WEST CARSON

TRANSIT-ORIENTED DISTRICT SPECIFIC PLAN

Adopted October 1, 2019

Revised May 2024

County of Los Angeles

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Adopted October 1, 2019

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INTRODUCTION

INTRODUCTION

1.1 OVERVIEW

The West Carson Transit Oriented District (TOD) Specific Plan offers an incredible opportunity to create more engaging and vibrant places by leveraging the community's assets, connecting uses and activities, and attracting future investment. The proximity of the Los Angeles County Metropolitan Transportation Authority's (Metro) Carson Station to numerous community facilities, including the Harbor-UCLA Medical Center (Harbor-UCLA) campus, creates opportunities for improving the built environment and overall community livability. However, there are also challenges that require careful consideration in the planning process.

The West Carson TOD Specific Plan (Specific Plan) will guide future transit-oriented development to create a distinct identity; improve connections and access for all users; and enhance the safety, economic vitality, and overall quality of life for the West Carson community.

The Specific Plan will be used in conjunction with the General Plan and Los Angeles County Code (County Code) to provide more detailed design and development criteria for individual project proposals and public improvements. The plan defines the proposed land use plan, infrastructure improvements, design guidelines, and implementation programs for any proposed project in the Specific Plan area.

What is a Specific Plan?

A specific plan is one of several policy or regulatory tools used by local governments to effectively guide community development. While a general plan sets forth goals, objectives, policies, and programs for the entire jurisdiction, the specific plan does so for a localized area and in greater detail. The authority to create a specific plan is established in the California Government Code sections 65450 through 65457. The law allows, but does not require, planning agencies to prepare and adopt specific plans for the systematic execution of the general plan. According to State law, all specific plans must be consistent with the adopted general plan, and all subdivision and development activity must be consistent with the specific plan.

1.2 COUNTY FOCUS ON TRANSIT-ORIENTED DEVELOPMENT

The County of Los Angeles (County) adopted a strong policy framework in its General Plan for implementing smart growth and providing healthy, livable, and equitable communities. The General Plan identifies several urban and suburban areas with access to major transit and commercial corridors as priority policy areas for infill development. These transit-oriented district priority areas are recognized as areas well suited for higher density housing and mixed-use development surrounding existing major commercial, employment, and civic activity nodes. To spur such development, the General Plan establishes the TOD Program, which provides guidance for the preparation of TOD specific plans (or similar mechanisms) tailored to address the unique characteristics and needs of each community with regards to access, connectivity, pedestrian improvements, and safety.

The West Carson TOD Specific Plan applies to a portion of the unincorporated area in the Second District known as "West Carson." Throughout the planning process, several stakeholders expressed a general disagreement with the area being identified as "West Carson."

Use of the name “West Carson” to identify the unincorporated area covered by this TOD Specific Plan is not intended to establish a precedent. Should the name of this unincorporated area be changed in the future, this TOD Specific Plan would be updated to reflect any modifications accordingly.

These plans serve as policy and implementation tools with the following objectives:

- Increase walking, bicycling, and transit ridership and reduce vehicle miles traveled.
- Facilitate compact, mixed-use development.
- Increase economic activity.
- Facilitate the public investment of infrastructure improvements.
- Streamline the environmental review process for future infill development projects.

While the term "transit-oriented development" commonly refers to individual development projects near transit stations, it does not accurately capture the important relationship between transit stations and their surrounding communities. "Transit-oriented district" (also known as transit-oriented community) is a more fitting term for referring to areas with concentrated residential, commercial, and mixed- use development served by high-quality transit. Providing diverse transportation options in these districts can reduce greenhouse gas (GHG) emissions, increase transit ridership, promote walking and biking, reduce vehicle miles traveled, and facilitate housing and employment opportunities for all residents in the region. It can also improve the performance of the region’s streets, highway, and freeway system. Given the presence of the Harbor-UCLA Medical Center, Carson Station functions as both an origin and destination station that could benefit from the development and improvements that are characteristic of transit-oriented communities.

1.3 PURPOSE & INTENT

The overall purpose of the Specific Plan is to provide comprehensive guidance for development and facilitate implementation of the goals and policies of the General Plan, particularly the vision for TOD priority areas. Its intent is to expand opportunities for compact, infill development that complements and supports the intensification of Harbor-UCLA while respecting the existing neighborhoods. By fostering increased housing and employment options near Carson Street (rapid bus transitway) station, the plan leverages existing local and regional transit services. The Specific Plan lays the foundation for creating a more walkable, transit-oriented area with diverse land uses accessible by multiple transportation modes, including transit, walking, and bicycling.

The Specific Plan not only articulates a vision for the West Carson community, but also presents design guidelines to achieve that vision.

1.4 VISION

The West Carson TOD Specific Plan is shaped by the community's vision for the area's future, leveraging underutilized land as well as the community's desire for a new identity, streetscape and façade improvements, and enhanced pedestrian and bicycle connections. Situated near transportation hubs and major employment centers, West Carson is an ideal candidate for reinvestment and future development opportunities. The Specific Plan establishes the foundation for a vibrant, accessible, and sustainable community by:

- Changing zoning to accommodate new housing and mixed-use development opportunities and provide diverse housing options for residents.
- Focusing on a multimodal transportation approach that prioritizes walking, cycling, and public transit to reduce reliance on personal vehicles and improve overall mobility within the community.
- Creating a distinct identity for the West Carson community that fosters a sense of place and belonging among residents, employees, businesses, visitors, and other stakeholders.
- Providing development flexibility to accommodate changing market demands to ensure long-term viability and resilience in the community.

