open space management	<p>Land Use Element 1.5: Recreation, open space and visual resources in east Orange 1.7: Range of open space and park amenities to meet diverse needs 2.3: Transfers of development rights to promote creation of accessible open spaces 6.4: Open space to provide recreational opportunities, protect vistas and ridgelines, and conserve natural resources</p> <p>Natural Resources Element 1.1: Public-private funding mechanisms and management strategies to conserve open space 1.2: Land recycling opportunities for new public open space 1.3: Additional open spaces and access points adjacent to waterways and planned trails 5.3: Joint recreational use of open space land and facilities</p>



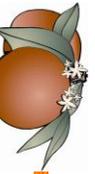


Table NR-1 Climate Change Related Policies		
Issues	Topic	Policies¹
		5.4: New public parks and open space resources through incentives and creative techniques 5.6: Identify areas currently underserved by open space, and develop programs to purchase land and build park amenities 5.7: Transfer of development rights to acquire and develop more publicly accessible open space Public Safety Element 2.2: Protecting critical public and private facilities located within floodplain and inundation areas 2.4: Reduce impervious surface area within new development Urban Design Element 4.5: Incentives to create neighborhood parks and green spaces, particularly within commercial and mixed-use corridors
	Wildfire safety	Public Safety Element 3.1: Identification and evaluation of new potential fire hazards and fire hazard areas 3.2: Non-traditional methods of controlling vegetation in undeveloped areas 3.3: Planting and maintenance of fire-resistant slope cover, stringent site design and maintenance standards, and use of native, non-invasive plant materials
	Economic adaptation to climate change	Infrastructure Element 5.4: Disaster mitigation strategies incorporated into City infrastructure master plans
City Operations	City of Orange as model	Natural Resources Element 2.9: City operations as model for energy efficiency and green building
	Low emission City vehicles	Natural Resources Element 2.10: Replace existing City vehicles with ultra low or zero emission vehicles and purchase new low emission vehicles
	Other	Land Use Element 7.4: Benefits from regional transportation, land use, air quality, waste management and disposal, and habitat conservation plans 7.5: Other agencies and service providers to minimize impacts of their facilities 7.6: Joint use agreements with other agencies to share existing and future public facilities among institutions Growth Management Element 2.1: Address regional issues and opportunities related to growth, transportation, and infrastructure
Ecosystems	Wildlife migration	Land Use Element 6.8: Integrate natural amenities and connections within design of urban and suburban spaces

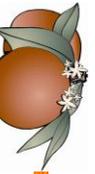


**Table NR-1
Climate Change Related Policies**

Issues	Topic	Policies ¹
	Habitat management	<p>Land Use Element 6.12: Recognize value of natural and cultural resources in undeveloped areas</p>
		<p>Natural Resources Element 2.16: Protect in-stream habitat and natural stream and channel features 4.1: Preserve and protect native and habitat-supporting plant resources 4.2: Enhance the natural qualities of Santiago Creek to protect habitat and reintroduce native plants and animals 4.3: Reduce impacts of urban development on important ecological and biological resources 4.4: Repair or improve ecological and biological conditions in site development, redevelopment, and public improvements 4.5: Protect the Santiago Creek and the Santa Ana River corridors from premature urbanization</p>
	Tree protection and planting	<p>Land Use Element 6.9: Maximize landscaping along streetscapes and within development projects</p>
Energy Efficiency	Energy efficient technology	<p>Infrastructure Element 3.4: Use energy-efficient street lights 4.4: Integrated and cost-effective design and technology features within new development</p>
Green Building	Public education	<p>Natural Resources Element 2.7: Ensure adequate energy supplies to meet community needs, and promote energy conservation and public education programs</p>
	Efficient infrastructure systems	<p>Natural Resources Element 2.6: Sustainable building and site designs for new construction and renovation projects 4.4: Integrated and cost-effective design and technology features within new development</p>
Renewable Energy	Reduced fossil fuel reliance	<p>Natural Resources Element 2.2: Alternative transportation modes, alternative technologies, and bicycle- and pedestrian-friendly neighborhoods</p>
Transit	Adequate transit to employment centers	<p>Circulation & Mobility Element 3.3: Incorporate transit-oriented design within commercial, employment, medium density residential, and mixed-use areas</p>
	Systems along major corridors	<p>Circulation & Mobility Element 1.1: Integrated, hierarchical, and multi-modal system of roadways, pedestrian walkways, and bicycle paths Urban Design Element 2.1: Active, pedestrian-friendly streets and corridors that balance auto, transit and pedestrian mobility</p>
	Expanded passenger rail service	<p>Circulation & Mobility 3.1: Assess City public transportation needs and ensure delivery of services when and where they are needed 3.2: Convenient and attractive transit amenities and streetscapes to encourage use of public transportation</p>



<p align="center">Table NR-1 Climate Change Related Policies</p>		
Issues	Topic	Policies¹
	Non-motorized transportation	<p>Land Use Element 2.6: Transit, bicycle, and pedestrian sidewalks, paths, paseos, and trail systems in and around mixed-use areas 2.7: High-quality architecture, landscape design, and site planning of mixed-use projects, emphasizing pedestrian orientation and safe and convenient access</p> <p>Circulation & Mobility Element 1.4: Prohibit on-street parking to reduce bicycle/automobile conflicts in appropriate target areas 4.1: Comprehensive bicycle network integrated with other transportation systems, including Santiago Creek, the Santa Ana River, and the proposed Tustin Branch Trail 4.2: Racks and safe storage facilities at parking areas for City facilities 4.4: Provide adequate bikeway system signage, trail markings, and other amenities 4.5: Defensive trail design features, lighting, emergency access, and links to the roadway signal system 4.6: Abandoned rail corridors as segments of bikeway and pedestrian trail system 4.7: Accessible sidewalks and pedestrian amenities</p> <p>Natural Resources Element 6.1: Multi-use trail links that serve recreational and circulation purposes 6.2: Consistent, safe, and efficient maintenance of trails, and minimal trail impacts to the environment 6.3: Pursue joint use of local rights-of-way and easements for multi-use trails 6.5: Safe trail system interface with existing development 6.6: Integrated relationship between trails and developed areas</p> <p>Public Safety Element 9.1: Traffic control devices, crosswalks, and pedestrian-oriented lighting, within design of streets, sidewalks, trails, and school routes 9.2: Safe routes that encourage children to walk or bike to schools and recreational facilities 9.3: Remove barriers to pedestrian and bicycle access</p> <p>Noise Element 2.3: Alternative transportation modes to minimize traffic noise</p> <p>Growth Management Element 1.7: Expansion and development of alternative methods of transportation</p> <p>Infrastructure Element 3.5: Preserve and improve existing on-street bike paths within rights-of-way</p>



**Table NR-1
Climate Change Related Policies**

Issues	Topic	Policies ¹
	Transit-supporting facilities	<p>Circulation & Mobility Element 2.7: Use of rail corridors for the movement of freight and goods</p> <p>Growth Management Element 1.9: New development incorporates non-motorized and alternative transit amenities 2.5: Provide bus shelters, shade, and other special streetscape treatments at transit stations that encourage use of regional bus and train services</p>
Transportation	Shorten travel distances	<p>Growth Management Element 2.4: Infill development and mixed-use opportunities wherever possible as developable space becomes more limited</p>
	Technical solutions	<p>Growth Management Element 1.12: Traffic reduction strategies within the City’s Transportation Demand Management Ordinance</p>
	Roadway maintenance and design	<p>Land Use Element 5.7: Roadway improvements within Old Towne designed to promote walkability and a safe pedestrian environment 5.9: Promote attractive and safe pedestrian access between the Santa Fe Depot and the Plaza</p> <p>Circulation & Mobility Element 1.3: Improve street capacity and increase safety on City arterials and neighborhood streets</p> <p>Growth Management Element 1.4: Transportation impact fees for improvements within the City and within established County Growth Management Areas 2.2: Maintain and expand roadway and bikeway systems</p> <p>Infrastructure Element 3.6: New developments funds fair-share costs associated with City provision of right-of-way maintenance services</p>
Air quality	Reduce vehicle emissions	<p>Natural Resources Element 2.1: Implement and enforce regional air quality management plans 2.2: Support alternative transportation modes, alternative technologies, and bicycle- and pedestrian-friendly neighborhoods</p>
	GHG emission reduction strategies	<p>Natural Resources Element 3.1: Evaluate the potential effects of climate change on the City’s human and natural systems and prepare strategies that allow the City to appropriately respond and adapt 3.2: Develop and adopt a comprehensive strategy to reduce greenhouse gasses within Orange to at least 1990 levels by 2020</p>
Water management	Water use efficiency and reduced consumption	<p>Natural Resources Element 2.3: Native and drought-tolerant plants, proper soil preparation, and efficient irrigation systems for landscaping</p>



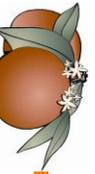


Table NR-1 Climate Change Related Policies		
Issues	Topic	Policies¹
		2.4: Recycled and reclaimed water for landscaping projects 2.11: Ecological integrity and health of watersheds 2.12: Protect the quantity and quality of local groundwater supplies 2.13: Control surface runoff water discharges into the stormwater conveyance system 2.14: Reduce pollutant runoff from new development through use of Best Management Practices 2.15: Minimize impervious surfaces and associated urban runoff pollutants in new development and redevelopment Infrastructure Element 1.2: Correct deficiencies in the City’s infrastructure systems and work toward environmentally sustainable systems 1.3: Water conservation programs aimed at reducing demands 1.4: Environmentally efficient infrastructure improvements 1.5: Cost-effective methods to reduce storm water infiltration into the sewer system 1.6: New development to fund fair-share costs associated with water, sewer, and storm drain service
Waste reduction	Waste management and recycling	Natural Resources Element 2.5: Local and regional waste-reduction and diversion goals Infrastructure Element 2.3: Programs for residents to donate or recycle surplus furniture, old electronics, clothing, and other household items 2.4: Outreach and education to all City customers regarding residential collection of household hazardous wastes
	Solid waste reuse	Infrastructure Element 2.2: Expand outreach and education regarding recycling opportunities
Note: 1 – Policies are abbreviated for presentation in this table. Please refer to the text of each policy in the identified General Plan element and corresponding Implementation Programs in the General Plan Appendix.		



The City will continue to require flood/storm control facilities for proposed development and redevelopment projects, and upgrade street storm drains to deal with potential flooding hazards. These programs not only take into account the potential flood events now, but are adaptable enough to account for a potential increase.

Water Supply

Several recent studies have shown that existing water supply systems are sensitive to climate change; however, experts are uncertain about what the overall effects will be on water supply. Some models indicate that drier conditions will cause decreased reservoir supplies and river flows. Other models predict wetter conditions with increased reservoir inflows and storage, and increased river flows. Although there is some uncertainty, it is widely accepted that changes in water supply will occur and that water yields from reservoirs are expected to be unreliable. Whether or not climate change is responsible, Orange must prepare for a future where competition for water resources is even greater than at the present time.

Many of the policies and programs governing water resources under Goal NR-2 will serve to prepare the City for the possible consequences of climate change on water supply. Such policies include protecting groundwater supplies, using native or drought-tolerant plants in landscaping, using recycled water in irrigation, and promoting other water conservation efforts.

Climate Action Plan

Primary among the City's climate change planning efforts is the development and adoption of the City of Orange Climate Action Plan (CAP), as outlined in the General Plan Implementation Program Appendix. The City will develop and adopt the CAP by December 31, 2012. The CAP will address both GHG emissions from activity within Orange (residential, commercial, industrial, and transportation sectors) and the emissions specifically from City government operations. The plan will first create a GHG emissions inventory for the base year and forecast GHG emissions for the year 2020. The Plan will determine the quantity of emissions to be reduced to meet the GHG reduction target of 15 percent below current levels by 2020.

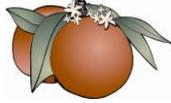
Together, the policies contained in the General Plan and additional GHG reduction measures to be developed as part of the CAP will allow Orange to respond to this critical issue. Achieving the targeted GHG reductions and successful adaptation to the effects of climate change will demand genuine and significant effort from civic leaders, residents, and businesses.

Ecological, Biological and Mineral Resources

In order to ensure preservation of plant and wildlife resources, some land must be protected from development to provide areas for native plants and wildlife to thrive. Additionally, many significant mineral resources are present within the City. The following sections describe the City's approaches to conservation of ecological, biological, and mineral resources.

Ecological and Biological Resources

Though a large part of Orange consists of urbanized areas that generally have low habitat value for wildlife, a significant amount of land in east Orange, Santiago Oaks Regional Park, and Peters Canyon Regional Park is set aside as open space, which includes the Irvine Ranch Land Reserve



(IRLR) and the Nature Reserve of Orange County (NROC) established by the Central/Coastal Orange County NCCP. These areas contain valuable ecological and biological resources.

Important vegetation communities located in these areas include coastal sage scrub, woodlands, grasslands, chaparral, and riparian habitat. Characteristic vegetation species associated with scrub habitat include coastal sage brush and various species of sage and buckwheat. Woodland communities are multilayered, non-riparian, with tree canopies that have 20 to 80 percent tree cover. Local grassland communities consist of native bunchgrasses and non-native annual grasses. Chaparral communities are characterized by sclerophyllus shrubs. Species found in riparian habitats are associated with and dependent upon bodies of water, such as streambeds.

Sensitive wildlife, fish, amphibian, and reptile species in these Orange habitats include Santa Ana speckled dace, Western spadefoot toad, Southern pacific pond turtle, banded gecko, horned lizard, orange-throated whiptail, silvery legless lizard, coast patch-nosed snake, mountain kingsnake, two-striped garter snake, and the northern red-diamond rattlesnake. Sensitive bird species include the double-crested cormorant, osprey, white-tailed kite, northern harrier, sharp-shinned hawk, cooper's hawk, Swainson's hawk, Ferruginous hawk, golden eagle, Merlin, American peregrine falcon, prairie falcon, Western burrowing owl, long-eared owl, southwestern willow flycatcher, loggerhead shrike, least Bell's vireo, California horned lark, coastal cactus wren, gnatcatcher, California yellow warbler, yellow-breasted chat, rufous-crowned sparrow, Bell's sage sparrow, grasshopper sparrow, tricolored blackbird, and the black-chinned sparrow. Sensitive mammal species include the pallid bat, pale big-eared bat, California mastiff bat, pocketed free-tailed bat, small-footed myotis, yuma myotis, San Diego black-tailed jackrabbit, dulzura pocket mouse, northwestern San Diego pocket mouse, southern grasshopper mouse, San Diego desert woodrat, American badger, and mountain lion.

The City's main approach to conserving the many ecological and biological resources in the planning area is participation in the Orange County NCCP. Orange lies within the Coastal subregion of the Orange County NCCP. In 1996, the County of Orange and participating jurisdictions approved the Central and Coastal Subregion NCCP and an associated Implementation Agreement. Both the City of Orange and The Irvine Company are signatories to this agreement. Three species were designated as "target species" by the NCCP to be used as umbrella species to guide the design of a permanent habitat system within the Central and Coastal Subregion. The three species are the coastal California gnatcatcher, coastal cactus wren, and the orange-throated whiptail lizard, all of which are currently on the federal list of threatened or endangered species. By providing long-term protection for habitat required by the three target species, sufficient coastal sage scrub (CSS) and other habitat would be protected to benefit a much broader range of CSS-related species.

The 37,000-acre NCCP Habitat Reserve area borders the eastern portion of the planning area on the north and south, and includes portions of Santiago Hills II and east Orange. As shown in Figure NR-3, areas designated as NCCP Habitat Reserve include areas surrounding Irvine Lake, Santiago Reservoir, Peters Canyon Reservoir, and along Cannon Street at the "El Modena Open Space Area." Within the Habitat Reserve area, the NCCP restricts the kinds of permitted uses to protect long-term habitat values. Residential, commercial and industrial uses are prohibited, as are new active recreational uses outside already disturbed areas. However, the NCCP recognizes that some new non-habitat uses, particularly involving public infrastructure, will need to be sited in the Reserve area, and that some current uses will be maintained. New recreational facilities



will be sited in locations compatible with habitat protection based on the understanding that recreational use is subordinate to habitat protection within the reserve. The Reserve area is administered by the NROC, which includes representatives of the U.S. Fish and Wildlife Service, California Department of Fish and Game, participating landowners, and three public members. Implementation of the Reserve policies will protect sensitive plant and wildlife species in accordance with the NCCP.

Substantial area is also designated as Non-Reserve Open Space located primarily in the East Orange area. Non-Reserve Open Spaces designate regional open spaces that were in public ownership prior to adoption of the NCCP. A “special linkage area” is also designated along the Southern California Edison corridor that traverses the northern portion of the City and along Santiago Canyon Road in East Orange. —These open spaces are not subject to the development requirements associated with the Reserve system, but they are recognized as integral components of the overall subregional conservation strategy.

The City’s General Plan land use designations in these areas 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. Landowners in Orange who have properties within the boundaries of the NCCP Reserve area are classified as either “participating landowners” or “non-participating landowners.” Participating landowners have the option to develop their properties without preparing a Habitat Conservation Plan (HCP). The Irvine Company is the City’s only participating landowner. The Irvine Company donated the 50,000-acre Irvine Ranch Land Reserve to the NCCP, and pays for the management of the area as part of the mitigation plan for new development in the easternmost portion of the planning area. Lands located within the Reserve must be “reserved in perpetuity as open space and for recreational purposes.” As a participating jurisdiction, the City is responsible for project review for participating landowners. The City is responsible for ensuring that non-participating landowners have paid “in-lieu” fees to the NROC for the native areas that will be removed due to development. In this case, the City is also responsible for coordinating with the NROC to make sure that the development is not in a restricted native open space area. The City will continue to ensure that all development proposals conserve the greatest amount of open space possible.

The City is committed to the protection and preservation of plant and wildlife resources, and will ensure the preservation of such resources wherever possible. The City will also encourage the use of native landscape materials in new and renovated project sites.

Mineral Resources

Mineral resource deposits in Orange are primarily limited to the sand and gravel resources contained in and along the Santa Ana River and Santiago Creek. Sand and gravel resources are referred to collectively as “aggregate.” Aggregate is the primary component of Portland cement concrete, a material widely used in the construction industry. The state requires general plan land use policy to recognize the importance of these deposits to the region’s economy. As these resource deposits are important to the region’s economy, the City will evaluate development proposals within these areas, and ensure adequate mitigation or preservation of the areas for future aggregate mining activity.



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The Land Use Element provides a means to protect the aggregate resource areas from premature urbanization. Historically, Orange contributed to the gravel industry, but the City's mineral resources have been mostly exhausted. Over the years, Orange has been characterized by numerous state-designated Mineral Resource Zones (MRZs), which identify the locations of regionally significant aggregate deposits. The MRZs have since been declassified, either as a result of completed mining activity, or as a result of urban development.

However, the Land Use Policy Map (in the Land Use Element) designates an area comprising and surrounding the two groundwater recharge pits (Bond Pits) on Santiago Canyon Road within the northeastern portion of the City as a Resource Area for the purpose of conserving mineral resources and allowing mining activities. Additionally, the approximately 18-acre site of the R.J. Noble Company, which lies within the northwestern unincorporated portion of the planning area, is another Resource Area currently used for aggregate extraction and crushing operations. Portions of Irvine Lake in East Orange that are currently designated as Open Space may be used in the future for desilting activities, with the possibility of aggregate extraction.

The Resource Area land use designation allows for only aggregate extraction or recreation uses. Although the Open Space designation does not permit mining, it will protect areas from urbanization, making it possible to mine the areas at some future date if necessary. Areas containing mineral resources protected in this manner include the resource zones at the west end of Lincoln Avenue, areas adjacent to Santiago Creek, and the north, east, and west sides of Irvine Lake in East Orange. The mineral resource areas in East Orange would also require amendment to the NCCP before extraction could occur.

Visual and Aesthetic Resources

Preservation of ridgelines and steep hillsides is an important objective for the City, for both aesthetic and public safety reasons. To that end, Orange has adopted a hillside grading policy that prohibits grading on ridgelines designated Open Space Ridgeline on the Land Use Policy Map. Wherever hillside grading occurs, the policy requires that graded slopes must be contoured and extensively landscaped with native vegetation or other compatible plant materials.

The largely undeveloped Santiago Hills II and East Orange portions of the planning area have many scenic resources that include Irvine Lake, grassy valleys, rugged hillsides, rock outcroppings, and winding canyons. People traveling along Santiago Canyon Road have spectacular views of these abundant scenic resources. These views should be protected while still allowing development to occur. As identified on Figure NR-4, the City will work to designate Santiago Canyon Road as a City Scenic Highway, and will develop standards for appropriate treatment of the roadway and its surroundings.

In the more urbanized areas of the City, boulevard landscaping can effectively provide a sense of visual open space. The City will review and strengthen landscaping standards as necessary to provide green areas within commercial and industrial districts, consistent with strategies outlined in the Urban Design Element.

The City will also promote provision of street trees on City streets, in accordance with the *Street Tree Master Plan*. The City of Orange currently has over 22,000 public street trees along residential and arterial streets. The *Street Tree Master Plan* was adopted in 1999 in an effort to provide guidelines for all future street tree planting projects, as well as for the removal and



replacement of trees and shrubs on public rights-of-way or streets. An update to the *Street Tree Master Plan* will be completed to emphasize aesthetics, theme, and maintenance of both trees and sidewalks. The Master Plan update will also consider safety issues posed by street tree debris and roots.

The City will also continue to enforce its Street Tree Ordinance and Tree Preservation Ordinance as part of the City of Orange Municipal Code. The Street Tree Ordinance has clear specifications and requirements for the planting, removal and maintenance of trees and shrubs. The Tree Preservation Ordinance provides protection for healthy, mature trees on private property and provides criteria under which trees may be removed. The *Street Tree Master Plan*, Street Tree Ordinance, and Tree Preservation Ordinance will help preserve and manage the City’s urban forest, and maintain the City’s Tree City U.S.A. status.

To reduce visual clutter along commercial corridors, the City will work with utility providers to identify existing arterial corridors that would benefit from moving overhead utilities underground and improving the placement of utility service boxes, consistent with the City’s *Utility Undergrounding Master Plan*. Undergrounding minimizes unsightly views of utility lines, which are currently prominent in areas such as the Lincoln Avenue corridor. The City will also encourage developers of all new infill projects to include underground utilities. Where placing utilities underground is not feasible, the City will work with utility providers and developers to relocate utilities away from arterial roadways. The City will also update and implement the sign provisions of the Zoning Ordinance to reduce visual clutter caused by signage and improper setbacks.

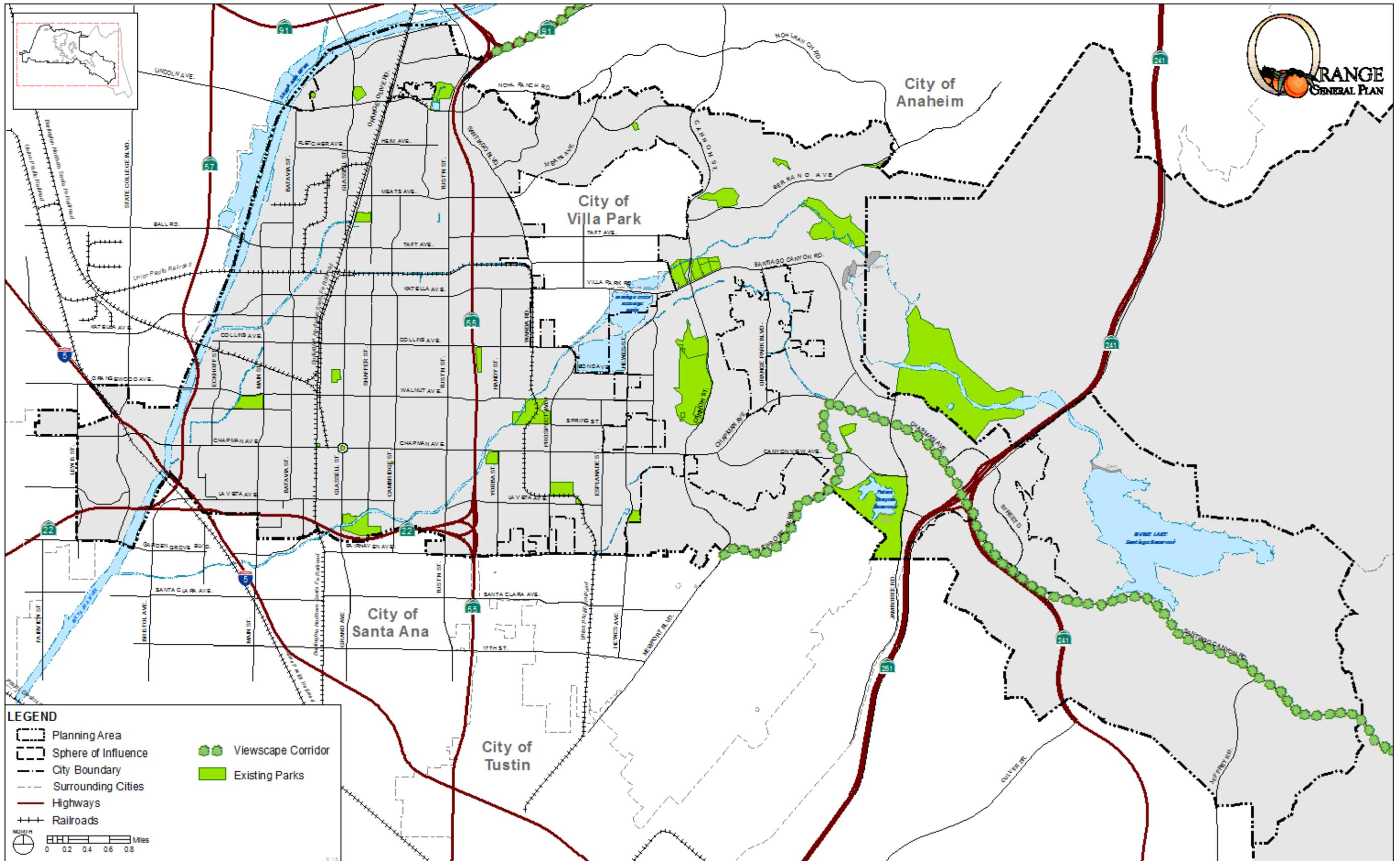
Parks and Recreation Plan



Parks and recreation facilities are vital resources for the City. They provide residents with a broad range of health benefits, and the quality of these resources helps attract new residents and businesses to Orange. The City currently lacks adequate lands designated for public parks and open space to meet the recreational needs of its residents. Park facilities and recreation programs are essential to the health and economic well-being of Orange residents. The City has made improving its park system and recreational programs a high priority so that all residents

can enjoy close access to a playground, a park, or a natural area. The City offers a full range of recreational programs and facilities that are heavily used by people of all ages.

This section of the Natural Resources Element establishes long-range strategies and standards for the maintenance of existing park facilities and the development of new parks and recreational programs in Orange. This plan will serve as a basis for future park facilities planning. In addition, the Element identifies standards that apply not only to the development of future parks and facilities, but also to the type and nature of sites and facilities obtained through purchase or dedication, as well as their intended role in the community.



Source: City of Orange 2015

Figure NR-4 Viewscope Corridors



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A number of key issues will continue to affect the City's ability to maintain and expand recreation facilities and services in coming years. First, the easternmost portion of the City will continue to experience a substantial amount of residential development. The increased population will require a full range of services, including those related to parks and recreation. These needs are addressed by the parklands provided in the development plan for East Orange. The recreation needs of the older, well established neighborhoods in Orange will also have to be monitored, particularly in light of the combined public desire for more parkland and the expanded opportunities for mixed-use residential and commercial development advocated by the Land Use Element

Additional issues and concerns that will have a bearing on the future maintenance and development of parks and recreation facilities include the following:

- Orange will find it increasingly difficult to finance major capital improvements for parks. In addition, obtaining land for new park sites in the western portion of the city is challenging because the amount of undeveloped land is limited, and costs and competing priorities for this land have increased.
- Orange is presently deficient in improved recreational open space, according to standards established by the National Recreation and Parks Association (NRPA). A number of park sites have been acquired that, when developed, will reduce the gap between the standards and available parkland. Also, school grounds, through joint use agreements with the City, will help to meet parkland needs.
- Orange maintains and provides a wide range of specialized facilities such as game courts, athletic fields, and community buildings in existing parks. However, additional facilities are needed to meet future demands.
- A number of easements, including those for flood control, rail lines, and utilities, are located in Orange and present the City with unique opportunities to expand the existing system of trails and bikeways.
- Recent trends in land use law will make it increasingly difficult for the City to reserve private open space lands for future recreational use.

Park Types

A Master Plan for the City's park facilities and recreation and community services was completed in November 1999. The *Master Plan for Parks Facilities* establishes an organized and structured process for the development of new recreation facilities and the renovation of existing City parks and facilities. The Plan also discusses the preservation of open space and the development of new recreational programs.

The City maintains three types of park facilities: neighborhood parks, community parks, and special use recreational facilities.

Neighborhood Parks (4 to 10 acres) provide for the daily recreation needs of residents in the immediate area. Typical facilities may include landscaped picnic areas, tot lots, hard court areas, multipurpose ball fields, and limited parking.



Community Parks (15 to 40 acres) are larger in scale and provide a greater variety of recreational opportunities and facilities. Six of the community parks (Hart, Grijalva, El Camino Real, El Modena, Handy, and Shaffer) host active organized sports leagues and have lighted sports fields. Special use recreational facilities provide a wide range of activities to serve the community. These facilities include joint-use properties and historic community assets such as Plaza Park, Pitcher Park, and Depot Park and Veterans Memorial.

Orange’s parks also provide passive recreation opportunities that include walking, hiking, and biking. Most of the parks have picnic sites, many with barbeques. Programs for seniors are available at the Orange Senior Center. The senior program is largely funded by the City and administered by a non-profit organization. Orange also provides a wide variety of recreational programs for all ages. Many of the programs are joint ventures with local nonprofits, commercial vendors or volunteer groups. The most popular activities include swimming and sports.

Parks Inventory and Acreage Standards

Figure NR-5 shows the locations of City parks and recreation facilities, and Table NR-2 provides a summary of the City’s existing parks, recreation and joint-use facilities, future planned City parks, and County regional parks.

The City owns and has developed 22 parks, which consist of about 246 acres of parkland, and also enjoys about 19 acres of additional joint-use school/City recreation facilities. Additional parkland is planned in the eastern portion of the planning area. A combination of active and passive neighborhood parks, as well as a sports park, will be developed to serve the new population in East Orange. The City may also consider the use of joint school/park facilities if the option presents itself.

The precise location and size of future parks will be defined in conjunction with the approval of specific development plans and as further elaborated on in the future preparation of planned communities or specific plans. Because of proximity in East Orange to the existing or proposed natural and/or active regional parks, along with the extent of scenic open space preserved in the immediate area, the emphasis on park planning should be on active neighborhood or sport park facilities.

Table NR-3 presents estimates of the City’s current and future ratios of parkland per 1,000 persons. Separate ratios are presented for facilities provided or planned for by the City and those provided or planned for by the County.

To calculate the parkland ratio per 1,000 residents, the acreage of currently developed City parks, City open space areas, and joint-use recreation facilities listed in Table NR-2 are combined for a total of about 2516 acres. Given the City’s estimated 2020+4 population of 140,06539,279, this equates to a current ratio of 1.7984 acres of current parkland per 1,000 persons, which is notably lower than the National Recreation and Park Association’s recommendation of 3 acres per 1,000 population. According to this recommendation, the City has a current park shortage of approximately 1692 acres. However, City residents also enjoy access to approximately 1,187 acres of County regional parks. If regional parks are

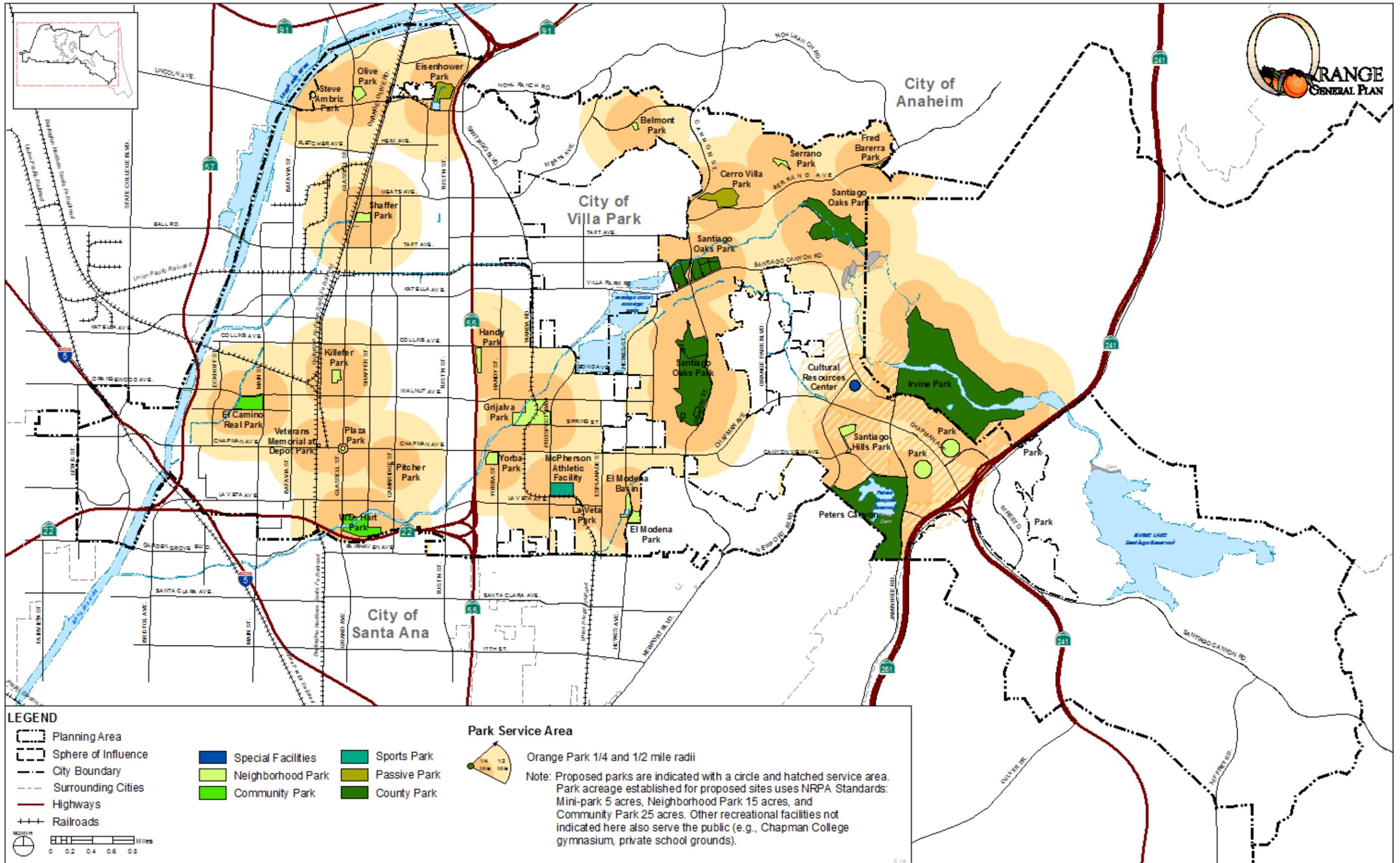


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Source: City of Orange 2015

Figure NR-5 Parks Master Plan



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**Table NR-2
Orange Park System Inventory**

	Location	Date Acquired (for City parks)	Acres	Function
Belmont Park	4536 E. Via Escola Ave.	1994	2.50	Neighborhood
Cerro Villa Park	5850 Crest de Ville	1971	26.70	Open space
Eisenhower Park	2864 N. Tustin Ave.	1969	16.46	Community
El Camino Real Park	400 N. Main St.	1978	18.67	Community
El Modena Basin	Hewes St. & Jordan Ave.	1973	7.37	Neighborhood
El Modena Park	555 S. Hewes St.	1974	9.32	Neighborhood
Fred Barrera Park	8380 East Serrano Ave.	2006	3.00	Neighborhood
Grijalva Park at Santiago Creek	368 N. Prospect Ave.	2003	37.00	Community
Handy Park	2143 E. Oakmont Ave.	1978	7.31	Neighborhood
Hart Park	701 S. Glassell St.	1934	41.76	Community
			12.00	Open space
Killefer Park	615 N. Lemon St.	1956	4.95	Neighborhood
La Veta Park	3705 E. La Veta Ave.	1956	1.62	Neighborhood
			1.00	Open space
Olive Park	2841 N. Glassell St.	1975	8.02	Neighborhood
Pitcher Park	204 S. Cambridge Ave.	1992	0.50	Special use
Plaza Park	Plaza Circle	1886	0.72	Special use
Santiago Hills Park	8040 E. White Oak Ridge	1990	7.95	Neighborhood
Serrano Park	2349 Apache Creek Dr.	2004	4.00	Neighborhood
Shaffer Park	1930 Shaffer St.	1964	7.32	Neighborhood
Veterans Memorial at Depot Park	100 N. Atchison St.	1887	0.44	Special use
Yorba Park	190 S. Yorba St.	1962	8.54	Neighborhood
Steve Ambriz Memorial Park	610 Riverbend Parkway	2008	10.50	Neighborhood
<i>Subtotal Current City Parks</i>			237.65	
Fred Kelly Stadium	3920 Spring St.		2.00	Joint-use (OUSD)
McPherson Athletic Facility*	333 S. Prospect Ave.	1997	9.00	Joint-use (OUSD)
Santiago Canyon College	8045 E. Chapman Ave.		2.58	Joint-use (RSCCD)
<i>Subtotal Current Joint-use Agreements</i>			13.58	
Irvine Company I	East Orange	N/A**	6.00	Neighborhood
Irvine Company II	East Orange	N/A**	3.00	Neighborhood
<i>Subtotal Planned Future Parks</i>			9.00	
<i>Subtotal City Current and Planned Future Parks and Joint-use Facilities</i>			260.23	
Irvine Regional Park	East Orange	N/A***	477	Regional Park
Santiago Oaks Regional Park	Northeast Orange	N/A***	356	Regional Park
Peters Canyon Regional Park	East Orange	N/A***	354	Regional Park
<i>Subtotal County Regional Parks</i>			1,187	
Total Park Acreage			1,447.23	
Sources: Orange Master Plan for Park Facilities, 1999; Community Services Department staff interview, 2015; Orange County Parks Department, 2007.				
Notes:				
* Although the McPherson Athletic Facility encompasses 18 acres, the City of Orange only uses the facility half of the time. This results in the designation of 9 acres of joint-use acreage allocation.				
** Planned future parks scheduled for construction.				
*** Regional parks not owned by the City.				



**Table NR-3
Park Ratio Calculations**

	Current (2020 14) Population: 140,065 39,279		Future (post-2030) Population: 178,471	
	Acres	Ratio (Acres/ 1,000 Population)	Acres	Ratio (Acres/ 1,000 Population)
City parks, open spaces and joint-use facilities	251.23	1.8 30	260.23 60.23	1.46 46
County regional parks	1,187	8.4 752	1,187	6.65
Total	1,438.23 43.33	10.2 733	1,447.233	8.12
Note: Population totals, City park acreages, and resulting ratios are based on the 2007 incorporated City limits. They do not include the City's sphere of influence, where parks are provided and maintained by the County of Orange.				

parkland ratio, the ratio improves to approximately 10.2736 acres of parkland per 1,000 population.

If further growth occurs in accordance with policies described in the Land Use Element, Orange's population may increase to approximately 178,471 at some point in time after 2030. Assuming that the planned park improvements in east Orange (described in Table NR-1) are completed prior to 2030, this would result in a future ratio of 1.466 acres of parkland per 1,000 residents. Approximately 275 acres of additional parkland beyond the planned parks in east Orange is required to achieve the recommended ratio of 3 acres per 1,000 population. An additional 632 acres would be required to achieve the desired ratio of 5 acres per 1,000 persons, as stated in General Plan policy. If County regional parks are factored into the ratio, the future ratio would be approximately 8.1 acres of parkland per 1,000 population.



Strong demand and immediate need exist for more parks, accessible open spaces, active recreational areas, and well-lit multi-use facilities in Orange. The current shortage of parkland in Orange has caused the City to develop joint-use facilities agreements, specifically with the Orange Unified School District (OUSD) and Rancho Santiago Community College District. Although joint-use arrangements have been successful, they are sometimes difficult to implement, and result in the City being able to claim only 50 percent of the use or effectiveness of a facility toward its objectives.

New Parks and Recreation Facilities

Because City residents will benefit from additional parkland and recreation programming, Orange will work actively to acquire, build, and maintain additional parkland and park facilities. Specifically, the City will pursue adding approximately 246 acres of additional parkland beyond the inventory of current and planned facilities listed in Table NR-2, in order to achieve a minimum parkland ratio of 3 acres per 1,000 persons by 2030, working toward a desired ratio of 5 acres per 1,000 persons by 2050. The City will evaluate progress toward achieving this goal in a report to the City Council and community every five years.



As a separate, but compatible, objective, the City will work with the County to facilitate the provision of overall parkland, inclusive of both City facilities and County regional parks, at a ratio of 10 acres per 1,000 population. Achieving this objective by 2030 would require acquisition of an additional 303 acres of parkland beyond the inventory listed in Table NR-1, and this additional acreage could be provided by either the City or the County.

To support these objectives, the City will require dedication of parkland at a rate of 3 acres per 1,000 anticipated residents or payment of in-lieu fees for new residential projects. Payment of in-lieu fees constitutes sufficient mitigation for parks impacts under California law, and new development projects cannot be required to directly mitigate existing parkland deficiencies. However, the City will utilize fees collected to the fullest extent possible to improve current park facilities and to acquire additional lands for the construction of new parks.

To increase incentives for new projects to provide viable, active park space, and to help compensate for current parkland deficiencies, the City will offer a variety of development incentives, including transfer of development rights (TDR) strategies, to developers of residential or mixed-use projects who are willing to provide community open space in excess of the standard 3 acres per 1,000 persons requirement. TDR refers to a method of transferring development rights from one property to another or from one part of a property to another part of the same property. In this context, a TDR would allow for conservation of open space or creation of a new community park at one location, in exchange for increased density or larger building sizes at another location. Furthermore, the City will continue to pursue all available joint-use opportunities with school districts, community college districts, and institutions, including Chapman University, in an effort to increase the utility of spaces throughout the City that are already functioning as open space. In its reviews of mixed-use developments within the focus areas established in the Land Use Element, the City will encourage such developments to include not only required park space but also common open spaces, portions of which may be required to be accessible to the public.



Meeting the stated needs for additional recreational open space will also require the City to pursue new types of parks and open spaces, such as pocket parks, linear parks, public plazas and paseos. Provision of these spaces is strongly encouraged by land use policy supporting the development of mixed-use residential and commercial areas in the Land Use Element.

The City will also acquire land for, build, and maintain parks currently identified in the *Master Plan for Parks Facilities*, and will amend the Master Plan on a periodic basis to reflect current conditions. The City's Park, Planning and Development Commission is currently working through the planning stages of several new parks throughout the City, which are identified within the *Master Plan for Parks Facilities*.



Site Selection Standards for New Parks

The City of Orange and areas within the City's sphere of influence have grown considerably in recent decades. While the rate of growth in the future is difficult to predict, thousands of new housing units will be constructed during the next several decades, both in east Orange and within the focus areas established in the Land Use Element. This in turn will require the development of new parks and facilities, and of convenient ways to access them.

A major goal of the City's Community Services Department is to make sure that all future park sites obtained through dedications or purchases are adequate in terms of meeting the recreational needs of the City. A "park" that is inaccessible, lacks usable open space, or is otherwise constrained has limited utility to the residents it is designated to serve. To ensure that this does not happen, the following standards are established to apply to the acquisition of new parkland:

- The service area should not be divided by natural or man-made barriers such as arterial highways, railroads, freeways, and commercial or industrial areas that would render the site inaccessible or undesirable as a park.
- Neighborhood parks should be located adjacent to elementary schools whenever possible. The primary consideration should be whether the existing school has adequate play space to serve both its educational needs and the needs of the neighborhood for playground space.
- The site for a community park should be of sufficient size to include a recreation building unless adjacent school facilities can be designated to serve public uses when school is not in session.
- The site for a neighborhood park should have street frontage. If it is located where adjacent streets are not sufficient for parking, the site should have a parking lot. Community park sites should have direct access to an arterial street.
- All neighborhood and community park sites should be accessible by foot, by bicycle, or within a short drive.

Santiago Creek and the Santa Ana River

Santiago Creek is one of a limited number of natural creeks in southern California, and provides recreational, ecological, flood control and cultural benefits to the City. Orange residents strongly identify with the Creek, and are unified in their desire to preserve the natural characteristics of the Creek, and to use it as a link that connects City parks and other gathering places. Residents also seek long-term preservation of the hydrologic and ecologic functions of the creek.

In 1999, the City applied for, and was granted, technical assistance from the National Park Service Rivers, Trails, and Conservation Assistance Program to prepare a conceptual master plan for Santiago Creek. The plan, ~~which is under preparation, will address~~ es three major components: recreation trails, open space, and flood control. The City will continue to work



toward ~~completion of the Vision Plan for Santiago Creek, and will~~ implementation of its recommendations, consistent with General Plan policies concerning the Creek.

The Santa Ana River also provides important flood control benefits and recreational opportunities for City residents. Current and planned land uses located along the Santa Ana River are among the City's highest intensity uses, providing great opportunities to improve access to the recreational trails that follow the River. The City supports future development of highly-visible access points to the River, particularly at Chapman Avenue, Katella Avenue, and Lincoln Avenue. Also, the City seeks to partner with the City of Anaheim, resource agencies, water districts, the Orange County Flood Control District, and community organizations to complete a vision plan for the Santa Ana River, similar to efforts currently underway for Santiago Creek. A key objective of the vision plan should be achieving more flexible use of the Santa Ana River corridor as a recreational amenity.

For both Santiago Creek and the Santa Ana River, the City supports preserving undeveloped portions of the waterways to support riparian habitat areas and improve surface water quality. Such preservation would be accomplished through the use of Open Space land use designations. For portions of Santiago Creek that abut developed areas, the City desires that future commercial and residential projects respond to the presence of the creek as a community and ecological amenity to be incorporated in their site plans, building design and orientation, and landscaping.

Recreational Programs and Services

The City will also establish an ordinance to provide opportunities for funding for recreational services and facilities. Additionally, Orange will off-set and minimize impacts to the existing system caused by increased population associated with new residential development.

Comprehensive Trails Network

Trails serve important transportation and recreational needs for both City residents and visitors. They also help link the community through greater accessibility between neighborhoods, employment and retail centers, civic and cultural areas, nature areas, and schools. Pedestrian trails and bikeways enhance Orange's community mobility, provide opportunities for recreation and exercise, and also reduce dependence on the automobile. Orange's warm, dry climate and generally flat landscape make it perfect for walking and bicycling amenities such as trails, walkways and bike paths.

The City experienced tremendous growth in the 1980s. During the 1989 General Plan update, the City Council identified a need for additional recreational opportunities and recognized that construction on previously undeveloped areas rendered many "open spaces" no longer usable or accessible to the public. Recognition of this need was the motivation for development of the *Recreational Trails Master Plan* in 1993. Master Plan objectives include: goals for development of the trails system, a set of design standards, and an implementation and management maintenance program. Implementation of the Master Plan relies on the combination of City efforts and the efforts of a dedicated, well-informed and highly organized group of trail activists who devote their time and economic resources to

NATURAL RESOURCES



preserving and enhancing current trails and to developing and maintaining new trail opportunities.

The City is pursuing strategies for the maintenance and enhancement of the following community trail assets:

- Over 70 miles of existing trails
- Numerous City and County administered parks and open spaces located throughout the City that provide natural destination points, staging areas, and rest areas
- Santiago Creek, which provides potential for a trail traversing the City from east to west, with connections to regional trails on each end
- The Santa Ana River, which provides multiple benefits, including a multi-purpose recreational trail that connects the San Bernardino Mountains to the Pacific Ocean

Additionally, 104 miles of proposed future trails are planned throughout the City on land currently used for a variety of purposes, including flood control, railroad rights-of-way, and roadways.

Although the City's trails are heavily used by residents, often trails are located in areas that are disconnected and not readily accessible from neighborhoods. For example, horse trails are located in single-family neighborhoods, and pedestrian trails are located in equestrian areas. The City will work in the future to refine the definition, purpose and use of trails, as well as appropriate links and access from neighborhoods.

The City has also put a high priority on creating a trail network that links the City's open spaces, featuring the Santiago Creek Trail as the spine of the network. Orange recently completed a paved bike trail along Santiago Creek from Tustin Street to the Santa Ana City limit, at which point the trail continues on to Main Place Mall and the Discovery Science Center. Three additional segments of this bike trail are complete; they connect Tustin Street to Grijalva Park, as well as Collins Avenue along Santiago Creek, and then travel north from Walnut Avenue to Collins Avenue along the City-owned portion of the Santiago Creek Bike Trail Right-of-Way. The Santiago Creek Trail then extends through the City with a future connection to the regional Santa Ana River trail to Santiago Oaks Regional Park and wilderness areas east of Orange. The City will continue to work toward designing a comprehensive trail system that is highly accessible and safe for those who wish to use it. Additional information, maps and policies related to Orange's comprehensive trails system are provided in the Circulation & Mobility Element.

NATURAL RESOURCE IMPLEMENTATION

The goals, policies and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaborations with regional agencies and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.



PUBLIC SAFETY

INTRODUCTION AND VISION FOR THE FUTURE

Maintaining a safe living environment is one of the most important challenges cities face. Orange prides itself on being a safe community with high quality emergency services and a high level of emergency preparedness. The Public Safety Element offers possible solutions for proactively addressing threats including natural and human-caused hazards, crime, and homeland security. Future land use decisions must be considered in the context of natural hazards, such as wildfires, earthquakes and floods. These decisions must also consider provision of public services, such as police, fire, and emergency medical services.

Orange's *Vision for the Future*, presented in the General Plan Introduction, introduces a variety of objectives describing the desired quality of life of Orange residents in the future, including the following:

- Orange recognizes the importance of managing development in a manner that ensures adequate and timely public services and infrastructure and limits impacts on the natural environment.
- The City will work to improve the quality of life for all residents by providing residential, commercial, industrial, and public uses that exist in harmony with the surrounding urban and natural environments.

Sustaining and continuing to improve community safety is one of the City's most important challenges. By implementing the Public Safety Element, the City will provide timely emergency service delivery and focus on expanding such services throughout the community. Through implementation of these policies, the City can also continue to prepare residents and businesses for disasters and plan for development of a safer community while likely increases in traffic congestion, extreme weather pattern variations, population growth, and ever-changing needs within the community continue to stretch the use of limited resources.

Purpose of the Public Safety Element

The State General Plan Guidelines direct cities to incorporate a number of required elements into their general plans, including Safety. Orange's Public Safety Element addresses such issues as geologic and seismic activity, flood hazards, fire, hazardous materials, and aircraft operations. Other public safety issues include interjurisdictional cooperation, homeland security, urban design as a crime prevention tool, and issues related to Orange's hillsides and waterways.



Scope and Content of the Public Safety Element

The Public Safety Element is comprised of three sections:

- (1) Introduction;
- (2) Issues, Goals, and Policies; and
- (3) Public Safety Plan.

The *Introduction* defines the purpose, scope, and content of the Public Safety element, and its relationship to other General Plan Elements. The *Issues, Goals, and Policies* section describes the community's desire to address the most relevant public safety issues affecting the City. The *Public Safety Plan* provides hazard maps, and establishes standards and requirements to achieve goals and implement policies. Detailed implementation programs for the Public Safety Element are listed in an Appendix to the General Plan.

Public Safety Considerations

State law requires that the General Plan address the following public safety concerns.

Natural Environmental Hazards

- Earthquakes and their related effects (surface rupture, liquefaction, ground shaking)
- Landslides, mudslides, rock falls, and soil creep
- Flooding due to excessive storm runoff or dam failure
- Wildland fires

Human-Caused Hazards Affecting Land Use Policy

- Hazardous materials
- Urban and Wildland fires
- Crime
- Homeland Security

Relationship to Other General Plan Elements

Accomplishing the goals and policies of the Public Safety Element requires coordination with other related components of the City's General Plan. Other topics that are affected by the Public Safety Element include the Land Use, Circulation & Mobility, Infrastructure, Urban Design, Housing, and Natural Resources Elements. Also affected and coordinated within the Public Safety Element is Environmental Justice for disadvantaged communities.

Impacts of Public Safety policies and programs on the Land Use Element arise during identification of areas prone to natural hazards. For example, proposed land uses must comply with the land use compatibility standards contained in this element. Recommendations for evacuation and emergency access routes in the Public Safety Element affect the Circulation & Mobility Element. In turn, traffic calming goals and policies within the Circulation & Mobility Element have implications for emergency response. The Infrastructure Element addresses the maintenance of lifeline utility infrastructures, such as flood control facilities, that ensure



protection from natural disasters. Streetscape improvements recommended in the Urban Design Element, including the addition of landscaped medians at some locations, may also affect emergency response, but could reduce the number of accidents along certain arterials. The Public Safety Element provides policies to support housing and neighborhood safety, which contribute to the success of policies in the Housing Element to provide adequate housing. The Natural Resources Element is also linked to Public Safety, because open space zones and allowable uses are often affected by the location of the boundaries of hazard prone zones. For example, areas prone to liquefaction hazards are often coincident with riparian streams and surrounding areas preserved as open space.

Inclusion of the City of Orange Local Hazard Mitigation Plan

The City of Orange Local Hazard Mitigation Plan (LHMP), first adopted by the City Council on June 13, 2017, is adopted as part of the Public Safety Element. The LHMP establishes the City's risk-based approach to reducing loss of life and property by lessening the impact of disasters. The LHMP includes a comprehensive, long-term mitigation plan that identifies risks and vulnerabilities associated with natural disasters and facilitates City engagement in hazard mitigation planning. The LHMP includes sections on the purpose of the document, the profile of Orange, a hazard assessment, mitigation actions, and plan maintenance, implementation, and monitoring.

The Multi-Jurisdictional [Local](#) Hazard Mitigation Plan (LHMP) for the City of Orange planning area was developed in accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and followed FEMA's Local Hazard Mitigation Plan guidance. The LHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. The implementation of these mitigation actions, which include both short and long-term strategies, involve planning, policy changes, programs, projects, and other activities. [The LHMP can be found on the City's website at: https://www.cityoforange.org/home/showpublisheddocument/5603.](https://www.cityoforange.org/home/showpublisheddocument/5603)

ISSUES, GOALS AND POLICIES

The goals, policies, and implementation programs of the Public Safety Element address nine issues identified as important to the City: (1) protecting citizens from seismic hazards and other geologic constraints; (2) protecting the City from flood-related risks and hazards; (3) protecting the lives and property of Orange residents and businesses from urban and wildland fire hazards; (4) minimizing risks to life, property, and the environment associated with producing, using, storing, or transporting hazardous materials; (5) reducing safety hazards associated with civilian, military, and medical air traffic; (6) providing public safety services of the highest quality; (7) improving community safety and reducing opportunities for criminal activity; (8) emphasizing emergency preparedness throughout both the City organization and the community; and (9) providing safe pedestrian and bicycle environments. These nine issues include provisions for Environmental Justice to disadvantaged communities.



Geologic and Seismic Hazards

The most significant environmental hazards that may affect land use in Orange are seismic and geologic hazards. Earthquakes and their related effects have the greatest potential to affect a large portion of the population. Other geologic hazards such as landslides and ground subsidence could have more localized effects. The combination of sound planning practices and continued public education will minimize risks to the community from seismic and geologic hazards, and will protect the health, safety, and welfare of Orange residents.

GOAL 1.0: Protect residents and businesses from seismic hazards and other geologic constraints.

Policy 1.1: Minimize the potential loss of life and damage to structures that may result from an earthquake.

Policy 1.2: Educate and train individuals and neighborhoods how to respond to emergency situations.

Policy 1.3: Participate in federal, State, and local earthquake preparedness and emergency response programs.

Flood Hazards

Portions of Orange are susceptible to flood events from either a major storm or a dam failure resulting from a significant earthquake. Dams are present along Santiago Creek at two locations: Villa Park Dam and Santiago Dam (Irvine Lake). Both are located in the foothills of east Orange. Peters Canyon Dam is located within Peters Canyon about two miles west of Irvine Lake. Unlike Santiago Creek, which flows generally northwest, Peters Canyon drains to the south in this area. Prado Dam is located approximately seven miles northeast of the eastern portions of the planning area in Corona. Areas below (downstream from) these dams, including large areas within the City of Orange, have high potential for inundation in the unlikely event of catastrophic dam failure (maps showing dam inundation areas are available for public review at the Community Development Department). These dams and their reservoirs prevent periodic flooding that would be expected to occur in a natural setting. Recognizing and preparing for floods allows the community to avoid associated dangers.

GOAL 2.0: Protect the City from flood-related risks and hazards.

Policy 2.1: Cooperate and work with the Orange County Flood Control District to ensure District flood control facilities are well maintained and capable of providing flood protection levels for 100-year storm flows.

Policy 2.2: Protect critical public and private facilities located within areas subject to flooding and dam inundation.

Policy 2.3: Evaluate and monitor water storage facilities to determine which facilities might pose an inundation hazard to downstream properties.

Policy 2.4: Employ strategies and design features that will reduce the amount of impervious surface (i.e. paved area) within new development projects.



- Policy 2.5: Provide a safety assessment for post-fire events with a plan to minimize flooding, protect water quality, limit sediment flows, and reduce risks to adjacent properties, particularly in areas prone to landslides. Restore wildfire areas by planting native vegetation cover, encouraging the re-growth of native species, or using best practices as soon as possible in advance of the rainy season to aid in control of storm water runoff and facilitate slope stabilization.

Fire Hazards

Fire and its destructive potential are safety concerns within both the urban areas of the City and the undeveloped hillsides. Wildland fires are most problematic along the developed residential fringes of the hillsides, known as the wildland-urban interface. On a seasonal basis, dry vegetation, little seasonal rain, and Santa Ana wind conditions combine with extreme weather pattern variations to increase wildfire potential. New development, particularly in the eastern portion of Orange, will result in increased fire hazards due to higher levels of interface between residential development and open grassland and vegetation along hillsides. Keeping neighborhoods buffered from both urban and wildland fire hazards reduces incidents requiring response, and minimizes damage to property when fires do occur. In addition, urban fire hazards are a continuing concern in the City's industrial areas.

GOAL 3.0: Protect lives and property of Orange residents and businesses from urban and wildland fire hazards.

Policy 3.1: Continue to identify and evaluate new potential fire hazards and fire hazard areas.

Policy 3.2: Consider non-traditional methods of controlling vegetation in undeveloped areas.

Policy 3.3: Require defensible space maintenance agreements for new development projects and require extension of defensible space maintenance agreements to subsequent landowners. Landowners shall maintain minimum defensible space from all structures or improvements on their property and work with neighbors and the City to address defensible space within distances deemed necessary by Fire Prevention staff from structures existing on adjacent property. Planting and maintenance of fire-resistant slope cover shall improve defensible space and reduce the risk of brush fires within the wildland-urban interface areas located in the northern and eastern portions of the City and in areas adjacent to canyons, and the City shall refine and development shall implement structural hardening measures through stringent site design and maintenance standards for all areas with high wild land fire potential. To the extent possible native, non-invasive plant materials shall be used to reduce the potential for conflicts between safety and environmental goals. Fuel modification plans shall be prepared for new development projects to describe and address allowable plant materials and hardscape measures and design; defensible space distances and maintenance; and how fuel and vegetation around homes and roadways will be maintained and cleared.

Policy 3.4: Educate the public regarding fire safety through public outreach, and support for localized efforts to become a Firewise Community. Public outreach efforts



shall also include discussions relating to benefits and purpose of defensible space and maintenance, and evacuation and emergency vehicle access routes and programs.

- Policy 3.5: Continue to utilize the City’s Emergency Operation Plan (EOP) including existing Wildland Urban Interface pre-plans which among other components do the following:
- Identify low risk fire safety areas, including locations that may serve as temporary shelter during wildfire events.
 - Identify fire defense zones where firefighters can control wildfire without undue risk to their lives.
 - Designate and publicize areas where firefighter safety prohibits ground attack firefighting.
 - Identify fuel breaks and other fire defense improvements on both public and private property.
 - Provide for adequate fire suppression resources in the local responsibility area, and coordinate with CAL FIRE regarding State responsibility area and scenarios where wildfires affect both areas.
- Policy 3.6: Periodically review trends and projections of future fire risk, including forecasted exasperated risk from climate change and drought, and fire risk reduction capabilities to ensure that mitigation measures are adequate.
- Policy 3.7 Continue to implement fire prevention strategies and fire safe development codes.
- Policy 3.8 Consistent with the Infrastructure Element, identify engineering vulnerabilities in lifeline utilities, such as overhead power lines, for exposure to or threats of wildland fire.
- Policy 3.9 Obtain compliance with State Regulations, Building and Fire Codes, and City Guidelines for non-conforming properties particularly to increase resilience of existing development in high-risk areas built prior to modern fire safety codes or wildfire hazard mitigation guidance. Ensure all infill development projects within the SRA or VHFHSZ comply with all applicable State and City fire safety and defensible space regulations or standards which include using best practices for fire-resistant or fireproof construction methods, materials and landscaping to reduce susceptibility to wildfire.
- Policy 3.10 Recognize the overlap between the Natural Community Conservation Plan and the Very High Fire Hazard Severity Zone, to achieve species and habitat protection, resource protection, water quality, carbon sequestration and storage, and wildfire hazard and risk mitigation.
- Policy 3.11 Ensure public and private landowners for all existing land uses comply with all applicable State and local requirements and implement site-specific safety measures that mitigate wildfire risk down to a low category designation by preventing threats to the interface of public facilities, infrastructure, natural resources, and the urban environment.



- Policy 3.12 Prioritize infill development within the existing developed footprint to avoid future unfunded emergency vehicle access infrastructure creating repair and maintenance liabilities; and to reduce potential wildfire hazards originating from development adjacent to environmentally sensitive open space areas.
- Policy 3.13 Avoid expanding new development, critical facilities, and infrastructure in areas subject to extreme threat or high risk, such as High or Very High FHSZs or areas classified by CAL FIRE as having an Extreme Threat classification on Fire Threat maps, unless all feasible risk reduction measures have been incorporated into project designs or conditions of approval. Ensure subdivisions and developments exist in concert with the natural ecosystem.
- Policy 3.14 Prohibit land uses that could place occupants at unreasonable risk in high or very high fire hazard severity zones, such as areas with large events or assembly of people, health care facilities, or similar uses.
- Policy 3.15 Monitor plant communities in wildland areas over time for changes in potential fire hazard severity or risks.
- Policy 3.16 Plan, design, and manage urban open space facilities to reduce wildfire hazards and associated risks and to demonstrate fire-adapted landscaping.
- Policy 3.17 Ensure all residences located in State responsibility or local responsibility areas comply with the fuel modification requirements of Public Resource Code Section 4291.
- Policy 3-18 Provide fire safety inspections to newly owned, operated, leased, controlled, or maintained buildings located in the high fire hazard severity zone (HFHSZ) or very high fire hazard severity zone (VHFHSZ) in accordance with AB 38. The seller of the properties within these zones must present documentation to the buyer that the property is in compliance with wildfire protection measures as dictated by the local vegetation management ordinance.
- Policy 3-19 All new development and redevelopment in the VHFHSZ shall prepare fire protection plans that confirm compliance with the most current version of the California Building Codes and California Fire Code as adopted by the City. The fire protection plans shall also address long-term maintenance of fire hazard reduction projects and activities such as community fire breaks and private and public road vegetation clearances; delineate safe ingress and egress access areas and routes; describe evacuation and emergency vehicle access routes; ensure that home and street addressing shall be visible to emergency vehicles; and provide appropriate signage that shows access areas and routes for evacuation and emergency vehicles. The City shall maintain vegetation clearances along public roads. Private roads shall be maintained by the appropriate private homeowner's association or easement holder with abatement inspections conducted at least annually by Fire Department staff.
- Policy 3-20 All new development and redevelopment in the VHFHSZ shall comply with the requirements found in Title 14 of the California Code of Regulations (Natural Resources), Division 1.5 (Department of Forestry and Fire Protection), Chapter 7 (Fire Protection), Subchapter 2 (SRA Fire Safe Regulations), Article 1 (Administration), Article 2 (Emergency Access and Egress), Article 3 (Signing



and Building Numbers), Article 4 (Emergency Water Standards), and Article 5 (Fuel Modification Standards); and Subchapter 3 (Fire Hazard), Article 3 (Fire Hazard Reduction Around Buildings and Structures).

