- identifying corridors with effective curb supply for potential commercial and passenger loading zones within Whittier;
- exploring dynamic pricing and regulations to effectively manage curb demand and supply for future uses;
- creating curbside management strategies, to effectively manage curb demand, including but not limited to prioritized uses, time of day uses, flexible curbside uses, and dynamic pricing;
- repurposing curbside parking to accommodate active transportation elements or promote pedestrian friendly infrastructure, such as plazas and parklets; and
- installing dynamic (physical & digital) wayfinding mechanisms that monitor occupancy, educate users, and facilitate enforcement.

Goal 8: Right-sizing of roadways

- MI-8.1: Investigate opportunities to adjust travel lane widths and the number of lanes on specific collector and arterial streets to create additional space within rights-of-way for bike lanes, landscaping improvements, and useable public green space.

Goal 9: Facilitating Smart Mobility and Autonomous Vehicle (AV)

- MI-9.1: Create a Smart Mobility and Autonomous Vehicle (AV) Master Readiness Plan, including:
  - developing a Smart Mobility working group aimed at guiding autonomous vehicle development and future mobility technologies integration in a way that is consistent with community goals;
  - assessing state and federal regulations for autonomous vehicle testing/deployment and hosting community events to educate residents on the potential impacts of autonomous vehicles and other future technologies;
  - developing a policy framework for autonomous vehicle testing, pilots, and eventual commercial deployment, consistent with State and federal regulations;
  - developing 'autonomous vehicle readiness index' based on policies, physical assessment of existing infrastructure (e.g. signals, striping, curbs, etc.), and cost/feasibility of infrastructure updates;
  - researching and identifying accessibility and equity concerns that may arise with future deployment of autonomous vehicle by Transportation Network Companies (TNC);
  - developing mechanisms to ensure autonomous vehicle mobility services provide equitable service to all neighborhoods (e.g. enforcing regulations for TNC's to provide service in Disadvantaged Communities, leveraging autonomous vehicle ride-hail services to fill mobility gaps within the transit network, etc.);

- determining the need and standards for a centralized traffic management system that can integrate and interact with different autonomous vehicle systems and providers. (e.g. sensory hardware required to create an "Air Traffic Control System" for streets); and
- researching implications of innovative and connected vehicle technologies for V2I/V2X applications in transit priority applications, managing autonomous vehicles, autonomous vehicle delivery services, etc. (e.g. DSRC, 5G, Sensor hardware);
- creating inventory of existing infrastructure assets to determine necessary upgrades for autonomous vehicle ready usage and identifying investments on corridors or areas for early integration of autonomous vehicles testing/pilots. (e.g., low speed shuttle pilots, services for senior communities);

Dial-A-Ride Shuttle Service

- exploring strategies that have been successfully implemented by other jurisdictions for collecting, storing, analyzing, and sharing transportation data (e.g., trip origins, destinations, mode share, delay, productivity); and
- developing data management plan and sharing standards to allow data to be shared with smart mobility technology and autonomous vehicle providers/developers (e.g., MDS/Open Mobility Foundation, Shared Streets).

infrastructure introduction

An efficient and reliable infrastructure system is vital to any city's health, safety, livability, and its economic well-being. The Infrastructure section addresses the physical facilities needed for the conveyance of vital services and functions such as water storage and distribution, wastewater collection and treatment, and storm drainage and flood control.

These infrastructure systems represent the vital support network upon which we rely to maintain our daily activities. To preserve high service levels in Whittier, ongoing maintenance, improvement, and replacement is required. New development must ensure that new needs are met without burdening current users.

baseline considerations

- Four water providers serve the Planning Area: City of Whittier, Water Division; San Gabriel Valley Water; Suburban Water Systems; and Orchard Dale Water District (Figure MI-4). Most water is drawn from aquifers in the San Gabriel Main Basin and Coastal Plain of the Los Angeles Central Basin. Since the majority of the Planning Area is built out, the water companies do not anticipate significant population growth. Planned capacity improvements within Whittier are primarily to maintain adequate fire flows.
- The San Gabriel Valley Water Company can also supply recycled water, but the distribution area is limited. Recycled water use is primarily for Caltrans freeway/highway irrigation, City of Whittier parks (Founders Park and Palm Park), and at schools (Dexter School, Orange Grove School, and Longfellow School).
- The City owns, operates, and maintains the wastewater collection system serving Whittier homes, businesses, and institutions. The wastewater collection system consists of approximately 194 miles of sanitary sewer mains. In addition to these City sewers, approximately seven miles of private sewers and 14 miles of County Sanitation Districts of Los Angeles County (LACSD) trunk sewers traverse the City. The City's wastewater system conveys wastewater into the LACSD trunk sewer at various locations throughout the City. Once in the LACSD trunk sewer system, the wastewater is conveyed to the LACSD wastewater treatment plant for final treatment and disposal. Anticipated capital improvements include pipe replacement to correct capacity deficiencies and problem hot spots and to replace aging pipes. The replacement projects are anticipated to continue through 2035.
- Whittier's storm drain system is partially operated by the City of Whittier and the Los Angeles County Flood Control District. Stormwater endpoint discharge is the Pacific

Ocean via the San Gabriel River and its tributaries -- Coyote Creek, La Miranda Creek, Leffingwell Creek, and Verde Creek. The San Gabriel River is impaired by pollutants, including metals (copper, lead, zinc) and selenium that are carried by stormwater. Metals are common stormwater pollutants associated with roads and parking lots. Other sources of these pollutants include building materials (such as galvanized steel) that are exposed to rain. The City is a co-permittee in the Los Angeles County National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit.

- Due to limited space within the existing rights-of-way, water quality BMPs should serve multiple functions such as traffic calming, tree planting, and beautification.
- Due to limited park space, water quality BMPs should serve multiple functions for both recreation and stormwater management.
- The proliferation of overhead utility lines and poles has long been cited as a source of urban visual pollution. Recent new development has included underground electric and telephone service, largely due to technical advances that reduced the cost of undergrounding utility lines. However, undergrounding existing overhead utilities can be complicated and expensive.
- Over the next 20 years, key infrastructure considerations and concerns will be intricately tied to sustainability. As concerns about global warming and climate change increase, we must carefully plan our infrastructure to accommodate a lower reliance on traditional methods of energy production, water use, and waste management. Envision Whittier's Infrastructure goals, policies, and implementation programs focus on utilizing sustainable practices, maintenance, and educating users to maintain service levels. Furthermore, by improving infrastructure in and along Whittier Boulevard (in concert with Caltrans' objectives) and within Uptown, infill and intensified development consistent with priorities for smart growth can be supported.

key terms

National Pollutant Discharge Elimination System (NPDES) as authorized by the Clean Water Act, the NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The State Water Resources Control Board issues permits to jurisdictions with the objectives to attain and protect the beneficial uses of water bodies in the State; reduce pollutants in stormwater to the maximum extent practicable; and to evaluate compliance with the objectives and requirements contained in the permit.

Recycled/Reclaimed Water is former wastewater (sewage) that has been treated to remove solids and certain impurities, and then allowed to recharge the aquifer rather than being

discharged to surface water. This recharging is often done by using the treated wastewater for irrigation.

Renewable Energy is the term renewable energy generally refers to electricity supplied from renewable energy sources, such as wind and solar power, geothermal, hydropower and various forms of biomass. These energy sources are considered renewable sources because their fuel sources are continuously replenished.

Sanitary Sewer (Sewer) is a system of subterranean conduits that carries refuse liquids or waste matter to a plant where the sewage is treated, as contrasted with storm drainage systems (that carry surface water) and septic tanks or leach fields (that hold refuse liquids and waste matter on site).

Smart growth is a compact, efficient, and environmentally sensitive pattern of development that provides people with additional travel, housing, and employment choices by focusing future growth away from rural areas and closer to existing and planned job centers and public facilities.

goals and policies

Goal 10: Safe and reliable potable and recycled water storage and distribution systems that meet current and future needs

- MI-10.1: Identify funding for and implement the planned water system improvements identified in the City's 2018 Water System Master Plan. Update the Master Plan as needed in response to changing conditions; consider the unique needs of the Disadvantaged Communities.
- MI-10.2: Minimize leaks in the City's water distribution system through regular monitoring, maintenance, and mitigation.
- MI-10.3: Maintain the City's water system to ensure adequate fire flows.
- MI-10.4: Maintain and operate the City's water storage and distribution system to provide for rapid recovery and reliable and sufficient emergency water supplies in the event of a disaster.
- MI-10.5: Ensure the Suburban Water Systems, Orchard Dale, and the Cal Domestic Water Company implement improvements to their systems that provide high-quality services to the Whittier Planning Area customers.

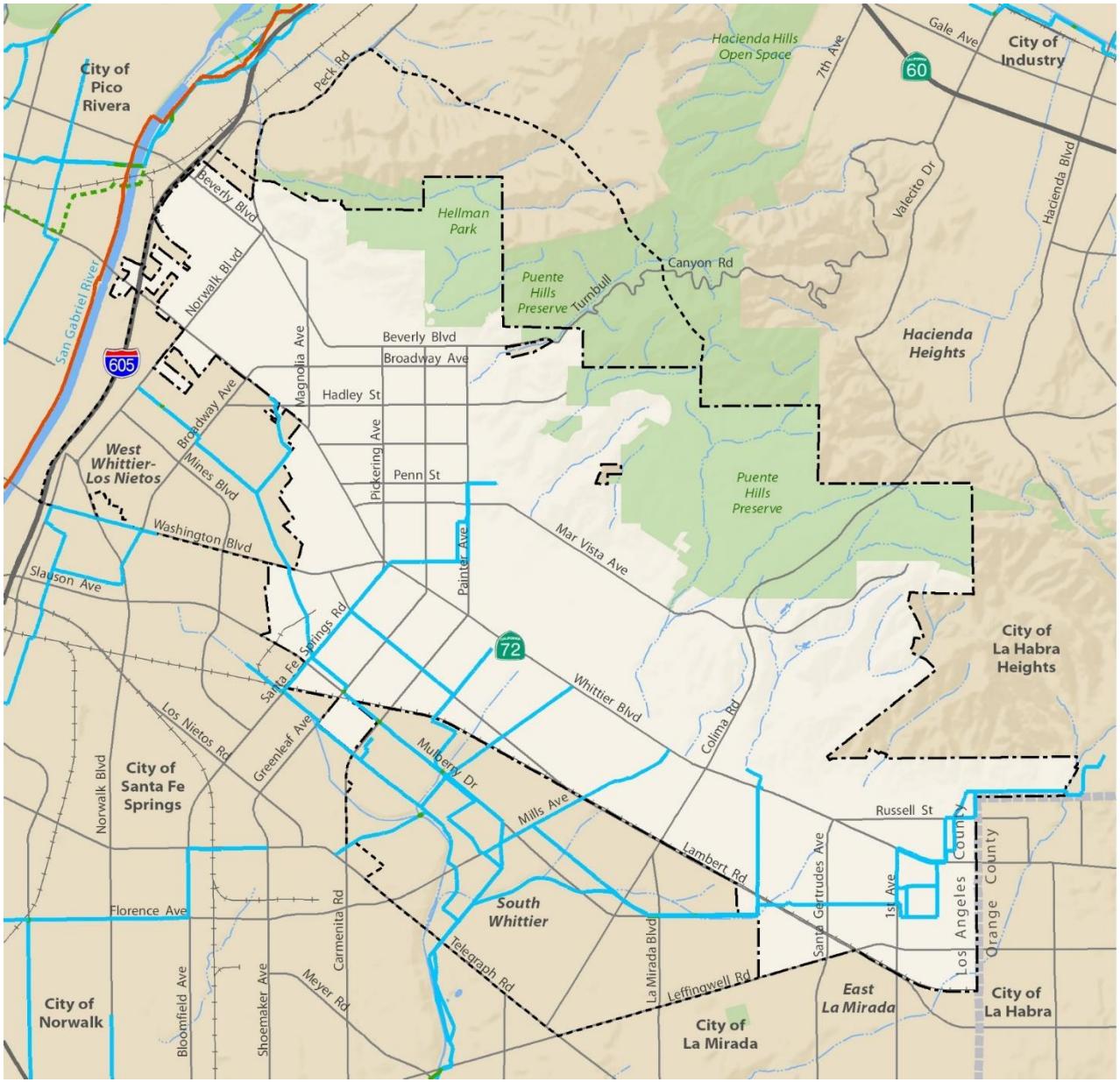

Figure MI-4: Water Districts

Sewer Trunk Lines (LA County Sanitation Districts)

- In Service Gravity
- In Service Siphon / Suction
- Outfall (San Gabriel River)
- Out of Service Gravity / Siphon

Base Map Features

- Whittier City Boundary
- Whittier Sphere of influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks
- Waterbodies
- Open Space/Natural Areas

Source: City of Whittier and Los Angeles County Sanitation Districts, 2013.

Prepared by MIG, July 2017.

0 1,000 2,000 4,000 6,000 8,000 Feet

Note: This map does not include the small City-owned parcel in the Whittier Narrows area.

- MI-10.6: Support water reclamation agencies' efforts to provide reclaimed water service throughout Whittier.
- MI-10.7: Use reclaimed water to irrigate parks, decorative fountains, and other public open space areas.

Goal C11: Reliable local wastewater collection facilities that support established needs, as well as the City's economic development goals and plans for new housing (Figure MI-5)

- MI-11.1: Identify funding for and implement the planned sewer system improvements identified in the City's 2018 Sewer System Master Plan. Update the Master Plan as needed in response to changing conditions, including the addition of Accessory Dwelling Units (ADUs) and the unique needs of the Disadvantaged Communities.
- MI-11.2: Prioritize planned sewer system improvements in areas where they system has the most need and where growth will be focused.
- MI-11.3: Conduct a study to determine how new development is to pay its fair share of sewer system improvements.
- MI-11.4: Proactively conduct system inspection and cleaning.
- MI-11.5: Minimize groundwater infiltration and inflow to the wastewater collection system to maintain sufficient peak wet-weather capacity.

Goal 12: An integrated local stormwater management system that guards against urban flooding and provides for the "greening" of Whittier (Figure MI-6)

- MI-12.1: Maintain the capacity and condition of local storm drains to accommodate all but extreme weather events.
- MI-12.2: Ensure the ability of regional stormwater collection facilities to accommodate flows from Whittier's stormwater collection system through coordination with the Los Angeles County Department of Public Works.

Bioswale design illustrative

Pervious pavement design illustrative

- MI-12.3: Incorporate Low Impact Development (LID) approaches into the design and upgrades of public stormwater infrastructure, including bioswales and pervious surfaces.

Goal 13: Reliable, unobtrusive, and eco-friendly energy systems

- MI-13.1: Ensure improvements to and maintenance of electric power and natural gas transmission and distribution systems are performed in a manner that maintains safety and reliability and that implements City environmental goals.
- MI-13.2: Focus on purchasing electricity from renewable sources through continued participation in appropriate organizations and alliances.
- MI-13.3: Accommodate alternative energy infrastructure (such as wind and solar) as new technology evolves.
- MI-13.4: Ensure pipeline owners protect and maintain underground high-pressure pipelines consistent with applicable laws through coordination and working with responsible federal and State agencies.
- MI-13.5: Require new development projects underground utilities and provide utility upgrades/replacements, as appropriate.

Goal 14: Communications technologies that facilitate efficient and affordable access for everyone in Whittier, provide broad benefits, and integrate well into the urban environment

- MI-14.1: Ensure residents, businesses, and institutions in Whittier have choices regarding communications service providers.
- MI-14.2: Explore ways to provide easy access to wireless communications services in public spaces.
- MI-14.3: Identify local Disadvantaged Communities that may be underserved by wireless communications services due to cost or poor service coverage; work with service providers and others to improve that access.
- MI-14.4: Minimize the visual impacts of communications infrastructure.
- MI-14.5: Ensure that the City receives sufficient revenues and other benefits from the private use of public infrastructure and facilities for the installation of small cell and similar technologies.

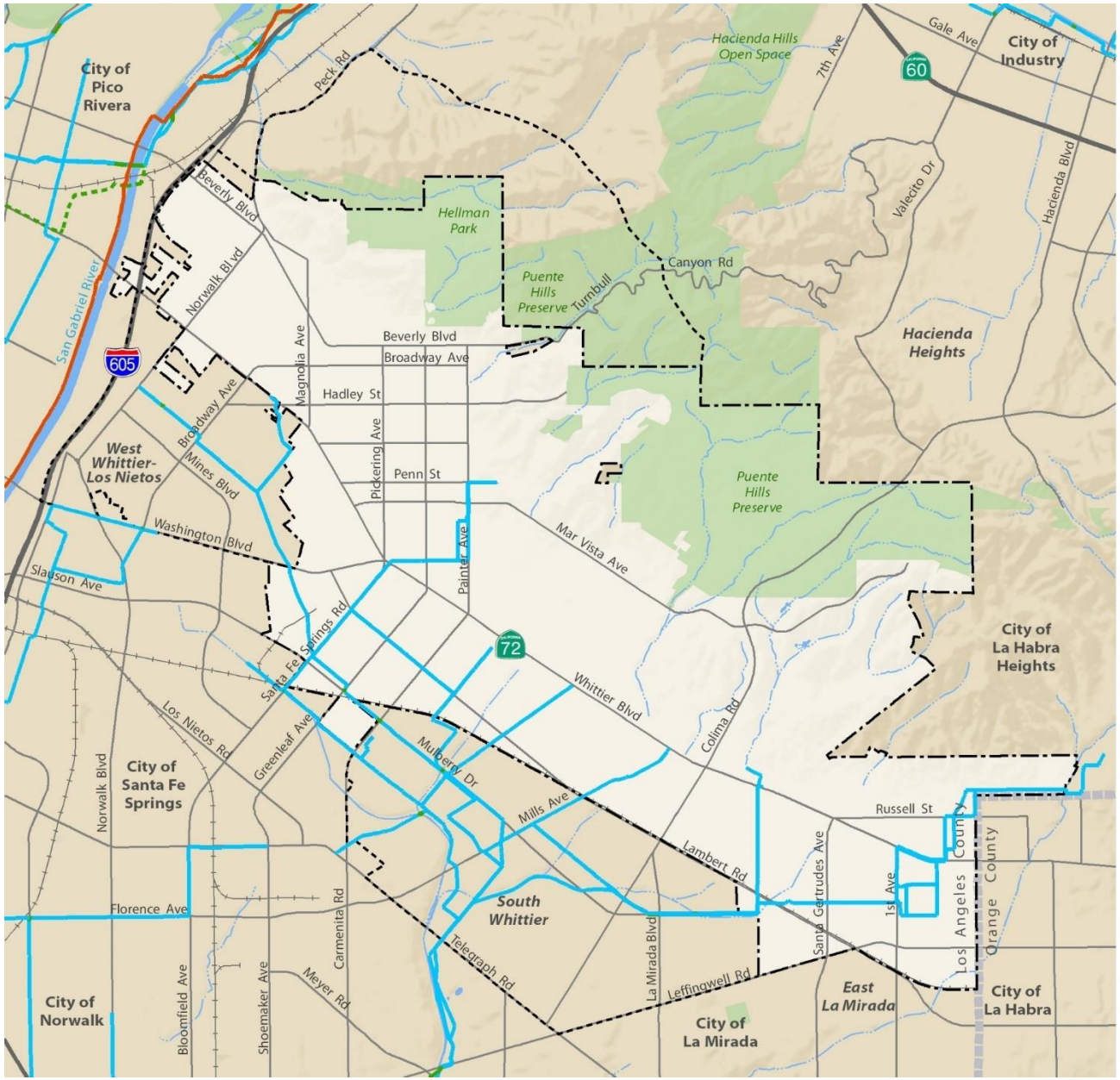

Figure MI–5: Sewer Lines

Sewer Trunk Lines (LA County Sanitation Districts)

- In Service Gravity
- In Service Siphon / Suction
- Outfall (San Gabriel River)
- Out of Service Gravity / Siphon

Base Map Features

- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
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- Open Space/Natural Areas

Source: City of Whittier and Los Angeles County Sanitation Districts, 2013.

Prepared by MIG, July 2017.

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Note: This map does not include the small City-owned parcel in the Whittier Narrows area.

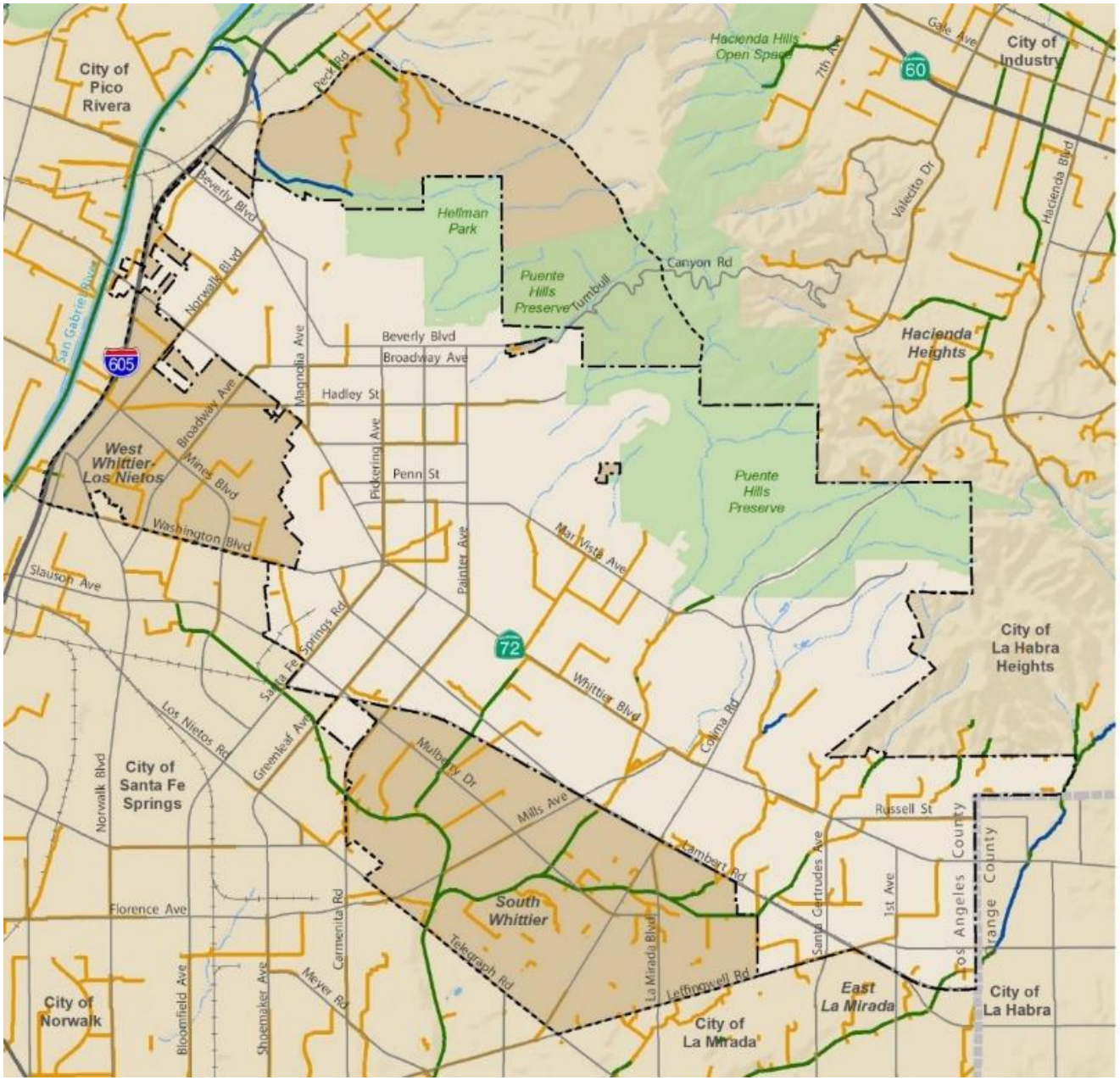


Figure MI–6: Stormwater Infrastructure

Note: This map does not include the small City-owned parcel in the Whittier Narrows area.