The following vision statement outlines the anticipated appearance of the Specific Plan area 20 years from now as future development decisions and public improvements are guided by the Specific Plan:

The vision for the Specific Plan area in 20 years reflects a vibrant, accessible, and sustainable community at the heart of the unincorporated area known as West Carson. Harbor-UCLA Medical Center and Lundquist Institute serve as key employment and health care hubs for the area, with new campus expansion and improvements seamlessly integrated into the surrounding neighborhood. A diverse mix of commercial establishments caters to the needs of residents and employees of the area. Enhanced street infrastructure facilitates convenient and safe access to transit stations, employment hubs, shopping centers, and schools. Improved transit service and facilities in the area encourages increased transit ridership and reduces car dependency. New high-quality housing and mixed-use developments replacing aging and obsolete buildings along W. Carson Street and S. Vermont Avenue, inject new energy and

activity along these key corridors. This new housing supports local businesses, provides a range of multi-family housing options, increases property values, and addresses the community's housing needs. Additionally, the incorporation of public open space, such as pocket parks and multi-purpose paths within the Specific Plan area provides much needed green spaces and outdoor recreation areas. The presence of long-time residents and prevalence of home ownership exemplify the community's identity and resilience. By prioritizing sustainability, accessibility, and community well-being, the Specific Plan area flourishes as a dynamic and inclusive place to live, work, and play. This thriving community offers safety, attractiveness, and economic prosperity.

1.5 SPECIFIC PLAN LOCATION

The unincorporated territory of West Carson encompasses about 2.3 square miles of land between the cities of Torrance to the north, Harbor City (City of Los Angeles neighborhood) to the south, Carson to the east, and the cities of Los Angeles and Torrance to the west. The Specific Plan covers approximately 319 acres in West Carson within a half-mile radius of Metro's Carson Station, a bus rapid transit stop along a designated bus lane adjacent to Interstate 110. The Specific Plan area is generally bounded by the 208th Street flood control channel to West Torrance Boulevard to the north, W. 223rd Street to the south, Interstate 110 to the east, and Normandie Avenue to the west as seen in Figure 1.1, Specific Plan Area.

A notable portion (22 percent) of the Specific Plan area is occupied by the Harbor-UCLA Medical Center, a major employment center that draws people from across the Los Angeles region. The Specific Plan area also lies just south of the Harbor Gateway Transit Center, which is a regional transit hub linking the South Bay area to Downtown Los Angeles and other destinations throughout the County. To the west of the plan area is the community planning area known as Harbor Gateway in the City of Los Angeles, and to the east is the City of Carson.

Interstate 110, which runs along the eastern edge of the Specific Plan area, travels north-south for about 32 miles, connecting Pasadena and Downtown Los Angeles to the north with San Pedro and the Port of Los Angeles to the south. This freeway is a principal route for freight transportation from the port of Los Angeles to rail yards and warehouses further inland, which has resulted in a concentration of industrial land uses adjacent to the highway.

The plan area's relation to its regional vicinity is displayed in Figure 1.2, Local Context.

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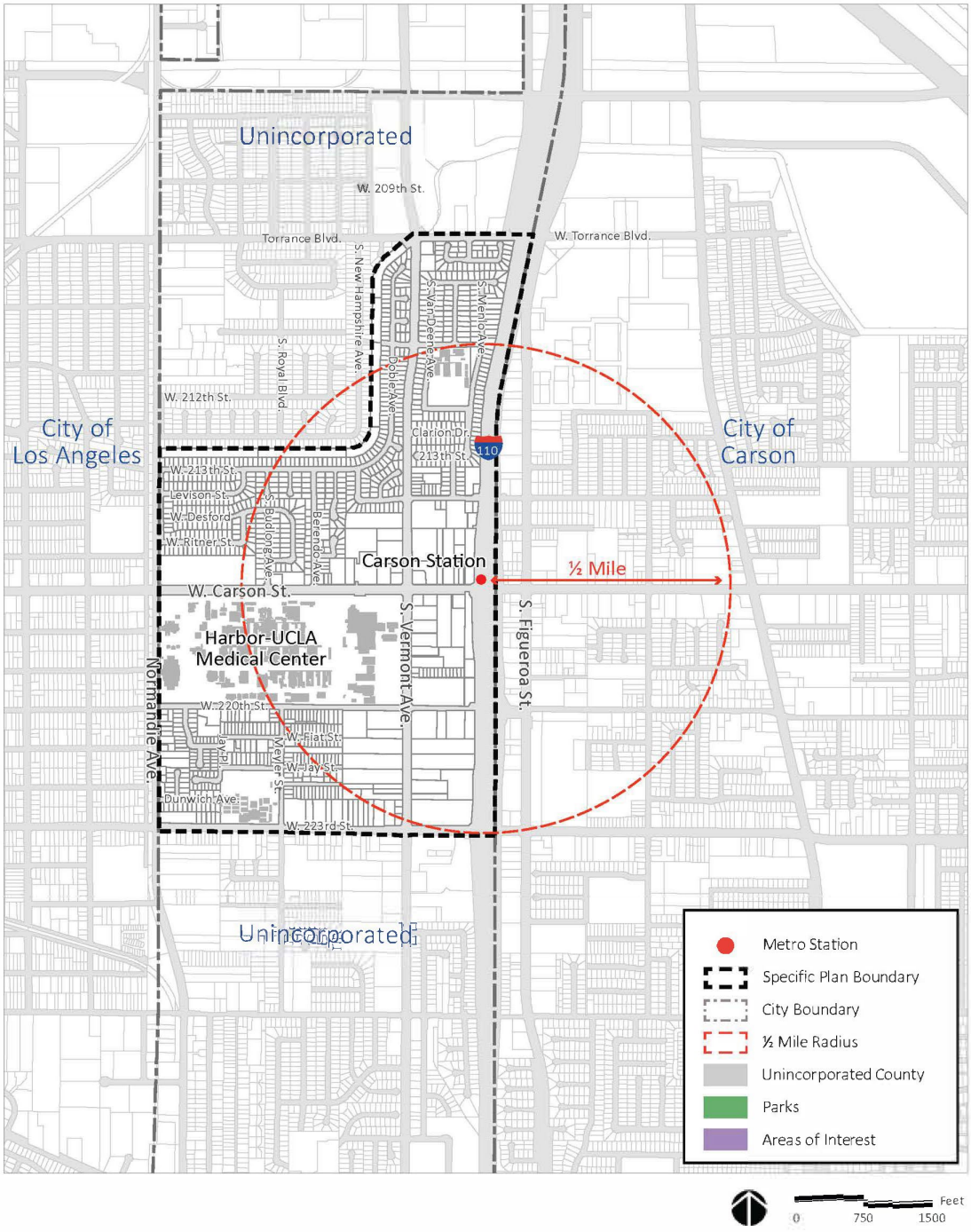
Figure 1.1 Specific Plan Area