Policy 3-21 All new development and redevelopment in the VHFHSZ shall be inspected for compliance with the fire hazards policies and requirements of this Public Safety Element after large fires have occurred within the VHFHSZ.

Policy 3-22 Continue to monitor and forecast future water supply and fire flow availability and assess and ensure future fire suppression needs are satisfied.

Policy 3-23 Should new water supplies be required, the new water facilities and improvements shall be engineered and located in areas that best serve the community. These new water facilities and improvements shall be monitored annually and maintained by the appropriate agency or jurisdiction.

Hazardous Materials and Human-Caused Hazards

Manufacturing, transporting, and storing hazardous materials in the urban environment threaten the safety of persons working with such materials, as well as businesses and residences located near the hazards. The City recognizes the importance of identifying users and producers of these materials, and making land use decisions that minimize the risks associated with exposing people to hazardous materials.

GOAL 4.0: Minimize risks to life, property, and the environment associated with producing, using, storing, or transporting hazardous materials.

Policy 4.1: Assess potential risks of disposing, transporting, manufacturing and storing existing hazardous materials, and develop appropriate mitigation measures in case of accidents.

Policy 4.2: Prohibit new disposal, transport, manufacture, and storage of hazardous materials within the City without a mitigation plan in case of accidents. Hospitals meeting current State and federal standards are exempt.

Policy 4.3: Identify hazardous materials dumpsites, and ensure that the sites are cleaned in conformance with applicable federal and State laws prior to the establishment of new uses.

Policy 4.4: Ensure that the public is protected from fires, noxious fumes, and other hazards within the City's industrial area.

Policy 4.5 Prohibit land uses that could exacerbate the risk of ignitions in High or Very High FHSZs, such as outdoor storage of hazardous or highly flammable materials, automobile service or gas stations, or temporary fireworks sales.

Aircraft Operations

The John Wayne Airport in Santa Ana, U.S. Army Airfield operations based in Los Alamitos, and helicopters serving various medical institutions in Orange generate high volumes of commercial and military aircraft traffic above the City. Potential hazards related to aircraft traffic include excessive noise and aircraft accidents.



- GOAL 5.0: Reduce safety hazards associated with civilian, military, and medical air traffic.**
- Policy 5.1: Work with the Federal Aviation Administration, the Orange County Airport Land Use Commission, California Department of Transportation, and other agencies to establish aircraft corridors which minimize the exposure of Orange residents to air traffic hazards.
- Policy 5.2: Work with major medical institutions to minimize the impact of helicopter and airplane traffic on Orange residents.

Emergency Services and Safety

The safety and well being of Orange’s neighborhoods and businesses is a valued, fundamental component of quality of life in the community. Orange will continue to sustain and improve its commitment to safety through a comprehensive approach to police and fire services, including public outreach and education, proactive preparedness planning, community awareness, and partnerships with public agencies and private businesses. Education will also be provided relative to homeland security issues. Foresight and planning regarding land use decisions represent proactive approaches to enhance safety in the community, especially in areas where future development may be more intense than current conditions. Potential rail hazards must also be recognized and prepared for. Industrial hazards such as noxious fumes, underground fuel lines, and other potential hazards must be evaluated and mitigated. Special attention must be given to industrial projects located near residential areas to ensure appropriate buffers and screening of industrial sites.

- GOAL 6.0: Provide public safety services of the highest quality.**
- Policy 6.1: Provide the Police Department with adequate personnel, equipment, and state-of-the-art technology to effectively combat crime, meet existing and projected service demands, and provide crime prevention programs. These resources should be provided prior to anticipated needs.
- Policy 6.2: Provide resources for additional police and fire services as needed to maintain average response times.
- Policy 6.3: Provide and use up-to-date technology to improve crime prevention, fire suppression, and emergency services.
- Policy 6.4: Continue to support, develop, and implement programs which improve the City’s approach to fighting crime.
- Policy 6.5: Provide ongoing public information and education regarding the City’s Emergency Preparedness Program, homeland security, and other similar programs.
- Policy 6.6: Utilize and update as necessary established designated evacuation routes throughout the City as identified on the Police Department Website and in the Fire Department Wildland Urban Interface pre-plan documents for wildfire incidents.



- Policy 6.7: Maintain and update the City’s Emergency Operations Plan as needed, and ensure ongoing consistency between the General Plan and the Emergency Operations Plan and Fire Department Strategic Deployment Plan.
- Policy 6.8: Establish and maintain optimal emergency response times for fire safety. Require new development to ensure that City response times and service standards are maintained.
- Policy 6.9: Continue to adopt and honor agreements with adjacent communities for mutual aid assistance.
- Policy 6.10: Continue to train, license, and/or certify Fire Department staff.
- Policy 6.11: Ensure that the Police and Fire Departments have complete and available emergency supplies, sufficient capacity, facilities, personnel, training, technology, equipment, adequate emergency vehicle access, crime fighting equipment, and fire suppression resources to meet growth needs for combating crime, providing fire protection, and providing related emergency services for all segments of the population, including vulnerable and disadvantaged communities, in all areas of the City.
- Policy 6.12: Maintain and improve disaster response and recovery capabilities to protect and meet the needs of all members of the community, including the most vulnerable and disadvantaged.

Crime Prevention

Preventing crime through public outreach and education and designing new spaces to promote secure streets and public places can both improve the quality of life enjoyed by Orange residents. The Police Department works with the community to promote safety by increasing awareness of personal and property crime risks. Crime prevention also involves educating the public about personal safety, business and neighborhood watch programs, and residential and business security.

Defensible space planning is another crime prevention method. Defensible space planning uses design techniques, building orientation, and features of the built environment to deter criminal activity and positively influence human behavior. Defensible space planning is also a key element in a local comprehensive crime prevention and safety plan. Crime Prevention through Environmental Design (CPTED) techniques incorporate four key considerations into site planning and architectural design: territoriality, natural surveillance, activity support, and access control.

GOAL 7:0: Improve community safety and reduce opportunities for criminal activity.

- Policy 7.1: Provide crime prevention, community service, and education programs designed to prevent crime.
- Policy 7.2: Promote and integrate crime-preventive characteristics and design features into all phases of the planning and development process.
- Policy 7.3: Maximize natural surveillance through physical design features, including, but not limited to, visible entryways from surrounding structures and businesses;



- well-defined and visible walkways and gates; well-lighted driveways, walkways, and exteriors; and landscaping that preserves or enhances visibility.
- Policy 7.4: Ensure that community areas and amenities such as transit stops, sidewalks, plazas, parks, trails, public parking facilities, and bike paths are appropriately lighted, free of hiding places, and frequently patrolled.
- Policy 7.5: Maximize security of public spaces, recreation facilities, and new development by encouraging complementary uses that support a safe environment.
- Policy 7.6: Continue to involve the Orange Police Department in the project design and review process.

Disaster/Emergency Preparedness

The City recognizes that emergency preparedness planning can reduce the impact of hazards resulting from a natural or human-caused disaster.

- GOAL 8.0: Emphasize emergency preparedness throughout both the City organization and the community.**
- Policy 8.1: Sponsor and support public education programs for emergency preparedness and disaster response. Continue to provide a Community Emergency Response Team (CERT) program through the Police Department to support emergency awareness and preparedness for the Orange community, particularly for vulnerable and disadvantaged communities.
- Policy 8.2: Coordinate disaster preparedness with other public and private agencies.
- Policy 8.3: Coordinate emergency response and preparedness planning with other cities and public agencies in the region.
- Policy 8.4: Develop and maintain a fully functioning Emergency Operations Center, and adequate and up-to-date emergency preparedness resources and plans.
- Policy 8.5: Maintain the City’s mass emergency notification mechanism for the release of public information during a major event and seek methods to achieve effective notification to disadvantaged and vulnerable communities.

Pedestrian and Bicycle Safety

A walkable city is achieved by creating safe streets and travelways. Establishing a feeling of safety is key to encouraging the use of trails, pedestrian paths, sidewalks, and bikeways to move about the community.

- GOAL 9.0: Provide safe pedestrian and bicycle environments.**
- Policy 9.1: Enhance and maintain safe pedestrian and bicycle movement through the integration of traffic control devices, crosswalks, and pedestrian-oriented lighting, into the design of streets, sidewalks, trails, and school routes throughout Orange.

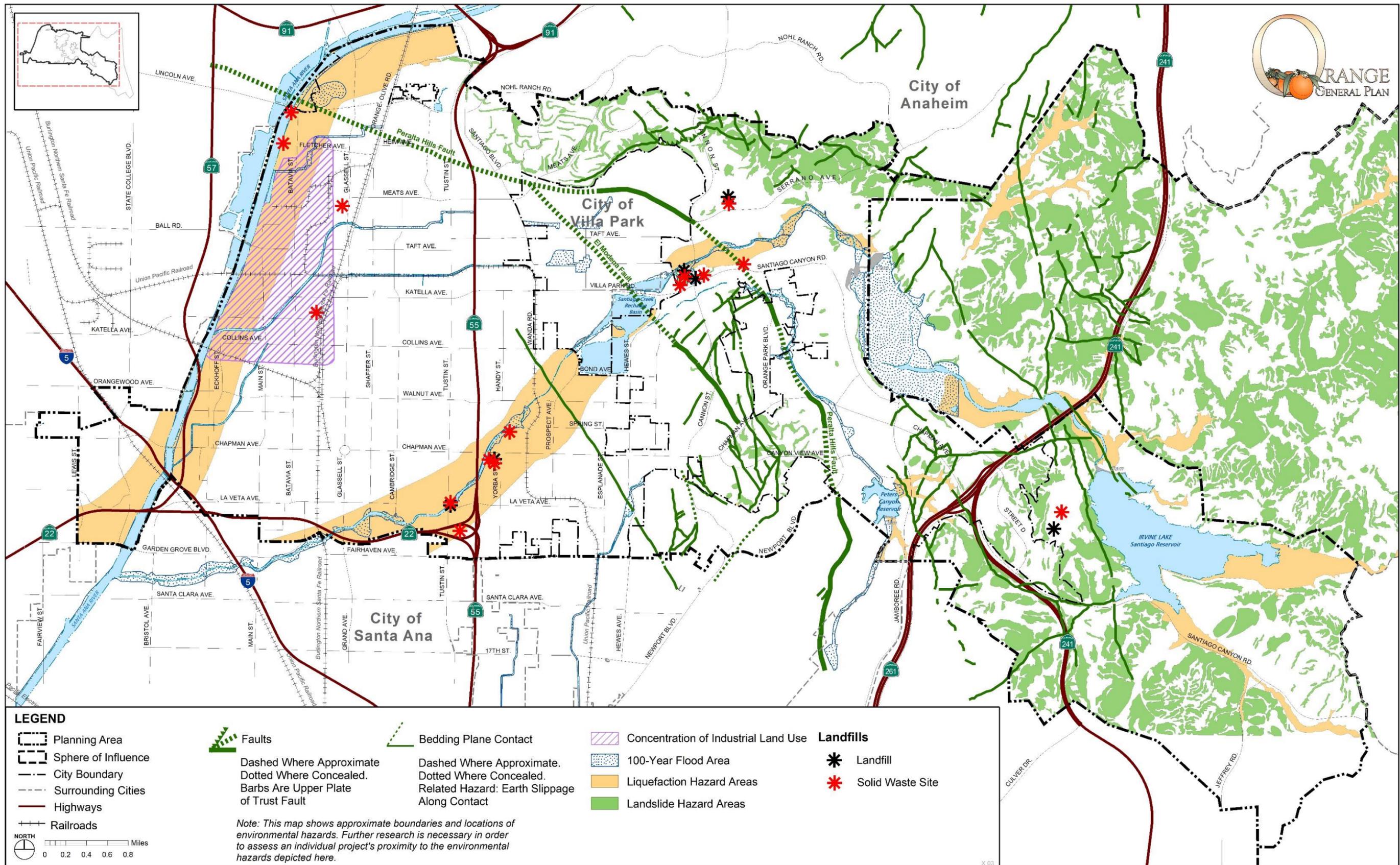


- Policy 9.2: Support creation of safe routes that encourage children and adults to walk or bike to schools and recreational facilities.
- Policy 9.3: Identify and attempt to remove impediments to pedestrian and bicycle access including those associated with rail, street, freeway, and waterway crossings and poorly marked or maintained pathways and sidewalks.

PUBLIC SAFETY PLAN

As in all communities, human activities and natural conditions occurring in Orange have an effect on residents' quality of life. It is essential not only to provide an environment where businesses and residents can prosper and feel safe, but also to be prepared for emergency situations. The City can minimize hazards and protect public health and private property through a combination of appropriate land use planning and development review, and emergency preparedness planning.

Figure PS-1 presents graphically the City's safety policies and plans related to environmental and natural hazards. The Environmental and Natural Hazard Policy Map presents the locations of known seismic, geologic, flood, and landfill hazards. Figure PS-2 shows the Very High Fire Hazard Severity Zones in the Local and State Responsibility Areas. Figure PS-3 shows the City Wildland Urban Interface pre-plan areas. As applicable, the Public Safety Plan refers to these maps for identification of significant locations, conditions, or development requirements.



Note: Large format map available at the Community Development Department / Source: Federal Emergency Management Agency 2000, Source: California Department of Conservation 2007, California Integrated Waste Management and California Energy Commission 2003

Figure PS-1. Environmental and Natural Hazard Policy Map
 Revised : January 13, 2022



Geologic and Seismic Hazards

Like many cities in Southern California, Orange faces geologic and seismic hazards, specifically earthquakes, earthquake-induced landslides, and liquefaction. The planning area encompasses two general types of terrain: an alluvial plain that underlies the central and western parts of the City, and a series of low hills (foothills of the Santa Ana Mountains) characteristic of the east side of the City and the Sphere of Influence. Generally, the alluvial plain is underlain by many thousand feet of fluvial and floodplain sediments, and certain areas of the plain adjacent to major watercourses (the Santa Ana River and Santiago Creek) are susceptible to flooding and seismically-induced liquefaction. However, the potential for landslides is low due to the limited relief of the alluvial plain. Conversely, the hilly section is underlain by bedrock (mostly late Tertiary marine and non-marine sediments); this area is generally less susceptible to liquefaction but certain areas may be prone to earthquake-induced landslides, depending upon the character of the underlying bedrock.

Earthquakes

An earthquake is a manifestation of the constant movement and shifting of the earth's surface. Movement occurs along fractures or faults, which represent the contact point between two or more geologic formations. Earth movement, known as seismic activity, causes pressure to build up along a fault, and the release of pressure results in the ground-shaking effects we call an earthquake.

Earthquake magnitude generally is measured on a logarithmic scale known as the Richter Scale. This scale describes a seismic event in terms of the amount of energy released by fault movement. Because the Richter Scale expresses earthquake magnitude in scientific terms, it is not readily understood by the general public. The Modified Mercalli Scale, on the other hand, describes the magnitude of an earthquake in terms of actual physical effects. Table PS-1 compares Modified Mercalli Scale intensities to Richter Magnitude Scale intensities.

Fault Rupture

The potential for fault rupture would exist along the traces of active faults. No known Alquist-Priolo fault zone is located in the Orange planning area. However, as shown on Figure PS-1, portions of the planning area are traversed by two faults: the Peralta Hills Fault and the El Modena Fault. The Peralta Hills Fault runs from the crossing of Lincoln Avenue over the Santa Ana River on the northwest, easterly along the base of the Peralta Hills and into the City of Villa Park, then southerly into the hills west of Peters Canyon Reservoir. The El Modena Fault runs from its intersection with the Peralta Hills Fault at the base of the Peralta Hills, southeasterly to Chapman Avenue. Both the Peralta Hills Fault and the El Modena Fault are classified as possibly active by the Southern California Earthquake Data Center. Displacements along these two faults are smaller than those along the more prominent regional faults, and the maximum probable earthquake magnitudes would be much less than those along the regional faults. The City will continually update development standards and adopt the latest building construction codes to minimize seismic and related geologic hazards associated with these faults.



Table PS-1 Earthquake Magnitude and Intensity Comparison		
Descriptor	Richter Magnitude	Modified Mercalli Index Intensity - Description
Not felt	Lower than 3.0	I. Not felt except by very few persons under especially favorable conditions.
Weak	3.0 - 3.9	II. Felt only by a few persons at rest, especially on upper floors of high-rise buildings. Delicately suspended objects may swing. III. Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing automobiles may rock slightly. Vibrations like passing of a truck.
Light	4.0 - 4.9	IV. During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
Moderate		V. Felt by nearly everyone; many awakened. Some dishes and windows broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
Strong	5.0 - 5.9	VI. Felt by all, many frightened and run outdoors. Some heavy furniture moved, few instances of fallen plaster and damaged chimneys. Damage slight.
Very strong		VII. Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.
Severe	6.0 - 6.9	VIII. Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving cars disturbed.
Violent		IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
Extreme	7.0 - 7.9	X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.
	8.0 and higher	XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly. XII. Damage total. Waves seen on ground surface. Lines of sight and level are distorted. Objects thrown into the air.

Source: United States Geological Survey National Earthquake Information Center, October 2002.

Ground Shaking

Orange is vulnerable to ground shaking caused by seismic events along large regional faults in the area. These faults include the Newport-Inglewood Fault (located approximately 15 miles southwest of Orange along the coast near Newport Beach), the Elsinore Fault (which crosses the Santa Ana River Canyon about five miles northeast of Orange), and the San Andreas Fault



(which is parallel to the Elsinore, located approximately 40 miles northeast of Orange). Each of these faults has numerous branches and associated faults and, therefore, has associated fault zones. Movement along any of these fault zones has the potential to cause widespread upset in Orange. The potential for ground shaking within the City depends on the distance to the fault and the intensity of a specific seismic event along the fault. Also, areas underlain by bedrock at shallow depths (as in the eastern part of the planning area) would tend to be less affected than areas underlain by thick sequences of unconsolidated alluvium.

Figures PS-2 and PS-3 show the effects of two maximum probable events, a magnitude 8.3 earthquake along the San Andreas Fault and a magnitude 7.5 earthquake along the Newport-Inglewood Fault. The ground-shaking effects on areas within Orange are shown in terms of the Modified Mercalli scale (See Table PS-1). The maximum Mercalli intensity, IX, at the southwest corner of the city under a 7.5 magnitude Newport-Inglewood fault scenario, indicates potential for great damage to substantial buildings and damage to underground pipes even in specially designed structures.

Landslides and Liquefaction

Landslides can occur when strong ground movement such as an earthquake shakes loose soil and causes land and debris to lose stability and slide. Liquefaction occurs when moisture-saturated soils lose stability during seismic conditions. Structures built on such soils may collapse and result in damage and loss.

Portions of the planning area most susceptible to liquefaction and landslides are identified on the Environmental and Natural Hazards Policy Map (Figure PS-1). Earthquake-induced landslides are most probable in poorly consolidated or semi-consolidated sedimentary rock, characteristic of the low hills of the northern and eastern parts of the planning area. Portions of the planning area susceptible to seismically-induced liquefaction include areas near the Santa Ana River and Santiago Creek. A smaller area of high liquefaction potential is present in the areas east of Panorama Heights, in Crawford Canyon. These alluvial plains are characterized by fluvial and loose, floodplain sediments.

To further protect the City from injury and structural damage due to geologic and seismic hazards, all new development will be required to abide by the most recently adopted City and state seismic and geotechnical requirements. All older buildings, particularly unreinforced masonry buildings, and buildings located near the Peralta Hills and El Modena Faults should be reinforced and strengthened to prevent damage to structures and loss of life in the event of an earthquake. The City will provide public education programs regarding geologic and seismic hazards and continue to cooperate with surrounding cities, regional, State, and federal government in programs designed to implement the most strategic and efficient actions to mitigate such hazards.

Flood Hazards

In Orange, flooding may result from either the overflow of watercourses due to excessive and unusual storm run-off, or from failure of dams and/or water storage reservoirs.



Natural Flood Hazards

Flood hazards related to storm events generally are described in terms of the “100-year flood.” As its name implies, the 100-year flood is the largest flood event which may be expected to occur within a 100-year period. This flood is considered a severe flood but one which can be reasonably predicted and therefore reasonably mitigated. As shown in Figure PS-1, the 100-year flood plains shown in Federal Emergency Management Agency (FEMA) maps indicate that the stream drainage areas along the Santa Ana River and Santiago Creek are subject to flooding by the largest storm event in 100 years or within 100 to 500 years. The floodplain may be subject to modification by manmade facilities such as flood control basins, levees, and concrete-lined stream channels.

Additionally, according to FEMA maps, a flood area determined for the 100-year storm event (Zone A) is a reservoir water surface elevation of approximately 800 feet mean sea level (msl) as shown. Backwater into Santiago Creek, Limestone Creek, and immediately adjacent to Santiago Reservoir tributary drainage also reaches this elevation. As development in the hillside and basin areas progresses, runoff and absorption rates will be altered. Adequate infrastructure will be needed to ensure that the increased runoff can be handled without increasing the risk of flooding. Appropriate flood control measures will be implemented along Santiago Creek and throughout the planning area, where necessary, to reduce the risks from localized flooding.

The National Flood Insurance Program, in which Orange participates, covers at a minimum all properties affected by the 100-year flood. To receive insurance benefits in the event of a flood, participating agencies must recognize these official flood boundaries and establish appropriate land use policy for the flood zones.

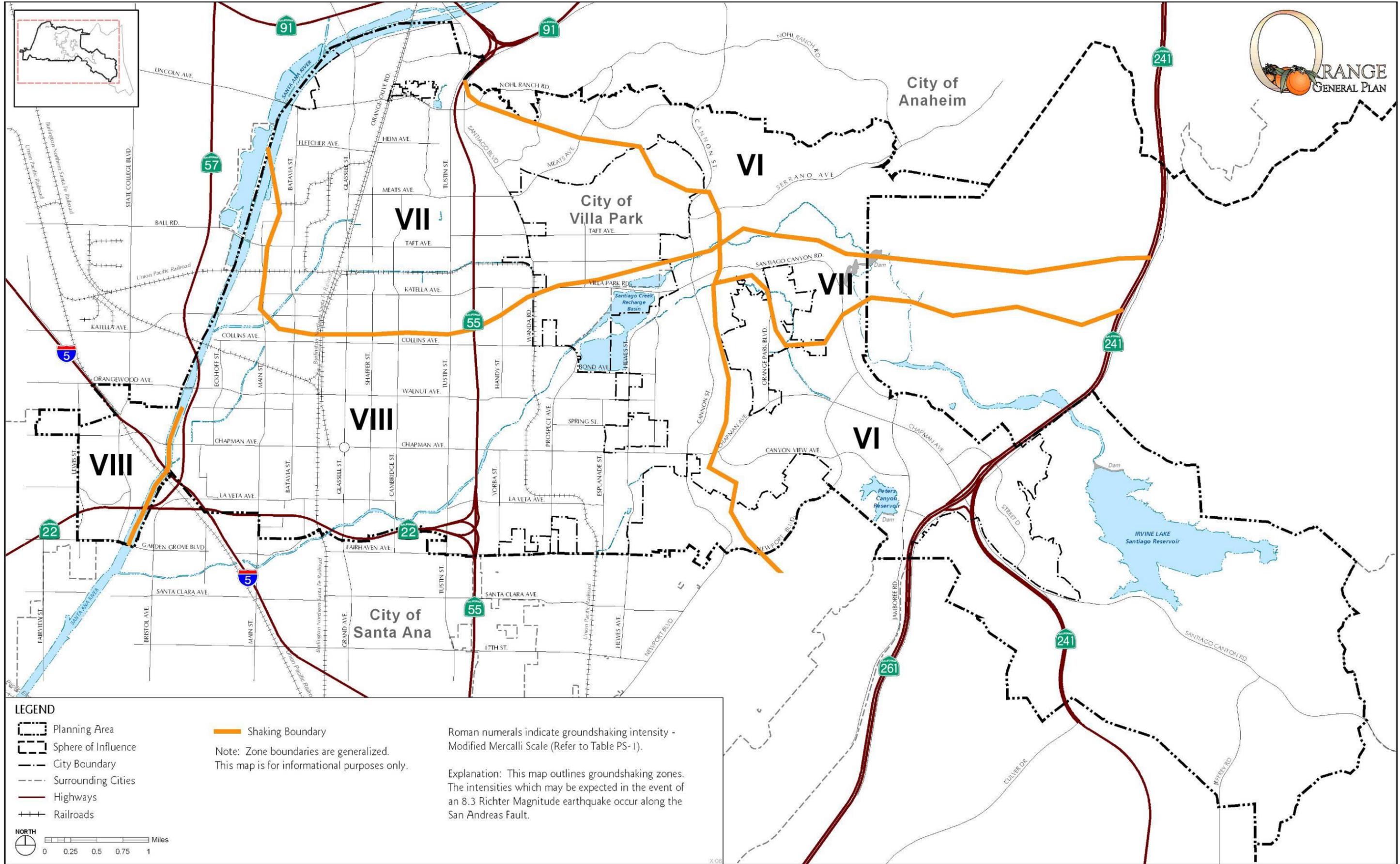
Additional flood prevention methods such as provision of detention basins and on-site stormwater drainage will be required of developers to reduce runoff into the City’s drainage facilities and to provide adequate drainage for new developments. To minimize runoff, the City will promote developments that incorporate permeable surfaces within site design.

The City will direct development of critical public and private facilities such as medical, educational, and civic facilities to be located outside of flood zones. To mitigate flood hazards to existing structures within flood zones, the City will offer educational programs for the public and City staff regarding flood hazards.

Flood hazards can be created or heightened after wildland fire events. Post-fire systems are implemented on an as-needed basis following a wildland fire. Potential problem areas are identified by the City, then Orange County Public Works best practices along with National Pollution Discharge Elimination Systems guidelines are implemented to mitigate potential flooding.

Dam Inundation Hazards

Failure of the Prado Dam in Corona (in Riverside County) could result in extensive flooding along the Santa Ana River. However, ongoing efforts by the Army Corps of Engineers to improve the Prado facility reduce the risk of dam failure to a very low level.



LEGEND

- Planning Area
- Sphere of Influence
- City Boundary
- Surrounding Cities
- Highways
- Railroads
- Shaking Boundary

Note: Zone boundaries are generalized.
This map is for informational purposes only.

Roman numerals indicate groundshaking intensity - Modified Mercalli Scale (Refer to Table PS-1).

Explanation: This map outlines groundshaking zones. The intensities which may be expected in the event of an 8.3 Richter Magnitude earthquake occur along the San Andreas Fault.

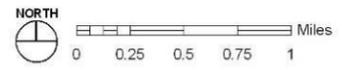
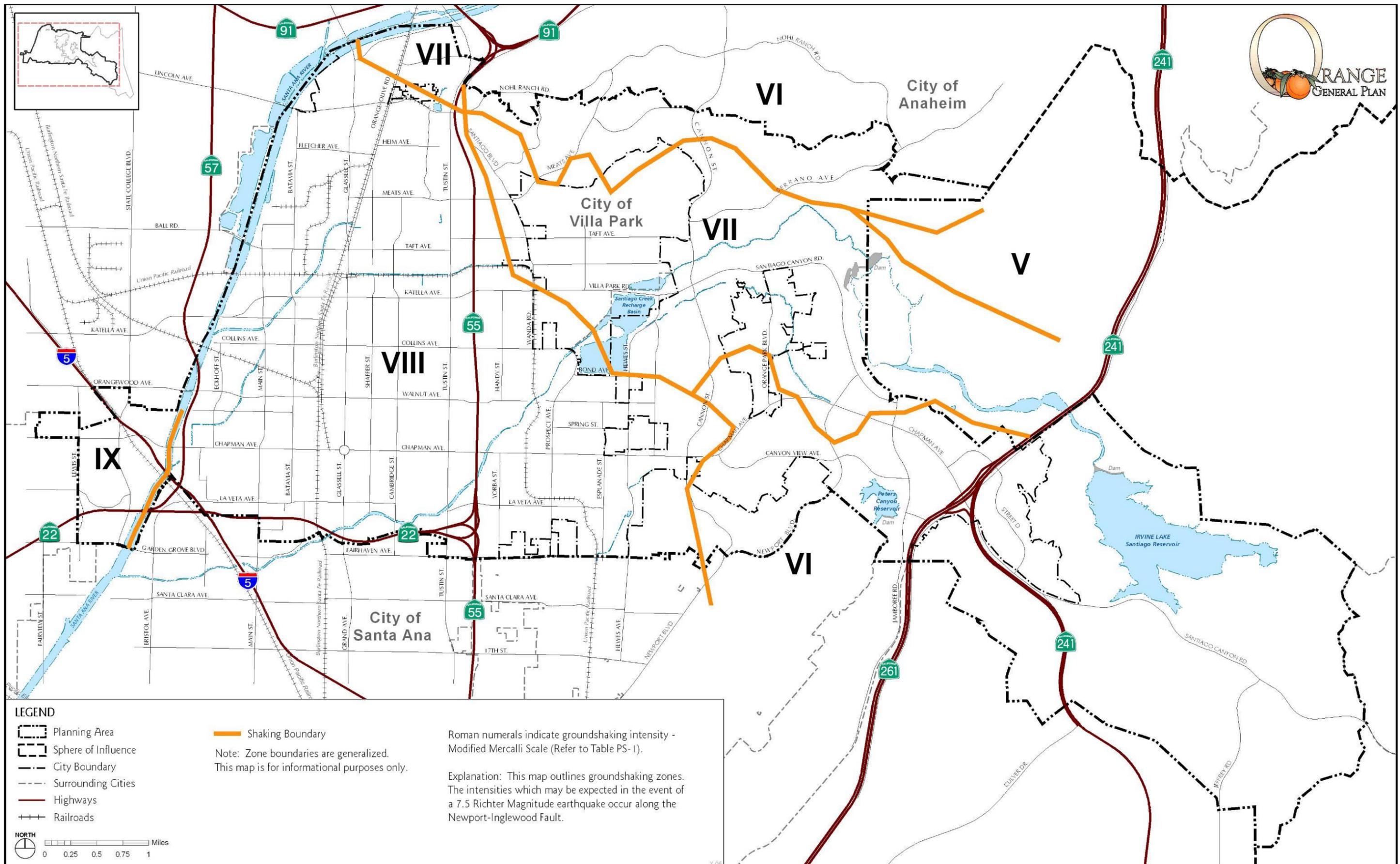


Figure PS-2. Potential Groundshaking Zones – 8.3 San Andreas Earthquake



LEGEND

- Planning Area
- Sphere of Influence
- City Boundary
- Surrounding Cities
- Highways
- Railroads
- Shaking Boundary

Note: Zone boundaries are generalized. This map is for informational purposes only.

Roman numerals indicate groundshaking intensity - Modified Mercalli Scale (Refer to Table PS-1).

Explanation: This map outlines groundshaking zones. The intensities which may be expected in the event of a 7.5 Richter Magnitude earthquake occur along the Newport-Inglewood Fault.

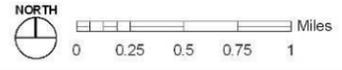


Figure PS-3. Potential Groundshaking Zones – 7.5 Newport-Inglewood Earthquake



Two dams are present along Santiago Creek: Villa Park Dam and Santiago Dam (Irvine Lake). Both are located in the foothills section of east Orange. Peters Canyon Dam is located along Peters Canyon about two miles west of Irvine Lake. Like Santiago Creek, which flows generally southwest, Peters Canyon drains in a similar direction, along Handy Creek and ultimately into Santiago Creek. The areas below (downstream from) the dams are areas of potential flood hazard in case of catastrophic dam failure, which presumably could result from a major earthquake. Maps depicting the extent of potential dam inundation within the planning area are available for public review at the Community Development Department. The areas below the dams are also zoned for flood hazard on the FEMA maps, and the areas of potential flooding are similar in width to other areas along Santiago Creek and Peters Canyon (see Figure PS-1). Should one of these facilities fail, properties along Santiago Creek and a large section of Old Towne could be flooded. Flood flows would move at rates which would allow persons to be evacuated, but significant property damage could result. However, as is the case for Prado Dam, these facilities are maintained and safety-inspected to ensure that risks are minimized.

Olive Hills Reservoir is a water tank which sits on a hilltop in Anaheim above residential development in Orange. Reservoir failure would result in the flooding of canyons and residential tracts below the reservoir.

The City will minimize flood-related risks and hazards in the event of dam or reservoir failure, protecting residences and businesses by encouraging the County's Flood Control District to continue proper inspection of storm drains, ensure maintenance of the flood control facilities, and prevent earthquake damage. The City will also monitor water storage facilities to determine potential inundation hazards to surrounding properties.

Fire Hazards

As part of its efforts to prevent injury and loss due to fire hazards in the Very High Fire Hazard Severity Zones (VHFHSZ), Wildfire Urban Interface (WUI), undeveloped hillside, and urban areas, the City will continue to educate the public, provide up-to-date maps, and refine pre-plan WUI areas delineating areas that could face fire hazards. The City will ensure minimum road widths, clearance areas, and access to adequate fire protection services by enforcing Municipal Code provisions and City specifications, and conducting development review.

Wildfires

The Very High Fire Hazard Severity Zones Map (Figure PS-4) shows Very High Fire Hazard Severity Zones in the Local Responsibility Area and State Responsibility Area and also shows the boundaries of the Natural Communities Conservation Plan/Habitat Conservation Plan. Risks associated with fire hazards at these Wildfire Urban Interfaces are reduced through fire prevention which includes, public education, development standards for new construction, annual inspections, State fire clearances, and fuel modification and weed abatement coordinated through or conducted by the Fire Department as outlined under the Emergency Services and Safety heading on the following pages.

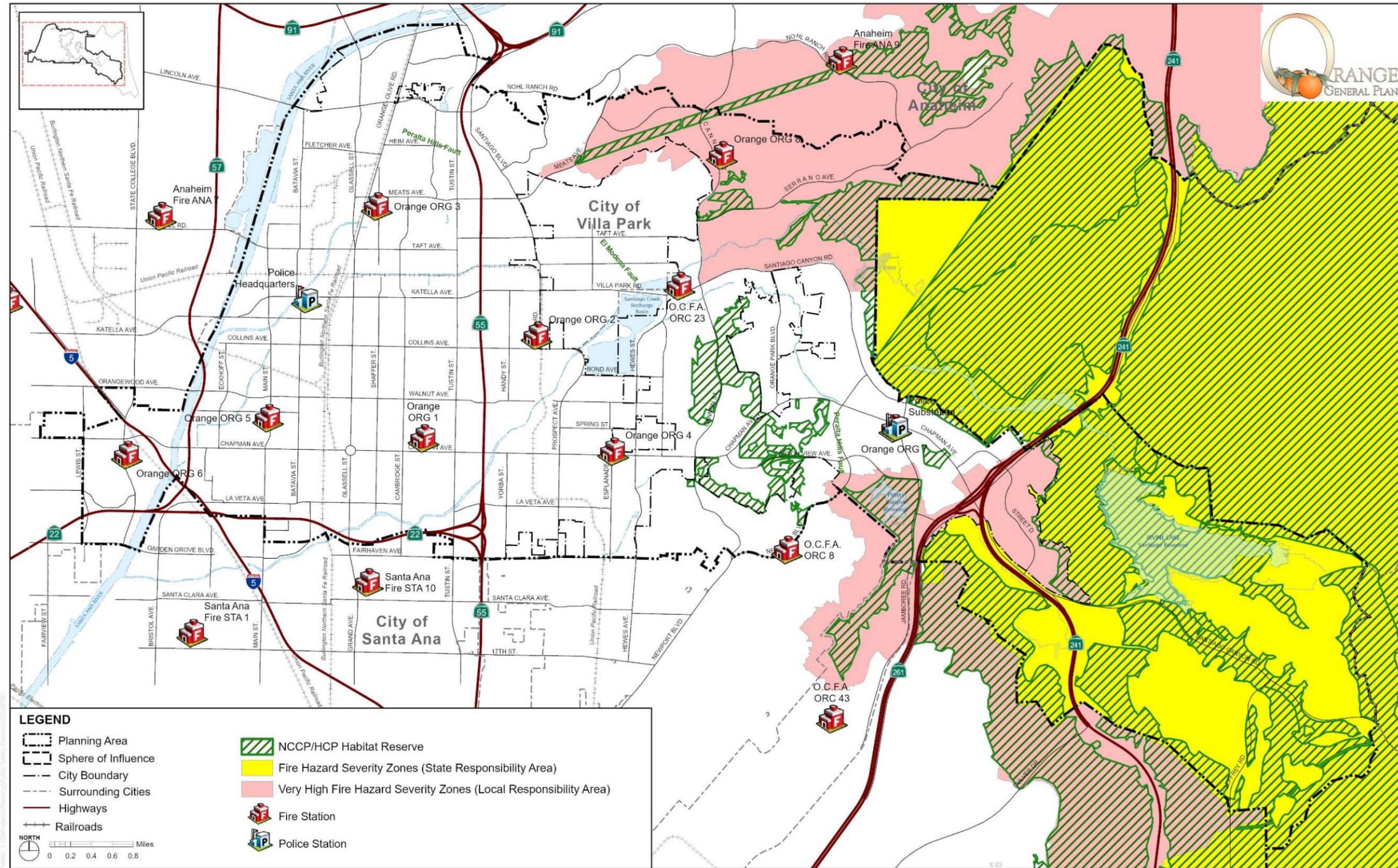


Figure PS-4. Very High Fire Hazard Severity Zones Map



Development located within or adjacent to the identified Very High Fire Hazard Severity Zones (VHFHSZ) and Wildfire Urban Interface (WUI) in Figure PS-4 must prepare and implement a comprehensive fuel modification program in accordance with City regulations. Most of the City is developed outside of the VHFHSZ, however Figure PS-4 shows existing and proposed land uses within the VHFHSZ. Figures PS-6a and PS-6b show existing development in the VHFHSZ that has a single emergency evacuation route and also shows entitled projects that are either in or partially in the VHFHSZ. The City reviews new developments for appropriate fire services needs to ensure adequate emergency services and facilities to residents and businesses. Coordinating with adjacent local cities, and participating in regional, State, and federal programs assist in preparing the City for wildfire emergencies and help reduce fire-related risks.

For localized wildfire incidents, the Fire Department implements the following WUI pre-plans:

- Tustin-Orange Foothills Fire Plan
- Anaheim Hills East
- Anaheim Hills West
- Cowan Lemon Heights
- East Orange-Orange Park Acres

These WUI plans are identified in Figure PS-5 and include the following:

- A risk assessment of the areas covered
- Critical information such as response safety, aviation hazards, potential choke points/entrapments
- Briefing information such as fuels, years burned, expected fire behavior, topography, access, special hazards, safety zones/temporary safe refuge areas, and water supply
- Unified command information such as potential incident command post locations, unified command participants, and staging areas
- Large fire development factors such as weather and fire behavior
- WUI arrangement
- Recommended strategies and tactics (FIREScope/PACE) including a primary plan (offensive), alternate plan (offensive), contingency plan (defensive – responder safety), emergency plan (defensive), and perimeter control plan
- An evacuation plan including a primary evacuation plan, evacuation trigger points, and temporary evacuation assembly points for humans and animals
- Population and structures at-risk by population, acreage, and structures
- Structural Triage showing percent of threatened/non-defensible areas, threatened/defensible areas, non-threatened areas, and areas with defensible space
- Fire emergency resource needs for the first six hours including the fire ordering point; the number of engines, strike teams, water tenders, crew, dozers, overhead division support, and aircraft needed; and, the risk to WUI engine deployment
- Law enforcement emergency resource needs for the first six hours including the law enforcement ordering point; number of officers from various agencies for evacuation,



traffic control and security, traffic control points, logistics needs for emergency operation center support, and other considerations

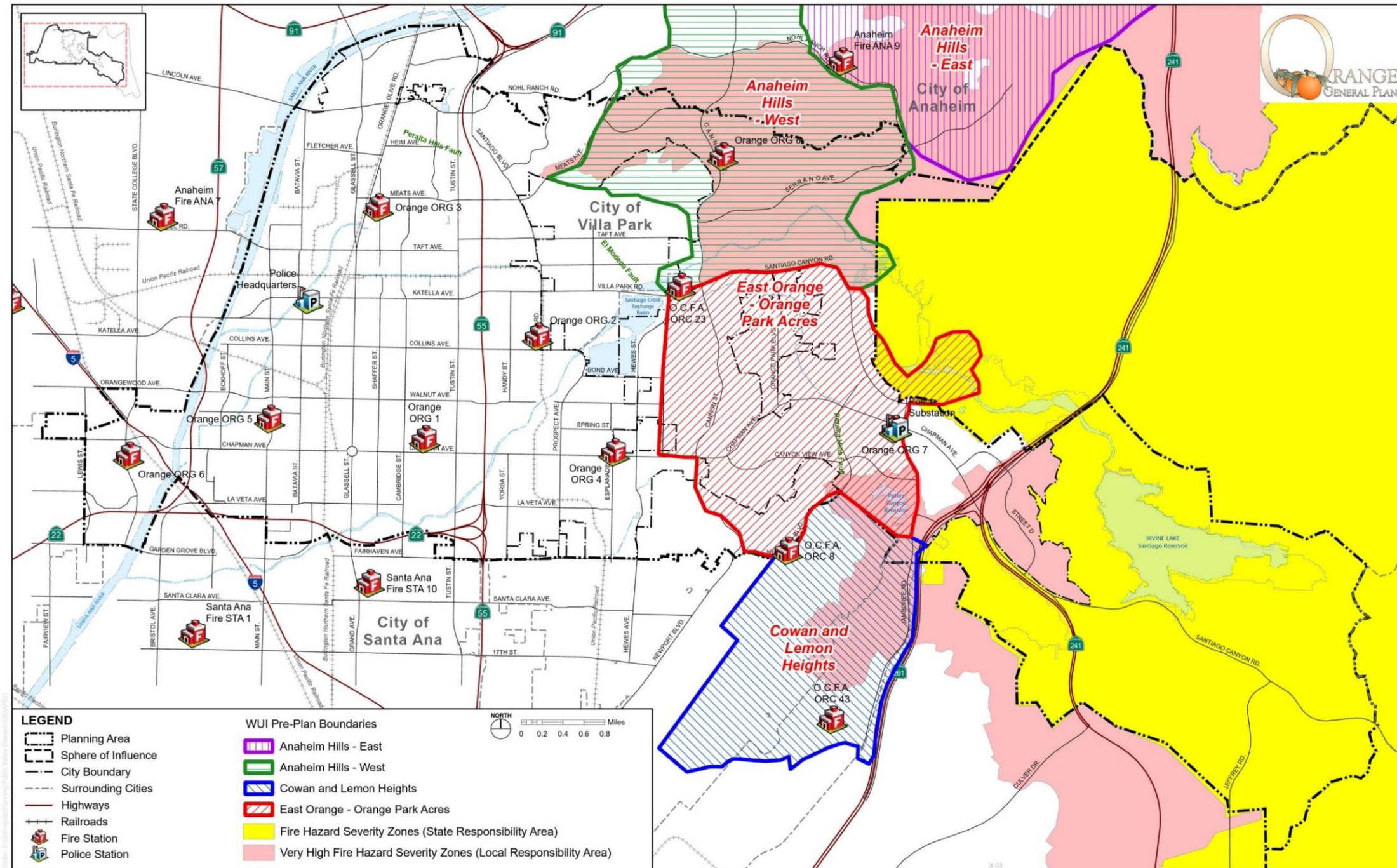
- Maps showing topography, access, hazards such as electrical and aerial, base camps, water sources, evacuations areas and routes, fuel breaks, spotting problems, proposed dozer lines, forecast fire progression in major paths and arrival time, and other necessary information

The City participates in the county-wide Community Wildfire Protection Plan for Orange County. This plan addresses pre-suppression, suppression, and post-suppression tactics in the Natural Communities Conservation Plan/Habitat Conservation Plan areas within the City as identified on Figure PS-4. The suppression tactics identify desired actions and locations, while the post-suppression tactics identify the actions and responsibilities for fire suppression repair consistent with the Natural Communities Conservation Plan/Habitat Conservation Plan. The plan is the conduit to discuss and develop pre-suppression and prevention activities to reduce the loss of life, property, environment, and suppression costs.

The City is also a participant in mutual aid via the SOLAR plan, the mutual aid agreement between the counties of San Bernardino, Orange, Los Angeles, and Riverside County fire agencies to provide for common radio communications and a central ordering point (dispatch center) for resources during emergencies.

Urban Fires

Although updated fire code requirements reduce urban fire risks in Orange, structures in older parts of the City, especially in Old Towne, were constructed prior to adoption of modern standards. Structures used for the transport, production, and handling of combustible equipment in the industrial areas (shown in Figure PS-1) also pose a credible urban fire threat. The Fire Department will participate in environmental review procedures to reduce urban fire risks in these areas, and will help educate the public regarding fire prevention.



Note: The Tustin-Orange Foothills Fire Plan area encompasses much of the other WUI Pre-Plan boundaries. The map area is on file with the Fire Department.

Figure PS-5. Wildland Urban Interface (WUI) Pre-Plan Map

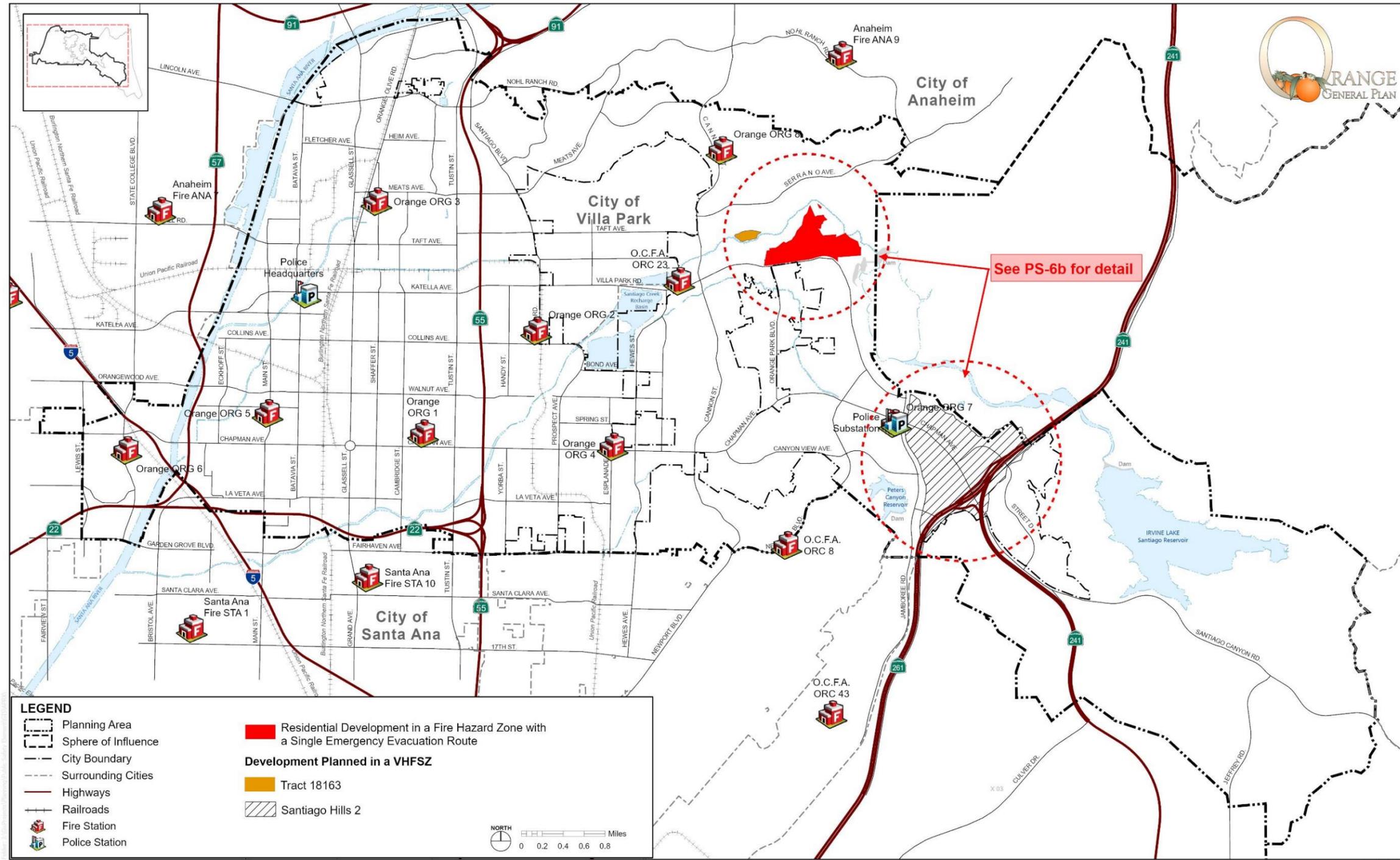
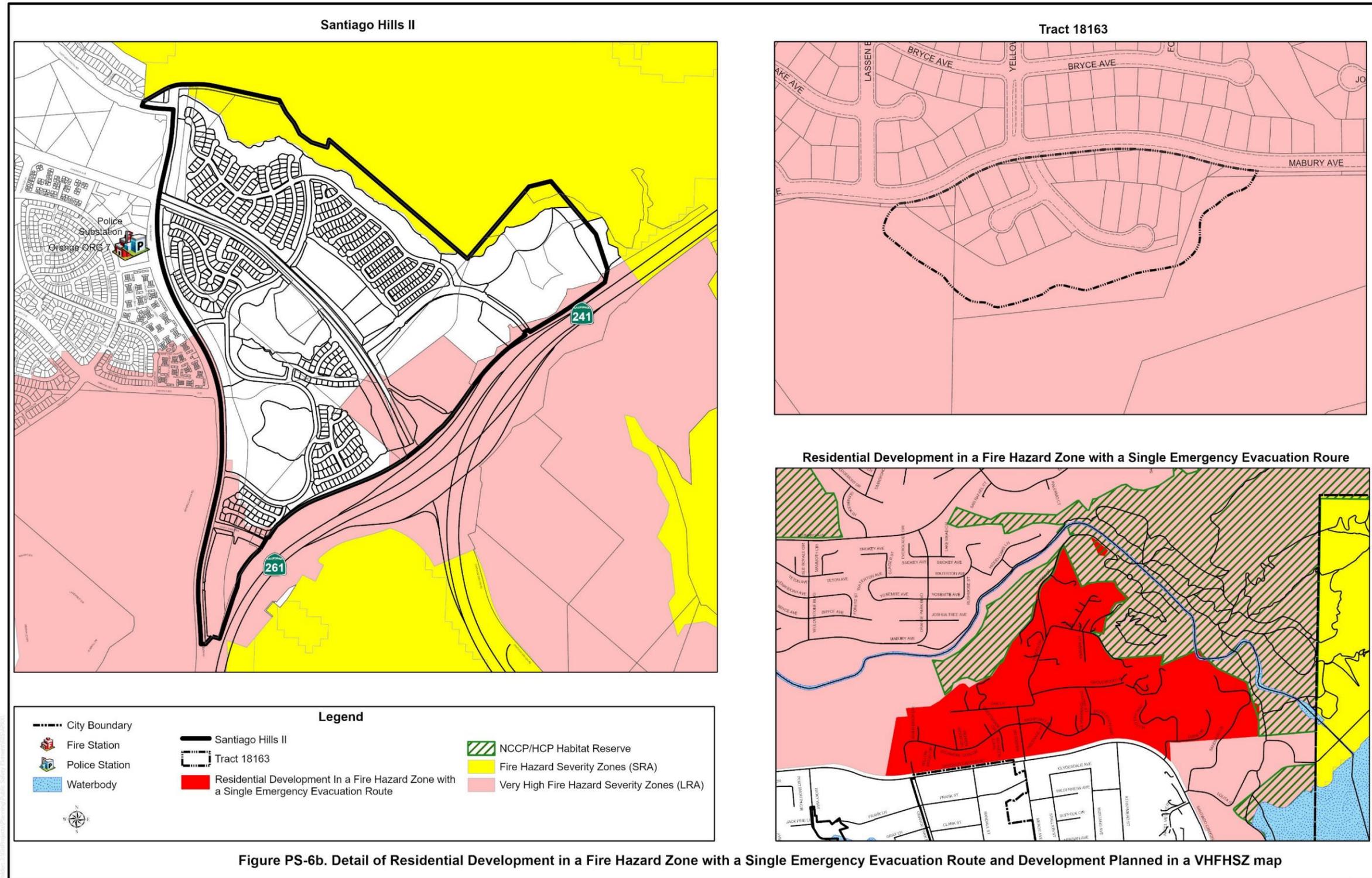


Figure PS-6a. Residential Development in a Fire Hazard Zone with a Single Emergency Evacuation Route and Development Planned in a VHFHSZ map



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Hazardous Materials and Human-Caused Hazards

Hazardous materials are often found in solid, liquid, and gas forms that pose potential threats or actual harm to humans and the environment. Mishandled hazardous materials can leak into soils and water sources.

Hazardous Materials

The City follows the County's Hazardous Materials Inspection and Enforcement Plan. To prevent accidents, and ensure proper handling, routine inspections are conducted at businesses within the City that store, use, or handle hazardous materials. The City concentrates production of hazardous materials within its industrial area, separated from residential areas, educational uses, and institutional facilities (see Figure PS-1). The City also identifies businesses transporting, manufacturing, using, and storing hazardous chemicals, and requires such businesses to exercise caution and to mitigate potential negative effects on surrounding land uses prior to obtaining businesses licenses. Periodic assessment and analysis of potential threats related to hazardous materials will result in proper response to hazardous substance emergencies. In addition, plans for residential or for mixed-use projects on industrial or commercial lands will be required to undergo proper site assessment and remediation prior to development.

Residents may dispose of hazardous materials at the Household Hazardous Waste Collection Center in the City of Anaheim. Since the three landfill sites serving Orange (located in Irvine, Brea, and San Juan Capistrano) do not accept hazardous wastes, commercial hazardous wastes must be collected and disposed by private waste disposal companies.

Solid Waste Disposal Sites

Areas formerly used as landfills contain wastes that can release toxins into the air or contaminate groundwater. As indicated in Figure PS-1, the planning area includes several closed landfills.

Those landfills as named on the County website are:

- Cerro Villa, located 1/4 mile east of Cannon Street between E. Serrano Avenue and East Goldenrod Lane
- La Veta, located on the northeast corner of La Veta and Tustin Avenues.
- Reeve Pit, located at the northeast corner of Villa Park Road/East Santiago Canyon Road and North Hewes Street
- Santiago Canyon, located off Santiago Canyon Road, east of the intersection of the SR 261 and SR 241, adjacent and westerly of Irvine Lake. The physical address is 3099 Santiago Canyon Road.
- Villa Park, located south of the Santiago Creek on the northeast corner of Santiago Canyon Road and Cannon Street in the City of Orange. The physical address is 5545 E. Santiago Canyon Road.



- Yorba, located at the southwest corner of Chapman Avenue and Yorba Street in the City of Orange. The physical address is 190 S. Yorba Street.

In addition to the aforementioned closed landfills, the planning area has solid waste sites listed on the State's Solid Waste Information System (SWIS). These sites are indicated in Figure PS-1, and consist of the following:

- Blue Ribbon Nursery & Landscape Supplies, 1425 N. Santiago Boulevard
- CalTrans Orange Maintenance Station LVTO, 691 S. Tustin Street
- Cerro Villa Heights Disposal Station #7, 5850 E. Crest De Ville
- City of Orange Santiago Creek Landfill, 190 S. Yorba Street
- City of Orange Corporate Yard LVTS Op., 637 West Struck Avenue
- La Veta Station #2, 465 S. Tustin Street
- Orange City Dump #9 , North of Chapman Avenue & Yorba Street, North of Chapman Global Medical Center
- Reeve`s Pit , 19111 Villa Park Road
- Rio Santiago, 6145 E. Santiago Canyon Road
- Santa Ana Valley Irrigation Dump #1 (abandoned), East Bank of the Santa Ana River, South of Lincoln Avenue, West of River Trail Road
- Santa Ana Valley Irrigation Dump #2 (abandoned), East Bank of the Santa Ana RiverS Of Lincoln And Batavia
- Santiago Canyon Sanitary Landfill, 3099 Santiago Canyon Road
- Villa Park (Loma Street) Landfill, Orange Co. Disp. Site No.22-Villa Park
- Waste Management Of Orange, 2050 Glassell Street
- Yorba Landfill, southwest corner of Chapman Avenue and Yorba Street in the City of Orange. The physical address is 190 S. Yorba Street.

The City will require appropriate site assessment and mitigation of hazardous toxins prior to development. If areas pose hazards that cannot be adequately mitigated, they will be designated as open space.

Pipelines

Several high pressure pipelines pass through Orange, delivering natural gas, liquid petroleum, and other products to Orange and cities beyond. Hazards associated with the pipelines include gas leaks, fire, and seepage of materials into the ground. The City Fire Department maintains maps indicating the location of these facilities, and uses these maps for safety planning, incident response, and development review purposes.

Underground Storage Tanks

The City's Fire Department has primary responsibility for managing risks associated with the presence of underground storage tanks (USTs). In addition to following the County's Inspection and Enforcement Plan, the Fire Department is also a participating agency in the local Certified Unified Program Agency (CUPA) established by the California State Water Resources Control Board. The City's Fire Department implements State requirements for USTs. The overall purpose of the UST Program is to protect public health and safety and the



environment from releases of petroleum and other hazardous substances from tanks. The Hazardous Materials Specialists Leak Prevention Program element includes requirements for tank installation, construction, testing, leak detection, spill containment, and overflow protection. CUPAs are the implementing agencies for the Leak Prevention program element.

Cleanup of leaking tanks often involves a soil and groundwater investigation and remediation, under the direction of a regulatory agency. Responsible parties who believe cleanup at their site is complete and are denied case closure by the regulatory agency may consider filing a closure petition.

Aircraft Operations

The planning area is not located within any airport crash zones. However, because aircraft paths cross air space between the Costa Mesa Freeway (SR 55) and Newport Boulevard, the City is vulnerable to mid-air collisions of aircraft headed for John Wayne Airport or the U.S. Army Airfield in Los Alamitos, and of helicopters flying to medical centers. Such accidents could result in injury and structural damage to residents, homes, employees, and businesses in Orange. To minimize the chance of such aircraft collisions, the City will work with the Federal Aviation Administration, the Orange County Airport Land Use Commission, California Department of Transportation (Caltrans), major medical institutions, and other agencies to ensure aircraft use flight paths that minimize the City's exposure to potential accidents.

The City will comply with the Airport Land Use Commission (ALUC) for Orange County's Heliports and Airport Environs Land Use Plan to ensure that future land uses located near helipads remain compatible. This plan requires that the construction of a new heliport or helistop complies with FAA and Caltrans permit procedures, as well as all applicable requirements of the City of Orange. Additionally, the plan requires that construction or alteration of structure in excess of 200 feet in height complies with federal and State law (FAR Part 77 and PUC 21676(b), respectively) and with the requirements of the Airport Land Use Commission for Orange County, as well as all applicable requirements of the City of Orange.

The City will ensure that development proposals including the construction or alteration of a structure more than 200 feet above ground level must fully comply with procedures provided by federal and State law, with the referral requirements of the ALUC, and with all conditions of approval imposed or recommended by the FAA and ALUC including filing a Notice of Landing Area Proposal (Form 7480-1). This requirement will be in addition to all other City development requirements.

Emergency Services and Safety

Achieving ideal law enforcement and emergency services requires coordination between the services provided by the City and the demands of the community. The City will first work with the community to identify the level of services desired. Then, the City will assess existing and future police and fire services, facilities, equipment, and personnel to determine its ability to meet current and future demands. The City's Police and Fire Departments will continue to use public outreach and education to increase community awareness regarding hazards, the City's Emergency Preparedness Program, and homeland security in Orange. In addition, the City will support programs that address crime and fire prevention activities. The Police and Fire



Departments will continue proactive training and planning programs, and utilize state-of-the-art technology to improve response and increase public safety.

Fire Services

The main goals of the Fire Department are to prevent and minimize death and injury, environmental damage, and property loss. In addition to fighting fires, the Fire Department works to achieve these goals through public education, fire prevention, hazardous materials management, and fire investigations. Orange’s Fire Department provides fire, paramedic, and ambulance services. Paramedic teams are located at eight stations, of which four also provide ambulance service with an average response time of 4 minutes, 47 seconds; and average transport unit response times of 5 minutes, 15 seconds. The Fire Department employs fire fighters who are also trained in paramedic techniques.

The Fire Department obtained a Standards of Cover Assessment in 2015 which contains adopted written policies and procedures that determine the distribution, concentration and reliability of fixed and mobile response forces for fire, emergency medical services, hazardous materials and other technical responses and seeks to implement short and long-term steps identified in the plan to maintain optimal services to the City.

Training

Members of the Fire Department are trained in Urban Search and Rescue (US&R). As part of the Orange County Task Force 5 US&R Team, one of 28 operational FEMA US&R teams in the United States, US&R team members provide trained urban rescue teams for regional and national emergencies. The Department also has a Swift Water Rescue Team that deploys rescue equipment during flood hazards. In addition to training for more common hazards, firefighters also train to handle incidents involving weapons of mass destruction, learning procedures for identification, decontamination, evacuation, and shelter-in-place.

National Fire Protection Association (NFPA) standards are guidelines or “best practices” that the Fire Department strives to meet. NFPA standards state that the fire department shall have a training program and policy that ensure that members are trained and competency is maintained to execute all of its responsibilities. The Orange City Fire Department’s training program provides for emergency service training to its staff members primarily through regionally offered classes. Common classes are Terrorism Liaison Officer, WebEOC, AlertOC, and EOC classes.

The Orange City Fire Department complies with Emergency Medical Services Authority (EMSA) standards by certifying all suppression personnel with CPR, Emergency Medical Technician, and Paramedic certifications and licensures. All three of these programs are administered on an on-going basis to ensure Fire Department staff remains current. Orange maintains Emergency Medical Transport program compliance with the local EMSA (LEMSA) office (Orange County Health Care Agency).

The Joint Apprenticeship Committee is a joint effort funded by the California State Fire Marshal’s Office, and the California Professional Firefighters Association. It provides funding for each hour of training provided to apprentices in the fire service. These funds can be used



to improve the quality of education and training in the fire service. The RT-130 wildland firefighting training is refresher training supported by The National Wildfire Coordinating Group. RT-130 classes are offered annually and are mandatory for all personnel to be eligible to respond out of County for wildfire incidents. The Orange City Fire Department provides RT-130 training each year and tracks attendance for full compliance.

Fire Prevention

The Fire Department engages in fire prevention via public education, preplanning project review of new construction, annual inspections of facilities with potential hazards, inspecting for State Fire Clearances, and inspecting fuel modification/weed abatement.

Public Education

Public education provides members of the community with tools to increase the level of safety in their homes and workplaces by preventing fire and other emergencies. It also equips them to minimize injury and property loss in the event that an emergency does occur. The Fire Department provides public education by request, using personnel as available. The City does not currently have any Firewise communities but is available to support and assist any future efforts by interested neighborhoods.

New Construction

The Fire Department is actively involved with new development and redevelopment in the City. The Fire Plans Examiner meets with developers early on in the project planning phase, attends internal project review meetings, and coordinates plan review with contract plan reviewers on an as-needed basis. Plans are reviewed for compliance with the California Fire Code, City Fire Master Plan Guidelines, defensible space requirements in the VHFHSZ, emergency responder access, water supply, and water pressure/fire flow. The New Construction Inspector witnesses on-site testing and installation of fire protection systems, and confirms that construction conforms to approved plans.