Goal 15: "Smart" infrastructure that creates a connected, coordinated, and responsive City

- MI-15.1: Explore opportunities for using integrated technologies and infrastructure to:
  - Improve and enhance transportation, water delivery, sewage collection, streetlight, solid waste collection, and other urban systems
  - Connect residents and businesses with City services and programs
  - Promote economic development opportunities
- MI-15.2: Develop a "smart cities" strategy.

historic resources

in this section

introduction

goals and policies

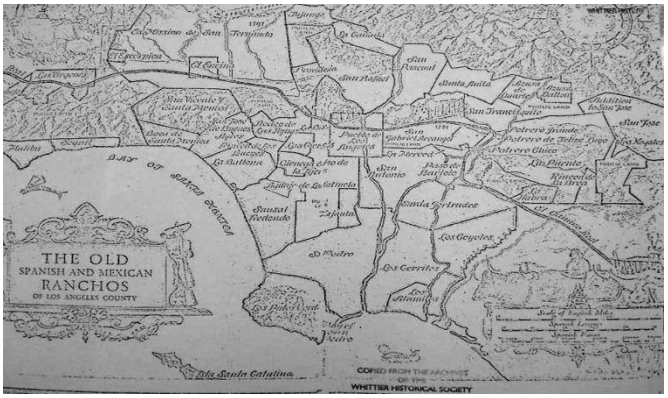
introduction

Historic preservation is a tool that communities use to assist in maintaining unique community character and has been a significant component of the City of Whittier's planning efforts. The 1993 Whittier General Plan included a Historic Resources Element, the Envision Whittier General Plan updates the earlier Element. The City has chosen to include an Historic Resources because the community values its history and culture and seeks to identify goals and policies that promotes the preservation of historic and cultural resources. Whittier's tangible links to the city's past promote public understanding, appreciation, and civic pride for those people, places, events, and cultures that contribute to making Whittier a desirable place to live and work.

With a rich past worthy of preservation, the City has acted proactively with regard to historic preservation policies, as evidenced by the adoption of an optional Historic Resources Element in 1993. Additionally, the City has received consistently high ratings from the non-profit, historic preservation county-wide advocacy organization the Los Angeles Conservancy in its Historic Preservation Report Card, last updated in 2014. The Historic Resources Element allows Whittier to consider its current programs, policies, and practices and establish a path to implement goals and policies that will continue its tradition of best practices in Historic Preservation.

historic and cultural heritage

early establishment



Map of old Spanish & Mexican rancho boundaries across Los Angeles County

Before western settlement, the Indians of the Shoshonean language group, who historians later referred to as Gabrielinos because of their association with the missionaries, were the earliest known inhabitants. It is believed that many of the first permanent settlers and original native people of Whittier also included the Tongva tribe.

Spanish California (1769-1821) influences resulted in the establishment of both missions and large ranchos. In 1784, Jose Manuel Nieto, who served on the Portola expedition, received a 300,000-acre land grant as a reward for his military service. While the area of Nieto's land grant was reduced in 1790 as the result of a dispute with Mission San Gabriel, the land grant stretched from the hills north of Whittier to the Pacific Ocean, and from the Santa Ana River to the San Gabriel River. After Nieto's death in 1804, his property was bequeathed to his family's descendants.

After Mexico gained her independence from Spain, she ruled California (1821-1848) during an era of thriving ranchos. Mexico continued the Spanish practice of granting land to citizens in good standing to encourage settlement in California. This was accomplished by secularizing the old Spanish missions and dividing up the mission lands to establish new ranchos. In doing so, it ended the influence of the California mission system on the region's inhabitants. One of the recipients of these Mexican land grants was Juan Crispin Perez, who established Rancho Paso de Bartolo in 1835.

During the time of the 1840s Mexican–American War, much of the land that would become Whittier was owned by Pio Pico, a rancher and the last Mexican governor of Alta California. Pio Pico purchased the Perez Grant in five parcels and re-named it "El Ranchito". Pico built his hacienda home east of the San Gabriel River. Pico House was considered one of the finest hotels at the time. Pico used it as a country house to get away from the pressures of business in Los Angeles. It also became a gathering place for neighbors and business acquaintances that traveled long distances as a result of the California Gold Rush. It is presently the Pio Pico State Historic Park in Whittier.

quaker community roots and whittier's first settlers

Illustration of "Quaker Girl", a reference to Whittier's history as a "Quaker Colony"

After the Mexican–American War, in 1868, German immigrant Jacob F. Gerkens paid $234 to the U.S. government to acquire 160 acres of land under the Homestead Act. Gerkens built a small cabin (also known today as "the Jonathan Bailey House"). Gerkens' land was owned by several others. By 1879, Gerkins sold his property to John Thomas, who established a 1,259-acre ranch in present day Whittier. The Thomas Ranch was subsequently sold in 1887 to the Pickering Land and Water Company who subdivided the ranch and sold lots to establish a "Quaker Colony" under the stewardship of Johnathan Bailey, John Painter, Hervey Lindley, Aquila Pickering, and T.E. Newlin. Although Whittier was established on Quaker (Friends) principles, the Pickering Land and Water Company often donated land to non-Quaker congregations to develop their churches as well.

As the community's Quaker foundation soon took root, it led to the City of Whittier's incorporation in 1898 with 585 residents. The City's name was chosen to honor the 19th Century Quaker poet, John Greenleaf Whittier. The area soon became known as a thriving citrus ranching region, with "Quaker Brand" fruit being shipped all over the United States. Beginning in 1887,

walnut trees were planted, and Whittier became the largest walnut grower as well as a major producer of pampas grass in the United States.

whittier college

In 1888, the Southern Pacific Railroad built the first railroad spur to Whittier, which helped promote the boom of the 1880s. Many Quakers on the east coast bought lots sight unseen, but settlement was opened to all "fair-minded people." Development was further enabled by the construction of a freshwater flume from the San Gabriel River, reservoir, and pumping station in 1891. The Pickering Land and Water Company set aside a 20-acre parcel of land for the development of a college, but a collapse in the land boom stalled construction. Progress on developing a college was sporadic, but on July 30, 1896, the Whittier Academy, operating since 1891, officially changed its name to Whittier College.

whittier's state school

It is also important to note the establishment of Whittier's State School for Juvenile Offenders in 1891 was intended to help the City after the depression of 1890 and establish a solid economic base for the community. The Quaker reformers supported the idea that troubled youth could excel in a community of self-reliant, industrious farmers. Soon after the Los Angeles-Whittier trolley line opened in 1904, the area became more desirable for residential and commercial development. The new school serendipitously found itself situated in a convenient location just southwest of the rail line; it was served by the depot across Whittier Boulevard to the northeast, just off Hadley Street. The State School, which later became the Fred C. Nelles youth correctional facility, closed in 2004.

commercial/residential establishments

Whittier's first large commercial enterprise, a cannery, was followed by a lumber mill and a grist mill. Farmers planted barley, beans, cabbage, corn, oats, peanuts, tomatoes, and citrus. Whittier became an important oil industry center following sale of land in the Puente Hills to the Central Oil Well Company in 1897. Companies, including the Standard, Union, and Richfield Oil Companies established oil wells in the nearby hills.

As Whittier's population steadily grew to 14,822 by 1930, so did the diversity of goods and services provided within Whittier along with the rise of substantial new public and private buildings like the Murphy Memorial Hospital (1921), First National Bank (1923), and the Hoover Hotel (1930). Most of Whittier's new development during this period remained concentrated in the greater Uptown area, with residential development becoming increasingly dense around Whittier's commercial core.

Philadelphia Street, circa 1902

During the 1920s and 1930s, residential and commercial development was becoming increasingly geared toward accommodating the automobile. This became evident as residential garages replaced barns and streets were widened and paved with parking spaces to accommodate automobile traffic as the use of public rail for transportation waned and eventually ended in Whittier by 1938. This ultimately gave rise to the automotive commercial-retail strip that became the primary expression of the automobile's impact on the mid-20th Century landscape in Whittier and resulted in the explosion of development away from the greater Uptown area in favor of Whittier Boulevard and other surrounding thoroughfares.

Like other communities, Whittier's growth slowed during the Great Depression (1929-1941). However, Whittier's agriculture and oil industries remained active. Although new construction was limited during this period, the federal Works Progress Administration (WPA) provided assistance with funding and jobs for public projects. An example of the WPA's work in Whittier is readily found in the numerous improvements constructed throughout Penn Park that are still used today.

Although Whittier's agriculture and oil industries declined after World War II (1939-1945), Whittier's growth continued to accelerate as distribution and manufacturing became important industries in the community because of its proximity to Los Angeles, major road networks and a large worker population. New construction also flourished during this period.

Between 1940 and 1960, Whittier's population more than doubled from 16,115 to 33,663 residents. Vast new tracts of residential homes and apartment buildings were developed in conjunction with commercial, industrial, medical, and institutional uses, which replaced the former agricultural land and oil fields that were once the backbone of Whittier's economy.

Aubrey Wardman House, built in 1927, is on the official Local Register of Historic Resources

By 1970, the City's population climbed to 72,863. Several annexations of unincorporated areas into Whittier during the 1950s and 1960s were partially responsible for this large population increase. Whittier was also experiencing the same kind of rapid growth that was occurring throughout Southern California after World War II. This growth was induced, in part, by an influx of returning soldiers, new families moving into California and rising birth rates. Whittier was now a firmly established bedroom community with a well-developed infrastructure and the ability to provide its residents with numerous goods and services. However, to maintain the aesthetic appeal and to entice additional growth and

development, rehabilitation and redevelopment would play a major role in the future of the City as the 1970s dawned in Whittier.

During the 1980s, Whittier witnessed growth, suburban neighborhoods, indoor malls (big box retail), and commercial destinations still created for cars.

Today, the commercial and residential landscapes in Whittier continue to evolve with progressive changes, more housing types and higher densities, green measures, a shift away from malls and big box to lifestyle/experiential destinations, and adaptive re-use that embrace design that allows both old and new.

current and past preservation efforts

Past historic preservation efforts by the City and its partners include the following:

1970s – 1990s

- Whittier Redevelopment Agency revitalizes Uptown Whittier
- Historic Resources Ordinance within Municipal Code Chapter 18.84 adopted and updated
- Citywide Centennial celebrations and activities highlighting Whittier's 100 years of history
- Local Register of Historic Resources developed
- Three historic districts (College Hills, Central Park, and Hadley-Greenleaf) were established
- 1993 General Plan's Historic Resources Element adopted

Dorland House, built in 1888, is on the official Local Register of Historic Resources

2000s

- Historic Resources surveys were initiated including: Residential resources, Non-Residential resources (including Modern Movement related resources)
- Planning Division dedicated resources to inform and participate in decision-making and project review related to historic preservation
- Historic preservation webpage created for the City's website

Central Park Historic District Marker

- "A Brief History of Whittier to 1970," published on City's website
- City of Whittier Public Library History Room established
- Earlham Historic District established
- Continual promotion of the Mills Act Property Tax Reduction for landmark designations and/or contributing resources within an established historic district and subsequent Mills Act contracts
- Uptown Specific Plan's revitalization goals and policies
- Archaeological policies developed related to CEQA mitigation measures
- Certificate of Appropriateness application and review process established

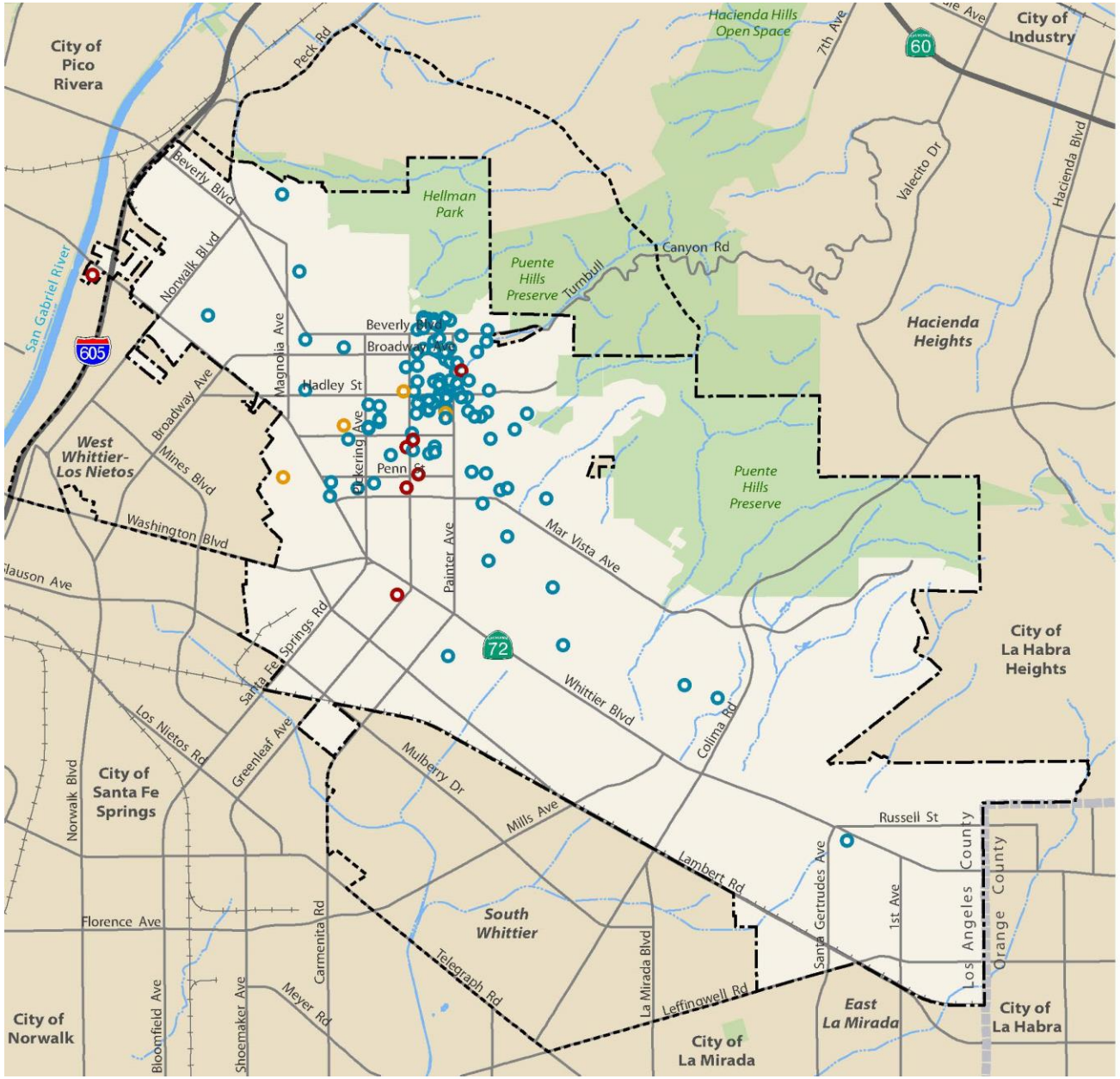


Figure HR-1: Historic Landmarks (2017)

Historic Landmarks

- National Register of Historic Places (7)
- California Register of Historical Resources (24)
- Local Official Register of Historic Resources (110)

Base Map Features

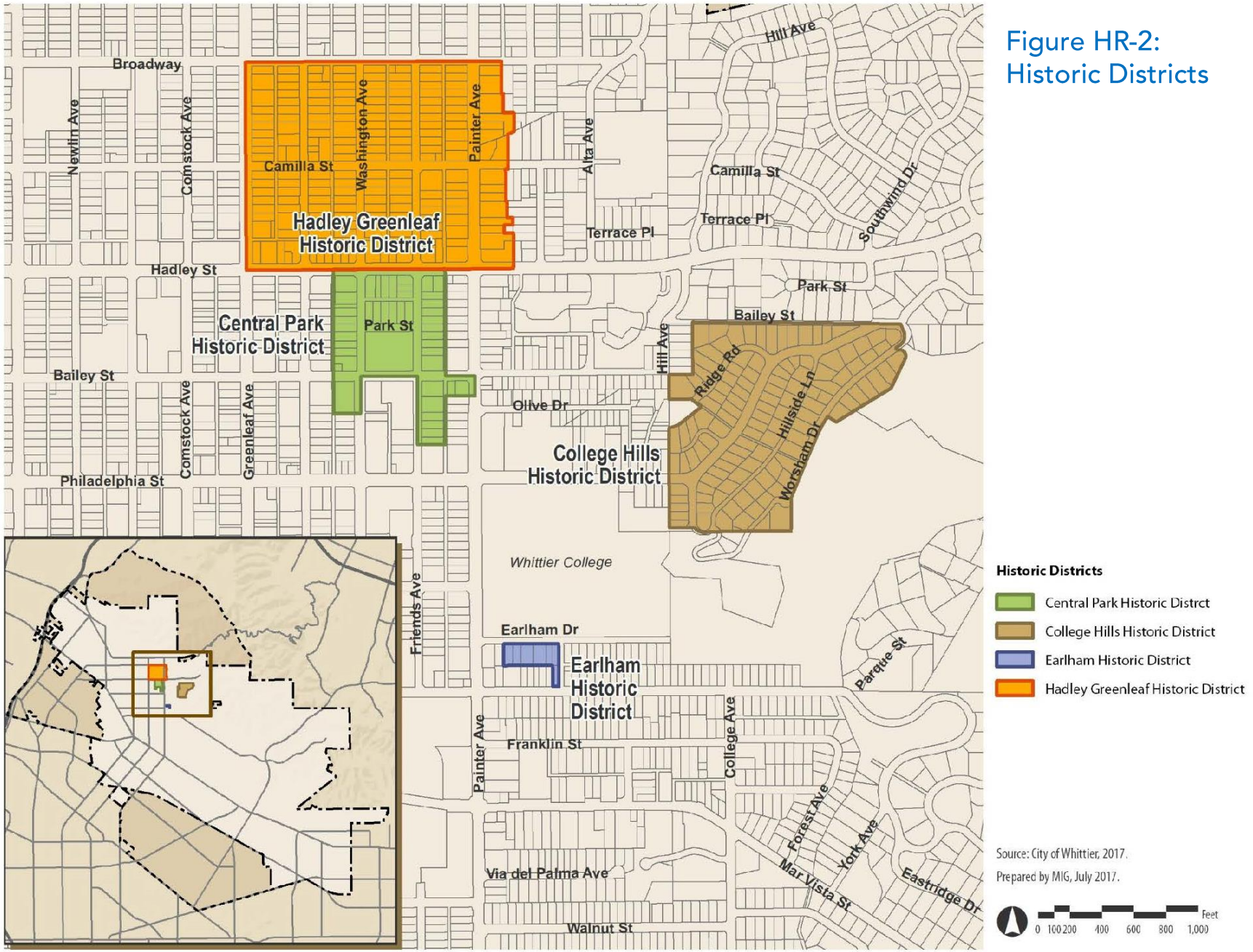
- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks
- Waterbodies
- Open Space/Natural Areas

Source: City of Whittier, 2021.

Prepared by MIG, 2022.

0 1,000 2,000 4,000 6,000 8,000 Feet

Figure HR-2: Historic Districts



goals and policies

Goal 1: Historic Resources Identification: Identify historic, cultural, and archaeological resources.

- HR-1.1: Evaluate potential historic resources and evaluate/provide required contextual statements for additional residential and commercial historic districts, as requested by the City Council and/or individual property owner(s).
- HR-1.2: Consider documenting Whittier's post World War II residential neighborhoods. View Whittier's post-World War II neighborhoods holistically rather than building by building to gain an understanding of how they developed and what the context of their design and development means within the history of Whittier's residential enclaves.
- HR-1.3: Determine the appropriateness of designating historic districts within the Uptown District.
- HR-1.4: Ensure each of the four already-designated historic districts clearly identifies contributing and non-contributing resources within defined boundaries.
- HR-1.5: Identify and map areas of archaeological resources sensitivity.
- HR-1.6: Understand that areas located along the San Gabriel River and in the Puente Hills have high potential for archaeological resources.

A post-war home in Whittier as pictured in a 1963 Chamber of Commerce promotional publication.

Goal 2: Update the City's Historic Preservation Program to align with best practices

- HR-2.1: Enhance, restore, preserve, and protect, as appropriate, historic resources throughout Whittier.
- HR-2.2: Encourage the retention and/or adaptive reuse of historic residential, commercial, and industrial buildings.
- HR-2.3: Consider relocation of structures with officially designated landmark status to vacant sites, preferably within established districts when no other alternative exists for their preservation, or if a particular structure is not protected by ordinance.
- HR-2.4: Provide guidance to the owners of designated historic landmark sites to preserve and rehabilitate structures.

- HR-2.5: Align the Historic Preservation Program with the California Environmental Quality Act (CEQA).
- HR-2.6: Encourage cooperation and collaboration between City departments, commissions, boards, and community groups to respect designated historic resources when proposing, reviewing, and approving new or infill development.

Goal 3: Protect historic and cultural resources from demolition, destruction, or inappropriate actions or consequences.

- HR-3.1: Consider the impact of climate change on historic and cultural resources and act to take preventative measures.
- HR-3.2: Suspend development activity when archaeological and/or paleontological resources are discovered during construction.

A vintage postcard view of Whittier City Hall; one of Whittier's first Modern buildings. Designed by architect William Henry Harrison in 1959

- HR-3.3: Encourage compatible new development of and near buildings, structures, sites, districts, and landscapes with historic designations to ensure limited physical and visual impact to existing historic resources and within older neighborhoods.
- HR-3.4: Suggest Accessory Dwelling Units (ADUs) take into consideration the character and features of the neighborhood in which it will be placed.
- HR-3.5: Strive to have historic resource evaluations consider the neighborhood context and potential for a larger historic district, rather than just evaluate singular resources.
- HR-3.6: Consider how landscapes may affect historic buildings.
- HR-3.7: While balancing public safety and insurance issues, consider encouraging the retention of mature landscaping and built landscape features as these elements contribute to the overall character of Whittier's older residential neighborhoods.

Goal 4: Promote the Whittier's historical and cultural resources (including adaptively reused structures) in a manner that contributes to Whittier's overall economic development.

- HR-4.1: Understand heritage tourism has strong economic impacts to local businesses and institute a focused locally inspired promotional program in partnership with organizations such as the Chamber of Commerce and local civic clubs and organizations.
- HR-4.2: Understand the Pio Pico State Historic Park's contribution to Whittier's heritage and heritage tourism.
- HR-4.3: Promote public awareness of Whittier's history, diverse heritage, and cultural influences.

Pio Pico State Historic Park, Courtesy of California State Parks.

Goal 5: Promote historic, cultural, and archaeological resources as a source of community identity and pride.

- HR-5.1: Encourage public knowledge, understanding, and appreciation of Whittier's role in local and regional history.
- HR-5.2: Foster civic and neighborhood pride and a sense of identity based on the recognition and use of historical and cultural resources.

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resource management

in this section

Resource Management Element cover photograph courtesy of Puente Hills Habitat Preservation Authority.

introduction

In Whittier, natural resources surround us: the hillside habitats that support abundant wildlife, tall trees that shade our streets and cool us as we walk through a park, and the rivers and streams that recharge our groundwater basins. These resources contribute to the quality of life in Whittier and allow residents to enjoy features not found in many urban environments. We must take care to protect these resources, as many cannot be replaced if diminished or destroyed. This Element focuses on preserving, protecting, conserving, reusing, and efficiently using Whittier's natural resources.

Natural resources include the lands, fossil fuels, water, wildlife, plants and trees, air, and other resources obtained from the Earth. Some resources are managed, such as landscaped parks. Other resources are meant to flourish through conservation, such as the varied habitats in the Puente Hills Preserve.