1.6 SPECIFIC PLAN SETTING AND BACKGROUND

Currently, the W. Carson Street corridor through the West Carson community is crowded and full of activity—it is a high traffic thoroughfare serving travel needs to Interstate 110, neighboring cities, surrounding neighborhoods, and the Harbor-UCLA Medical Center.

1.6.1 Land Use and Urban Design Character

Central to the Specific Plan area is the Harbor-UCLA Medical Center, which is the activity hub of the West Carson community. Surrounding the campus, particularly along the north side of W. Carson Street and east side of S. Vermont Avenue, are predominantly low-density strip malls and auto-centric businesses. This includes chain fast-food establishments, supermarkets, pharmacies, gas stations, and health-care-related offices. Commercial development in the Specific Plan area is characterized by a mix of large community-serving retailers and smaller stores with varying scale, architectural styles, orientation, lot coverage, and setback from the sidewalks and property lines. On-site parking is generally located either at the front or side of a building and is typically underutilized. Many of the commercial structures are older, poorly maintained, and lack architectural design quality.

Beyond this commercial core, along the northern boundary of the Specific Plan is the “Alpine Village” area. The 14-acre site has been known to host a local “Oktoberfest” festival for several decades due to the presence of historically significant Germanic themed shops along Torrance Boulevard, between Vermont and the 110 Freeway. In 2020, the County designated the shops as a historical landmark. This area presents an opportunity to transition a history of industrial use to resident serving commercial, retail, or community service uses.

South of the Alpine Village, area is made up of primarily residential development in the northern and southern portions, including two public elementary schools. Along S. Vermont Avenue, the primary north-south arterial running through the community, land uses consist of several multi-family housing projects and small areas of light industrial properties, many of which are used for warehousing, distribution, and storage, and small equipment-manufacturing facilities. Very few parcels are vacant in the plan area, and there are no designated public parks within the plan boundary.

1.6.2 Mobility and Parking

West Carson benefits from extensive bus transit services, regional arterial roadways, and the adjacent Interstate 110 freeway. Roadways function well overall, with congestion occurring primarily along W. Carson Street and S. Vermont Avenue near W. Carson

Street. It has main bus transit corridors with multiple bus routes from various local transit agencies and a bus rapid transit station at Interstate 110 and W. Carson Street. On-street parking adequately serves residential and commercial needs, but is constrained along roadways surrounding the Harbor-UCLA Medical Center. Bus shelters lack shading and seating and are perceived as being unsafe due to their proximity to the streets.

Though there is a completed sidewalk network, the overall pedestrian and bikeway network is limited and somewhat disconnected.

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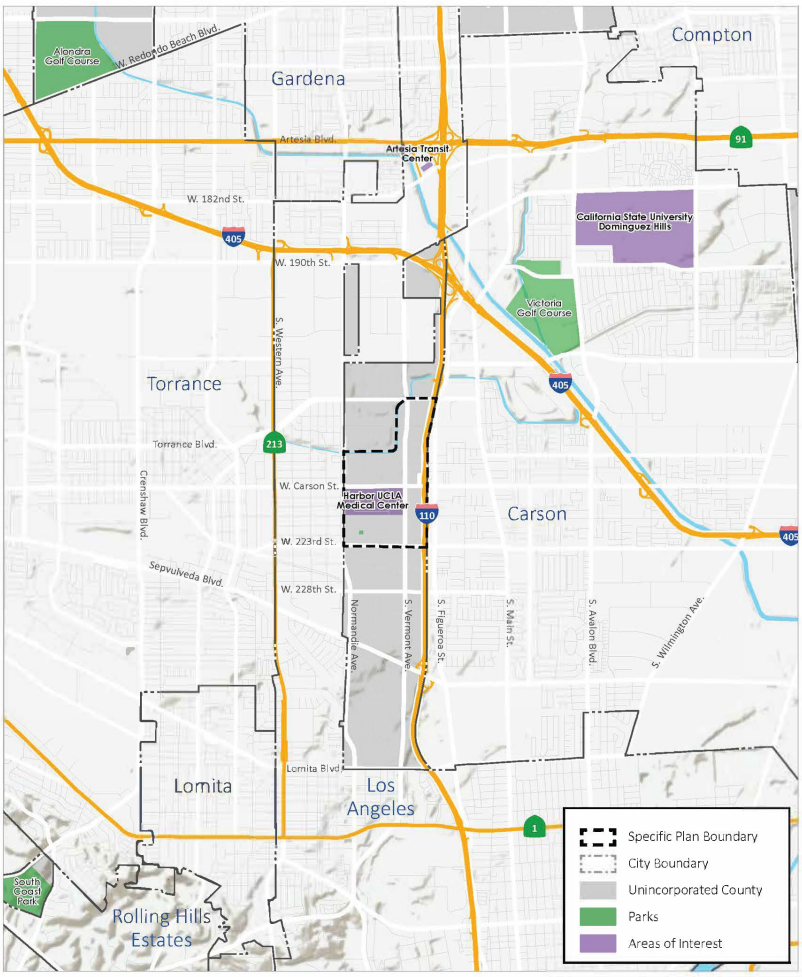
Figure 1.2 Local Context



Example of TOD adjacent to Emeryville, CA transit station.