Annual Inspections

All businesses with fire permits receive annual inspections. Moderate-hazard, non-permitted businesses receive field inspections once every three years. The Office of the State Fire Marshal requires annual inspections for apartments and high-rise buildings. Many of the Fire Department's occupancy inspections are conducted by the Operations Division (firefighting personnel). However, the Prevention Division conducts inspections in multi-family dwellings, high-rise structures, institutional and hazardous occupancies, as well as other locations selected for their complexity.

State Fire Clearances

The State of California licenses various educational, institutional, and residential facilities, such as family day care homes, nursing homes, and residential care facilities for the elderly. As part of the licensing requirements, the Fire Department is responsible for issuing fire clearances after all State fire and life safety requirements have been met.



Fuel Modification and Weed Abatement

Wildfire is an ever-present threat in the eastern and northern portions of the planning area. This threat is managed by proactive fuel modification and weed abatement. Fuel modification is the progressive thinning and irrigation of selected vegetation to form increasingly fire resistant vegetation as brush fires approach buildings. It is required for all developments bordering the wildland-urban interface. Compliance with weed abatement standards provides defensible space between structures and dead brush, grasses, and other vegetation. Weed abatement inspections for required clearance are performed twice a year for all vacant City-owned and private lots. Private property owners and homeowners' associations are responsible for the continual maintenance of fuel modification installations and biannual weed abatement. The City utilizes the Vegetation Management Guideline - Technical Design for New Construction, Fuel Modification Plans, and Maintenance Program to accomplish fuel modification, weed abatement, and defensible space necessary in new development. Furthermore, Fire Department staff enforce defensible space requirements in the VHFHSZ and require adherence to development restrictions and maintenance requirements in the VHFHSZ.

Police Services

The Orange Police Department responds to emergency situations and patrols neighborhoods and commercial areas within the City to promote a safe environment. The staff maintains official criminal records, investigates crime, and, in an emergency, assesses situations and quickly dispatches appropriate emergency responses. The Police Department also directs proactive crime prevention programs. The Department's headquarters is located on North Batavia Street and includes the City's Emergency Operation Center. The Department operates a substation at the Outlets of Orange.

To maintain the City's ability to serve current residents and businesses, applicants will be required to provide for adequate services and equipment to serve residents and businesses of new developments. Land uses will be evaluated and modified, if necessary, to facilitate access to emergency services, meet service standards, and ensure land use compatibility.

Orange's partnerships with other public agencies and businesses will also improve its emergency services. For example, the City receives fire and emergency medical dispatch services from the Metro Cities Fire Authority Communications Center that serves six other cities in the County. The City participates in the Standardized Emergency Management System (SEMS) for mutual aid and communication with other agencies during regional emergencies. Coordination with other cities and regions, and with State and federal agencies, will help address hazards both within and beyond the City's jurisdiction.

Crime Prevention

Reducing crime in the City enhances the living and business environment. A low crime rate attracts new businesses and gives residents a greater sense of security and community pride.



Public Outreach and Education

The Police Department works with the community to promote safety by increasing awareness of personal and property crime risks. Crime prevention also involves educating the public about personal safety, business and neighborhood watch programs, and residential and business security. The Police Department connects with the community using social medial platforms including Facebook, Instagram, and Twitter.

The Police Department facilitates a Business Watch program that teaches business owners and employees crime prevention techniques and strategies they can use to help cut down on business-related crime. Training is conducted at a business complex with managers, owners, and employees to help maximize attendance. The goal of the Business Watch program is to teach businesses how not to become a target for crime. If businesses do not take a proactive approach, crime can gradually develop and affect the business environment.

The Police Department provides a Citizen’s Academy. The program allows the opportunity for the community to learn generally about police functions and to get to know Police Department personnel.

The Police Department’s Crime Prevention Bureau coordinates Neighborhood Watch programs that emphasize the importance and effectiveness of crime reporting by neighbors. Neighborhood Watch allows neighbors to report suspicious behavior or incidents to the Police Department. The program encourages neighbors to get to know one another and keep an eye on their community, enabling the City to increase security for its residents. The program also provides public awareness and prevention seminars.

The Crime Prevention Bureau also offers several additional free crime prevention programs to the community, including security inspections of homes and businesses within the City, and electronic engraving for personal items and vehicles through the *Operation Identification* program. Educational presentations to community, business, and neighborhood groups are also available on topics such as child safety, identity theft prevention, personal safety, burglary prevention, and senior safety.

The City strongly supports these outreach and education activities, and the Police Department will continue to support community programs and neighborhood-level efforts toward crime prevention and education.

Crime Prevention Through Environmental Design

Orange values environmental design as a tool to help prevent crime. The concepts of CPTED offer non-invasive and permanent measures to prevent crime in the City. CPTED includes the following five concepts: territoriality, natural surveillance, activity support, access control, and maintenance.

- **Territoriality:** Demarcating the boundary of a property or an area through walls and fences can discourage intrusion. People tend to protect territory that they feel is their own and to respect the territory of others. Low decorative fences, artistic pavement treatments, well-designed signs, good property maintenance, and high quality landscaping express pride in ownership and identify personal space.



- **Natural Surveillance:** Arranging populated functions or rooms in homes and businesses to face the street allows easy surveillance by residents and employees. Crime is discouraged through the design and orientation of buildings and public spaces, along with placement of physical features, activity centers, and people in ways that maximize the ability of others to see what’s going on. Conversely, barriers such as bushes, sheds, or shadows make it difficult to observe activity. Windows or doors oriented to streets and public areas, in conjunction with landscaping and lighting that promote natural surveillance from inside a home or building and from the outside by neighbors are effective means of passive crime prevention.
- **Access Control:** Circulation, site, and building access can be controlled through designating paths and placing bollards or fences to limit access.
- **Activity Support:** Supporting activities on the street attracts people and encourages natural surveillance. Encouraging legitimate activity in public spaces assists in discouraging crime. Improvements such as a basketball court in a public park and community activities such as a clean-up day, block party, or civic or cultural event bring people out, get them involved, and help discourage vagrancy and potential illegal acts. Providing a mix of land uses, types of residential development, and public or quasi-public spaces encourages diverse households and patterns of activity, increasing security due to round-the-clock activity and more eyes on the street.
- **Maintenance:** Maintenance of sidewalks, street trees, lighting, and private property discourages negative behavior such as littering and vandalism.

Crime Prevention Through Environmental Design (CPTED) concepts enable developers and designers to incorporate crime prevention measures into building design. Territoriality can be achieved by demarcating boundaries with various surface treatments and careful design to make intrusion and suspicious activities easy to identify. Building orientations that face the street, window placements and size, and provision of lighting allow neighbors to survey their neighborhood and discourage intrusion. Pathways and obstructions such as walls and gates allow property owners and the City to control access.

Crime prevention also requires public participation. The City’s Neighborhood Watch Program relies on Orange neighbors as its most effective crime prevention tool. The program provides training to volunteers who maintain neighborhood safety by being watchful and reporting suspicious behavior in their area.

Crime prevention relies upon programs implemented by government agencies. To reduce crime, the City will emphasize the need for well-lighted community areas and the use of extra surveillance in areas susceptible to high crime rates, such as parking lots. Complementary uses within mixed-use areas will be encouraged to reduce crime. Activity support is strengthened by intentionally placing programs and activities in areas that improve the perception of safety and discourage potential offenders.

The success of CPTED depends on maintenance of all these programs. Maintaining streets, lighting, and landscaping facilitate natural surveillance and access control. Maintaining private and public properties requires participation from property owners and City departments.



Continuation and monitoring of CPTED programs will promote safety in Orange neighborhoods.

Disaster and Emergency Preparedness

Being prepared and knowing what courses of action to take in case of emergencies reduces the chance of injury and damage. Educating staff and the public regarding hazards prepares them mentally and physically, leading to quick and appropriate response. The City will initiate and support practices of emergency evacuation measures at home, at work, and in schools to reduce the effects of emergencies on everyday life.

Emergency Operations Plan

In case of emergencies within Orange or originating from areas outside the municipal boundary, including foreign and domestic terrorist acts, the City will correspond with other jurisdictions, regions, and agencies to take appropriate actions. The City has an emergency plan which establishes emergency preparedness and emergency response procedures for both peacetime and wartime disasters. The plan is termed an “Emergency Operations Plan,” prepared in accordance with the State Office of Emergency Services guidelines for multi-hazard functional planning.

The plan consists of three parts: 1) a basic plan; 2) annexes which address specific functions and duties of response agencies; and 3) a directory of emergency response resources. Rather than focusing on specific responses for specific hazards, as contingency plans have done in the past, the City’s plan concentrates on specific agency response for any type of disaster. For example, in the event of an earthquake, flood, or industrial accident, the Orange Fire Department is responsible for fire suppression, emergency medical care, and rescue operations.

The various annexes in the City’s Emergency Operations Plan outline emergency responsibilities by type of operation, such as “Fire and Rescue” or “Care and Shelter.” Table PS-2 summarizes emergency operation responsibilities of various City departments.



**Table PS-2
Emergency Operations Responsibilities**

	Alerting and Warning	Communications	Situation Analysis	Management	Public Information	Radiological	Fire and Rescue	Assess Control	Law Enforcement	Medical	Public Health	Coroner	Care and Shelter	Movement	Rescue	Const. and	Supply/Procurement	Personnel	Transportation	Utilities	
City Departments																					
Police	■	■	■	■	■			■	■			■		■	■						
Fire	■	■	■	■	■	■	■			■					■	■					
Public Works	■	■	■	■				■			■					■			■	■	■
Community Services													■	■					■		
Community Development			■		■											■					
Finance				■													■				
Human Resources																		■			
Library					■								■						■		
City Attorney				■																	
City Clerk					■																
City Manager				■	■																
Outside Agencies																					
County Health											■										
Red Cross													■								
Notes:	■ Supporting Agency/Organization ■ Principal Agency/Organization																				

In support of Disaster and Emergency Preparedness, the Police Department provides a Community Emergency Response Team (CERT) program to support emergency awareness and preparedness for the Orange community.

Emergency Access and Evacuation

All City arterials are recognized as primary emergency response routes. In addition, non-arterials can be secondary emergency response routes. The City’s Residential Neighborhood Traffic Management Program, which identifies traffic management and traffic calming tools, specifies that emergency vehicle access shall be accommodated consistent with response standards with implementation of appropriate traffic management measures. Additionally, if current emergency vehicle access does not meet existing response standards, traffic calming efforts should not further degrade response times.

The City ensures that all new or substantially remodeled development or right-of-way improvements provide for emergency access and evacuation based on compliance with the most recent California Fire Code, California Building Codes, Fire Master Plan requirements, and



the City’s development review process. However, there are existing residential developments within the Very High Fire Hazard Safety Zone (VHFHSZ) that do not have at least two evacuation routes. These developments are located as shown on Figure PS-6a and PS-6b. The City already applies strict target-hardening codes to construction and redevelopment in this area and will look to implement any additional evacuation routes for the area as opportunities arise.

The City’s Emergency Operations Plan utilizes evacuation routes for emergency situations and Fire Evacuation Area Maps are provided for public use on the Police Department’s website. The City’s Wildland Urban Interface pre-plans also identify potential choke points/entrapment areas, safety zones, and a primary evacuation plan. The routes of escape from disaster-stricken areas will depend on the scale and scope of the disaster. For example, a flood occurring along the Santa Ana River would require evacuation of the City’s industrial area east toward the Costa Mesa (SR 55) Freeway. However, if a large fire occurred in the eastern portion of the industrial district, employees would evacuate to the west, toward the Santa Ana River.

Figure PS-7 provides a generalized version of the City’s evacuation corridors. Although emergency egress may vary depending on the type and scale of emergencies, it will most often take place on Chapman Avenue, Katella Avenue, Glassell Street, Lincoln Avenue, Orangewood Avenue, and Hewes Street. Most of these streets are wide, arterial roads with capacity to efficiently move residents in and out of the City. The City will continue to evaluate the viability of each of these routes to serve as evacuation corridors.

Figure PS-8 provides greater-detailed evacuation corridors for wildfire events in the easterly portions of the City that abut very high fire hazard severity zones. The City of Orange Police Department website hosts a “Know Your Way” in an emergency webpage with a prominent link to the evacuation routes and each color-coded neighborhood has a magnified evacuation route map.

Standardized Emergency Management and Mutual Aid Assistance

Standard Emergency Management System (SEMS) and National Incident Management System (NIMS) are used by the City to provide a standardized approach to emergency management across all jurisdictions and disciplines. Both systems use common terminology and organizational structure to allow incident coordination, regardless of local, State, or federal government agency participation. Mutual Aid agreements (both local and master) provide for rapid sharing of resources during emergencies. Based on the principle that no single agency has enough resources to handle all potential emergencies by themselves, a cooperative sharing of resources across districts and jurisdictional boundaries does. Local Mutual Aid agreements allow for rapid sharing of nearby resources from other agencies. Master Mutual Aid agreements provide sharing of resources from more distant jurisdictions.

The City participates in the SOLAR Plan, an agreement between the San Bernardino, Orange, Los Angeles, and Riverside County fire agencies to provide for common radio communications and coordinated response.



Emergency Shelters

In the event of either a natural or human-caused disaster, homes may be destroyed or be inaccessible for extended periods of time. Orange residents will require some form of temporary shelter. As Table PS-2 indicates, the Red Cross bears primary responsibility for providing emergency shelter to displaced residents. The Red Cross maintains a list of emergency shelters within and immediately adjacent to the planning area. Most of these emergency shelters, listed in Table PS-3, are public or private schools. The Wildland Urban Interface pre-plan temporary evacuation assembly points are consistent with Table PS-3.

Table PS-3 Emergency Shelters/Assembly Points	
Primary Sites	
El Modena High School	3920 Spring, Orange
Orange High School	525 N. Shaffer, Orange
Villa Park High School	10842 Taft, Villa Park
McPherson Middle School	333 S. Prospect, Orange
Peralta Middle School	2190 Canal, Orange
Santiago Middle School	515 N. Rancho Santiago, Orange
Yorba Middle School	935 N. Cambridge, Orange
Cerro Villa Middle School	17852 Serrano, Villa Park
The Outlets at Orange Shopping Center	20 City Blvd W
Secondary Sites	
All Elementary Schools	City-wide

Homeland Security

In the aftermath of the terrorist attacks on September 11, 2001, the City of Orange’s emergency preparedness and response services have become an even more critical function. Since the events of 9/11, a considerable amount of information has been generated on potential vulnerabilities, protective measures, and anti-terrorism and security technologies. The Police and Fire Departments recognize the need not only to learn from the lessons of 9/11, but also to collectively address the anti-terrorism planning and policy issues that most affect Orange residents. The goals, policies, and implementation programs associated with emergency preparedness also apply to readiness and response to terrorist acts.

The Police Department also offers education presentations to the community, City Staff, businesses, schools, and neighborhood groups on topics such as active killer or shooter.

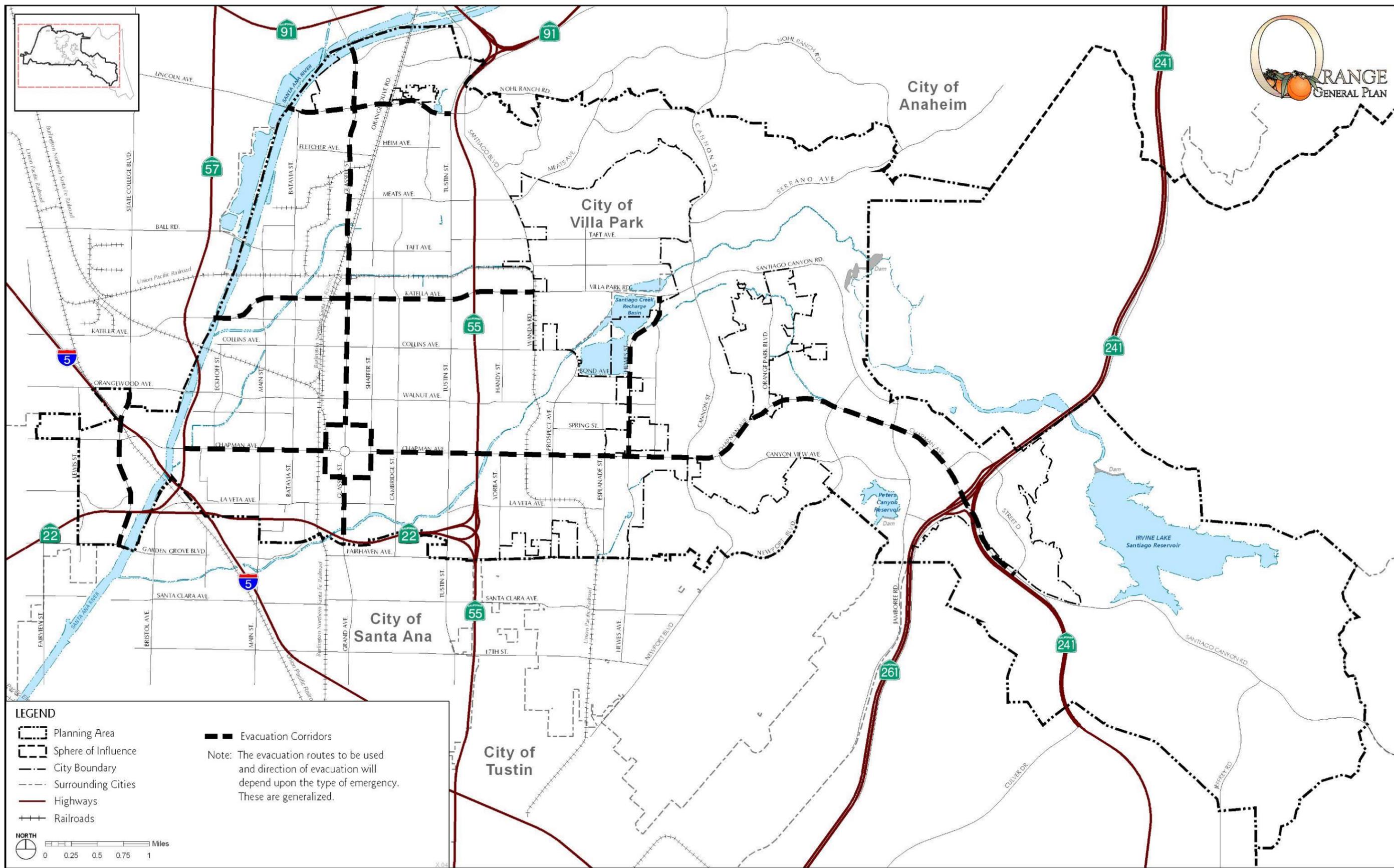


Figure PS-7. Generalized Evacuation Corridors

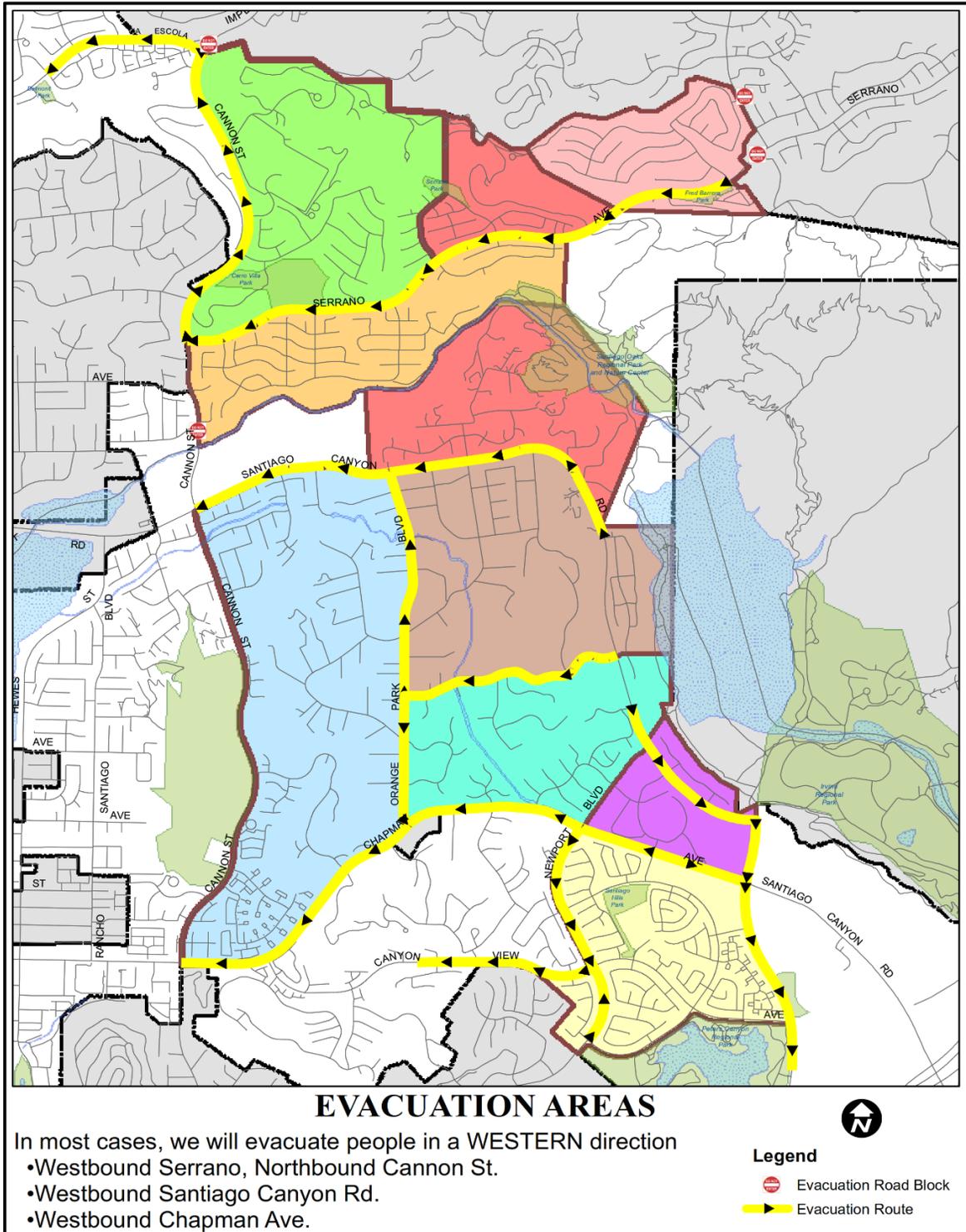


Figure PS-8. Fire Evacuation Area Map



Pedestrian and Bicycle Safety

Providing a safe environment for pedestrians and bicyclists means designing streets that can carry vehicles, but that are also scaled for pedestrians and cyclists. Furnishing streets with bike racks, benches, lighting, and landscaping; repairing missing or dangerous sidewalks; and designating bike paths are all techniques the City can employ to reduce pedestrian and bicycle accidents. A desirable pedestrian and bicycle environment also requires circulation improvements such as placing clear signs for cyclists and pedestrians, and providing buffers and traffic calming to tame automobile traffic around pedestrians and cyclists.

Implementation of the City's goals and policies for pedestrian and bicycle safety will require an assessment of existing streets and of the City's ability to expand or add improvements to accommodate the needs of pedestrians and cyclists in addition to automobiles. These policies are closely related to Circulation & Mobility Element policies that encourage vehicle safety. The City will also pay special attention to high-risk areas such as parking lots and areas surrounding schools and recreational facilities.

PUBLIC SAFETY IMPLEMENTATION

The goals, policies, and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaboration with regional agencies and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.



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NOISE

INTRODUCTION AND VISION FOR THE FUTURE

The urban environment contains a variety of noise sources that can affect the way people live and work. Some types of noise are only short-term irritants, like the pounding of a jackhammer or the whine of a leaf blower. These noise sources can generally be controlled through City noise regulations, including noise ordinances. However, certain noises, such as freeway, road, aircraft, and train noise, may be permanent fixtures in the community, diminishing its quality of life. In Orange, because of its location, transportation corridors are the major source of noise.

Orange's *Vision for the Future*, presented in the General Plan introduction, includes the following objective related to the Noise Element:

- The City will work to improve the quality of life for all residents by providing residential, commercial, industrial, and public uses that exist in harmony with the surrounding urban and natural environments.

The Noise Element is a mandatory General Plan element, required by California's Health and Safety Code Section 46050.01. The goal of the Noise Element is to identify problems and noise sources threatening community safety and comfort and to establish policies and programs that will limit the community's exposure to excessive noise levels. It addresses both existing and foreseeable future noise abatement issues.

Purpose of the Noise Element

Recognizing that excessive or unusual noise can have significant adverse impacts on human health and welfare, the state has developed definitive guidelines for determining community noise levels and for establishing programs aimed at reducing community exposure to noise levels defined to be adverse. Policies, plans, and programs outlined within the Noise Element are designed to minimize the effects of human-caused noise in the community, and to improve residents' quality of life by regulating and reducing noise, particularly within residential areas and near such noise-sensitive land uses as residences, hospitals, convalescent and day care facilities, schools, and libraries. The Element provides direction regarding best practices and strategies to protect City residents and businesses from severe noise levels.

The Noise Element recognizes that multiple noise environments exist within the City, including rural, suburban, and urban environments. As Orange evolved from a rural agricultural town to a bustling suburban community in the middle to late 20th century, the noise environment similarly changed. Rural roads were replaced by the arterials and



freeways present in Orange today. Relatively quiet suburban residential noise levels became the norm for most City residents. At the outset of the 21st century, Orange still has semi-rural areas in the eastern portions of the City, in addition to the suburban noise environment found in most of its residential neighborhoods and commercial areas. However, a noisier, more urban environment is now emerging in Uptown, and Land Use Element policies promote reinvention of certain City commercial corridors into mixed-use activity centers. At these mixed-use activity centers, residents, shoppers, and businesspeople alike may be exposed to higher noise levels due to traffic and human activity.

Scope and Content of the Noise Element

The Noise Element consists of three sections:

- (1) Introduction;
- (2) Issues, Goals, and Policies; and
- (3) Noise Plan.

This Introduction summarizes the general purpose of the Noise Element. The Issues, Goals, and Policies section outlines the most relevant noise issues affecting the City. The goals are a statement of the general direction and broad ideals that capture the desire of the community. The policies provide potential solutions for decreasing noise. The Noise Plan defines noise standards, presents noise contour maps, and recommends strategies to achieve goals and implement policies. Implementation programs for the Noise Element are provided in an Appendix to the General Plan.

The Noise Element addresses noise concerns that influence the comfort and quality of life of Orange residents. Excessive noise may originate from many sources, including vehicle traffic on freeways and arterial roadways, construction activities and machinery in industrial areas, railroads, and aircraft. Beyond direct mitigation strategies to address these sources of noise, the City is also committed to establishing and upholding guidelines for noise levels compatible with various types of land use activity.

Mixed-use residential and commercial development presents unique noise reduction challenges. Although located in commercial environments, the residential portions of mixed-use projects are nonetheless subject to residential noise standards and guidelines established by the state. Strategies to address noise in these environments focus on incorporation of noise reducing measures in project design.

Relationship to Other General Plan Elements

Accomplishing the goals and policies of the Noise Element requires coordination with other related components of the City's General Plan. Other topics that are affected by the Noise Element include the Land Use, Circulation & Mobility, and Housing Elements.

Impacts of noise policies and programs on the Land Use Element arise during identification of noise sources and noise-sensitive uses. The noise contours and land use compatibility standards contained in the Noise Element should be used when making planning and development decisions.



The contents of the Noise Element are also related to the Circulation & Mobility and Housing Elements, because Orange’s primary noise sources include freeways, arterial roadways, railways, and aircraft. In turn, Noise Element policies are intended to mitigate excessive noise along transportation routes and direct housing to appropriate sites away from sources of excessive noise.

ISSUES, GOALS AND POLICIES

Certain areas of Orange are subject to high levels of noise from one or more of the following sources: freeways and arterial roadways, construction activities and machinery in industrial areas, railroads, aircraft, and fireworks noise from nearby Disneyland and Angel Stadium. All of these noise sources reduce the quality of life within the City. Considering noise sources in the planning process, identifying the noise impacts of potential development projects, and planning accordingly are effective methods of minimizing the impacts of noise on residents. The goals, policies, and implementation programs of the Noise Element address seven issues: (1) noise and land use compatibility; (2) vehicular traffic noise; (3) train noise; (4) aircraft noise; (5) noise associated with mixed-use development; (6) industrial noise; and (7) construction, maintenance, and nuisance noise.

Noise and Land Use Compatibility

Land use directly affects noise compatibility, because higher noise levels often associated with industrial, commercial, and mixed commercial and residential development can encroach upon more noise-sensitive land uses. Noise-sensitive land uses include: residences, hospitals, convalescent and day care facilities, schools, and libraries. Noise producing and noise-sensitive land uses should be either sufficiently separated or sufficiently buffered from one another to ensure that sensitive uses are not exposed to unacceptable noise levels.

Proposed land uses should be compatible with existing and forecasted future noise levels. Incompatible land use noise exposures should incorporate noise attenuation and/or control measures within project design to reduce the noise to an acceptable interior level of 45 A-weighted decibels (dBA) community noise equivalent level (CNEL) or lower, as required by state regulations (CCR Title 24) for residential uses. (For an explanation of these terms and the relative noise levels of common noise-producing activities, see the discussion accompanying Table N-2 in the “Measuring Noise” section that follows.)

GOAL 1.0: Promote a pattern of land uses compatible with current and future noise levels.

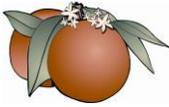
Policy 1.1: Consider potential excessive noise levels when making land use planning decisions.

Policy 1.2: Encourage new development projects to provide sufficient spatial buffers to separate excessive noise generating land uses and noise-sensitive land uses.

Policy 1.3: Incorporate design features into residential and mixed-use projects that can be used to shield residents from excessive noise.

Policy 1.4: Ensure that acceptable noise levels are maintained near noise-sensitive uses.

Policy 1.5: Reduce impacts of high-noise activity centers located near residential areas.



- Policy 1.6: Require an acoustical study for proposed developments in areas where the existing and projected noise level exceeds or would exceed the maximum allowable levels identified in Table N-3. The acoustical study shall be performed in accordance with the requirements set forth within this Noise Element.

Vehicular Traffic Noise

Vehicular traffic is the most common source of noise experienced throughout the City. Primary sources of traffic noise include: the Interstate 5 and State Route (SR) -22, -55, -57, and -91 Freeways which surround and traverse the City; the SR-241/261 Foothill Transportation Corridor; and City arterial roadways. Arterials such as State College Boulevard/The City Drive, Chapman Avenue, La Veta Avenue, Batavia Street, Glassell Street, Tustin Street, Katella Avenue, and Jamboree Road are all high traffic volume roadways that generate traffic noise levels well above 65 dBA CNEL. Traffic noise is dependent on vehicle volume, speed, flow, and fleet mix, as well as distance from the roadway to the receptor.

GOAL 2.0: Minimize vehicular traffic noise in residential areas and near noise-sensitive land uses.

- Policy 2.1: Encourage noise-compatible land uses along existing and future roadways, highways, and freeways.
- Policy 2.2: Encourage coordinated site planning and traffic control measures that minimize traffic noise in noise-sensitive land use areas.
- Policy 2.3: Encourage the use of alternative transportation modes such as walking, bicycling, mass transit, and alternative fuel vehicles to minimize traffic noise.
- Policy 2.4: Continue to work with the California Department of Transportation (Caltrans), the Orange County Transit Authority (OCTA), and Transportation Corridor Agencies (TCA) to install, maintain, and update freeway and highway rights-of-way buffers and soundwalls.
- Policy 2.5: Work toward understanding and reducing traffic noise in residential neighborhoods with a focus on analyzing the effects of traffic noise exposure throughout the City.

Train Noise

Train noise currently experienced within the City results from the locomotive engines and warning horns associated with rail operations. These daily operations tend to produce high short-term noise levels that can be a source of annoyance to nearby sensitive uses. Depending on the number of daily movements, train operations also have the potential to generate noise levels that exceed 65 dBA CNEL along the rail corridors.

GOAL 3.0: Minimize train noise in residential areas and near noise-sensitive land uses.

- Policy 3.1: Encourage noise-compatible land uses and incorporate noise-reducing design features within transit oriented, mixed-use development near rail corridors.



Aircraft Noise

Although no airports or airfields are located in Orange, noise generated by aircraft overflights can be noticeable throughout the City. Aircraft operations associated with John Wayne Airport, Long Beach Airport, and even Los Alamitos Army Airfield use the airspace above the City in arrival and departure operations. The general noise environment in the City also includes helicopter noise from private, police, emergency medical, and news/traffic monitoring helicopters.

GOAL 4.0: Minimize aircraft related noise in residential areas and near noise-sensitive land uses.

Policy 4.1: Continue to provide input to the Orange County Airport Land Use Commission as appropriate to minimize airport noise.

Policy 4.2: Continue to work with regional, state, and federal agencies, including officials at John Wayne Airport and Long Beach Airport, to implement noise-reducing measures and to monitor and reduce noise associated with aircraft.

Policy 4.3: Continue to coordinate with the Federal Aviation Administration, Caltrans Division of Aeronautics, and the Orange County Airport Land Use Commission regarding the siting and operation of heliports and helistops in order to minimize excessive helicopter noise.

Mixed-use Development

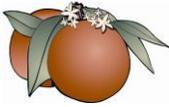
Mixed-use development projects often include both residential uses located above or in close proximity to commercial uses and stand-alone multi-family residential uses, especially in areas served by rail and bus transit, along major roadways and the railroad corridor. Noise generated by commercial uses can include mechanical equipment operations, maintenance activities, public address systems, vehicles, entertainment, parking lots, loading operations, and trash collection, as well as pedestrian and business patron noise. A unique challenge presented by mixed-use development is that on one hand, such uses desire locations along busy street corridors and within activity centers, and on the other hand, state-mandated interior noise requirements for residential uses must be met within the residential portions of such use.

GOAL 5.0: Minimize commercial activity noise in residential portions of mixed-use areas where residential units are located above commercial uses or within the same development.

Policy 5.1: Encourage the design and construction of mixed-use structures to minimize commercial noise within the residential components of the development.

Policy 5.2: Encourage new mixed-use development to locate the residential component of the development away from noise-generating sources such as mechanical equipment, entertainment facilities, gathering places, loading bays, parking lots, driveways, and trash enclosures.

Policy 5.3: Encourage residential developments within mixed-use developments and located adjacent to commercial or retail and entertainment related uses to notify potential residents that they may be affected by noise from these uses.



Industrial Noise

Industrial land uses have the potential to generate noise that can be considered intrusive to sensitive land uses. Depending on the type of industrial operation, noise sources could involve mechanical equipment, loading and unloading of vehicles and trucks, as well as amplified or unamplified communications. The level and intrusiveness of the noise generated also vary depending on the size of the facility, type of business, hours of operation, and location relative to sensitive land uses.

GOAL 6.0: Minimize industrial activity noise in residential areas and near noise-sensitive land uses.

Policy 6.1: Encourage the design and construction of industrial uses to minimize excessive noise through project design features that include noise control.

Policy 6.2: Encourage industrial uses to locate vehicular traffic and operations away from abutting residential zones as much as possible.

Construction, Maintenance, and Nuisance Noise

Construction operations and maintenance vehicles such as refuse trucks and parking lot sweepers generate noise throughout the City. Although these types of noise sources tend to be short term, temporary, and limited, they can be a source of annoyance, especially during the late night or early morning hours.

GOAL 7.0: Minimize construction, maintenance vehicle, and nuisance noise in residential areas and near noise-sensitive land uses.

Policy 7.1: Schedule City maintenance and construction projects so that they generate noise during less sensitive hours.

Policy 7.2: Require developers and contractors to employ noise minimizing techniques during construction and maintenance operations.

Policy 7.3: Limit the hours of construction and maintenance operations located adjacent to noise-sensitive land uses.

Policy 7.4: Encourage limitations on the hours of operations and deliveries for commercial, mixed-use, and industrial uses abutting residential zones.

NOISE PLAN

Noise is most often defined as unwanted sound. Potential noise problem areas are considered to be those areas where ambient noise levels exceed established noise standards, and areas where sensitive land uses are exposed to excessive ambient noise levels. Excessive noise is viewed as a disturbance, especially to residential communities and other noise-sensitive uses. Noise sources in Orange fall into two categories: transportation oriented and non-transportation oriented. Examples of transportation oriented noise include noise generated by vehicles, airplanes, and rail cars operating within the City. Examples of non-transportation noise include noise generated from mechanical or industrial processes and lawn equipment.



The most prevalent noise source within the City is vehicular traffic on highways, freeways, toll roads, and arterials—specifically, the I-5, SR-55, SR-57, SR-91 and SR-22 freeways that surround and pass through the City; the SR-241 toll road that crosses the eastern portion of the City; and the many arterial roadways that traverse almost all areas of the community.

Other noise sources include passenger and freight rail operations, industrial facilities, loading docks and mechanical equipment at retail centers. Periodic sources of noise include train traffic (Amtrak, Metrolink, and freight trains); aircraft overflights into and out of John Wayne Airport, Long Beach Airport, and Los Alamitos Army Air Station; helicopter traffic along the Main Street and Katella Avenue corridors and over residential neighborhoods; sporting and exhibition events and fireworks shows in the City of Anaheim; and operation of trucks and machinery throughout Orange’s industrial areas.

Measuring Noise

Although sound can be easily measured, the perception of noise levels is subjective and the physical response to sound complicates the analysis of its effects on people. People judge the relative magnitude of sound sensation in subjective terms such as noisiness or loudness. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Table N-1 presents the subjective effect of changes in sound pressure levels.

Table N-1 Changes in Sound Pressure Levels, dB	
dB Change	Change in Apparent Loudness
+/- 3 dB	Threshold of human perceptibility
+/- 5 dB	Clearly noticeable change in noise level
+/-10 dB	Half or twice as loud
+/-20 dB	Much quieter or louder
Source: Engineering Noise Control, Bies and Hansen (1988).	

To account for the pitch of sounds and an average human ear’s response to such sounds, a unit of measure called an A-weighted sound pressure level (dBA) is used. To provide some perspective on the relative loudness of various types of noise, Table N-2 lists common sources of noise and their approximate noise levels.

Many metrics have been developed to account for the way humans perceive sound. The most common of these descriptors are the average “equivalent” noise level (Leq), the Day Night noise level (Ldn), and the Community Noise Equivalent Level (CNEL). Leq represents a measure of the average noise level at a given location over a specified period of time. Ldn and CNEL are based on a 24-hour Leq which applies offsets to evening and nighttime noise levels to account for the increased sensitivity of people to noise occurring at night. The Ldn is a 24-hour average sound level (similar to a 24-hour Leq) in which a 10 dB penalty is added to any sound occurring between the hours of 10:00 p.m. and 7:00 a.m. CNEL is similar to Ldn, except that a five dB penalty is also added for noise occurring during evening hours from



7:00 p.m. to 10:00 p.m. Therefore, both the Ldn and CNEL noise metrics provide 24-hour averages of noise level exposure at a particular location, with temporal adjustments that reflect the increased sensitivity to noise during the evening and nighttime hours¹. CNEL is the noise level descriptor, consistent with state guidelines, applied by the City throughout this Noise Element to describe the current and future noise environment affected by transportation-generated noise.

Table N-2 Typical Noise Levels of Common Outdoor and Indoor Activities		
Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Fly-over at 1,000 feet	100	
	90	
Diesel Truck at 50 feet, at 50 mph		Food Blender at three feet
	80	Garbage Disposal at three feet
Noisy Urban Area, Daytime		
Gas Lawn Mower at three feet	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at three feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Table N-2136.2 of California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (October 1998).

Noise Standards and Land Use Compatibility

Orange has developed its own land use compatibility standards, based on recommended parameters from the California Governor's Office of Planning and Research, that rate compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. Using these land use compatibility guidelines, the City has established interior and exterior noise standards.

¹ In practical implementation CNEL and L_{dn} could be used interchangeably for traffic generated noise as the difference between these two descriptors for urban / suburban noise levels is less than one dB.



The City's compatibility standards provide only for normally acceptable conditions, based on state recommendations and City land use designations. The City's Land Use Compatibility standards are presented in Table N-3. These standards, which use the CNEL noise descriptor, are intended to be applicable for land use designations exposed to noise levels generated by transportation related sources. Land use compatibility noise exposure limits are generally established as 65 dBA CNEL for a majority of land use designations throughout the City. Higher exterior noise levels are permitted for multiple-family housing and housing in mixed-use contexts than for single-family houses. This is because multiple-family complexes are generally located in transitional areas between single-family and commercial districts or in proximity to major arterials served by transit, and a more integrated mix of residential and commercial activity (accompanied by higher noise levels) is often desired in mixed-use areas close to transit routes. These standards establish maximum interior noise levels for new residential development, requiring that sufficient insulation be provided to reduce interior ambient noise levels to 45 dBA CNEL.

The City's land use compatibility standards are based first on the General Plan land use designation of the property, and secondly on the use of the property. For example, within the Urban Mixed-use designation, a multiple-family use exposed to transportation related noise would have an exterior noise standard of 65 dBA CNEL, and an interior noise standard of 45 dBA CNEL. Noise standards for multiple-family and mixed-use land use designations shown in Table N-3 are higher than those for rural or single-family residential areas, reflecting the gradually changing character of Orange and a more urban environment planned for certain areas of the City. The standards shown in Table N-3 are purposefully general in nature, and not every specific land use which could be accommodated within each General Plan designation is identified. Application of the standards will vary on a case-by-case basis according to location, development type, and associated noise sources.

When non-transportation (stationary) noise is the primary noise source, and to ensure that noise producers do not adversely affect noise-sensitive land uses, the City applies a second set of standards when planning and making development decisions. These hourly and maximum performance standards (expressed in Leq) for non-transportation or stationary noise sources are designed to protect noise sensitive land uses adjacent to stationary sources from excessive noise. Table N-4 summarizes City stationary source noise standards for various land use types. These standards represent the acceptable exterior noise levels at the sensitive receptor.

For City analysis of noise impacts and determining appropriate mitigation under the California Environmental Quality Act (CEQA), in addition to the maximum allowable noise level standards outlined in Tables N-3 and N-4, an increase in ambient noise levels is assumed to be a significant noise impact if a project causes ambient noise levels to exceed the following:

- Where the existing ambient noise level is less than 65 dBA, a project related permanent increase in ambient noise levels of 5 dBA CNEL or greater.
- Where the existing ambient noise level is greater than 65 dBA, a project related permanent increase in ambient noise levels of 3 dBA CNEL or greater.



**Table N-3
Maximum Allowable Noise Exposure—Transportation Sources**

Land Use		CNEL (dBA)	
Designations (as shown on Figure LU-5)	Uses	Interior ^{1,3}	Exterior ²
Estate Low Density Residential Low Density Residential Low Medium Density Residential	Single-family, duplex, and multiple-family	45	65
	Mobile home park	N/A	65
Medium Density Residential Neighborhood Mixed-use Neighborhood Office Professional Old Towne Mixed-use General Commercial Yorba Commercial Overlay Urban Mixed-use Urban Office Professional	Single-family	45	65
	Mobile home park	N/A	65
	Multiple-family, mixed-use	45	65 ^{4,5}
	Transient lodging—motels, hotels	45	65
	Sports arenas, outdoor spectator sports	N/A	N/A
	Auditoriums, concert halls, amphitheatres	45	N/A
	Office buildings, business, commercial and professional	50	N/A
	Manufacturing, utilities, agriculture	N/A	N/A
Public Facilities and Institutions	Schools, nursing homes, day care facilities, hospitals, convalescent facilities, dormitories	45	65
	Government Facilities—offices, fire stations, community buildings	45	N/A
	Places of Worship, Churches	45	N/A
	Libraries	45	N/A
	Utilities	N/A	N/A
	Cemeteries	N/A	N/A
Recreation Commercial Open Space Open Space—Park Open Space—Ridgeline Resource Area	Playgrounds, neighborhood parks	N/A	70
	Golf courses, riding stables, water recreation, cemeteries	N/A	N/A

Notes:

- (1) Interior habitable environment excludes bathrooms, closets and corridors.
- (2) Exterior noise level standard to be applied at outdoor activity areas; such as private yards, private patio or balcony of a multi-family residence. Where the location of an outdoor activity area is unknown or not applicable, the noise standard shall be applied inside the property line of the receiving land use.
- (3) Interior noise standards shall be satisfied with windows in the closed position. Mechanical ventilation shall be provided per Uniform Building Code (UBC) requirements.
- (4) Within the Urban Mixed-Use, Neighborhood Mixed-Use, Old Towne Mixed-use, and Medium Density Residential land use designations, exterior space standards apply only to common outdoor recreational areas.
- (5) Within Urban Mixed-Use and Medium Density Residential land use designations, exterior noise levels on private patios or balconies located within 250 feet of freeways (I-5, SR-57, SR-55, SR-22, or SR-241) and Smart Streets and Principal Arterials identified in the Circulation & Mobility Element that exceed 70 dB should provide additional common open space.

N/A=Not Applicable to specified land use category or designation

Source: Alliance Acoustical Consultants, modified by EDAW, 2008



**Table N-4
Maximum Allowable Noise Exposure—Stationary Noise Sources**

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Equivalent Level (L _{eq}), dBA	55	45
Maximum Level (L _{max}), dBA	70	65

Notes:

- (1) These standards apply to new or existing noise sensitive land uses affected by new or existing non-transportation noise sources, as determined at the outdoor activity area of the receiving land use. However, these noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
- (2) Each of the noise levels specified above should be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g. caretaker dwellings).
- (3) No standards have been included for interior noise levels. Standard construction practices that comply with the exterior noise levels identified in this table generally result in acceptable interior noise levels.
- (4) The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels. If the existing ambient noise level exceeds the standards listed in Table N-4, then the noise level standards shall be increased at 3 dB increments to encompass the ambient environment. Noise level standards incorporating adjustments for existing ambient noise levels shall not exceed a maximum of 70 dB Leq.

Noise Contours and Impact Areas

The community noise environment can be described using contours derived from monitoring major sources of noise. Noise contours define areas of equal noise exposure. Future noise contours have been estimated using information about both current and projected future land use development and traffic volumes. The contours assist in setting policies for distribution of land uses and establishing development standards.

A study of baseline noise sources and levels was completed by Alliance Acoustical Consultants in November 2004. Noise level measurements were collected during a typical weekday at 28 locations throughout Orange. Criteria for site selection included geographical distribution, land uses suspected of noisy activities, proximity to transportation facilities, and noise-sensitive land uses. The primary purpose of noise monitoring was to establish a noise profile for the planning area that could be used to estimate levels of current and future noise.

Measurements represent motor vehicle noise emanating from freeways, the local roadway network, and industrial land uses. Typical noise sources measured during the short-term survey included vehicular traffic, aircraft, trains, emergency sirens, industry, mechanical equipment, sporting events, firework shows, children playing, motorcycles, car alarms, and car audio systems. Of all these sources, traffic noise was determined to be the predominant noise source.

Figure N-1 identifies noise contours for baseline year 2004. Major arterials and the railroad and freeway network represent the major sources of noise. A number of areas are exposed to traffic noise from arterials in excess of 65 dBA CNEL, including areas near State College Boulevard/The City Drive, Chapman Avenue, La Veta Avenue, Batavia Street, Glassell Street, Tustin Street, Katella Avenue, and Jamboree Road.



The Land Use Element indicates that the planning area will accommodate additional future growth, accompanied by an increase in citywide traffic volumes. Traffic volume increases represent the major anticipated measurable new noise sources in the community over the long term. Potential future ambient noise levels can be estimated by modeling. Figure N-2 displays projected year 2030 noise contours based upon future traffic levels.

Figure N-2 indicates that noise levels may be expected to rise in areas where roadways will experience the greatest increase in traffic volumes over time. Specifically, these areas include Tustin Street, State College Boulevard/The City Drive, Chapman Avenue, Jamboree Road, Santiago Canyon Road, Glassell Street, Main Street, I-5, SR-57, SR-22, SR-55, SR-241, SR-261, the Burlington Northern/Santa Fe Railroad, and throughout the City's industrial area,

Identification of Noise Problem Areas

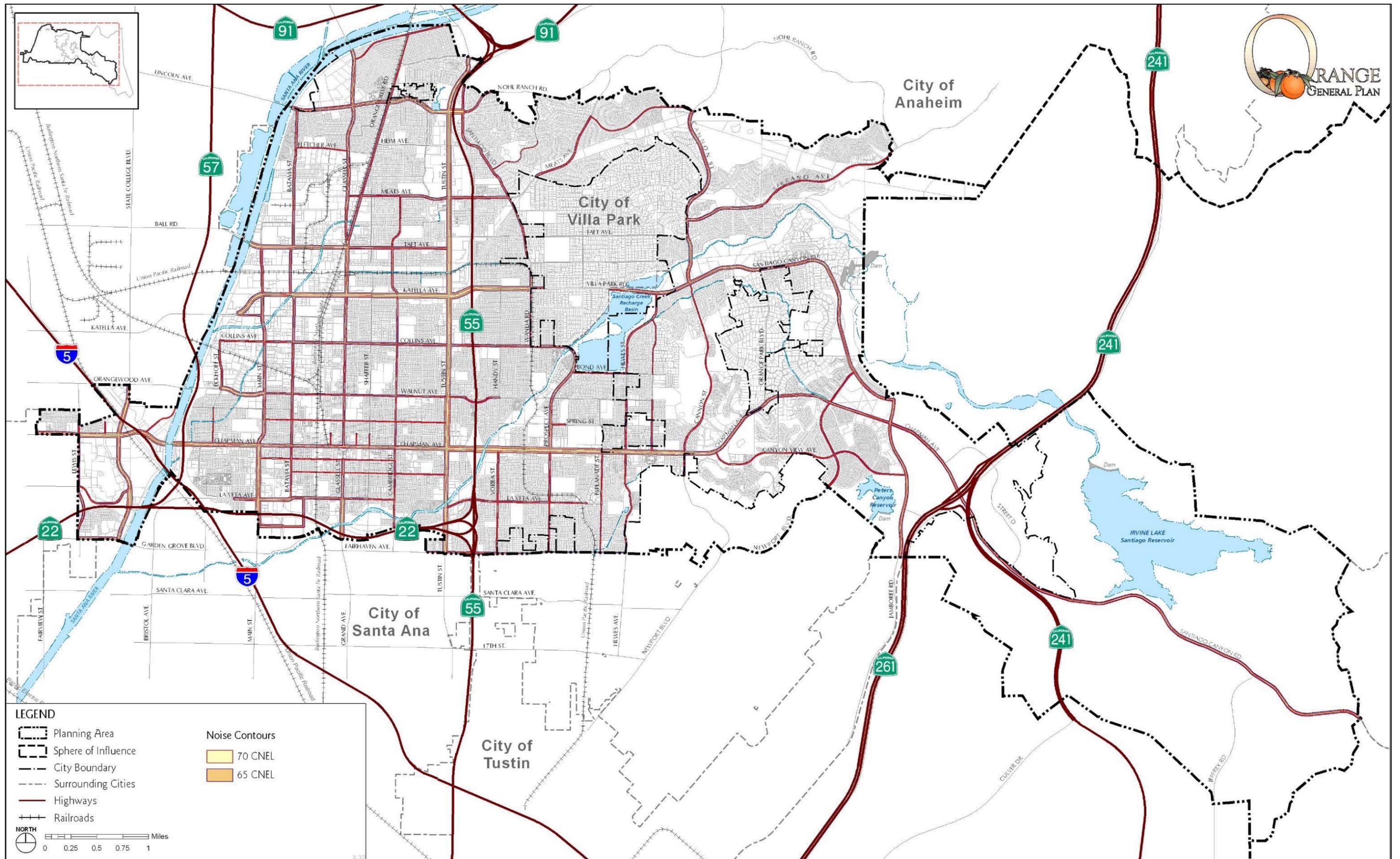
Potential noise problem areas are considered to be those areas where ambient noise levels exceed established noise standards and areas where sensitive land uses are exposed to ambient noise levels in excess of standards identified in Tables N-3 and N-4. For the most part, these problem areas lie along freeways, toll roads, and arterial and secondary roadways where noise barriers have not been installed.

Beneath the landing pattern for aircraft approaching John Wayne Airport in Santa Ana, Long Beach Airport, and Los Alamitos Army Air Station, some residents in the area find the aircraft noise disturbing. The aircraft noise may be considered an intermittent, recurring noise problem. Helicopter noise from private, police, emergency medical, and news and traffic monitoring helicopters also contributes to the general noise environment in the City, particularly approaching University of California Irvine (UCI) Medical Center and Children's Hospital of Orange County (CHOC).

An additional noise problem cited by residents citywide is noise associated with the operation of hand-held, motorized leaf blowers. Gasoline powered blowers, which are generally used to clear debris from driveways, sidewalks, and landscaped areas generate noise levels in the range of 60 to 85 dBA L_{eq} (measured 50 feet from the source). This noise level may exceed the standard established for stationary noise sources during both daytime and nighttime hours.

Noise Control Techniques

The most efficient and effective means of controlling noise is to reduce noise at the source. However, regarding noise generated from transportation systems, the City has no direct control over noise produced by trucks, cars, and trains, because state and federal noise regulations preempt local laws. Given that the City cannot control transportation noise at the source, City noise programs and standards focus on reducing transportation noise along freeways, arterial roadways, and rail corridors, through noise reduction methods that interrupt the path of the noise or directly shield the receiver. The emphasis of such noise reduction methods should be placed on site planning and design. Such reduction measures may include building orientation, spatial buffers, landscaping, and noise barriers. The use of noise barriers, such as sound walls, should be considered as a means of achieving the noise



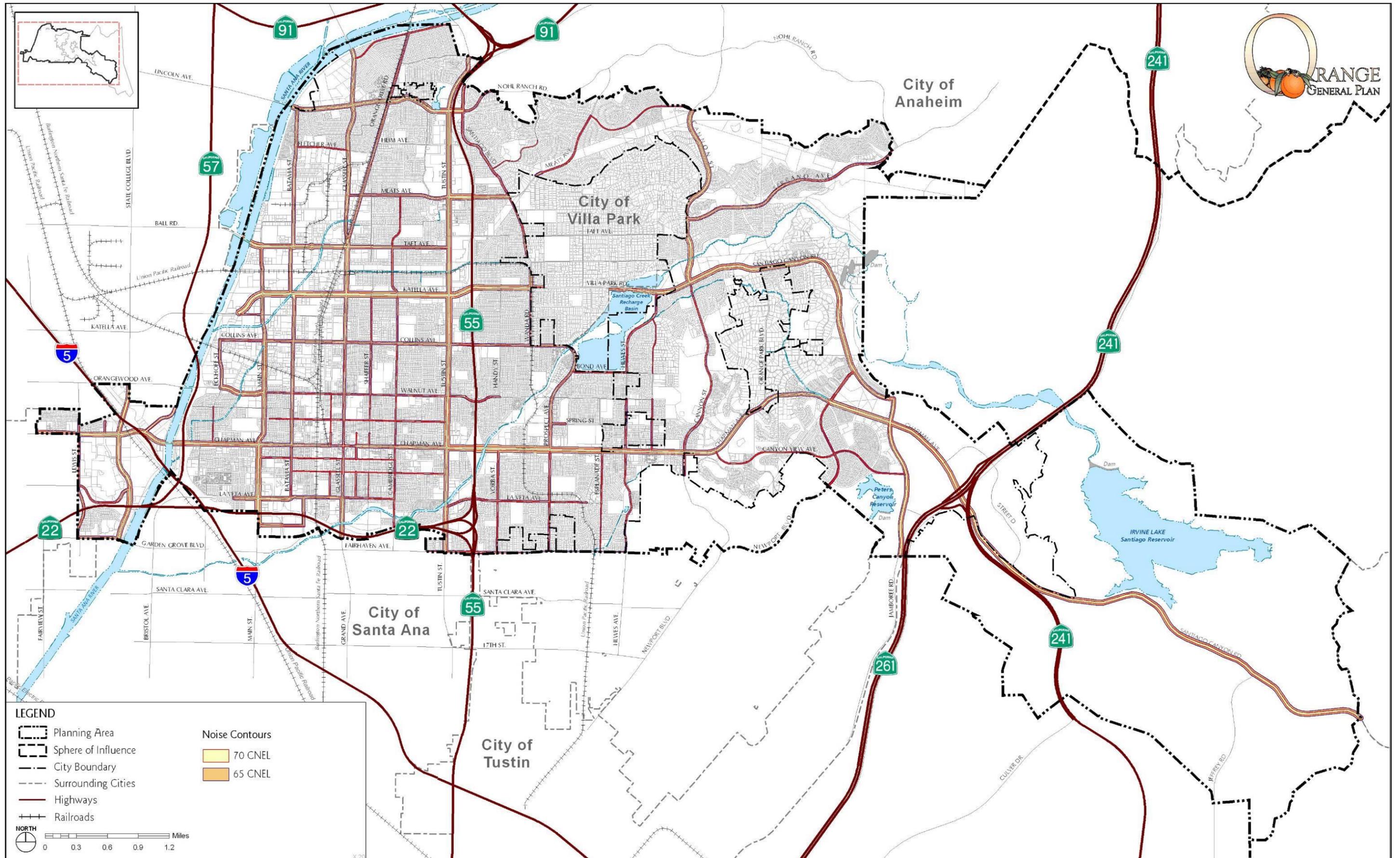
Note: Large format map available at the Community Development Department

Figure N-1. 2004 Noise Contours



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Note: Large format map available at the Community Development Department

Figure N-2. 2030 Noise Contours



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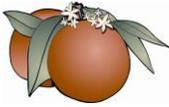


standards only after all other practical design-related noise reduction measures have been integrated into the project.

Sound walls may not be desirable in some cases, such as intersections in commercial areas where visibility and access are important. Additionally, effective acoustical design features in new development can provide additional interior noise reduction. Regarding stationary and non-transportation generated noise, noise levels are to be addressed at the source as a primary focus. For mixed-use development in particular, acoustical design should be applied that isolates residential portions of mixed-use development from both commercial portions and external noise sources. When it is not feasible to address stationary noise at the source, the aforementioned noise reduction methods will be employed to reduce noise exposure to the levels presented in Table N-5.

Table N-5 Sample Interior Noise Control Measures		
Noise Exposure Level	Exterior to Interior Noise Level Reduction (NLR) Required to Achieve 45 dBA CNEL	Noise Control Measures and Façade Upgrades
➤ ≤60 dBA CNEL	15 dBA	Normal construction practices consistent with the Uniform Building Code are typically sufficient.
60 dBA to 65 dBA CNEL	20 dBA	Normal construction practices consistent with the Uniform Building Code are sufficient with the addition of the following specifications: <ul style="list-style-type: none"> • Air conditioning or mechanical ventilation systems are installed so that windows and doors may remain closed. • Windows and sliding glass doors are mounted in low air infiltration rated frames (0.5 cfm or less). • Exterior doors are solid core with perimeter weather-stripping and threshold seals.
65 dBA to 70 dBA CNEL	25 dBA	Normal construction practices consistent with the Uniform Building Code are sufficient with the addition of the following specifications: <ul style="list-style-type: none"> • Air conditioning or mechanical ventilation systems are installed so that windows and doors may remain closed. • Windows and sliding glass doors are mounted in low air infiltration rated frames (0.5 cfm or less). • Exterior doors are solid core with perimeter weather-stripping and threshold seals. • Glass in both windows and exterior doors should have a Sound Transmission Classification (STC) rating of at least 30. • Roof or attic vents facing the noise source of concern should be boxed, or provided with baffling.
Notes: (1) The information listed in this table is sample guidance for interior noise control recommendations and is not intended for application to individual development projects, renovations, or retrofits. Noise-sensitive land uses located in areas with noise level exposures exceeding 60 dBA CNEL should have a detailed acoustical analysis performed on a case by case basis.		

The most common and feasible method to control exterior-to-interior noise levels is achieved through improvements to the building structure and use of wall/façade treatments that reduce noise levels. Buildings constructed consistent with the Uniform Building Code (UBC) typically provide approximately 15 dBA of exterior-to-interior noise level reduction (NLR) with



windows open, and 25 dBA of NLR with windows closed. Therefore, special consideration must be given to reducing interior noise levels to the required 45 dBA CNEL at noise-sensitive land uses exposed to noise levels in excess of 60 dBA. The NLR of a wall element or building façade can be calculated by first assuming a generalized A-weighted noise frequency spectrum for roadway traffic noise. Then, the composite transmission loss of the various wall materials and the wall's structural design is considered in determining the resulting noise level in the receiving room. After correcting for room absorption, the overall noise level in the room is calculated. The ability to perform these calculations requires detailed floor plans and façade construction details. Calculation of required NLR and resultant interior noise levels should be conducted by a qualified acoustical consultant. Table N-5 provides an example of varying levels of building façade improvements that may be required to achieve compliance with the interior noise level standard of 45 dBA CNEL for land uses exposed to three different noise levels: 60 dBA CNEL, 65 dBA CNEL, and 70 dBA CNEL.

City Noise Control Ordinance

The primary tool used to implement noise policy will be the City's noise control ordinance (Title 8 Health and Safety, Chapter 8.24, Orange Municipal Code). The ordinance gives the City authority to regulate noise at its source and thereby protect noise-sensitive land uses. It also establishes exterior and interior noise standards for all residential properties. The ordinance specifies permitted days and times for construction, repair, remodeling, or grading of real property, and exemptions to the ordinance.

The City will continue to apply provisions of the noise control ordinance, and will modify the noise ordinance as needed to respond to policy direction within this Element, including the noise standards specified in Table N-4, and policies addressing noise in mixed-use land use districts.

State Noise Standards

The City will continue to enforce state laws which set forth requirements for the insulation of residential dwelling units from excessive and potentially harmful noise. Title 25, Section 1092 of the California Administrative Code establishes exterior and interior noise standards for multi-family residential development. Units established in areas where ambient noise levels exceed 65 dBA CNEL must incorporate noise reduction features into project design and construction. To reduce exterior noise levels, open space and other outdoor private areas should be shielded from the primary noise source (e.g., a freeway or railroad track). Insulation must be provided to reduce interior ambient noise levels to 45 dBA CNEL or lower, pursuant to Title 24 requirements. The City will continue to enforce these regulations.

Particular challenges arise in the application of standards to mixed-use areas. Residential portions of mixed-use projects must meet the 45 dBA CNEL Title 24 interior noise requirements while located on busy commercial corridors. This obligation can be met by incorporating design features that insulate residential uses from commercial portions of the project.



Sound Walls Along Toll Roads, Arterials, and Secondary Roadways

The City will encourage Caltrans and the TCA to abide by Section 215.5 of the State Streets and Highway Code, which establishes a priority system for constructing noise barriers in the form of sound walls along freeways, to minimize exposure of residential or other noise-sensitive land uses to excessive freeway noise. Furthermore, all new residential development proposed adjacent to toll roads, arterials, and secondary roadways will be required to buffer itself by providing sound walls or a combination of berms and walls designed to achieve the noise and land use compatibility standards indicated in Table N-3 within common open spaces. In the event that sound walls are used, the analysis should include evaluation of multiple reflections between parallel noise barriers (e.g., large structures, noise barriers on each side of the highway) which could reduce the acoustical performance of individual barriers or result in unintended impacts to other parts of the community.

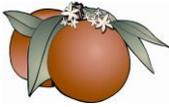
Land Use Policy and Design of Residential Projects

To mitigate non-transportation-related noise, the City will require site plan adjustments, higher insulation performance, spatial buffers, and other mitigation measures to absorb and block sound as needed. Design features incorporated into residential projects can be used to shield residents from excessive noise. For example, bedrooms, balconies and open space areas can be located away from streets and focused toward the interior of a project. The City will develop guidelines to assist developers to design structures that respond to noise concerns.

Acoustical Studies

Under certain conditions, the City may require acoustical studies to be prepared as part of the development review process to ensure adequate analysis of proposed development projects. Acoustical studies will be required for all discretionary projects where any of the following apply:

- The project includes a noise-sensitive land use that is located within the existing or future 65 dBA CNEL contour for transportation noise sources.
- The project will cause future traffic volumes to increase by 25 percent or more on any roadway that fronts a sensitive land use.
- The project will expose a noise-sensitive land use to a stationary noise source or vibration source exceeding the standards outlined in Table N-4. Such stationary sources may include mechanical equipment operations, entertainment venues, and industrial facilities.
- The project includes a noise-sensitive land use in the vicinity of existing or proposed commercial and industrial areas.
- The project is a mixed-use development that includes a residential component. The focus of this type of acoustical study is to determine likely interior and exterior noise levels and to recommend appropriate design features to reduce noise.