In addition to providing welcome green space in our urban areas, Whittier's parks offer opportunities for residents to improve mental and physical health, enjoy outdoor activities, and socialize with neighbors. Parks beautify neighborhoods and become assets to the residents and visitors who use them. Access to parks, trails, open space, and recreational facilities contributes to complete neighborhoods and supports a strong economy. Lower rates of obesity, asthma, and heart disease have been linked to proximity to parks and open space, especially if access to nature is part of everyday life. A city with strong park access—which can be measured by the amount of time it takes to walk to a park—makes active and passive park use more likely, frequent, and attainable.

Penn Park

key terms

Active Recreation Spaces refer to amenities, facilities, and space for active physical activity or organized sports and game. Examples include sports fields, game courts, playgrounds, and exercise equipment.

Brine, or produced water, is an oil and gas production byproduct. It consists of water from the geologic formation, injection water, oil, and salts.[1]

Bulb-outs (also called curb extensions) extend the sidewalk into the right-of-way to narrow the roadway and provide additional pedestrian space at key locations; they can be used at corners and at mid-block. Bulb-outs can often be lengthened to create public spaces, landscaped areas, or transit waiting areas.

CALGreen refers to the California Green Building Standards Code included in the California Code of Regulations (Title 24, Part 11), originally adopted in 2007 to establish building standards that move the State toward achieving greenhouse gas reduction targets. The code is periodically updated to reflect emerging technologies and revised reduction targets.

Carbon Dioxide Equivalent (CO2e) is a term used to describe different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO2e signifies the amount of CO2 that would have the equivalent global warming impact.

Climate Change means a change in global or regional climate patterns.

Conservation refers to the management and sustainable use of natural resources to minimize waste, destruction, or degradation.

Cool Pavement(s) refer to pavements that stay cooler in the sun than traditional pavements through such means as reflective coatings, vegetation, pervious pavements that allow water infiltration, and surfaces shaded by trees.

Global Warming occurs when carbon dioxide (CO2) and other air pollutants and greenhouse gases collect in the atmosphere and absorb sunlight and solar radiation that have bounced off the earth's surface. Normally, this radiation would escape into space—but these pollutants, which can last for years to centuries in the atmosphere—trap the heat and cause the planet to get hotter.

Green Building refers to a holistic approach to design, construction, and demolition that minimizes the building's impact on the environment, the occupants, and the community.

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[1] https://www.ag.ndsu.edu/publications/environment-natural-resources/environmental-impacts-of-brine-produced-water

Greenhouse Gases (GHG) occur naturally and from human activity. Greenhouse gases produced by human activities include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Greenhouse Gas Effect results when carbon dioxide and other greenhouse gases act like a blanket, absorbing infrared radiation and preventing it from escaping into outer space. The net effect is the gradual heating of Earth's atmosphere (global warming).

Ecosystem Services includes all benefits to humans provided by the natural environment, such as food, water, climate, and recreational benefits.

Environmental Justice is the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.[2]

Multimodal transportation considers and accommodates the many ways users get around, including walking, bicycling, public transportation, and driving.

Natural Resources constitute the lands, minerals and fossil fuels, wildlife, plants and trees, air, water, groundwater, drinking water, and other resources that make up the Earth.

Open Space refers to land that is not developed for residential, commercial, or industrial use and that is set aside for natural resource preservation/conservation or for outdoor recreation. Open space lands can encompass wildlife habitat, rivers, groundwater recharge areas, and areas containing mineral deposits. Trails, parks, outdoor recreation areas, utility easements, scenic highway corridors, and areas with limitations on usage to mitigate hazardous conditions (such as earthquake fault zones, unstable soils, flood plains, and watersheds) are also often considered open space.

Parks refers to lands developed for the purpose of enjoying outdoor spaces for active and passive recreation, as further described in the Parks and Open Spaces discussions in this element.

Particulate Matter refers to tiny particles made of any material suspended in the air, except pure water that exists in the solid or liquid state. The notation PM10 is used to describe particles 10 micrometers or less in diameter, and PM2.5 represents particles less than 2.5 micrometers in diameter. Smaller PM particles cause lung irritation, and exposure can trigger asthma attacks.

Passive Recreation Spaces are unimproved open spaces for low-impact recreational use. Passive recreation spaces typically provide quiet or passive use opportunities, such as walking paths, fountains/water features with seating, picnic areas, and shade shelters. Passive recreation may

[2] Defined by California Law

contain environmentally sensitive areas.

Pocket Parks are small parks frequently created on a single vacant lot or on small, irregular pieces of land and sometimes in parking spaces. They also may be created as a component of the public space requirement of large building projects.

Preservation is the act of maintaining, protecting, or preventing something from being damaged. The term can be applied to a wide range of topics beyond open space and natural resource conservation (for example, for a building or structure).

Public/Quasi-Public are land uses operated and maintained for public administration and welfare. May include government, civic, cultural, schools, libraries, post offices, public utilities, public parking, religious institutions, and infrastructure.

Renewable Energy sources capture energy from natural processes such as sunshine, wind, flowing water, biological processes including biomass, and geothermal.

Scenic Areas pertain to natural features of the landscape that are visually or historically significant, as determined by the federal, state, or a municipal government, including interests in land that have been acquired for restoration, preservation, and enhancement of scenic beauty.

Sensitive Receptors are land uses such as residences, residential care facilities, schools, day-care centers, playgrounds, and medical facilities, all of which have occupants—particularly children and older adults—who are sensitive to harmful effects from air pollution.

Significant Ecological Areas (SEAs) are officially designated areas within Los Angeles County which are applicable in portions of unincorporated Los Angeles County. SEAs are identified as having irreplaceable biological resources. These areas represent the wide-ranging biodiversity of the County and contain some of the County's most important biological resources.

Trails are publicly owned or maintained designated travel paths planned for and used by equestrians, pedestrians, and/or non-motorized cyclists.

Urban Forest is a collection of trees in an urbanized area planted for the purpose of providing shade in parks and other public spaces, beautifying the streetscape, attracting birds, and cleaning the air.

Whittier Greenway Trail on Opening Day 2009

Urban Water Suppliers, whether publicly or privately owned, provide water for municipal purposes either directly or indirectly to more than 3,000 customers or more than 3,000 acre-feet of water annually.

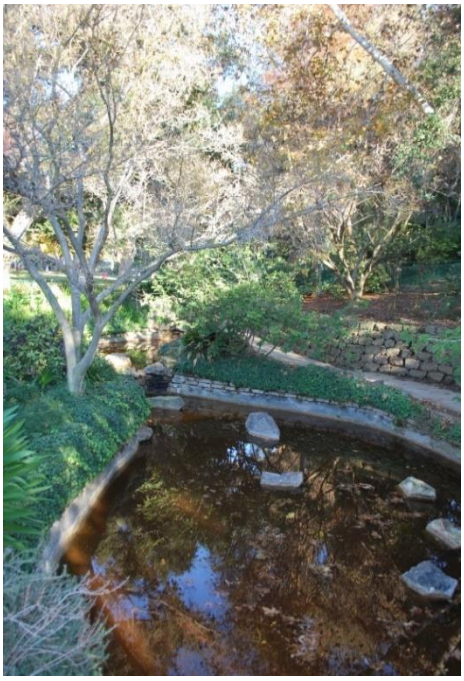
Vegetation Community is a classification of similar plant species. The fundamental aim of vegetation classification is to group together plant communities perceived as similar and thus, simplify the description of the vegetation patterns within a given geographic area.

Watershed refers to an area of land that drains collected rainfall via streams to a common collection point, such as a groundwater recharge basin or flood control infrastructure.

baseline issues

natural resources and conservation

- Whittier's most prominent natural resource is the Puente Hills Preserve located along the City's northern edge. Over 70 percent of Whittier's total park acreage comprises natural parks within the Puente Hills Preserve. Continued conservation efforts are essential to maintain the unique diversity of vegetation communities and habitats for several special status wildlife species found within the Preserve.



Penn Park

- The Puente Hills Preserve is managed by the Puente Hills Habitat Preservation Authority. The Puente Hills Habitat Preservation Authority, established in 1994, is a public agency formed by a Joint Powers Agreement with the City of Whittier, County of Los Angeles, Sanitation Districts of Los Angeles County, and the Hacienda Heights Improvement Association. The Puente Hills Habitat Preservation Authority and the Preserve ultimately were formed as a condition of approval for the Puente Hills Landfill, which funds most of its operations.
- The Puente Hills Preserve is designated a Significant Ecological Area (SEA), a Los Angeles County-designated area with irreplaceable biological resources. The SEA program implements a Los Angeles County ordinance that regulates development within these areas to balance the preservation of biodiversity and private property rights.[3] See Figure RM-1 for a map showing the full extent of the SEA. Preserve surveys have reported a variety of native species including dragon flies and damselflies, butterflies, amphibians, reptiles, birds, and

[3] https://planning.lacounty.gov/site/sea/home/

mammals, including mountain lion, bobcat, coyote, gray fox, and American badger.[4] The jurisdiction of Los Angeles County and its SEAs only exist in the Sphere of Influence surrounding Whittier; its authority does not extend into the City limits, as Whittier is responsible for establishing its own policies within its borders.

California Gnatcatcher and Black Sage
Courtesy of the Puente Hills Habitat Preservation Authority

- Five major native vegetation communities within the Puente Hills Preserve are coastal sage scrub, chaparral, grassland, riparian, and woodland. These communities support a rich diversity of wildlife—including species either protected or threatened—that contribute to healthy natural ecosystems in a suburban environment. Much of the Puente Hills Preserve serves as a wildlife corridor, called the Puente-Chino Hills Wildlife Corridor, that connects the Cleveland National Forest in Orange County to the Whittier Narrows area of Los Angeles County. The connectivity of the Puente-Chino Hills Wildlife Corridor allows for better breeding and dispersal opportunities for indigenous wildlife and plants.

water resources

- Water conservation is a priority in Southern California to ensure the continued availability of the water supply. Whittier's main source of domestic water is groundwater pumped from both the Main Basin and the Central Basin, which are part of the San Gabriel River watershed. Much of the watershed is fed by flows from the San Gabriel River, which drains 689 square miles of eastern Los Angeles County. Pollutants from dense clusters of residential and commercial activities have impaired water quality in the watershed.
- Because the City is an "urban water supplier," California law requires that the Public Works Department, Water Division prepare an Urban Water Management Plan (UWMP) and review it every five years in accordance with the California Urban Water Management Planning Act (UWMP Act) of 1983. The purpose of the UWMP is to identify reliable water sources during extended drought periods. Periodic plan updates provide the opportunity to identify emerging conditions regarding water conservation efforts and measures to implement alternative and supplemental water conservation.

[4] https://planning.lacounty.gov/assets/upl/project/sea_PHLNHA-resource-mgmt-plan.pdf

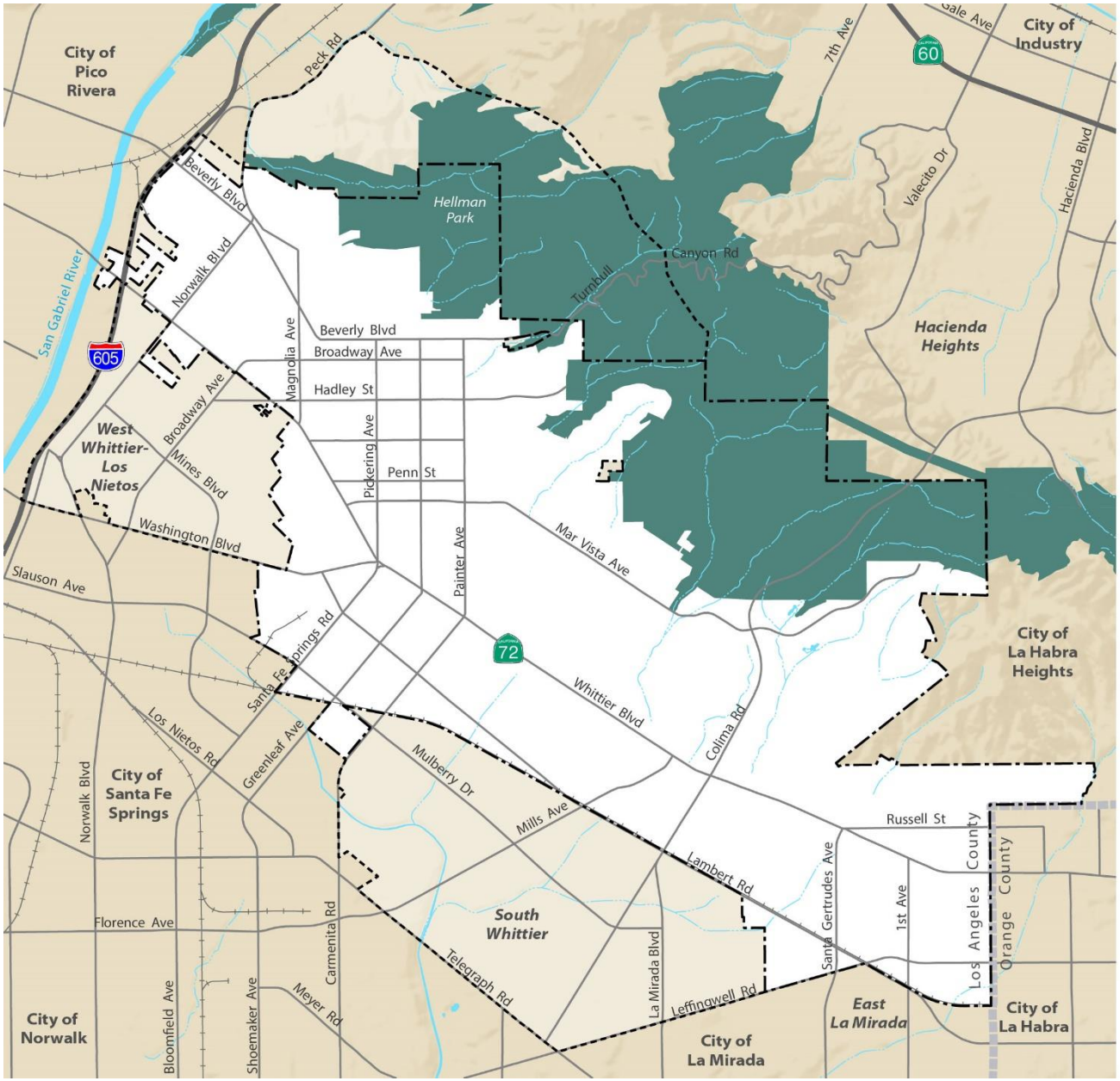


Figure RM-1: Significant Ecological Areas (SEA)

Significant Ecological Areas (SEA)

- Puente Hills SEA

Base Map Features

- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks
- Waterbodies

Source: City of Whittier, 2017.

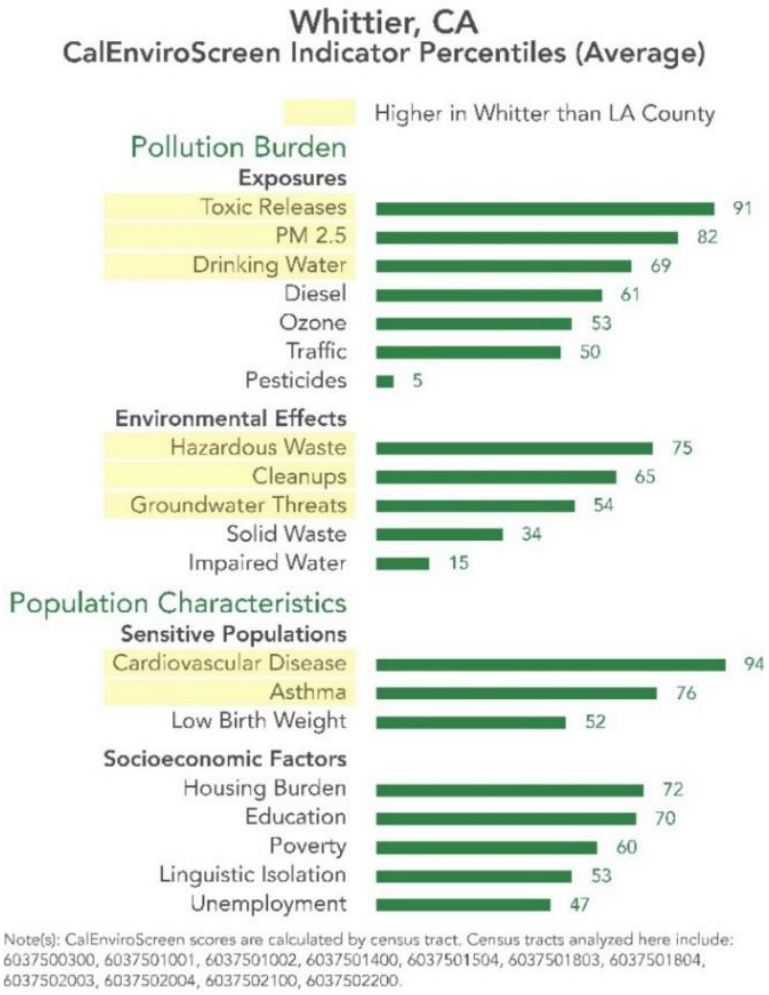
The City-owned parcel located near Whittier Narrows is excluded from this map to increase the maps readability.

air quality, greenhouse gases, and associated health effects

- Whittier's air quality can be considered "relatively good" for the Los Angeles Metropolitan area. The South Coast Air Quality Management District (SCAQMD) is responsible for monitoring and improving air quality throughout the South Coast Air Basin, which encompasses all of Orange County and the urbanized portions of Los Angeles, Riverside, and San Bernardino Counties.
- The primary pollutant of concern is ozone, which forms from interactions between oxides of nitrogen and hydrocarbons due to heat and sunlight. While high ozone concentrations in the stratosphere (10 to 30 miles above Earth) are critical to protecting the Earth from ultraviolet rays, ozone occurring at low levels above our cities can cause breathing difficulties, especially in the elderly, the very young, or those that are sick.
- Local pockets of high and low particulate matter levels occur throughout Whittier, depending upon proximity to PM sources, such as I-605, railroads, and active construction sites. The western half of the City experiences much higher levels of air pollution than the eastern. The Whittier Boulevard (SR-72) and I-605 junction sees the third highest volume of heavy and light duty truck traffic and nitrous oxide emissions in SCAQMD's region, which results in concerning localized air pollution.[5]
- Hazardous air pollutants are those known to cause cancer and other serious health impacts. Historically and in current times, industrial businesses, medical facilities, and landfills in Whittier have emitted hazardous air pollutants, with examples including the Savage Canyon Landfill, PIH Health, and Omega Chemical Corporation site. Hazardous air pollutant emissions are stringently regulated and monitored by the South Coast Air Quality Management District.
- The primary sources of regional GHG emissions are light-duty vehicles and electric power generation using fossil fuels. Other large contributors are heavy-duty vehicles, petroleum refining, and similar stationary sources.[6] The Gateway Cities Air Quality Action Plan anticipates a decrease in GHG emissions by approximately 25 percent by 2035 due to increasingly stringent regulations, cleaner truck, train, and automobile technology, and the replacement of older vehicles.

[5] https://www3.epa.gov/ttn/amtic/files/networkplans/CASCAQMDPlan2015.pdf
[6] Gateway Cities Air Quality Action Plan (2013)

- Exposure to pollutants or allergens where people live, work, or play is linked to higher rates of asthma.[7] The asthma rate in children ages zero to 17 in Whittier (eight percent) is slightly higher than the Los Angeles County average (seven percent).[8] The highest rate of hospital emergency department visits for asthma occurred in Whittier's 90602 and 90606 ZIP codes. These are some of the same communities that have the highest CalEnviroScreen Disadvantages Communities score. CalEnviroScreen indicators are measures of environmental conditions (reported as pollution burden indicators) and health and vulnerability factors (reported as population characteristic indicators). A higher percentile indicates a higher relative burden. Several CalEnviroScreen indicators are higher in Whittier than the Los Angeles County average.



- Parts of Whittier are considered both a Disadvantaged Community per SB 535 and a Low-Income Community per AB 1550[9]. These designations make Whittier eligible for special funding from the State's cap-and-trade program. These investments are aimed at improving public health, quality of life, and economic opportunity in California's most burdened communities while at the same time reducing pollution that causes climate change. Approved projects must align with project types approved by the California Legislature, such as waste diversion and green infrastructure, among others.

[7] https://www.pcori.org/blog/addressing-disparities-health-outcomes-people-asthma
[8] County of Los Angeles Public Health, Whittier Health Profile (2018)
[9] https://www.arcgis.com/apps/MapSeries/index.html?appid=2e984fca23184d6496ac0c6d09a1d965

tribal resources

- The indigenous Chumash and Gabrieliño/Tongva peoples are the two native groups that have occupied current day Los Angeles County for thousands of years. Due to development, occupation, use, and natural occurrences, many historic, cultural, or sacred sites and artifacts have been disturbed or destroyed. State law requires tribal consultation in association with environmental review processes for discussion regarding preserving or mitigating impacts on cultural resources.

oil and gas

- The burning of fossil fuels has led to adverse worldwide environmental effects such as acid rain, smog, water pollution, and global climate change. Without prudent practices, exploratory drilling and extraction of nonrenewable energy sources (such as coal, petroleum, and natural gas)—and their attendant infrastructure—can damage natural resources and have adverse air quality effects. In California, the oil industry is highly regulated to guard against adverse environmental conditions.
- Whittier and the surrounding area have a legacy of oil production, particularly from 1890 to the 1920s. Although production in the Whittier Oil Field has largely ceased because of efforts to preserve the hillsides as natural areas, oil well sites remain active within northwest Whittier and its Sphere of Influence. According to the 2018 Los Angeles County Public Health Profile, 696 oil and gas wells remain in Whittier. All oil wells (active, plugged, idle, or otherwise) need to be maintained and monitored to avoid environmental and public health and safety impacts.
- Oil production and refining generate large quantities of wastes. Although most of the wastes produced are non-hazardous (brine and drilling fluids), they must still be managed and if possible, recycled.[10] All waste brines share in their high salinity (or salt concentration), but other contaminants might vary. Contaminants commonly found in brine waste include suspended solids and particles, anti-scaling agents, heavy metals, microorganisms, organic material, and oil and grease. Contaminants such as these can pose a threat to human health and can also damage ecosystems at the discharge site if not properly treated before disposal.[11]
- In circumstances in which hazardous waste is produced in conjunction with oil-producing operations, the hazardous waste must be transported to a licensed recycling or disposal facility. California, however, faces decreased hazardous waste disposal capacity. Waste disposal is regulated by several federal and State agencies. Hazardous waste control laws are

[10] https://www.epa.gov/hw/management-oil-and-gas-exploration-and-production-waste
[11] https://www.samcotech.com/treat-brine-waste-before-discharging-or-disposal/

becoming more stringent, and it is becoming increasingly difficult to site new hazardous waste disposal facilities.

parks and open space

Outdoor Fitness Equipment along the Greenway Trail

▪ The City maintains an extensive system of parks, open space, and recreation resources, with 23 City parks and the 4.5-mile Greenway Trail comprising 164.7 acres (if Hellman Park is considered a Natural Park, parkland acreage increases to 443.7 acres of parkland), as detailed in Table RM-1. In addition, Pio Pico State Historic Park and three Los Angeles County parks within the sphere area provide open spaces readily accessible to Whittier residents (see Figure RM-2 and Table RM-2). The City's neighborhood, community, and specialty parks provide a variety of active recreation space that include sports fields, game courts, and playgrounds. Natural areas and mini parks provide passive recreation space such as walking paths, sitting and picnic areas, and natural undeveloped areas for enjoying nature.