The current environment feels unsafe, unfriendly, and unattractive to users, which does not promote bicycling and walking.

1.6.3 Infrastructure

Current water supply, sanitary systems, and drainage systems in West Carson are sufficient to serve the existing community. However, solid-waste-processing facilities serving West Carson and the wider Los Angeles metropolitan area lack capacity to adequately handle expected future volumes of solid waste.

1.6.4 Economic Market Conditions

West Carson differs from the County unincorporated area as a whole in several key aspects: It features a proportionally large Health Care sector, a lower unemployment rate, and a higher rate of homeownership.

The Harbor-UCLA Medical Center serves as the largest employer in the Specific Plan area and is also home to the Lundquist Institute for Biomedical Innovation (Lundquist Institute), one of the largest independent, not-for-profit biomedical research institutes in the United States.

In 2022, West Carson reported a lower unemployment rate compared to the County at large. The unemployment rate in West Carson was 6.0 percent, lower than the County's rate of 8.0 percent. Moreover, homeownership in West Carson in 2022 reached 72%, significantly higher than the County’s rate of 46%.

1.6.5 Major Employment Generators

The Harbor-UCLA Medical Center campus is a key economic driver for the West Carson economy and wider South Bay region. Featuring 70 primary and specialty-care clinics, the campus employs around 4,300 staff members and operates with an annual budget of approximately $1.3 billion.

In 2016, the County approved the Harbor-UCLA Medical Center Campus Master Plan (Campus Master Plan) to modernize and enhance the facilities and services offered at the medical center. It includes plans for expanding the campus with nearly 1.2 million square feet[1] of new medical space. This major renovation represents a crucial investment in the Healthcare sector, a significant growth industry within the County.

The Biotechnology industry is also expected to grow as a result of the Campus Master Plan. Lundquist Institute already attracts millions of research dollars each year; vaccines and other medical discoveries originating at Lundquist Institute have already resulted in a number of spin-off companies—including several based in Southern California. Once the Campus Master Plan implementation is complete, Lundquist Institute's aging research facilities will be consolidated into a thriving, incubator space with 225,000 square feet of new facilities.

In addition to Lundquist Institute's research facilities, the County approved the creation of a new 250,000 square foot Bioscience Tech Park to be located on the Harbor-UCLA Medical Center campus. This will be a public/private partnership to develop a $110-125 million facility that would create between 800 and 900 jobs.[2] Until now, however, the lack of a larger "hub" of biomedical research facilities has been a detriment to this sector's growth.

1 County Department of Public Works. Final Environmental Impact Report. December 2016.

2 MyLAnews.com. "LA County Lays Groundwork for Biotech Park at Harbor-UCLA Medical Center." April 28, 2015.

On February 8, 2022, the County approved the Harbor-UCLA Replacement Program, which is designed to implement key components of the Campus Master Plan. This $1.7 billion project is the largest capital improvement initiative undertaken by the County, aimed at introducing state-of-the-art facilities to the Harbor-UCLA campus. The new facilities and their current development status include the following:

- A 9-story, 560,000 square-foot Hospital Building with 347 patient beds is scheduled to commence construction in early 2024.
- A 6-story, 374,000 square-foot Clinic Building that will consolidate existing outpatient care with teaching facilities is currently under construction and is scheduled to open in late 2026.
- A 7-story above-ground parking structure that will add 1,500 parking spaces to the campus is scheduled to open in mid-2024.
- A 29,000 square-foot, full-service regional laboratory is scheduled to commence construction in early 2024.
- A 2-story, 25,000 square-foot support services building with construction substantially complete.
- A 1-story 12,200 square-foot Central Utility Plant is currently in design and is scheduled for completion in mid-2026.
- A 3,000 square-foot east campus 12kV distribution switchgear building is currently in design and is scheduled for completion in early-2026.
- A 1-story 2,900 square-foot 12kV electrical substation building with construction substantially complete.

1.7 RELATIONSHIP TO OTHER RELEVANT PLANS AND PROGRAMS

This section outlines how existing plans and programs have influenced the development of the Specific Plan.

1.7.1 General Plan

The General Plan identifies 11 Planning Areas and provides goals and objectives for all of the unincorporated areas in the County. It designates West Carson as an Opportunity Area for TOD redevelopment and infill. This Specific Plan aligns with the goals and objectives of the General Plan.

1.7.2 Los Angeles County Code

The development standards and regulations applicable to the Specific Plan area are incorporated into Title 22 (Planning and

Zoning) of the County Code. The regulations established for the Specific Plan shall take precedence over conflicting applicable provisions of Title 22. In instances where the Specific Plan regulations do not address certain matters, the applicable provisions of Title 22 will govern.

1.7.3 Los Angeles County TOD Access Study

In February 2013, the Department of Regional Planning (LA County Planning) conducted a TOD Access Study as part of the General Plan in consultation with Public Works and Metro. This study assessed station access capacity and needs within nine proposed TODs throughout the County, including Carson Station. Several recommendations regarding bike facilities were made for the area surrounding Carson Station, and LA County Planning has been working in conjunction with Public Works to incorporate many of those recommended facilities, including Class IV bike lanes and a cycle track.