An acoustical analysis prepared in accordance with this Noise Element shall:

- be the financial responsibility of the applicant seeking City approval of a project;
- be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics;
- include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and predominant noise sources;
- estimate existing and projected cumulative noise in terms of CNEL or L_{eq} , and compare those noise levels to the adopted standards and policies of the Noise Element;
- recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance; and
- estimate noise exposure after the prescribed mitigation measures have been implemented.

Truck Routes

Truck traffic generates noise that can disturb people in residential and other noise-sensitive land uses. Heavy trucks will not be permitted to drive through residential neighborhoods. Truck routes in Orange are located mostly in the general industrial area in the western part of the City, as well as on the higher capacity roadways that traverse the planning area. Truck routes are identified for such purposes as noise reduction, safety, roadway maintenance, and traffic operations. The Orange Municipal Code identifies trucks as motor vehicles designed, used, or maintained primarily for the transportation of property and having an unladen weight of six thousand pounds or more.

Air Traffic Noise

To lessen the impacts of noise associated with air traffic into and out of John Wayne Airport, Long Beach Airport, and Los Alamitos Army Air Station, the City will participate in regional efforts to require airlines to use quieter aircraft. Also, the City will work with airport officials and surrounding jurisdictions to restore instrument approach patterns (as opposed to visual approach) at John Wayne Airport. Finally, the City will continue to register noise complaints with the airport's Noise Abatement Office to ensure airport officials are made aware of any noise problems.

A limited number of heliports and helistops are located throughout the City, with the most active locations being UCI Medical Center and Childrens' Hospital of Orange County. Helicopter operations at these facilities are regulated by the Federal Aviation Administration, Caltrans Division of Aeronautics, and the Orange County Airport Land Use Commission. The City will work with these parties to ensure compliance with all state and federal laws pertaining to helicopter operations.



Rail Traffic Noise

The City has established a “quiet zone” along portions of the Burlington Northern/Santa Fe Railroad corridor. Federal Railroad Administration regulations allow cities to delineate zones where trains are not allowed to blow warning horns. Without a formally established “quiet zone”, trains approaching all railroad crossings that intersect public streets are required to blow a warning horn at the intersection to warn motorists and pedestrians. “Quiet zones” may reduce noise impacts at these crossings, and will continue to be supported so long as they do not increase traffic and pedestrian hazards.

NOISE IMPLEMENTATION

The goals, policies, and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaboration with regional agencies and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.



CULTURAL RESOURCES & HISTORIC PRESERVATION

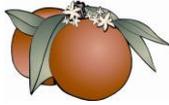
INTRODUCTION AND VISION FOR THE FUTURE

Orange's sense of place and strong community identity can be attributed, in large part, to efforts by the City and community members to recognize and preserve the traditions and physical features that are manifestations of its culture and history. Special efforts have been made by the City through the preservation of catalogued historic maps, directories, photos, documents, and other assorted memorabilia in the City's Local History collection at the Orange Public Library & History Center. In addition, careful planning and adoption of protective regulations have encouraged retention of significant physical features, such as buildings, parks, signage, and landscape elements, that communicate the City's cultural, historical, and architectural past.

Orange's ***Vision for the Future***, described in the General Plan Introduction, recognizes the City's historical and cultural resources, and includes the following objectives related to Orange's cultural resources:

- The City will build upon existing assets to create a living, active, and diverse environment that complements all lifestyles and enhances neighborhoods, without compromising the valued resources that make Orange unique.
- The City will continue efforts to protect and enhance its historic core. This same type of care and attention will be applied throughout the rest of the City.
- We will continue to protect our critical watersheds, such as Santiago Creek, and other significant natural, open space, and cultural resources.

This Cultural Resources & Historic Preservation Element of the General Plan is an outgrowth of previous actions taken to recognize historic resources within the City. Such actions include undertaking surveys of historic resources, adopting the City's first Historic Preservation element in 1982, and designating the local Old Towne Historic District. This Element is also an effort to expand the City's historic preservation program to ensure recognition and preservation of the City's diverse cultural resources. By identifying and sustaining historically or culturally significant places, the City of Orange strengthens community identity and enriches lives, providing not only a constant reminder of the culture and history of the local community, but also a valuable educational resource to residents and visitors alike. This Element also addresses the City's continuing commitment to support the educational and informational resources provided through its public libraries, which also serve as community gathering places.



Purpose of the Cultural Resources & Historic Preservation Element

The Cultural Resources & Historic Preservation Element is not a state-mandated element of the General Plan, but it is important because it provides guidelines to preserve those resources that represent the history and culture of Orange. Specifically, its purpose is to provide guidance in developing and implementing programs that ensure the identification, designation, and protection of cultural resources in the City's planning, development, and permitting process. The Cultural Resources & Historic Preservation Element also identifies ways in which the City can encourage and coordinate with private property owners in support of historic preservation.

Scope and Content of the Cultural Resources & Historic Preservation Element

The content of the Cultural Resources & Historic Preservation Element is organized into three sections:

- 1.) Introduction;
- 2.) Issues, Goals, and Policies; and
- 3.) The Cultural Resources & Historic Preservation Plan.

The *Introduction* sets the stage by defining the purpose of the Cultural Resources & Historic Preservation Element and outlining the legal framework and historical context for Orange's cultural preservation issues. The *Issues, Goals, and Policies* section describes the City's intent to protect and preserve its historic and cultural resources, and provides guidelines and direction on how to accomplish the related goals. The *Cultural Resources & Historic Preservation Plan* shows how these goals and policies will be achieved and implemented. Detailed descriptions of the various implementation programs recommended within this Element can be found in the Appendix to the General Plan.

Relationship to Other General Plan Elements

The Cultural Resources & Historic Preservation Element is most closely tied to the Land Use, Urban Design, and Housing Elements. Protection and promotion of the City's historic and cultural resources affect the Land Use Element by designating certain neighborhoods and resources as valuable reminders of the City's cultural past and placing certain restrictions on land uses and development. The Urban Design Element is influenced by the history of the City in particular because design and physical guidelines also help to visually integrate references to the City's past in the appearance of streetscape enhancements and building design. Policies in this Element that encourage adaptive re-use of historic structures for housing affect how the City will accommodate the housing development described in the Housing Element.

Legal Framework for Cultural Resource Protection

This section describes the various elements that constitute the legal framework of cultural resource protection at the federal, state, and local levels.



National Historic Preservation Act

Enacted in 1966, the National Historic Preservation Act (NHPA) established the National Register of Historic Places (NRHP) program under the Secretary of the Interior, authorized funding for state programs with provisions for pass-through funding and participation by local governments, created the Advisory Council on Historic Preservation, and established the Section 106 review process for protecting historic resources affected by federal undertakings. As part of this process, the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Preserving Historic Buildings (Secretary’s Standards) were developed to provide guidance to federal agencies in reviewing potential impacts to historic resources.

The Secretary of the Interior's Standards for the Treatment of Historic Properties are basic principles created to help preserve the distinctive character of a historic building and its site, while accommodating change to meet new needs.

NHPA requires that all states and U.S. territories have a historic preservation office and State Historic Preservation Officer. Each state receives federal funding for the preservation program, and 10 percent of the funding must be passed through to Certified Local Governments (CLGs).

The Certified Local Government (CLG) program is a partnership among local, state and federal governments. The program encourages the direct participation of local governments in the identification, evaluation, registration, and preservation of historic properties and promotes the integration of local preservation interests and concerns into local planning and decision-making processes. To be eligible for CLG status, local governments must:

- enforce state and local laws and regulations for the designation and protection of historic properties,
- establish an historic preservation review commission by local ordinance,
- maintain a system for the survey and inventory of historic properties,
- provide for public participation in the local preservation program, and
- satisfactorily perform responsibilities delegated to it by the state.

The NRHP is the nation’s official list of historic and cultural resources. Generally, resources must be more than 50 years old prior to listing on the NRHP. Properties that have not attained 50 years of age may be listed if they are of “exceptional importance.” Resources may be eligible for the NRHP if they:

- are associated with events that have made a significant contribution to the broad patterns of our history; or
- are associated with the lives of significant persons in our past; or
- embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- have yielded, or may be likely to yield, information important in history or prehistory.

A resource that meets one of the above-referenced criteria must also possess integrity. Integrity refers to the ability of a property to convey its significance. The NRHP recognizes seven aspects or qualities of integrity: location, design, setting, materials, workmanship,



feeling, and association. To retain integrity, a property must possess several, and usually most, of these aspects.

California Register of Historical Resources

The Office of Historic Preservation (OHP) administers the California Register of Historical Resources (CRHR). The CRHR was established to serve as an authoritative guide to the state's significant historical and archaeological resources (California Public Resources Code [PRC] Section 5024.1). State law provides that in order for a property to be considered eligible for listing in the CRHR, it must be found by the State Historical Resources Commission to be significant under any of the following four criteria (which are almost identical to the national criteria) that consider if the resource:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual or possesses high artistic values; and/or
- has yielded, or may be likely to yield, information important in prehistory or history.

The CRHR also includes properties that: have been formally determined eligible for listing in, or are listed in, the NRHP; are registered State Historical Landmark number 770¹, and all consecutively numbered landmarks above number 770; are points of historical interest that have been reviewed and recommended to the State Historical Resources Commission for listing; or are city- or county-designated landmarks or districts (if criteria for designation are determined by OHP to be consistent with CRHR criteria). A resource identified as significant in an historical resource survey may be listed in the CRHR if the survey meets all of the following criteria:

- The survey has been or will be included in the State Historical Resources Inventory.
- The survey and the survey documentation were prepared in accordance with OHP procedures and requirements.
- The resource is evaluated and determined by the office to have a significance rating of category 1-5 on Department of Parks and Recreation (DPR) form 523.
- If the survey is five or more years old at the time of its nomination for inclusion in the CRHR, the survey is updated to identify historical resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminishes the significance of the resource.

While CRHR criteria are essentially identical to those of the NRHP, not all properties eligible for listing in the California Register are eligible for listing in the National Register. Besides the

¹ State Historical Landmarks below number 770 were designated as landmarks prior to implementation of the CRHR.



difference in nomenclature (NRHP criteria labeled A-D), the primary difference between the two registers is that the NRHP imposes a 50-year age requirement whereas the CRHR employs no age requirement. The other major difference between the two registers is the manner in which they weigh physical integrity.

In addition to meeting one of the four criteria, CRHR-eligible properties must also retain sufficient integrity to convey historic significance. CRHR regulations provide for the possibility that historical resources may not retain sufficient integrity to meet the criteria for listing in the NRHP but may still be eligible for listing in the CRHR. OHP has consistently interpreted this to mean that a property eligible for listing in the CRHR must retain substantial integrity.

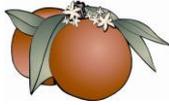
California Environmental Quality Act (CEQA)

When a proposed project is expected to cause substantial adverse change to an historical resource, the environmental clearance for the project usually requires mitigation measures to reduce negative impacts. Substantial adverse change in the significance of an historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. Material impairment occurs when a project:

According to the California Environmental Quality Act (CEQA) Statutes Section 21084.1, an historical resource is a resource listed in, or determined eligible for listing in, the CRHR. Historical resources included in a local register of historical resources are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant.

- demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register, or its identification in an historical resources survey, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- demolishes or materially alters those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in the CRHR, as determined by a lead agency for the purposes of CEQA.

The City has adopted *Local CEQA Guidelines (Guidelines)*, amended ~~April 11, 2006~~ [in 2020](#) to provide the City, and anyone intending to carry out a project, with the requirements of the environmental review process established according to state law, local ordinance, and City practices. The *Guidelines* contain a section pertaining specifically to historical resources. This section establishes the existing Historic Building Survey (1982 with updates from 1992 and 2005) as a recognized list of historical resources within the City pursuant to PRC 5020.1(k). The section authorizes use of the *Secretary of the Interior’s Standards for Rehabilitation*, the *Guidelines for Rehabilitation*, and the ~~Old Town Design Standards~~ [Historic Preservation Design Standards for Old Towne](#) (adopted 1993 and updated in 1997 [and 2017](#)), for design review



purposes. It provides thresholds for substantial adverse change and identifies local categorical exemptions and cumulative impacts analysis.

City of Orange Historic Preservation Program

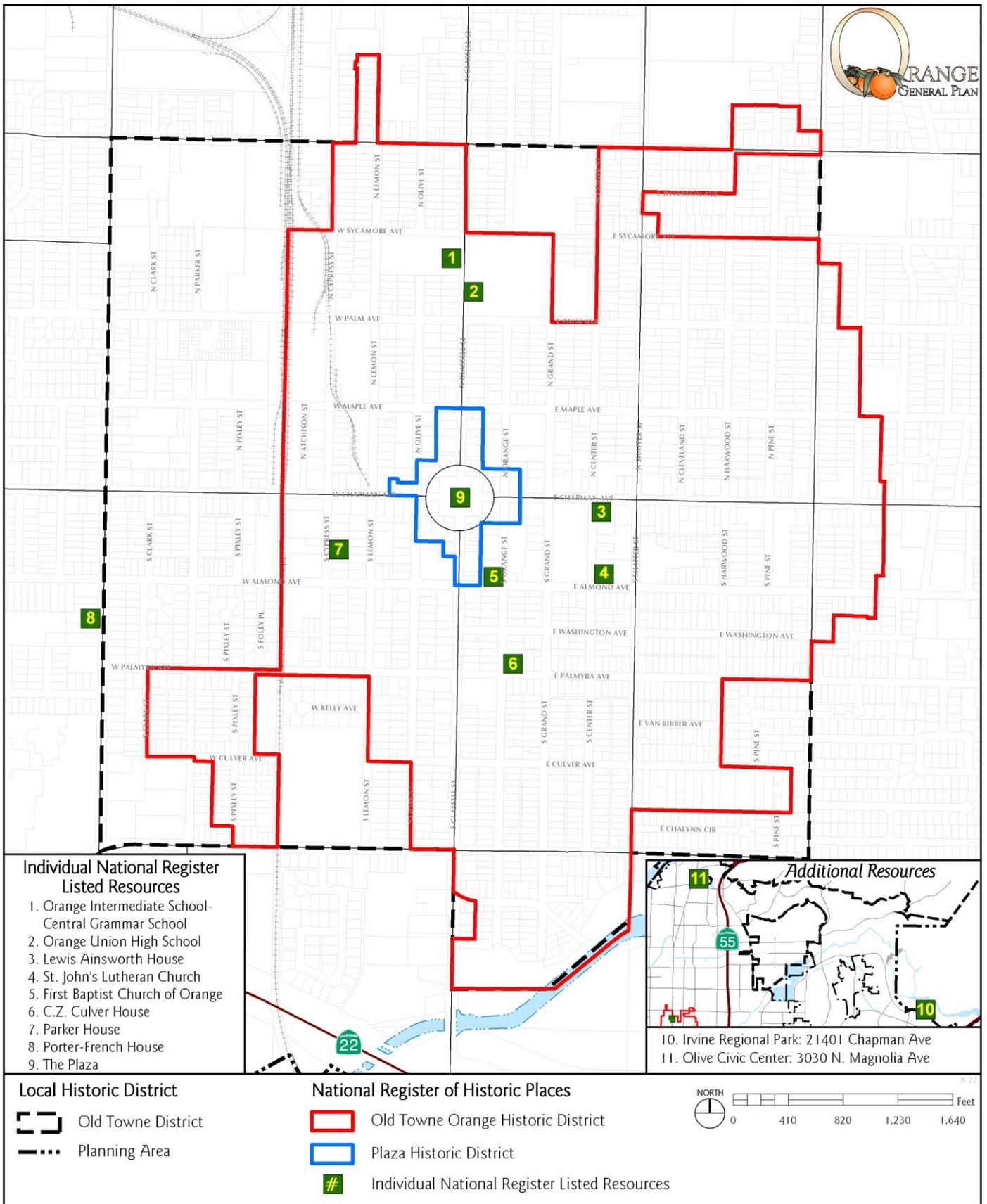
The City's historic preservation program has its roots in community interest and outreach during the late-1970s. Spurred by citizen interest in the historic downtown and surrounding residential neighborhoods, the City Council formed the official Old Towne Steering Committee in 1979 to assess and direct the special planning needs for the square mile of old Orange. Other groups with an interest in Orange history and historic preservation that formed during this period include the Orange Community Historical Society (organized in 1973), Preservation Orange (organized in 1982—no longer extant), and the Old Towne Preservation Association (OTPA) (organized in 1986).

Soon after its establishment, the Old Towne Steering Committee took action to recognize the unique characteristics of the downtown commercial core, and joined with the Orange Community Historical Society and City officials to nominate the four-block commercial area to the National Register of Historic Places. This area, now known as the Plaza Historic District, was officially listed on the NRHP in 1982 (see Figure CR-1). Also in 1982, the City initiated its first historic resources survey to evaluate all pre-1940 homes and buildings in the City of Orange with a primary emphasis on Old Towne. The survey provided guidance in the establishment of the first Historic Preservation Element of the City's General Plan, which was adopted in 1983. Soon after, the Old Towne Orange local historic district was established (see Figure CR-1). In 1993, ~~Old Towne Design Standards~~[Historic Preservation Design Standards for Old Towne](#) (amended 1997 and 2017) were adopted to provide design guidelines for proposed alterations and/or demolitions in Old Towne to be reviewed by Planning staff in the Community Development Department and the Design Review Committee (DRC).

In 1997, a more concentrated version of Old Towne was listed on the NRHP as the Old Towne Orange Historic District (see Figure CR-1). This National Register district was recognized for its significant cultural history related to the City's founding and early history and its concentration of early-period buildings.

An update of the historic resources survey was conducted in 1992. This survey served as the basis for the establishment of the local Old Towne Historic District. The survey update was received by City Council and its findings were added to those of the 1982 survey. [The survey was, again, updated in 2010 to include the Fairhaven, Fairhills, and Fairmeadow Eichler Home Tracts and was adopted by the City Council.](#) The combined survey is known as the Historic Building Survey pursuant to the *City of Orange Local CEQA Guidelines*.

The City's Zoning Ordinance permits the establishment of historic districts through a zone change process (Orange Municipal Code 17.06-.020 and 17.17 Historic Districts). The City's Community Development Department oversees application of the City's Historic Preservation Program including the Mills Act program (discussed in the Cultural Resources & Historic Preservation Plan section below), provision of educational materials, project application review, and permit processes.



**Figure CR-1
Designated Historic Resources**



Historic and Cultural Context

Patterns of Development and Architecture

In order to prepare for the future, it is often worthwhile to look to the past for inspiration. A review of Orange's dynamic history covers six important phases: colonization, early settlement, agriculture and industry, immigration and ethnic diversity, interwar development, and postwar development. The following paragraphs, which are taken from the Historic Context Statement prepared in conjunction with this General Plan, describe significant events within each of these eras, as well as a summary of physical features and characteristics that remain within the community today.

The full text of the Historic Context Statement for the City of Orange, including citations, photographs and maps, is provided in the Cultural Resources Technical Report, which accompanies the General Plan EIR.

Colonization (circa 1800-1870)

The first landowner in the Orange area was Juan Pablo Grijalva, a retired Spanish soldier. His land extended from the Santa Ana River and the foothills above Villa Park to the ocean at Newport Beach. Along with his son-in-law, Jose Antonio Yorba, he began a cattle ranch and built the first irrigation ditches to carry water from the Santa Ana River. After Grijalva's death, Yorba and his nephew, Juan Pablo Peralta, received title to the Rancho Santiago de Santa Ana land grant with a total of 78,941 acres.

After California became a state in 1848, one member of the extended family that owned the Rancho—Leonardo Cota—borrowed money from Abel Stearns, who was the largest landowner in Southern California. Cota put up his share of the Rancho as collateral. When Cota defaulted on the loan in 1866, Stearns filed a lawsuit in Los Angeles Superior Court to demand a partition of the land so that Stearns could claim Cota's section. As a result, the Rancho was subdivided into 1,000 units parceled out to the heirs and the claimants in the lawsuit.

Very little above-ground evidence remains from this early period of colonization of the Orange area, although any locations identified as related to the colonization period may yield archaeological evidence. A total of 33 adobes are thought to have been present on three ranchos within the City. Today, the northwest corner of the intersection of Lincoln Avenue and Orange-Olive Road in Olive is known as the site of the Rancho Santiago de Santa Ana headquarters. Past excavations in this area revealed the remains of two adobes, including wall remnants, tile floors and associated artifacts. The Grijalva Adobe site at the corner of Hewes Avenue and Santiago Canyon Road is marked by a plaque. This site included at least one adobe and some associated outbuildings. Francisco Rodriguez's property, generally bound by present day Main Street, Walnut Street, the Atchison Topeka Railroad and Collins Avenue, also contained adobes and is associated with this early period.

Early Settlement (circa 1870-1920)

The early roots of the Orange we recognize today had their origins in the partitioning of the original Rancho. Two of the most important historic areas within the City—Old Towne and El Modena—were established at this time.



Old Towne

When Rancho Santiago de Santa Ana was subdivided in the late 1860s, a Los Angeles lawyer, Alfred B. Chapman, represented several parties in the partition suit. As payment for his fees, Chapman acquired approximately 4,000 acres. In 1870, Chapman hired another lawyer, William T. Glassell, to survey and subdivide his land holdings into farm lots ranging in size from 10 to 40 acres.

With an eye to the future, the founders set aside eight lots in the center of the newly subdivided blocks of land, to be used as a public square. This public amenity is now known as Plaza Square, or simply the Plaza. In honor of the founders, the two main streets, which intersected at the public square, were named Chapman Avenue (running east-west) and Glassell Street (north-south).

Orange grew rapidly during the Great Boom of the 1880s. New settlers flocked to the region due to the cross-country expansion, inexpensive rail fares, and the balmy Southern California climate. Many of the new settlers entered Orange via the Santa Fe Railroad (later called the Atchison, Topeka, & Santa Fe) Depot four blocks west of the Plaza (currently the site of Orange Metrolink Station, Depot Park, and Veterans Memorial). Much of the real estate boom of the 1880s was driven by landowners subdividing their ranches in order to sell individual lots, which were often bought by speculators. By 1887, dozens of new subdivisions and four new townsites were laid out. Connecting these new communities were two horse-drawn streetcar systems: the Orange, McPherson and Modena; and the Santa Ana, Orange and Tustin lines.

By the late 1870s and early 1880s, the population of Orange was large enough to support the construction of civic buildings and gathering places such as churches, schools, and public parks. As the city continued to grow and lots were further subdivided, the new residents named the streets after the towns they came from in the East, such as Batavia and Palmyra.

The settlement first tried to incorporate in 1873 under the name Richland. The post office rejected this application because there was another settlement by that name in Sacramento County. The name was changed several years later and Orange was incorporated on April 6, 1888. At the time of incorporation, Orange was about three square miles, with 600 people who predominantly lived on small family ranches surrounding the town. Although most residents lived on working farms, some homes—generally for the town’s doctors, lawyers, and merchants—were built on the small lots surrounding the Plaza.

After the boom of the 1880s, major construction in Orange lay dormant for over ten years. With the new century came growth in the town’s citrus industry and an increase in economic prosperity. The Plaza soon became the commercial and social hub of Orange and the principal banks, newspapers, stores, and public institutions were built around its edges along Chapman Avenue and Glassell Street. Residential development, which increased to meet growing demand, occurred on the secondary streets beyond the Plaza and commercial center.

Many commercial, residential, civic, and religious buildings from Orange’s early settlement years remain today, in addition to the Plaza developed in the 1880s. Early brick commercial buildings in the Plaza area include the C.M. Woodruff store (1885), D.C. Pixley store (1886), and Wells Fargo (originally Bank of Orange) building (1886). Existing religious buildings



include the First Baptist Church (1893), St. John's Lutheran Church (1914), and Trinity Episcopal Church (1908). Later buildings in the Plaza Square area include Watson's Drug Store (1900), the former First National Bank (1928), and the W.O. Hart Post Office (1926). Early homes were built in the Victorian or Queen Anne style, characterized by a vertical emphasis with simple, jigsawn ornamentation, particularly around the porch, windows, and entry. During the years before World War I, residential styles evolved to include Classical Revival and Craftsman homes.

El Modena

Paralleling the early settlement of Old Towne was the establishment of another town located approximately three miles to the east. Known as El Modena, this small enclave evolved from a Quaker village into a citrus-farming Mexican-American barrio over the course of its nearly 120-year history.

San Francisco millionaire and philanthropist David Hewes became one of the primary developers in the area when he bought hundreds of acres around 1885. By 1886, there were 400 people living in El Modena. In 1888, a horse drawn streetcar connected El Modena to Orange. By 1889, the building boom was over and the population declined. The area re-established itself as a fruit growing area and became known for its mild climate and rich capacity for farming.

A number of relatively unaltered, small, wood-framed bungalows are scattered throughout El Modena, including an eight-building bungalow court on Hewes Street at Montgomery Place. Friends Church, the anchor of the original settlement of El Modena, still exists on Chapman Avenue at Earlham Street, although it has been converted into a restaurant. The footprint of Hewes Park remains at the intersection of La Veta Avenue and Esplanade Street, although the park has since been sold as private lots. Small expanses of unaltered open space still exist to the south and east of El Modena, although almost all of the former agricultural areas have been developed.

Agriculture and Industry (circa 1880-1950)

Water became the critical element for ongoing prosperity. In 1871, the A.B. Chapman canal began bringing water from the Santa Ana River to the townsite, with ranchers digging lateral ditches to their farms. By 1873, settlers began to develop wells, tapping into a water table only 18 feet below ground. A drought in 1877 motivated local ranchers to buy out the water company and form the Santa Ana Valley Irrigation Company (SAVI).

As a cooperative water venture, SAVI was vital to the agricultural development of the arid Southern California region. Beginning in the 1880s, the transcontinental railroad system granted growers in Orange County access to markets across the nation. The introduction of reliable irrigation and transportation systems was accompanied by a surge in agricultural production and productivity in Orange County. This was particularly true in Orange, where from 1880 to 1950, citrus and other agricultural industries were the predominant influences on the economic, political, and cultural development of the City.

By 1893, citrus had become so dominant that the Orange County Fruit Exchange (now known as Sunkist) was organized and incorporated. This organization constructed its headquarters building at the northeast corner of Glassell Street and Almond Avenue.



The citrus industry continued to grow until the Great Depression. Between 1933 and 1935, unemployment in Orange County grew to 15 percent. This led to labor issues that culminated in a farm workers strike in 1936.

Another blow to the citrus industry occurred in the 1950s with the spread of “Quick Decline” disease, which resulted in reduced crops and loss of trees. This, combined with the strong demand for housing after World War II and the need for developable real estate, began to diminish the once-powerful role of the citrus industry. By the late 1990s, the citrus packing industry had steadily moved out of Orange County.

Three historic packinghouse complexes survive within Old Towne. The oldest existing packinghouse is the former Red Fox Orchards packinghouse, built in 1909, a Pueblo Revival, wood frame building at 128 South Cypress Street. The Villa Park Orchard Association’s packinghouse complex, built in 1919, is located at 350 North Cypress Street. This former Santiago Orange Growers Association packing plant was built to take advantage of the Santa Fe Railway on the west side and the Pacific Electric on the east. The Villa Park Orchards Association’s offices are located one block north of the packinghouse at 544 North Cypress Street. This building was formerly the segregated Cypress Street School, built in 1931 to educate the Mexican and Mexican-American children of Cypress Street Barrio and El Modena. SAVI’s 1931 headquarters are located at 154 North Glassell Street. Another building of agricultural importance is the Orange County Fruit Exchange, or Sunkist Building, located at 195 South Glassell Street. From the late 1920s through the 1940s, the Orange Mutual Citrus Association operated a packinghouse at 426 West Almond Avenue adjacent to the Atchison, Topeka and Santa Fe tracks. In later years, the Orange Cooperative Citrus Association occupied the building.

Numerous other industrial buildings remain throughout Orange, concentrated around the railroad tracks running north-south parallel to Cypress Street. In 1927, the Western Cordage Company, a rope manufacturer established in 1923, moved into what had been the Richland Walnut Association Building at 501 West Palm Street. In 1928, the California Wire Company (renamed the Anaconda Wire Company in 1930) built a complex of industrial buildings adjacent to the rail line between Palm Avenue and Maple Avenue at 200-296 North Cypress Street. The Chapman University Film School currently occupies a portion of the original complex. The buildings feature industrial steel windows and skylights to light the interior work areas. In 1914, the Orange Contracting and Milling Company built their yard and mill at 225 North Lemon Street. The false front industrial building consists of a wood frame sheathed with corrugated sheet metal panels. Another false front industrial building within the district is the structure at 145 North Lemon Street, which features pressed metal panels on the wall of the street façade.

Residential construction associated with industry in Orange centered on bungalows, which became popular, affordable housing for workers. Imitating large, high-style Craftsman homes, these homes were decidedly smaller, usually one story, and were less expensive to construct. Storekeepers, bakers, contractors, packinghouse operators, teachers, carpenters, and laborers occupied many of the bungalows that remain throughout Old Towne.



Immigration and Ethnic Diversity (circa 1910-1980)

Two international events had significant effects on El Modena and Orange in the 1910s: the Mexican Revolution and World War I. Beginning around 1910, many Mexican families came to the U.S., seeking refuge from the chaos sparked by the Mexican Revolution. When the U.S. entered World War I in 1917, men across the country were drafted into the war effort. As a result, the fruit harvesting workforce dwindled, creating employment opportunities for these new immigrants. The increased demand for workers and the influx of Mexicans supported two vibrant communities: the Cypress Street Barrio and El Modena.

El Modena

By the 1920s, El Modena began to take on a distinctly Mexican character. Many Mexican-American El Modena families worked in packinghouses and orchards. The area was surrounded by fruit tree groves, isolating it from the rest of Orange.

Isolation and segregation from white residents of Orange were facets of life for the residents of El Modena and the Cypress Street Barrio. Many popular recreational activities were segregated, including movie theaters. Mexican-Americans were restricted from playing ball in public parks and their use of the community pool was limited to Mondays, because the pool was drained on Monday night. The impact was felt even at the schools, where Mexican-American student enrollment was restricted to “La Caballeriza” (“The Barn”), a two-room wooden schoolhouse behind the Lemon Street School.

The breakthrough came in 1947 when the U.S. Supreme Court ruled in favor of League of United Latin American Citizens in the case *Mendez v. Westminster*, ordering that “school districts not segregate on the basis of national origin.” In the wake of *Mendez* came the landmark *Brown v. Board of Education* decision in 1954. As integration slowly commenced, many disgruntled Anglo families moved away, settling in newly drawn school districts that were often “re”-segregated.

Some of the small bungalows from this period still exist in largely modified forms, typically with clapboard siding, gabled roofs, and small entry porches. The most significant commercial building from this period is “La Morenita,” a market that still exists on the corner of Washington Avenue and Earham Street. Around 1929, the Moreno family, one of the oldest families in El Modena, constructed the small, western false-front building.

Mendez v. Westminster sought a court injunction that would order integration of schools in the Westminster, Santa Ana, Garden Grove, and El Modena school districts. Basis for the suit was provided by conditions in El Modena where the segregated Lincoln and Roosevelt schools sat side-by-side on Chapman Avenue, making an easy comparison of separate and unequal educational opportunities for Mexican-American children. The original site of these two schools has since been redeveloped.

Cypress Street Barrio

Mexican citrus workers settled on Cypress Street beginning in 1893 when a packinghouse was built on the 300 block of North Cypress. Growers realized that having an easily accessible, stable, and permanently housed workforce assured a lessened chance of labor problems. Residents of the Cypress Street Barrio were a tight-knit group with many new



residents coming from the same villages in Mexico. Today, some residents can trace their family's neighborhood roots back four generations.

To support this population, Cypress Street Barrio's small businesses included grocery stores, bakeries, tortillerias, restaurants, bathhouses, automobile shops, barbershops, and pool halls. The Friendly Center, Inc., one of the oldest non-profit family resource centers in Southern California, offered "Americanization" courses, homemaking classes, health clinics, and childcare services to Cypress Street Barrio residents. In addition, the popular jamaicas, or church street fairs, were held in front of the Friendly Center during the late 1940s.

The Cypress Street Barrio still retains some of its original early 20th-century character in the form of small bungalows, commercial buildings, and packinghouses. The Mission Revival style Friendly Center, Inc. building was built at 424 North Cypress in 1922; the original structure has been remodeled for commercial and residential use. Among the long-standing businesses along North Cypress Street were the Cayatano "Pete" Cruz grocery store (440 North Cypress), Filiberto Paredes/Simon Luna/Emilia Luna's grocery store (418 North Cypress) and Pete's Pool Hall (405 North Cypress).

Very little physical evidence remains of Orange's segregation history. The most prominent example is the formerly segregated Cypress Street School at 544 North Cypress Street, which today houses Chapman University's Human Resources Development Research Program. The Colonial Theatre, located at 138 South Glassell Street, which was one of the few movie houses in Orange County where attendees of all races could sit side-by-side, still exists in a highly modified form.

Interwar Development (circa 1920-1941)

As the citrus economy continued to flourish into the 1920s, the demand for housing grew and residential styles evolved. The California-oriented Craftsman houses were followed by European-influenced Tudor, Provincial, Mediterranean, and Norman Revival styles. The Mediterranean Revival style was by far the most popular in Orange, and houses in this style that remain exist primarily on the outskirts of the Old Towne boundaries. Beginning in the 1930s, Ranch and Minimal Traditional style homes became dominant due to the economic constraints created by the Great Depression. Minimal Traditional homes tend to be boxy, with flat wall surfaces and little ornamentation or other detailing; they often feature simplified features of Tudor and Colonial Revival styles. Ranch homes became the most predominant type of housing built in the United States between the 1930s and the 1960s.

In addition to many existing homes in the Old Towne area, a number of Works Progress Administration (WPA) projects were built in Orange during this period. The State Emergency Relief Agency (SERA) and the WPA sponsored the construction of several structures, including the Bandshell and Bath House/Plunge in Hart Park (1933-1935), the downtown post office at Chapman Avenue and Lemon Street (1934-35), a new fire station at 153 South Olive Street, a \$45,000 stadium at Orange Union High School (1935), and new bridges on both the Santa Ana River and Santiago Creek. The Orange-Olive school buildings at 3030 N. Magnolia Street (also known as Olive Community Center) were also constructed by the WPA in the late 1920s. Of these structures, the fire station and bridges no longer remain.



Postwar Development (circa 1945-1975)

World War II brought prosperity to Southern California's economy and ended the ravages caused by the Great Depression, which had devastated fruit prices. After World War II, returning soldiers and a massive influx of new residents to the state changed the face of California forever. Orange was no exception; its remaining open and agricultural space attracted developers of bedroom communities.

By the 1950s, many ranchers readily sold their acreage; orange groves were succumbing to the "Quick Decline" disease and the demand for real estate for housing construction soared. Orange's explosive suburban residential growth began in 1953 and peaked in 1962, when thousands of acres of land were sold for development. Between 1950 and 1960, the local population swelled from 10,000 to 26,000 as former orchards were torn out and replaced with subdivisions of single-family homes. Most of the larger tracts (50-100 homes) were built by outside developers, though a few local developers worked on a smaller scale. One of the more notable developers working in Orange during this period was Joseph Eichler, who built three tracts to the north and east of Old Towne. These Eichler developments brought distinct elegance, originality, and modern design principles to suburban homes.

Eichler Homes

Between 1949 and 1974, Joseph Eichler built about 11,000 homes in California, including 575 in Southern California, of which 305-339 are in Orange. Frank Lloyd Wright's Usonian building principles, which included integration with the natural landscape, the use of indigenous materials, and an aesthetic to appeal to the "common man," gave Eichler ideas for his own suburban tract housing. Eichler hired a series of progressive firms, including Anshen & Allen, Jones & Emmons, and Claude Oakland Associates, to design innovative, modern, and affordable homes for California's growing middle class consumers. For over two decades, Eichler Homes would utilize streamlined production methods, specialized construction materials, an innovative marketing campaign, and one of the first non-discriminatory suburban housing policies in the country to change the shape of California's suburbs.

Chapman University

Chapman College was founded in 1861 as Hesperian College in Woodland, California by the Disciples of Christ. By 1920, Hesperian College merged with the new Los Angeles-based California Christian College. The major benefactor to California Christian College was Fullerton citrus rancher Charles Clarke Chapman, and in 1934 the college was renamed Chapman College.

After World War II, as returning veterans with G.I. Bill funding filled college classrooms across the nation, Chapman College required a larger campus to accommodate the increased student population. When the Orange Unified School District proposed building a new high school, Chapman College purchased the old Orange Union High School campus at Glassell Avenue and Palm Street. Chapman College moved to this site in 1954 and became the first four-year, accredited college in Orange County.

Over the years, Chapman has continued to expand its education programs, enrollment, and campus facilities. In 1977, a School of Business and Management (now known as the George L. Argyros School of Business and Economics) was established. The Law School was added in



1995. As a result of its academic development, Chapman College became Chapman University in 1991. Throughout the 1990s, enrollment grew by more than 40 percent and the University has constructed new facilities, including a building for the new College of Film and Media Studies and an athletic complex.

Physical Development

The surge in Orange's population in the 1950s and 1960s created a need for new government buildings to replace the early City Hall, Fire Station, and Carnegie Library. The Orange Public Library (then addressed as 101 North Center Street, but now as 407 East Chapman Avenue) was completed in 1961, replacing the original 1910 Carnegie Library. Welton Becket and Associates designed a new civic center completed in 1963 on the site of the 1921 City Hall. Several fire stations were constructed during the 1960s, including new headquarters on South Grand Street in 1969. A new main post office was constructed on Tustin Street in 1971.

New business districts were also created during the mid-1950s, diminishing downtown Orange's importance as the city's major commercial center. Major shopping centers opened on the corners of Tustin Street, Chapman Avenue, Collins Avenue, Glassell Street, North Batavia Street, East Katella Avenue, Meats Avenue, Main Street, and La Veta Avenue, attracting supermarkets, restaurants, hardware stores, banks and gas stations. Shopping centers built during the 1960s and 1970s include Town and Country Village Shopping Center, the Mall of Orange (now the Village at Orange), and The City Shopping Center (now the [Block Outlets](#) at Orange).

In the 1960s and 1970s, the ever-growing City of Orange annexed surrounding areas and towns, including portions of El Modena.

The majority of construction from the postwar period remains largely intact, including the three Eichler tracts, Chapman University, [City-Orange](#) Civic Center, and numerous other commercial, residential, and civic buildings.

1975–Present

During the postwar suburban construction boom, the most desirable land for subdivisions was the flat coastal plain where cities such as Garden Grove, Westminster, and Costa Mesa developed. By the late 1960s, construction slowed. Further development stalled with the energy crisis of 1973. By the 1980s, however, the foothills to the east of El Modena became prime real estate. Orange Park Acres, which lies between Chapman Avenue and Santiago Canyon Road, was first subdivided in 1928, but most of the area was annexed by the City of Orange during the 1990s. In 1989, the City of Orange and the Irvine Company adopted the East Orange General Plan, a proposal that encouraged a mix of residential, commercial, and recreational uses for the area east of Orange Park Acres towards Irvine Park and Peters Canyon. The Orange campus of Rancho Santiago Community College was constructed in 1985 and became Santiago Canyon College in 1997. Most construction from this period remains intact.

Once the flatlands were fully developed, the remaining undeveloped lands that were previously thought to be too expensive or complicated to develop, including the hillsides, became much more desirable. In 2005, the City approved a development proposal for the remaining undeveloped hillsides to the east of Orange and within its sphere of influence



(SOI). This new development, consisting of approximately 4,000 homes, is known as Santiago Hills II and East Orange. The development area is located adjacent to the Irvine Ranch Land Reserve, and has significantly expanded the boundaries of Orange towards the east.

Archaeological Resources

The context statement for archaeological resources in the City of Orange represents a synthesis of over 50 years of surveys, excavations, and analysis of material culture, written documents and records, and oral histories undertaken by archaeologists at federal, state, and local agencies and in the private sector. To date, over 50 surveys have been conducted within the City or its surrounding unincorporated areas. Most of these have been small in size (less than 10 acres), although a few have investigated hundreds or thousands of acres. These larger projects have been confined to relatively undeveloped areas, such as Burruel Point, Santiago Creek, or the unincorporated east Orange hills within the City’s sphere of influence (SOI). These surveys have resulted in the recording of only 25 or so sites within the City, although others have been documented along the coast or in other portions of Orange County.

The full text of the Archeological Historic Context Statement for the City of Orange, including citations and maps indicating portions of the planning area with potential for prehistoric and historic archeological resources, is provided in the Cultural Resources Technical Report, which accompanies the General Plan EIR.

Prehistoric Setting

Orange County falls within the San Diego sub-region of the southern coast archaeological region of California. The history of the archaeology of this period in Southern California reads like a novel, with accounts of nationalism and competition between ambitious institutional collectors (e.g., museums, universities, public institutions). Intense and competitive, but unsystematic institutional collecting persisted in the region into the twentieth century.

An initial framework of regional prehistory was in place by the 1950s. This framework is not specific to Orange County; however, elements of it are derived from work at Newport and Laguna Beaches. The generally accepted framework recognizes four broad temporal periods or cultural horizons. These are the Paleo-coastal or Early Man Period dating to more than 10,000 years ago; the Millingstone Period, falling between 10,000 years ago and 3,000 years ago; the Intermediate Period from 3,000 years to 1,350 years ago; and, the Late Prehistoric Period from 1,350 to 650 years ago.

Paleo-coastal Tradition

Initial occupation is thought to have occurred more than 10,000 years ago in Southern California. The view is that early occupants were mobile foragers primarily dependent on hunting terrestrial game. Recent archaeological evidence from some coastal sites indicates the systematic and intensive use of marine resources, including shellfish, during this period.

One immensely important find was the partial remains of a woman on Santa Rosa Island (Channel Islands) in 1959. Now known as the Arlington Springs Woman, the find consisted of two femurs recovered at a depth of approximately 30 feet. The discovery was excavated in a block and transported to the Santa Barbara Museum of Natural History. In 1989, samples of



the bone were submitted for chemical and radiocarbon analysis. The resulting estimate of the age of the remains suggests the individual was buried approximately 13,000 years ago, making the Arlington Springs Woman one of the oldest finds of human remains in the Americas.

Millingstone Period

Sites dating from around 8,000 years before present (B.P.) are far more common than those from the Paleo-coastal Tradition period. They typically include groundstone assemblages, indicating a probable dependence on hard seeds. At coastal sites, there is continued evidence of a wide variety of marine resource exploitation, most commonly shellfish. Some archeologists believe that terrestrial game still provided the foundation of the diet. Others note that the abundance of Millingstone Horizon sites suggests a sedentary settlement system, rather than a mobile foraging pattern. Under the sedentary settlement system, central settlements would be supplied from special purpose camps and task sites. Sites of this time period typically yield large numbers of metates and manos, as well as unique artifacts of unknown use, called cogged stones or discoidal.

The Intermediate Period

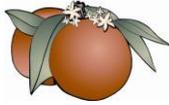
At about 3,000 years B.P., important changes began to occur in settlement, technology, and subsistence intensification caused by a growing population. Changes included increased use of acorns, elaborate fishing technology, and a diverse arsenal of hunting tools. The apparent disuse of the Newport Coast area during this period is thought to have indicated the arrival of Shoshonean-speaking groups from the deserts to the east. Archaeologists believe these people were proto-Gabrielino and Luiseño who were not yet familiar with marine resources.

Late Prehistoric Period

By the Late Prehistoric Period, beginning approximately 1,350 years B.P., high population densities and complex political, social, technological, and religious systems existed throughout the Los Angeles Basin. Economic systems, based primarily around growing marine fisheries, became more diverse and intensive. The growing geographic complexity of trade networks is reflected in shell-bead currency and a variety of materials traded to or acquired from remote locations. Technological improvements are apparent in the appearance of the bow and arrow, the plank canoe in coastal sites, and evidence of a broad variety of marine resources, including mammals and fish taken in deep sea environments. Settlements became permanent towns supported by temporary camps set up at resource procurement sites. Archaeological evidence of this time period includes the presence of arrowheads, soapstone bowls, callus shell beads, steatite effigies, and cremations. This period ended abruptly when Spanish colonists began establishing missions along the California coast.

Ethnographic Setting

The planning area is situated within the ethnographic territory of the Gabrielino Indians of California. Gabrielino lands included most of present-day Los Angeles and Orange Counties, and several offshore islands. The Gabrielino spoke a Cupan language in the Takic family, which in turn is a member of the Uto-Aztecan linguistic stock. The Gabrielino people lived in



either permanent or semi-permanent villages. Known settlement locations seem to have favored two different locales; coastal estuaries and major inland watercourses. Villages are thought to have been the focus of family life, with each individual group linked to others by paternal kinship relations. Coastal Gabrielino exploited bay and kelp-bed fish, shellfish, and occasionally sea mammals. Inland groups collected and processed plants and hunted deer, bear, quail, and other terrestrial game.

Gabrielino culture was heavily affected by colonial Spanish missionary efforts long before systematic ethnographic studies could be conducted, indeed before there was such a discipline as ethnography. Disease and forced participation in the mission system disrupted most traditional cultural ways of life and resulted in a catastrophic reduction of the native population. Information about their material culture and lifeways is very limited and derived largely from historical sources, such as the diaries and records of early missionaries, soldiers, and explorers. While traveling through the area in 1769, Father Juan Crespi, a missionary, noted the presence of a large village, *Hotuuknga*, upstream from present day Olive on the north side of the Santa Ana River. Crespi wrote that 52 Indians came to greet them and accepted blankets, beads, and other goods. When he returned two years later, the group was hostile and the Spaniards quickly continued on their way. As late as the 1870s, a small "Indian camp" was visible on the north side of Santiago Creek just west of the Glassell Street crossing.

What little ethnographic information is available suggests that the Late Prehistoric Gabrielino settlement pattern may have been characterized by a complex of central villages occupied by family lineages and smaller special-purpose sites where specific resources were extracted or where food or other resources were collected for transportation back to central villages. Such a pattern is consistent with the "collector" economic model for complex hunter-gatherer societies such as the Gabrielino.

Historical Setting

As mentioned previously, major themes and eras in Orange's history include colonization, early settlement, agriculture and industry, immigration and ethnic diversity, interwar development, and postwar development. Considered in light of these themes and eras, places of particular archaeological interest include rancho sites, Old Towne, El Modena, McPherson, and Olive. Physical developments of particular interest include the railroad, packinghouses, private homes, and civic buildings. Social developments of particular interest include ethnic settlement, labor issues, and segregation.

Orange's early settlers, commercial enterprises, and public facilities had no modern-day waste disposal facilities. Typically, outdoor sanitation facilities (privies or outhouses) were placed within private property at the rear of the properties, close to alleys. Household trash items (discarded bottles and dishes, food remains, and broken objects) were often disposed of by spreading across the back or side yards and then covering with dirt (creating horizontal layers of discarded refuse) or by digging pits to hold garbage and then covering with dirt.

According to City sanitation records (these records do not extend to El Modena, Olive, etc.), sewer lines were installed in the streets and into parcels within Orange and the general area of the Cypress Street Barrio between 1911 and 1914 (after 1915, almost all new development in Orange included provision of sewer lines). While the City provided the pipes necessary for

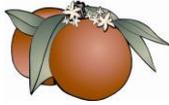


individual hook ups into the system, it was up to the landowner to install flushing toilets and sinks, and some residents continued to use outhouses for many years after the main sewer line was installed. As outhouses were abandoned, they were often filled in with discarded household debris, creating sealed deposits. These 19th century refuse deposits often contain information on household demographics, cultural heritage traditions, economic status, and other research topics that is not available through written documentation. In Orange, deposits associated with early Hispanic communities, Chinese settlers, German immigrants, religious organizations, and other heritage or belief groups have the potential to provide glimpses of the daily lives of Orange's early settlers. In Cypress Street Barrio's and El Modena's early settlement period, deposits associated with Quakers can provide artifacts and other organic material useful in interpreting the influence of religious beliefs on material culture, the everyday practice of a religious philosophy, status, the role of women and children in the household, and other topics not always addressed in the written record.

Archaeological deposits associated with warehouses, ditches, and workers' camps are potentially present at any 19th and early 20th century packinghouse location within the City. As with residential areas, industrial work sites established outhouses, waste disposal areas, and residential areas for workers. Often, large organizations employed on-site blacksmiths to maintain freight wagons and shoe stock, and fix machinery and tools. Analysis of functional use areas can aid in reconstructions of 19th-century technology, industrial design and layout, and technological changes, innovations, or modifications made at individual company sites. Household debris discarded at workers' camps allows a comparison of the economic and social status of foremen, managers, owners, and laborers (as interpreted through the material culture). Such debris also allows insights into division of labor camps based on cultural heritage, comparisons of conditions at camps owned by different companies, and other research topics that can enrich the known history and interpretation of Orange's important agricultural and industrial development.

New developments and existing urban areas of the City continued to tie into the City's ever-expanding sewer system in the Interwar Development period, eliminating the potential for hollow-filled significant archaeological deposits associated with individual households. Rural areas, however, relied on outhouses or septic systems and were often responsible for disposal of their own household trash. Deposits associated with farmhouses, small scale orange growers, and agricultural enterprises have the potential to allow interpretation of individual farm and household response to the Depression, adaptations in diet and material culture in light of reduced economic status, changes in farm technology or equipment in light of the Depression, and other topics related to interpreting this era of Orange history.

The explosive growth of Orange and establishment of planned subdivisions in the Postwar Development period is unlikely to have resulted in significant archaeological deposits. By the end of World War II, new developments included installation of sewer, water, and electrical utilities. New homeowners and tenants were provided with garbage collection services, and the likelihood of encountering significant archaeological deposits associated with this period is considered low.



Orange's Public Library System

Orange's Public Library was founded prior to incorporation in 1885, making it one of the oldest public libraries in Orange County. Postmaster Robert E. Tener donated his collection of about 300 books and ran the library as a private organization, using dues from the members to build and maintain the collection. The library itself was housed in the Post Office Building on South Glassell Street. It remained as a private organization until 1894 when it was turned over to the newly-formed City.

In 1905, the collection needed a new building and was granted a Carnegie building to house the library on the corner of Center Street and Chapman Avenue, where the ~~Main Library~~ [Orange Public Library & History Center](#) is ~~still~~ located today. In 1961, the original Carnegie building was demolished and a 17,000 square foot building was erected, increasing in size to provide service to an anticipated population of 40,000.

An expanded ~~new~~ Orange Public Library & History Center ~~reopened on April 21, in~~ 2007. At 45,000 square feet, the ~~new~~ library building includes a Children's Library, Teen Zone, Homework Center and a History Center.

ISSUES, GOALS, AND POLICIES

The goals and policies of the Cultural Resources & Historic Preservation Element address five issues: (1) identifying and protecting historic resources, (2) protecting neighborhood character, (3) providing incentives and expanding education efforts for historic preservation, (4) recognizing and protecting archeological and cultural resources within the planning area, and (5) meeting life-~~longing~~ learning needs of residents through provision of library services. Implementation programs related to these goals and policies are contained in the General Plan appendix.

Architecture and Community Character

One of the most distinguishing features of Orange is the community's dedication to recognizing, acknowledging, and preserving its past. The NRHP-listed Old Towne Historic District ~~has the largest number of resources of any historic district~~ is [one of the largest historic districts](#) in California, and provides a strong sense of place in the City and a unique identity within Orange County as a whole. The City recognizes that the architectural strength of Old Towne results from the contextual environment of historic structures, and further recognizes that in some cases, individual structures are best appreciated in a neighborhood context. The City also realizes that some individual structures worthy of protection may not be located within an intact historic neighborhood (for example, historic farmhouses located throughout the City or *La Morenita* market in El Modena).

Historic preservation in Old Towne has been a significant factor in the revitalization and economic vitality of downtown Orange, resulting in increased property values and low vacancy rates. Old Towne preservation ~~has created a potential~~ [serves as a model](#) for other locations within the City. [Three mid-century modern Eichler Homes Tracts designated as local historic districts have a distinctive identity and sense of place of their own. As with Old Towne, these neighborhoods have enjoyed strong property values and stewardship, and](#)



~~further enrich the collection of historic resources in Orange. However, efforts to identify and protect resources beyond Old Towne have been limited.~~ The City seeks to build upon the successes of Old Towne, the Eichler Homes Tracts, and the existing historic preservation program, to use new techniques and technologies to assist in historic preservation, and to prepare for a future wherein an increasing number of resources will qualify as potentially historic.

GOAL 1.0: Identify and preserve potential and listed historic resources, including buildings, structures, objects, sites, districts, and archaeological resources citywide.

Policy 1.1: Maintain an accessible inventory of designated and potential historic resources.

Policy 1.2: Promote community education and awareness of the significance of Orange’s potential and listed historic resources.

Policy 1.3: Provide long term assurance that potential and listed historic resources will be used, maintained, and rehabilitated in conformance with *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Preserving Historic Buildings (Secretary’s Standards)*.

Policy 1.4: Encourage alternatives to demolition such as architecturally-compatible rehabilitation, adaptive re-use, new construction, and relocation.

Policy 1.5: Require that no permit for alteration or demolition of properties identified in the Orange Historic Resources Inventory as potential historic resources shall be issued until alternatives to demolition have been duly considered.

Policy 1.6: Promote the preservation of cultural and historical resources controlled by governmental agencies, including those related to City, School District, and other agencies.

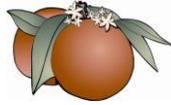
Preserving Historic Neighborhood Character

Historic preservation goes beyond protecting a select number of buildings. The overall goal of historic preservation is to link current residents to the City’s rich heritage, create a sense of place, and protect architectural context and diversity. Preservation efforts should enhance neighborhoods by rehabilitating individual structures and addressing neighborhood character in areas that are rich in history but that may not retain enough integrity to qualify as local, state, or national historic districts. While they may not have high integrity, these neighborhoods are culturally, historically, and architecturally significant and feature distinct physical and/or architectural characteristics.

GOAL 2.0 Identify and preserve neighborhoods that are culturally and historically significant but do not retain sufficient integrity for eligibility as a local, state, or national district.

Policy 2.1: Encourage identification and listing of Neighborhood Character Areas within the El Modena, Cypress Street Barrio, Railroad/Packinghouse Corridor, and Orange Park Acres neighborhoods.

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- Policy 2.2: Promote community and visitor awareness and education concerning the unique and special history and architecture found in Neighborhood Character Areas.
- Policy 2.3: Ensure that those qualities that contribute to the historic character of designated Neighborhood Character Areas are retained through application of design guidelines consistent with the local context and key physical attributes of each neighborhood.

Incentives and Education

Historic resources throughout the City provide opportunities for both rehabilitation and adaptive reuse as commercial, residential, or office spaces. Encouragement and incentives to achieve long-term preservation and context-sensitive reuse of historic buildings will be provided through financial, planning, and zoning tools that assist property owners seeking to rehabilitate and preserve their homes and buildings. Many of these resources also provide opportunities to promote community awareness and support for historic preservation through public education.

GOAL 3.0: Provide incentives and expand education efforts for historic preservation.

- Policy 3.1: Expand education efforts to facilitate and encourage historic preservation and recognition of the City's historic resources.
- Policy 3.2: Provide incentives to encourage and support historic preservation.
- Policy 3.3: Actively seek funding for historic preservation activities.
- Policy 3.4: Leverage recognition of the City's historic preservation program, participate directly in federal and state historic preservation programs, and gain access to designated historic preservation funding.
- Policy 3.5: Explore additional funding sources for maintenance and rehabilitation of historic resources.

Archaeological and Cultural Resources

Orange County is rich in human history, with a record of occupation by many cultures. The City recognizes the importance of preserving archaeological resources and making them accessible for educational purposes as a means of understanding our cultural heritage.

GOAL 4.0: Identify and preserve archaeological and cultural resources.

- Policy 4.1: Identify, designate, and protect historically and culturally significant archaeological resources or sites.
- Policy 4.2: Recognize the importance of Santiago Creek as an archaeological resource.
- Policy 4.3: Encourage curation of any cultural resources and artifacts recovered in the City for public education and appreciation.



- Policy 4.4: Celebrate the cultural history of the community by increasing community awareness through the design features of public projects and facilities such as parks, plazas, and community buildings.
- Policy 4.5: Encourage private development to celebrate the cultural history of the community through project design.
- Policy 4.6: Provide additional resources and promotion for the Orange Public Library Local History Collection.

Library Services

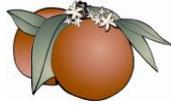
The Orange Public Library has been providing library services to residents since 1885. The Library has always played a central role in the development of civic life in Orange, and continues to do so today and in the future through its presence as both a formal and informal community gathering place. This role will become increasingly important as the population of Orange continues to grow and diversify.

GOAL 5.0: Meet the educational, cultural, civic, information, recreation, business, and life-long learning needs of residents through the provision of library resources.

- Policy 5.1: Continue to expand, coordinate and modernize the City’s public library system, ensuring that it becomes the premier information and learning resource for the City to meet the needs of Orange’s growing and diverse population.
- Policy 5.2: Support the strategies and recommendations of the ~~Orange~~ *Public Library Facilities Master Plan 2002-2020*, and continue to explore new strategies that make the library accessible to all members of the community.
- Policy 5.3: Work with the community to assess, select, organize, and maintain desired collections of library materials and information sources and make these materials available to the public free of charge to promote information literacy.
- Policy 5.4: Promote collaborations among community groups, educational institutions and the ~~Public~~ *Library* to enhance sharing of information, resources and financial support for library facilities, services and programs.
- Policy 5.5: Provide friendly and welcoming library facilities that support the creation of both formal and informal neighborhood commons.

CULTURAL RESOURCES & HISTORIC PRESERVATION PLAN

Orange has traditionally focused its historic preservation efforts primarily on Old Towne. Since 1982, when the City of Orange undertook its first historic resources survey, enacted its first historic preservation element, and established the Old Towne Historic District through a zoning overlay, historic preservation has been a significant factor in the revitalization and economic vitality of Orange’s historic downtown. The current process of establishing an historic district is through a zoning overlay as outlined in the Zoning Ordinance; the City does



not have a Historic Preservation Ordinance. By combining historic district designation with design standards, design review, and preservation incentives, the historic character of Old Towne has been maintained and preserved. As part of this effort, the City has developed public programs that provide City residents with a variety of informational tools advertising different options for historic preservation. The City actively promotes the [Old Towne Design Standards](#)[Historic Preservation Design Standards for Old Towne](#), educates the public regarding architectural styles found in Old Towne, and provides public information on the Mills Act program, which provides incentives that may reduce property taxes on historic buildings in exchange for rehabilitation and maintenance of the owner's historic resource. [City Hall](#)[The Community Development Department](#) makes all of this information available, in addition to preservation maps and brochures, and City staff includes experts who work on historic preservation projects throughout the City. A Design Review Committee reviews building projects throughout Old Towne.

Achievements of the Old Towne preservation program have been recognized by the community, and throughout the region. However, other potential historic districts and individual resources within the City do not receive the same attention. The City has a unique opportunity to examine and learn from the Old Towne experience, and to redefine the goals of its preservation program. This Cultural Resources & Historic Preservation Element includes issues, goals, and policies directed at facilitating a comprehensive preservation program. Figure CR-2 presents additional resources recommended for designation within the City. Subsequent portions of the Plan describe intended programs and objectives associated with these resources.

Architecture and Community Character

The City's original Preservation Element and current historic preservation program focus on preservation of neighborhoods, specifically Old Towne. This approach, which has been extremely successful, does not address the full extent or quality of architectural resources in Orange. The City of Orange, which has evolved and developed over the course of more than 100 years, contains significant concentrations of properties that reflect a variety of architectural styles, patterns of development, and important cultural history.

Old Towne Orange

Old Towne Orange, comprising the central Plaza, surrounding commercial buildings, and four adjacent residential quadrants, represents the period of development when the City evolved from pioneer settlement into thriving center of the Orange County citrus industry. Originally settled in the mid- to late-1800s, after the dissolution of Rancho Santiago de Santa Ana, Orange emerged as a robust industrial and commercial center between 1888 and 1940. Citrus and construction-related materials yards, packinghouses, and shipping and receiving businesses all flourished within the three short blocks between the Plaza and Santa Fe rail lines. Development over this 50-year period is represented by distinct styles of architecture, methods of construction, and details of craftsmanship, examples of which have been substantially retained over the ensuing years.

Many commercial, residential, civic, and religious buildings from Orange's early settlement years remain today, in addition to Plaza Square, developed in the 1880s. Early homes were built in the Victorian or Queen Anne style, characterized by a vertical emphasis with simple,



jigsaw ornamentation, particularly around the porch, windows and entry. Prior to World War I, residential styles evolved to include Classical Revival, Craftsman and Bungalow, and Mediterranean Revival examples.

Eichler Homes

Between 1949 and 1974, Joseph Eichler built about 11,000 homes in California, including 575 in Southern California, of which 305-339 are in Orange. Once a successful butter-and-egg wholesaler in New York, Eichler drew inspiration for his change in profession from his time renting Frank Lloyd Wright’s Bazett House. Wright’s Usonian building principles, which included integration with the natural landscape, the use of indigenous materials, and an aesthetic to appeal to the “common man,” inspired Eichler to incorporate similar principles into his suburban tract homes. For over two decades, Eichler Homes would employ streamlined production methods, specialized construction materials, an innovative marketing campaign, and one of the first non-discriminatory suburban housing policies in the country to change the shape of America’s suburbs.

The 305-339 Eichler homes in Orange provide a unique opportunity for the City to recognize some of its lesser known historic neighborhoods. The three Eichler tracts (see Figure CR-2) include Fairhaven, constructed in southeast Orange from 1960-1962; Fairmeadow, constructed in north Orange in 1963; and Fairhills, constructed in east Orange from 1963-1964. They typify the eclectic mix of Eichler’s California-modern aesthetic, and his affinity for high-quality, architect-designed “modernism for the masses.” The residences in all three tracts remain largely unaltered and are a source of great pride for residents. Orange’s Eichlers attest to the high quality of materials and craftsmanship used in Eichler homes, and serve as a reminder of early suburban integration in Southern California. Due to their architectural significance and integrity, these three tracts appear to be eligible for listing as historic districts in local, state, and national registers. ~~The City has an opportunity to recognize a significant part of its post-WWII development history. In 2018, City Council designated the three tracts as local historic districts.~~

- | |
|---|
| <p>California and Local Register Criteria</p> <ol style="list-style-type: none"> 1) The resource is associated with events that have made a significant contribution to broad patterns of local or regional history or the cultural heritage of California or the United States. 2) The resource is associated with the lives of persons important to local, California or national history. 3) The resource embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic value. 4) The resource has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation. |
|---|

Individual Resources

Certain resources are worthy of protection as individual resources. These properties may be significant because of their relative rarity, notable architecture, links to cultural history, or their association with significant people. Two examples are discussed below.

Farmhouses

In its early years, Orange flourished as a farming community. The Plaza and downtown were dwarfed by surrounding expanses of citrus groves. Many residents lived on farms that stretched in all directions. With modernization and growth, most of the area’s citrus groves



and associated farms have been subdivided and redeveloped for residential or industrial uses. According to previous historic resource surveys, several late 19th century farmhouses still exist in areas that would have been the outskirts of the original City core and in dispersed locations throughout Orange. These farmhouses, and any original outbuildings that remain on each property, are among the only tangible resources that remain to denote Orange's significant history as an agricultural community. While the City has surveyed many of the individual farmhouses, regulations tailored to preservation of these resources are needed to *ensure that these remnants of Orange's early citrus history retain their integrity and receive appropriate community recognition*

La Morenita

Around 1929, a small western false-front market was constructed by the Moreno family, one of the oldest families currently living in El Modena. The market, called *La Morenita*, still exists on the corner of Washington Avenue and Earlham Street. The building was constructed at a time when many Mexican-American El Modena families worked in packinghouses and orchards in the nearby neighborhoods of Villa Park, Placentia, and Orange. A market like *La Morenita* provided necessary household and personal items for the surrounding Mexican-American community. As an important symbol of El Modena's Mexican-American heritage, *La Morenita* is also eligible for listing on a local register.