Table RM-1: Park Resources Summary

Park Types – City of Whittier	Size	Number of Parks	Total Park Acres
Mini Parks	0.25 to 1 acre	4	2.8
Neighborhood Parks	1 to 7 acres	9	23.5
Community Parks	7 to 30 acres	4	42.3
Natural Parks	50 + acres	2	48.5
Specialty	NA	4	12.9
Greenway	NA	1	34.7
City of Whittier Total		**24**	**164.7**
Park Types – Other Jurisdictions		Number of Parks	Total Park Acres

Table RM-1: Park Resources Summary

Park Types – City of Whittier	Size	Number of Parks	Total Park Acres
Pio Pico State Historic Park		1	5.7
LA County Parks (Within Sphere of Influence)		3	26.7
Other Jurisdictions Total Acres		4	32.4
Whittier + Other Jurisdictions Total		**28**	**475.8**

- While residents enjoy diverse park and recreation facilities, the amount of natural or park space does not meet recommended national standards. Whittier has 5.07 acres of natural space and parkland per 1,000 residents. According to the National Recreation and Park Association (NRPA), this rate is below the national median of 7.7 acres per 1,000 residents for similarly sized cities (cities with 50,000 to 99,999 people).[12] However, the 2016 Los Angeles Countywide Parks and Recreation Needs Assessment (which excludes regional open space or natural preserves, such as Puente Hills Preserve) states that Whittier fares better than most Los Angeles County cities, with 3.8 acres of active parkland per 1,000 residents compared to the County average of 3.3 acres.[13]
- A more meaningful ratio for identifying park resources focuses on accessibility: the distance any resident should live from the nearest park or open space. The Trust for Public Land suggests a one-half mile or 10-minute walk as a reasonable distance to access a park.[14] When the 10-minute walk standard is applied to Whittier (Figure RM-1), the northwestern neighborhoods demonstrate tremendous access to local parks: nearly two-thirds of Whittier's parks are in the northwest. Specifically, residents living in neighborhoods stretching from Michigan Park to Orange Grove live within one-half mile walking distance to a park. However, southeastern neighborhoods such as Friendly Hills, Sun Gold, and Whittwood do not enjoy easy walking distances to parks.
- With limited space to create new parks and open space, Whittier's attention will turn toward developing non-traditional parks. In addition, additional sports facilities—baseball/softball, football, and soccer fields and an aquatic center in the eastern and southern areas—are needed. The 2016 Los Angeles Countywide Parks and Recreation Needs Assessment identified four priority projects, of which three are construction of additional sport facilities

[12] https://www.nrpa.org/siteassets/nrpa-agency-performance-review.pdf
[13] https://lacountyparkneeds.org/FinalReportAppendixA/StudyArea_187.pdf
[14] https://www.tpl.org/our-initiatives#parks

such as multi-use sport fields, pools, and soccer complexes.

- Whittier has a unique recreation facility: the 4.5-mile Whittier Greenway Trail. The Greenway Trail shines as an example of repurposing a vacant or underused use for recreation purposes. The Greenway Trail involved the repurposing of an abandoned railroad right-of-way for off-street walking, biking, and exercising with equipment at select stops. The trail begins on the City's western boundary near the San Gabriel River Trail and terminates at Mills Avenue. Neighborhoods within a 10-minute walk include Orange Grove, Palm Park, Uptown, Quad, Anaconda Park, and portions of South Whittier, North West Whittier, Rideout Heights, and Historic Whittier. The Greenway Trail will be extended an additional 2.8 miles to the Orange County boundary. When extended, the Greenway Trail will provide recreational facility access to the South Whittier and Whittwood neighborhoods.

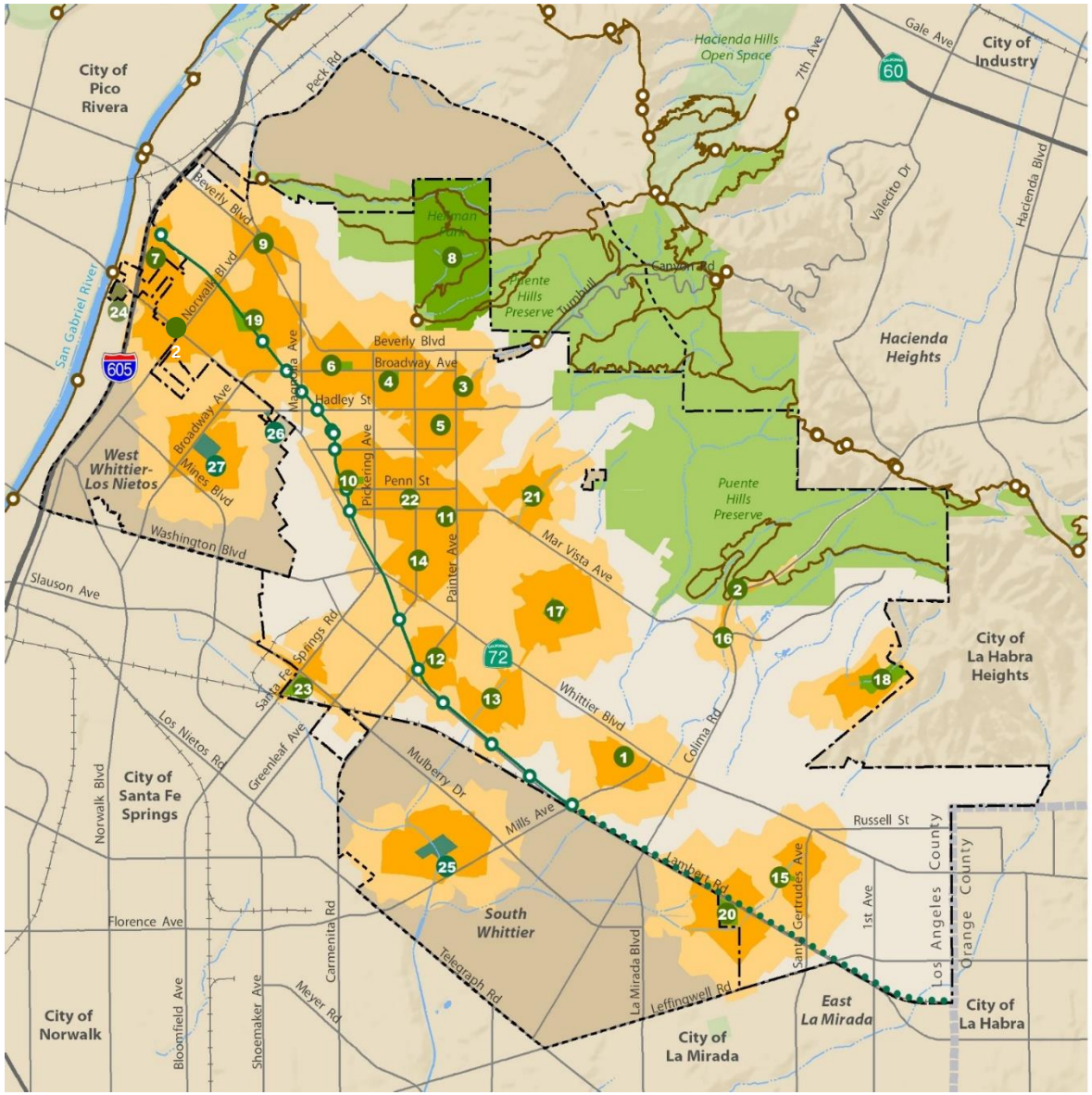


Figure RM-2:
Recreation Facilities and Access

Parks and Recreation Facilities
- Whittier Parks
- Los Angeles County Parks
- Pio Pico State Historic Park

Park Service Areas to Neighborhoods
- Within 1/4-Mile Walking Distance
- Within 1/2-Mile Walking Distance

Open Space
- Puente Hills Habitat Authority
- Open Space/Natural Areas

Trails
- Greenway Trail
- Greenway Trail Extension
- Greenway Trail Access Points
- Other Trails
- Other Trail Access Points/Trailheads

Base Map Features
- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks
- Waterbodies

Source: City of Whittier and Los Angeles County Parks and Recreation Department, 2017.

Prepared by MIG, July 2017.

The City-owned parcel located near Whittier Narrows is excluded from this map to increase the maps readability.

Table RM-2: Parks and Recreation Facilities

Map ID	Park Name	Recreational Amenities		Park Type	Managed or Owned	Acres
1	**Anaconda Park** 14575 Anaconda Street	▪ Play Equipment ▪ Restrooms	▪ Basketball Half Courts ▪ Fitness Stations & Jogging Trail	Neighborhood Park	City of Whittier	2.71
2	**Arroyo Pescadero Trailhead** 7531 Colima Road	▪ Trailhead ▪ Wilderness Trails		Natural Park	City of Whittier	0.52
3	**Bailey Ranch House** 13421 Camilla Street	▪ Museum/Historic Depot		Specialty	City of Whittier	0.38
4	**Broadway Park** 12816 Broadway Avenue	▪ Lighted Tennis Courts ▪ Play Equipment	▪ Restrooms ▪ Horseshoe pit	Neighborhood Park	City of Whittier	1.95
5	**Central Park** 6532 Friends Avenue	▪ Play Equipment ▪ Restrooms	▪ Gazebo ▪ Fishpond	Neighborhood Park	City of Whittier	1.70
6	**Founders Memorial Park** 6031 Citrus Avenue	▪ Passive Turf Areas		Neighborhood Park	City of Whittier	5.93
7	**Guirado Park** 5760 Pioneer Boulevard	▪ Small Banquet Facility ▪ Play Equipment ▪ Restrooms	▪ Handball Courts ▪ Basketball Half Court ▪ Softball Field	Neighborhood Park	City of Whittier	4.74

Table RM-2: Parks and Recreation Facilities

Map ID	Park Name	Recreational Amenities		Park Type	Managed or Owned	Acres
8	**Hellman Park** 5700 Greenleaf Avenue	▪ Trailhead ▪ Wilderness Trails		Open Space	City of Whittier	279.00
9	**Hoover Fountain** 10839 Beverly Boulevard	▪ Fountain		Mini Park	City of Whittier	0.62
10	**J. G. Whittier Park** 7227 Whittier Avenue	▪ Play Equipment ▪ Restrooms	▪ Spray Pool ▪ Softball Field	Neighborhood Park	City of Whittier	1.87
11	**Joe Miller Field** 7630 Washington Avenue	▪ Skate Park ▪ Softball Diamond	▪ Restrooms	Specialty	City of Whittier	2.03
12	**Kennedy Park** 8530 Painter Avenue	▪ Play Equipment ▪ Outdoor Classroom	▪ Restrooms	Neighborhood Park	City of Whittier	1.54
13	**Laurel Park** 8825 Jacmar Avenue	▪ Restroom	▪ Play Equipment	Neighborhood Park	City of Whittier	0.84
15	**Leffingwell Park** 15740 Starbuck Street	▪ Play Equipment ▪ Lighted Tennis Courts	▪ Restrooms	Neighborhood Park	City of Whittier	2.18
16	**Mar Vista Fountain**	▪ Fountain		Mini Park	City of Whittier	0.44

Table RM-2: Parks and Recreation Facilities

Map ID	Park Name	Recreational Amenities		Park Type	Managed or Owned	Acres
	Mar Vista Street/Colima Road					
17	**Michigan Park** 8228 Michigan Avenue	▪ Play Equipment ▪ Softball Field	▪ Fitness Stations ▪ Restrooms	Community Park	City of Whittier	10.00
18	**Murphy Ranch Park** 16200 Las Cumbres Drive	▪ Wilderness Trails		Natural Park	City of Whittier	48.00
19	**Palm Park** 5703 Palm Avenue	▪ Banquet Room and Pool ▪ Play Equipment ▪ Softball Field ▪ Basketball Court ▪ Lighted Tennis Courts	▪ Fitness Stations ▪ Restrooms ▪ Horseshoe Pit ▪ Tennis Center ▪ Swimming Pool	Community Park	City of Whittier	12.66
20	**Parnell Park** 10711 Scott Avenue	▪ Banquet Rooms ▪ Play Equipment ▪ Basketball Court ▪ Softball Field	▪ Restrooms ▪ Senior and Community Building ▪ Zoo	Community Park	City of Whittier	11.59
21	**Penn Park** 13950 Penn St	▪ Play Equipment ▪ Restrooms	▪ Waterfall, Streams and Pond	Community Park	City of Whittier	8.00

Table RM-2: Parks and Recreation Facilities

Map ID	Park Name	Recreational Amenities		Park Type	Managed or Owned	Acres
22	**Whittier Depot Park** 7333 Greenleaf Avenue	▪ Banquet Room ▪ Meeting Room	▪ Restrooms	Specialty	City of Whittier	1.34
23	**York Field** 9110 Santa Fe Springs Road	▪ Baseball and Softball Fields ▪ Play Equipment (covered)	▪ Restrooms	Specialty	City of Whittier	9.17
24	**Pio Pico State Historic Park** 6003 Pioneer Boulevard	▪ Museum		Specialty	State of California	5.71
25	**Adventure Park** 10130 Gunn Avenue	▪ Children's Play Area ▪ Gymnasium ▪ Sports Fields	▪ Tennis Courts ▪ Walking Path ▪ Community Buildings	Community Park	County of Los Angeles	14.60
26	**McNees Park** 11590 Hadley Boulevard	▪ Passive Turf Area		Mini Park	County of Los Angeles	0.61
27	**Sorensen Park** 11419 Rose Hedge Drive	▪ Library ▪ Sports Fields	▪ Basketball Courts ▪ Children's Play Area	Community Park	County of Los Angeles	11.44
28	**Dorland Park**	▪ Passive Grass Area		Mini Park	City of Whittier	1.16

Table RM-2: Parks and Recreation Facilities

Map ID	Park Name	Recreational Amenities		Park Type	Managed or Owned	Acres
	10713 Whittier Boulevard					

Original Source: City of Whittier, Community Services Department, 2017.

- The Puente Hills Preserve's Schabarum Trail connects numerous other hiking trails within the Preserve. This extensive trail network is accessed from multiple trailheads in the City. A 2016 parks usage field survey, summarized in Table RM-3, reveals that Whittier residents and people from nearby communities frequently use the trails' access points. However, being located close to trails poses its own set of difficulties. Local residents have expressed concern with the lack of public parking for trail users, thus forcing visitors to park on nearby residential streets, resulting in noise and litter.

Table RM-3: Recreational Trail Use in Whittier

Trailhead	Number of Visitors[1]
Hacienda Hills	1,239
Hellman Park	3,262
Powder Canyon	912
Sycamore Canyon	330
Turnbull Canyon	1,425

- In addition to traditional parks and recreation facilities, Whittier operates four community centers: the Whittier Community Center, Parnell Park Community and Senior Center, Palm Park Community Center, and Uptown Senior Center, shown in Table RM-4. These facilities, together with two libraries, provide space for social, recreational, and educational programming.
- The City recognizes opportunities to partner with other agencies to provide additional outdoor recreational space and indoor facilities. Whitter has joint-use agreements with three local school districts: the East Whittier City, Whittier City, and Whittier Union High School districts.[15]
- Like most Southern California jurisdictions, Whittier has a diverse, multicultural, and multi-generational population with a broad spectrum of recreational interests and enrichment needs. Recreational programs and enrichment opportunities should be developed or expanded to serve people of all incomes, cultural backgrounds, ages, and levels of physical capability.

[15] City of Whittier, Community Services Department, 2017.

Table RM-4: Recreation Buildings and Major Facilities

Park Name	Park Type	Management	
Whittier Community Center	7630 Washington Avenue	▪ Fitness classes, ▪ Open sports play	▪ Room rental
Whittier Center Theatre	7630 S. Washington Avenue	▪ Theatre classes / productions	▪ Theatre rental
Whittier Depot	7333 Greenleaf Avenue	▪ Room rental	
Palm Park Aquatic Center	5703 Palm Avenue	▪ Aquatic Center ▪ Swim classes and recreation swim	▪ Diving classes ▪ Pool rental
Parnell Park Community and Senior Center	15390 Lambert Road	▪ Health screenings ▪ Fitness classes	▪ Senior classes, events, and support services ▪ Room rental
Uptown Senior Center	13225 Walnut Street	▪ Health screenings ▪ Fitness classes	▪ Senior classes, events, and support services ▪ Room rental
Whittwood Branch Library	10537 Santa Gertrudes Avenue	▪ Room rental	
Whittier Public Library	7344 Washington Avenue	▪ Room rental	
Guirado Park	5760 Pioneer Boulevard	▪ Room rental	

Source: City of Whittier, Community Services Department, 2017.

urban forestry

- Whittier has an extensive urban forest, with mature trees of diverse species providing beauty and shading within City parks and along major street corridors. The Parks, Recreation, and Community Services Department takes great care to maintain tree health consistent with standards established by the International Society of Arboriculture, the National Arborist Association, and the American National Standards Institute. Whittier is proud of its status as a Tree City, USA. Local ordinances protect parkway trees, and the Parkway Tree Manual sets forth regulations for protecting existing trees and planting new ones. Trees represent an important local resource and significantly contribute to the City's visual character.

goals and policies

natural resources and conservation

Goal 1: Preserve and protect natural open spaces that contain significant natural resources, including sensitive biological resources, native habitats, and vegetation communities supporting wildlife species

- RM-1.1: Preserve open space areas with a diversity of habitats and plants native to Whittier while balancing the community's recreational, scientific, economic, educational, and scenic needs.
- RM-1.2: Promote native habitat preservation within the Puente Hills Preserve, including efforts to restore native vegetation damaged due to overuse or wildfire.

Native and drought tolerant plant landscaping along Whittier Greenway Trail

- RM-1.3: Control invasive and non-native vegetation in natural open space areas.
- RM-1.4: Encourage preservation of continuous open space that promotes movement of wildlife, such that wildlife corridors are maintained and/or reestablished.
- RM-1.5: Team with landowners and wildlife agencies to promote sustainable land use and reduce impacts to the environment and wildlife habitats.
- RM-1.6: Collaborate with wildlife and conservation agencies to identify areas to target for conservation and preservation of native habitats, while allowing open space to be accessed for recreation, resource management, and public safety purposes.

- RM-1.7: Continue collaborations with Los Angeles County and natural resource agencies for evaluating proposed developments in areas adjacent to and within sensitive habitats of Whittier, including the Puente Hills, with an aim to reduce impacts to ecosystem services and wildlife habitat.

Goal 2: Protect soil and water resources from poor management practices and pollution

- RM-2.1: Encourage soil conservation practices that retain native vegetation, maximize water filtration, and provide slope stabilization in the Puente Hills.
- RM-2.2: Enhance the urban forest along street corridors, in parks, and on City-owned properties to provide soil stabilization and erosion reduction as well as reduce flood hazards.
- RM-2.3: Minimize the impact of human activity on the quality and availability of the water supply.
- RM-2.4: Work with federal and State agencies to expedite the clean-up of local groundwater basins.
- RM-2.5: Require the use of innovative stormwater best management practices in all new development, including water quality monitoring during construction projects in the vicinity of sensitive water resources.
- RM-2.6: Encourage the use of site and landscape designs that minimize surface runoff and retain or detain stormwater runoff, minimizing volume and pollutant concentrations.
- RM-2.7: Reduce impermeable surface coverage citywide by replacement with natural vegetation and soils to reduce runoff and flood hazards.
- RM-2.8: Access reliable data and information on water use (based on customer usage reports) and supply to evaluate water supply impacts and the needs of proposed development projects to promote effective decision-making.
- RM-2.9: Encourage, facilitate, and/or require the use of water-conserving appliances and fixtures in new developments.
- RM-2.10: Encourage the use of native and climate-appropriate and drought tolerant landscaping to reduce overall and per capita water demand.
- RM-2.11: Reduce water consumption on a per capita basis.

air quality, greenhouse gases, and associated health effects

Goal 3: Energy efficiency and conservation measures that reduce air pollution and greenhouse gas emissions

- RM-3.1: Reduce emissions generated by motorized vehicles.
- RM-3.2: Reduce energy use in municipal and construction operations.
- RM-3.3: Support the use of energy-efficient design and renewable energy technologies in public and private spaces and development projects.
- RM-3.4: Prioritize compact and equitable development that supports walking and biking to nearby destinations.
- RM-3.5: Increase public awareness about climate change and encourage residents and businesses to become involved in improvement projects and lifestyle changes that help reduce greenhouse gas emissions.

Goal 4: Increased vegetation and open space on both public and private property to improve air quality, reduce stormwater runoff, and mitigate urban heat island effects.

- RM-4.1: Select or identify appropriate trees for Whittier, focusing on native tree types and established tree types along corridors such as Beverly Boulevard.
- RM-4.2: Increase the City's tree canopy through the planting of additional trees, selecting tree types with wide leave layers rather, and modifying tree maintenance to allow a fuller, leafier appearance.
- RM-4.3: Promote and encourage community involvement in urban ecology projects that preserve or expand neighborhood green space, create space for communities to gather, and connect people to nature, including a scenic corridor plan.
- RM-4.4: Mitigate urban heat island effect by incentivizing "green" technologies as part of the community benefits program (i.e., cool pavements, green roofs, solar, and reflective roofs).

Goal 5: Urban environments that guard against adverse air quality impacts on sensitive receptors

- RM-5.1: Comply with SCAQMD regulations and minimize adverse health impacts between facilities known to emit harmful contaminants, such as industrial uses and high traffic areas, and sensitive receptors such as schools, childcare facilities, and senior centers.
- RM-5.2: Pursue projects that improve public health and leverage funding available to Disadvantaged Communities.

Goal 6: A commitment to sustainability through progressive use of green building policies, practices, and technologies

- RM-6.1: Support energy efficiency through the Municipal Code and implementation of CALGreen standards.

- RM-6.2: Incentivize energy-efficient retrofit improvements, including energy and water conservation, in existing buildings.

Goal 7: Increased commitment to renewable energy sources

- RM-7.1: Support the efforts of energy suppliers to expand use of and access to non-fossil fuel-based energy sources such as geothermal, wind, and solar (i.e., an energy supplier that obtains geothermal energy for northern California locations and wind energy throughout the State).
- RM-7.2: Support efforts to develop small-scale, distributed energy (e.g., solar power, wind, cogeneration, and biomass) to reduce the amount of electricity drawn from the regional power grid, while providing Whittier with a greater degree of energy self-sufficiency.

oil and gas

Goal 8: Managed oil and gas production that balances contributions to City revenue and environmental protection goals

- RM-8.1: Maintain oil production and mineral extraction as a viable option and revenue source.
- RM-8.2: Plan for and approach energy production with a wider lens, encouraging collaboration between a spectrum of energy industries to address energy needs and production.
- RM-8.3: Encourage diversification of Whittier's energy economy to conserve fossil fuels and improve air quality.
- RM-8.4: Avoid, to the extent feasible, environmental impacts of oil production-related activity on threatened and endangered species, habitats, and natural resources.
- RM-8.5: Insist upon the safe disposal and recycling of wastes associated with oil drilling, production, and processing, minimizing adverse impacts on the environment and public health.
- RM-8.6: Minimize conflicts between mineral and energy resource lands and urban growth, particularly residential areas and sensitive communities.
- RM-8.7: Promote and encourage the reuse of former petroleum production lands with development compatible to surrounding land use designations.

parks and open space

Goal 9: Create a superior system of parks, recreation facilities, amenities, green spaces, and open spaces accessible to all Whittier residents

- RM-9.1: Provide a system of park, recreation facilities, and green spaces that allows any resident to access those facilities via an easy 10-minute walk or bike ride.
- RM-9.2: Provide pedestrian, bicycle, and transit connections to new and existing parks and recreation facilities to enhance use and access.
- RM-9.3: Use creative or nontraditional methods to create additional park, recreation, and green spaces.
- RM-9.4: Promote preservation of open spaces providing native habitats that support wildlife diversity.
- RM-9.5: Collaborate with the County of Los Angeles, Southern California Association of Governments, Puente Hills Habitat Preservation Authority, neighboring cities and communities, and wildlife agencies to improve open space planning and implementation of the resource management policies and promote wildlife conservation within the City and its Sphere of Influence.

Arroyo San Miguel Trails
Courtesy of Puente Hills Habitat Preservation Authority

- RM-9.6: Partner with wildlife and conservation agencies, including the Puente Hills Habitat Preservation Authority, to identify funding sources and areas within the Puente Hills for: (1) preservation of open space to support wildlife in perpetuity, (2) innovative conservation projects that allow for preservation of open space balanced with recreational land uses, and (3) promoting sustainable design and land development.
- RM-9.7: Dedicate as much of the planning area as feasible between Workman Mill Road and La Habra Heights within the Puente Hills to preservation as permanent open space.