1.7.4 Harbor-UCLA Medical Center Master Plan

The Harbor-UCLA Campus Master Plan, approved in 2016, aims to transform the existing campus to better integrate its clinical, educational, and research components. The Harbor-UCLA Campus Master Plan envisions significant changes, including improved engagement with W. Carson Street and the surrounding community. One notable feature is the creation of a new pedestrian trail along W. Carson Street and a landscape design that opens the campus to the street. Moreover, the master plan addresses various community concerns such as crime, safety, and sanitation issues related to homelessness. To guide the campus planning efforts, the master plan incorporates the following built-environment principles:

- Creating a more welcoming and accessible environment for patients.
- Enhancing the campus's integration with activity along W. Carson Street.
- Enhancing campus integration with transit-oriented development along S. Vermont Avenue and W. Carson Street.
- Improving the physical relationships between Harbor-UCLA and Lundquist Institute to enhance operational efficiency of the campus.

1.7.5 Other Relevant Regulatory Plans and Programs

Below is a list of other relevant plans and programs that will need to be consulted as the Specific Plan is developed, for any type of development in the plan area.

- **First-Last Mile Strategic Plan** (Metro). This plan contains guidelines and outlines a specific infrastructure improvement strategy, the Metro Pathway, to facilitate easy, safe, and efficient access to Metro transit facilities, including the Carson Street Bus Rapid Transit station. It serves as a resource for agencies in the region working to update programs, land-use plans, planning guidelines, business models, entitlement processes, and other tools that leverage the County's significant investment in the public transportation network. Relevant strategies from the First-Last Mile plan were applied to shape the mobility recommendations for this Specific Plan.

- **Harbor Gateway Community Plan** (City of Los Angeles). This plan contains the land use, circulation, and service systems goals, policies, and programs for the incorporated Harbor Gateway community planning area of the City of Los Angeles, adjacent to the Specific Plan area to the west. It informs land use decisions regarding development.

- **Carson Master Plan of Bikeways** (City of Carson). This plan contains goals, policies, and actions; proposed bicycle infrastructure improvements and programs; funding sources; and design guidelines to comprehensively plan for bicycle transportation throughout the city of Carson, including W. Carson Street adjacent to the Specific Plan area. It was utilized in identifying appropriate bikeway connections from West Carson into Carson.

Example of the integration of bicycles on public transit.

»» **Carson Street Mixed-Use District Master Plan** (City of Carson). This plan contains development standards and design guidelines; public improvement objectives, concepts, and design proposals; and implementation strategies for the proposed mixed-use district on a 1.75-mile section of Carson Street in the City of Carson. The development regulations and streetscape improvements from this plan were considered in preparing the standards for this Specific Plan.

1.8 COMMUNITY ENGAGEMENT

During the planning process for the Specific Plan, LA County Planning staff facilitated community outreach events to gather input and shape the Specific Plan.

1.8.1 West Carson TOD Specific Plan Task Force

The West Carson TOD Specific Plan Task Force played a crucial role in guiding the preparation of this plan. The task force consisted of representatives from various County agencies, including LA County Planning, Public Health, Parks and Recreation, Public Works, the Los Angeles County Development Authority, and the Department of Arts and Culture, as well as other key stakeholders such as the Cities of Carson and Los Angeles, and Metro. Task Force members met quarterly throughout the Specific Plan preparation process to review and provide input at major milestones, and offer feedback on draft documents.

Throughout the planning process for the Specific Plan, LA County Planning staff met with and received input from the following community groups and stakeholders:

»» Harbor City/Harbor Gateway Chamber of Commerce

»» South Bay Cities Council of Governments

»» Harbor City Neighborhood Council

»» South Bay Coalition to End Homelessness

»» Harbor-UCLA Medical Center

»» Van Deene Avenue Elementary School

»» Second District Board Office

»» Del Amo Action Committee

»» Torrance Transit

»» Developers

»» West Carson residents

- Prevention Institute
- LA BioMed (now Lundquist Institute)
- California Department of Transportation (Caltrans)

This collaborative engagement ensured that the Specific Plan incorporated diverse perspectives and addressed the needs and priorities of the West Carson community.

1.8.2 Community Workshops

LA County Planning conducted two workshops on November 17, 2015, and February 6, 2016, to solicit community input regarding the Specific Plan. Attendees included residents, business owners, County staff, and property owners. The following key themes emerged from the workshops:

- Strong desire for pedestrian and bicycle improvements and street beautification.
- Call for improved access and amenities.
- Prefer limited-density mixed-use development along main corridors.
- Interest in beautification of existing commercial development.
- Explore measures to reduce traffic speeds along S. Vermont Avenue.
- Design better gateway and entryway monuments that define the community.
- Improve pedestrian safety and access in proximity to elementary schools.
- Address great need for parks and community space.
- Open parts of the Harbor-UCLA Medical Center campus to the community.
- Redesign Carson Metro J (formerly Silver) Line Station to improve safety and access.
- Address issues related to homeless population surrounding the Harbor-UCLA Medical Center campus.

1.8.3 Developer Surveys

The County distributed a survey to developers in the County-South Bay-West Carson area to gather insights on market strength, potential redevelopment sites, and incentives to attract development in West Carson. The surveys were distributed in written format and yielded

valuable feedback. Key findings from the respondent feedback include:

- The demand for high-density residential housing, up to 200 dwelling units per acre (du/ac), is very strong due to limited multi-family housing stock, though it would require parcel assembly.
- The commercial market in the area is likely overserved and contributes to low rental rates and vacancies.
- The mixed use zones identified in the Specific Plan along W. Carson Street offer good development opportunities.
- Affordable housing projects are likely to receive strong consideration for cap-and-trade funding and special needs/affordable housing subsidies.
- Developers express keen interest in a streamlined entitlement process incentive.