Preservation Tools

A variety of preservation tools are available to assist the City in identifying and preserving potential and listed historic resources.

Orange Inventory

The City will continue to maintain an accessible and periodically updated inventory of potential historic resources. All surveyed properties will be included in the City's Inventory of Historic Resources (Orange Inventory), and the Orange Inventory will be a valuable planning tool to be used in evaluating possible impacts a proposed project might have on previously evaluated potential and identified historic resources. Properties to be included in the Orange Inventory include those that have been surveyed, but that may not have complete documentation as to their historical, cultural, or architectural significance.

The City will formally recognize the architectural and archaeological reconnaissance survey prepared in conjunction with the Cultural Resources & Historic Preservation Element, and will incorporate the findings into the existing Inventory. The Orange Inventory serves as a valuable resource for consideration of potential historically significant resources when undertaking environmental review for projects.

Historic Context Statement

Historic context statements have been prepared for the City, as well as for several individual neighborhoods within Orange, in tandem with this General Plan update². Historic context

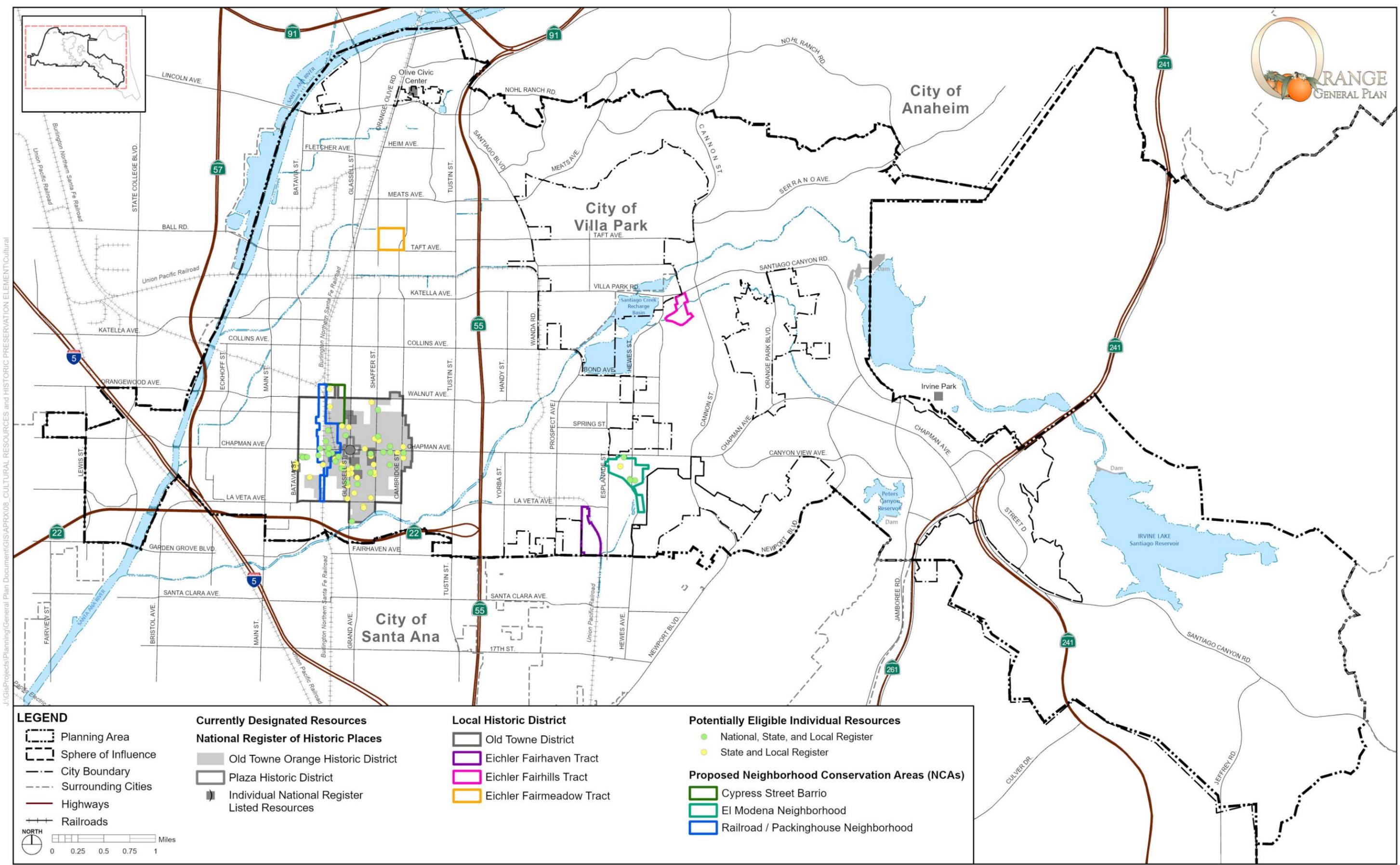
² These historic context statements are on file in the Community Development Department [and are available on the Historic Preservation page of the City website.](#)



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statements document themes significant to community history and culture, and can be used both to educate the community regarding the significance of places and times in Orange's past and to identify, document, and evaluate the significance of historic resources.

The City will formally recognize the historic context statement prepared in conjunction with the Cultural Resources & Historic Preservation Element, and will use the statement as a tool to evaluate potential historical resources. The City will also update the statement on an ongoing basis through collaborative partnerships with local organizations and universities.



J:\GIS\Projects\Planning\General Plan Document\GIS\APRX\08_CULTURAL RESOURCES and HISTORIC PRESERVATION ELEMENT\Cultural

LEGEND

- Planning Area
- Sphere of Influence
- City Boundary
- Surrounding Cities
- Highways
- Railroads

Currently Designated Resources

- National Register of Historic Places
- Old Towne Orange Historic District
- Plaza Historic District
- Individual National Register Listed Resources

Local Historic District

- Old Towne District
- Eichler Fairhaven Tract
- Eichler Fairhills Tract
- Eichler Fairmeadow Tract

Potentially Eligible Individual Resources

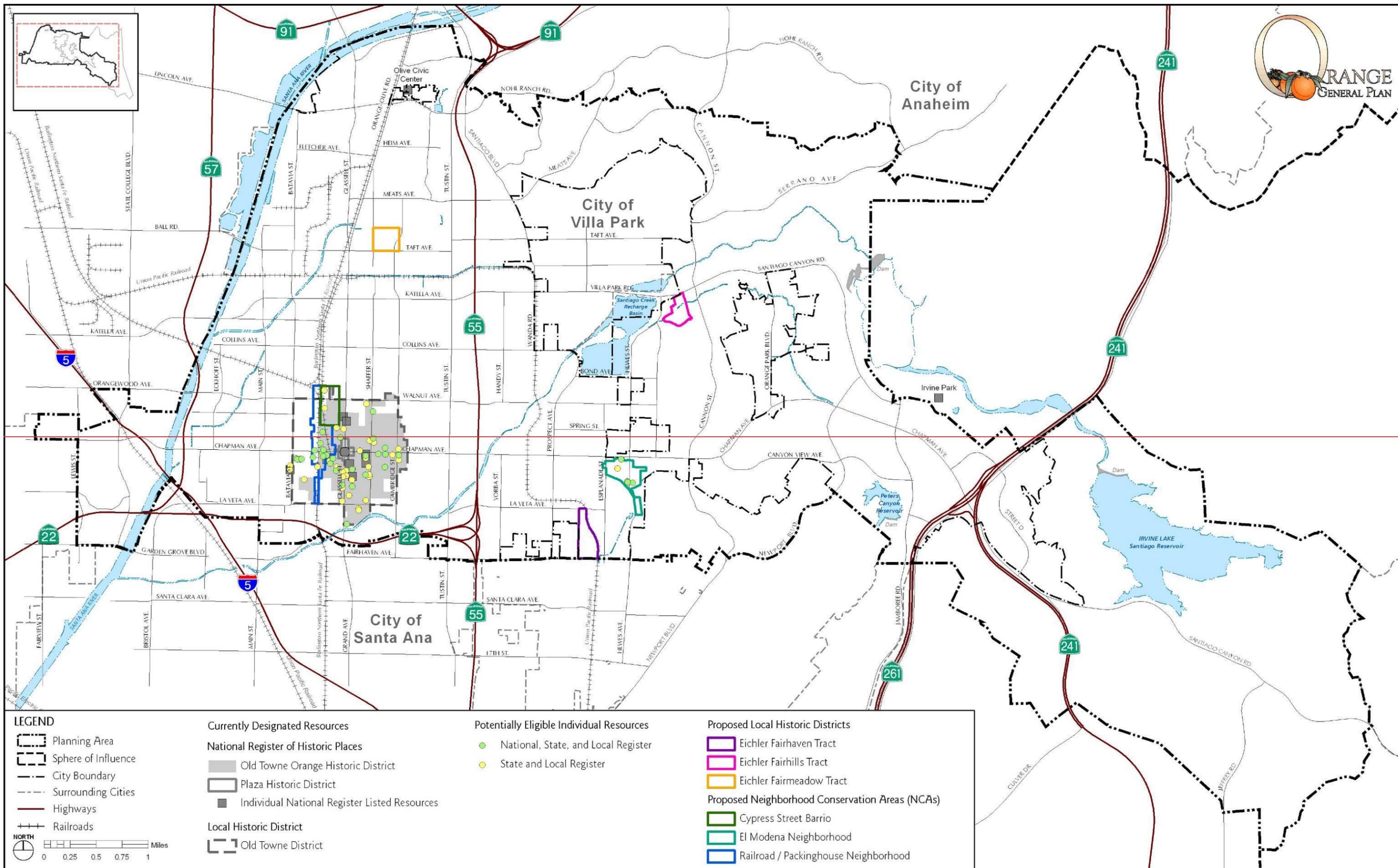
- National, State, and Local Register
- State and Local Register

Proposed Neighborhood Conservation Areas (NCAs)

- Cypress Street Barrio
- El Modena Neighborhood
- Railroad / Packinghouse Neighborhood

Note: Information about individual resources is available in the City of Orange 2010 Historic Resources Inventory at the Community Development Department

Figure CR-2. Local Historic Districts and Resources Recommended for Designation



LEGEND

<ul style="list-style-type: none"> Planning Area Sphere of Influence City Boundary Surrounding Cities Highways Railroads 	<p>Currently Designated Resources</p> <ul style="list-style-type: none"> National Register of Historic Places Old Towne Orange Historic District Plaza Historic District Individual National Register Listed Resources <p>Local Historic District</p> <ul style="list-style-type: none"> Old Towne District 	<p>Potentially Eligible Individual Resources</p> <ul style="list-style-type: none"> National, State, and Local Register State and Local Register 	<p>Proposed Local Historic Districts</p> <ul style="list-style-type: none"> Eichler Fairhaven Tract Eichler Fairhills Tract Eichler Fairmeadow Tract <p>Proposed Neighborhood Conservation Areas (NCAs)</p> <ul style="list-style-type: none"> Cypress Street Barrio El Modena Neighborhood Railroad / Packinghouse Neighborhood
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Figure CR-2. Resources Recommended for Designation

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Orange Register of Historic Resources

The City will create a Local Register of Historic Resources (Historic Register) which will serve as a local register of historical resources under CEQA. The criteria for listing in the Historic Register will be the same as for listing in the CRHR, as such criteria may be updated from time to time by the State of California. To be listed in the Historic Register, a property or district must demonstrate eligibility under one or more of four basic significance criteria, be representative of at least one theme identified in the Historic Context Statement, and retain substantial integrity.

Upon establishing the Historic Register, all previously evaluated resources that have been designated or officially determined eligible for listing in the NRHP and/or CRHR will be automatically listed in the Historic Register. The Historic Register will include all contributors to NRHP- and/or CRHR-listed historic districts, as well as individual resources listed on the Historic Register and contributors to listed local historic districts. Notwithstanding the foregoing, “historical resource” for the purposes of CEQA means “historic district” in the case of a contributor to an historic district.

The City will expand upon existing procedures for designation of local resources to expressly include separate or individual resources, structures, objects, sites, as well as districts and archaeological resources. Resources identified as potentially eligible in the Orange Inventory may be listed in the Historic Register if they meet the criteria noted above. Specifically, the City intends to pursue Historic Register listing for ~~the three Eichler Tracts as historic districts~~ and the approximately 60 potential individually eligible resources identified in the reconnaissance survey accompanying the General Plan update and shown on Figure CR-2.

The City will also expand upon the existing procedure for designation of local historic districts. The procedure for designation of such districts should be interactive with property owners, should encourage participation in the listing process, and should include at least one mailing to property owners of record inviting them to public workshops to discuss proposed Historic Register listing.

Alterations to or new construction on sites with listed historic resources shall be subject to City staff and/or DRC review and approval as outlined in Section 17.10.090 (Demolition Review) of the Municipal Code, in the ~~Old Towne Design Standards~~ *Historic Preservation Design Standards for Old Towne* (updated 2017+999), ~~the Eichler Design Standards (adopted 2018)~~, in the City’s Local CEQA Guidelines (updated 20062020), or in other adopted design standards.

Until such time as an Historic Register is established, the City will use the Orange Inventory only to the extent that potential historic resources surveyed, listed in, or eligible for listing in the CRHR have been identified. Once the Historic Register is established, the City will use the Historic Register to identify historic resources for purposes of CEQA, NHPA, and National Environmental Protection Act (NEPA) review of proposed projects. Historic resources listed in the Historic Register shall have a presumption of significance pursuant to CEQA Section 21084.1 and shall be treated as historic resources under CEQA.

Historic Resource Management

The City will expand DRC and Community Development Department staff authority to administer the Orange Inventory survey, Historic Register listings, design review procedures,



and demolition permits. To increase awareness of historic resources and reduce potential harm to such resources, the City will establish a system to ensure that review and approval by Community Development Department staff and/or the DRC must take place before the whole or partial demolition of certain types of buildings. Such buildings would include those surveyed as potential historic resources in the Orange Inventory, those listed in the Historic Register, or those previously unevaluated properties within a designated historic district or Neighborhood Character Area that are more than 45 years old. Current ordinances may require amendment to incorporate preservation goals.

Maintenance and Rehabilitation

The City will work with property owners to ensure that potential historic resources in the Orange Inventory and listed historic resources in the Historic Register are maintained in good repair and that property owners take steps to prevent severe deterioration or demolition caused by neglect. Incentives for maintenance and rehabilitation may include grants and low interest loans, property tax relief, and other benefits to owners of listed historic resources to encourage affirmative, active maintenance. The Mills Act program will be expanded to include listed historic resources in the Historic Register, Eichler tracts, and other potential historic resources when those properties are designated.

The City will also develop disincentives for not maintaining inventoried potential historic resources or listed historic resources, including penalties and fines for lack of maintenance upon serving of notice. Additional provisions may also be made for vacant and vandalized inventoried potential historic resources or listed historic resources. Such provisions may include barricading and protection.

The City supports contemporary uses that require minimal change to defining physical characteristics of potential or listed historic resources, especially adaptive reuse projects that meet contemporary needs, including housing or commercial uses.

To achieve these objectives, the City will prepare, implement, and update design guidelines and/or standards for districts containing potential or listed historic resources. The City will identify smaller character areas where concentrations of potential or listed historic resources reflect unique senses of time and place. In some instances this character may be manifested in utilitarian or decorative features, such as agricultural irrigation implements, decorative curbing, and stone neighborhood monuments. The City will develop guidelines for preservation of that character in buildings, structures, landscape, and other site features. The City will also continue to maintain publicly-owned potential and listed historic resources.

Alternatives to Demolition

The City will work with local preservation organizations and property owners wishing to demolish potential or listed historic resources to identify potential alternatives to demolition, and will explore alternatives, including building relocation and sale or transfer of ownership, prior to demolition of privately- or publicly-owned historic resources. Furthermore, the City will consider updates to current demolition ordinances to protect potential or listed historic resources.



Preserving Historic Neighborhood Character

The City contains, in addition to Old Towne, a number of groupings of homes, businesses, and public buildings in dispersed locations that have a unique neighborhood character important to Orange history. Many of these areas contain buildings individually eligible for listing on a local, state, or national register and surroundings that retain physical characteristics that reflect the valuable historic context of the neighborhood. This physical character may be expressed as generally as streetscapes, historic street grid patterns, setbacks, or use categories; or as specifically as the predominance of a building type, prevalence of certain building materials or architectural styles, or characteristic building heights and/or sizes. Without regulation, this physical context will dissolve and eventually disappear into surrounding, incompatible modern development.

Neighborhood Character Areas

As uses and occupants change, one potential means of preserving the physical characteristics that survive in the City's older neighborhoods is through designation of one or more areas as Neighborhood Character Areas (NCAs). Applied as an overlay zone, an NCA can ensure that development and alterations within the designated area are consistent with, and reinforce, the historic context of the neighborhood. With a number of properties serving as anchors and the use of appropriate design guidelines, an NCA could encourage preservation of the historic physical qualities and context of these neighborhoods, while still allowing both changes in use and new development.

To qualify as an NCA, an area must be culturally or historically significant under at least one of the themes identified in the City's Historic Context Statement; must contain several individual buildings, structures, objects, or sites that are individual potential or listed historic resources; and must retain physical characteristics that contribute to a unique neighborhood character. The Orange Inventory, surveys, and Historic Context Statement all identify potential or listed historic resources that may serve as anchors for NCAs. Individual properties identified as anchors to an NCA are also to be listed on the Historic Register.

A Neighborhood Character Area (NCA) is a form of Conservation District. According to the National Park Service, conservation districts are "usually designated as an overlay on a basic land-use category or geographically over a neighborhood. It provides less stringent design restrictions than a historic district. The focus is on maintaining the basic character of the area, but not the specific historic details of buildings. For example, a conservation district may simply ask that all buildings maintain a front yard, with garages being set behind the main building, to maintain the established pattern of front yards."

Establishment of an NCA overlay zone requires the following:

- Identification of criteria and theme(s) for which the proposed NCA is significant.
- Identification of those physical architectural and/or design characteristics (e.g., building scale, story height, materials, relationship to street, width of streets, depth of setbacks) that are unique to the NCA being designated or that help convey its significant historic context and that should be preserved.



- Proposed design guidelines for each NCA that seek to preserve the unique physical architectural and/or design characteristics of the neighborhood.

Initially, the City intends to designate El Modena, Cypress Street Barrio, the Railroad/Packinghouse Corridor, and Orange Park Acres as NCAs, as shown on Figure CR-2. In the future, other neighborhoods that meet the criteria listed above may qualify for such status, and the City will actively promote such future designations.

NCAs are considered important only as a sum of their parts. Unlike properties in designated historic districts, properties located within an identified and listed NCA are not to be considered potential or listed historic resources when undertaking environmental review for projects. Within an NCA, only those properties identified as potential or listed individual historic resources on the Orange Inventory or Historic Register have a presumption of significance pursuant to CEQA Section 21084.1. Such properties should be treated as historical resources under CEQA only if they are listed in or eligible for listing in the CRHR for CEQA or the NRHP for NHPA and NEPA.

The City will promote community awareness and education concerning the unique and special history and architecture found in NCAs by developing educational brochures and interpretive displays describing the NCA program.

The City will also ensure that qualities contributing to the historic character of designated NCAs are retained through application of design guidelines consistent with the local context and key physical characteristics of each neighborhood. To ensure that the historic and cultural integrity of NCAs are maintained, the City will also provide educational materials and technical assistance for property owners.

Incentives and Education

Given Orange's numerous historic resources and active local preservation organizations such as OTPA, the Orange Public Library & History Center, the Orange Community Historical Society, and the Orange Barrio Historic Society, a wealth of interest and material is available to promote educational opportunities related to the City's architectural and cultural history. A citywide historic interpretation program comprising written histories, photographs, artifacts, and signage would promote community awareness and education in historic preservation.

Certified Local Government Program

Another significant opportunity to advance local preservation efforts is the Certified Local Government (CLG) program. A CLG is a local government certified under federal law by the California Office of Historic Preservation for the purpose of more direct participation in federal and state historic preservation programs. Orange has a definite opportunity to become a CLG given the City's well-established regulation of Old Towne. Local governments become certified by demonstrating their ability to enforce preservation laws and provide for adequate public participation. In addition, a CLG must have a qualified historic preservation review commission, and must maintain a comprehensive historic inventory. For Orange, certification as a CLG would be relatively simple because the City has already instituted many of the required elements, including design review, a design commission, a historic resources inventory, and an established method of public participation. Primary benefits of CLG status



include recognition of a local government preservation program, direct participation in federal and state preservation programs, and access to designated preservation funding.

Development and Preservation Incentives

Although the City already provides for use of the Mills Act program and application of the State Historical Building Code, additional incentives are available and should be considered. Adopting additional incentives could encourage responsible historic preservation and lessen the associated restrictions or burdens that may be felt by property owners.

The City will continue to allow use of the State Historical Building Code for qualified historic buildings and properties, and will continue to administer the Mills Act Program, which can provide a property tax reduction for owners of historic resources.

Future incentives may include potential fee reductions or waivers for building permits and business licenses, streamlined development permit review and issuance for projects involving listed historic resources and contributors to listed historic districts, and/or development transfers and bonuses. The City could also consider developing a voluntary conservation easement program in coordination with local preservation organizations that would provide a potential tax benefit to property owners and preserve listed historic resources and contributors to listed historic districts.

Public Education

To expand education efforts, the City will continue to develop and promote existing educational programs and materials relating to historic preservation and the City's historic resources. Educational programs and materials will address:

- significance of the City's cultural and historical resources;
- methods of conducting historic research;
- criteria for historic designation;
- historic resource design review processes;
- building permit requirements; and
- methods and incentives for rehabilitating and preserving historic and cultural resources.

The City will utilize resources available through the Orange Public Library & History Center and establish partnerships with local preservation organizations to develop and present educational programs and materials relating to historic preservation, historic resources, and City history. Promoting an understanding and appreciation of the importance of historic preservation within City departments, boards, commissions, and elected officials also remains an important objective.

Funding Historic Preservation

Although many sources are available, funding historic preservation efforts remains a challenge. The City will take steps to improve access to historic preservation funding, including allocating or prioritizing a portion or percentage of the City's Community Development Block Grant (CDBG) funding to projects involving listed historic resources. Proposed work on listed historic resources using CDBG resources must be consistent with applicable design standards. The City will also explore facilitating zero- or low-interest loans



for maintenance and rehabilitation work, consistent with design standards, for listed historic resources and contributors to listed historic districts.

Archaeological Resources

Potential and identified archaeological resources (or sites) in the City consist of a range of sites from both the prehistoric period and the historic period. Archaeological sites in Orange have significant interest to the California Native American community, and to the public. Such sites have the potential to provide data to support ongoing research and education.

Prehistoric archaeological sites provide traces of direct ancestry for California Native Americans. Prehistoric archaeological remains may include cemeteries containing the physical remains. Considerate and humane attitudes, as well as state and federal laws, demand that such remains be treated with courtesy and respect and appropriately protected.

Archaeological prehistoric and historic remains are also of great interest to the general public, and the manner in which they are treated can enhance or detract from Orange’s image nationally and internationally. Archaeological and prehistoric data can enhance and expand student learning opportunities, and can be used to train students in scientific and critical thinking. Historic archaeological sites may include residential, industrial, and occupational specific deposits and features associated with Orange’s history and growth. They reflect the ethnic diversity of the City, and show how different national and cultural groups have contributed to our history and development. Historic archaeological remains also have an important educational advantage in that they are often far more accessible, recognizable, and understandable than prehistoric materials. Archaeological evidence of this period may include household trash (discarded bottles and dishes, food remains, and broken items), industrial waste, architectural remains, evidence of industrial processes, and evidence of agricultural practices.

Assessing Archaeological Resources in Project Design and Approval

Demonstrating a strong commitment to the preservation of archaeological resources, the City will pursue all available measures to avoid development on sensitive archaeological sites. Such measures may include project redesign and obtaining archaeological easements. The City will formally recognize the archaeological resources survey and resource sensitivity maps prepared in conjunction with the General Plan update and will use these documents to evaluate potential historical resources when reviewing proposed projects involving ground disturbing activities.

The City will also establish procedures for listing archaeological resources, such as

CEQA Section 21083.2(g), defines a “Unique Archaeological Resource” as:

“An archaeological artifact, object, or site about which it can clearly be demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following:

- 1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- 2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- 3) Is directly associated with a scientifically recognized important prehistoric or



prehistoric settlements and adobe sites, in the Historic Register. The City will employ appropriate criteria for evaluating the potential significance of historical resources and will encourage voluntary listing of eligible resources. The historical significance of an archaeological historic resource is evaluated using the criteria of Public Resource Code Section 5024.1 and CEQA Guidelines Sections 15064.5 et seq. The City will also establish procedures for evaluating potential “unique archaeological resources” pursuant to CEQA Sections 21083.2 et seq.

The City will require cultural resource inventories of all new development projects in areas identified on resource sensitivity maps with medium or high potential for archaeological or cultural resources (prehistoric occupation, special task and ritual sites, or historic settlement areas such as adobe sites, etc.). Reports shall be prepared in a standard format (Archaeological Resources Management Report format) by a Registered Professional Archaeologist knowledgeable in Native American cultures and/or historical archaeology (qualified archaeologist). Where a preliminary site survey finds the potential for substantial archaeological remains, the City shall require a mitigation plan to protect the resource(s) before issuance of permits. In addition, the City will require Community Development Department staff review of cultural resource inventories and surveys and will expand staff authority to recommend designation and/or identify potential or listed archaeological historical resources for CEQA purposes. Community Development Department staff will also review site survey reports and mitigation plans for compliance with CEQA.

Consultation with Native American Groups

The City seeks to encourage participation of interested Native American groups in establishing guidelines for resource assessments and mitigation. These guidelines will include consultation and participation of the Native American community during archaeological excavation and construction on potential or identified prehistoric or Native American sites. If construction of a proposed project will unavoidably affect Native American traditional properties, cemeteries, or sacred sites, the City will request a list of contacts from the California Native American Heritage Commission and consult with interested Native American parties to establish a mutually agreeable resolution. Such a resolution may include such steps as recovery and museum curation of archaeological resources, or relocation and re-interment of human remains and of associated grave goods.

Preserving Sacred Sites

The City intends to ensure the protection of archaeological sites that may be culturally significant to Native Americans if the sites have religious or intrinsic value, even if the sites have compromised scientific or archaeological integrity due to disturbance. If a significant or unique archaeological resource cannot be left intact, then its character, nature, and unique features should be documented and preserved for the future.

Native American traditional cultural properties including historical, cultural, and sacred sites and cemeteries on public land are explicitly protected by California Public Resources Code Section 5097.9. Similar protection is provided to such sites on both public and private land by California Public Resources Code Section 5097.993-5097.994, with criminal and civil penalties for acts of theft, deliberate destruction, or vandalism.

***Preservation Incentives***

Project applicants that avoid and preserve listed archaeological and cultural resources through site planning of open space, development of parks, and other similar conservation techniques may receive incentives related to density, parking requirements, grants and low interest loans, tax relief, and other benefits. The City will encourage voluntary contribution of conservation easements for listed archaeological resources, which may provide tax relief to the property owner.

Celebrating our Cultural History

The City will work toward recognizing the importance of Santiago Creek as an archeological resource, and incorporating appropriate elements of the Creek's cultural history in design of public spaces and recreational features surrounding the Creek. Beyond Santiago Creek, the City will strive to incorporate historical and cultural motifs significant in Orange history into the design of public projects and facilities such as parks, plazas, and community buildings. Materials recovered from archaeological excavations may be employed in interpretive displays in public buildings and may be used to enrich museum or archive holdings and exhibits.

In addition, the City will encourage curation of cultural resources and artifacts for public education, appreciation, and interpretive programs. The City will assist in the preparation of short videos, pamphlets, books, and other media presentations documenting archeological excavations within the City. These resources can provide valuable additions to the Orange Public Library's Local History Collection.

Library Services

The Orange Public Library functions as an independent City department. The library system consists of three facilities: the Orange Public Library & History Center (~~Main Library~~), the Taft Branch Library, and the El Modena Branch Library. The City's role and preferred future strategies for providing library services are outlined in the City's *Public Library Facilities Master Plan*, which was adopted in October 2002 and extends to 2020. The objective for the Master Plan was to "address future facility needs of the Orange Public Library necessary to support the delivery of materials and services that the community needs, now and in the future." The Plan focuses on:

- identifying the libraries' existing strengths as well as opportunities;
- ensuring that all residents of Orange have reasonably convenient access to high quality library services; and
- exploring how existing and proposed facilities can expand their role as neighborhood civic places.

The General Plan defers to the Library Master Plan to establish service standards, prioritize future system improvements, and secure financing for needed improvements. Goals and policies of this Element focus on broad strategies to guide future library services. The Library Master Plan will be updated in future years to be consistent with the policies and growth projections established in this General Plan.



The Main Library was greatly expanded in 2007, but the two branches are currently too small to adequately serve the City's growing population. The City will work to achieve the California State Library recommended standard of four volumes and 0.7 square feet of library space per capita. The City also plans to upgrade the two library branches to help improve services, library materials and programs. In order to improve community access to library services, and to better support library services and programs, the City will explore building a new library branch in ~~east Orange and/or expanding the El Modena Branch~~ Grijalva Park.

The City's library services will maintain the vision of service as a resource for education, enrichment, imagination, safety, and community-building. Through various programs and the use of library facilities, library services will also continue to be a resource in collaborative partnering with community organizations and businesses.

CULTURAL RESOURCE & HISTORIC PRESERVATION IMPLEMENTATION

The goals, policies, and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, and capital improvements, and through ongoing collaboration and consultation with State and regional agencies, Native American groups, and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.



INFRASTRUCTURE

INTRODUCTION AND VISION FOR THE FUTURE

Orange residents, businesses and visitors rely on public infrastructure to carry out their daily duties. Population growth and new development continues to increase demand for infrastructure services. The Infrastructure Element includes guidelines and policies that address this demand for the community's existing and future needs for public utilities and infrastructure. Infrastructure services discussed in this Element include water, sewer, and storm drain systems, and solid waste services. The Element also addresses "dry" utilities such as natural gas, electrical, telephone, data, and cable television services. Further, the Element discusses lifeline infrastructures, which connect Orange to outside services during an emergency.

Availability of infrastructure determines growth patterns, density, and intensity of land use. Roadways are a critical part of the City's infrastructure system, providing for the movement of goods and services that support the local economy. The City maintains the local roadway system and supports efforts of the County, the California Department of Transportation (Caltrans), and the Transportation Corridor Agencies (TCA) to maintain regional roadways serving the City. The Circulation & Mobility Element provides policies and plans for future maintenance and enhancement of the roadway circulation system. Infrastructure also provides water and roadways that support emergency fire, police, and medical response. The Public Safety Element provides policies and plans addressing these topics.

Water, and access to water, has always been integral to the development of Orange. It is not by accident that the City is located at the intersection of the Santa Ana River and Santiago Creek. The City was incorporated in 1888 and the water system was privately owned until 1904, when it was purchased by the City. At that time, the domestic water supply came exclusively from wells or canals leading from the Santa Ana River. The water was used to irrigate the surrounding citrus groves and various agricultural crops.

After World War II, growing residential, commercial, and industrial development forced the City to look elsewhere for an adequate water supply. In 1951, the City joined with five other water agencies to form the Municipal Water District of Orange County (MWDOC), which led to annexation to the Metropolitan Water District of Southern California (Metropolitan). The first pipeline of imported water was activated in 1954.

The City's Water Division, a part of the Department of Public Works (DPW), is responsible for providing clean, safe water to the City of Orange and for designing and constructing the system that supplies City residents and businesses with water. The City is a member agency of MWDOC, which in turn is a member agency of Metropolitan. This entitles the City to



receive water from available Metropolitan sources. The City has a number of service connection agreements with MWDOC whereby MWDOC will deliver water to the City as it receives water from Metropolitan in the amount requested by the City, subject to Metropolitan water availability.

To meet its infrastructure needs, the Water Division collaborates with other jurisdictions, agencies, and service providers, including MWDOC, Metropolitan, Orange County Water District, Irvine Ranch Water District, Golden State Water Company, Serrano Water District, and East Orange County Water District. Water delivery requires a large number of sources and substantial coordination between agencies. The Lower Santa Ana River groundwater basin provides the main source of water for Orange, and is maintained by the Orange County Water District.

The Infrastructure Element also addresses wastewater systems. Cities throughout Orange County, including the City of Orange, rely on the Orange County Sanitation District (OCSD) for the regional collection and treatment of domestic, commercial, and industrial sewage. Although OCSD operates a comprehensive regional system of collection mains and treatment plants, individual cities are responsible for installing and maintaining local collection facilities.

The City also collaborates with other agencies in the development and maintenance of infrastructure facilities, including working with the Public Works Department of the County of Orange to maintain the Santa Ana River, Santiago Creek, and other flood control facilities not owned by the City.

The City's DPW collaborates with private contractors for some services, such as the collection of solid waste, recyclable, and green waste materials and the disposal of household hazardous waste. "Dry" utilities, such as natural gas, telephone and data services, electricity, and cable television are serviced by contracted private agencies, including Southern California Edison Company, Southern California Gas Company, AT&T, Time Warner Cable and Cox Communications Orange County.

Orange's ***Vision for the Future***, described in the General Plan Introduction, recognizes the City's infrastructure as a key component, and includes the following objectives:

- Orange recognizes the importance of managing development in a manner that ensures adequate and timely public services and infrastructure and limits impacts on the natural environment.
- We will continue to protect our critical watersheds, such as Santiago Creek, and other significant natural and open space resources.

Purpose of the Infrastructure Element

Although the State does not require preparation of an Infrastructure Element, the City places high importance on its ability to meet infrastructure demands. The Infrastructure Element identifies and assesses existing and future needs of the City's growing population and of future proposed development within Orange. The intent of the Infrastructure Element is to consider the various infrastructure resources provided by public agencies and private



purveyors, and to provide guidelines for current and future development to best utilize and improve infrastructure.

Scope and Content of the Infrastructure Element

The Infrastructure Element is comprised of three sections:

- 1) Introduction;
- 2) Issues, Goals, and Policies; and
- 3) Infrastructure Plan.

The Issues, Goals, and Policies section provides guidance for the City to address current and future infrastructure needs of the community. The goals express general and broad statements describing the community's desires regarding infrastructure. The policies provide guidelines for local agencies to provide efficient, affordable, and adequate infrastructure to serve Orange. The Plan explains how the goals and policies will be achieved and implemented.

Relationship to Other General Plan Elements

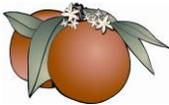
Proposed infrastructure goals, policies and plans must be consistent with all other elements of the General Plan. The issues addressed in the Infrastructure Element relate most closely to the contents of the Land Use, Growth Management, and Housing Elements.

The Land Use Element directs the location of current and future development that relies on available infrastructure. Furthermore, the Land Use Element establishes standards for use intensity, population density, and types of land uses that influence the design, layout, and funding sources for infrastructure.

The Growth Management Element contains policies to ensure that growth is accompanied by needed capital facilities to properly address infrastructure needs concurrently with development. Growth Management Element policies ensure that new growth is managed in a way that does not overwhelm current infrastructure, or diminish the level and quality of services provided to current residents. The growth patterns and level of growth included in the Growth Management Element must be consistent with those of the Infrastructure Element. Similarly, the Housing Element relies on available infrastructure to guide new housing to suitable sites.

ISSUES, GOALS, AND POLICIES

The goals and policies of the Infrastructure Element address five key issues: (1) maintenance of the City's aging water, sewer, and storm drain infrastructure in the face of increased growth pressures; (2) provision of high-quality solid waste collection services and encouragement of recycling; (3) maintenance of right-of-way areas; (4) provision of adequate electricity, natural gas, telephone and data services, and other "dry" utilities; and (5) protection of lifeline infrastructure systems that meet the public health and safety needs of the City.



Water, Sewer, and Storm Drain Systems

Protection and proper management of the storm drain infrastructure system is essential to prevent pollution of rivers, lakes, and the ocean by contaminants from urban runoff. A detailed discussion of water resource issues is provided in the Natural Resources Element. Infrastructure (including sewer, storm drain, and water lines, and solid waste collection and disposal services) must be sufficient to accommodate the present and future needs of the community. As infrastructure ages, or growth outpaces capacity, isolated failures represent a real problem. One of the most critical issues facing the City is how to improve and maintain infrastructure to protect water quality and supplies, ensuring that residents fully enjoy the health, economic, and social benefits that sound infrastructure systems provide.

GOAL 1.0: Ensure water, sewer, and storm drain systems that meet the needs of residents and businesses.

- Policy 1.1: Provide sufficient levels of water, sewer, and storm drain service throughout the community.
- Policy 1.2: Correct known deficiencies in the City’s sewer, storm drain, and water systems and work toward environmentally sustainable systems.
- Policy 1.3: Promote water conservation programs aimed at reducing demands.
- Policy 1.4: Explore environmentally efficient infrastructure improvements such as the use of reclaimed water, maximizing percolation, and similar technologies.
- Policy 1.5: Investigate and carry out cost-effective methods to reduce storm water infiltration into the sewer system.
- Policy 1.6: Require that new developments fund fair-share costs associated with City provision of water, sewer, and storm drain service and are consistent with City and service provider plans to complete needed improvements and funding capacity for such improvements.

Solid Waste

Nearly everything we do leaves behind some kind of waste. Households create ordinary garbage, industrial and manufacturing processes create solid and hazardous waste, and construction activities create large chunks of debris and inorganic materials.

Orange contracts with a private sector provider to collect solid waste, green waste, and recyclables. By actively recycling, reducing, and reusing waste, residents and businesses reduce the need for new landfills and incinerators, prevent the emission of many greenhouse gases and water pollutants, supply valuable raw materials to industry, and conserve land and natural resources.

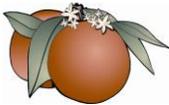


- GOAL 2.0:** Reduce the amount of waste material entering regional landfills with an efficient and innovative waste management program.
- Policy 2.1: Provide sufficient levels of solid waste service throughout the community.
- Policy 2.2: Expand outreach and education regarding recycling opportunities to all City customers.
- Policy 2.3: Develop programs that encourage residents to donate or recycle surplus furniture, old electronics, clothing, and other household items rather than disposing of such materials in landfills.
- Policy 2.4: Expand outreach and education to all City customers regarding residential collection of household hazardous wastes including paint containers, electronics, household chemicals, motor oils, and pesticides.

Public Rights-of-Way

Maintaining safe, clean rights-of-way is important for promoting circulation and the public health and safety of Orange’s residents. Through the DPW, the City provides street sweeping, tree trimming, graffiti removal, and installation and maintenance of street lights on public rights-of-way. The DPW also provides maintenance of and repair services for all public rights-of-way, including roadways, sidewalks, alleys, and other public property within Orange.

- GOAL 3.0:** Ensure adequate maintenance of public rights-of-way to enhance public safety and improve circulation.
- Policy 3.1: Continue to maintain and repair sidewalks and pavement surfaces on public rights-of-way.
- Policy 3.2: Provide sufficient levels of street sweeping, landscaping, graffiti abatement, shopping cart and bulk item removal from streets, sidewalks alleys, and other public rights-of-way.
- Policy 3.3: Continue to design, install, and maintain signals, signage, street lights, and traffic control devices within rights-of-way.
- Policy 3.4: Investigate the feasibility of using energy-efficient street lights to conserve energy.
- Policy 3.5: Preserve and improve existing on-street bike paths within rights-of-way.
- Policy 3.6: Require that new developments fund fair-share costs associated with City provision of right-of-way maintenance services and are consistent with City and service provider plans to complete needed improvements and funding capacity for such improvements.



Dry Utilities

Dry utility services, such as electricity, natural gas, telephone and data services, and cable television both meet basic needs and enhance quality of life for Orange residents. These services are provided by independent entities that set their own service standards and facility improvement strategies. Demand for services and ability to serve new developments are generally determined on a case-by-case basis. The City works with service providers to ensure that City goals and service expectations are met for both current and future development.

GOAL 4.0: Ensure adequate provision of electricity, natural gas, telephone and data services and cable television.

Policy 4.1: Continue to work with dry utility service providers to ensure that the community’s current and future needs are met.

Policy 4.2: Continue to require utilities to be placed underground for new development.

Policy 4.3: Promote the use of new and emerging communication technologies.

Policy 4.4: Encourage integrated and cost-effective design and technology features within new development to minimize demands on dry utility networks.

Lifeline Infrastructure

Lifeline infrastructures, such as electric, water, gas, and telecommunications utilities and transportation systems, connect Orange to outside services during an emergency. Maintaining and protecting the City’s lifeline infrastructure systems against damage from disasters is essential to ensuring the public health and safety of residents. Loss of electric, water, gas, and telecommunications services and transportation systems can not only severely impair police and fire agencies’ efforts to respond to emergencies, it can also displace residents and economically impact businesses. The City works with regional agencies and utility service providers to ensure the system of lifeline infrastructures is maintained and retrofitted against disaster and against deterioration from increasing demands and long-term use.

GOAL 5.0: Ensure lifeline infrastructure systems that meet the City’s public health and safety needs.

Policy 5.1: Continue to work with regional and federal agencies to ensure that infrastructure for transportation systems, water, gas, electricity, and telecommunications meet regional emergency preparedness standards.

Policy 5.2: Work with utility service providers to create resiliency performance standards for water, gas, electricity, and telecommunications infrastructure.

Policy 5.3: Identify engineering vulnerabilities in lifeline utilities exposed to human-caused and natural hazards, including seismic activity, wildland fire, and flooding.



- Policy 5.4: Incorporate disaster mitigation strategies into the City's infrastructure master plans for retrofitting water, gas, electricity, telecommunications utilities, and transportation infrastructure.
- Policy 5.5: Review and limit the location and intensity of development and placement of lifeline infrastructure in identified earthquake fault zones.

INFRASTRUCTURE PLAN

The Infrastructure Plan documents current infrastructure conditions in the City, and assesses the projected future capacity of the infrastructure system. This includes the water systems, wastewater systems, storm drain systems, public rights-of-way, such dry utilities as electricity, gas service, and telephone and cable facilities, and lifeline infrastructure.

Water, Sewer and Storm Drain Systems

Orange's water, sewer, storm drain and solid waste management systems represent the City's hidden support network. Managing infrastructure can be a challenge because these services are often taken for granted. They are "forgotten" services in the sense that in Orange, when we turn on the faucet, direct our downspouts and yard drains away from the house, or place garbage out at the curb, it seems that clean water simply appears, rainwater drains, and garbage is taken away. These systems must be maintained to ensure that our infrastructure systems will not fail and public facilities will be available when we need them.

The City's role and preferred future strategies for providing these services are outlined in infrastructure master plan documents prepared by the City and updated on an ongoing basis. These master plans provide detailed descriptions of each infrastructure system and prioritize future system improvements in response to projected future growth.

The General Plan defers to the City's infrastructure master plans to establish service standards, prioritize future system improvements, and secure financing for needed improvements. Goals and policies of this Element focus on broad strategies to guide future infrastructure development. Each of the master plans will be updated in future years to be consistent with the policies and growth projections established in this General Plan.

Water Systems

The City's water supply comes from several sources: local groundwater basins, Northern California waters via the State Water Project, the Colorado River, local watersheds, reclamation, and water reuse projects. The City is a member agency of MWDOC, and MWDOC is a member agency of Metropolitan. Metropolitan supplies imported water to six Southern California counties, including Orange County. As a Metropolitan member, MWDOC represents the interests of its 29 member-agencies at the Metropolitan Water District of Southern California.

The City of Orange is also a member of the Orange County Water District (OCWD). OCWD's primary responsibility is managing the vast groundwater basin under north and central Orange County. The Orange County Groundwater Basin is the main source of water supply



for the City. The City obtains approximately 64 to 75 percent of its water from City-owned wells. The City purchases approximately 25 to 36 percent from Metropolitan through the MWDOC. In addition, the City purchases approximately 3 to 5 percent from the Serrano Water District. The OCWD, along with MWDOC and Metropolitan, carry out long-term water management planning, and provide public awareness, education, and water conservation activities on behalf of their member agencies. The following four water districts serve the City of Orange:

- Irvine Ranch Water District
- Golden State Water Company
- Serrano Water District
- East Orange County Water District (EOCWD)

Figure INF-1 shows the location of each District’s service area within Orange’s planning area.

The Orange County Groundwater Basin is actively managed by OCWD and has a history of supporting between 64 percent and 75 percent of the City’s water demand. The basin’s management plan allows for drawdown during dry periods and for replenishment during normal or wet periods. The City does not anticipate current, short-term, or long term supply deficiencies in its ability to pump groundwater into the water system. The greatest challenge for water supply in the near future will be to meet the water needs of a growing population, particularly with projected population growth in not only the focus areas identified in the Land Use Element, but also in east Orange.

The City of Orange completed an Urban Water Management Plan Update in 2016. In order to improve the reliability and efficiency of the ground water producing facilities and ultimately the water supply system, the City plans to replace older wells with more efficient wells. The new wells will provide the City with increased pumping capacity, though the amount of water produced from the wells will continue to be regulated by the Basin Production Percentage as set by OCWD in April of each year. The City will continue to analyze storage capacity needs and add additional storage as recommended in the Water Master Plan. The City will continue to implement the Water Master Plan and the Urban Water Management Plan and will update each Plan on an ongoing basis throughout the planning horizon of this General Plan.

In Orange, runoff from local rainfall is the main source of recharge for the smaller basins, and accounts for some of the recharge of the groundwater basin. The amount of runoff recharge can only be estimated because it is highly variable. Most of the recharge of the basin is from Santa Ana River flows percolated instream or diverted to off-stream spreading basins operated by OCWD. OCWD will continue to develop new replenishment methods and supplies, as well as improve recharge capacity and implement basin protection programs to meet the projected demand from the basin during both normal and drought periods.

Sewer Systems

The City of Orange owns the local collection systems which feed regional trunk lines owned by OCSD. OCSD is responsible for the treatment of residential, commercial and industrial sewage in Orange. Collected effluent is treated at Reclamation Plant No. 1 in Fountain Valley

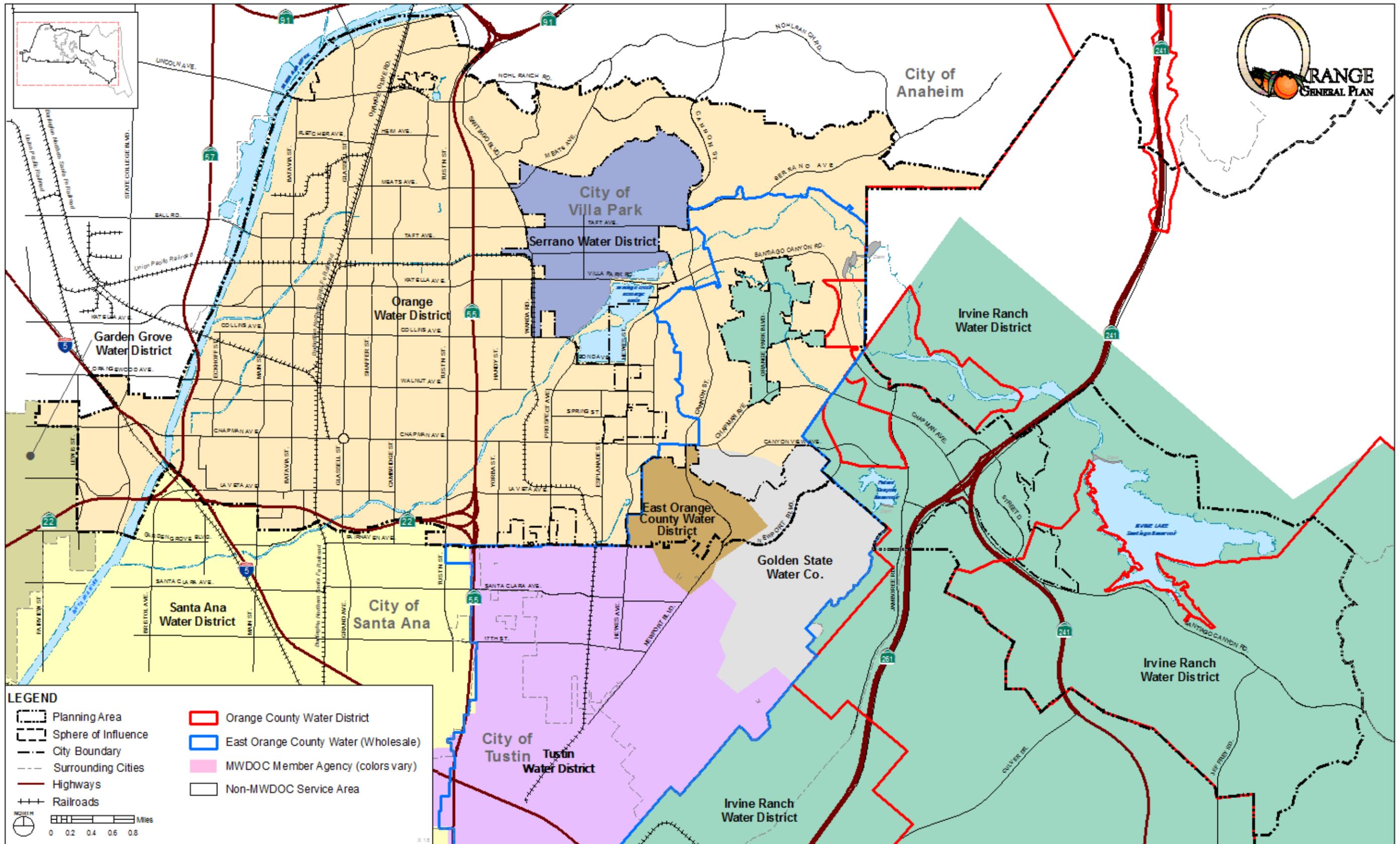


Figure INF-1 Municipal Water District of Orange County Service Areas



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or Treatment Plant No. 2 in Huntington Beach. Though OCSD operates the regional collection mains and treatment plants, the City's DPW is in charge of the daily operation and maintenance of the local sewer collection system owned by the City.

To respond to the increased need for sewage treatment in Orange County, OCSD needs to replace aging regional collection and treatment infrastructure and build additional secondary treatment facilities. A portion of the sewage fee charged to developers in the City of Orange will be paid to the OCSD for improvements of regional facilities, which are currently strained by the County's rapidly growing population. A Capital Facilities Capacity Charge, designed to fund improvements in the efficiency and effectiveness of OCSD operations, is applied to cities and developers for new residential, commercial, or industrial development and/or expansion of existing facilities.

The City of Orange completed a Sewer Master Plan Update in 2012~~03~~. In order to improve the reliability and efficiency of the sewer system, the City plans to replace older sewer lines. The new lines will maintain, and in some cases increase, the City's sewer line capacity, and provide adequate sewer collection for the future. The City has designated a 100-year life cycle for its sewer pipes, and hopes to replace systems that are nearly 100 years old. The City will continue to implement the Sewer Master Plan and will update the plan on an ongoing basis throughout the planning horizon of this General Plan.

Storm Drain Systems

Important issues to focus on regarding storm drains include ensuring adequate capacity necessary to collect and carry stormwater to avoid flooding, and reducing pollutant loads in stormwater as part of regional efforts to improve water quality in surface waters.

Both the City and the County are responsible for managing the storm drain and flood control facilities in the City. The County of Orange Public Works Department provides for the planning, development, operation and maintenance of major flood control facilities on behalf of the Orange County Flood Control District on a County-wide basis. The City provides drainage for developments and ensures that storm drains properly feed into the regional drainage system. The City is also responsible for the operation and maintenance of stormwater facilities it owns throughout Orange. In addition, the City is served by several existing stormwater facilities that are operated by other jurisdictions. The Santa Ana River, which generally marks the western boundary of the City, is the location of the largest regional facility in Orange County, maintained by the County of Orange Public Works Department. Twelve flood control channels located throughout the City are maintained by the County of Orange Public Works Department on behalf of the Orange County Flood Control District and County of Orange. Within the City, DPW is responsible for developing and implementing the Master Plan of Drainage (MPD) which identifies the City's storm drain facilities and deficiencies.

The City of Orange last completed an update to the MPD in 1997. The biggest challenge facing the storm drain system in the future will occur as hillsides in relatively undeveloped east Orange are developed, causing storm water volumes to increase. As it is, existing development has led to current deficiencies in the drainage system. For this reason, a fair share allocation method has been devised to spread the entire cost of the system across the



future development area. The City will continue to implement the MPD and will update it on an ongoing basis throughout the planning horizon of this General Plan.

Solid Waste

Within the City, solid waste collection is contracted to a private service provider. The City’s contractor collects both solid and green waste (grass clippings, tree and shrub clippings), and items for recycling. Most waste is taken to one of the three landfills in Orange County: Olinda Alpha in Brea, the Frank R. Bowerman Landfill in Irvine, and the Prima Deshecha Landfill in San Juan Capistrano. The Orange County Integrated Waste Management Department (IWMD) owns and operates the landfills. These landfills provide sufficient space for the City of Orange waste generation.

The amount of hazardous household waste has increased in recent years with the widespread use of new technologies. Orange residents are responsible for disposing of hazardous household materials at any of the four Household Hazardous Waste Collection Centers in Orange County. As the definition of household hazardous waste continues to evolve as a result of rapidly changing technology, the City will endeavor to provide convenient opportunities for the proper disposal of such waste.

~~The City’s Solid Waste and Industrial Waste Ordinances regulate where solid and liquid wastes (including hazardous and industrial wastes) may and may not be deposited or discharged. Orange operates a curbside recycling program, and the City encourages residents and businesses to reduce the amount of solid wastes that enter the regional landfills.~~

Public Rights-of-Way

The maintenance of public rights-of-way affects circulation, public safety, and pedestrian walkability. Broken sidewalks impede pedestrian mobility and deny access for disabled users. Uneven surface pavement slows vehicular mobility. Untended trees and shrubs can cause branches and tree limbs to fall onto the public right-of-way, potentially causing accidents and impairing nighttime visibility for pedestrians. Future maintenance of right-of-way infrastructure is closely tied to the City’s projected mobility needs as discussed in the Circulation & Mobility Element. The City coordinates with the County through the Orange County Transportation Authority (OCTA) to accomplish its circulation and roadway infrastructure maintenance goals, and the City assumes responsibility for maintenance services of public rights-of-way within Orange.

Through DPW, the City maintains all public rights-of-way, including streets, sidewalks, alleys, and on-street bicycle lanes. DPW installs street lights, provides tree trimming and street sweeping services, and responds to graffiti abatement requests. The Street Division maintains and repairs roadways and sidewalks, and performs weekly street sweeping services. The Traffic Engineering Division responds to street light repair requests, in addition to conducting weekly street light checks to identify and repair broken and malfunctioning street lights. DPW also responds to graffiti and tagging removal requests on public property, including public rights-of-way, and on private property adjacent to public rights-of-way. This department is also responsible for providing such landscaping services as tree trimming to



prevent and minimize debris and obstacles within rights-of-way. DPW follows the adopted Street Tree Master Plan that details City-approved species and sets the maintenance schedule and appropriate size of street trees. Through these services, the City will continue to ensure that public rights-of-way are safe, clean, and well maintained to provide improved mobility within Orange.

Dry Utilities

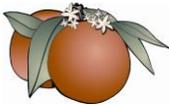
Dry utilities, such as electricity, natural gas, telephone, and cable enhance quality of life for Orange residents. These services are provided by independent entities that set their own service standards and facility improvement strategies. The City works with service providers to ensure that City goals and service expectations are met for both current and future development.

Electricity

Southern California Edison (SCE), an independently owned utility, provides electrical power service to the Orange planning area. SCE distributes electricity purchased through the California Power Exchange, which is the electricity marketplace for about 80 percent of California's electricity customers. The California Independent System Operator coordinates the scheduling and dispatch of electricity bought and sold through the power exchange, which is essentially a statewide grid of electricity generation and distribution.

The rate of electricity consumption, generally referred to as demand or load, is what power grid operators are most concerned with when deciding whether electricity generation and transmission resources are adequate to serve consumers. Peak electricity demand is a measure of the largest electricity usage rate during the day, measured in megawatts. A single megawatt is generally enough power to meet the expected electricity needs of 1,000 typical California homes. Orange's peak demand typically occurs in August between 3 p.m. and 5 p.m. High temperatures during the summer months lead to increased use of air conditioning, which, in combination with industrial loads, commercial lighting, office equipment, and residential refrigeration, compose the major consumers of electricity during the peak demand period. Because electricity is not a storable commodity, the ability of electricity-generating and transmitting resources to provide electricity becomes an issue of the generation rate instead of total amount that may be consumed within a given time period.

Recent summertime energy crises are an indication that peak energy demand will be an important future planning issue, particularly in Southern California. In order to meet future energy needs, SCE has developed several energy-efficiency programs for residential, non-residential, new construction, and low-income subscribers. These include rebate and cash incentive programs for completion of energy-efficiency projects in residences and businesses, providing energy-efficient solutions for new developments as well as programs that aid low-income customers to purchase energy-efficient refrigerators and outdoor lighting. SCE will continue to promote the resourceful use of energy, and in turn, a reduction in electricity bills. The City will fully support these strategies by SCE to encourage energy conservation, including adoption of a green building program. Refer to the Natural Resources Element for policies and discussion concerning green building techniques and other related energy conservation measures.



Natural Gas

California’s gas supply is regionally diverse and includes supplies from both onshore and offshore sources, including the southwestern United States, the Rocky Mountains, and Canada. Gas pipelines serving the Orange planning area include the El Paso Natural Gas Company, Kern River Transmission Company, and Pacific Gas and Electric Company facilities. The Southern California Gas Company (The Gas Company) supplies natural gas to both businesses and residents within the Orange planning area. The Gas Company is a division of Sempra Energy, and is the largest natural gas utility in the nation.

Southern California relies on a consistent supply of natural gas to meet residential, business, and industrial energy demand. Natural gas is also needed to produce electricity. Projected population growth in the region is expected to increase demand for natural gas. The Gas Company participates in the California Energy Star® New Homes Program, a performance-based program that provides builders with incentives for developments that use at least 15 percent less energy than standards set forth in the 2001 California Energy Efficiency Standards. The City will continue to support The Gas Company in these and other efforts to improve energy efficiency.

Telephone

The Orange planning area is within the service area of AT&T. AT&T has existing telephone facilities within or adjacent to each of the land use focus areas described in the Land Use Element, and fiber optic lines in Santiago Canyon Road and Jamboree Road to help serve future development in east Orange. The City will continue to work with AT&T and other telephone service providers to ensure high quality telephone and data services are provided to current and future residents.

A variety of wireless service providers offer telephone and internet service within the City, and operate an established and growing network of wireless facilities. The City will continue to work with wireless providers to ensure provision of a high quality system while minimizing impacts of wireless facilities on the character of established areas.

Cable Services

The Orange planning area is within the service area of Time Warner Cable and Cox Communications Orange County (Cox). Time Warner is the major cable provider in the City. Cox serves portions of east Orange. Both Time Warner Cable and Cox are full-service providers of telecommunication products, including digital television programming, local and long-distance telephone services, high-speed Internet, and commercial voice and data services. The City will continue to work with Time Warner, Cox, and other service providers to ensure that high quality television and data services are provided to current and future residents.

Lifeline Infrastructure

Roadway systems and water, gas, electrical, and telecommunications services, make up the City’s system of lifeline infrastructure. These utilities provide critical services to the community, and disruption or loss of service can create delays for police and fire agencies in



responding to emergencies, place residents at risk of harm, and hurt the regional economy. Seismic activity, flooding, and wildland fire are particular risks for the City’s lifeline infrastructure. Ground shaking, amplification, landslides, and liquefaction from seismic activity can cause water and gas pipes to break, dams to fail, and power lines to come down. Disruption of telephone and radio service impedes communication and dissemination of critical information, and road closures can create delays in providing supplies or services after an emergency. A detailed discussion of the City’s risk for natural hazards and plans for emergency response is presented in the Public Safety Element.

As part of its efforts to prevent, mitigate, and plan for hazards, Orange works with regional agencies to prepare infrastructure mitigation plans. In accordance with the Disaster Mitigation Act of 2000, which establishes state and local government infrastructure mitigation planning requirements for federal damage assistance, Orange coordinates with regional public agencies and private utility service providers to prepare hazard mitigation plans and ensure proper maintenance and retrofitting of lifeline infrastructures. The City participates in the Orange County Hazard Mitigation Task Force, which is responsible for preparing a countywide Hazard Mitigation Plan (HMP). The HMP identifies and profiles hazard risks, assesses vulnerabilities in countywide infrastructure, and analyzes development trends to identify future maintenance needs of critical infrastructure and services. The City also works with MWDOC in its planning and implementation of the Regional Water and Wastewater Multi-Hazard Mitigation Plan, which formulates mitigation plans for regional water facilities in the County, including those found within the City.

In addition to preparing for and implementing rapid repair plans to go into effect after an emergency, the City addresses non-emergency threats to lifeline infrastructure. Changes over time can cause vulnerabilities to lifelines. The City of Orange prepares a municipal Emergency Operations Plan in coordination with the City’s infrastructure master plans to establish service standards, prioritize future system improvements, and secure financing for needed improvements for infrastructure. DPW provides maintenance and repairs for roadway facilities, sewer and storm drain systems, and water systems including wells, pumps, water lines and reservoirs. Private dry utility service providers are responsible for following state and federal safety guidelines and for maintaining and repairing dry utilities during an emergency. The City will continue to work with regional planning agencies and private utility service providers to ensure that lifeline infrastructure systems meet the highest public health and safety standards for hazard prevention and mitigation.

INFRASTRUCTURE IMPLEMENTATION

The goals, policies, and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaboration with regional agencies and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.

INTRODUCTION AND VISION FOR THE FUTURE



Urban design is concerned with the arrangement, appearance, and functionality of the community. It focuses on the shaping and uses of urban public spaces—the public realm—and the way these public places are experienced and used. Architecture and urban form have played a significant role in defining Orange’s sense of place within its downtown core and neighborhoods.

Sense of place is a feeling or perception held by people about a particular location. It includes those characteristics that make a place special or unique, as well as those attributes that foster a sense of human attachment and belonging. Places that are said to have

a strong "sense of place" are those that society has given meanings or names that strongly define it as important or even sacred.

When this sense of place is lacking, a place can be referred to as placeless or inauthentic. Placeless environments have no special relationship to the people or context in which they are located—they could be anywhere. Strip malls, gas stations, and convenience stores are a few examples of placeless environments, having no special connection to any specific community.

Orange desires to be characterized by a strong identity and a sense of place that is deeply felt by both residents and visitors. This character will be derived from the built and natural environment, from Orange’s unique history and cultural heritage, and from the needs and activities of its residents. It will be embodied in its buildings, streets, and landscapes—in its physical design.

A key objective for the Urban Design Element is to enhance Orange’s sense of place in a manner that reflects the community’s values and its deep connection to the history and traditions that distinguish Orange from other cities in the region. Strong community support and interest exist for preserving and enhancing the City’s historic character while accommodating new growth and change. The preservation of Old Towne has provided a potential model for improving other commercial areas throughout the City. In the future, the care and attention to detail that has been used in the preservation of Old Towne will be expanded and applied to commercial corridors throughout the City.



The Urban Design Element focuses on place making and on those physical features which shape the setting for life in the community. It addresses the design of buildings, groups of buildings, spaces and landscapes, and open space between buildings, and establishes the processes that make places successful and aesthetically appealing. The focus of policies and programs in this Element is on the image and character of the City's streets, commercial and mixed-use corridors, districts and neighborhoods, the Old Towne core, and appropriate infill development. Attention is also given to residential areas and their interface with commercial areas. The Element identifies the physical features and spaces desired by the community, and establishes the goals, policies, and programs that reflect those desires.

Shaping the built environment through high quality urban design requires resources and community consensus. Policies and programs within the Urban Design Element seek to enhance Orange's commercial resources and provide guidance for new growth and redevelopment, by strengthening the public realm and the image of the community, and by supporting the goals of the other General Plan elements.