Goal 10: Provide residents of all ages, cultures, and incomes with a range of recreation opportunities to meet multigenerational, environmental, and recreation interests

- RM-10.1: Improve existing and build new park spaces and recreation facilities responding to the community's changing demographics and needs.

- RM-10.2: Enhance park aesthetics, lighting, and design to provide safe and environmentally responsible park and recreation spaces.
- RM-10.3: Provide distinctive parks and recreation facilities that support places for social interaction, neighborhood/community identity, beauty, and livability through unique cultural, historic, and environmental features such as artwork, historic buildings, heritage trees, etc.
- RM-10.4: Acquire properties for open space that will provide values that support scientific, educational, scenic, and cultural values while also maintaining wildlife habitat and ecosystem services.
- RM-10.5: Support the efforts of Los Angeles County entities to procure unincorporated lands adjacent to Hellman Park for open space expansion of the park and for preservation purposes in partnership with the Puente Hills Habitat Preservation Authority.

urban forestry

Goal 11: An urban forestry program that provides for shaded green spaces citywide, preserves long-established character of Whittier's boulevards, and provides incentives for tree planting and preservation on private properties

- RM-11.1: Strengthen the City's tree policies and ordinances.
- RM-11.2: Maintain a street tree and planting plan that includes strategies for long-term planned replacement of specimen trees due to age or disease.
- RM-11.3: Use urban forestry strategies to manage heat island impacts.
- RM-11.4: Communicate to the public the advantages of having a comprehensive urban forestry plan and a scenic corridor plan.
- RM-11.5: Continue to implement a regular street tree maintenance program.
- RM-11.6: Require tree planting for all new development projects with trees that are climate appropriate, add quality and character to a site, and forward the City's climate adaption goals.
- RM-11.7: Aim to protect mature trees and our urban forest. Develop an urban forest management program.

tribal resources

Goal 12: Preservation and respect for tribal cultural resources

- RM-12.1: Coordinate with local tribes in local land use decisions consistent with State law.

public safety, noise, and health

in this section

introduction

Public safety and community health are fundamental to long-term community stability. When people describe why they choose to live where they do, they often cite safety as a key factor. In cities with high levels of public safety services, residents and the business community can focus on productive activities: commerce, recreation, volunteerism, and education, among others. The purpose of the Public Safety, Noise, and Health Element is to identify and minimize risks associated with natural and human-generated hazards through land use decisions and allocation of City budgetary resources. A dual purpose is to shape the physical environment and public services in ways that allow community members to thrive and reach their greatest potential.

By proactively addressing potential hazards, the City looks to diminish threats posed to residents, businesses, and the local economy associated with flooding, earthquakes, wildfires, climate change and its effects, excessive noise levels, and the presence of hazardous materials.

Minimizing threats helps protect community health, but the City also has interest in actively promoting healthy lifestyles. Health practitioners support planning policies that encourage walkable and cohesive communities because such practices can improve individuals' health and may reduce heart disease, obesity, and asthma. A city with ample parks and open spaces community-wide promotes outdoor exercise and interactions among neighbors. Safe pedestrian and bicycle routes that link neighborhoods to shops, schools, parks, and restaurants provide opportunities for people to exercise and reduce reliance on cars for local trips, thus reducing associated pollutant emissions.

This element's noise section examines the local noise environment and establishes standards to encourage noise-compatible land use patterns. Noise concerns focus on stationary sources like manufacturing and construction as well as roadway noise.

key terms

Cool Pavements refer to a range of established and emerging materials and technologies that tend to store less heat in asphalt and concrete to lower the materials surface temperatures. They can help address the problem of urban heat islands.

Crime Prevention Through Environmental Design (CPTED) is a multi-disciplinary crime prevention approach that uses urban and architectural design and the management of built and natural environments.

Dam Inundation refers to the area downstream of the dam that would be flooded in the event of a dam failure (breach) or uncontrolled release of water.

Decibel is a degree of loudness, or a unit used to measure how powerful or loud a sound or signal is using a logarithmic formula.

Disadvantaged Communities refers to areas and people throughout California suffering most from a combination of economic, health, and environmental burdens. These burdens include poverty, high unemployment, air and water pollution, presence of hazardous wastes, and high incidence of asthma and heart disease.

Environmental Justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental regulations and policies implemented by local agencies.

Fuel Modification Zone refers to a strip of land between an improved property and a natural area, where combustible vegetation has been removed, thinned, or modified and may be partially or totally replaced with approved drought-tolerant, fire-resistant, and/or irrigated plants to provide an acceptable level of risk from vegetation fires.

Greenhouse Gas (GHG) Emissions or GHGs are compound gases that trap heat or longwave radiation in the atmosphere. Their presence in the atmosphere makes the Earth's surface warmer. Sunlight or shortwave radiation easily passes through these gases and the atmosphere and is trapped below, creating a phenomenon known as the greenhouse effect. According to the U.S. Environmental Protection Agency, the largest source of GHGs in the U.S. is the burning of fossil fuels for electricity, heat, and transportation.

Large Quantity Generators (LQG) are business or institutions that produce or emit more than 2,200 pounds of hazardous waste per month.

Liquefaction is a condition resulting from earthquake-induced ground shaking of wet granular soils, whereby the soils change from a solid state to a liquid state, destabilizing the soil's ability to support structures.

Local Hazard Mitigation Plan (LHMP) identifies hazards, vulnerabilities, and risks affecting a local, state, or tribal government, and prioritizes actions to reduce the risks. Such plans are required by the Federal Emergency Management Agency (FEMA) for a jurisdiction to receive certain federal assistance in response to a disaster. The document is referred to interchangeably as a Natural Hazards Mitigation Plan (NHMP).

Particulate Matter (or particle pollution) is a complex mixture of extremely small particles and liquid droplets. Particle pollution comprises several components, including acids (such as nitrates and sulfates), organic chemicals, metals, soil, and/or dust particles. The size of particles is directly linked to their potential to cause health problems. Once inhaled, these particles can affect the heart and lungs and result in serious adverse health conditions.

Passive Solar Design refers to the use of the sun's energy for the heating and cooling of living spaces by exposure to the sun. When sunlight strikes a building, the building materials can reflect, transmit, or absorb the solar radiation. In addition, the heat produced by the sun causes air movement that can be predictable in designed spaces. These basic responses to solar heat influence design elements, material choices, and placements that can provide heating and cooling effects in a home.

Small Quantity Generators (SQG) are business or institutions that produce or emit between 220 pounds to 2,200 pounds of hazardous waste per month.

Superfund Site is a contaminated site created by the legal or illegal deposit of hazardous materials/waste, either above ground or buried, or otherwise improperly managed. These sites include manufacturing facilities, processing plants, and landfills.

Toxic Release Inventory (TRI) is a resource for learning about toxic chemical releases and pollution prevention activities reported by industrial and federal facilities.

Urban Heat Island is an urbanized area that experiences higher temperatures than outlying open space or natural rural areas. Buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies, causing urban areas to be warmer.

Vulnerability Assessment is the process of identifying, quantifying, and prioritizing (or ranking) the vulnerabilities related to natural or human-caused disasters that could affect a community.

baseline considerations

Recognizing the presence and extent of the following local and regional hazards allows the City to shape policies and programs accordingly.

emergency preparedness and safety services

- Emergency preparedness and response responsibilities lie primarily with the Whittier Police Department and the Los Angeles County Fire Department, with which the City maintains a service contract (as do many cities within Los Angeles County). The Los Angeles County Fire Department provides a multitude of programs beyond fire and paramedic response, including hazardous materials response, fire hazard reduction (including brush clearance oversight in high-fire-hazard zones), urban search and rescue, and educational programs such as Community Emergency Response Team (CERT) training for community volunteers.
- Emergency preparedness planning occurs as an interdepartmental and interagency exercise guided by the City Manager, who serves as the City's Emergency Operations

Center (EOC) manager in times of crisis. Response occurs as outlined in the Emergency Operations Plan (EOP), which the City correlates with its Natural Hazards Mitigation Plan (NHMP), a document required by the federal government to qualify for federal aid following a disaster.

- The City's water pumping plant has a capacity of 13,700 gallons per minute and has guidelines set for operational, fire, and emergency storage as stated in the 2018 Water Master Plan. Fire flow guidelines are established by land use type and are based on the local fire authority and requirements of the California Fire Code.
- The California Fire Code requires a minimum of 40-foot right-of-way and a grade less than six percent (or 10 percent if topographical constraints exist) to ensure adequate access for fire emergencies. For information on detailed street dimensions, see the Mobility and Infrastructure Element.
- To slow or stop the spread of wildfires and protect properties, the California Fire Code requires defensible space to be maintained around all buildings and structures. This is achieved by removing dead vegetation, upkeeping live vegetation, and installing fire-resistant landscaping.

natural hazards

- The City lies on the Whittier section of the Elsinore fault zone, one of several active fault zones throughout the seismically active Southern California region, shown in Figure PSNH-2. The 1987 Whittier Narrows earthquake, from its epicenter a few miles north in Rosemead, caused severe damage in the City, including to several notable buildings. Earthquakes and the effects of seismically induced landslides and liquefaction pose threats to unreinforced structures in Whittier.
- Destructive urban wildland fires are the most frequently occurring natural hazard, primarily impacting the neighborhoods in the Puente Hills foothills. At least nine wildfires have burned through the Puente Hills since the late 1960s, and the effects of climate change have made Southern California wildfires a more common occurrence.
- Local urban flooding resulting from inadequate drainage systems and impermeable surfaces—such as streets and parking lots—creates conditions of ponding during period of intense precipitation, ponding that can adversely affect private properties and public infrastructure.

- The Whittier Narrows Dam in Pico Rivera poses inundation hazards to the western portion of the City. A 2019 study prepared by U.S. Army Corp of Engineers concluded that a rare flood could fill the dam, putting the dam at risk of failure due to erosion underneath or by overtopping. Such events would pose flood risks to very large downstream populations including portions of Whittier.

Whittier Narrows Dam
Courtesy of the US Army Corps of Engineers

pollution exposure

- One active Superfund site is located near the five-points intersection at Whittier Boulevard and Pickering Avenue. Large quantities of refrigerant and solvent chemicals from the former Omega Chemical Corporation facility contaminated the groundwater supply and continue to affect communities and water supplies.
- Industrial businesses in Whittier have the potential to emit hazardous air pollutants known to cause cancer and result in other serious health impacts. These emissions are stringently regulated by the South Coast Air Quality Management District (SCAQMD).
- Historic oil and gas drilling activities in the Puente Hills have had long-lasting and impacts on open spaces, ecological systems, native habitat, and wildlife. Operations consolidation over time has reduced impact zones largely to active oil field areas.

climate adaption

- Excessive heat, droughts, and other weather-related conditions associated with a changing global climate have begun to adversely affect many habitats, animals, agricultural resources, and urban environments. In natural areas, excessive heat conditions could lead to water shortages and increased stress on plants. In cities, hotter and longer summers could require the need for cooling centers and adjustments to construction projects. Droughts could affect long-term potable water supplies in Whittier and the region.
- Natural hazards intensified by climate change include wildfires within the Puente Hills and flooding events along flood zones as the result of extreme storms.

environmental justice and community health

- The State has identified several so-called Disadvantaged Communities in Whittier and its Sphere of Influence—communities that experience combined high levels of economic, health, and environmental burdens. Neighborhoods in and around Uptown are included, but the highest impacted areas occur south of Whittier Boulevard (SR-72), along both sides of Washington Boulevard, and west of Santa Fe Springs Road to the western City boundary.
- Pollution burdens affecting residents within Disadvantaged Communities include the permitted releases of hazardous materials from commercial and industrial businesses, a high level of particulate matters or tiny air pollutants found in the air, hazardous waste, and cleanup of contaminated sites such as the Superfund site noted above.
- Socioeconomic and health conditions of concern within the Disadvantaged Communities include cardiovascular disease, housing burden challenges for low-income households, higher percentages of households living in poverty, and lower educational attainment levels.
- Although the local Disadvantaged Communities generally have good park access, the health outcomes demonstrate that simply having access to parks and open space is not enough to mitigate health issues.
- Areas with high concentrations of Latino households and lower-income households lack access to healthy food outlets, but fast-food restaurants and other less-healthy food options abound. While the Uptown neighborhoods generally have variety and choice, families in South and West Whittier that make less than the Los Angeles County median income have the least access to healthy food retail stores.
- Whittier's Latino/Latina residents overwhelmingly live in areas with high rates of poor health outcomes and fewer public improvements, and with low socioeconomic status. While these neighborhoods appear to have good park access, more information is needed on the condition, access, amenities, size, and use of parks.
- The prevalence of chronic disease is highly concentrated in communities that are largely Latino/Latina, low-income, and have low educational attainment. Moreover, these populations are less likely to have access to health insurance, which may delay people from seeking treatment or not seek treatment at all.
- Maternal and child health outcomes are correlated with lack of insurance and rates of teen births. Although most neighborhoods are reported to have higher rates of prenatal care than the area average, those that have slightly lower rates correspond with areas that have higher populations of uninsured and low birth weight outcomes. In addition, these same

neighborhoods have slightly higher rates of teen pregnancy compared to the other Whittier neighborhoods.

- The correlation is strong between areas with high death rates due to diabetes and communities with limited healthy food access.

noise

- Traffic noise from cars, trucks, and other motor vehicles traveling along the local roadway network, is the most pervasive noise source in Whittier. While the move toward electric cars and trucks will reduce engine noise, the sound of vehicle tires on roadways will continue to be a presence.
- The extension of Metro light rail service to Whittier will create a new noise source in neighborhoods and districts along the L Line route.
- Populations in Whittier particularly sensitive to noise are known as sensitive receptors: the elderly, young children, and people with chronic ill health conditions. For these populations, the presence of continuous and/or loud noises can disrupt daily activities and lead to long-term adverse health effects.

emergency preparedness and safety services

emergency preparedness

Emergency preparation helps reduce property damage and loss of life in the event of a disaster. Whittier is susceptible to many types of disasters and emergencies that can have devastating effects. Local officials play a crucial role in educating residents and businesses about prevention—the most important tool in emergency preparedness—and appropriate, effective response.

Generally, response efforts and emergency management plans are created to address many types of hazards so that public officials are prepared with a plan adaptable to various potential hazards. These plans allow community members to work together with City, County, State, and federal partners and to get familiar with their roles in disaster mitigation, preparedness, response, and recovery before a disaster occurs.

natural hazard mitigation plan

The City has prepared a Natural Hazards Mitigation Plan (NHMP) in response to the Disaster Mitigation Act of 2000, as required by the Federal Emergency Management Agency (called a Local Hazard Mitigation Plan in the federal law). This law requires local governments to prepare a plan that identifies potential hazards, losses, mitigation needs, goals, and strategies. The City's NHMP supplements the City's comprehensive Emergency Operations Plan, or EOP.

Planning ahead helps residents, businesses, and government agencies effectively respond when disaster occurs and keeps the City eligible for federal funding. The long-term benefits of mitigation planning include:

- Greater understanding of local hazards
- Being able to prioritize use of limited resources on hazards that could have the most adverse and widespread impacts
- Financial savings through partnerships for planning and mitigation
- Reduced long-term impacts and damages to human health and structures, and lower repair costs
- A more sustainable, disaster-resistant city

vulnerability risk assessment

The NHMP includes a vulnerability risk assessment that identifies risks associated with each hazard and the corresponding impacts to the community. This process involves five steps: identify hazards, profile hazards, inventory critical assets, assess risks, and assess vulnerability of future development. Table PSNH-1 identifies natural hazards that could potentially affect Whittier and specific hazards that may be intensified because of climate change.

Table PSNH-1: Vulnerability Assessment

Hazard	Location	Extent	Probability	Hazard Intensified Due to Climate Change?
Earthquake	Entire Planning Area	According to the USGS, within the next 30 years (as of 2014) the probability is: ▪ 60% that an earthquake measuring magnitude 6.7 ▪ 46% that an earthquake measuring magnitude 7.0 ▪ 31% that an earthquake measuring magnitude 7.5 will occur in the Los Angeles region.	1:100 years	No
Flood	Turnbull Canyon, Creek Canyon, San Gabriel River	Riverine flooding: 100-year floodplain (Zone A)	1:100 years	Yes
Wildfire	Residential areas interfacing Puente Hills	California Department of Forestry and Fire Protection's Fire and Resource Assessment Program rating is "Very High"	1:100 years	Yes
Drought	Entire Planning Area	Water conservation requirements and reduced water supply	1:10 years	Yes
Heat Waves[1]	Entire Planning Area	Stressed electrical grid and rolling blackouts	1:10 years	Yes

Source: City of Whittier Natural Hazards Mitigation Plan, 2015, and MIG, 2020.

See the Natural Hazards section of this element for goals and policies related to seismic, wildfire, and flooding hazards. See the Climate Adaptation section for goals and policies related to heat waves and drought.

emergency operations plan

The City maintains a detailed Emergency Operations Plan (EOP). The EOP is reviewed annually and approved by the federal government every five years. The EOP establishes the emergency organization, assigns tasks, specifies policies and general procedures, and provides for

coordination of planning efforts for the various emergency staff utilizing the State's Standardized Emergency Management System and National Incident Management.

police services

Law enforcement services are provided by the City of Whittier Police Department, which operates out of its headquarters adjacent to City Hall. Although the Whittier Police Department operates a single central headquarters located in the Civic Center, officer teams are assigned to operate in four distinct areas of the City. Under this geographic policing structure, officers can develop familiarity with the community safety issues in the areas to which they are assigned. The City strives to provide each geographic area with "24-7" service, with at least one member of every geographical team always working.

Uptown Bike Patrol, Uptown Whittier

Whittier College operates its own Department of Campus Safety to protect the campus community and campus property. Campus Safety patrols the campus 24 hours a day, seven days a week.

Unincorporated areas of Whittier receive law enforcement services from the Los Angeles County Sheriff's Department, with the closest station locations in Pico Rivera and Norwalk.

achieving and maintaining a high level of police services

The Police Department's motto is "Quality People - Quality Services." As of 2019, the Police Department employed 121 sworn officers and 55 civilian staff, with a ratio of approximately 2.0 law enforcement employees (officers and civilians) per 1,000 Whittier residents. While this ratio is low compared to many comparably sized cities, it attests to a more limited need in Whittier for law enforcement services.

crime prevention

The Police Department focuses on enhancing community safety, particularly working intensely to reduce gang activity and drugs and property crimes. Gang-related crimes are a key issue of concern for residents. As a response, the Special Enforcement Team is responsible for identifying and impacting areas of recurring criminal activity and for directed gang enforcement. The Public

Works Department Graffiti Abatement program aggressively remedies graffiti and vandalism to improve property appearances citywide—thus discouraging criminal presence.

fire prevention and response services

As noted above, the City contracts with the Los Angeles County Fire Department for a multitude of prevention and response services. The Fire Department operates three fire stations in Whittier and adjacent unincorporated areas. A fourth station designated as a Whittier fire station lies just outside the City's sphere. Nearly all areas of Whittier are located within two miles of one of these fire stations (see Figure PSNH-1). Nearby County fire stations in Santa Fe Springs and Pico Rivera also provide fire protection services to Whittier neighborhoods. In addition to the Los Angeles County Fire Department, the following agencies and organizations are involved with fire and emergency response: Los Angeles County Operational Area Emergency Management, Mutual Aid Region, State Emergency Management, and City of Whittier Police.

The City has adopted the California Fire Code, with City amendments and exceptions to address specific local conditions and needs. These provisions include construction standards and fire hydrant requirements in new structures and remodels, road widths and configurations designed to accommodate the passage of fire trucks and engines, and requirements for minimum fire-flow rates for water mains.

goals and policies

emergency preparedness and safety services

Goal 1: A resilient community well prepared to minimize risks associated with natural hazards and disasters

- PSNH-1.1: Provide public education to promote community awareness and preparedness for self-action in the event of a major disaster or emergency.
- PSNH-1.2: Promote improved inter-jurisdictional consultation and communication regarding disaster or emergency plans of Los Angeles and Orange counties, and for seismic safety upgrades of public facilities and infrastructure such as dams, reservoirs, and highway structures.
- PSNH-1.3: Partner with neighboring cities, regional agencies, local school districts, Whittier College, local businesses, and community organizations to conduct emergency and disaster preparedness exercises that test operational and emergency response plans.

- PSNH-1.4: Ensure operational readiness of the Emergency Operations Center (EOC) by conducting annual training for staff and maintaining, testing, and updating equipment to meet current standards.
- PSNH-1.5: Train and educate public volunteers in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations.

Goal 2: Superior law enforcement and public safety services

- PSNH-2.1: Provide the highest possible quality of fire, police, and health protection for all Whittier residents.
- PSNH-2.2: Work with the Police Department and Los Angeles County Fire Department to determine and meet community needs for services.
- PSNH-2.3: Ensure adequate safety lighting is provided at all City facilities and places the public uses frequently, including but not limited to parks, recreational facilities, City Hall, sidewalks/streets, plazas, paseos, and alleys.
- PSNH-2.4: Require elements of crime prevention through building design (CPTED) to be integrated into new construction and building modernization projects.
- PSNH-2.5: Involve public safety officials in the review of development plans.
- PSNH-2.6: Encourage multi-family building owners to provide active or onsite building management to promote and encourage adherence to the roles and regulations that govern the occupancy of multifamily buildings.
- PSNH-2.7: Enhance vehicular, pedestrian, and bicyclist traffic flow and safety, especially near sensitive sites such as schools to fulfill Safe Routes to School Plan and other mobility and safety plans.
- PSNH-2.8: Coordinate with residents, businesses, school districts, and community and neighborhood organizations to develop and expand partnerships to prevent crime, build public trust, and proactively address public safety issues.
- PSNH-2.9: Maintain Police Department programs that support residents and businesses in community efforts to prevent crime and improve neighborhood safety.
- PSNH-2.10: Coordinate with school districts to provide services that help at-risk youth avoid making poor choices or facing adverse life conditions, with services including on-site counseling, crisis intervention services, emergency hotlines, case management services, job and internship opportunities, and recreation programs.