1.8.4 Harbor-UCLA Medical Center Surveys

In May 2016, Harbor-UCLA Medical Center employees participated in surveys focusing on their commuting patterns, housing options, and suggestions for enhancing the Specific Plan area. Over 180 employees responded, providing valuable insights. Key findings from the survey include:

- Most employees commute between two and 10 miles to the medical center, predominantly driving alone.
- Employees cite improved safety at and around the stations, accessibility to the stations, increased frequency and extended service hours, and fewer transfers between transit lines as factors that would encourage public transit use.
- Employees expressed that a larger supply of affordable single-family housing and improved safety in West Carson would encourage them to reside closer to the hospital.
- Suggested improvements for the Specific Plan area include: a wider variety of places to eat and drink, improved landscaping and open spaces, a farmers' market, improved nighttime lighting, measures to address homelessness, a shuttle service, and pedestrian infrastructure enhancements.

1.9 ORGANIZATION OF THE SPECIFIC PLAN

The Specific Plan is organized into the following chapters:

1. **Introduction.** Provides an overview of the Specific Plan's purpose and context, vision for the community, the planning process, and the plan's relationship to other relevant plans and programs.
2. **Implementing Zones.** Identifies the Specific Plan zones and outlines design guidelines that offer recommendations for achieving the desired built environment for the community.
3. **Mobility and Public Realm.** Summarizes the proposed mobility plan, including vehicular, pedestrian, bicycle, transit, and parking networks.
4. **Infrastructure.** Addresses critical infrastructure requirements associated with future development in the Specific Plan area, including water, sewer, stormwater management, solid waste disposal, and public services.

1.10 HOW TO USE THE SPECIFIC PLAN

The West Carson TOD Specific Plan is designed to guide residents, business and property owners, developers, designers, County staff, and elected officials in reviewing proposed development projects within the Specific Plan area. It should be used in conjunction with the goals, policies, and regulations in the General Plan, South Bay Area Plan, and County Code.

02

IMPLEMENTING ZONES

IMPLEMENTING ZONES

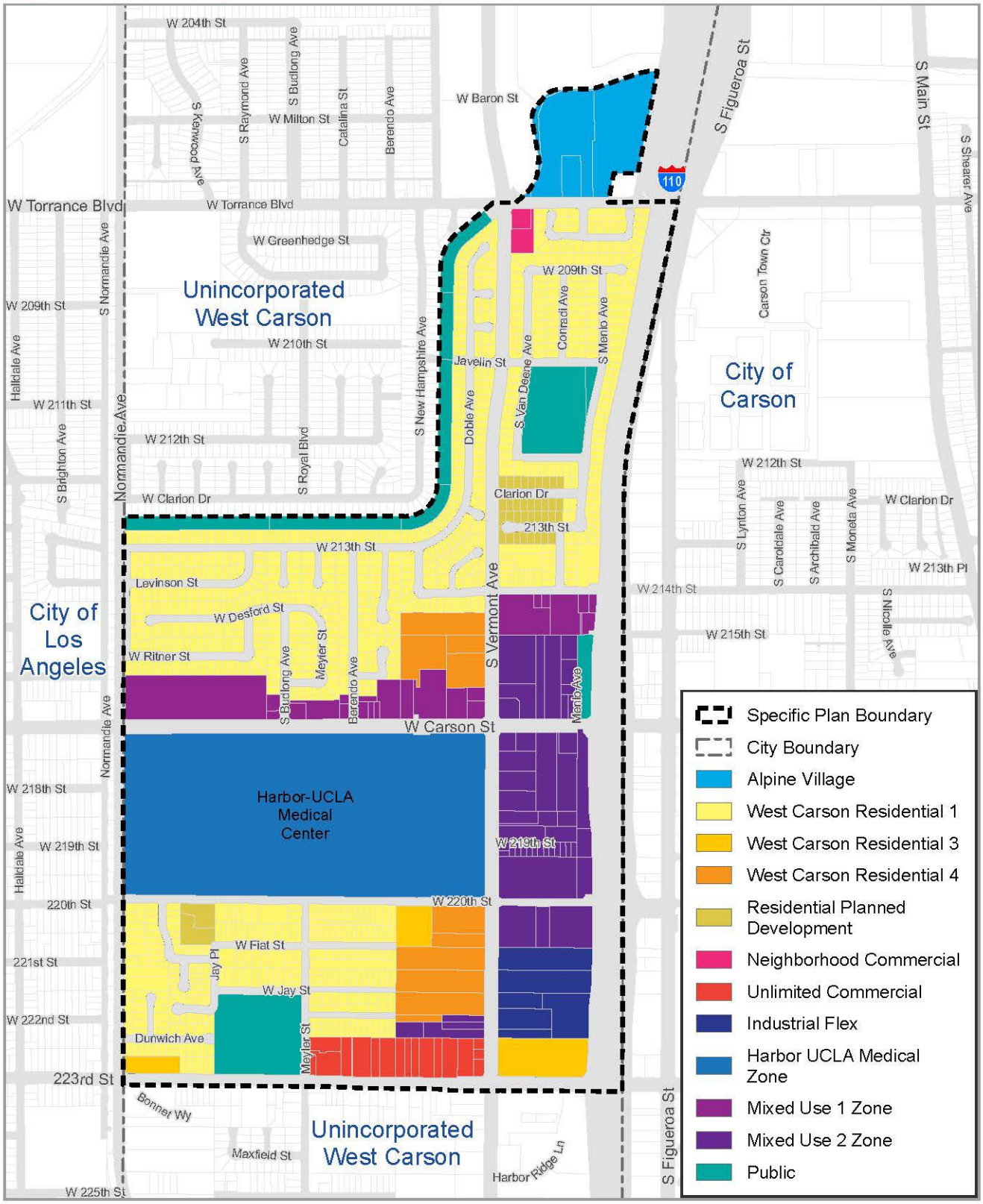
2.1 SPECIFIC PLAN ZONES

The West Carson TOD Specific Plan establishes zoning for parcels situated within the Specific Plan boundary as identified in Figure 2.1. The zones for the Specific Plan area are as follows:

- West Carson Residential 1 (WC R-1)
- West Carson Residential 3 (WC R-3)
- West Carson Residential 4 (WC R-4)
- West Carson Residential Planned Development (WC RPD)
- Neighborhood Commercial (NC)
- Unlimited Commercial (UC)
- Industrial Flex (IF)
- Alpine Village (APV)
- Harbor-UCLA Medical
- Mixed Use 1 (MU-1)
- Mixed Use 2 (MU-2)
- Public (P)

Please refer to Title 22, Planning and Zoning, Chapter 22.414 for land use regulations and development standards for each Specific Plan zone. Design guidelines are contained in Section 2.2, Urban Design Guidelines, of this chapter. While the design guidelines offer guidance and recommendations for achieving desired outcomes, it is the Regulating Code that ultimately governs the development process and ensures compliance with established standards. Note: Figure 2.1, Specific Plan Zones, is included herein for illustrative purposes only.

Figure 2.1 Zoning Framework



2.1.1 West Carson Residential 1 Zone

The West Carson Residential 1 (WC R-1) Zone is designated to preserve the scale and form of the area's existing single-family residential neighborhoods. The WC R-1 Zone provides primarily for single-family detached homes. Please refer to Figure 2.2 for areas designated as WC R-1 Zone.

2.1.2 West Carson Residential 3 Zone

The West Carson Residential 3 (WC R-3) Zone is designated to provide opportunities for medium-density developments containing multiple housing units like townhomes and apartments. The intent is to provide a variety of attached housing types, including courtyard housing, row homes, garden apartments, and podium developments, to serve the needs of the West Carson community. Please refer to Figure 2.3 for areas designated as WC R-3 Zone.

2.1.3 West Carson Residential 4 Zone

The West Carson Residential 4 (WC R-4) Zone is designated to provide opportunities for development of high-density multiple unit housing, including apartments or condominiums. The intent is to promote appealing high-density projects near transit and other services. This zoning designation is also intended to encourage the development of affordable and workforce housing, to meet the needs of the West Carson community, with a focus on supporting Harbor- UCLA Medical Center. Please refer to Figure 2.4 for areas designated as WC R-4 Zone.

2.1.4 West Carson Residential Planned Development Zone

The West Carson Residential Planned Development (WC RPD) Zone is designated to allow flexibility in design and development of residential properties. The intent is to promote residential amenities beyond those expected under conventional development, encourage well-planned neighborhoods through creative and imaginative planning, and provide for appropriate use of land to accommodate unique physical characteristics or other circumstances of the land to warrant special methods of development. Please refer to Figure 2.5 for areas designated as WC RPD Zone.