Orange's ***Vision for the Future***, described in the General Plan Introduction, recognizes the importance of the design and visual appeal of the City and its public realm. In the future, the distinct neighborhoods and special places that contribute to the City will be enhanced and Orange's retail districts will be characterized by visually attractive development, active public areas, high quality streetscapes, and innovative design that complements Orange's heritage. To accomplish this, the Vision includes the following objectives:

- The City will continue efforts to protect and enhance its historic core. This same type of care and attention will be applied throughout the City.
- The City will work to improve the quality of life for all residents by providing residential, commercial, industrial and public uses that exist in harmony with the surrounding urban and natural environments.
- The appearance and variety of commercial, retail, industrial, and employment centers will reflect the pride that residents have in Orange and will be supported by the long-term investments the City has made in its infrastructure.

Purpose of the Urban Design Element

The Urban Design Element is a framework for shaping the future form and character of Orange and is driven by input from the public and local businesses. Carefully planned urban spaces affect the quality of the physical environment, and the perception, economic investment, and success of the City. Pedestrian-friendly areas should be designed to provide a sense of security and safety for people who use them. The quality of the built environment is a key factor that affects the local image of Orange and sets the stage for economic activity. The City's cultural identity is an important factor determining why people choose to visit, invest in or relocate here. Well-proportioned public spaces and streets contribute to business visibility, accessibility, and viability. The use of design features such as appropriately-scaled lighting, street furniture, street trees, and other amenities can help to define places. An authentic, well-designed urban environment uplifts the community spirit, becomes the stage on which the community conducts its daily life, and helps give identity and meaning to the special places that comprise Orange.



Scope and Content of the Urban Design Element

This Element encompasses the built and shaped environments that are experienced by the public, including streets, buildings, landscapes, spaces between buildings, and other physical features; placing special emphasis on the City's commercial and mixed-use corridors. Issues addressed within the Element include the City's physical organization, appearance, and function, and recognition of Orange's heritage and the cultural aspects of the environment.

The Urban Design Element is not a required General Plan element under state law; however, because of the importance of urban design in Orange, the City has chosen to include it as an additional element in the General Plan. This Element plays a critical role in maintaining and improving the physical quality of the environments that define the City's identity and give character to its commercial districts and neighborhoods.

The Urban Design Element is organized in three sections:

- (1) Introduction
- (2) Issues, Goals, and Policies
- (3) The Urban Design Plan

This *Introduction* describes the Element's intent, organization, and relationships to other elements and programs. The *Issues* section describes the basic design factors that contribute to the character of the community. The *Goals* discussion describes ideal outcomes regarding the urban character of the City of Orange as expressed by private and public interests. The *Policies* discussion provides recommendations to achieve the stated goals. The *Urban Design Plan* explains the programs to be implemented according to the urban design policies. Descriptions of the various implementation programs recommended within this Element can be found in the Appendix to the General Plan.

Relationship to Other General Plan Elements

The issues raised in the Urban Design Element primarily affect the contents of the Land Use, Natural Resources, Circulation & Mobility, Cultural Resources & Historic Preservation, Infrastructure, and Economic Development Elements. The contents of these elements are related and must be integrated to provide for comprehensive and consistent guidelines throughout the General Plan.

The Land Use Element establishes development guidelines that affect the built environment, such as density and intensity requirements of land uses. As these directly influence land uses and associated building and site design quality, the contents of the Land Use and Urban Design Elements are highly correlated.

Urban design involves modifying elements of the natural environment as well as the built environment. It influences not only how structures are built, but also the quality of spaces between buildings, and open spaces within the developed areas of the city. Open spaces, addressed within the Natural Resources Element, provide visual relief from urban settings, and also serve as spaces for passive and active leisure activities. Additionally, good quality landscaping leads to reduced impervious surfaces, more trees, and improved air quality, all supporting a more sustainable community.



A strong desire has been expressed within the community regarding the need for accessible open spaces. Recognizing that most infill development opportunities in Orange lie within the City's commercial and mixed-use corridors, policies in the Natural Resources and Urban Design Elements focus upon strategies to incorporate additional green space within these corridors, using design concepts such as urban green linkages and green zones (e.g., plazas, pocket parks, courtyards, and paseos). Other supporting strategies include creek restoration projects, urban courtyards, plazas, and gathering places, and "viewshed" protection and enhancement.

The provisions of the Circulation & Mobility Element affect the quality of the urban setting by establishing the organization, arrangement and appearance of streets, paths, and transit systems. Street classifications, widths, level of service standards, and right-of-way limitations affect accessibility, function, visibility, safety, and appearance. The ultimate width of streets determines the amount of space available for streetscape improvements within the public realm. Furthermore, access to certain modes of transportation affects visual quality, noise levels, and the walkability of commercial districts and public spaces.

The Cultural Resources & Historic Preservation Element addresses areas containing historic resources. As many of the Urban Design Element's proposals draw upon the history and cultural heritage of the City, the recommendations of these two elements are related.

The Infrastructure Element directs the location, distribution, and maintenance of utilities and public facilities, including overhead electrical and communication lines, utility corridors, and service yards. These facilities also affect the visual character of the built environment, and in this way are related to the goals and objectives of the Urban Design Element.

The Economic Development Element presents revitalization strategies for many of the City's key commercial corridors. One such strategy is to upgrade the image and appearance of these areas in order to distinguish them from each other and from commercial districts in adjacent cities. To the extent that those strategies depend on the design or re-design of public spaces within the corridors, the two elements are related.

ISSUES, GOALS AND POLICIES

The goals and policies of the Urban Design Element address the following major design issues:

- Transforming Streets—how to create accessible streets that provide ease, safety, and choice when moving to and through places.
- Reinventing Commercial Corridors—how to redesign commercial corridors with respect for the local heritage and support for contemporary needs.
- Enhancing Community Image and Character—how to manage the form and physical appearance of the City to create a distinct design character or image.
- Defining Districts and Neighborhoods—how to recognize and value the differences between places, and affirm the meaning of those places for people.



- Strengthening the Old Towne Historic District—how to manage the form and physical appearance of the Old Towne Historic District to preserve and improve its unique historic design character.
- Encouraging Appropriate Infill and Renovations—how to balance consistency and variety in the urban environment when locating activities and designing new, infill places to allow constructive interaction between the new and the old.

Transforming Streets

City streets are a major physical component of urban structure and organization. They organize movement from one place to another, providing people with ease, safety, and choice when moving to and through places. City streets also structure how places and uses relate to one other. Major streets serve as gateways to the City and play a key role in expressing the image and character of the City, and of the areas they traverse. Coordinated street landscaping and improvements enhance the character of districts, soften the transition between commercial and residential areas, and create impressions and experiences for Orange residents and visitors.

GOAL 1.0: Promote streetscapes that enhance the economic vitality and overall visual quality of commercial corridors, support the circulation network, and support pedestrian-scale streets and patterns of activity.

Policy 1.1: Enhance the streetscape along the City’s major commercial corridors and other major streets through coordinated public and private improvements to convey a positive image of the district, contribute to its economic vitality and perception of the City, and improve visual and physical transitions into adjacent neighborhoods. Streetscape designs should include wide sidewalks to accommodate unified landscaping, trees, lighting, paving, street furniture, and other public improvements appropriate to the scale of the streets.

Policy 1.2: Provide streetscape improvements on Tustin Street and Chapman Avenue that convey their role as major boulevards in the City and County.

Policy 1.3: Ensure that streetscape improvements provide for an environment that offers a pleasant experience for motorists, pedestrians, and transit riders.

Policy 1.4: Coordinate with local utility providers to identify priority areas for undergrounding or relocation of overhead electrical and telephone/cable wires to remove visual clutter of existing infrastructure.

Policy 1.5: Emphasize street-oriented development, with parking located behind or next to buildings rather than in front. Encourage commercial activities such as sidewalk and outdoor dining.

Reinventing Commercial Corridors

The Land Use Element designates several corridors within Orange as locations where more intense commercial development and future mixed-use development may be appropriate. The design of these corridors determines how well they will function as activity centers for social, commercial and entertainment purposes. The following goal and policies demonstrate



the City's commitment to ensuring that commercial and mixed-use activity centers enhance the community's quality of life.

GOAL 2.0: Create commercial and mixed-use areas of varying scale and function that are visually distinct and complement the City's identity.

Policy 2.1: Transform corridors such as Chapman Avenue, Main Street, The City Drive, and Katella Avenue into active, pedestrian-friendly streets that balance auto, transit, and pedestrian mobility. These streets should accommodate compact development that is oriented to the sidewalks to promote active street life.

Policy 2.2: Provide convenient pedestrian and transit access throughout commercial and mixed-use corridors, including an interconnected network of high-amenity streetscapes, attractive and comfortable transit stops, and multiple walkways that connect activities and uses.

Policy 2.3: Improve the appearance of arterials and corridors that pass through commercial and mixed-use areas. Use street trees and other landscape and hardscape improvements to improve the visual and spatial experience of drivers, transit riders, and pedestrians using City streets.

Policy 2.4: Design future infill mixed-use projects in a manner that reduces or eliminates adverse effects on adjacent single-family residences.

Policy 2.5: Develop design standards that ensure the integration of urban parks and open spaces within mixed-use corridors by providing safe and comfortable pedestrian paths, paseos, and high-amenity streetscapes.

Enhancing Community Image and Character

At a citywide level, programs and improvements will be pursued to improve the visual character of business districts throughout Orange in order to enhance the economic vitality and overall visual quality of the community. The following goal and policies address this desired enhancement of character and identity.

GOAL 3.0: Express the City's distinct community identity and sense of place through improvements to the appearance of new development and commercial and mixed-use corridors.

Policy 3.1: Promote community identity through streetscape enhancements, building designs, and treatments marking the primary entrances to the City.

Policy 3.2: Encourage contemporary interpretations of historic building types and features to promote architectural continuity throughout the community that reflects the City's historic and cultural characteristics and emphasizes the history of Orange.

Policy 3.3: Strengthen the urban form of the City's commercial, industrial, institutional, and mixed-use districts by working within the character of the existing historical and architectural fabric of the community, while allowing for the addition of complementary new development and urban design elements.



- Policy 3.4: Provide better visual continuity between The Block at Orange shopping center and the rest of the City through consistent streetscape treatments linking The City Drive to West Chapman Avenue.

Defining District and Neighborhood Identity

Old Towne's prominent identity distinguishes Orange from many other Orange County cities. However, numerous distinctive commercial districts and residential neighborhoods contribute to the City's identity. Additionally, the interface between residential and commercial areas in Orange presents special challenges. The following goal and policies describe the City's strategies to enhance district and neighborhood identity and the interface between commercial and residential areas through urban design.

GOAL 4.0: Establish and reinforce district and neighborhood characteristics recognized both within the community and throughout the region.

- Policy 4.1: Establish appropriate transitions between commercial, industrial, higher density residential, mixed-use development, and lower density residential areas.
- Policy 4.2: Encourage the use of creative landscape designs to visually define districts and reduce conflicts between residential and commercial land uses.
- Policy 4.3: Create an attractive, walkable pedestrian environment within and between commercial districts and neighborhoods through careful site planning, architectural design, and provision of pedestrian amenities such as sidewalks, benches, plaza areas, information kiosks, and other street furniture.
- Policy 4.4: Provide pedestrian linkages between government buildings and around the Civic Center complex.
- Policy 4.5: Provide incentives to create neighborhood parks, green spaces, or other public open spaces throughout the City, particularly within commercial and mixed-use corridors.

Old Towne Orange Historic District

As the heart of Orange, the Old Towne Orange Historic District is a dynamic combination of commercial and residential areas blended together in a compact, walkable space. The District contains ~~the one of the~~ largest concentration of historic buildings in California. Commercial buildings date from the 1880s through the 1920s and exhibit a rich variety of styles and architectural detail.

The Old Towne District consists of four distinct component areas: the Plaza Historic District, the Downtown Core, the Spoke Streets, and the Residential Quadrants. The District is regulated by the City's Historic Preservation Design Standards for Old Towne. These standards establish special processing requirements and detailed architectural standards to ensure the long-term enhancement and preservation of the District's architectural resources and context. The Standards also emphasize context and compatibility in design of building additions, rehabilitation, and new infill structures. The following goal and policies are intended to enable and support the Old Towne Design Standards and associated review procedures.



- GOAL 5.0: Maintain Old Towne’s identity as the only authentic and intact historic downtown in Orange County.**
- Policy 5.1: Encourage diverse commercial, housing, employment and cultural opportunities throughout Old Towne, placing emphasis on context-sensitive mixed-use and pedestrian-oriented development patterns and adaptive re-use.
- Policy 5.2: Protect the single-family character and enhance the quality of Old Towne Orange’s residential areas while accommodating change in the commercial core.
- Policy 5.3: Require infill development to be compatible with the scale and appearance of neighboring historic structures and to comply with all applicable historic preservation design and development standards and Secretary of the Interior standards.
- Policy 5.4: Support preservation and rehabilitation of commercial and residential buildings in Old Towne, ensuring consistency with the historical context of the District.

Encouraging Appropriate Infill Development and Renovations

Many of Orange’s older residential and commercial areas are experiencing infill development. At the same time, aging structures in these areas require exterior renovations. The following goal and policies outline the City’s preferred strategy to address infill development and exterior renovations in a manner that is sensitive to the context established by surrounding development.

- GOAL 6.0: Encourage contextually appropriate infill development projects and property renovations.**
- Policy 6.1: Encourage consistent high quality design of development projects, and provide development standards that ensure building and site design that is well integrated with infrastructure and circulation systems.
- Policy 6.2: Ensure that new infill development contributes positively to the quality of the surrounding corridor or neighborhood, including the potential to provide additional park space, and minimize the visibility of on-site parking.
- Policy 6.3: Encourage development of public spaces and plazas within commercial, mixed-use, and residential projects that can accommodate civic events and function as community gathering areas.
- Policy 6.4: Promote the renovation and upgrading of older commercial developments to create more attractive and functional retail environments.
- Policy 6.5: Provide logical transitions between higher intensity development within the City’s established commercial, office, and institutional corridors and nearby single-family neighborhoods. Scale, massing, and the location of services within these corridors should respond sensitively to adjacent residential uses.



Urban Design Plan

Orange seeks to pursue programs and improvements that enhance and beautify many of its key commercial corridors and build upon the City's distinct identity. The following Urban Design Plan provides a framework for Orange's visual character, defining an urban form that is functional, conveys a sense of place, is aesthetically pleasing, and complements both the urbanized and natural character of the area. Primary community design concepts include:

- Developing and enhancing the form and appearance of Tustin Street, Chapman Avenue, Main Street, The City Drive, Katella Avenue, and Lincoln Avenue in a way that expresses a positive image and emphasizes their importance as major commercial corridors in the City and County.
- Improving the overall visual character and image of the City through streetscape enhancement, special architectural treatments, prominent landmarks, design quality, and integration of natural features.
- Reinforcing the relationship between the urban form of commercial corridors with their function as vehicular and transit corridors and links between different commercial districts, neighborhoods, open spaces, and activity nodes.
- Recognizing the role that visual appearance of commercial corridors plays in defining the image of the City.
- Continuing to enhance Old Towne Orange as the historic heart of the community, with an emphasis on promoting walkability, and encouraging adaptive re-use of industrial buildings.
- Developing design strategies for the City's commercial corridors that describe desired street- and pedestrian-oriented architecture, that encourage larger massing that complements and helps to define the street edge, and that highlight the distinct character of each corridor.
- Establishing a sense of identity and character for business districts throughout the City.

These concepts comprise the Urban Design Plan, illustrated in Figure UD-1. Together, they will provide the improved visual character and design cohesiveness that Orange desires.

Transforming Streets

The City recognizes that making streets inviting and pleasant for people is an important first step toward creating identity for its business districts. Streetscape aesthetics cover a wide variety of features, all of which help to create an attractive street scene. Streetscape features include lighting, signage, street trees, landscaping,





street and road median plantings, and gateways that help mark entry into the City from major streets. Streetscapes also include amenities such as bus shelters, bike stands, benches, and trash receptacles. All of these features benefit pedestrians, transit riders, and motorists alike, and are important components of Orange's memorable character.

However, many City streets lack a sense of character and distinction. Within the commercial corridors, the focus has historically been on providing easy access by automobile and establishing signage meant for drivers. The buildings tend to be set back from the street with numerous curb cuts, creating incongruous appearance and an inhospitable pedestrian experience. In many cases, walkways from the street to retail areas do not exist, and bus stops along transit corridors lack rider amenities such as shelters, trash receptacles and lighting. Street design standards are not evenly implemented throughout the community. As a result, a number of streets lack trees, medians, and sidewalks. Many utility poles remain, and some sidewalks along Tustin Street and Chapman Avenue have been damaged by tree roots.

Through land use policy, the City has actively reserved portions of arterial streets such as Chapman Avenue, South Main Street, and East Katella Avenue to be transformed into vibrant and compact commercial and mixed-use activity centers that cater to both pedestrian- and auto-oriented consumer needs. Several of these activity centers are oriented around major arterial corridors. Establishing a "boulevard" image and character, transforming the existing streetscape, and changing the relationship between buildings, cars, people, and streets are key objectives for these locations.

Street plantings (including street trees and median plantings), sidewalk improvements, and lighting are among the streetscape features the City will encourage along these highly-visible corridors. These improvements will help better convey the City's image as a desirable commercial and mixed-use destination. In addition, the City will continue to encourage streetscape improvements along other commercial corridors. The City will help coordinate public and private improvements that promote streetscape enhancement to advance business districts, create desirable residential neighborhoods, and buffer the transition between commercial and residential areas.

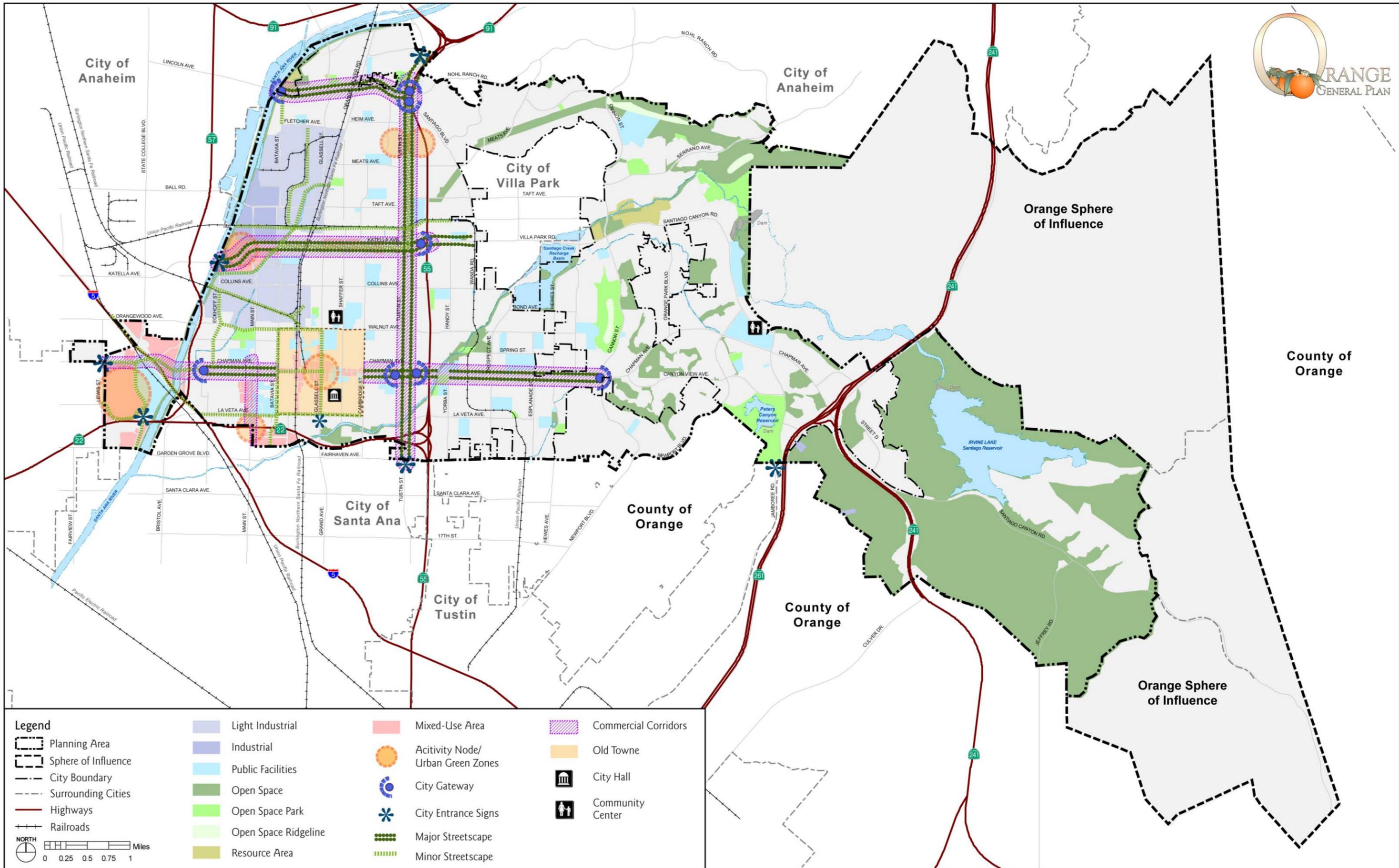
Future streetscape improvements will provide an attractive commercial environment, as well as a safe and pleasant experience for motorists, pedestrians, and transit riders. These improvements will include providing adequate bus shelters, transit signage, and sidewalk improvements along major transit thoroughfares such as Katella Avenue, Chapman Avenue, Main Street, The City Drive, and Tustin Street. The City will work with the Orange County Transportation Authority (OCTA), ~~the Orange Redevelopment Agency (Redevelopment Agency)~~, and individual property owners to achieve these streetscape improvements.

Reinventing Commercial Corridors

A diverse variety of retail, office, and industrial areas have been developed within Orange, reflecting the diversity of Orange businesses and the strength of its commercial and industrial areas. Despite the variety and stability of non-residential areas, many of these retail areas have taken on a cluttered, nondescript appearance dominated by their adjacent roadway environment. Enhancing and improving these areas will incrementally improve the quality of life in Orange, both aesthetically and economically. Successful reinvention of the



City's commercial areas will provide an attractive shopping and business environment, an improved street environment, and a vibrant public realm for motorists, pedestrians, and transit riders.



Legend			
	Planning Area		Light Industrial
	Sphere of Influence		Industrial
	City Boundary		Public Facilities
	Surrounding Cities		Open Space
	Highways		Open Space Park
	Railroads		Open Space Ridgeline
			Resource Area
	0 0.25 0.5 0.75 1 Miles		Activity Node/ Urban Green Zones
			City Gateway
			City Entrance Signs
			Major Streetscape
			Minor Streetscape
			Commercial Corridors
			Old Towne
			City Hall
			Community Center

Figure UD-1 Urban Design Plan



Maintaining an urban design focus on Orange’s commercial corridors is not a new concept. To improve and enhance retail areas, the City developed the *Tustin Street Design Standards* (1986) and the *Design Standards for the Southwest Project Area* (1986). The purpose of these standards was to “coordinate individual buildings or projects, which were often constructed at different times, into a harmonious whole and to improve the aesthetic environment.” Nearly twenty years after implementation of these measures, results have been mixed. Many retailers have retained their corporate identity through the use of programmatic architecture that is not intended to blend well with surrounding structures and settings. Furthermore, much of the corporate architecture in Orange represents standard building and site design that is replicated across Southern California and the nation. Little of the commercial strip architecture reflects a distinctive sense of character or place. The 1986 standards attempted to guide development into thematic areas that would create districts with distinct identities. For example, the State College Thematic District targeted office development with a corporate contemporary look. The South Main/La Veta Thematic District adds to the financial, medical, and business office inventory while presenting an urban contemporary look that is less bold and monumental than that of the State College District. The Tustin Street standards were designed to encourage redevelopment that would focus on “good design rather than on ever-larger, more eye-catching signs or advertising.” This Element seeks to unify these ideas and provide a better foundation for the City’s goals for commercial corridors.

Even though Orange already has many examples of mixed-use development, it will require new and innovative design standards and guidelines to implement mixed-use development on automobile-dominated roads.

Tustin Street

To improve retail areas on major six-lane arterials such as Tustin Street, the City will revise and enforce the *Tustin Street Design Standards* and the *Design Standards for the Southwest Project Area*. Each of these documents is geared to harmonizing buildings that were constructed at various times, and to creating an aesthetically pleasing corridor. New implementation measures to be included in these documents will address the contextual integration of building styles and site design on adjacent parcels to create better harmony among buildings along Tustin Street.

Chapman Avenue and Main Street

On other arterial roads such as Chapman Avenue and Main Street, the City will encourage structured parking wrapped or disguised with commercial or residential uses, and placement of parking behind or next to buildings to create street-oriented pedestrian entrances. Street façades can be improved by varying the massing and height of buildings, and by using a wider spectrum of plants and trees in landscaping.

Katella Avenue

On Katella Avenue, the City will promote the use of more consistent signage legible to both drivers and pedestrians, as well as improved landscaping to create a consistent and coherent streetscape. Transit amenities will be particularly important along Katella Avenue, which leads to the ~~proposed~~ Anaheim Regional Transportation Intermodal Center (ARTIC) in Anaheim. Creation of a consistent streetscape will be a challenge, because land uses along



Katella Avenue between Batavia Street and Glassell Street will remain, for the most part, automobile-oriented retail and service uses. The westernmost portion of Katella Avenue will host a mix of high-density recreational and retail along with residential uses. Many of the City's valued automobile sales outlets are located along the central portion of Katella Avenue, and will be maintained and enhanced for the long term. Approaching Tustin Street, Katella Avenue will be targeted for infill commercial and residential mixed-use projects consistent with surrounding neighborhood character. The City will work with OCTA, other transit service providers, ~~the Redevelopment Agency,~~ and individual property owners to ensure that both transit and automobile features are provided within the streetscape of Katella Avenue, that visibility and access are maintained to auto dealers and other commercial uses along the street, and that the City's sign requirements are met.

Lincoln Avenue

Lincoln Avenue, located at the northern end of the City, currently functions as a pass-through traffic corridor between State Route 91, Anaheim Hills, and the City of Anaheim. In its current form, the streetscape lacks visual appeal, cohesion, and civic identity. The City seeks to improve the future commercial environment of Lincoln Avenue, to reclaim the street and redefine the corridor as distinctly Orange, and to transform the wide street into a more pedestrian-friendly environment. Such techniques as improved landscaping, median treatments, and street-sensitive building orientation will be used to introduce pedestrian scale features to the streetscape.

Humanizing the scale of Lincoln Avenue and improving the pedestrian environment will be critically important to the success of the planned land use strategy at this location, which seeks to encourage both commercial activity and mixed-density residential development. The City will be sensitive to the concerns of neighbors at this location, and seeks to recognize and promote the eclectic nature of the live-work environment that already exists on Lincoln Avenue. Retaining and reinforcing design elements of the current larger lot, unconventional environment of the corridor will be a key requirement for future development.

Enhancing Community Image and Character

Orange will refine its visual character and community image through gateway enhancements, spatial definition and landmarks, design quality, activity nodes, urban linkages, street trees, urban green zones, viewsheds, and mixed-use activity centers. Each of these design tools is described below.

Gateway Enhancements

Commercial corridors play an important role in the City's economy, providing shopping, dining, and entertainment options for residents and visitors alike. The entrances or gateways to these corridors from other communities should raise awareness of the City, orient visitors and residents to the place, and strengthen community identity. Gateway enhancement is a design technique that can be used to introduce a distinctly Orange look and feel to the streetscapes that connect the City to surrounding communities. Gateway signs are currently present at primary intersections near the municipal boundary. However, designing good gateways extends beyond entry markers to consideration of the surrounding buildings, landscaping, plazas, and streets.



To improve gateway streets, the City will prepare, adopt and implement a streetscape master plan for key commercial corridors, including the gateway corridors of Tustin Street, Chapman Avenue, South Main Street, Lincoln Avenue, Katella Avenue, and The City Drive. The master plan will integrate concepts discussed for these corridors throughout the General Plan and will provide guidelines related to façade improvements, pedestrian amenities, streetscapes, and urban green zones. Specifically, the master plan will focus upon the role of these streets as entryways to the City, and will determine the desired design techniques to improve them.

Spatial Definition and Landmarks

Much like the rest of the County, Orange is a fully developed urban area, with the exception of the east Orange hillsides and portions of the Santiago Creek corridor. Park and open space opportunities within the urban fabric are rare. However, Orange has been successful in retaining large areas of open space along the fringes of the community, and these help to spatially define the City. These areas include the County’s 477-acre Irvine Regional Park, which contains a zoo, a scale railroad, a nature center, and other amenities. Irvine Lake provides a chance to fish and hike. The City also boasts a number of wilderness areas, including Peters Canyon Regional Park, Santiago Oaks Regional Park and Nature Center, and the Tucker Wildlife Sanctuary within the City’s Sphere of Influence.



A sign for Grijalva Community Park marks the site of the historic Grijalva Adobe.

Many landmarks serve as reminders of the City’s cultural history. The 1928 American Legion Hall and the 1922 Sunkist Fruit Exchange Building are located near the Plaza in downtown



Historic icons include the church spires of St. John’s Lutheran Church.

Orange. The community’s roots as part of the Rancho Santiago de Santa Ana are marked by the Grijalva Adobe site, original site of the region’s first rancharo, home to the builder and colonizer of Orange. Pitcher Park is home to the Honey House and the Orange Fire Museum. The area’s agricultural heritage is best revisited at the Villa Park Orchards Association, which is owned by Chapman University. ~~This is one of only two packing houses remaining in Orange County, and the last in the City.~~

During discussions with community members as part of the development of this General Plan, a number of key visual focal points were highlighted. The protection of these resources is an important part of maintaining the City’s links to the past as it moves forward. For many, the Norfolk pine tree at Plaza Park is an immediate icon for motorists traveling east and west on Chapman Avenue. The hills in the eastern portion of the City, near the Orange Hill Restaurant, are a reminder of the City’s rural past. Church spires, such as the one at St. John’s Lutheran Church, help establish neighborhood identity and a sense of place. Even icons such as the Selman Chevrolet neon sign and the flag pole in the median of Town and Country Road are



important landmarks that residents associate with the community.

Landmarks serve as identification points and markers that guide people to destinations. Landmarks also provide historical points of reference that convey how the City's current design evokes its history. The City will continue to recognize landmarks such as Plaza Park, at the intersection of Chapman Avenue and Glassell Street, which is surrounded by a commercial square and serves as the centerpiece of the original one-square mile city. The City will continue to work through established processes to identify additional landmarks and icons.

Design Quality

Consistent streetscape design and urban form hierarchy will be encouraged to strengthen district and neighborhood identities within both residential and non-residential areas. Preservation of the historic portion of the community will be achieved through renovation and adaptive reuse of buildings. New developments will complement the existing urban fabric by emphasizing a harmonious building and site interface and using streetscape treatments as transitional elements between commercial and residential areas. This aim of ensuring proper visual and land use transitions from one district to another will also be pursued regarding renovation and infill development. The City will preserve neighborhood character through applying standards such as the *Infill Residential Design Guidelines* and the *Old Towne Design Standards*/*Historic Preservation Design Standards for Old Towne*. These guidelines require and guide the design of new development projects so they adhere to the existing neighborhood character.

Even though the intent of the land use designations is to place complementary uses and features adjacent to one another, the nature and sequence of development will sometimes allow conflicting or inconsistent uses to abut each other. To address such situations, the City will revise existing design and development guidelines to improve the relationship of buildings to one another, to open spaces, and to the public realm. Because the City's most effective current guidelines focus solely on new development in residential neighborhoods or the Old Towne Historic District, revisions to the guidelines for commercial districts are needed to address design and scale issues apparent in transitional areas where commercial corridors abut residential uses. By requiring buffer zones or encouraging thoughtful, quality design at these thresholds, the City will harmonize visually incompatible land uses.

Activity Nodes

Key activity nodes in Orange include Old Towne Orange and major commercial, civic, entertainment, or employment centers such as The Village at Orange, The *Block-Outlets* at Orange, South Main, Town and Country, and El Modena. To enhance urban form, the City will assess and identify design elements that distinguish activity nodes from one another, and will improve and maintain architectural and landscape details, site layout, and land uses. The City will also identify elements that hinder activity in less vibrant



The *Block-Outlets* at Orange serves as an activity center with commercial and retail features that attract regional and local



commercial areas, and will improve the visual appeal and access of these locations. To minimize any unsightly view of utility lines, the City will encourage utility lines to be placed underground or relocated away from the arterial street frontage for new infill developments, and will work with local utility providers to identify and move unsightly overhead utility lines underground.

Urban Linkages

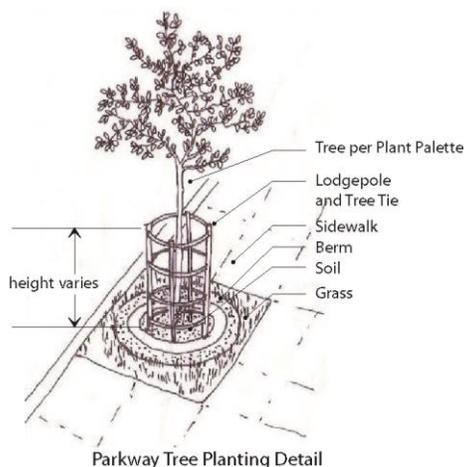
Residents of Orange will use streets, sidewalks, bike paths, and trails to connect from various destinations throughout the City. Orange will be well-connected through aesthetically pleasing and safe multi-modal routes on which to walk, bike, and drive. The City recognizes Old Towne as the center of public and civic life in Orange. The City will use the network of connections in Old Towne as a model for developing connections between commercial, recreational, and residential areas in other parts of Orange. Street amenities such as landscaping and street lighting will guide pedestrians and drivers.



Santiago Creek Trail provides bike paths and pedestrian linkages to other green spaces such as Hart Park.

Commercial and retail developments will enhance street life through people-oriented architectural features and quality building design. The City will update the Zoning Code to encourage features that buffer street activity and pedestrians from automobile traffic by providing both distance and substantial landscaping. Within mixed-use areas and other commercial districts, the City will employ pedestrian-friendly amenities such as enhanced crosswalk areas, lighting, benches, and trash receptacles to create a safer, more inviting, and more walkable environment.

Street Trees



Orange's Street Tree Master Plan provides a community-approved plant palette and planting details.

Trees are an important component of Orange's urban landscape. They can create a pleasant environment in which to drive and walk, and they can buffer sounds and obscure unsightly blank walls. To harmonize and beautify streets with community-approved trees and tree layouts, the City of Orange implements its *Street Tree Master Plan*. The master plan quantifies existing trees and points out those determined undesirable by the community.

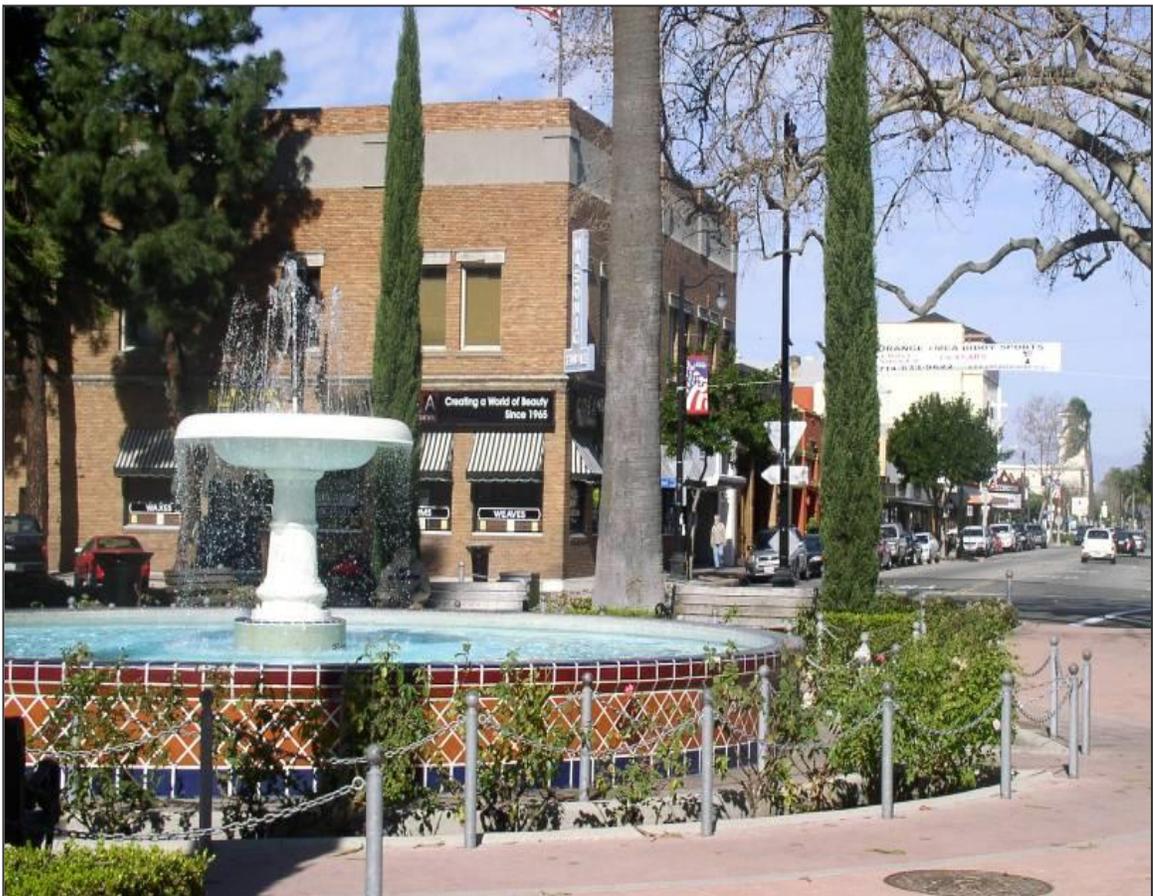
Unorganized and neglected street trees can detract from the streetscape. Additionally, not all trees are ideal for street use. Some trees can create hazards when their roots cause damage to underground water or wastewater pipes, or uplift pavements and sidewalks. The *Street Tree Master Plan* takes these and other precautions into consideration to recommend reliable and attractive trees. The master plan includes a municipal ordinance and



a street tree inventory, which lists and describes acceptable trees and planting areas within the City's road right-of-way. Approximately 80 different species have been approved to be planted in Orange. The ordinance and inventory recommend trees for various areas and arterials within the City in order to preserve and enhance Orange's unique commercial corridors and neighborhoods.

Urban Green Zones

Urban green zones are constructed green spaces within the urban boundaries of the City, and may consist of such varied features as parkways along sidewalks and trails, neighborhood or pocket parks, plazas and public spaces, landscaped medians, and street trees and smaller plantings along local roads and abandoned railroad corridors. Such green spaces are often provided in activity zones to give shade, beautify streets with abundant vegetation, or function as plazas and valued public spaces, such as the Plaza in Old Towne. Urban green zones serve as destination points where pedestrians rest, residents gather, and visitors orient themselves within the City. Public plazas also provide space for cultural and social events. With attractive fountains, street furniture, and other amenities, public spaces can attract activity and enhance community vitality.



The Plaza Fountain in Old Towne Orange is an historical element that provides public open space for resting, water and “softscape” features that beautify, and serves as a destination point for visitors.



The built-out, urban character of Orange makes the creation and preservation of urban green zones a priority. The City will incorporate natural resources into the urban fabric through the designation of urban green zones, as shown on the Urban Design Plan (Figure UD-1).

New mixed-use centers and major commercial and office centers can incorporate public spaces where Orange residents, from youths to seniors, can relax and recreate. These green zones will complement the built-out City while providing respite and relief from the urban fabric through landscaping and vegetation. The City will provide incentives to developers who incorporate user-friendly, publicly-accessible urban green space into mixed-use, residential, and commercial developments. These green spaces should be easily accessible and inviting, both physically and visually. They should be well-integrated with street activity and designed to prevent dead or isolated spaces. Specially designed layouts of plants and trees will provide visual and sound buffers from the built environment, while providing smooth transitions between land uses. Urban green zones will also be encouraged along abandoned rail corridors and along waterways (rivers, creeks, and channels) to link trails and to integrate linear parks within urban settings.

Sidewalk improvements such as multiple walkways, landscape and hardscape embellishments, provision of adequate bicycle and pedestrian linkages between activity nodes, and establishment of design standards that recognize the role of buildings and the built environment in promoting street life are important steps to achieving these objectives. Improving pedestrian comfort will also require addressing needs of transit riders by embellishing transit stops with shelters and benches, signs, route maps, and schedules.

Viewsheds

A viewshed is the space that is readily visible from the public areas of a city. Obviously, it is desirable that the views provided be inviting, meaningful, or even scenic. Orange contains both built and natural environments that convey identity and that should be easily seen by residents and visitors.

Within the built environment, the City addresses viewshed issues by trying to reduce unsightly features and introduce or enhance features that make views more meaningful and inviting. Accordingly, the City will encourage coherent, well-designed signs within commercial corridors, employing design elements that tie into the history of the City, or character or function of the particular district where possible. These physical alterations will, in turn, enhance local community identity and sense of distinctiveness. Banners mounted on street lights will communicate ongoing City-sponsored activities and encourage public involvement. Appropriately scaled signs, designated walkways for pedestrians, and continuous façades will also enhance the image of the City.

The City requires that utilities for new development be placed underground, hiding unsightly overhead utility lines. The City will also consider adopting an ordinance requiring that existing overhead utility lines be placed underground in accordance with the City's Utility Undergrounding Master Plan. Benefits would include a safer and more attractive pedestrian environment once utility poles are removed from sidewalks. Business improvement programs will provide funding for maintenance and renovations, and redevelopment plans for the Orange Merged and Amended Redevelopment Project Area will be consistent with approved design standards for the area.



Preserving public access to views of the natural environment is a topic discussed at length in the Natural Resources Element. The eastern portion of Orange's planning area is rich with natural aesthetic resources, including canyons, a lake, creeks, ridgelines, and expanses of public green space. Both City trails and privately-maintained community trails link neighborhoods and provide east-to-west connections within the City. Trails and viewsheds provide visual and psychological respite and spaces for recreation. Preserving valued physical features of open spaces within the City requires adherence to hillside development requirements and conservation laws. For more detailed discussion on landscape and viewshed corridors, please refer to the Natural Resources Element.

Defining District and Neighborhood Identity

Orange consists of many distinct commercial, office, mixed-use, industrial, and residential neighborhoods that all contribute to the City's identity. Establishing or fostering neighborhood-based district identity requires making sure that each of the City's commercial and mixed-use districts are distinctive, but contribute to a cohesive community environment.

Commercial and Office Districts

Connectivity is a challenge within commercial areas. The two connectivity issues are: (1) easy access from one commercial building to another; and (2) connections from commercial buildings to the adjacent residential areas. As each parcel along the commercial strips was developed, automobile access was resolved one parcel at a time. As a result, today one is unable to easily walk from one building to another, or to drive one's car from one building to another without having to exit the property and use the street. Most of the commercial strips abut residential areas. However, connecting residential areas with retail centers was not a community priority at the time the centers were developed.

The office areas throughout Orange, especially the South Main Street district, the areas adjacent to the hospitals, and the Town and Country area, are areas in transition. Currently, many of the facilities aim to meet the needs of those approaching by automobile, with little regard for the pedestrian, despite the convenient mix of uses and services within easy walking distance of major facilities. For example, the area near Children's Hospital of Orange County contains very large institutional buildings on a campus that has expanded many times over the years. The result is very large buildings that come right up to the property line and sidewalk with virtually no pedestrian amenities. Other office towers are set back from the street to provide limited parking in front of the building, with no consideration for human scale design.

The interface between residential and commercial and office areas in Orange presents special challenges. Potential conflicts exist between redevelopment of the City's commercial and office corridors by encouraging higher-intensity infill projects, and maintenance of the privacy and seclusion offered by many of the City's residential neighborhoods. This interface issue is particularly apparent in the Katella Avenue corridor and the South Main Street corridor, where land use policy recommends both intensification of commercial land use and integration of mixed-use residential and commercial uses. Through updates to the City's various design guidelines to specifically address this issue, the City will encourage pedestrian and visual connections to adjacent neighborhoods and context-sensitive design of new commercial projects.



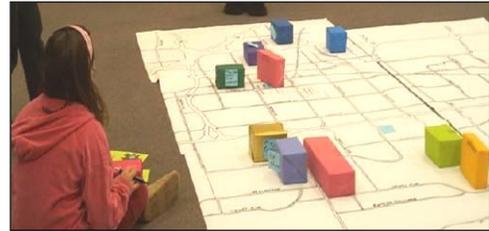
Mixed-Use Activity Centers

Mixed-use is a planning concept that recognizes the value of mixing complementary land uses within proximity of each other. Blending various types of land uses either vertically or horizontally, and co-housing diverse uses in the same building or adjacent buildings creates vitality, encourages around-the-clock activity, and brings residents to retail shops and amenities located within walking distance of their homes or offices.

Mixed-use is not a modern phenomenon, but a tested and accepted concept commonly found in older downtowns and urban cores. Though our current reliance on automobiles has resulted in heavy emphasis on drivers and the car, mixed-use design allows the City to create places for people, accommodating both the driver and the pedestrian.

Mixed-use offers distinct physical characteristics that result in vibrant, pedestrian-friendly environments. Street-oriented stores and compact site designs attract activities and encourage walking, especially when these design features are accompanied by an enhanced environment characterized by pronounced entryways, textured exterior materials, display windows, and outdoor eating areas. Building designs often employ both horizontal and vertical components that break up the building mass. Street amenities, such as benches, street trees and landscaping, trash receptacles, human-scaled lighting, surface treatments, and public art often accompany mixed-use environments. Public or civic uses are desirable as a component, if not the centerpiece, of larger mixed-use projects or districts. These uses emphasize civic responsibility and recall a former time when the post office, city hall, or library was the center of public life.

Mixed-use emphasizes the need to blend parking structures seamlessly into the built fabric. To achieve this, parking entrances should be designed to match the architectural scale and style



Visioning games helped youth participants visualize and convey urban design ideas for the City.



Example of a mixed use center incorporating parking within the site to maintain a pedestrian oriented street



Neighborhood mixed-use mixes residential and commercial uses that cater to local



Lower-density neighborhood mixed-use and well-designed streetscapes and street furniture will provide human-scaled



of surrounding building façades. Surface parking should be abundantly landscaped and pedestrian paths should be well defined from building entrances to parking spaces.

On a grander scale, mixed-use corridors aim to connect activity nodes. They orient pedestrians and drivers by communicating place-specific information through clear signage that informs, through promenades of trees that guide, and through landmarks that steer people to their destinations.

Potential desirable results of developing mixed-use activity centers include context-sensitive building scale and design, a higher intensity of use, and increased pedestrian facilities. These results are not automatic, however. They will be more likely where designs include architectural references to local history and local culture, and where public programs and specific uses arise as a result of input from residents of all ages and backgrounds.

Mixed-Use Districts

Mixed-use areas need not appear either “generic” or radically different from Orange’s existing built environment. Orange will provide a range of mixed-use areas, including lower scale projects that complement historic areas or residential neighborhoods, projects with contemporary style, eclectic projects, and projects that are quintessentially “urban.”

The Land Use Element identifies several types of mixed-use. Four neighborhood scale mixed-use categories are established, including two categories to be used exclusively in Old Towne Orange. Lower densities are encouraged where mixed-use development abuts established single-family residential areas, such as along portions of West Katella Avenue. Higher densities are encouraged within established, higher-intensity commercial and institutional corridors, such as South Main Street, and within planned, transit-oriented development districts, such as the Santa Fe Depot area. An urban mixed-use category is also introduced for portions of Uptown Orange, The [Block-Outlets](#) at Orange, the Promenade on West Katella, and the Town and Country Road corridor. The neighborhood-serving mixed-use areas will include a mix of residential and commercial uses that will provide amenities for local residents and workers. Urban mixed-use zones will serve as regional centers for entertainment, office, and commercial uses, as well as providing needed housing for the area.



Old Towne areas previously designated for light industrial use will be rehabilitated to house mixed-use or residential development while preserving the exterior historic character of the building.

Each location will require different architectural styles, densities, and approaches to mixed-use. However, all will gradually incorporate a mix of residential and commercial uses with street-oriented buildings and will emphasize streetscape improvements. Residents will benefit from proximity to retail and commercial stores, and businesses will gain more customers because of improved visibility, better accessibility, and more welcoming designs.



Neighborhood Mixed-Use Districts

Neighborhood mixed-use areas include East Katella Avenue between Glassell Street and California Street, and South Main Street between Almond Avenue and La Veta Avenue.

These areas will accommodate commercial uses with residential units on the upper floors, featuring vertical setbacks and improved store recognition. The City will consider undertaking a streetscape program to improve the appearance of East Katella Avenue and South Main Street, which will form the spines of the City’s mixed-use neighborhoods. User-friendly bus stops will accompany other pedestrian-scaled street furnishing.

For East Katella Avenue, the City will encourage more compact, intensely developed designs at these locations, and may require a decrease in height and/or massing as these developments abut single-family residential areas. Strip malls located along East Katella Avenue will gradually incorporate mixed-use elements. Public safety will be improved with streetscape improvements and landscaping. Residential neighborhoods will be buffered from traffic through use of landscaping, attractive walls, and fences.



A mix of commercial and residential uses in compact development creates a walkable and vibrant environment.

Old Towne Mixed-Use Districts

Old Towne, including the Santa Fe Depot area, will continue to function as a lower density mixed-use and residential area. Future emphasis will be placed upon adaptive reuse of industrial structures surrounding the Santa Fe Depot and rail corridor as potential Transit Oriented Development projects, consistent with recommendations of the *Santa Fe Depot Specific Plan*. Adaptive reuse is a preservation concept that allows older buildings to be adapted to new uses while preserving the exterior historic character of the building. Old Towne areas previously designated for light industrial use will be rehabilitated to house mixed-use or residential development, and they will be designed to minimize impacts from adjacent industrial uses and rail activity. Continued application of the [*Old Towne Design Standards*](#) [*Historic Preservation Design Standards for Old Towne*](#) and use of cultural and historical design cues will preserve Old Towne’s unique character.

Urban Mixed-Use Districts

The City’s most intense future residential and commercial uses will occur in the areas located west of the Santa Ana River in Uptown Orange, including The [*Block-Outlets*](#) at Orange, County Facilities, University of California Irvine Medical Center, and West Chapman Avenue, as well as the Town and Country Road and Katella Avenue corridors. Streets within these areas will be lined with streetlights and



Urban mixed-use areas within the City will provide a dynamic mix of open plazas for al fresco dining, shopping, and entertainment along with residential uses.



banners announcing civic events held in the City, and will be bustling with outdoor seating at restaurants and stores.

Most of the West Chapman/Uptown Orange district, west of SR- 57 and Interstate 5 (I-5), will accommodate high-density, high-rise apartments or condominiums near or mixed with commercial retail uses and institutions. New mixed-use designations established in the Land Use Element will provide needed housing at intensities appropriate to the area.

The West Katella district will accommodate a mixture of commercial, entertainment, and residential uses. This vibrant area will include a variety of public spaces for outdoor eating and events. These spaces will be surrounded by shops and entertainment. The entire West Katella Avenue gateway corridor will be better connected visually to other major arterial roads by a promenade of street trees and by consistent, attractive signage. Dynamic developments will locate parking behind or away from the street front, further enhancing the gateway corridor. The City will also work to improve bus stop amenities along the street.



Industrial Districts

Industrial areas in Orange add to the diverse economic base of the City. In the future, Orange’s industrial area will be exclusively clustered within the central western portion of the City, as industrial uses located in Old Towne transition to more exclusively residential, commercial, and office uses.

The City’s industrial areas combine a mix of heavy industrial, light industrial, commercial, and office uses, and serve as buffer zones between intense commercial developments and residential neighborhoods. Industrial and office buildings are often boxy and nondescript, but their appearance can be improved by clear signage and landscaped street fronts, as advocated by the City to improve the image of local businesses. Building designs should integrate public spaces for employees, should incorporate parking away from the main access street, and should improve public safety through lighting, landscaping, and other amenities and features that promote actively used spaces and natural surveillance. Aside from traditional industrial uses, the industrial areas also provide an opportunity to expand and connect open spaces for buffering and for recreational purposes along rail corridors and the Santa Ana River trail.



Clear signage provides information to drivers. Landscaped parkways soften the appearance of industrial areas.



Old Towne Orange Historic District

The City's most recognized and best documented neighborhood is the Old Towne Orange



Harmonized, yet varied architecture and intricate details result in the charming and interesting environment of Old Towne Orange.

Historic District. The District is the largest concentration of historic buildings in California. The commercial buildings date from the 1880s through the 1920s and exhibit a rich variety of styles and architectural detail. At one point in 1928, the City of Orange Planning Commission proposed that the entire commercial area be remodeled in the then-popular Mission Revival style. Only the first block of East Chapman was completed with red tile roofs and stucco arches.

The District consists of four distinct component areas: the Plaza Historic District, the Downtown Core, the Spoke Streets, and the Residential Quadrants. Each of these components will be preserved to maintain Old Towne's identity as a unique historic downtown for the City as well as the County of Orange. The entire area is regulated by the *Historic Preservation Design Standards for Old Towne*, last

updated in 1995/2017. The Standards set forth special processing requirements and detailed architectural standards to better ensure the long-term enhancement and preservation of the District's architectural resources and context. City development approval processes allow for the careful evaluation of projects, including their relationship to the rest of the District, the rhythm and pattern of buildings on the street, and the height, scale, massing, textures, materials, and colors of buildings. Other design criteria include landscaping, signage, and overall design quality.

To maintain the vibrant, dynamic central core, the City will apply the design guidelines to renovations and maintain the existing design character of commercial buildings with brick facades, ornamental cornices, decorative awnings, and enhanced fenestration. Additionally,



Awnings at street fronts, pavers on sidewalks, and brick facades create a colorful and interesting street elevation, and outdoor dining provides opportunities for people-watching.

development up to the lot lines will be encouraged to preserve this area's small-town downtown character. In areas where land uses of differing intensity meet, buffers, landscaping, and building height step-backs will be employed to ensure optimal conditions for both commercial and residential activities.

Several streets serve as transitional areas between Old Towne and surrounding residential or commercial neighborhoods. The main design goal for Old Towne streets is to improve the aesthetic value of properties that front these streets: North Glassell Street from Maple Avenue to Walnut Avenue, South Glassell Street from Almond Avenue to the Garden Grove Freeway (SR-22), East Chapman Avenue from Grand Street to Cambridge Street, and West Chapman



Avenue from Lemon Street to Batavia Street. To create a gradual transition on these streets from Old Towne’s historic small-scale development to the more contemporary, and in some cases more intense, development in surrounding areas will generally require less intense land uses and strict adherence to historical references.

In residential portions of Old Towne, the City will protect the predominantly single-family character of neighborhoods, enhance the quality of Old Towne Orange’s residential areas, and ensure that infill developments are compatible with existing neighborhood scale and appearance. In addition, as detailed in the Land Use Element, residential densities permitted throughout Old Towne are generally low, in order to maintain historic integrity, and to reduce the likelihood of higher density infill projects that are incompatible with neighborhood character.

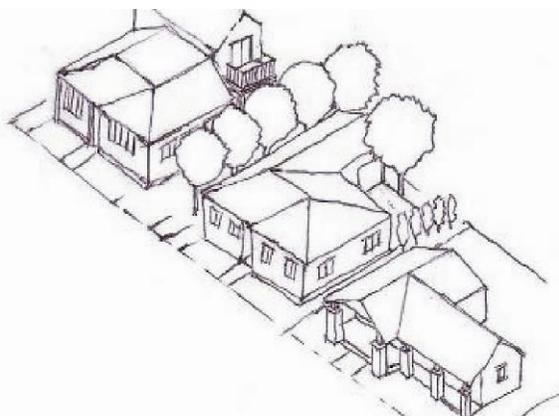
ENCOURAGING APPROPRIATE INFILL DEVELOPMENT AND RENOVATIONS

Orange developed over many decades, as indicated in the City’s wide variety of distinctive neighborhoods, each of which reflects the thinking about urban form and neighborhood structure that was current at the time of their creation. These design values range from the tight cohesiveness of the Old Towne residential neighborhood to the equestrian estates found in the Orange Park Acres community. This variety is also evident in a large number of the City’s suburban residential tracts.



Preserving neighborhood character and property values are key objectives of the City’s *Infill Residential Design Guidelines*.

Like the commercial areas, residential neighborhoods offer a diverse range of eclectic styles and densities that cater to a full range of residential needs. Successful maintenance of the City’s varied residential areas allows the Urban Design Element to focus on enhancement of the City’s commercial corridors. Ultimately, successful integration of the residential areas with the commercial corridors will be a critical factor for the quality of life in Orange.



Orange’s Infill Residential Guidelines encourage infill development to:

- Follow the existing scale and pattern of the neighborhood.
- Match or complement the existing architectural fabric.
- Preserve existing topography.
- Preserve privacy of neighbors.
- Minimize prominence of accessory features from street elevation.



Orange's *Infill Residential Design Guidelines* aim to preserve neighborhood character and property values, maintain streetscape integrity, continue existing urban form, and encourage sensitivity to topography. Small-scale subdivisions, single-family units, accessory units, additions, and transitions between single-family to multi-family residential units are subject to the requirements established in the *Guidelines*. Design elements addressed in the *Guidelines* include site planning, building scale, architectural considerations, topography and natural features, and accessory features that achieve gradual transition between new and existing development.

The City will continue to support new developments and renovations that promote preservation or are well-integrated into existing architectural styles and the prevalent character of each neighborhood.

URBAN DESIGN IMPLEMENTATION

The goals, policies, and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaboration with regional agencies and neighboring jurisdictions. Specific implementation measures for this Element are contained in the General Plan Appendix.



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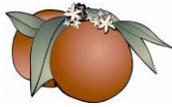
ECONOMIC DEVELOPMENT

INTRODUCTION AND VISION FOR THE FUTURE

Orange is recognized as a desirable area in which to do business, and therefore supports and sustains a diverse range of businesses in the City's distinct industrial, commercial, institutional, and office areas. This diversity in the business climate reflects the gradual transition of Orange from an agricultural community served by rail to its position for many years as an outer-ring suburb of the rapidly growing Los Angeles metropolitan area, to its position today at a major crossroads of Orange County, at the convergence of major freeways, and serviced by a major commuter rail line. The City's economic environment cultivates and promotes both large corporate enterprises as well as smaller business entrepreneurs. At the outset of the 21st century, Orange's economic development strategies focus on preserving jobs and maintaining a diverse economic base.

To maintain the City's economic diversity, Orange encourages light manufacturing and industrial uses in the northwestern area, and larger institutional, corporate office and retail uses in the southwestern portion. The City provides opportunities for boutique and family-owned stores in Old Towne Orange, as well as in key commercial areas along Tustin Street, Katella Avenue, Chapman Avenue, and Lincoln Avenue, where regional and national retailers can also be found. Orange will continue to encourage educational and medical institutions and other industries that bring higher wage employment opportunities. The City also draws revenues from entertainment and hospitality industries.

Encouraging continued economic development in Orange will require a coordinated response to strong demands for industrial and commercial businesses. In addition, it will require provision of attractive, vibrant, and safe retail centers, and promotion of mixed-use developments in walkable environments. Understanding that the City will soon be a fully developed community facing competition from its neighbors, Orange will continue to support economic development activities through consolidation and redevelopment of properties and through adaptive reuse and rehabilitation of older buildings. The Economic Development Element outlines goals and policies that promote sustainable, market-driven economic growth and activity without compromising the City's identity, heritage, or the quality of life of those who live, work, and play in Orange.



Orange's ***Vision for the Future***, described in the General Plan Introduction, describes the importance of finding an appropriate balance between residential, commercial, and industrial demands. The vision encourages the City's retail districts to seek incremental improvement, and promotes visually attractive commercial development, active public areas, high quality streetscapes, and innovative design within the public realm along major thoroughfares such as Chapman Avenue, Tustin Street, Katella Avenue, and Main Street. The vision includes the following objectives related to economic development:

- The City will strive to provide for a range of businesses including small, family-owned businesses and larger businesses that serve a regional market.
- The appearance and variety of commercial, retail, industrial, and employment centers will reflect the pride that residents have for Orange, as well as the long-term investments the City has made in its infrastructure.
- Orange will tap into the entertainment and hospitality markets by enabling development of high quality facilities strategically located near other regional tourist draws.
- Orange will continue to support educational and medical institutions and other industries that provide high paying jobs and are major contributors to the community.

Purpose of the Economic Development Element

The purpose of the Economic Development Element is, first, to identify desirable economic development conditions and land uses that will enhance and promote business activity, employment growth, and economic stability. Second, it provides goals and policies that will foster economic growth and increase employment opportunities. The goals and policies established in the Element are intended to cultivate economic growth and fiscal improvement, while providing a flexible framework that adjusts to changes in the marketplace. This Element creates a framework for the City in which to initiate specific strategies and implementation programs.

The Economic Development Element outlines economic strategies that allow the City to attract new businesses, promote retention and expansion of existing businesses, maintain a strong economic base, establish and reinforce its image and identity within the region, and identify future needs for infrastructure and capital facilities to foster new economic development opportunities. By analyzing the City's General Fund expenditures and recurring revenues, this Element establishes policies focused on improving the City's financial well-being. Based on land uses set forth in the Land Use Element, this Element generally addresses the City's expected range of fiscal benefits (e.g., property tax, sales tax, and other revenue sources). Likewise, this Element outlines the anticipated General Fund operating expenditures (e.g., police and emergency services, fire protection, public works, community services, and general government services) that the City can expect. Economic Development Element policies also support the provision of housing suitable for Orange's workforce.



Scope and Content of the Economic Development Element

The Economic Development Element forms the basis for the City's overall economic policy related to business activity, employment growth, and fiscal balance. The Economic Development Element addresses employment stability and existing business retention, and encourages development of programs to recruit new businesses. Economic development policies can help preserve the culture and establish or refine the identity of commercial corridors and surrounding neighborhoods by retaining businesses that give character to the community. These policies can also help maintain a wide range of goods, services, and activities, and respond to local and regional commercial, retail, and industrial demands.

The scope of the Economic Development Element also includes discussion regarding the types and intensities of land uses within key focus areas, addresses their appropriateness given forecasted market conditions, and discusses the role that land use policy plays in the economic health and stability of the community.

The Economic Development Element is not a required element under State General Plan law. Nevertheless, the City recognizes the integral role and relationship that economic development has with the other elements of the General Plan in maintaining a high quality business and residential environment, and in promoting fiscal stability in Orange.

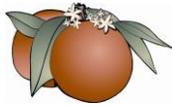
The Economic Development Element consists of three sections:

- (1) Introduction
- (2) Issues, Goals, and Policies
- (3) Economic Development Plan

This *Introduction* describes the Element's intent, organization, and relationships to other General Plan elements. *Issues* describe the key economic trends and factors that contribute to the economic growth and development of the community. *Goals* describe ideal outcomes regarding Orange's economy as expressed by both private and public interests, and *Policies* provide recommendations to achieve the stated goals. The goals and policies are purposefully general. They establish a framework for more detailed implementation programs, initiatives, and strategies, which can be revised on an ongoing basis, responding to changes in market conditions or the City's needs. The Economic Development Plan generally explains the programs that can be implemented according to Economic Development Element policies. Detailed descriptions of the various implementation programs recommended within this Element can be found in an Appendix to the General Plan.

Relationship to Other General Plan Elements

The contents of all the General Plan elements are complementary and must be integrated to provide comprehensive and consistent guidelines. The issues, goals and policies addressed within the Economic Development Element are correlated with those in the Land Use, Growth Management, Infrastructure, Cultural Resources & Historic Preservation, Circulation & Mobility, Urban Design, and Housing Elements. Together, these elements address and minimize barriers to economic growth such as inadequate infrastructure or transportation systems, or physical conditions that may discourage investment in the City.