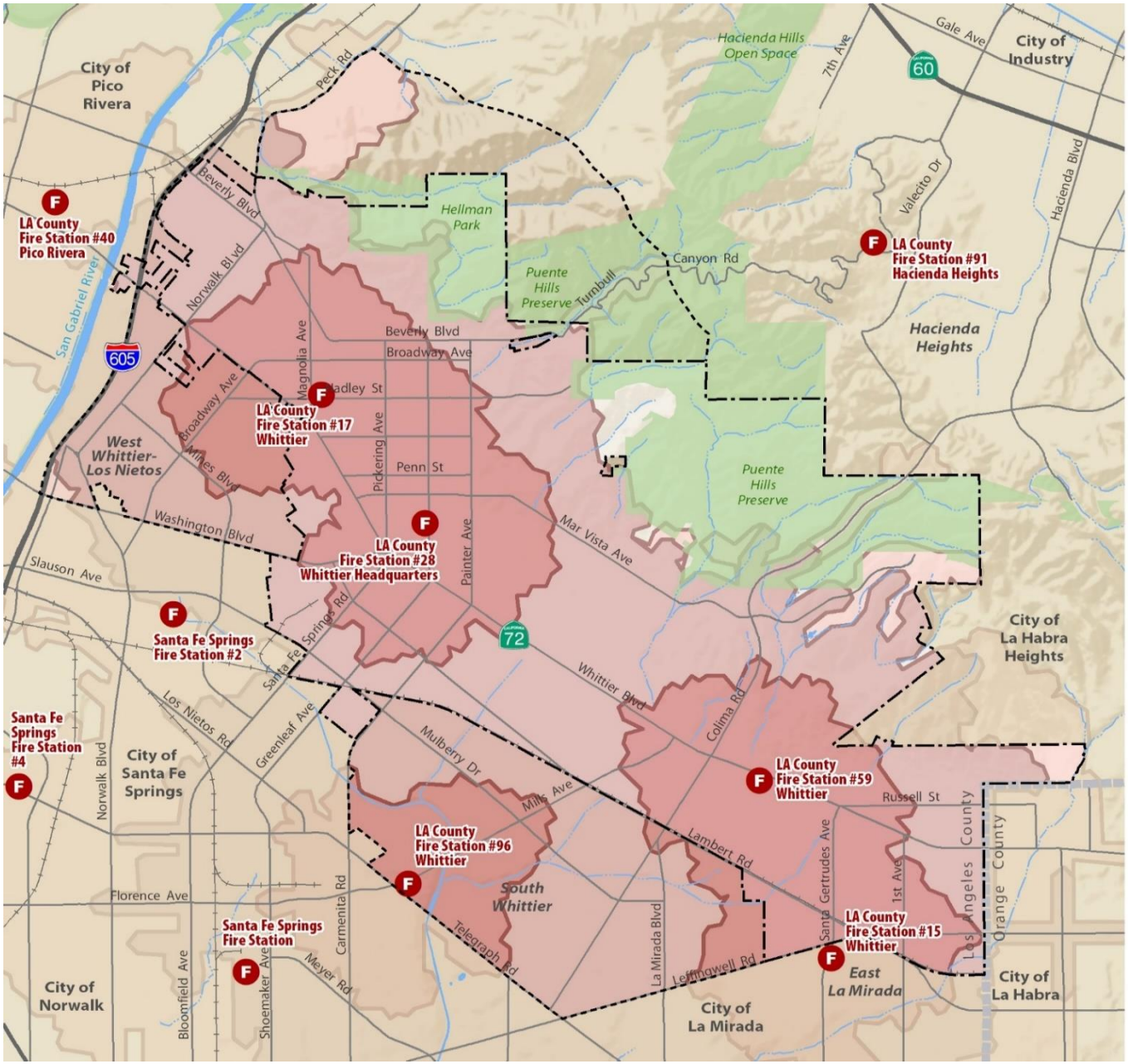


Figure PSNH-1: Fire Stations

The City-owned parcel near Whittier Narrows is not included in this map to improve readability.

- PSNH-2.11: Maintain and implement programs addressing property maintenance conditions that foster crime or the fear of crime, such as blight, litter, graffiti, illegal dumping, and abandoned vehicles.
- PSNH-2.12: Ensure Police Department equipment and facilities are maintained at levels that meet modern standards of safety, dependability, and efficiency.
- PSNH-2.13: Ensure all Police officers receive comprehensive cultural competency training to better serve the needs of Whittier's diverse population.

Goal 3: Reduced risk of fire and minimized consequences from fire events

- PSNH-3.1: Prevent fires by conducting routine inspections, incorporating fire safety features in new development, and educating the public to take proactive action to minimize fire risks.
- PSNH-3.2: Ensure the City has adequate Fire Department resources (fire stations, personnel, and equipment) to meet response time standards, keep pace with growth, and provide a high level of service to the community.
- PSNH-3.3: Enforce fire standards and regulations in the course of reviewing building plans and conducting building inspections.
- PSNH-3.4: Require new development projects to have adequate water supplies to meet the fire-suppression needs of the project without compromising existing fire suppression services to existing uses.
- PSNH-3.5: Maintain code enforcement programs that require private and public property owners to minimize fire risks by maintaining buildings and properties to prevent blighted conditions, removing excessive or overgrown vegetation (e.g., trees, shrubs, weeds), and removing litter, rubbish, and illegally dumped items from properties.

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natural hazards

- seismic hazards
- wildfire hazards
- flooding and dam inundation hazards

Natural hazards refer to natural phenomena that, because of their location, severity, and frequency, have the potential to adversely affect humans and structures. Earthquakes and intensive storm events are examples of natural hazards. Although humans can do little or nothing to change the incidence or intensity of most natural phenomena, we play an important role in ensuring that natural events do not evolve into disasters due to our inattention or malfeasance.

Climate change affects global temperature and precipitation patterns. These effects, in turn, influence the intensity and, in some cases, the frequency of extreme environmental events such as wildfires, heat waves, floods, droughts, and storms.

Emergency preparation and response strategy for both first responders and the community can prevent or mitigate adverse consequences.

seismic hazards

Seismic hazards refer to the physical phenomenon associated with and precipitated by earthquakes, including ground shaking, landslides, and liquefaction, among others. The intensity of these unfavorable consequences resulting from seismic shifts vary depending upon the epicenter location, locally occurring geologic conditions, and the density and type of development in the impacted area. Whittier lies within a region crisscrossed by faults, and these fault systems—notably the San Andreas fault system—have the potential to unleash tremendous tectonic forces.

earthquakes (ground shaking)

Earthquakes in California occur with some frequency. The most significant historical earthquakes affecting Whittier was the October 1, 1987, Whittier Narrows Earthquake (magnitude 5.9) and its October 4, 1987, aftershock (magnitude 5.5). The Uptown area, with its many unreinforced masonry buildings, was the hardest hit. At least 200 residences and 30 businesses were badly damaged.

Most of the severe damage was to structures built before 1930. The City's Building and Safety Department found that 5,100 buildings were damaged by the earthquake, and of those, about 200 were deemed unsafe.

Whittier has a predominantly older housing stock, with most of the housing built prior to 1960. These older structures could be vulnerable to considerable damage in the event of a significant seismic event. A major earthquake occurring in or near Whittier could cause many deaths and injuries, extensive property damage, fires, hazardous material spills, and other dangers. Aftershocks and the secondary effects of fire, hazardous material/chemical accidents, and possible failure of dams and waterways could aggravate the situation.

landslides and liquefaction

Landslides and liquefaction represent two seismically induced hazards. Both are secondary earthquake hazards that occur from ground shaking. Seismically induced slope failure can be expected within the Puente Hills, where slopes are 35 degrees or greater. During the Whittier Narrows earthquake, dust clouds rose over the southern flank of the San Gabriel Mountains from rock falls and surface land sliding from road cuts. Landslides also occurred in Turnbull Canyon (see Figure PSNH-3).

Soil liquefaction is a seismically induced form of ground failure, which has been a major cause of earthquake damage in Southern California. In Whittier, liquefaction hazards are present along drainage channels and on properties south of Lambert Road where high groundwater conditions exist (see Figure PSNH-3).

minimizing risk

These high-level approaches minimize risk and help the community prepare for earthquakes:

- **Prepare.** Preparation at all levels of government and by residents, businesses, schools, and institutions is vital. Earthquake preparedness can include obtaining medical supplies and food for several days, knowing how to respond during an earthquake, and creating a family or business evacuation plan and/or safety plan. Medical and safety service staff are required to consistently conduct training in response to large disaster, with the City responsible for coordinating with other agencies and medical facilities.
- **Protect.** New construction projects are required to meet building codes to ensure new buildings are earthquake resistant. Thus, "protect" initiatives focus on addressing older buildings and critical infrastructure. Whittier has few remaining unreinforced masonry buildings; many older structures collapsed or were destroyed during the 1987 Whittier Earthquake. Seismic retrofitting of older existing buildings is critical, not just for the remaining unreinforced masonry buildings but also homes on raised foundations that have not been strengthened. Due to the cost, most homeowners do not carry earthquake insurance (only about 10 percent statewide do), and the costs of addressing earthquake damage likely will be incredibly high following a major event. "Protect" extends to critical

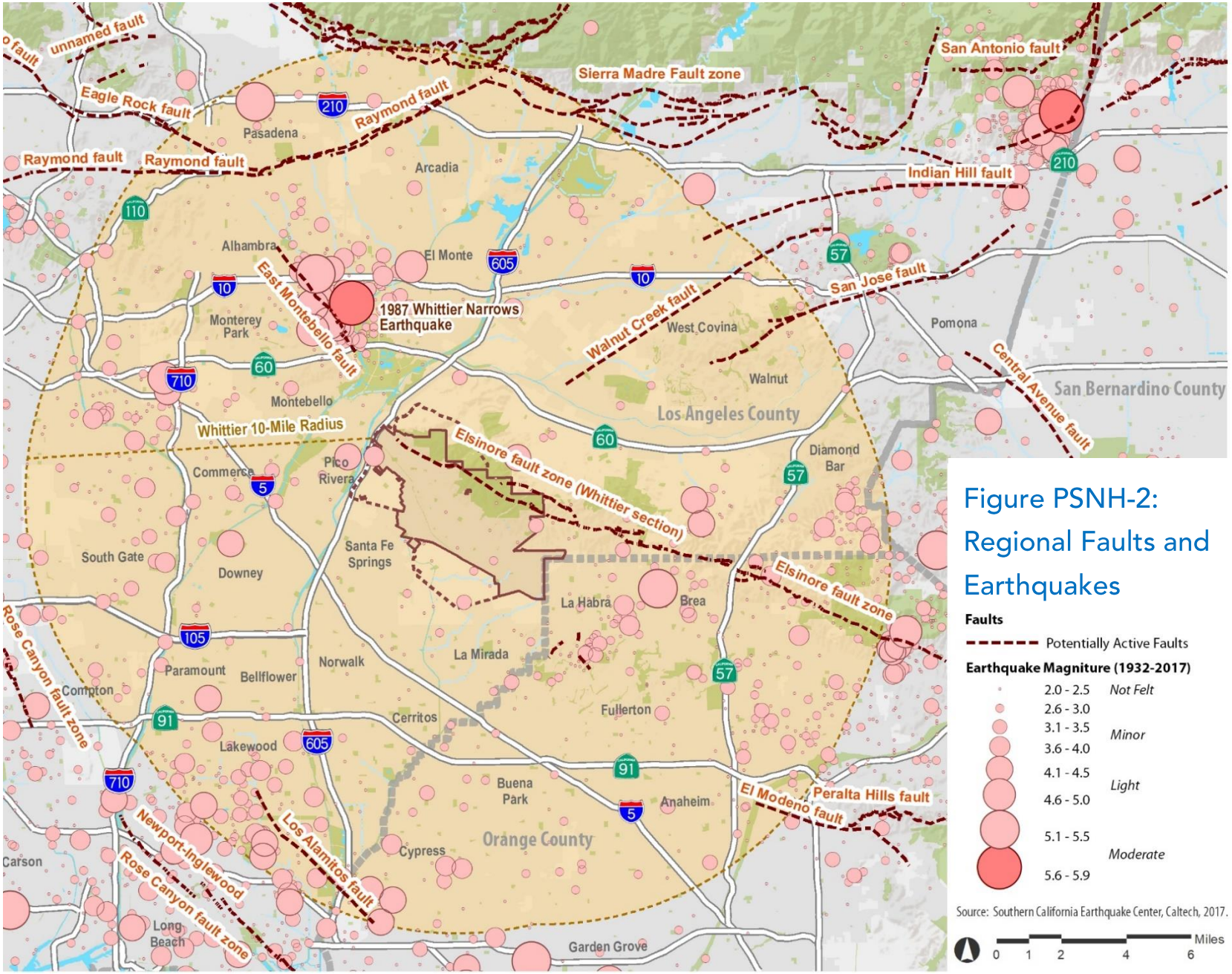

Figure PSNH-2: Regional Faults and Earthquakes

Figure PSNH-3: Local Seismic Hazards and Earthquake Faults

Whittier Fault (Elsinore Fault Zone)

- Fault, Certain Location
- Reverse Fault, Certain
- Fault, Approximately Located
- Fault, Concealed

Seismically Induced Hazard Zones

- Landslides
- Liquefaction

Base Map Features

- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks
- Waterbodies

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infrastructure to ensure that roads, utility lines, communications networks can continue to function post-earthquake.

- **Recover.** After an earthquake, returning the community to normal functioning operations and services will be critical to mitigate potential economic and social stresses. In the short term, communications and multi-agency coordination is critical to respond to aid and evaluation of damage to infrastructure. Recovery should then focus on the repair and rebuilding of public facilities and services, businesses, and housing. The Governor's Office of Emergency Services provides detailed information for governments in post-recovery responses and approaches.

goals and policies

natural hazards

Goal 4: A community well prepared to respond to a major seismic event and to minimize risk of injury, loss of life, property damage, and social service and economic impacts

- PSNH-4.1: Educate the community on actions to take before, during, and after a major earthquake.
- PSNH-4.2: Encourage residents and businesses to undertake seismic retrofitting of existing structures.
- PSNH-4.3: Ensure that all new development abides by current City and State seismic and geotechnical requirements.
- PSNH-4.4: Identify a plan of action and consult with different responsible agencies to respond to and recover from a major earthquake.
- PSNH-4.5: Strive to ensure that all utility and infrastructure systems have continued functionality during and after a major earthquake.
- PSNH-4.6: Require that projects in areas susceptible to liquefaction, landslides, and other geologic hazards demonstrate that they are appropriate engineering and planning mitigations have been implemented.

wildfire hazards

2020 Brush Fire in hills northeast of Whittier
Courtesy of NBC Los Angeles

The brush-covered Puente Hills historically have burned and continue to pose wildland fire hazards to the adjoining foothill residential neighborhoods. Long, dry summers and climate change combined with the highly flammable vegetation, Santa Ana wind conditions, and steep slopes significantly increase wildfire potential. Rising global temperature have extended Southern California's fire season, requiring extra vigilance through December. Understanding the risks associated with development in and near fire-prone areas can help advance planning to reduce the risks associated with major wildland fires.

Properties along the hillslopes are designated as having a "high" fire hazard, with some areas even classified "very high" fire hazard (see Figure PSNH-4: Wildfire Hazards). As historical fires in the areas have shown, the hillside terrain, vegetation, and potential for high winds create conditions where wildfires present a major risk to structures and people within and adjoining Fire Hazard Severity Zones.

Figure PSNH-4 includes identification of disaster and evacuation routes generally to be used in the event of a wildfire. However, the County may use alternative routes depending upon a fire's location and anticipated spread, local traffic conditions, and size of the population to be evacuated.

puente hills habitat preservation authority wildfire prevention

The Puente Hills Habitat Preservation Authority (Habitat Authority) is dedicated to the restoration and management of open space in the Puente Hills, including implementing wildfire preparedness approaches. The Habitat Authority contracts with the Mountains Recreation and Conservation Authority (MRCA) to provide ranger services, with the rangers trained as wildland firefighters. During fire season, fire patrol ranger units stand ready to extinguish fires and protect structure. In partnership with the Los Angeles County Fire Department, the MRCA has developed an Emergency Response Map to provide firefighters with pertinent information about the Puente Hills Preserve to be used at Incident Command, such as locations of drivable trails and roads, sensitive habitat, helipads, and gates. Additionally, the Habitat Authority proactively conducts

fuel modification to create defensible space through the removal of dead and flammable trees within modification zones and has conducted habitat restoration with the goal of removing "flashy fuels" and replacing them with less combustible native plants.

minimizing risk

The City's key strategies for minimizing the toll of seasonal wildfires are as follows.

- **Prevention and Awareness.** Neighborhoods in Whittier exist along the urban/wildfire interface. Because these interface conditions will continue, educating the public about the natural role of fire and measures they can take to best protect properties from wildfires will be critical to minimizing potential property damage and loss of life. Education and enforcement campaigns need to occur year-round, with extra effort expended prior to the fire season. Prevention can include fuel modification and defensible space strategies, restricting construction of new structures in wildfire zones, building wildfire resistance structures, and modifying existing structures.

Los Angeles County Station 59
Courtesy of LA County Fire Department

- **Protection.** The goal in any firefighting operation is to provide adequate supplies and fire suppression services to protect buildings and infrastructure in immediate danger from a wildfire. In Whittier, at least 3,000 structures lie within the Very High Fire Hazard Severity Zone. Coordination among multiple firefighting agencies and mutual aid agreements are needed to fight major wildfires in the Puente Hills. Ensuring adequate water supplies and pressure is critical. Additionally, warning systems and clear delineation of evacuation routes can protect lives.
- **Recovery.** Following a major fire, the community may face the need to fix damaged infrastructure. Addressing repair/replacement of burned homes needs to include a thorough assessment of how to minimize recurrences. Consultation with the Habitat Authority will support restoration of habitat areas and trails and provide for rapid replanting (with appropriate species) to guard against mudslides.

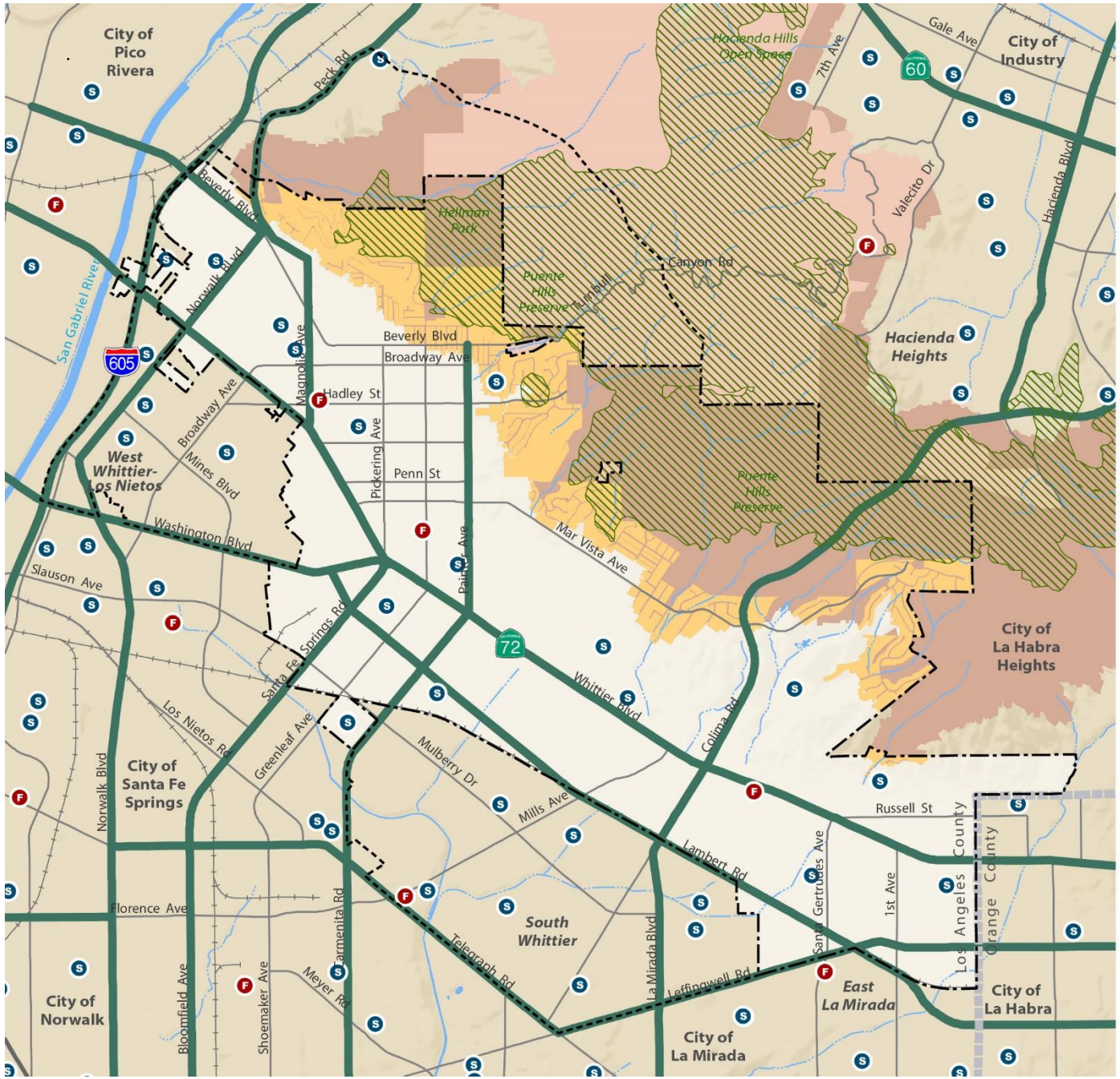

Figure PSNH-4: Wildfire Hazards

Fire Hazards

- Very High Fire Hazard Severity Zone (SRA)
- Very High Fire Hazard Severity Zone (LRA)
- Residential GP Designations in VHFHSZ
- Historic Fire Perimeters

Emergency Routes

- Evacuation Routes

Public Facilities

- Fire Stations
- Schools

Base Map Features

- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks
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goals and policies

wildfire

Goal 5: A community that proactively prevents wildfires and protects life, property, infrastructure, and habitats from wildfire impacts

- PSNH-5.1: Minimize new residential development within the Very High Fire Hazard Severity Zones.
- PSNH-5.2: Require special on-site fire protection measures to be specified during project review for areas where wildfire hazards potential exists, specifically hilly areas with slopes of 10 percent or greater, access problems, lack of water or sufficient pressure, and/or excessively dry brush.
- PSNH-5.3: Ensure new development adheres to California Government Code sections 51175 to 51189 related to Very High Fire Hazard Severity Zones, all requirements in the California Building Code and California Fire Code, and the Board of Forestry and Fire Protection Fire Safe Regulations.
- PSNH-5.4: Regulate and enforce the installation of fire protection water system standards for all new construction projects within Very High Fire Hazard Severity Zones, including the installation of fire hydrants providing adequate fire flow, fire sprinkler, or suppression systems.
- PSNH-5.5: Require new development within Very High Fire Hazard Severity Zones to include a fire protection plan that addresses landscape/fuel modification installation, incorporates open areas to complement defensible spaces, identifies possible refuge areas, and maps multiple ingress and egress routes.
- PSNH-5.6: Require new development within Very High Fire Hazard Severity Zones to provide pre-plans for fire risk areas that address resident evacuation and ways to effectively communicate those plans, including identifying the location and direction of evacuation routes and at least two points of ingress and egress.
- PSNH-5.7: Require new development within and adjoining Very High Fire Hazard Severity Zones to prepare a roadside fuel reduction plan to prevent fires along public roads caused by vehicles.
- PSNH-5.8: Require new development, and as feasible with existing development, to provide long-term maintenance of defensible space clearances around structures, subdivisions, and fuel breaks within Very High Fire Hazard Severity Zones.

- PSNH-5.9: Conduct a survey of existing residential structures within the Very High Fire Hazard Severity Zones to identify non-conforming buildings related to fire safety standards and consult with property owners to bring those properties into compliance with the most current building and fire safety standards.
- PSNH-5.10: Identify at-risk populations that would be vulnerable during wildfire evacuations and provide information regarding defensible space and evacuation routes.
- PSNH-5.11: Identify measures to preserve undeveloped ridgelines to reduce fire risk and improve fire protection.
- PSNH-5.12: Locate essential public facilities out of high-risk, wildfire-prone areas unless additional mitigation measures above the minimum fire protection standards are put in place.
- PSNH-5.13: Collaborate with the regional fire agencies and the Puente Hills Habitat Preservation Authority on strategies available to maintain diverse plant composition (e.g., less combustible native plants), undertake appropriate thinning of vegetation, and maintain fuel breaks without permanently damaging native habitat. As appropriate, refer to and implement appropriate strategies of the Los Angeles County Fire Department Strategic Fire Plan.
- PSNH-5.14: Conduct a survey of public and private streets to determine those that lack two means of ingress and egress and inadequate evacuation routes. Identify and implement measures to mitigate the single access.
- PSNH-5.15: Require all structures re-developed/re-built in the VHFSZs after a large fire to comply with building and fire codes in effect at the time of the re-development.
- PSNH-5.16: Conduct a study to establish a re-development policy for all structures in VHFSZs after large fires.
- PSNH-5.17: Continue to work with the Los Angeles County Fire Department to ensure that fire services are maintained at adequate levels. While working with the Los Angeles County Fire Department, monitor the City of Whittier's fire protection rating and work with the Los Angeles County Fire Department to correct deficiencies and to ensure ongoing training is conducted.

flooding and dam inundation hazards

A common misconception is that a 100-year flood is a flood that occurs once every 100 years. However, the phrase really means a flood that has a one percent chance of occurring in any given year.