The Land Use Element describes development within the built environment, such as land use designations, types of activities allowed, and densities/intensities for various locations in the City's planning area. The Land Use Element sets forth plans to refine, and in some cases intensify, land uses within eight focus areas, some of which are located along many of the City's most traveled roadway corridors. The focus areas, and the proposed land use plans within them, are designed to maximize the economic potential of long untapped or underutilized resources within the City, such as commuter rail, Chapman University, medical centers near South Main Street and on East Chapman Avenue, and freeway and transit access. Economic development and growth within these areas is enabled by the General Plan land use plan, and is the key to achieving the long-term fiscal objectives of the City.

The goals and policies of the Growth Management and Infrastructure Elements ensure adequate circulation and infrastructure capacity to mitigate any undesired effects of growth by monitoring and phasing development, so it is concurrent with provision of infrastructure. Since many of the goals and policies expressed in these elements are implemented through tax revenues received by the City, the content of the Economic Development Element correlates directly to funding of public services.

Business retention efforts of the Economic Development Element recognize the need to preserve the identity and culture of the City. Since much of the fundamental charm and attraction of Orange lies in the preservation of cultural and historical identity, the Cultural Resources & Historic Preservation Element should be read as a companion to this Element.

Road capacity goals and policies addressed in the Circulation & Mobility Element also affect the type and mix of uses identified in the Economic Development Element. Changes in land use policy that promote economic development goals may result in congestion and reduce quality of life for residents, if not serviced with adequate road capacity.

Physical deterioration of an area may discourage investors and developers from continuing business there. The appearance of industrial, commercial, and retail properties and streetscapes reflects the level of community pride and stewardship of Orange, and conveys a message about the quality of the community. For this reason, the contents of the Urban Design Element are coordinated with those of the Economic Development Element.

The ability to attract new employers and to further develop existing ones is dependent on the provision of housing options that can accommodate a range of users. The Housing Element provides an assessment of suitable locations for residential in-fill development, identifies barriers to the development of affordable housing, and establishes policies and programs that direct infrastructure investments to support residential growth.

ISSUES , GOALS AND POLICIES

Recognizing that economic development is a multi-faceted process that responds to changing demographic trends, the goals and policies of the Economic Development Element address seven issues: (1) maintaining fiscal diversity and balance among land uses; (2) retaining and expanding retail businesses and attracting new retail businesses to the City; (3) removing barriers to economic development; (4) improving the appearance of the City's commercial, industrial, and office corridors; (5) strengthening the City's economic base and stimulating employment growth; (6) ensuring the adequacy of technology and utility



infrastructure to support businesses; and (7) providing adequate local housing for employees.

Fiscal Diversity and Balance

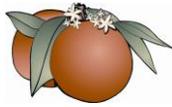
Orange's local economy has expanded rapidly in recent years, diversifying in both services and retail sales. The following goals and policies allow the City to continue to promote a diverse range of retail, commercial, institutional, and industrial businesses, and to achieve a balance between revenue generation and service demands of land uses.

GOAL 1.0 Sustain a diversified economic base and strong fiscal stability.

- Policy 1.1: Provide for land uses that allow a variety of retail, service, manufacturing, institutional, office, and recreational businesses to locate in Orange.
- Policy 1.2: Retain the small, independent business character of Old Towne and other areas where smaller, family-owned businesses flourish, while accommodating national and regional retailers along major commercial corridors, and encouraging corporate headquarters and offices in the City's prominent office and commercial areas.
- Policy 1.3: Retain industrial land for businesses that provide jobs for manufacturing and processing of goods and create local revenue sources.
- Policy 1.4: Encourage physical expansion of manufacturing operations and research and development businesses within light industrial and manufacturing areas.
- Policy 1.5: Encourage new development and businesses that supplement smaller components of the City's retail base, such as apparel retailers, food stores, and home furnishings and appliances.
- Policy 1.6: Continue to utilize redevelopment as a financing tool for City-initiated revitalization and to encourage and promote private investment.
- Policy 1.7: Pursue a variety of funding approaches, including grants, impact fees, assessments, and transportation funds in order to support public services, municipal programs, and capital investments that support City businesses.

Retail Business Retention and Expansion

Current employment trends indicate that retail activity ranks second to service industry in Orange. Both large corporate retailers and smaller independent businesses have been part of Orange for decades. To retain existing businesses, to encourage new retail developments and emerging industries, and to respond to changing community demographics, the City will work with both types of property owners to renovate and improve the appearance of existing retail centers. The City will increase development potential within key retail corridors to provide additional capacity for anticipated retail growth.



- GOAL 2.0** **Cultivate a business environment that is conducive and appealing to the commercial and retail industry, including smaller entrepreneurs.**
- Policy 2.1: Encourage public-private partnerships that will support business and employment growth.
- Policy 2.2: Increase local tax revenues by providing performance-based financial assistance to new and existing businesses in Orange.
- Policy 2.3: Periodically evaluate local sales tax, transient occupancy tax, business license fees, and building permit fees to determine the effect of fees on local businesses, or as a deterrent to new businesses, as well as to ensure adequate revenues for the City.
- Policy 2.4: Maintain adequate infrastructure, transportation systems, and physical conditions that encourage retailers to invest in the City.
- Policy 2.5: Encourage retention of existing retail businesses that will complement, and/or locate within, new or larger retail businesses or centers.

Commercial and Industrial Base

As of 2005, about 40 percent of people employed in Orange worked in the service industry, and around 10 percent worked in the manufacturing industry. In other words, nearly half of the employment force in Orange works in the service and manufacturing sectors. The City seeks to meet the needs of commerce and industry by strengthening and expanding the existing economic base. The proposed land uses described in the Land Use Element are anticipated to result in approximately 70.6 million square feet of nonresidential development at build-out, 35.7 million square feet more than current conditions. In addition, the Land Use Element advocates creation of a variety of mixed-use environments ranging from neighborhood-scale to urban scale.

- GOAL 3.0** **Strengthen the City’s economic base and stimulate employment through new commercial and industrial development and expansion.**
- Policy 3.1: Utilize ~~the City’s Redevelopment~~ resources to help make commercial and industrial construction and development financially feasible.
- Policy 3.2: Encourage public and private sector investments that promote commercial development and expansion opportunities.
- Policy 3.3: Provide a venue for businesses to discuss economic issues and opportunities and to inform the public of various economic development ~~and redevelopment~~ programs.
- Policy 3.4: Encourage higher density residential and mixed-use projects to provide a community-based workforce and market for industrial and commercial areas.



Encouraging Economic Development

Although the primary development of Orange has largely already taken place, the City can maximize its economic potential by identifying development opportunities on vacant or underutilized properties. The City can increase revenue and expand its employment base by refining development intensity within focus areas and by providing fiscal, zoning, infrastructure, and environmental support for business expansion. A key part of achieving a strong business climate and potential redevelopment of sites is to establish a friendly, professional environment to attract and retain businesses. Marketing and business outreach through various communication channels with both commercial tenants and property owners is vital. Available programs need to be flexible and should have the ability to adapt quickly to opportunities so as to retain important revenue-generating businesses in the community.

GOAL 4.0 Encourage economic development efforts through outreach and maintenance of a pro-active business environment.

Policy 4.1: Monitor land uses by business type ranging from entertainment to industrial uses to help identify citywide growth opportunities and target markets.

Policy 4.2: Through land use policy and redevelopment efforts, work to reduce deficiencies within prominent commercial corridors such as vacant and underutilized land, irregularly shaped lots, deteriorated or outdated public improvements and facilities, traffic congestion, excessive noise, poor air quality, and deficient parking.

Policy 4.3: Where appropriate, consolidate inadequately sized land or land owned by multiple owners into parcels suitable for integrated development with improved pedestrian and vehicular circulation.

Policy 4.4: Maintain an active presence in the business community and engage in outreach efforts with property owners, tenants, brokers, community stakeholders, and local residents.

Policy 4.5: Encourage an environmentally friendly business atmosphere that maintains local regulations favorable to clean industry, and provides assistance to industries seeking to comply with environmental regulations.

Aesthetic Improvements

The appearance of industrial, commercial, and retail properties and of the City as a whole reflects Orange's level of community pride and stewardship. Financial assistance for property and façade improvements will provide an incentive for private reinvestment in businesses, which in turn can increase City sales tax revenues which can be reinvested in infrastructure. Aesthetic improvements may include signage, landscaping, and façade renovation on private properties as well as rehabilitation of public rights-of-way and context-oriented street lighting. These types of improvements will enhance the image of the City's business districts for visitors and residents, and will improve business conditions in Orange.



- GOAL 5.0** Improve economic viability of business districts through aesthetic enhancement, reconstruction, rehabilitation, and elimination of physical deterioration.
- Policy 5.1: Eliminate and prevent physical deterioration and economic obsolescence ~~by implementing the Orange Merged and Amended Redevelopment Plan.~~
- Policy 5.2: Improve the long-term economic viability of Katella Avenue, Chapman Avenue, and Tustin Street by promoting upgrades to façades and aesthetics of retail properties, as well as the streetscape in the public right-of-way.
- Policy 5.3: Improve the long-term economic viability of Old Towne, South Main Street, Katella Avenue, Uptown Orange, The Outlets at Orange, and the Town and Country Road area by introducing mixed-use residential, commercial, and office projects that are visually and economically compatible with their surroundings.
- Policy 5.4: Redevelop and rehabilitate underutilized and vacant lands and public rights-of-way to stimulate development, and consider conversion of vacant lands to community amenities.
- Policy 5.5: Develop design guidelines, as needed, to encourage attractive development and clear signage, without increasing costs or barriers to economic development.

Infrastructure

Economic growth depends on provision of adequate infrastructure. Office, educational, and institutional facilities rely on the Internet and fiber-optic technology to transmit information and maintain daily business operations. Retail, commercial, and industrial businesses rely on well-maintained road, sewer, and water infrastructure to transport goods, support operations, and maintain a strong customer base. Provision and maintenance of needed utilities and infrastructure will ensure long-term economic growth while improving efficiency and productivity of businesses.

- GOAL 6.0** Provide sufficient infrastructure to support anticipated economic development and growth.
- Policy 6.1: Provide and maintain infrastructure adequate to support growth and expansion of commercial, industrial, and institutional areas, including water, sewer, streets, curbs, gutters, sidewalks, storm drains, access, and parking improvements.
- Policy 6.2: Provide public improvements to support commercial, industrial and institutional uses.

Housing for Employees

Future uses proposed in the Land Use Element may result in about 66,850 housing units in Orange's planning area. Much of the new housing will be part of mixed-use projects located near expanding retail, commercial, and office areas. To provide an affordable supply of housing for those employed in the City, development incentives will be allotted to



developers who include affordable workforce housing, consistent with the provisions of the City’s Housing Element. Since mixed-use developments combine housing and jobs in proximity to each other, they improve the ability of Orange residents to live closer to work, entertainment, and amenities, and could significantly decrease travel expenses and time lost to commuting, all ultimately improving quality of life in the community.

GOAL 7.0 **Encourage development and preservation of affordable workforce housing to increase housing opportunities and improve quality of life for workers in Orange.**

Policy 7.1: Identify and market sites appropriate for housing development for all income groups that will support adjacent commercial development.

Policy 7.2: Encourage mixed-use developments to provide housing close to employment hubs for employees in all income segments and household types.

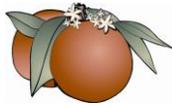
ECONOMIC DEVELOPMENT PLAN

Orange provides a wide range and diversity of commercial, industrial, and institutional activities to local and regional consumers while maintaining its local culture and identity. The City benefits from proximity to major freeways and access to neighboring communities in the County of Orange. The City’s commercial districts and regional shopping centers are attractions for local tourists seeking a retail, dining, and entertainment destination. Two such destinations are The [Block-Outlets](#) at Orange and the City’s Old Towne area, which is recognized as the largest historic district in California. The City’s economic health and continued growth will generate revenue and allow for funding increases to support public services and infrastructure.

Orange will continue to attract visitors and enhance the quality of life of its residents by building on existing assets that include the City’s location, the historic charm of Old Towne, commuter rail, regional medical centers, educational institutions, and substantial natural areas. Part of the City’s economic development efforts will focus on identifying underutilized and vacant sites for development, and renovating and rehabilitating older or dilapidated buildings. Redeveloping blighted areas will also expand development opportunities. By carefully analyzing types of uses that generate revenue and demand for public services, and by implementing programs to address the needs of the business community, Orange will continue to grow and develop economically without compromising its character and charm.

To strengthen the City’s economic profile, the City will:

- encourage mixed-use developments in strategic locations along and near major arterial corridors;
- continue to promote a diverse range of land uses that will sustain a strong economic tax base for the community;
- create a communication strategy to highlight economic development achievements and opportunities;
- conduct economic development and redevelopment workshops for the business community, including brokers, developers and community members;



- support continued growth of commercial, institutional, and industrial businesses that contribute both high-wage employment opportunities and point-of-sales revenues; and
- provide policies that guide City decision makers through the budget process.

Focus Area Objectives

The Economic Development Plan works within provisions of the Land Use Element that establish mixed-use areas, refining and in some cases increasing the development capacity of commercial and industrial areas. Targeting key focus areas in the City allows specific planning to enhance economic development activities.

Each focus area presents varying constraints and opportunities that guide different approaches to land use and economic development objectives. Following is a summary of specific objectives for each area. Detailed descriptions of each area and maps depicting proposed land uses in each area are contained in the Land Use Element.

Chapman Avenue/Tustin Street

- Emphasize continued commercial and multiple-family residential designations west of State Route (SR) 55.
- Promote viable open space recreation uses of Yorba Park, Grijalva Park, and Santiago Creek.
- Allow potential future commercial uses on the Yorba Park and OUSD Education Center sites in conjunction with on- or off-site parkland improvements.
- Maintain hospital and medical office uses at the Chapman [Global Medical Center \(previously known as Chapman Hospital\)](#) site and allow for compatible integrated retail, housing, and civic uses.

Katella Avenue Corridor

- Establish an active, vibrant, urban mixed-use gateway to the City featuring high-density residential uses.
- Capitalize on development of expanded entertainment uses and housing across the Santa Ana River in Anaheim.
- Enhance retail options and convenience throughout west Orange.
- Maintain Katella Avenue's commercial nature with neighborhood-scale mixed-use developments that transition into adjacent residential areas.

South Main Street Corridor

- Encourage compatible and integrated residential, commercial, and office uses.
- Encourage compatible and integrated residential, commercial, and office uses, either as multiple-story projects with ground-floor retail, or as stand-alone projects.
- Encourage pedestrian connections to transit along surrounding arterial corridors, as well as adjacent shopping and hospital facilities.



- Promote development of a medical corridor that capitalizes on existing hospital and medical uses.

West Chapman Avenue/Uptown Orange

- Encourage integrated commercial retail, professional and medical office, housing, and civic uses.
- Provide convenient transit access, innovative housing options, and pedestrian-oriented design.
- Require new development projects to provide community open space areas and retain or improve access to the Santa Ana River Trail.

Old Towne and Santa Fe Depot

- Reduce residential densities in many areas of Old Towne.
- Continue to protect and enhance Old Towne's historic character.
- Introduce neighborhood-scale mixed-use along Glassell Street and Chapman Avenue and adjacent to the Burlington Northern/Santa Fe (BNSF) railroad.
- Encourage the adaptive re-use of existing industrial/commercial areas and the creation of transit-oriented developments around the historic Santa Fe Depot.
- Maintain and enhance Old Towne's walkability.
- Provide for continued use and enhancement of the civic center, including City Hall and the Orange Public Library & Local History Center.

Industrial Areas

- Decrease the maximum allowed intensity within areas located west of Batavia Street and generally south of Grove Avenue to help discourage professional office uses within this area in favor of true industrial uses.
- Provide room for expansion of current businesses and infill of vacant properties in remaining portions of this area by increasing the maximum allowed development intensity.
- Preserve the single-family residential character of the Cully Drive neighborhood.

Lemon Street Corridor

- Establish a corridor of well-insulated, higher density residential uses, gradually transitioning, from west to east into a single-family residential area.

Eckhoff Street/Orangewood Avenue

- Recognize the potential of areas north of Orangewood Avenue to continue to provide options for lower-scale office uses and business-park oriented light industrial uses, as well as warehouse and distribution uses.
- Expand current neighborhood-scale office activities along Orangewood Avenue.



Fiscal Diversity and Balance

According to projections published by California State University, Fullerton's Center for Demographic Research (OCP 2006), Orange County's population is projected to grow by approximately 15 percent between 2006 and 2030. The number of jobs within the County is projected to grow by approximately 22 percent within this same timeframe. To accommodate this anticipated regional growth, demand for both office and retail space will increase. According to OCP 2006, Orange's population is expected to increase 16 percent and employment is expected to increase by about 8 percent. Most of the new population will be distributed between higher density infill mixed-use developments within the western portions of the City, or in newer suburban environments in east Orange. Because most of the anticipated retail and commercial growth will result from intensification of existing commercial nodes, such projected residential development will strengthen the market. The City will encourage mixed-use developments, including projects with affordable rental housing and businesses that complement the jobs available in Orange.

Redevelopment Dissolution

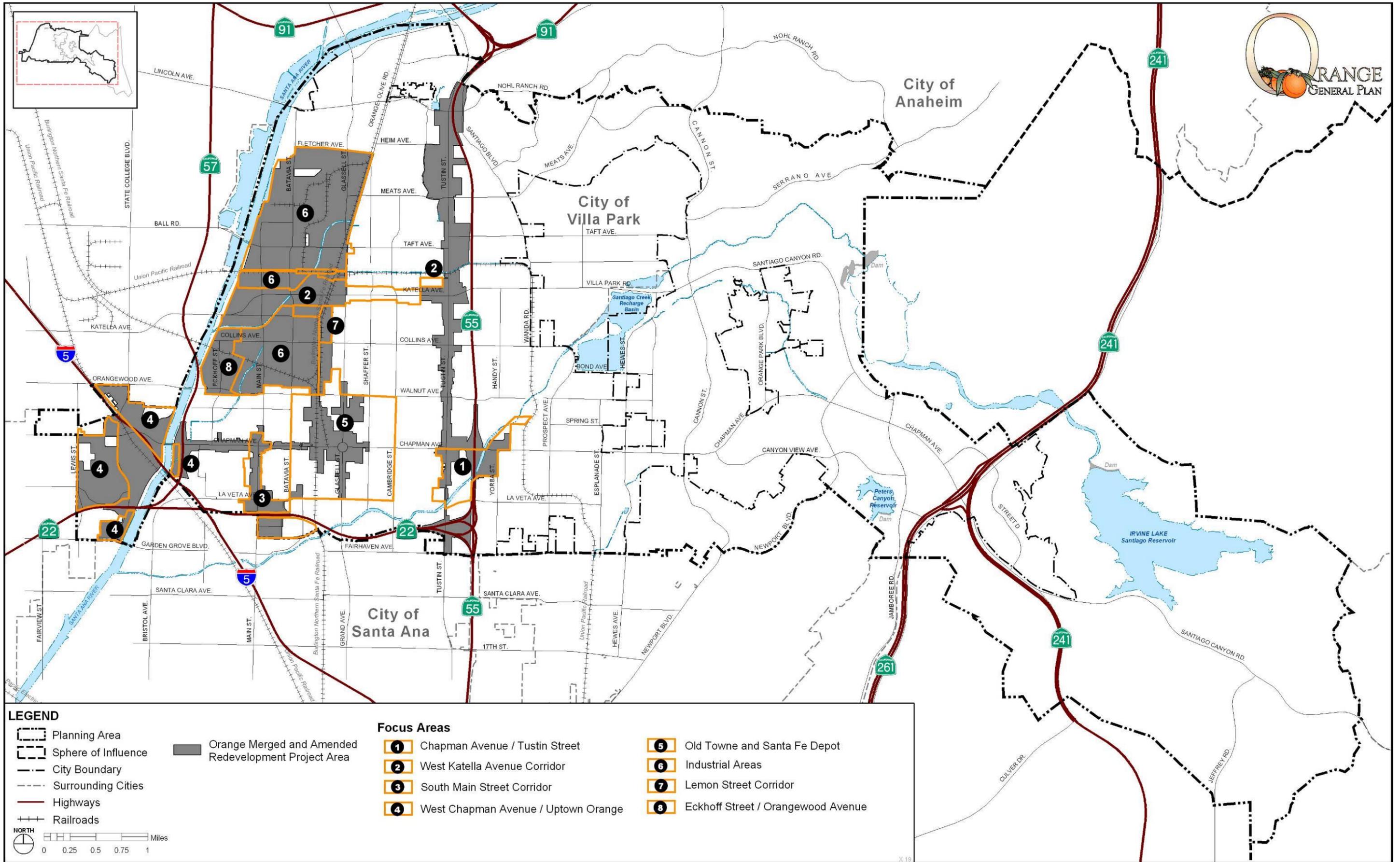
In 1983, the Orange Redevelopment Agency established the Tustin Street Redevelopment Project Area. In subsequent years, the Southwest Redevelopment Project Area (1984) and the Northwest Redevelopment Project Area (1988) were established. In 2001, the Agency Board approved a comprehensive plan amendment which merged the three project areas into one, which is now known as the Orange Merged and Amended Redevelopment Project Area. Figure ED-1 identifies the location and boundaries of the Merged Project Area.

Economic development and redevelopment activities in a project area were funded primarily with property "tax increment" dollars. When a project area was formed, property taxes within that area are frozen at a base year. Tax dollars below this base year are distributed to taxing agencies such as county, fire, and school districts as if the redevelopment project area did not exist. When property taxes within the project area increase as a result of increased property values, the amount over the frozen base year is referred to as "tax increment." In 2011, Assembly Bill X1 26 came into effect which dissolved redevelopment agencies as of February 1, 2012 and a Successor Agency was created for each former redevelopment agency.

The responsibility of the Successor Agency to the Orange Redevelopment Agency (Successor Agency) is to facilitate redevelopment wind-down activities.

Economic Development Activities

Economic development covers a wide spectrum of activities focused toward creation and maintenance of a healthy local economy including: business retention; encouraging expansion and growth of new business; exploring new opportunities to attract new start-up businesses; and, encouraging job retention and promoting new job creation. Enhancing and maintaining the City's economic base through increased sales and property tax dollars to the City's General Fund area also essential economic development efforts to sustain delivery of services to residents and businesses.



LEGEND

- Planning Area
- Sphere of Influence
- City Boundary
- Surrounding Cities
- Highways
- Railroads
- Orange Merged and Amended Redevelopment Project Area

Focus Areas

1 Chapman Avenue / Tustin Street	5 Old Towne and Santa Fe Depot
2 West Katella Avenue Corridor	6 Industrial Areas
3 South Main Street Corridor	7 Lemon Street Corridor
4 West Chapman Avenue / Uptown Orange	8 Eckhoff Street / Orangewood Avenue

NORTH
 0 0.25 0.5 0.75 1 Miles

Figure ED-1 Redevelopment Project Area



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Assembly Bill 562 and Sales Tax Sharing Program

In ~~2013~~2013, the State Legislature and Governor Brown approved Assembly Bill 562 (AB 562) which went into effect on January 1, 2014. This ~~new~~ legislation provided expanded flexibility for local agencies and cities to create and retain jobs as well as incentivize business retention and attraction efforts through sales tax sharing and other financial assistance.

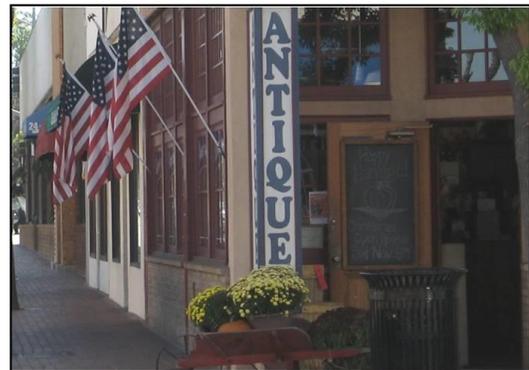
The City's Sales Tax Sharing Program provides for economic development incentives whereby the City and the owner of an existing or new business that generates sales tax revenue to the benefit of the City may enter into a Participation Agreement. These agreements would occur when businesses desire to:

- Establish, expand and/or consolidate business operations.
- Retain and/or create new jobs.
- Undertake upgrade and/or significant upgrade of property.
- Generate a minimum of \$10 million in annual tax sales to the City.

Business Development and Outreach

The Business Enhancement Support Team (BEST Team) works to eliminate development constraints of environmental, physical, or economic origin through public collaboration and assisting private partnerships through a streamlined entitlement process. The BEST Team works to understand private development and investment toward public infrastructure improvements, and seeks to stimulate economic growth through property upgrades and job creation. These objectives also emphasize the need to strengthen the City's economic base by identifying specific economic opportunities, promoting incentive programs, and facilitating business development.

Additionally, in the area of business development the City will continue to monitor property conditions throughout the community over time, and through ongoing business outreach with local brokers will evaluate areas and/or territory, and will promote development of high quality live-work mixed-use projects within focus areas designated for mixed-use development.



Orange will continue to encourage attraction and retention of small, independent entrepreneurs as part of its long-range economic strategy.

Fiscal Balance

Cities achieve fiscal balance by effectively budgeting and managing revenues and expenditures. Policies that encourage diverse revenue sources and that monitor costs will ensure a strong, sustainable economic base in Orange. Achieving fiscal balance means capturing sufficient tax revenue to support public services. In Orange, fiscal balance will require strengthening underrepresented economic sectors that bring revenue to the City. To



minimize local economic downturns due to heavy reliance on a limited number of market sectors, Orange will continue to promote the diversity of businesses already present in the City.

Revenues

General Fund revenues are collected from taxes and are used to provide local government services such as public safety, planning and building services, park maintenance, library and recreation services, and other expenditures not required by law to be restricted to a separate fund. The General Fund represents nearly half of the City's total revenues. In recent years, General Fund revenues have steadily risen.

Tax revenues, which include sales, property, transient occupancy, and other taxes, account for a large portion of total General Fund revenues. Other sources of revenue are motor vehicle license fees, service fees, licenses, and permits. Among tax revenues, sales taxes are the single most important source of revenue for the City. Orange receives an equivalent one percent share of the total value of transactions at City-based businesses that are subject to sales tax. The largest recent increases in taxable sales in Orange are associated with auto dealerships and "big box" retailers.

Ensuring adequate revenue to finance public facilities, services, and utilities requires a strong economic base. Orange's economic base can be strengthened by encouraging small, independent entrepreneurship, providing incentives for industrial, office, and larger commercial businesses, and attracting new private investments focused on revitalizing and redeveloping areas. The City will continue to work to eliminate constraints and encourage the productive use of underutilized and vacant sites, and will promote lot consolidations in areas characterized by smaller parcels and multiple property ownerships.

Expenditures

The General Fund serves as the primary funding source for the operating portion of the City's budget and provides money for expenditures that support ongoing programming. General Fund expenditures include general government, public safety, public works, community services, library services, community development, and non-departmental activities.

City government is labor intensive; consequently, labor costs (salaries and benefits) account for a large portion of the outlay. Over three-quarters of total general fund expenditures are spent on salaries and benefits. The Police and Fire Departments typically have the largest operating budgets among City departments and services.



Retail Business Retention and Expansion

Retail businesses in Orange are located primarily along Tustin Street, Katella Avenue, Chapman Avenue, and The City Drive. Major retail centers include The ~~Block-Outlets~~ at Orange in west Orange on The City Drive south of Chapman Avenue, The Village at Orange on North Tustin Street, and the Stadium Promenade on West Katella Avenue. As a major retail and entertainment center, The ~~Block-Outlets~~ at Orange attracts local residents and regional customers. Existing and future growth in the adjacent Anaheim Platinum Triangle and the University of California-Irvine Medical Center expansion further support the Uptown area’s regional attraction. The Urban Mixed-use designation for The ~~Block-Outlets~~ at Orange and the surrounding area presents opportunities to develop additional retail, office, residential, and entertainment uses. The Village at Orange is a regional lifestyle shopping center featuring traditional department store anchor tenants and regional retailers. The potential future Meats Avenue interchange along SR-55 would increase accessibility to the Village at Orange along an important north-south roadway. Stadium Promenade includes entertainment and retail businesses, and is located adjacent to Anaheim’s Platinum Triangle and across the Santa Ana River from the ~~proposed~~-Anaheim Regional Transportation Intermodal Center (ARTIC) transit station. Stadium Promenade will serve as a prominent western gateway into the City. To capitalize on the increased population within the adjacent area, and to successfully incorporate the benefits of increased transit use, this area will accommodate a higher concentration of mixed entertainment, retail, and residential uses. Areas further east along Katella Avenue, between Batavia Street and Glassell Street, will be

retained as a highly-productive commercial district, and will continue as home to several automobile dealerships. East of Glassell Street, neighborhood-scale mixed-use development will provide a transition from commercial retail uses to mixed-use neighborhoods between Glassell Street and California Street. Commercial uses will continue to surround the Katella Avenue and Tustin Street intersection.



The current Stadium Promenade site provides exciting opportunities for Orange to capture its share of the entertainment and tourist market generated by Disneyland and Angels Stadium.

The success of the City’s commercial and retail areas lies in their proximity to major transportation corridors, and in possessing a wide range of retail businesses that provide diverse goods and services and a variety of shopping and entertainment experiences. Challenges to the City’s retail market include financing the rehabilitation of older buildings and infrastructure, improving the availability of parking, and implementing design guidelines that will improve signage, create attractive public spaces within commercial corridors, and preserve the historic character of Old Towne. Redevelopment and improved financing of



both public facilities and services will strengthen the City's economic base and can improve the physical appearance of these corridors. New mixed-use designations will both increase the market for commercial areas, and allow for expansion.

Commercial and Industrial Base

The City's commercial market offers diverse shopping opportunities, goods, and services for a broad range of tastes and socioeconomic groups. The proximity of commercial areas to major transportation corridors, and the planned expansion and renovation of these areas outlined in the Land Use Element will provide growth and expansion opportunities for commercial businesses, particularly retail businesses. Even though these commercial uses are vulnerable to fluctuations in the local and regional markets, and developable land is growing scarce, mixed-use expansions and redevelopment of parcels along major corridors will provide new business opportunities as the City approaches a more highly developed condition. The City will continue to support smaller industries and businesses that provide job growth and tax revenue. By diversifying both its tax and employment base, the City will continue to improve its fiscal viability.



Supplementing the City's strong commercial and industrial sectors, Orange's institutions, including St. Joseph Hospital, provide valuable skilled employment opportunities.

Orange's industrial uses are concentrated in the northwest area of the City, generally north and south of Katella Avenue, and west of Glassell Street, with consistent, strong demand from small businesses. The area consists of a mix of warehouses, light industrial uses, and flexible office spaces catering to incubator or "home grown" companies. Key advantages offered by the City's industrial areas include proximity to high-end housing in Orange and surrounding communities for company executives, a central location, convenient freeway access, and the opportunity to capture displaced industrial tenants from the Platinum Triangle area. Even with high demand for industrial spaces, growth is limited due to lack of available land. To promote industrial growth and increase employment opportunities, the City encourages consolidation of small parcels with multiple owners, concentrates redevelopment on smaller sites, and has refined or increased the buildable capacity of industrial areas to be responsive to demand by adjusting maximum permitted Floor-Area Ratios (FARs).

Encouraging Economic Development

Strategies for promoting economic development in Orange include potential reuse and redevelopment of underutilized properties and irregularly shaped parcels. One challenge existing in Orange today is the lack of appropriate sites for larger retail developments. The City must compete with adjacent retail centers in neighboring cities such as Main Place Mall



in Santa Ana and the Platinum Triangle and Garden Walk projects in Anaheim. The local market is also vulnerable to fluctuations in the Southern California economy.

To facilitate commercial development on underutilized sites, the City encourages site consolidation where feasible and desirable to provide parcels appropriately sized and configured to support larger retail and office development. The City also will support site assessments to determine the status of potential environmental contamination.

Orange's large industrial area is located in the northwestern portion of the City, and is characterized by a broad mix of business park, office, manufacturing, warehousing and commercial uses. Over time, market forces may create a demand for more office space in the industrial area, or for more intense business park or warehouse uses than are currently present. Considering ways to increase the intensity of uses throughout the City's industrial areas will encourage more productive use of limited land resources. Demand for industrial and office use in this area is strong, particularly among those who want to own their buildings. Therefore, the City seeks to preserve the primary industrial land use found in this area and to encourage intensification and/or redevelopment of underutilized parcels.

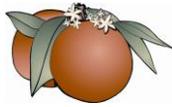
Areas with incompatible uses often require mitigation efforts to address negative impacts. The City will buffer industrial and residential uses from each other with commercial uses or other higher intensity uses to protect residential areas from exposure to truck traffic, to the transport of hazardous materials, and to excessive noise associated with industrial uses. Within industrial areas, the City will encourage recruitment and retention of environmentally safe and clean manufacturers to ensure that expansion of industrial areas can occur without increasing the risk to residents and employees from potential exposure to hazardous materials and wastes.

Aesthetic Improvements

The quaint streets of Old Towne and the postmodern attractions at The [Block-Outlets](#) at Orange and The Village at Orange display the City's appreciation for a variety of aesthetic styles. Funds to support renovation and rehabilitation are returned through tax revenue generated by regional and local clientele, who enjoy the upgraded look and feel of Orange's retail centers. In addition, mixed-use areas will increase the opportunity for aesthetically pleasing commercial and residential development along some of the City's major corridors while promoting both walkability and a sustainable lifestyle.

Areas already characterized by strong design features are the result of implementation of design guidelines the City has adopted in certain locations. The City can complement the economic and aesthetic contributions of its thriving retail centers by focusing aesthetic improvements in additional areas along Lincoln Avenue, Tustin Street, and Katella Avenue, and by removing barriers and capturing economic opportunities present in each area. Creating a streetscape program and design guidelines, and using economic development resources and funds where possible will contribute toward achieving the City's aesthetic and economic goals in these areas.

Furthermore, the City emphasizes specific programs to improve aesthetics along commercial corridors, such as placing entryway signs on major corridors near the City's boundary, developing landscape guidelines to extend landscape and hardscape design throughout the



City, and paying attention to design in transitional areas between commercial and residential areas. Implementing the ~~Old Towne Design Standards~~Historic Preservation Design Standards for Old Towne and Infill Residential Design Guidelines and updating other design guidelines throughout the City in tandem with economic development plans will ensure aesthetic improvements and improve economic viability. More information and policies related to urban design and aesthetic improvements within the City's commercial and mixed-use corridors are provided in the Urban Design Element.

Infrastructure



Orange's Redevelopment Agency considers development and rehabilitation of affordable family housing with emphasis on low and very-low income families as one of its highest priorities.

Fiscal growth and business expansion, both within the Project Area and throughout the City, depends on provision of adequate infrastructure and necessary public services. These services ensure the safety, cleanliness, and communication that businesses rely on in order to carry out daily operations. In effect, inadequate public services and infrastructure will curtail expansion of retail, commercial, and industrial businesses; will reduce job opportunities; and will create blight over

the long term. Adequate infrastructure will allow businesses to expand and will provide room for new businesses to develop without making burdensome demands on the City's infrastructure.

To ensure proper services and infrastructure, the City has created and continues to update plans for drainage, sewer operations, and water management. The City also monitors the status of its infrastructure and of public utilities such as gas, electricity, and telecommunications. To address aging of the water, sewer, and storm drain infrastructures; to deliver clean water; and to ensure proper waste collection; Orange gauges current and future needs and charges fees to fund needed upgrades and replacements. The City also implements infrastructure policies in its *Economic Development Strategy Plan* to address inadequacies pertaining to storm drains, signalization, and slow progress in placing utilities underground. More information and policies related to the infrastructure needed to support economic growth and expanded employment are provided in the Infrastructure Element.

Housing for Employees

The supply of adequate housing in and around Orange is directly related to the health and expansion of the City's economy. State law (Health and Safety Code Section 33070) declares



the importance of providing housing and employment opportunities for all people. It also states that “unfit housing and lack of employment opportunity depend on each other to perpetuate a system of dependency and hopelessness which drains the state of its valuable financial and human resources” (Health and Safety Code Section 33070).

Among the fundamental purposes of redevelopment are expansion of the supply of low- and moderate-income housing, and expansion of employment opportunities for jobless and underemployed persons. To accomplish this, the Agency is required to set aside at least 20 percent of its tax increment revenues to increase, improve, and preserve low- and moderate-income housing. The City and the Agency aim to rehabilitate and repair the current supply of housing, to provide new construction of low- and moderate-income housing, to provide special-needs housing, to replace affordable housing that has been eliminated as a result of redevelopment, and to integrate affordable housing within new residential development.

Although the City lacks an abundance of vacant land for residential use and faces competition from planned developments in surrounding cities, Orange is a prime location for residential developments because of its proximity to major employment centers and amenities, its high quality of life, and its high existing demand for a range of housing types. To improve quality of life for workers in Orange, the City will continue to provide a wide variety of housing options that suit the needs of residents of all income groups and household types. To increase the existing housing supply, the City has increased the amount of land designated for mixed-use development and identified sites suitable for housing development for local and regional employees. More information, including policies and programs related to provision of affordable and accessible housing in the City, are provided in the Housing Element.

ECONOMIC DEVELOPMENT IMPLEMENTATION

The goals, policies, and plans identified in this Element are implemented through a variety of City plans, ordinances, development requirements, capital improvements, and ongoing collaboration with regional agencies and neighboring jurisdictions. Specific implementation measures for policies in this Element are contained in the General Plan Appendix.



APPENDIX

IMPLEMENTATION

INTRODUCTION

This Implementation Plan will guide City elected officials, commission and committee members, staff, and the public in the overall effort to put into practice the adopted General Plan goals and policies. The purpose of the implementation programs is to ensure that the overall direction set forth in the General Plan is translated from general ideas to actions.

Each implementation program is a procedure, program, or technique that requires City action, either alone or in collaboration with non-City organizations or with federal and state agencies. Some of the implementation programs are processes or procedures the City currently administers on a day-to-day basis (such as review of development projects). Other implementation programs require new programs or projects. Completion of each of the identified programs is subject to funding availability.

CITY DEPARTMENTS AND DIVISIONS IMPLEMENTING THE GENERAL PLAN

Implementing and maintaining the overall General Plan is the primary responsibility of the Planning Division of the Community Development Department. However, because General Plan policies affect nearly every aspect of City government and of City services provided in Orange, other departments also play key roles in ensuring that General Plan policies and programs are carried out to achieve the community's vision. Each of the City's departments has taken part in the preparation of the General Plan, and many have implementation responsibilities described in this section. In some cases, elements of the implementation programs may carry through to individual departments' work plans or the City's Capital Improvement Program. The implementation programs are also intended to be consistent with, and supportive of, the City's Strategic Plan.

The following section summarizes the Mission Statements of the departments most responsible for implementing the General Plan. These statements provide a broad overview of the types of programs each department is likely to be responsible for implementing.

City Council

The City of Orange is committed to excellent service for our residents, businesses, and visitors.



City Manager

To ~~serve the City with strong~~ manage the City's resources with leadership and vision.

Community Development

~~To work with the community in achieving and maintaining a better quality of life by providing professional guidance and coordination of all land planning and development activities, and by fairly and consistently implementing the City's regulations and policies~~To guide the development and preservation and a livable, safe, and sustainable Orange.

Community Services

To enhance the quality of life and a safe community by providing lifelong learning opportunities, leisure activities, and recreational experiences in well-maintained parks and facilities.

~~Economic Development~~

~~To promote economic growth and housing opportunities to enhance the quality of life throughout the community.~~

Fire

To prevent or minimize the loss of life, damage to the environment, and property from ~~the adverse effects of~~ fire, medical emergencies, and hazardous conditions.

Library Services

To welcome and support all people in their enjoyment of reading and pursuit of lifelong learning, to preserve local history, and to provide equal access to information, ideas, and knowledge through books, programs, and technology.

Police

To perform law enforcement duties with innovative leadership; accountable to the people we serve, in order to ensure their safety and improve the quality of life in our diverse community.

Public Works

To provide and preserve our City's infrastructure, facilities, and programs, and to promote public health, safety, and welfare through courteous and timely customer service and efficient use of available resources.



CITY OF ORANGE STRATEGIC PLAN

The *City of Orange Strategic Plan* establishes a vision for how the City as an organization delivers services to its residents, businesses, and visitors. The intent of the plan is to define the purpose of the organization, establish realistic goals and objectives, present a vision of success that will guide the ongoing direction of the organization, and help to ensure the most effective use of City resources by focusing the resources on key priorities. The ~~2008-2017~~ Strategic Plan establishes the following goals:

- (1) Provide for a safe community.
- (2) Be a fiscally healthy community.
- (3) Enhance and promote the quality of life in the community.
- (4) Provide outstanding ~~customer-public~~ service.
- (5) Recognize, promote, and preserve Orange's rich heritage.

These Strategic Plan goals are integrated throughout the General Plan policies, and are reflected in the Implementation Plan programs and specifications. Therefore, the Strategic Plan goals are also reflected in the individual department work plans and the City Budget.

IMPLEMENTATION PROGRAMS

General Plan implementation programs are organized into the following five subsections corresponding to various areas and levels of City responsibility:

- I. Plans, Permits, Procedures, Agreements, and Ordinances Administered by the City
- II. Physical Improvements and Capital Projects
- III. Conditions or Requirements Placed Upon Applicants during Development Review
- IV. Planning and Outreach Initiatives
- V. Coordination with Other Agencies and Organizations

Each implementation program relates directly to one or more of the General Plan policies, drawn from various elements. For each program, the related General Plan policies are listed, along with the responsible agencies or City departments, the recommended time frame, and the likely funding source.

The implementation programs are intended for use as the basis for preparing the *Annual Report to the City Council* on the status of the City's progress in implementing the General Plan, as described in Section 65400 of the Government Code. Because many of the individual actions and programs also act as mitigation for environmental impacts resulting from planned development in accordance with the General Plan, the Annual Report can also provide a means of monitoring application of the mitigation measures as required by Public Resources Code Section 21081.6. To ensure continued consistency and usefulness, the programs should be updated concurrent with the City's annual budget process and whenever the General Plan is amended or updated.

Implementation programs corresponding to the goals and policies set forth in the Housing Element are listed within the Housing Element, rather than within this Appendix.



I. Plans, Permits, Procedures, Agreements, and Ordinances Administered by the City

Program I-1 Zoning Code Update

The City will ~~perform focused amendments to the Zoning Code in order to update,~~ revise and/or establish new zoning standards to implement policies in the Land Use, Noise, Urban Design, and Cultural Resources & Historic Preservation Elements. All future updates to the Zoning Code will include an active public participation process. Until such time as the City ~~ultimately performs a comprehensive~~ ~~adopts the~~ Zoning Ordinance ~~amendments~~ update, all new development shall comply with the standards set forth in the current Zoning Code, or the standards established through a development agreement or specific plan for a particular development project.

The City will update design standards for ~~Old Towne and~~ the Southwest Redevelopment Project Area, and develop new streetscape standards to implement its mixed-use land use objectives. The zoning code revisions will designate buffer zones and transitional areas to minimize land use incompatibilities between single-family residential areas and intensified commercial operations and mixed-use development. The Zoning Code revisions do not specify changes regarding noise in mixed-use areas; however, Implementation Program I-30, “Noise Ordinance,” seeks to minimize the effect of noise generated from industrial land uses on adjacent land uses.

Specific revisions to the Zoning Code will be completed to address:

- Maximizing the amount of pervious surfaces in new and infill developments;
- ~~Integration of crime prevention through environmental design (CPTED) principles into site plan and building design, including adequate safety lighting;~~
- Integration of complementary uses in support of a safe community environment;
- A designation process for cultural resources to be listed on the city’s Local Register of Historic Resources, to include a broad range of historic resources including separate or individual buildings, structures, objects, and sites, as well as districts and archaeological resources;
- A process for review of projects related to historic resources outside of the Old Towne Historic District.
- Adaptive reuse of potential and listed historic resources—the city will consider provisions for including neighborhood character areas (NCAs) as a zoning overlay, and the following planning areas may be considered for this zoning revision: El Modena, Cypress Street Barrio, and the ~~R~~railroad/~~P~~packinghouse ~~C~~corridor;
- Development interface with Santiago Creek, the Santa Ana River, and other open space areas;



- Incorporation of sustainable development principles, such as the adoption of resource conservation measures for building codes and standards, and specifications for multi-modal transportation;
- ~~Maintenance of the building security ordinance and addition of a CPTED element to those standards; and~~
- Preparation of development standards that address National Pollutant Discharge Elimination System (NPDES) requirements.

Agency/Department: Community Development Department, Police Department, Public Works Department

Funding Source: General Fund

Time Frame: Updated by December ~~2016~~2030

Related Policies:

- Land Use: 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.8, 2.9, 4.1, 4.2, 4.4, 4.5, 5.1, 5.2, 5.3, 6.1, 6.2, 6.4, 6.7, 6.8, 6.9, 8.1
- Cultural Resources & Historic Preservation: 1.3, 1.4, 1.5, 2.1, 2.3, 3.2, 4.5
- Public Safety: 2.3, 2.4, 3.3, 7.2, 7.5, 7.6, 9.1
- Noise: 1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 4.3, 5.1, 5.2, 5.3, 6.1, 6.2, 7.3
- Urban Design: 1.1, 1.4, 1.7, 4.1, 5.1, 5.2, 5.3, 6.1, 6.3, 6.6
- Economic Development: 1.1, 1.3, 1.4, 4.5, 5.3, 5.5

Program I-2 Land Use Policy Map and Focus Area Development Objectives

Ensure that City land use decisions are consistent with the policies of the Land Use Element and the land uses shown on the Land Use Policy Map. Using the development review process and other tools outlined throughout the General Plan, ensure that the development objectives specified for each of the eight focus areas described in the Land Use Element are achieved for new development and infill projects located in the focus areas.

Agency/Department: Community Development Department

Funding Source: General Fund

Time Frame: Ongoing

Related Policies:

- Land Use: All
- Economic Development: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 3.1, 3.2, 3.3, 3.4, 7.1, 7.2



Program I-3 Specific Plans and Neighborhood Plans

Prepare, adopt, and implement specific plans and neighborhood plans consistent with state law to establish permitted densities, intensities, and uses within Orange for the systematic implementation of the General Plan.

Continue to implement and update, as needed, the following adopted specific plans and neighborhood plans:

- Archstone Gateway
- Chapman University
- East Orange General Plan (1975)
- Immanuel Lutheran Church
- Orange Park Acres
- Pinnacle at Uptown Orange
- St. John’s Lutheran Church and School
- Santa Fe Depot Area
- Serrano Heights
- Upper Peters Canyon
- [Salem Lutheran Church and School](#)
- [Orange-Olive Residential](#)

New specific plans may be permitted elsewhere within the planning area in the future. Through the specific plan process, encourage developers to include or provide:

- Context sensitivity and connectivity to surroundings,
- Complementary mix of uses,
- Pedestrian-oriented places,
- Transit-oriented design,
- Public spaces,
- Green spaces, and
- CPTED design features.

Agency/Department:	Community Development Department
Funding Source:	General Fund, private property owners
Time Frame:	As needed
Related Policies:	
Land Use:	2.1, 2.4, 3.4, 5.1, 5.2, 5.3, 5.5, 5.8, 5.9, 6.7, 6.10, 6.11, 7.1, 7.2
Circulation & Mobility:	3.2, 3.3
Public Safety:	7.2
Urban Design:	1.1, 5.1, 5.3, 6.1, 6.2, 6.4

Program I-4 Plans, Standards, and Guidelines

Adopt, review, implement, and update as necessary the following master plans, standards, and guidelines:



- *Bikeways Master Plan*
- *Residential Neighborhood Traffic Management Program*
- *Recreational Trails Master Plan*
- *Park Facilities, Recreation, and Community Services Master Plan*
- *Grading Ordinance and hillside development regulations*
- *Scenic highway standards for Santiago Canyon Road, Jamboree Road, and Newport Boulevard*
- *Historic Preservation Design Standards [for Old Towne](#)*
- *Eichler Design Standards*
- *Design guidelines and/or standards for large complexes*
- *Historic preservation design standards for other historic districts and for individually listed historic resources.*
- *Infill Residential Guidelines*
- *Street Tree Master Plan*
- *Master Utility Undergrounding Plan*
- *Tustin Street Design Standards*
- *Design standards for areas where the General Plan is changing land uses, including the Southwest Project Area, Chapman Avenue, Katella Avenue, and South Main Street*
- *Emergency Operations Plan and [“Know Your Way”](#) evacuation routes*
- *Fire Department Strategic Deployment Plan*
- *Fire Department Standards of Coverage Assessment (2015)*
- *Wildland Urban Interface (WUI) Pre-Plans including:*
 - *Tustin-Orange Foothills Fire Plan*
 - *WUI Plans for:*
 - *Anaheim Hills East*
 - *Anaheim Hills West*
 - *Cowen Lemon Heights*
 - *East Orange-Orange Park Acres*



- [Fire Master Plan Guidelines](#)
- [Vegetation Management Guidelines – Technical Design for New Construction, Fuel Modification Plans, and Maintenance Program](#)
- Water Master Plan
- Urban Water Management Plan
- Sewer Master Plan
- Storm Drain Master Plan
- NPDES Local Implementation Plan
- Public Library Facilities Master Plan
- Noise standards and guidelines for new construction in mixed-use districts
- Santiago Creek Vision Plan

Agency/Department:	Community Development Department, Public Works Department, Community Services Department, Police Department, Fire Department, Library Services Department, Economic Development Department
Funding Source:	General Fund, development fees, private contributions
Time Frame:	Ongoing
Related Policies:	
Land Use:	1.5, 1.7, 2.6, 2.7, 5.5, 5.6, 6.3, 6.4, 6.5, 7.1, 7.2
Circulation & Mobility:	1.4, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 6.1, 6.2
Natural Resources:	1.1, 1.2, 2.13, 2.14, 2.15, 2.16, 5.1, 5.3, 5.5, 5.6, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 7.1
Cultural Resources & Historic Preservation:	1.1, 1.3, 1.6, 5.1, 5.2, 5.3, 5.4, 5.5
Public Safety:	3.6-6 , 3.7 , 6.6 , 6.7, 6.10 , 8.4
Urban Design:	1.1, 1.2, 2.5, 5.3, 6.1, 6.2, 6.3, 6.6
Economic Development:	2.4, 5.1, 5.2, 5.3, 6.1, 6.2
Infrastructure:	1.1, 1.2, 4.2

Program I-5 Transfer of Development Rights Ordinance

Adopt a Transfer of Development Rights (TDR) ordinance to allow TDRs for the following purposes:

- To increase levels of residential densities at appropriate sites in areas designated Urban Mixed-Use, as described in Table LU-3 in the Land Use Element;



- To encourage well-designed high-rise development consisting of buildings 10 stories or higher at identified locations, as described in Table LU-4 and shown on Figure LU-8 in the Land Use Element;
- To expand and preserve open space in the Urban, Old Towne, and Neighborhood mixed-use land use designations, as described in Table LU-4 in the Land Use Element; and
- To provide incentives for preservation of listed historic resources or contributors to listed historic districts.

In each case, a Development Agreement between the property owner and City of Orange will be required.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Complete by 2013 2022
Related Policies:	
Land Use:	2.2, 2.3, 2.8, 5.5
Natural Resources:	4.7
Cultural Resources & Historic Preservation:	3.2

Program I-6 Prepare Design Guidelines

Prepare new design criteria for public gathering spaces, commercial areas, rural development character, viewshed protection and preservation, and additional policies for mixed-use development and transit-oriented development as needed. New design criteria should also include landscape standards that provide open space buffers and other appropriate transitions between lower density, single-family neighborhoods and higher density development. Design criteria should also address standards for the provision of community gathering spaces within private development, incentives to provide accessible open spaces in commercial and mixed-use corridors, and guidelines for the preservation of visual points of interest throughout the community.

Agency/ Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Update complete by 2013
Related Policies:	
Land Use:	2.7, 2.8, 2.10, 8.1
Natural Resources:	1.3, 2.8, 7.5
Urban Design:	2.1, 2.4, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.5, 6.1, 6.2, 6.6



Program I-8 Code Enforcement

Continue to enforce property maintenance standards, adopted City Building Code, the Zoning Ordinance, the Noise Ordinance, and other provisions of the Orange Municipal Code.

Agency/Department:	Community Development Department, Police Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Land Use:	5.5, 6.1, 7.5
Urban Design:	5.2, 6.2
Noise:	1.2, 1.4, 7.2, 7.3
Public Safety:	3.3, 9.1
Economic Development:	4.1, 4.2

Program I-9 Building and Fire Codes

Continually update Bbuilding and Ffire Ccodes to:

- Ensure that new development and retrofitted development reduce potential damage from earthquakes, floods, fire, wind, liquefaction, and other natural hazards; and
- Incorporate increased energy efficiency and green building and sustainable development strategies.

Agency/Department:	Community Development Department, Fire Department, Economic Development Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Public Safety:	1.1
Noise:	5.1, 6.1

Program I-10 City Master Plan of Streets and Highways

Use the established Capital Improvement Program process to implement the circulation system shown on the City Master Plan of Streets and Highways (Figure CM-2), the City will secure funding for roadway improvements, will design and build new roadways, and will complete roadway repairs and improvements. Future roadways must meet roadway classification design specifications and performance criteria. To reduce the impacts of traffic on residential areas, encourage through traffic to use higher classification arterials as designated within the City’s Master Plan of Streets and Highways.



Agency/Department: Public Works Department
 Funding Source: General Fund, development fees, and Renewed Measure M funds
 Time Frame: Ongoing
 Related Policies:
 Circulation & Mobility: 1.1, 1.3, 2.1, 2.2, 2.5
 Growth Management: 1.2, 1.11, 2.2
 Economic Development: 2.4, 6.1, 6.2

Program I-11 Critical Intersection Program

To ensure that traffic flows meet the level of service (LOS) standards established in the Circulation & Mobility Element, roadway capacity in areas with excess traffic will be improved by restricting on-street parking, improving signal timing, widening intersections, adding through and turn lanes, and using other transportation systems management measures. Monitor the performance of Critical Intersections identified on Figure CM-2 in the Circulation & Mobility Element on an ongoing basis. Ensure that Critical Intersections approaching LOS D are prioritized for improvement within the City’s Capital Improvement Plan.

Agency/Department: Public Works Department
 Funding Source: General Fund, Renewed Measure M funds, development fees, gas tax funds
 Time Frame: Ongoing
 Related Policies:
 Circulation & Mobility: 1.2, 1.3
 Growth Management: 1.1, 1.11
 Economic Development: 2.4, 6.1, 6.2

Program I-12 Old Towne Parking District

Study the benefits of creating a parking district and the feasibility of expanding available public parking in areas surrounding the Plaza. Shared parking, consolidated parking facilities, parking structures, or underground parking should all be considered as potential strategies to provide additional off-street parking to meet future demands related to adaptive re-use and infill development in Old Towne.

Agency/Department: Public Works Department, Community Development Department, Economic Development Department
 Funding Source: General Fund
 Time Frame: Feasibility study completed by 20~~25~~²³
 Related Policies:
 Land Use: 2.5, 5.4
 Circulation & Mobility: 5.1, 5.2, 5.3, 5.4
 Urban Design: 6.2
 Economic Development: 4.1, 4.2, 6.2



Program I-13 Pedestrian-Oriented Streetscape Master Plan

Prepare, adopt, and implement a pedestrian-oriented streetscape master plan as part of the City’s decision to enhance the walkability of public spaces, with the goal of promoting multi-modal transportation options. This plan will include the City’s key commercial corridors, such as Tustin Street, Chapman Avenue, Main Street, and Katella Avenue. The master plan should integrate concepts discussed for these corridors throughout the General Plan related to pedestrian facilities, streetscapes, urban green zones, façade improvements, and signage, including:

- Identifying pedestrian links that need improvement and strengthening;
- Determining new pedestrian links to underserved areas;
- Ensuring adequate sidewalk widths to accommodate lighting, street trees, benches, and trash cans;
- Establishing design character, standards, and guidelines for proposed outdoor spaces, paseos, and pedestrian paths;
- Incorporating more functional and appealing outdoor spaces, paseos, and pedestrian paths within retrofits of current streetscapes as well as within new development;
- Integrating public open space (e.g., plazas, neighborhood parks, pocket parks) in commercial and mixed-use corridors;
- Providing transit amenities such as bus stops, shelters, and lighting;
- Helping to reduce conflicts between land uses;
- Determining entry or gateway street design elements and standards;
- Minimizing barriers to pedestrian and bicycle access; and
- Incorporating CPTED concepts.

The Plan should include sidewalk, transit, open space, and landscape design and standards. The planning process will include an active public participation component.

Agency/Department:	Community Development Department, Public Works Department, Economic Development Department
Funding Source:	General Fund, development fees
Time Frame:	Adopt by 2018 2025
Related Policies:	
Land Use:	2.6, 2.7, 2.8, 3.3, 5.7, 5.9, 6.3, 6.6, 6.8, 8.1, 8.3
Circulation & Mobility:	1.1, 4.7, 6.1, 6.2, 6.3
Natural Resources:	2.2, 7.3
Urban Design:	1.1, 1.2, 1.3, 3.4, 3.5, 4.7, 6.6
Public Safety:	7.4, 9.1, 9.2, 9.3



Program I-14 Streetscape Improvement Program and City Scenic Highways

Develop a Streetscape Improvement Program for major and minor streetscapes, bikeways, and trails that includes standard plans and design criteria for unified lighting, paving materials, and patterns, and landscaping such as street trees, median and slope planting, and landscaped parkways.

The Streetscape Improvement Program also includes development of specific standards to define and designate the following City Scenic Highways:

- Jamboree Road
- Santiago Canyon Road
- Newport Boulevard

Agency/Department: Community Development Department, Public Works Department, Community Services Department

Funding Source: General Fund

Time Frame: Ongoing

Related Policies:

- Circulation & Mobility: 6.1, 6.2, 6.3
- Natural Resources: 7.2, 7.3, 7.4, 7.5
- Urban Design: 1.1, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 3.4
- Economic Development: 5.2

Program I-15 Operating Budget

Continue to adopt and update the City’s Operating Budget to maintain current levels of City services, public facilities and infrastructure, and coordinate development of community facilities and amenities and capital projects.

Agency/Department: City Manager

Funding Source: General Fund. Secondary sources include special revenue funds (such as Proposition 172, Renewed Measure M funds), gas tax funds, enterprise funds, capital improvement funds, **and housing funds**

Time Frame: Ongoing

Related Policies:

- Land Use: 1.2, 1.7
- Natural Resources: 5.1, 5.2
- Cultural Resources & Historic Preservation: 3.3, 3.4, 3.5, 5.2
- Public Safety: 2.4
- Economic Development: 2.2, 2.3



Program I-16 Certified Local Government Status

Apply to the Office of Historic Preservation (OHP) for inclusion in the Certified Local Government (CLG) program. Successful application includes meeting several requirements:

- Enact appropriate historic preservation regulations through an adopted historic preservation ordinance.
- Establish a qualified historic preservation review commission.
- Maintain a system for the survey and inventory of historic properties.
- Provide for adequate public participation in the historic preservation program.
- Satisfactorily perform the responsibilities delegated to the Certified Local Government.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Application submitted by 2025 ⁴⁶
Related Policies:	
Cultural Resources & Historic Preservation:	1.1, 1.2, 1.3, 2.2, 3.1, 3.3, 3.4

Program I-17 Local Historic Register

Create the City of Orange Register of Historic Resources (Historic Register), which will serve as the local register of historical resources under the California Environmental Quality Act (CEQA). Automatically include all resources previously designated, listed, or determined eligible for listing within the National Register of Historic Places or California Register.

- Establish a process for handling voluntary requests for listing in the Historic Register. Support coordination with property owners of potential historic resources identified on the Orange Inventory, so that such potential historic resources can more readily be listed in the Historic Register.
- Establish a process for listing in the Historic Register those buildings, structures, objects, sites, or districts that meet the criteria.
- Establish procedures to remove historic resources from the Historic Register.
- Establish procedures for listing archaeological resources in the Historic Register. Employ appropriate criteria for evaluating potential significance of such archaeological resources as historical resources or unique archaeological resources under CEQA. Encourage voluntary listing of eligible archaeological resources.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Register established by 2025 ⁴⁵ , maintenance ongoing



Related Policies:	
Land Use:	5-5
Cultural Resources & Historic Preservation:	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 3.1, 3.2, 3.3, 3.4, 3.5

Program I-18 Eichler Historic Districts

Pursue historic landmark district designation for three Eichler tracts. Notify property owners in three Eichler tracts—Fairhaven, Fairhills, and Fairmeadow—of the intent to list each of the three tracts separately as local historic districts. Follow established procedures for Historic Register listing of each. Develop design standards and project review processed for Eichler Historic Districts.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Landmark Districts established by 2015
Related Policies:	
Cultural Resources & Historic Preservation:	1.4

Program I-19 Historic, Cultural, and Archaeological Resources Survey

Continue to maintain an accessible and periodically updated inventory of potential historic resources. All surveyed properties will be included in the City’s Inventory of Historic Resources (Orange Inventory), and the Orange Inventory will be a valuable planning tool to be used in evaluating possible impacts a proposed project might have on previously evaluated potential and identified historic resources. Surveys and survey updates may be conducted by City staff, historic preservation professionals, and/or representatives of local preservation organizations.

Properties that have attained 45 years of age and are located within a designated historic district or Neighborhood Character Area (NCA) shall be subject to survey and assessment by a qualified architectural historian prior to issuance of any permit for alteration or demolition.

Survey other areas where potential for historic resources may exist.

Identify smaller character areas that contain concentrations of potential or listed historic resources that reflect a unique sense of time and place.

Use the Orange Inventory to identify potential historic resources for purposes of CEQA, National Historic Preservation Act (NHPA), and National Environmental Protection Act (NEPA) review of proposed projects. Only if potential historic resources in the Orange Inventory are listed in or eligible for listing in the California Register for CEQA or the National



Register for the NHPA and NEPA shall they have a presumption of significance pursuant to CEQA Section 21084.1 and be treated as historical resources under CEQA.

Potential historic resources identified in the Orange Inventory may be listed in the Historic Register if they meet criteria for listing in the California Register. The City’s Historic Resources Inventory may be regularly updated by the Planning Division to reflect corrections and modifications to the associated database and survey forms without the need to bring those changes to the Planning Commission for adoption.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Cultural Resources &	
Historic Preservation:	1.1, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 4.1, 4.6
Urban Design:	5.4

Program I-20 Historic Preservation Incentives

Actively pursue grants, loans, and other incentives to encourage historic preservation. Consider implementing conservation easements.

Develop a revolving loan program for maintenance and rehabilitation work, consistent with design standards, on listed historic resources and on resources that are contributors to listed historic districts.

Develop a voluntary conservation easement program to preserve listed historic resources and contributors to listed historic districts. Provide a potential tax benefit to property owners. Establish a partnership with local preservation organizations to accept, hold, and manage conservation easements on historic resources. Enable Mills Act contracts for additional designated historic districts.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Cultural Resources &	
Historic Preservation:	1.4, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5
Urban Design:	5.4
Economic Development:	1.2, 5.3



Program I-21 Commemorative Plaque Program

Explore establishing a commemorative plaque program to allow public recognition of properties listed on the Historic Register. Develop and administer standards and guidelines for properties eligible for the commemorative plaque program.

Agency/Department:	Community organizations in coordination with the Community Development Department
Funding Source:	Private contributions
Time Frame:	Ongoing
Related Policies:	
Cultural Resources & Historic Preservation:	2.2, 3.1

Program I-22 Historic Context Statement and Survey

~~Officially recognize the Historic Context Statement prepared in tandem with the General Plan Update. Periodically update the Statement to add recent historical events. Periodically update the Historic Context Statement prepared in tandem with the General Plan Update to add recent historic events.~~

Officially recognize the recently completed historical and archaeological resources survey prepared in tandem with the updated General Plan. Update and maintain the inventory using the City’s Geographic Information System (GIS).

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Cultural Resources & Historic Preservation:	1.1, 1.3, 1.6, 3.1

Program I-23 Neighborhood Character Areas

Designate El Modena, Cypress Street Barrio, the Railroad/Packinghouse Corridor, and Orange Park Acres as Neighborhood Character Areas (NCAs) by establishing an NCA overlay zone and appropriate standards and regulations in the Zoning Code.

Develop and administer design guidelines appropriate to each designated NCA.

Agency/Department:	Community Development Department, City Council
Funding Source:	General Fund
Time Frame:	Complete by 2017/2025
Related Policies:	
Cultural Resources & Historic Preservation:	1.1, 2.1, 2.2, 2.3



Program I-24 Community Character Design Elements

Update design guidelines to incorporate the elements of community design character that reflect Orange’s historic and cultural background. Require new development to incorporate the elements of the community’s character and design into its projects. Determine how to retrofit the existing commercial, industrial, institutional, and mixed-use areas to include the community character elements. Community character elements can include but are not limited to architectural style, landscape style, streetscape, and signage.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Urban Design:	3.2, 3.3, 4.5, 5.1, 5.2, 5.3, 6.6

Program I-25 Green Space Incentives

Seek and develop appropriate incentives for project applicants and developers that provide public access to private green spaces in new, infill, and existing development projects. Work to establish neighborhood identity through the use of green spaces.

Establish a program to transfer to the City, through land exchanges, purchases, or long-term no-fee leases, land that is not currently in productive use, such as derelict land, tax delinquent land, surplus road and highway rights-of-way, and other land located adjacent to existing open spaces, waterways, or trails.

Agency/Department:	Community Development Department, Community Services Department
Funding Source:	General Fund, grants, bond funding
Time Frame:	Complete by 2016
Related Policies:	
Land Use:	2.3, 2.8, 6.3, 6.4
Natural Resources:	1.1, 1.2, 1.3, 6.6, 7.1, 7.5
Urban Design:	3.5, 4.5

Program I-26 Joint-Use Agreements for Parks and Open Space

Continue to implement and expand the use of joint-use agreements to increase the parks and open space resources available to Orange residents. Specifically, seek to expand joint-use agreements with the Orange Unified School District, Chapman University, Southern California Edison, and the Orange County Flood Control District. Investigate conversion or joint use of surplus or otherwise underutilized lands, including railroad and public utility rights-of-way, for open space use.



Agency/Department:	City Manager's Office, Community Services Department, Public Works Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Land Use:	7.6
Natural Resources:	1.2, 5.3

Program I-27 Fire Hazard Information, Prevention and Suppression

Information:

- Continue to evaluate and update information available to the City regarding potential fire hazards and hazard areas.
- Provide public information regarding fire safety and defensible space surrounding residences and businesses.
- Support localized efforts to become a Firewise Community.
- Continue to distribute the City's Fire Master Plan Guidelines to developers.
- Maintain the City's mass emergency notification mechanism for the release of public information during a major event.
- Education the public about the designated evacuation routes throughout the City in the City's "Know Your Way" plan and as shown on the Police Departments website.

Prevention:

- Use Wildland Fuel Modification guidelines for controlling vegetation in undeveloped areas, and Wildland Urban Interface Code and weed abatement standards. Implement the adopted Vegetation Management Guideline – Technical Design for New Construction, Fuel Modification Plans, and Maintenance Program. Utilize Minimum Impact Suppression Techniques (MIST) for wildland urban interface wildfires to minimize unnecessary eradication of natural habitat.
- Conduct pre-planning project review by City staff; implement the California Building and Fire Codes, as adopted and emended by City Council ordinance; conduct water supply assessments prior to new construction and fire flow testing after construction; condition of entitlements; enforce of defensible space requirements in the Very High Fire Severity Zone (VHFSZ); and adhere to development restrictions and maintenance requirements in the codified VHFSZ.
- Identify engineering vulnerabilities in overhead power lines for exposure to or threats of wildland fire.



- Obtain compliance with State Responsibility Area Fire Safe Regulations, the California Building and Fire Codes as adopted and amended by City Council ordinance, and the City’s Fire Master Plan Guidelines for legally non-confirming private properties as nexus is established to require improvements.

Suppression:

- Continue to utilize the City’s Emergency Operation Plans (EOP) via existing pre-plans including the Tustin-Orange Foothills Fire Plan, and the Wildland Urban Interface (WUI) Plans for Anaheim Hills East, Anaheim Hills West, Cowan Lemon Heights, and East Orange-Orange Park Acres. Continue to update and refine the area plans to reflect and adapt to plan-area fire history. Utilize the WUI pre-plans to prioritize asset protection when faced with a lack of suppression forces.
- Maintain average response times, up-to-date technology, mutual aid agreements, coordinated regional communications systems, sufficient fire-fighting infrastructure and personnel, and training.
- Use the Fire Department Deployment Plan.
- Continue to implement the short- and long-term steps identified in the Standards of Coverage Assessment created in 2015.
- Continue to implement the Strategic Plan for the Orange City Fire Department.

Agency/Department:	Fire Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Public Safety:	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 6.6, 6.7

Program I-29 Hazardous Materials Monitoring

Continue to assess risks associated with hazardous materials and develop mitigation measures accordingly. Identify hazardous material release sites and ensure that the sites are appropriately remediated.

Agency/Department:	Fire Department, Public Works Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Public Safety:	4.1, 4.2, 4.3



Program I-30 Noise Regulations

Continue to enforce the City’s Noise Ordinance limits to limit the effect of noise on residential land uses. Revise the Zoning Ordinance to achieve the following:

- Limit the hours of deliveries to commercial, mixed use, and industrial uses adjacent to residential and other noise sensitive land uses;
- Limit the hours of operation for commercial/retail/entertainment uses to limit noise intrusion into nearby residential and other noise sensitive land uses;
- Limit the hours of operation of high noise-generating industrial equipment;
- Limit the hours of operation for refuse vehicles and parking lot sweepers if their activity results in an excessive noise level that adversely affects adjacent residential uses;
- Require the placement of loading and unloading areas so that commercial buildings shield nearby residential land uses from noise generated by loading dock and delivery activities. If necessary, additional sound barriers shall be constructed on the commercial sites to protect nearby noise sensitive uses;
- Require the placement of all commercial HVAC machinery to be placed within mechanical equipment rooms wherever possible. (Equipment manufacturer’s specifications for venting and access to outside air shall be maintained); and
- Require the provision of localized noise barriers or rooftop parapets around HVAC, cooling towers, and mechanical equipment so that line-of-sight to the noise source from the property line of the noise sensitive receptors is blocked. (Equipment manufacturer’s specifications for venting and access to outside air shall be maintained).

Agency/Department:	Community Development Department, Police Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Noise:	1.4, 1.5, 5.1, 5.2, 5.3, 6.2, 7.2, 7.3, 7.4

Program I-31 Orange Public Library Programs

Continue to implement the City’s *Public Library Facilities Master Plan (2002-2020)*. Continue to work to ensure that the California State Library–recommended standard of four volumes and 0.7 square foot per capita is maintained and that the City’s library services needs are met as future development occurs.

Continue to promote and provide additional resources for the Orange Public Library Local History Collection.



~~Maintain and enhance the Preservation Resource Center within the Orange Public Library & Local History Center that provides access to information about historic preservation regulations and benefits, technical assistance materials, and information about research methods and collections.~~

Agency/Department: Library Services Department
Funding Source: General Fund, private contributions
Time Frame: Ongoing
Related Policies:
Cultural Resources & Historic Preservation: 2.2, 3.1, 4.5, 4.6, 5.1, 5.2, 5.3, 5.4, 5.5

Program I-32 Flood Control and Storm Drain Facilities

Continue to inspect storm drains, remove debris from catch basins as needed, and evaluate and monitor water storage facilities to determine if they pose a water inundation hazard.

Agency/Department: Public Works Department
Funding Source: General Fund
Time Frame: Ongoing
Related Policies:
Natural Resources: 2.13, 2.14, 2.15, 2.17
Public Safety: 2.3
Infrastructure: 1.3, 1.6

Program I-33 Solid Waste and Recycling Services

Continue to contract for provision of solid waste and recycling services. Ensure that community needs for solid waste disposal and recycling are being met. Expand community outreach and education regarding residential recycling opportunities and household hazardous wastes.

Agency/Department: Public Works Department
Funding Source: General Fund, user fees
Time Frame: Ongoing
Related Policies:
Land Use: 7.4
Infrastructure: 2.1, 2.2, 2.3

Program I-34 Noise Standards and Acoustical Studies

Review development proposals to ensure that the noise standards and compatibility criteria set forth in the Noise Element are met. Consult Noise Element guidelines and standards for noise compatible land uses to determine the suitability of proposed developments relative to existing and forecasted noise levels. Enforce the California Noise Insulation Standards to



ensure an acceptable interior noise level of 45 A-weighted decibels (dBA) community noise equivalent level (CNEL) in habitable rooms.

Develop noise impact analysis guidelines that describe the City's desired procedure and format for acoustical studies. Acoustical studies will be required for all discretionary projects where any of the following apply:

- The project includes a noise-sensitive land use that is located within the existing or future 65 dBA CNEL contour for transportation noise sources.
- The project will cause future traffic volumes to increase by 25 percent or more on any roadway that fronts residential, institutional, or open space land uses.
- The project will expose a noise-sensitive land use to a stationary noise source or vibration source exceeding the standards outlined in the Noise Element. Such stationary sources may include mechanical equipment operations, entertainment venues, industrial facilities, and property maintenance.
- The project includes a noise-sensitive land use in the vicinity of existing or proposed commercial and industrial areas.
- The project is a mixed-use development that includes a residential component. The focus of this type of acoustical study is to determine likely interior and exterior noise levels and to recommend appropriate design features to reduce noise.

An acoustical analysis prepared in accordance with the Noise Element shall:

- Be the financial responsibility of the applicant seeking City approval of a project;
- Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics;
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and predominant noise sources;
- Estimate existing and projected cumulative (20 years) noise in terms of CNEL or L_{eq} , and compare those noise levels to the adopted standards and policies of the Noise Element;
- Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance;
- Estimate noise exposure after the prescribed mitigation measures have been implemented; and
- Describe a post-project assessment program that could be used to evaluate the effectiveness of the proposed mitigation measures.

Agency/Department: Community Development Department



Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Land Use:	3.4, 6.10
Noise:	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.5, 3.1, 5.1, 6.1

Program I-35 Climate Action Plan

The City of Orange shall develop and adopt a Climate Action Plan (CAP). The CAP will have two primary objectives: (1) reduce total greenhouse gas (GHG) emissions in the City by at least 15 percent from current levels by 2020, and (2) create adaptation strategies to address the likely impacts of climate change on the City, such as increased risk of flooding, diminished water supplies, increased risks of wildfire, and risks to public health. The CAP will contain the following chapters:

Climate Change and Orange—The first chapter of the CAP will outline the City’s rationale and motivation for addressing climate change by developing and implementing the CAP. The chapter will provide a brief overview of the science behind climate change, will describe the potential impacts that climate change may create in Orange, and will outline state policy mandates to reduce GHG emissions.

Baseline GHG Emissions Inventory and Forecast— In this chapter, the City will calculate GHG emissions for the base year, forecast emissions in 2020 under a business-as-usual scenario, and describe the GHG reductions necessary to achieve the City’s adopted target. The City will make best efforts to evaluate all reasonable sources of GHG emissions. The chapter will identify GHG emissions and target levels per sector. Sectors to be described in the inventory will include municipal operations, residential, commercial, industrial buildings, motor vehicles, and waste. This inventory and forecast shall provide a benchmark for planning and monitoring progress in government operations and the community. The GHG inventory shall be conducted using a methodology consistent with that used by other local governments and will be completed within 1 year after the effective date of adoption of the General Plan.

GHG Emissions Policies and Measures— This chapter will describe the policies and measures that are necessary to reduce GHG emissions in the City and achieve the reduction target. Policies and measures will be created with public input from all stakeholders. Each measure will be enforceable, include a timeline, describe financing mechanisms, and assign responsibility to relevant agencies and departments. In addition to direct GHG reduction measures, the chapter will incorporate public education efforts to raise awareness on the importance of minimizing GHG emissions and methods for reducing emissions from individual lifestyles. These policies and measures will be developed within two years after the effective date of adoption of the General Plan. The effectiveness of policies and measures will be evaluated annually and will be modified as necessary to achieve the City’s reduction goals.

Because the CAP is to be implemented over a period of several years, it is likely that the scientific, federal, and state policy frameworks surrounding climate change measures will



evolve. The CAP will adapt its policies, measures, and programs to ensure successful reduction of GHG emissions, protection of the City, and compliance with regulations.

Protection and Adaptation Strategies—The fourth chapter of the CAP will describe strategies that will be used to protect the City from and facilitate adaptation to the potential effects of climate change. Potential effects to be evaluated include but are not limited to sea level rise, increased frequency and magnitude of flooding, diminished water supply, habitat loss, and possible effects on public health and the local economy. Each measure will include a timeline, describe financing mechanisms, and assign responsibility to relevant agencies and departments.

Benchmarks and Next Steps—In conclusion, the CAP will identify benchmarks, monitoring procedures, and other steps needed to ensure the City achieves its GHG reduction, protection, and adaptation goals. Monitoring and verifying progress on the GHG emissions reduction measures will be conducted on an annual basis. Monitoring will provide important feedback that can be used to demonstrate overall progress toward emissions reduction targets and improve measures over time. Benchmarks will be established to serve as intermediate goals and to motivate compliance with City and private-sector reduction targets. Benchmarks for strategic responses to climate change impacts should be based on the expected time scale of the specific impact and will be established during the development of individual strategic plans.

CAP Relationship to the General Plan—Implementation strategies identified in the CAP will be incorporated as implementation measures of the General Plan through amendment within one year of completion. Revisions to CAP policies and measures and subordinate strategic programs may require further General Plan amendments.

Agency/Department:	Community Development Department
Funding Source:	General Fund, grants and state assistance (if available)
Time Frame:	To be developed and adopted by December 31, 2012
Related Policies:	See those policies identified in Table NR-1

Program I-36 Park Dedication Ordinance

Adopt a parkland dedication ordinance that requires dedication of parkland at a ratio of 3.0 acres per 1,000 population or payment of in-lieu fees, pursuant to Quimby Act requirements.

Agency/Department:	Community Development Department, Community Services Department
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IMPLEMENTATION



Funding Source: _____ General Fund
Time Frame: Complete by ~~2013~~2020
Related Policies:
Natural Resources: 5.6, 5.7

Program I-37 Vehicle Noise Reduction

Implement the following strategies to reduce vehicular traffic noise throughout the City:

- Review and designate local truck routes to reduce truck traffic in noise sensitive land uses areas.
- Consider the use of traffic calming devices, to reduce traffic speed in residential zones.
- Consider the use of alternative paving materials, such as open graded asphalt, to reduce traffic noise where determined feasible and cost efficient.

Agency/Department: Public Works Department, Community Services Department
Funding Source: State and federal grants, Development fees
Time Frame: Ongoing
Related Policies:
Noise: 2.1, 2.2, 2.3, 2.4, 2.5



II. Physical Improvements and Capital Projects

Program II-1 Capital Improvement Program

Continue to implement and update the City’s *Capital Improvement Program* (CIP) to:

- Address phasing, construction, and maintenance of improvements to roadways, infrastructure, streetscapes, signage, and City-owned parks throughout the City;
- Acquire and expend funds from available transportation financing and other programs to assist in financing new roadways and trails;
- Manage construction of new parks and improvements to current parklands and park facilities;
- Facilitate construction of a network of multi-use trails that connects the City’s parks and open spaces;
- Improve and expand Orange Public Library facilities;
- Ensure timely completion of required roadway infrastructure associated with new and infill development;
- Maintain City-owned and operated facilities; and
- Maintain publicly owned potential and listed historic resources.

Use the 75-year CIP process to prioritize, finance, and complete roadway, infrastructure, and parks projects identified in the CIP. Update the CIP on an annual basis to respond to changes in local priorities and available funding sources. Require future CIP update processes to include a public outreach component.

Agency/Department:	All departments
Funding Source:	General Fund, transportation funds, and grants, as identified in the CIP. Secondary sources include special revenue funds (such as Proposition 172, Renewed Measure M Funds), gas tax funds, enterprise funds, and capital improvement funds.
Time Frame:	Ongoing, with annual updates in-cycle with City budget process
Related Policies:	
Land Use:	1.7, 2.5, 2.6, 5.4, 5.6, 5.7, 5.9, 6.3, 6.7, 6.8, 8.1, 8.3
Circulation and Mobility:	1.1, 1.6, 2.2, 2.3, 2.4, 4.1, 4.6, 4.8, 5.1
Natural Resources:	6.1, 6.6
Cultural Resources & Historic Preservation:	1.6, 3.5, 5.1, 5.2
Urban Design:	4.3, 4.4
Economic Development:	2.4, 6.1, 6.2
Infrastructure:	1.1
Growth Management:	1.2, 1.11, 2.2



Program II-2 Metropolitan Drive Extension

To further improve circulation near The Block at Orange shopping area and to improve access to Interstate 5, extend Metropolitan Drive from The City Drive/State College Boulevard to the Metropolitan Drive/Rampart Street connection.

Agency/Department: Public Works Department
Funding Source: Determined by CIP
Time Frame: Determined by CIP
Related Policies:
Circulation & Mobility: 1.1, 2.1, 2.2

Program II-3 Santiago Creek Bike Trail

Complete additional segments of a bike trail adjacent to Santiago Creek to extend through the City along the creek, and connect the regional Santa Ana River trail to Santiago Oaks Regional Park and wilderness areas east of Orange.

Agency/Department: Community Services Department
Funding Source: Determined by Recreational Trails Master Plan
Time Frame: Determined by Recreational Trails Master Plan
Related Policies:
Circulation & Mobility: 4.1, 4.4, 4.5
Natural Resources: 6.1, 6.2

Program II-4 Pedestrian and Bicycle Amenities

Provide appropriate bicycle and pedestrian amenities along City bikeways, trails, and sidewalks. Specific amenities may include bicycle racks, bicycle storage, water fountains, benches, trash cans, and emergency call boxes. Encourage private development projects to provide these amenities as well, especially within mixed-use areas and along the City's commercial corridors.

Identify a range of funding opportunities to enable extension of existing trails and development of new trails.

Agency/Department: Community Services Department, Community Development Department, Public Works Department
Funding Source: General Fund, grants
Time Frame: Ongoing



Related Policies:

- Circulation & Mobility: 4.2, 4.4
- Natural Resources: 2.8, 6.1, 6.6
- Public Safety: 9.1, 9.3
- Growth Management: 1.9

Program II-5 Emergency Operations Center

Maintain, equip, and update the Emergency Operations Center on an ongoing basis to improve public safety and response by agencies.

[Continue to train, license, and/or certify Police and Fire Department staff via programs or drills meeting standards of or available through the Emergency Operation Center \(EOC\).](#)

- Agency/Department: City Manager’s Office, Fire Department, Police Department
- Funding Source: General Fund, state and federal funds, grants
- Time Frame: Ongoing
- Related Policies:
 - Public Safety: 1.2, 3.4, 3.6, 5.1, 6.1, 6.2, 6.3, 6.5, 6.6, 8.2, 8.3, 8.4

Program II-6 Correct Sewer System Deficiencies

Repair and improve all areas that were identified in the 2012 Sewer Master Plan Update as having system deficiencies based on available resources and continue to identify anticipated deficiencies in the system.— The City will make improvements to areas with frequent blockages or “hot-spots.” Developers shall also be required to pay the cost of providing new and improved wastewater services to project sites.

- Agency/Department: Public Works Department
- Funding Source: State and federal grant funds, Development fees
- Time Frame: Ongoing
- Related Policies:
 - Infrastructure: 1.1, 1.2, 1.6



III. Conditions or Requirements Placed upon Applicants during Development Review

Program III-1 California Environmental Quality Act

Comply with all provisions of CEQA. In addition to thresholds that may be established or adopted by the City in the future, use the following thresholds and procedures for CEQA analysis of proposed projects, consistent with policies adopted within the General Plan:

- **Circulation & Mobility**
 - In accordance with CEQA Guidelines Section 15064.3, the City shall utilize vehicle miles traveled (VMT), to measure transportation impacts.
 - A project would result in a significant project-generated VMT impact if the baseline and/or cumulative project-generated VMT per service population exceeds the City of Orange General Plan Buildout VMT per service population.
 - The project's effect on VMT would be considered significant if it resulted in baseline and/or cumulative link-level boundary citywide VMT per service population increases under the plus project condition compared to the no project condition.
- **Parks and Recreation**
 - The City shall require dedication of parkland at a rate of 3.0 acres per 1,000 anticipated residents or payment of in-lieu fees for new residential projects.
- **Noise**
 - The City shall apply the noise standards specified in Tables N-3 and N-4 of the Noise Element to proposed projects analyzed under CEQA.
 - In addition to the foregoing, an increase in ambient noise levels is assumed to be a significant noise impact if a proposed project causes ambient noise levels to exceed the following:
 - Where the existing ambient noise level is less than 65 dBA, a project related permanent increase in ambient noise levels of 5 dBA CNEL or greater.
 - Where the existing ambient noise level is greater than 65 dBA, a project related permanent increase in ambient noise levels of 3 dBA CNEL or greater.
- **Historic and Cultural Resources**
 - "Historical resource" for the purposes of CEQA shall mean "historic district" in the case of a contributor to a historic district.
 - Historic resources listed in the Historic Register shall have a presumption of significance pursuant to CEQA Section 21084.1 and shall be treated as historical resources under CEQA.
 - The historical significance of an archaeological historic resource is evaluated using the criteria of Public Resources Code Section 5024.1 and Section 15064.5 et seq. of the state CEQA Guidelines.



All future development proposals shall be reviewed by the City for potential regional and local air quality impacts per CEQA. If potential impacts are identified, mitigation will be required to reduce the impact to a level less than significant, where technically and economically feasible.

Agency/Department:	Community Development Department, Public Works Department, Community Services Department
Funding Source:	General Fund, development fees
Time Frame:	Ongoing
Related Policies:	
Circulation & Mobility:	1.1, 1.2
Natural Resources:	2.2, 2.8, 5.6
Cultural Resources & Historic Preservation:	1.1, 1.3
Noise:	1.4
Growth Management:	1.1, 2.1

Program III-2 Site Development Review

Comply with all City procedures in the review of proposed development projects, and use the site plan review process to ensure that applicable General Plan policies and City standards and regulations are applied to proposals for specific development projects.

Agency/Department:	Community Development Department, Public Works Department, Police Department, Fire Department, Community Services Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Land Use:	1.6, 1.7, 2.5, 2.7, 2.8, 3.1, 3.4, 4.3, 4.5, 6.1, 6.2, 6.9, 6.10, 6.12
Circulation & Mobility:	1.1, 1.7, 5.1, 5.2
Natural Resources:	1.3, 2.3, 2.6, 2.13, 2.14, 2.15, 2.16, 4.3, 4.4, 4.5, 5.4, 5.6, 5.7, 6.6, 7.5
Cultural Resources & Historic Preservation:	1.3, 1.4, 1.5, 1.6, 4.1, 4.2, 4.3, 4.4, 4.5
Public Safety:	1.1, 2.5, 3.3, 3.45, 3.5, 3.7, 3.8, 3.9, 3.10, 4.2, 4.3, 6.2, 7.2, 7.3, 7.4, 9.1
Noise:	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 5.1, 5.2, 5.3, 6.1, 6.2
Urban Design:	2.4, 2.5, 2.6, 3.4, 3.5, 6.1
Infrastructure:	1.4, 1.5

Program III-3 Commission/Committee Review

Orange has several commissions and one committee whose purpose is to advise and assist the City Council in dealing with issues related to each commission’s or committee’s area of



concern. The commissions and committee gather pertinent information, hear arguments, weigh values, and make recommendations to the Council. Several of the commissions also have some administrative powers.

The City will continue to use the commission/committee structure to inform the public decision-making process.

The City will also consider expanding the authority of the Design Review Committee and Community Development Department’s staff to administer the Orange Historic Resources Inventory, Historic Register listings, and design review procedures for projects involving architectural and archaeological resources.

Agency/Department:	City Council, Community Development Department, Community Services Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Land Use:	2.5, 2.6, 2.7, 2.8, 3.1, 3.2, 4.5, 5.5, 5.8, 5.9, 6.1, 6.2, 6.3, 6.4, 6.7, 6.11, 8.1, 8.2, 8.3
Circulation & Mobility:	1.3, 2.3, 3.2, 4.1, 6.1
Cultural Resources & Historic Preservation:	1.1, 1.3, 1.4, 4.5, 4.6
Urban Design:	1.1, 6.1
Public Safety:	1.1, 3.5, 4.3, 7.4
Economic Development:	1.2, 2.5, 3.3, 4.5, 5.1, 5.2, 5.3, 5.4, 5.5

Program III-4 Traffic Impact Analyses

Require preparation of traffic impact analyses for new discretionary development projects. A traffic impact analysis which includes VMT assessment shall be required for a proposed project that does not satisfy the project screening criteria. For projects that increase V/C by 0.01 or more on affected roadway segments or intersections experiencing LOS E or LOS F conditions without the proposed project, traffic impact analyses must propose binding reduction strategies to be incorporated within the project.

Continue to update guidelines for the preparation of traffic impact analyses to reflect local conditions and industry standards.

Agency/Department:	Public Works Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Land Use:	2.5, 6.10
Circulation & Mobility:	1.1
Growth Management:	1.2, 1.6



Program III-5 Transportation Demand Management Plans

Require major employers of 100 persons or more to institute transportation demand management (TDM) plans. Such plans establish incentives to encourage employees to carpool, take public transportation, bicycle, or use some means other than private automobiles to get to and from work.

Agency/Department:	Community Development Department, Public Works Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Circulation & Mobility:	2.6
Natural Resources:	2.1, 2.2
Growth Management:	1.12

Program III-6 National Pollutant Discharge Elimination System Compliance

Before making land use decisions, the City will utilize available methods to estimate increases in pollutant loads and flows resulting from projected future development.

The City will follow the most current NPDES permit and countywide Model WQMP and the City *Local Implementation Plan* to ensure that the City complies with applicable federal and state regulations. Applicants for new development and redevelopment projects shall prepare and submit plans to the City, as well as implement plans demonstrating accomplishment of the following:

- Emphasize the need to implement and prioritize the use of low impact development BMPs that provide onsite infiltration and retention;
- Use biotreatment systems such as flow through planters, wetlands and bioswales where infiltration, evapotranspiration, and harvest and reuse are not feasible;
- Limit areas of impervious surfaces and preserve natural areas;
- Limit directly connected areas of impervious surfaces;
- Limit disturbance of natural water bodies, natural drainage systems, and highly erodable areas;
- Use structural and nonstructural best management practices (BMPs) to mitigate projected increases in pollutant loads and flows;
- Use pollution prevention methods, source controls, and treatment with small collection strategies located at or as close as possible to the source;
- Control the velocity of pollutant loading flows during and after construction; and
- Implement sediment and erosion protection during construction.



In addition, applicants for large development projects are required to prepare and implement plans that meet site predevelopment hydrologic conditions and to control runoff on-site where technically feasible.

Agency/Department:	Public Works Department, Community Development Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Land Use;	4.3, 6.5
Natural Resources:	2.12, 2.13, 2.14, 2.15, 2.16, 2.17
Public Safety:	2.3

Program III-7 Water Services and Supplies

As needed, require studies to determine water infrastructure requirements for future development projects, and require that any recommendations be incorporated into the design of projects. Require the dedication of necessary right-of-way and construction of water infrastructure improvements for development projects as needed. Developers shall also be required to pay the cost of providing new and improved water services to project sites. [Require fire flow testing after construction.](#)

For projects that satisfy the criteria set forth in Sections 10910–10915 of the California Water Code and Section 66473.7 of the Government Code, a water supply assessment or water supply verification demonstrating available water supplies exist to support development shall also be prepared.

Agency/Department:	Community Development Department, Public Works Department
Funding Source:	Development fees, General Fund
Time Frame:	Ongoing
Related Policies:	
Infrastructure:	1.1, 1.4, 1.6
Public Safety:	3.7

Program III-8 Adequate Public Safety and Emergency Response

During the development application process, consult with Fire and Police Departments to evaluate the need for additional fire and police facilities or resources to serve new development projects and infill development areas. During updates to the Capital Improvement Program process, coordinate with service providers to evaluate the level of fire and police service provided to the community. Require adequate street widths and clearance for emergency access. Provide all appropriate safety features. Continue to use state-of-the-art techniques, [and technology](#), [and training](#) to enhance public safety.



Adhere to requirements in the Municipal Code for adequate street widths and clearance for emergency access. Integrate CPTED techniques into development projects and practice active surveillance measures in high-risk areas such as parking lots.

The City shall use open space easements and other regulatory techniques to prohibit development and avoid public safety hazards where the threat from seismic hazards cannot be mitigated.

Utilize and update as necessary established designated evacuation routes throughout the City in the City’s “Know Your Way” Plan and as shown on the Police Department website and utilize Primary Evacuation Plans, Evacuation Trigger Points, and Temporary Evacuation Assembly Points identified in the Fire Department Wildland Urban Interface pre-plan documents for wildfire incidents.

Maintain and update the City’s Emergency Operations Plan as needed, and ensure ongoing consistency between the General Plan, the Emergency Operations Plan, and the Fire Department Strategic Deployment Plan.

Continue to adopt and honor agreements with adjacent communities for mutual aid assistance. Specifically, continue to utilize Standard Emergency Management System (SEMS) and National Incident Management System (NIMS) for local and master mutual aid agreements. Continue to utilize the “SOLAR Plan” (San Bernardino County, Orange County, Los Angeles County, Anaheim, Riverside County) for coordinated radio frequency communications.

Ensure that the Fire Department has sufficient capacity, stations, personnel, training, technology, and equipment to meet growth needs in the City of fire protection and related emergency services. Continue to implement the short- and long-term steps identified in the Standards of Coverage Assessment created in 2015. Continue to implement the Strategic Plan for the Orange City Fire Department.

Continue to train, license, and/or certify Fire Department staff via programs or drills meeting standards of or available through: the Emergence Operation Center (EOC), the National Fire Protection Association (NFPA), the California Emergency Medical Services Authority (EMSA), the Joint Apprenticeship Committee (IAC), and RT-130: Wildfire Fire Safety Training Annual Refresher (WFSTAR).

Maintain the City’s mass emergency notification mechanism for the release of public information during a major event.

Agency/Department:	Community Development Department, Public Works Department, Police Department, Fire Department
Funding Source:	Development fees, General Fund
Time Frame:	Ongoing
Related Policies:	
Public Safety:	3.4, 3.7 , 4.4, 6.1, 6.2, 6.3, 6.4, 6.6 , 6.7 , 6.8 , 6.9 , 6.10 , 6.11

Program III-9 Geologic Hazard Assessments

Pursuant to state law, geologic and/or geotechnical studies are required for proposed new development projects located in areas identified as susceptible to landslides and liquefaction



and binding mitigation strategies must be adopted. Compliance with the recommendations set forth in site-specific geologic and/or geotechnical studies will be made a condition of approval for new development. In addition, the City may require applicants to incorporate measures to stabilize and maintain slopes on a site-by-site basis, such as proper planting, irrigation, retaining walls, and benching.

Agency/Department:	Community Development Department, Public Works Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Land Use:	6.9, 6.10
Public Safety:	1.1

Program III-10 Cultural Resources Inventories

Require cultural resources inventories of all new development projects in areas identified with medium or high potential for archeological, paleontological, or cultural resources based on resource sensitivity maps prepared in conjunction with the General Plan.

Where a preliminary site survey finds medium to high potential for substantial archaeological remains, the City shall require a mitigation plan to protect the resource before issuance of permits. Mitigation may include:

- Ensuring that a qualified archaeologist is present during initial grading or trenching (monitoring),
- Redesigning the project to avoid archaeological resources (this is considered the strongest tool for preserving archaeological resources),
- Capping the site with a layer of fill, and/or
- Excavating and removing the archaeological resources (recovery) and implementing curation in an appropriate facility under the direction of a qualified archaeologist (interpretation).

Alert applicants for permits within early settlement areas to the potential sensitivity. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the Community Development Department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.

If significant archaeological resources are discovered during construction or grading activities, such activities shall cease in the immediate area of the find until a qualified archaeologist can determine the significance of the resource and recommend alternative mitigation. The final written report should be submitted to the appropriate regional



archaeological Information Center within three months after work has been completed. The City shall ensure that project applicants contact the Native American Heritage Commission for a Sacred Lands File Check and a list of appropriate Native American contacts for consultation concerning the project site and to assist in crafting the mitigation measures.

Agency/Department: Community Development Department
Funding Source: Development fees
Time Frame: Ongoing
Related Policies:
 Land Use: 6.11
 Cultural Resources &
 Historic Preservation: 4.1, 4.5

**Program III-11 Green Building, Energy Conservation,
and Sustainable Development**

The City strongly encourages new development and major renovation projects to employ green building techniques and materials. Encourage proposed development projects throughout the City to use Leadership in Energy and Environmental Design (LEED) standards developed by the U.S. Green Building Council or a similar third-party verified program. Encourage building orientations and landscaping that enhance natural lighting and sun exposure. Prepare guidelines for sustainable development to encourage incorporation of these practices in new development. These guidelines will include measures to maximize soil permeability to address related stormwater and surface-water runoff issues.

Require compliance with state Title 24 building construction standards and Energy Star conservation standards for all development projects.

Prepare and adopt an ordinance that requires and/or provides incentives for: (1) specified new residential development to comply with a specified green building program or show that its development provides comparable effectiveness to such a program; and (2) specified non-residential development of a specified size comply with a specified green building program or show that its development provides comparable effectiveness to such a program.

Agency/Department: Community Development Department, Public Works Department
Funding Source: Development fees
Time Frame: Ongoing; December 31, 2011 (For ordinance)
Related Policies:
 Natural Resources: 2.6, 2.7



Program III-12 Mixed-Use Noise Property Notification

When the City exercises discretionary review, provides financial assistance, or otherwise facilitates residential development within a mixed-use area, make providing written warnings to potential residents about noise intrusion a condition of that approval, assistance, or facilitation. The following language is provided as an example:

“All potential buyers and/or renters of residential property within mixed-use districts in the City of Orange are hereby notified that they may be subject to audible noise levels generated by business and entertainment related operations common to such areas, including amplified sound, music, delivery and passenger vehicles, mechanical noise, pedestrians, and other urban noise sources.”

Agency/Department:	Community Development Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Noise:	5.1, 5.3
Urban Design:	2.5

Program III-13 Ecological and Biological Resource Assessments

Analyze development proposals for potential impacts on significant ecological and biological resources. Require appropriate mitigation for all significant impacts if impact avoidance is not possible. Mitigation measures for habitat and species may include but are not limited to avoidance, enhancement, restoration, compensatory mitigation, or a combination of these.

Agency/Department:	Community Development Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Land Use:	6.4, 6.11
Natural Resources:	4.1, 4.3, 4.4, 4.5

Program III-14 Archaeological Resources Management Report (ARMR Preservation Bulletin)

Establish the Archaeological Resources Management Report (ARMR Preservation Bulletin) as the standard report format for all documentation and accept reports only from registered professional archaeologists knowledgeable in Native American cultures and/or historical archaeology (qualified archaeologists).

Agency/Department:	Community Development Department
Funding Source:	Development fees



Time Frame: Ongoing
 Related Policies:
 Cultural Resources &
 Historic Preservation: 4.1

Program III-15 Historic Resources Design Review

Continue to use the *Secretary of the Interior’s Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* as a basis for design review and incorporate them by reference into the *Old Towne Historic Preservation Design Standards for Old Towne and Orange Eichler Design Standards*, and other historic preservation design standards. Any approved demolition permit for historic resources listed in the City’s Historic Register will be automatically subject to a delay of 180 days before the permit for demolition may be issued. The property owner will strive to develop alternatives to demolition that will preserve the historic resources.

The Design Review Committee or Historic Preservation Commission at such time such a commission is established, shall serve as the review body for projects involving historic resources.

Agency/Department: Community Development Department, City Council
 Funding Source: General Fund
 Time Frame: Ongoing
 Related Policies:
 Cultural Resources &
 Historic Preservation: 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 3.2

Program III-16: Public Access to Santiago Creek and Santa Ana River Public Interface

Ensure that new development does not preclude access to Santiago Creek and the Santa Ana River and associated trails. Development review should ensure that commercial and retail development in these areas support public access.

Agency/Department: Community Development Department
 Funding Source: Development fees
 Time Frame: Ongoing
 Related Policies:
 Land Use: 6.4, 6.6
 Circulation & Mobility: 4.1
 Natural Resources: 1.3, 5.5, 7.1, 7.2, 7.3, 7.4, 7.5
 Urban Design: 2.6



Program III-17: Office Condominium Conversions

Evaluate applications for conversion of industrial properties to office condominiums to determine the impact on the available balance of larger and smaller properties available for industrial use.

Agency/Department:	Community Development Department, Economic Development Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Land Use:	4.1, 4.2, 4.3, 4.4, 4.5
Economic Development:	3.1, 6.1, 6.2

Program III-18: Noise Reduction in New Construction

Require construction contractors to implement the following measures during construction activities through contract provisions and/or conditions of approval as appropriate:

- Construction equipment shall be properly maintained per manufacturers’ specifications and fitted with the best available noise suppression devices (i.e., mufflers, silencers, wraps, etc).
- Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on power equipment.
- Construction operations and related activities associated with the proposed project shall comply with the operational hours outlined in the City of Orange Municipal Code Noise Ordinance, or mitigate noise at sensitive land uses to below Orange Municipal Code standards.
- Construction equipment should not be idled for extended periods of time in the vicinity of noise sensitive receptors.
- Locate fixed and/or stationary equipment as far as possible from noise sensitive receptors (e.g., generators, compressors, rock crushers, cement mixers). Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on powered construction equipment.
- Where feasible, temporary barriers shall be placed as close to the noise source or as close to the receptor as possible and break the line of sight between the source and receptor where modeled levels exceed applicable standards. Acoustical barriers shall be constructed material having a minimum surface weight of 2 pounds per square foot or greater, and a demonstrated Sound Transmission Class (STC) rating of 25 or greater as defined by American Society for Testing and Materials (ASTM) Test Method E90.



Placement, orientation, size, and density of acoustical barriers shall be specified by a qualified acoustical consultant.

Agency/Department:	Community Development Department, Public Works Department, Community Services Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Noise:	1.1, 1.2, 1.4, 1.5, 7.2

Program III-19: Groundborne Noise and Vibration

Implement the following measures to reduce the potential for human annoyance and architectural/structural damage resulting from elevated groundborne noise and vibration levels.

- Construction-Induced Vibration. The City shall implement or require implementation of the following measures through contract provisions and/or conditions of approval as appropriate:
 - Pile driving required within a 50-foot radius of historic structures shall utilize alternative installation methods where possible (e.g., pile cushioning, jetting, pre-drilling, cast-in-place systems, resonance-free vibratory pile drivers). Specifically, geo pier style cast-in-place systems or equivalent shall be used where feasible as an alternative to pile driving to reduce the number and amplitude of impacts required for seating the pile.
 - The preexisting condition of all buildings within a 50-foot radius and of historic buildings within the immediate vicinity of proposed construction-induced vibration activities shall be recorded in the form of a preconstruction survey. The preconstruction survey shall determine conditions that exist before construction begins for use in evaluating damage caused by construction activities. Fixtures and finishes within a 50-foot radius of construction activities susceptible to damage shall be documented (photographically and in writing) prior to construction. All damage will be repaired back to its preexisting condition.
 - Vibration monitoring shall be conducted prior to and during pile driving operations occurring within 100 feet of the historic structures. Every attempt shall be made to limit construction-generated vibration levels in accordance with Caltrans recommendations during pile driving and impact activities in the vicinity of the historic structures.
 - Provide protective coverings or temporary shoring of on-site or adjacent historic features as necessary, in consultation with the Community Development Director or designee.



- **Railroad-Induced Vibration:**
 - Vibration sensitive uses shall be located a minimum of 100 feet from the railroad centerline, where feasible. To ensure compliance with FTA and Caltrans recommended guidelines, a site-specific groundborne noise and vibration assesment should be conducted. For sensitive uses located within 100 feet of the railroad centerline, the acoustical noise and vibration assessment shall demonstrate that potential impacts will be below the level of significance. If specific project-level impacts are identified, mitigation measures reducing the impacts to below the level of significance will be required.
 - A groundborne vibration assessment shall be conducted at proposed building pad locations within 200 feet of railroad right-of-ways, prior to project approval. Vibration monitoring and assessment shall be conducted by a qualified acoustical consultant. The assessment will demonstrate that rail-associated groundborne vibration and noise levels comply with recommended FTA and Caltrans guidance of 80 VdB and 0.2 in/sec PPV (or equivalent), respectively, or propose project-specific mitigation measures such as site design, building isolation, etc. to achieve that standard.

Agency/Department:	Community Development Department, Public Works Department
Funding Source:	General Fund, Development fees
Time Frame:	Ongoing
Related Policies:	
Noise:	1.1, 3.1, 3.2, 6.1, 7.2

Program III-20: Toxic Air Contaminant Exposure

Require each project applicant to implement the following measures to reduce the exposure of sensitive receptors to TACs from mobile sources, as project design features or a condition of project approval:

- Activities involving idling trucks shall be oriented as far away from and downwind of existing or proposed sensitive receptors as feasible.
- Strategies shall be incorporated to reduce the idling time of main propulsion engines through alternative technologies such as IdleAire, electrification of truck parking, and alternative energy sources for TRUs to allow diesel engines to be completely turned off.
- Proposed developments shall incorporate site plans that move sensitive receptors as far as feasibly possible from major roadways (100,000+ average daily trips).
- Projects containing sensitive receptors (such as residences, schools, day care centers, and medical facilities) on sites within 500 feet of a freeway must demonstrate that health



risks relating to diesel particulates would not exceed acceptable health risk standards prior to project approval.

Agency/Department:	Community Development Department, Public Works Department
Funding Source:	Development fees
Time Frame:	Ongoing
Related Policies:	
Natural Resources:	2.1





IV. Planning and Outreach Initiatives

Program IV-1 Annual Review of General Plan and Land Use Policy Map

Annually review implementation of the General Plan and Land Use Policy Map to identify the effect of land development and use on City revenues and costs of providing and maintaining public facilities and services.

Report annually to the City Council regarding progress toward established objectives.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Ongoing, with annual reports to City Council
Related Policies:	All

Program IV-2 Park Acquisition, Construction, and Maintenance Report

Work actively to acquire, build, and maintain approximately 241 acres of additional parkland to achieve a minimum parkland ratio of 3 acres per 1,000 persons by 2030, and work toward a desired ratio of 5 acres per 1,000 persons by 2050. Evaluate progress toward achieving this goal by preparing a status report for the City Council and community every five years.

As a separate but compatible objective, support efforts by the County of Orange or private landowners to provide an additional 303 acres of regional parkland to support an overall objective of 10 acres of parkland per 1,000 persons, inclusive of County regional parks.

Work with the private sector to encourage use of vacant commercial or industrial properties for recreational purposes.

Agency/Department:	Community Services Department
Funding Source:	General Fund
Time Frame:	Baseline status report completed by 2013 Ongoing 5-year reporting beginning in 2016
Related Policies:	
Land Use:	1.7, 8.1, 8.3
Natural Resources:	5.1, 5.3, 5.4, 5.6, 5.7



Program IV-3 Public Education Programs

Use public education activities to accomplish the following objectives:

- Improve citizen participation in land use and economic development planning processes. Promote awareness of Orange’s historical and architectural resources and potential strategies for adaptive reuse of historic structures.
- Educate residents regarding air and water quality, including the effects of urban runoff.
- Raise public awareness of public safety issues—fire safety, flood hazards, homeland security, and other programs.
- Raise public awareness about the importance of green building techniques.
- Educate the public regarding the benefits of recycling and waste reduction.
- Promote traffic safety awareness programs.
- Promote the application of CPTED to new development projects.
- Support neighborhood meetings and community programs on crime prevention and education.
- Continue to support existing Neighborhood Watch programs, and support the efforts of the City of Orange Police Department to expand these programs.
- [Educate the public regarding fire safety through public outreach and support for localized efforts to become a Firewise Community.](#)
- [Educate the public about established designated evacuation routes throughout the City as designated in the City’s “Know Your Way” Plan provided on the Police Department website.](#)
- [Sponsor and support public education programs for emergency preparedness and disaster response. Continue to provide a Community Emergency Response Team \(CERT\) program through the Police Department to support awareness and preparedness for the Orange community.](#)
- [Maintain the City’s mass emergency notification mechanism for the release of public information during a major event.](#)

Coordinate education activities and make materials available to residents. Utilize all available media—forums, flyers, brochures, e-mail, videos, interpretive displays, workshops, and the City’s website and cable television channel—to accomplish these objectives. Fully utilize the resources of the Orange Public Library to disseminate this information. Explore partnerships with local schools and educators to develop various educational programs related to historic preservation, personal and community safety, and environmental awareness.



Agency/Department:	Community Development Department, Public Works Department, Fire Department, Police Department, Library Services Department, Community Services Department
Funding Source:	General Fund; Federal, state, and private grants
Time Frame:	Ongoing
Related Policies:	
Land Use:	5.2, 6.11, 8.1, 8.2, 8.3
Natural Resources:	2.17
Cultural Resources & Historic Preservation:	1.2, 1.3, 1.6, 2.2, 2.3, 3.1, 3.2, 4.4, 4.6, 5.1, 5.5
Public Safety:	1.2, 3.5 , 3.6, 6.5, 6.6 , 7.1, 8.1, 8.5
Economic Development:	3.3, 4.4

Program IV-4 Santiago Creek and Santa Ana River Vision Plans

~~Continue efforts to prepare and adopt a vision plan for Santiago Creek addressing recreational trails, open space, and flood control.~~

Support future development of highly visible access points to the Santa Ana River, particularly at Lincoln Avenue, Katella Avenue, and Chapman Avenue. Partner with the City of Anaheim, resource agencies, and community organizations to complete a vision plan for the Santa Ana River, similar to the plan for Santiago Creek.

Agency/Department:	Community Development Department, Community Services Department, Public Works Department
Funding Source:	Grants, General Fund
Time Frame:	Santiago Creek Plan completed by 2013 Santa Ana River plan completed by 203020
Related Policies:	
Land Use:	6.3, 7.3
Circulation & Mobility:	1.1
Natural Resources:	1.2, 4.2, 6.1
Cultural Resources & Historic Preservation:	4.2

Program IV-5 Solid Waste Source Reduction and Recycling

Continue to implement waste diversion programs as well as public education programs as outlined in the City's Source Reduction and Recycling Element required by Assembly Bill 939 (1989). ~~Work to expand recycling pickup to all residential addresses in the City. Conduct a waste characterization study to identify the major constituents in the City's solid waste stream. The results of the study will be used to guide development of the recycling and outreach program, and possible revisions to waste handler contracts. The City will also consider anticipated waste associated with the land use types of future development.~~The



the land use types of future development. Also, the City will continue to implement and promote through public education recycling, organics recycling, and food recovery programs as mandated by CalRecycle.

Agency/Department:	Public Works Department
Funding Source:	General Fund, user fees
Time Frame:	Ongoing
Related Policies:	
Natural Resources:	2.5
Infrastructure:	2.1, 2.2, 2.3, 2.4

Program IV-6 Transportation Demand and System Management

Participate in regional efforts to implement TDM requirements and support implementation of the employer TDM provisions of the South Coast Air Quality Management District’s Air Quality Management Plan by working with the SCAQMD to identify employers within Orange most suitable for participation in the TDM programs to achieve major reduction of VMT. Complete intersection capacity improvements and coordinate traffic signals as necessary to improve traffic flow.

Agency/Department:	Community Development Department, Public Works Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Land Use:	7.4
Circulation & Mobility:	2.2, 2.5, 2.6
Natural Resources:	2.1, 2.2
Growth Management:	1.12, 2.1

Program IV-7 Growth Management Performance Monitoring Program

As required by Renewed Measure M (also known as OC Go), the City’s annual Performance Monitoring Program is intended to provide an annual evaluation of its development phasing plans. This program reviews and evaluates the implementation of phasing plans that reflect conditions of approval for traffic improvements required as mitigation measures for development projects. The monitoring program is intended to ensure that road improvements or funding are actually provided as required, to determine whether development may continue. If the improvements or funding specified in project conditions have not been provided, the City shall defer development until compliance with the provision of this program is achieved.

The monitoring program includes an annual review of new development projects until all required improvements have been constructed. Traffic-related mitigation requirements, such

IMPLEMENTATION



as TDM programs, will be continued in conformance with the provisions of the project-approved programs.

Agency/Department: Community Development Department, Public Works Department

Funding Source: Development fees

Time Frame: Ongoing

Related Policies:

Circulation & Mobility: 1.1

Growth Management: 1.2, 1.5, 1.12



V. Coordination with Other Agencies and Organizations

Program V-1 Utility Companies

As part of the development application and review process, coordinate with Southern California Edison (SCE), Time Warner Cable, Cox Communications Orange County, the Gas Company, AT&T, cellular telephone service providers, and other local utilities to assess capacity and infrastructure needs to support new development or development activities. Ensure through such coordination that Orange remains on the cutting edge of new infrastructure technology. Require that utilities be moved underground consistent with the City’s *Master Utility Undergrounding Plan*. Identify engineering vulnerabilities in lifeline utilities, such as overhead power lines, for exposure to or threats of wildland fire.

Agency/Department:	City Manager’s Office, Community Development Department, Public Works Department
Funding Source:	SCE utility undergrounding fund, private funding sources
Time Frame:	Ongoing
Related Policies:	
Land Use:	7.3, 7.4, 7.5, 7.6
Urban Design:	2.8
Infrastructure:	4.1, 4.2, 4.3
Economic Development:	5.2, 6.2

Program V-2 Orange Unified School District and Santiago Canyon Community College District

Coordinate with the Orange Unified School District and Santiago Canyon Community College District to address the following issues, as applicable:

- Preparation of facilities master plans;
- Continued development of safe pedestrian and bicycle routes to all schools and ensuring that physical improvements (such as crosswalks and bike racks) are in place to support walking and bicycling to schools;
- Exploration of nonstructural solutions that may encourage people to walk or bus to school, rather than drive (e.g., staggered start times, walking groups);
- Continued joint use of school sites for community recreation;
- Exploration of joint use of school site(s) for public library service;
- Continued youth and family services to serve families of children living within the school district’s boundaries;
- Continued joint-use agreements to make additional recreational facilities available to the community during non-school hours;



- Requiring new or remodeling existing schools to install appropriate student pick-up/drop-off areas; and
- Preparation of an elementary school curriculum, including suggested supplemental activities, for teaching children about cultural and historical resources, personal and community safety, sustainable lifestyles, and environmental awareness in the City.

Agency/Department: Community Development Department, Community Services Department, Library Services Department
 Funding Source: Development fees, user fees
 Time Frame: Ongoing
 Related Policies:
 Land Use: 7.1, 7.6
 Natural Resources: 5.3
 Cultural Resources & Historic Preservation: 2.2, 3.1

Program V-3 Adjacent Jurisdictions and Special-Purpose Agencies and Organizations

Continue to coordinate with adjacent jurisdictions and special-purpose agencies and organizations for the following purposes:

- Land use planning efforts;
- Growth and facility planning, management, and maintenance;
- Planning and developing major east/west and north/south arterials and rapid transit;
- Ensuring that Orange benefits from the planned Anaheim Regional Transportation Intermodal Center (ARTIC);
- Connecting City trails to trails in adjacent jurisdictions and regional trails networks, including Santiago Creek, the Santa Ana River, and the proposed Tustin Branch Trail;
- Completing vision plans for ~~Santiago Creek and~~ the Santa Ana River;
- Maintaining an appropriate level of transportation impact fees and other public service fees;
- ~~Continuing and adopting mutual aid agreements;~~
- Continue to adopt and honor agreements with adjacent communities for mutual aid assistance. Specifically, continue to utilize Standard Emergency Management System (SEMS) and National Incident Management System (NIMS) for local and master mutual aid agreements. Continue to utilize the “SOLAR Plan” (San Bernardino County, Orange County, Los Angeles County, Anaheim, and Riverside County) for coordinated radio frequency communications;
- Maintaining flood control facilities and implementing a capacity analysis;
- Developing trails along service roads for flood control channels;
- Aircraft corridor planning, minimizing aircraft overflights in the City, and coordinating approval of heliport/helistop operations;



- Disaster preparedness and emergency response for earthquakes and wildland fires;
- Participating in interjurisdictional planning forums through the established Growth Management Areas (GMAs) adopted by the Regional Advisory Planning Council as well as the City’s Joint Powers Agreements with adjacent cities to address cumulative traffic impacts and to coordinate improvements in transportation facilities; and
- Monitoring and compiling information on faults within the planning area.

Agency/Department:	Community Development Department, Public Works Department, Fire Department, Police Department
Funding Source:	General Fund, development fees, gas tax funds
Time Frame:	Ongoing
Related Policies:	
Land Use:	7.3, 7.4, 7.5, 7.6
Circulation & Mobility:	2.2, 2.3, 2.4, 3.1, 4.1
Natural Resources:	6.1, 6.3, 6.4
Public Safety:	1.3, 2.1, 3.7, 5.1, 5.2, 6.3, 8.2, 8.3
Noise:	4.1, 4.2, 4.3
Growth Management:	1.4, 2.1, 2.2, 2.5, 2.6

Program V-4 Railroad Operators

Continue to coordinate with the SCRRA in providing a regional rail system (Metrolink) that links Orange to other employment and activity centers in Southern California. Coordinate with rail operators to address possible effects of increased railway volumes on grade crossings throughout the City, to reduce delays associated with freight trains, ~~and to implement a Quiet Zone~~. Coordinate with operators to achieve appropriate mitigation to ensure continued safety for motorists and pedestrians.

Agency/Department:	Public Works Department, City Manager’s Office
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Land Use:	2.6
Circulation & Mobility:	1.5, 2.4, 2.6, 2.7
Natural Resources:	2.2
Noise:	3.2
Growth Management:	1.7, 2.5

Program V-5 Orange County Transportation Authority

Work closely with the OCTA to achieve the following objectives:

- Maintain consistency with the County Master Plan of Arterial Highways, including the reclassification of roadways described in the Circulation & Mobility Element, such as La Veta Avenue.



- Implement provisions of Renewed Measure M, [also known as OC Go](#).
- Implement the OCTA Congestion Management Plan (CMP).
- Expand and improve the efficiency of bus service within the City.
- Encourage the expansion of alternative local transportation options such as a community circulator bus service between transit centers and major commercial, employment, and residential areas.
- Improve paratransit or other public transportation systems that enhance the mobility of Orange’s senior and youth populations, and the disabled.
- Encourage provision of attractive and appropriate transit amenities.
- Support and implement the OCTA Commuter Bikeways Strategic Plan and participate in future updates and revisions to the Plan.
- Reduce noise impacts of OCTA operations and facilities.

Agency/Department:	Public Works Department, Community Development Department
Funding Source:	General Fund, State Transit Assistance funds
Time Frame:	Ongoing
Related Policies:	
Land Use:	2.4, 7.4
Circulation & Mobility:	1.1, 1.4, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 4.1
Natural Resources:	2.2
Noise:	2.4
Growth Management:	1.1, 1.3, 1.6, 1.9, 2.1, 2.2, 2.5, 2.6

Program V-6 California Department of Transportation and Transportation Corridor Agency

Work closely and coordinate with the California Department of Transportation (Caltrans) and the Transportation Corridor Agency (TCA) on all plans, activities, and projects that may affect state roadway facilities or transportation corridors passing through Orange. Additionally, work with these agencies to achieve the following objectives:

- Provide appropriate screening to control the visual impacts of transportation facilities.
- Provide landscaping within transportation facilities.
- Study the potential for a future interchange at State Route 55 and Meats Avenue.
- Determine the feasibility of conversion or joint use of surplus or otherwise underutilized lands under Caltrans or TCA control for open space.
- Plan for noise abatement along freeways and highways.
- Install, maintain, and update freeway and highway right-of-way buffers and soundwalls.
- Provide adequate visual buffers such as berms or landscaping between freeways and railways and adjacent land uses.



Agency/Department:	Public Works Department, Community Development Department
Funding Source:	General Fund, gas tax funds
Time Frame:	Ongoing
Related Policies:	
Land Use:	6.10, 7.5
Circulation & Mobility:	2.3, 2.4, 2.5, 2.6
Natural Resources:	7.3
Noise:	2.4
Growth Management:	2.1

Program V-7 Local Water Districts

Coordinate with the Irvine Ranch Water District, Serrano Water District, Municipal Water District of Orange County, Metropolitan Water District of Southern California, Golden State Water Company, ~~Serrano Water District~~, and East Orange County Water District to achieve the following water supply, distribution, and conservation objectives:

- Maintain groundwater recharge areas to protect water quality and ensure continued recharge of local groundwater basins.
- Reduce the amount of water used for landscaping and increase use of native and drought-tolerant plants.
- Encourage the production, distribution, and use of recycled and reclaimed water for landscaping projects.
- Maintain water quality objectives for urban runoff.

Agency/Department:	City Council, City Manager, Public Works Department
Funding Source:	User fees, development fees, General Fund, grants
Time Frame:	Ongoing
Related Policies:	
Land Use:	6.10, 7.3
Natural Resources:	2.3, 2.4
Infrastructure:	1.3, 1.4

Program V-8 Santa Ana Regional Water Quality Control Board

Comply with all provisions of the NPDES permit, and support regional efforts by the Santa Ana Regional Water Quality Control Board to improve and protect surface water quality.

Agency/Department:	Community Development Department, Public Works Department
Funding Source:	User fees
Time Frame:	Ongoing



Related Policies:	
Land Use:	3.4, 4.3, 6.5
Natural Resources:	2.4, 2.11, 2.12
Infrastructure:	1.4, 1.5

Program V-9 South Coast Air Quality Management District

Work with the South Coast Air Quality Management District and the Southern California Association of Governments to implement the Air Quality Management Plan and meet all federal and state air quality standards for pollutants. Participate in any future amendments and updates to the Plan. Implement and interpret the General Plan in a manner consistent with the Air Quality Management Plan.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Land Use:	3.4, 4.3, 6.10, 7.4
Circulation & Mobility:	2.5, 2.6, 3.1, 4.1
Natural Resources:	2.1, 2.2, 2.8
Growth Management:	1.7, 1.8, 1.12, 2.2, 2.3, 2.4, 2.6

Program V-10 Orange County Flood Control District

Support efforts by the Orange County Flood Control District (OCFCD) to regularly maintain flood control channels and structures owned by the OCFCD, and to complete necessary repairs in a timely manner. Work with the OCFCD and U.S. Army Corps of Engineers to identify new flood control improvements, and establish installation programs for improvements as needed. Work with the OCFCD to identify opportunities to enhance the natural qualities of Santiago Creek to protect habitat and reintroduce native plants, animals, and fish.

Agency/Department:	Public Works Department, Community Development Department, Community Services Department
Funding Source:	Orange County Flood Control District
Time Frame:	Ongoing
Related Policies:	
Land Use:	6.7, 6.9, 7.3
Natural Resources:	4.2
Public Safety:	2.1
Infrastructure:	1.5



**Program V-11 U.S. Fish and Wildlife Service and
California Department of Fish and Wildlife**

Continue to coordinate with federal and state wildlife agencies in an effort to protect rare or endangered species of plants and animals. Require that all development activities adhere to federal and state legislation that protects all sensitive plants and animals. Coordinate with these agencies for City efforts to restore portions of Santiago Creek and the Santa Ana River, to develop bike trails and pathways adjacent to Santiago Creek, to recognize the archeological significance of Santiago Creek, and to integrate natural landscape components within the design of projects adjacent to waterways.

Agency/Department:	Community Development Department, Community Services Department, Public Works Department
Funding Source:	General Fund, development fees, grants, federal and state funds
Time Frame:	Ongoing
Related Policies:	
Land Use:	6.4, 6.7, 6.11, 7.3
Natural Resources:	4.1, 4.2, 4.3, 4.4, 4.5, 6.1
Cultural Resources & Historic Preservation:	4.2

Program V-12 Central Orange County NCCP/HCP

Support compliance with the Central Orange County Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP). Participate in any future update to the Plan. Coordinate with the Fire Department and related agencies to ensure consideration of NCCP habitat areas when planning fuel modification zones.

[Recognize the overlap between the Natural Community Conservation Plan and the Very High Fire Hazard Safety Zone and implement the adopted Vegetation Management Guideline – Technical Design for New Construction, Fuel Modification Plans, and Maintenance Program with environmental sensitivity to overlapping designations. Utilize Minimum Impact Suppression Techniques \(MIST\) for wildland urban interface wildfires to minimize unnecessary eradication of natural habitat.](#)

Agency/Department:	Community Development Department, Fire Department
Funding Source:	General Fund, development fees
Time Frame:	Ongoing
Related Policies:	
Land Use:	6.4, 6.11, 7.3
Natural Resources:	4.1, 4.2, 4.3, 4.4, 4.5
Public Safety:	3.1, 3.3



Program V-13 Open Space Preservation Organizations and Agencies

Continue to work with local and regional open space preservation organizations and with federal and state agencies to identify and conserve urban open space and protect lands accessible for public use. Pursue grants and other resources to plan for open space preservation and, as appropriate, purchase properties to be included in the open space system. Use conservation easements where feasible as part of the City's open space acquisition program.

Agency/Department:	City Manager's Office, Community Development Department, Community Services Department
Funding Source:	Grants
Time Frame:	Ongoing
Related Policies:	
Land Use:	6.4, 6.11
Natural Resources:	1.1, 1.2, 1.3, 5.7

Program V-14 Orange Chamber of Commerce

Continue to work with the Orange Chamber of Commerce in promoting the local economy. The Chamber provides a variety of programs promoting economic development in Orange.

Agency/Department:	Economic Development Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Land Use:	3.2, 5.3, 8.2
Economic Development:	3.2, 3.3, 5.2

Program V-15 Federal and State Historic Preservation Programs

The City will continue to support efforts by California's OHP to administer federal and state-mandated historic preservation programs in California, including the following:

- California Historical Landmarks
- California Points of Historical Interest
- California Register of Historical Resources
- National Register of Historic Places
- Secretary of the Interior's Standards
- CEQA



The Mills Act is another preservation tool created by the California Legislature, enabling cities to enter into historical property agreements with owners of qualifying properties that result in reductions to the owners' property taxes. The agreements provide a benefit that ensures preservation and guarantees authentic rehabilitations and a high level of maintenance of historic resources. The City will continue to offer the Mills Act program to private property owners, will expand the program to include newly designated historic resources, and publicize its availability. In compliance with state legislation, the City will inspect Mills Act properties prior to contract approval and once every five years thereafter.

Agency/Department:	Community Development Department
Funding Source:	General Fund, Mills Act fees, development fees
Time Frame:	Ongoing
Related Policies:	
Land Use:	1.5, 6.11
Cultural Resources & Historic Preservation:	1.2, 1.3, 1.4, 1.5, 2.2, 4.1, 4.2, 4.3, 4.4

Program V-16 Community History and Preservation Organizations

Develop partnerships with local history and preservation organizations to prepare Historic Context Statement updates, undertake new surveys, and update surveys. Partner with local history and preservation organizations to develop a citywide interpretive program, including signs, plaques, exhibits, and other similar elements, to increase awareness of the City's history and its historic resources

Agency/Department:	Community Development Department, Library Services Department
Funding Source:	General Fund, grants
Time Frame:	Ongoing
Related Policies:	
Cultural Resources & Historic Preservation:	1.1, 1.2, 1.3, 2.2, 3.1, 3.4, 5.5

Program V-17 Orange County Airport Land Use Commission

Continue to work with the Orange County Airport Land Use Commission to increase safety and reduce noise associated with aircraft overflights and helicopter operations within the City by achieving the following objectives:

- Work with the Federal Aviation Administration and local airports (John Wayne Airport, Long Beach Airport, Los Alamitos Army Air Base) to determine appropriate aircraft altitude standards for aircraft flying over the City, taking into account public health and safety.

IMPLEMENTATION



- Continue to regulate the siting and operation of heliports/helistops through the Conditional Use Permit process in conjunction with the Orange County Airport Land Use Commission and Caltrans Division of Aeronautics.
- Work with the heliport/helistop operators (police, fire, hospital, and private) to implement flight profiles, tracks, and operating parameters for noise control.

Agency/Department:	Community Development Department
Funding Source:	General Fund
Time Frame:	Ongoing
Related Policies:	
Noise:	4.1, 4.2, 4.3