The 500-year flood zone is a designated area that has a 1 in 500 (0.2%) chance of being met or exceeded in any given year. A 500-year flood would likely be more catastrophic than a 100-year flood.

Historically, large areas of the San Gabriel Valley were subject to seasonal flooding associated with major storms, with stormwaters overflowing the banks of the San Gabriel and Rio Hondo Rivers and spreading across adjacent lands. Beginning in the 1950s, the U.S. Army Corps of Engineers and Los Angeles County Department of Public Work impounded the floodwaters behind dams and channelized the rivers to protect the growing region from flood hazards associated with 100-year and 500-year storm events, thus creating a high degree of flood protection. As a result, Whittier has minimal flood hazards, as shown on Figure PSNH-5.

The Federal Emergency Management Agency (FEMA) has not mapped any 100-year flood zones in Whittier, meaning that flood hazards are minimal and flood insurance is not required for any property owner with a federally backed mortgage. Risk of flooding from a 500-year flood event occurs in small pockets of the City, but the risks are so low that federal programs do not require flood insurance.

The most notable local flooding occurred during the El Nino-driven winter storms of 1995. The storms led to slow-rise flooding caused by extremely heavy rainfall. During periods of urban flooding such as this, streets can become swift moving rivers and sub-grade building areas can fill with water. Storm drains may back up with vegetative debris, causing additional localized flooding.[1] These conditions represent rare occurrences and can best be addressed via regular street cleaning, debris removal, and maintenance of local storm drain facilities. Also, retrofitting hard-surface drainage control facilities with bioswales, landscaped parkways, and similar low-impact development (LID) approaches can reduce the volume and slow the speed of stormwater runoff—and also provide groundwater recharge benefits.

Dam inundation represents a more remote flood risk. The Hoover Reservoir in Whittier's northwest hills is an above-ground facility engineered to withstand ground shaking and other stresses. If it were to fail for any reason, properties immediately below the reservoir (see Figure PSNH-6) would be subject to almost immediate inundation, with water continuing down hill along streets and low-lying areas. Regular monitoring of reservoir integrity guards against such catastrophes.

[1] Natural Hazards Mitigation Plan, 2015. City of Whittier. pp. 105-106.

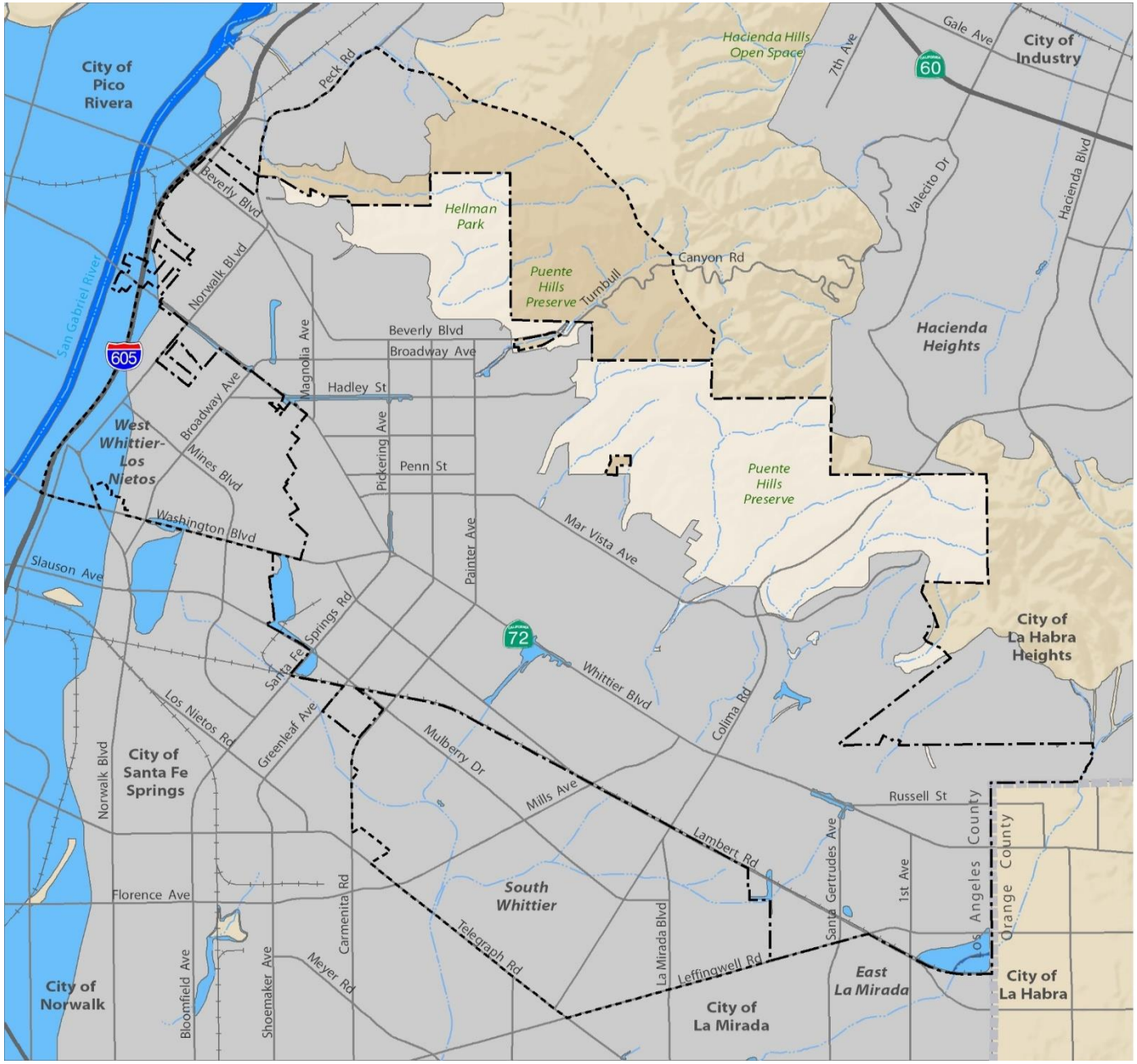

Figure PSNH-5: Flooding Hazards

FEMA Flood Zones

- 100-Year Flood Zone
- 500-Year Flood Zone
- Area of Minimal Flood Hazard

Base Map Features

- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks

The City-owned parcel near Whittier Narrows is not included in this map to improve readability.

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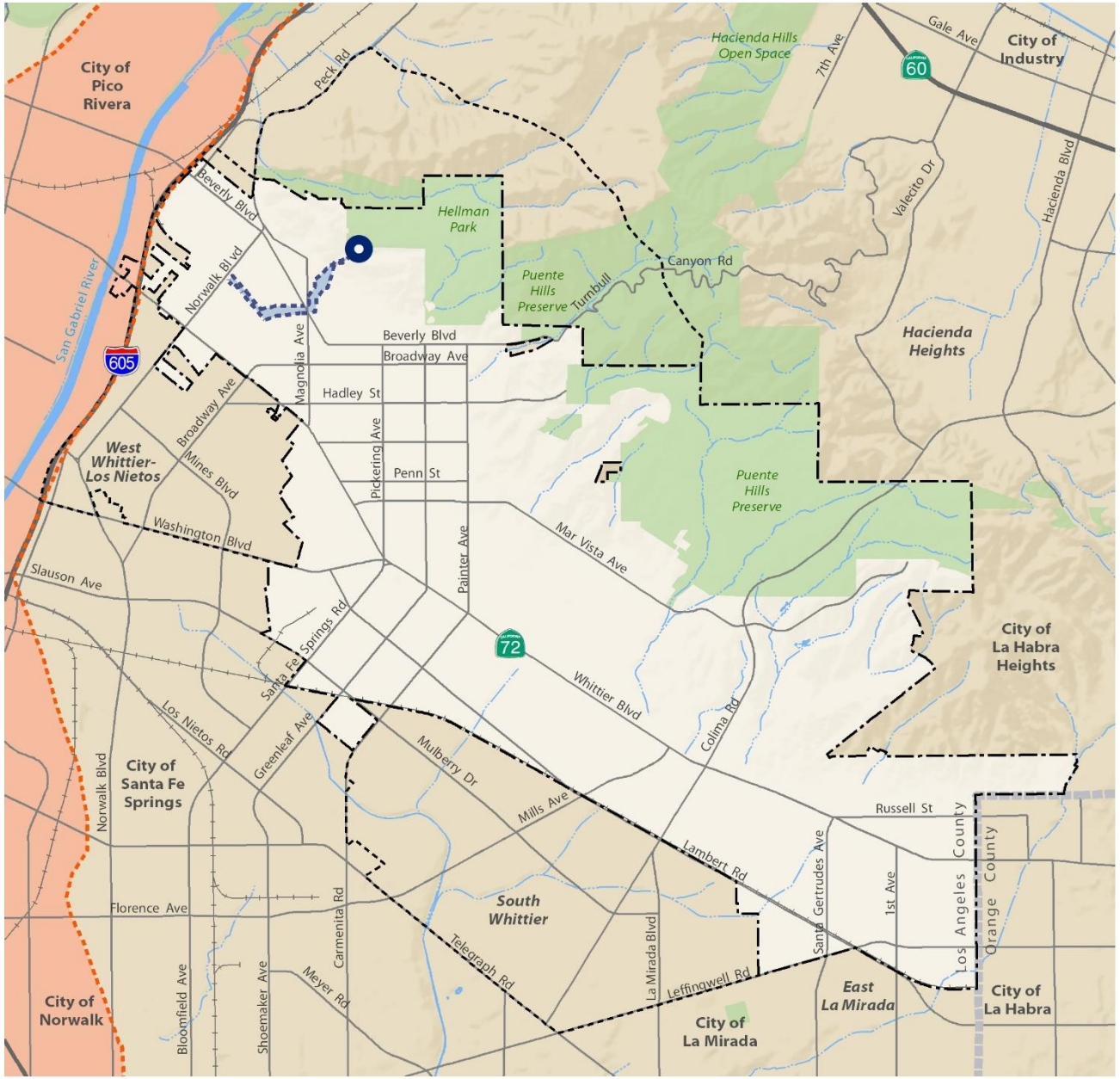

Figure PSNH-6: Inundation Hazards

Inundation Limits

- Whittier Narrows Indundation Limits
- Hoover Reservoir Indundation Limits
- Hoover Reservoir

Base Map Features

- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks
- Waterbodies
- Open Space/Natural Areas

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The Whittier Narrows Dam holds nearly 10 million gallons of water.[2] The U.S. Army Corps of Engineers determined that the 60-year-old Whittier Narrows Dam is structurally unsafe and poses a potentially catastrophic risk to the communities along the San Gabriel River floodplain. In addition, engineers found that the mile-long earthen structure could fail if water were to flow over its crest or if seepage eroded the sandy soil underneath. The Corps' report (based on research conducted in 2016) concluded that unusually heavy rains could trigger a premature opening of the dam's massive spillway. The inundation area affects a very small section of west Whittier, including the City's wellfield and water pumping station.[3] The I-605 freeway largely provides a barrier to flood waters, as shown on Figure PSNH-6.

goals and policies

flooding and dam inundation hazards

Goal 6: A community well protected from flood hazards

- PSNH-6.1: Maximize the resiliency of essential public facilities to risks and hazards of flooding.
- PSNH-6.2: Evaluate the need to expand the capacity of flood control facilities to minimize flood hazards resulting from extreme weather events.
- PSNH-6.3: Monitor the work of the Army Corps of Engineers' and other federal agencies' response plan to repair the Whittier Narrows Dam.
- PSNH-6.4: Encourage natural flood control infrastructure and techniques to capture storm water, recharge aquifers, and prevent flooding near established drainage systems and channels.
- PSNH-6.5: Encourage site drainage features that reduce impermeable surface area, increase surface water infiltration, and minimize surface water runoff during storm events.

[2] Natural Hazards Mitigation Plan, 2015. City of Whittier. pp. 105-106.
[3] U.S. Army Corps of Engineers says Whittier Narrows Dam is unsafe and could trigger catastrophic flooding, LA Times, September 14, 2017. Retrieved from: http://www.latimes.com/local/california/la-me-whittier-narrows-dam-20170914-story.html

pollution exposure

- **hazardous materials**
- **oil production**
- **contamination**

hazardous materials

Many common urban uses—consider gas stations and dry cleaners—produce hazardous waste. Every day, households dispose of containers with remnants of hazardous materials (drain cleaners, yard pesticides) that together add up to volumes of materials requiring proper disposal to guard against environmental and human harm. The EPA's Toxic Release Inventory Program manages a database of facilities that emit toxic chemicals known to be harmful to human health and tracks hazardous waste transporters. The State of California categorizes hazardous waste generators as either Small Quantity Generators or Large Quantity Generators. In addition, hazardous waste can be transported by air, rail, or highway. The Toxic Release Inventory identified generators, transporters, and transfer facilities, as shown Figure PSNH-7 for year 2020. (This map is representative, as the locations change every year as businesses come and go.)

As of 2020, more than 20 locations in Whittier and adjacent Sphere of Influence areas have been identified by the EPA as large-quantity hazardous waste generators. The majority of LQGs are manufacturing facilities located west of Painter Avenue. As a result, the neighborhoods in western Whittier, including areas of the Sphere of Influence, may be exposed to more pollution and hazardous materials than other areas.

Small quantity generators (SQGs) in the Planning Area produce 220 pounds to 2,200 pounds of hazardous waste per month. Large quantity generators (LQGs) produce more than 2,200 pounds of waste per month.

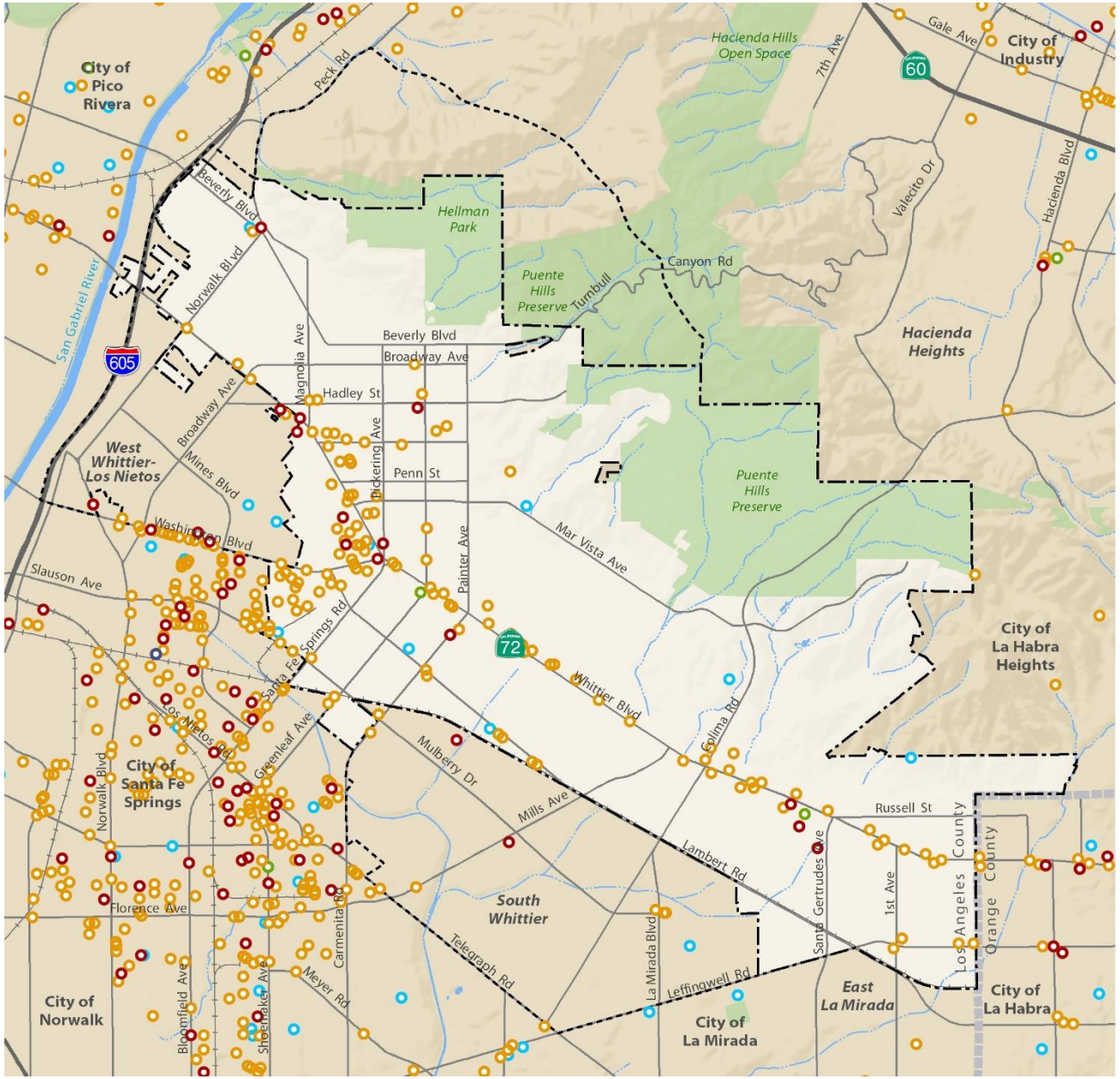

Figure PSNH-7: Hazardous Waste Generators

Hazardous Waste

- Large Quantity Generator (LQG)
- Small Quantity Generator (SQG)
- Conditionally Exempt SQG (CESQG)
- Hazardous Waste Transporter
- Transfer Facility

LQG: A business that generates more than 2,200 lbs per month of hazardous waste

SGQ: A business that generates more than 220 lbs but less than 2,200 lbs of hazardous waste per month

CESGQ: A business that generates less than 220 lbs of hazardous waste per month

Base Map Features

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oil production safety

Whittier's early growth and prosperity can be attributed to oil production within the Puente Hills. Starting at the turn of the nineteenth century, over 500 oil wells have been drilled to extract oil from the Whittier Main Oil Field. This oil field was in production for nearly 100 years. However, operations declined significantly in the 1990s with steep reductions in oil prices and escalating regulatory costs. With the decline of oil production activities, the City purchased the majority of the former oil fields using bond funds with the goal of preserving this land as open space and wildlife habitat. This land is now managed for the City by the Puente Hills Habitat Preservation Authority, a joint powers agency with members including the City of Whittier, County of Los Angeles, Los Angeles County Sanitation District, and Hacienda Heights Improvement Association.

The City may pursue awarding leases to oil and gas production companies to allow the right to extract of oil and gas from the Whittier Main Oil Field (see Figure PSNH-8). This could include drilling exploratory oil wells and extracting oil, gas, and other hydrocarbons, such as natural gas liquids, from the land. In exchange for these rights, the City will be able to generate a substantial long-term income stream for preservation and enhancement of the open spaces and native habitat, while minimizing the degradation and pollution that can result from extraction and drilling.

More information about local oil production can be found in the Resources Element under Mineral Resources.

contamination

superfund site

The 1980 federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) was adopted to create the means to effectuate removal of contaminated water, air, and soils resulting from past chemical disposal practices. This act, referred to commonly as the Superfund Act, contains a list of sites referred to as Superfund sites. CERCLA allows for the collection of taxes from the chemical and petroleum industries. The taxes are placed in trust funds and used to clean abandoned or uncontrolled hazardous waste sites. One active Superfund site is located within City boundaries, at Whittier Boulevard and Pickering Avenue. High quantities of refrigerant and solvent chemicals from the former Omega Chemical Corporation facility contaminated the groundwater supply (see Figure PSNH-9). The cleanup program to address associated groundwater contamination began in 2009.[4]

[4] Environmental Protection Agency. "Cleanup Results to Date"

surface and groundwater contamination

Humans need clean water for health and prosperity. Because Whitter relies in part on local groundwater supplies to meet the needs of residents and businesses, the City has intense interest in ensuring the San Gabriel River, including its associated drainages, be protected from pollution. The presence of the Superfund site described above, as well as other contaminant sources in cities that also overlie the groundwater basin, poses significant water quality and quantity challenges. Federal and state water quality standards establish strict limits on contaminant loads to protect public health.

Leaking Underground Storage Tanks

Underground storage tanks are used to store petroleum and other hazardous materials. Leaking underground storage tanks can leach harmful substances into the soil and risk contaminating local groundwater supplies. Locally, known leaking tanks have been sealed and are subject to monitoring.

goals and policies

pollution exposure

Goal 7: A high level of comfort that residents, businesses, and habitats have minimal exposure to hazardous materials and their deleterious effects

- PSNH-7.1: Critically review commercial and industrial uses that involve the use, storage, and transport of hazardous materials to determine the need for buffer zones or setbacks to minimize risks to homes, schools, community centers, hospitals, and other sensitive uses.
- PSNH-7.2: Promote the proper collection, handling, recycling, reuse, treatment, and long-term disposal of hazardous waste from households, businesses, and government operations.
- PSNH-7.3: Minimize the exposure of community members to the harmful effects of hazardous materials and waste.
- PSNH-7.4: Protect natural resources, including groundwater, from hazardous waste and materials contamination.
- PSNH-7.5: Avoid, to the extent feasible, environmental impacts and protect, to the extent possible, the ecological resources and native habitat resources within the Puente Hills Habitat Preservation Authority's Puente Hills Preserve associated with any oil drilling and production project.

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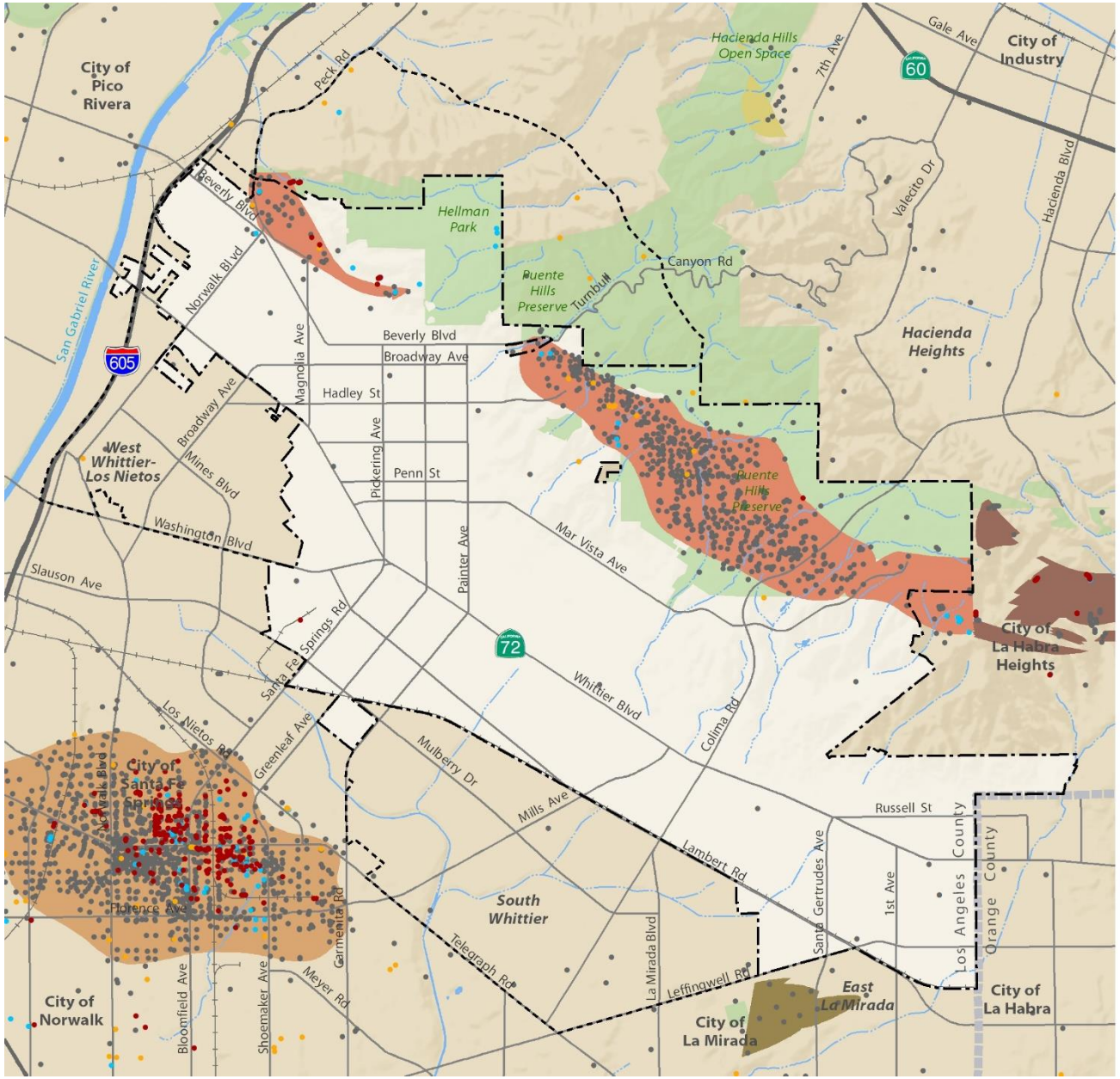

Figure PSNH-8: Oil Production Areas

Oil Wells Status

- Active
- Buried
- Idle
- Plugged

Oil Fields

- Whittier
- Whittier Heights, North
- Leffingwell
- Sansinena
- Santa Fe Springs

Base Map Features

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- Open Space/Natural Areas

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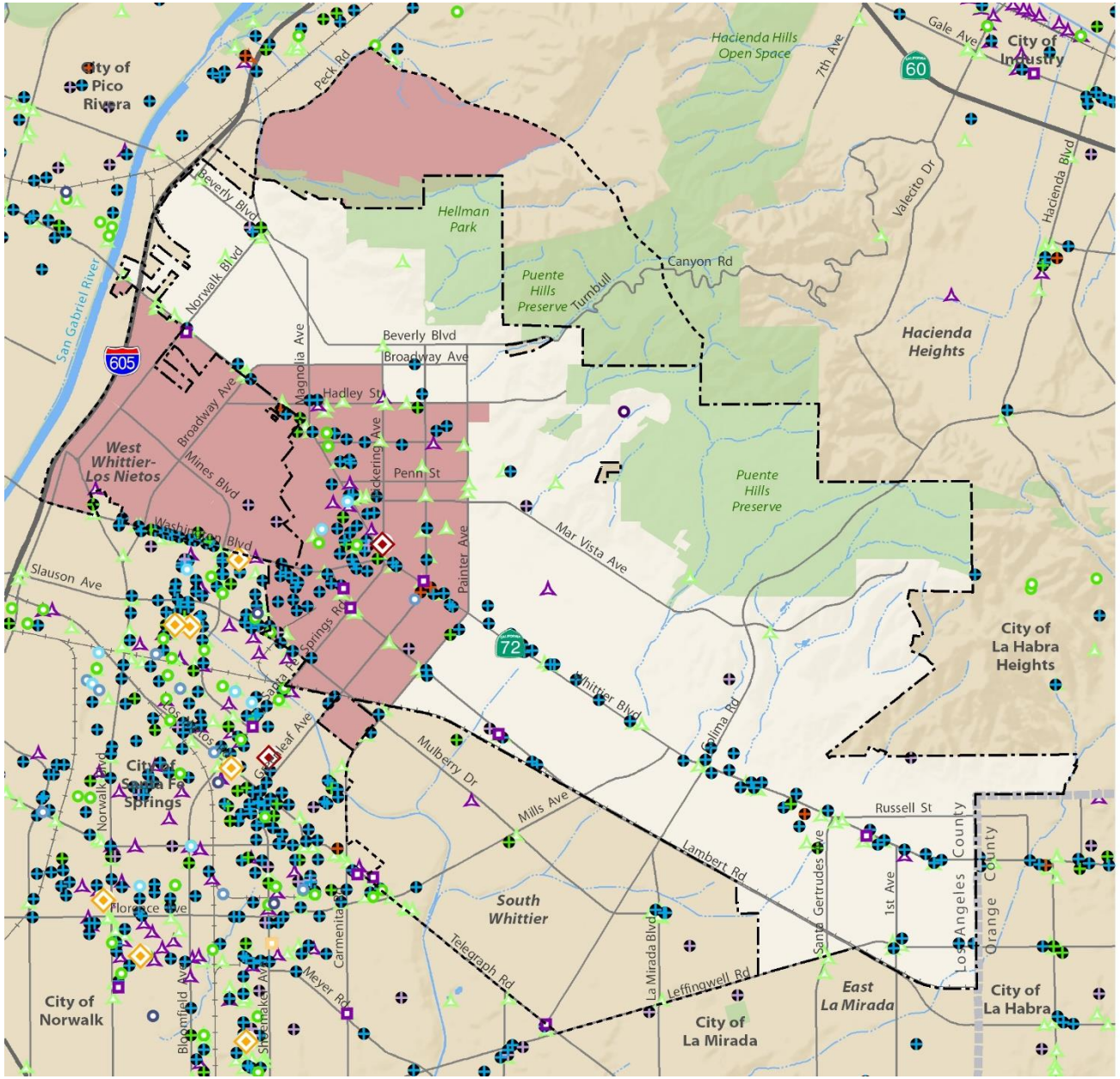

Figure PSNH-9: Pollution Sites

- Superfund (National Priority List - NPL)
- Superfund (Non-NPL)

Water Pollutant Discharge

- ICIS-NPDES Major
- NPDES Permit
- Leaking Underground Storage Tank
- Storm Water Industrial

Air Pollutant Discharge

- Air Major (Greater 100 tons/year)
- Air Minor (Less than 100 tons/year)
- Greenhouse Gas Reporter
- Hazardous Air Pollutant Major
- Landfill Gas Recovery
- Pesticide Producer

Geotracker Tracked Sites

- Cleanup Program Site
- LUST Cleanup Site
- Military Cleanup Site

EnviroStor Tracked Sites

- Large Quantity Generator (LQG)
- Small Quantity Generator (SQG)
- Conditionally Exempt SQG (CESQG)
- Hazardous Waste Transporter
- Transfer Facility

Base Map Features

- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks

The City-owned parcel near Whittier Narrows is not included in this map to improve readability.

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climate adaptation

Climate change is a long-term shift in global or regional climate patterns. Climate adaptation is responding to climate change. This General Plan addresses climate-related issues by strengthening local resiliency and adaptive capabilities.

The greenhouse gas (GHG) emissions we generate are the leading cause of the Earth's rapidly changing climate. Greenhouse gases play an important role in keeping the planet warm enough to inhabit. But the level of these gases in our atmosphere has soared since the beginning of the 21st century. The burning of fossil fuels—coal, oil, and gas—for electricity, heat, and transportation is the primary source of human-generated emissions. Curbing dangerous climate change requires very deep cuts in emissions, as well as the use of alternatives to fossil fuels worldwide.

California law requires that Whittier take actions to reduce local greenhouse gas emissions toward State reduction goals. The GHG reduction laws mandate all Californians to work together to effect change on a larger scale. State legislation under AB 320 (2006) sets out goals to reduce emissions by at least 40 percent below 1990 levels by 2030, with this target date subject to change based on measured progress. Thus, it is critical that the General Plan include policies not merely to comply with State requirements but to be part of the California-wide solution.

However, compliance with State laws is only part of the picture. Responding to the potential impacts of climate change is critical to assuring the City remains prepared to address more high heat days, longer heat waves, possible droughts, and changing flooding conditions.

climate impacts

The City's Natural Hazards Mitigation Plan identifies potential risks, including increase severity and recurrences of wildfires, additional flooding hazards resulting from extreme storm events, prolonged droughts, severe heat waves, and warmer nights. See the Wildfire Hazards and Flooding and Dam Inundation Hazards sections for more information and goals and policies related to these topics.

heat waves and drought

Heat waves are characterized as periods of sustained, extreme heat. Severe heat waves can affect sensitive populations such as the elderly residents and lower-income populations who cannot afford air conditioning systems. These events can also cause widespread power outages due to increased use of air conditioning. Heat waves can usually be detected using forecasting instruments so that a warning call can be issued. Heat waves combined with drought and Santa Ana wind conditions can increase the likelihood and severity of wildfires within the Puente Hills.

A drought is a period of unusually persistent dry weather that continues long enough to cause serious problems such as regional water supply shortages. Research suggests that extended drought occurrences could become more pervasive in future decades. Between 1960 and 1990, Whittier averaged 15 inches of observed historical rainfall by season annually. According to drought scenarios, starting in 2050, rainfall could drop down to 10.9 inches annually.

Heat alerts serve as triggers for cities and counties to take preventive action, like opening cooling centers where the public can gather for relief from the heat. Air-conditioning is the number one protective factor against extreme heat, which is an essential health resource for vulnerable populations.

Updating building codes and landscaping laws can increase energy efficiency. It also improves the ability of buildings to provide protection against extreme heat events. For example, green roofs (roofs with plant cover) and strategically located shade trees can reduce indoor temperatures and improve buildings' energy efficiency. Urban forests, including street trees and natural open space areas, can mitigate urban heat islands, thus reducing local air temperatures and cooling down buildings, streets, and sidewalks.

goals and policies

climate adaptation

Goal 8: An adaptive community responsive to changing climate conditions

- PSNH-8.1: Develop a heat response plan to set up systems to predict and communicate with the public about heat events, coordinate response, and designate cooling centers.
- PSNH-8.2: Require the passive solar design of projects to address the possible effects of extreme heat events, such as requiring shade trees and shade shelter areas, shaded playgrounds, bus shelters, and placement of structures that account for proper sun exposure to reduce the heat within structures.
- PSNH-8.3: Encourage use of pavement materials designed to reflect solar energy, speed up evaporation, and otherwise stay cooler than traditional pavements.
- PSNH-8.4: Continue plans to maintain the City's urban forest while expanding efforts to plant additional trees, gardens, and vegetation within neighborhoods and areas with minimal tree canopies.
- PSNH-8.5: Encourage redundant power sources such as generators or renewable energy sources to help assure power is available for increased power needs in heat events and to minimize blackouts.

environmental justice

- **disadvantaged communities**
- **pollution and population characteristics**
- **community health and livability**
- **healthy homes**

Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental regulations and policies implemented by local agencies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations and policies. In Whittier, this definition might apply to neighborhoods with a high concentration of communities of color, pockets of low-income households, a concentration of high poverty neighborhoods, or areas exposed to excessive pollutant loads. Such neighborhoods exist west of Uptown, along western Whittier Boulevard (SR-72), and along the eastern edge of I-605. The discussion here recognizes areas where these challenges occur and identifies approaches to improve the conditions in the neighborhoods and improve the health of their residents.

Equity represents a complementary issue to environmental justice. The fair and equal treatment of all people creates opportunities for all Whittier residents to engage in civic life and benefit from policies and programs aimed at improving individual's health and quality of life.

This Element promulgates health and wellness goals for the entire City but pays particular attention to—and sets targeted policies for—residents in Disadvantaged Communities to:

- Reduce pollution exposure
- Improve air quality
- Provide quality recreational facilities
- Promote access to healthy food choices
- Ensure safe and sanitary homes
- Support physical activity
- Facilitate active engagement in public decision-making processes
- Prioritize improvements and programs that address the needs of Disadvantaged Communities

disadvantaged communities

California law requires local governments to identify any Disadvantaged Communities that exist in their communities and to develop policies and programs aimed at improving environmental and human health conditions in these areas. Indicators used to identify a Disadvantaged Community include a) specific population characteristics and b) environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation. One such approach uses the California Communities Environmental Health Screening Tool called CalEnviroScreen 3.0, developed by the California Environmental Protection Agency for the purpose of identifying Disadvantaged Communities.

Areas of Whittier categorized as Disadvantaged Communities, based on CalEnviroScreen criteria, are shown in Figure PSNH-10. Disadvantaged Communities indicators include pollution exposure, environmental effect, sensitive populations, and socioeconomic factors. Census tracts throughout California are scored based on the indicators shown in Table PSNH-2. A percentile score is calculated for each indicator, from which a composite score is produced. Census tracts that score a percentile score greater than 75 percent (or within the top 25th percentile in California) are considered a Disadvantaged Communities. This score means that the area scored higher in pollution burdens or undesirable population characteristics than 75 percent of the other areas in California. Percentiles scores shown in the following tables identify how each indicator is scored compared to all other census tracts in California and specifically for Disadvantaged Communities in Whittier.

Table PSNH-2: Disadvantage Communities Indicators

Pollution Burdens			
Exposure Indicators	Ozone concentrations in air PM 2.5 concentrations in air Diesel particulate matter emissions Drinking water contaminants Use of certain high-hazard, high-volatility pesticides Toxic releases from facilities Traffic density	**Environmental Effect Indicators**	Toxic cleanup sites Groundwater threats from leaking Underground storage sites and cleanups Hazardous waste facilities and generators Impaired water bodies Solid waste sites and facilities
Population Characteristics			
Sensitive Population Indicators	Asthma emergency department visits Cardiovascular disease (emergency department visits for heart attacks) Low birth-weight infants	**Socioeconomic Factor Indicators**	Educational attainment Housing burdened low-income households Linguistic isolation Poverty Unemployment

pollution and population characteristics

pollution burdens

To identify pollution burdens in a community, CalEnviroScreen calculates and reports the average of exposure and environmental effects. Census tracts 5020.04 and 5021.00 experience the highest percentile scores for all pollution burdens identified in Table PSNH-3. Census tract 5021.00 encompasses the Superfund site (Omega Chemical Corporation), which has contaminated groundwater and forced closure of wells, hence the high score for Cleanup of Contaminated Sites indicator. Additionally, all Disadvantaged Communities census tracts score high in the Toxic Release Inventory pollution indicator. (See the Hazardous Materials section of this Element for more information about Toxic Release Inventory.) Particulate matter—with many constituents constituting health hazards—represents a particular problem across all Disadvantaged Communities.

*Poor air quality conditions are often due to high concentrations of particulate matter. **Particulate matter** is the sum of all solid and liquid particles suspended in air many of which are hazardous. This complex mixture includes both organic and inorganic particles, such as dust, pollen, soot, smoke, and liquid droplets. These particles vary greatly in size, composition, and origin.*

Of these, particles less than 2.5 micrometers in diameter, also known as fine particles or $PM_{2.5}$, pose the greatest risk to health. Vehicle emissions are a common source of $PM_{2.5}$, as are construction activity and fires. During wildfire events, particulate matters in the air increase exponentially near the burn areas.

Table PSNH-3: Pollution Burden Indicator Scores

Pollution Burden Percentiles and Indicators	Census Tracts Identified as Disadvantage Communities (DAC)							
	5010.02	5014.00	5015.04	5018.03	5018.04	5020.03	5020.04	5021.00
Pollution Indicators	79	81	71	80	65	80	91	92
Toxic Release Inventory	92	92	91	90	89	88	88	90
Particulate Matter (PM2.5)	82	82	82	82	82	82	82	82
Hazardous Waste	74	82	64	89	68	88	94	95
Cleanup of Contaminated Sites	50	84	56	92	54	85	94	98
Groundwater Threats	50	80	43	78	38	51	64	90
Drinking Water	88	65	42	42	42	55	74	84

Source: CalEnviroScreen 3.0, the Office of Environmental Health Hazard Assessment, June 2018.

population characteristics

Table PSNH-4 identifies CalEnviroScreen population characteristics indicators related to health conditions and socioeconomic factors. Socioeconomic factors requiring attention in the local low-income populations include lower educational attainment, linguistic isolation, and lower material well-being measured by poverty, unemployment, and housing burden. Cardiovascular disease represents the foremost adverse health condition characteristic across multiple census tracts, with scores above the 87th percentile in all census tracts. Housing burden—largely in terms of spending a high percentage of household income for rent or a mortgage—scores high as well, with six of the eight census tracts having households experiencing monthly housing costs exceeding 30 percent of household income.

Housing Cost Burden: The Department of Housing and Urban Development HUD defines cost-burdened families as those "who pay more than 30 percent of their income for housing" and "may have difficulty affording necessities such as food, clothing, transportation, and medical care." Severe rent burden is defined as paying more than 50 percent of one's income on rent.

An outlier of interest is the high percentile of infant low-birth rate (93rd percentile) in census tract 5021, which is the area immediately adjacent to PIH Heath Hospital and the Superfund site. Babies who weigh less than about five and a half pounds at birth are considered low birth weight. Many factors, including poor nutrition, lack of prenatal care, stress, and smoking by the mother, can increase the risk of having a low birth-weight baby. Exposure to air pollution and drinking water contaminated with lead also are environmental risk factors.

Table PSNH-4: Population Characteristics Indicator Scores

Population Characteristics	Census Tracts Identified as Disadvantage Communities (DAC)							
	5010.02	5014.00	5015.04	5018.03	5018.04	5020.03	5020.04	5021.00
Population Characteristics Summary	67	85	83	85	87	64	80	79
Cardiovascular Disease	98	87	91	98	98	87	97	91
Housing Costs Burden	40	78	80	94	87	80	82	62
Education	54	80	59	78	68	78	85	73
Poverty	30	76	80	85	76	67	67	43
Linguistic Isolation	24	66	59	74	51	57	73	57
Low-Birth Weight	60	62	65	28	81	3	31	93
Unemployment	72	66	56	53	28	49	47	41

Source: CalEnviroScreen 3.0, the Office of Environmental Health Hazard Assessment, June 2018.

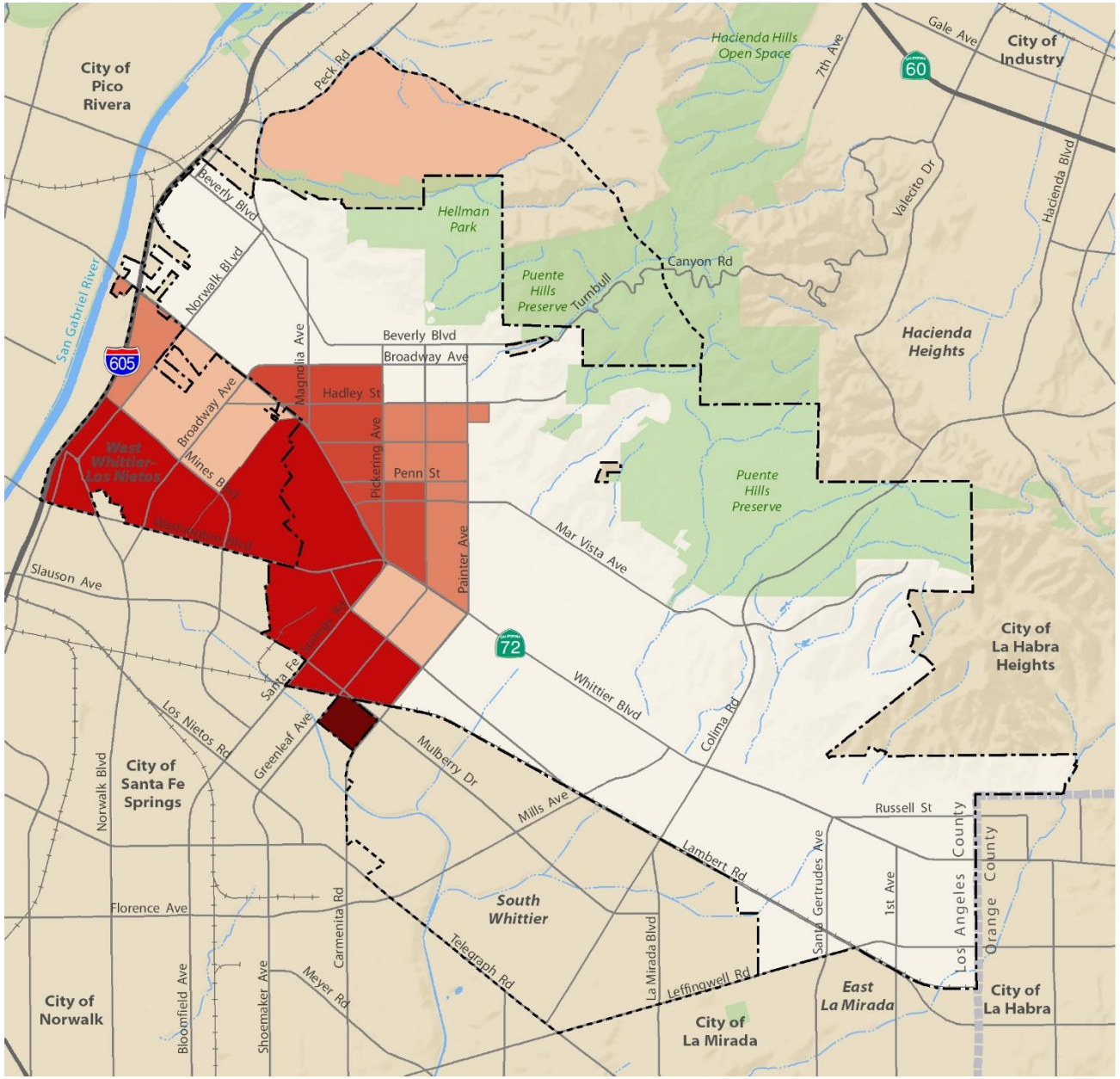

Figure PSNH-10: Disadvantaged Communities

Disadvantaged Communities

CalEnviroScreen 3.0 Results

- 76-80%
- 81-85%
- 86-90%
- 91-95%
- 96-100% (highest scores)

CalEnviroScreen 3.0 uses statewide indicators to characterize both pollution burden and population characteristics. A formula is used to produce a CalEnviroScreen scoring system in which percentiles are averaged for a set of indicators under four components: exposures, environmental effects, sensitive populations, and socioeconomic factors. This map identifies the CalEnviroScreen scoring results.

Base Map Features

- Whittier City Boundary
- Whittier Sphere of Influence
- County Boundary
- Major Streets
- Freeways
- Railroads
- River and Creeks
- Waterbodies
- Open Space/Natural Areas

The City-owned parcel near Whittier Narrows is not included in this map to improve readability.

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community health and livability

Communities across the nation are exploring strategies and programs to address community health, with the overall goal of creating healthier living environments for all residents by creating opportunities for increased physical activity, quality health care, and civic engagement.

Planners and public health professionals recognize the links between how our cities are built and people's health. For example, a city with ample parks and other open spaces provides opportunities for people to exercise. Neighborhoods that have good sidewalks and safe bicycle routes to shops, schools, parks, and restaurants encourage people to use their feet—instead of their cars—for local trips. Land use regulations that encourage community gardens and farmers' markets give residents greater options for and access to healthy foods. Planning policies that create walkable and cohesive communities can improve residents' health and reduce heart disease, obesity, and asthma.

The Housing Element comprehensively addresses community housing needs, from ensuring access to safe, affordable housing for all—including homeless individuals—to eliminating constraints to housing production.

access to parks, open space, and physical activity

Research demonstrates that participating in regular moderate to vigorous physical activity provides many health benefits. Some benefits of physical activity can be achieved immediately, such as reduced feelings of anxiety, reduced blood pressure, improvements in sleep, some aspects of cognitive function, and insulin sensitivity.

Other benefits such as increased cardiorespiratory fitness, increased muscular strength, decreased depressive symptoms, and sustained reduction in blood pressure require a few weeks or months of physical activity. Regular exercise can also slow or delay the progression of chronic diseases, such as hypertension and type 2 diabetes.

In Whittier, the parks, playgrounds, Greenway Trail, and trails in the hills offer many opportunities to be fit and healthy. Nearly two-thirds of Whittier's 23 parks are located within the northwestern portion of the City. As a result, most residents in neighborhoods stretching from Michigan Park to Orange Grove live within a one-half mile walking distance to a park, the distance most people are willing to walk or bike to a park. In contrast, residents in the southeastern neighborhoods of Friendly Hills, Sun Gold, and Whittwood are not within easy walking distance of a park. See the Resource Management Element for discussion of park and recreation facilities in Whittier and City goals to improve access for all residents.