Figure 2.2 West Carson Residential 1 Areas

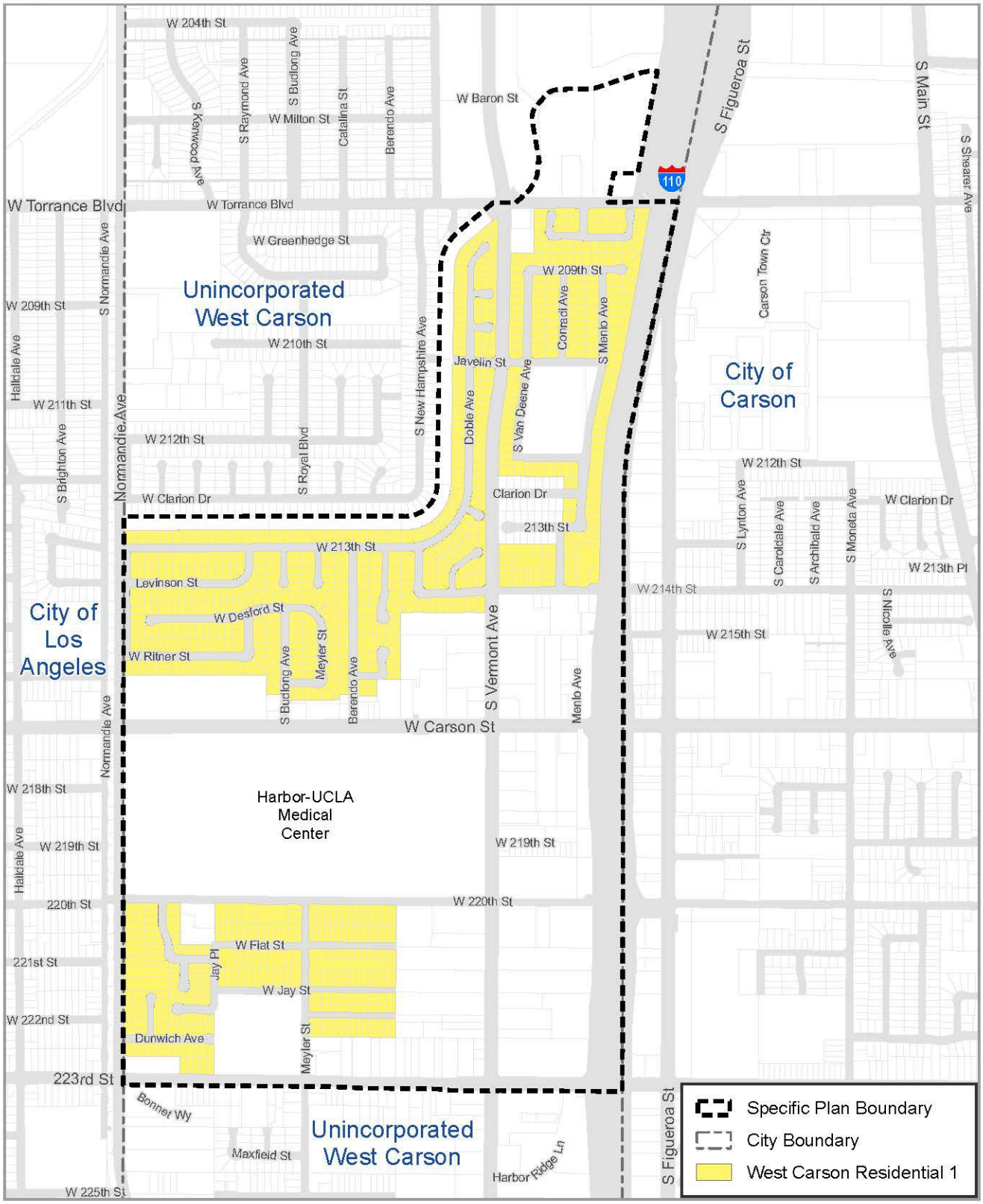


Figure 2.3 West Carson Residential 3 Areas

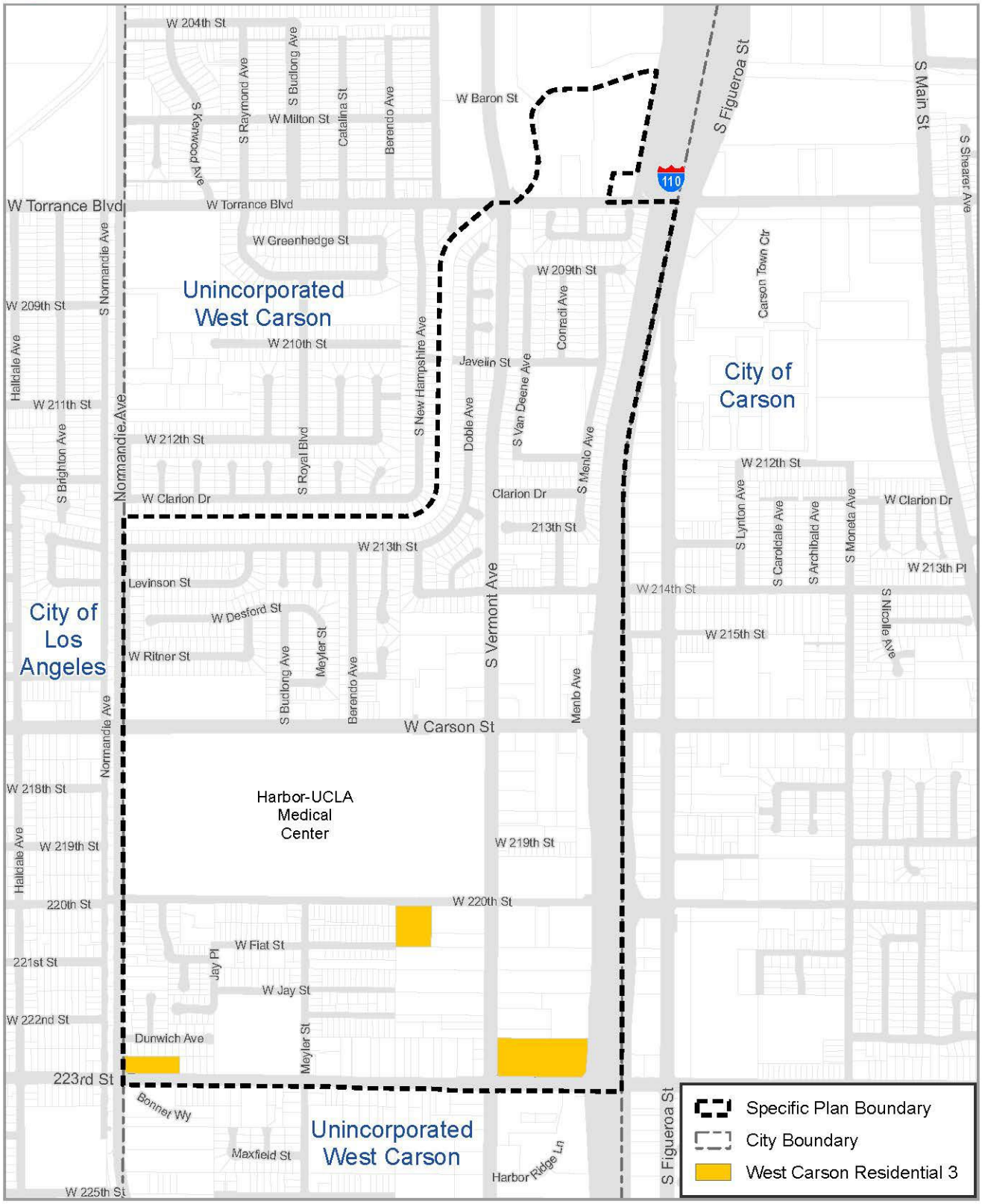


Figure 2.4 West Carson Residential 4 Areas

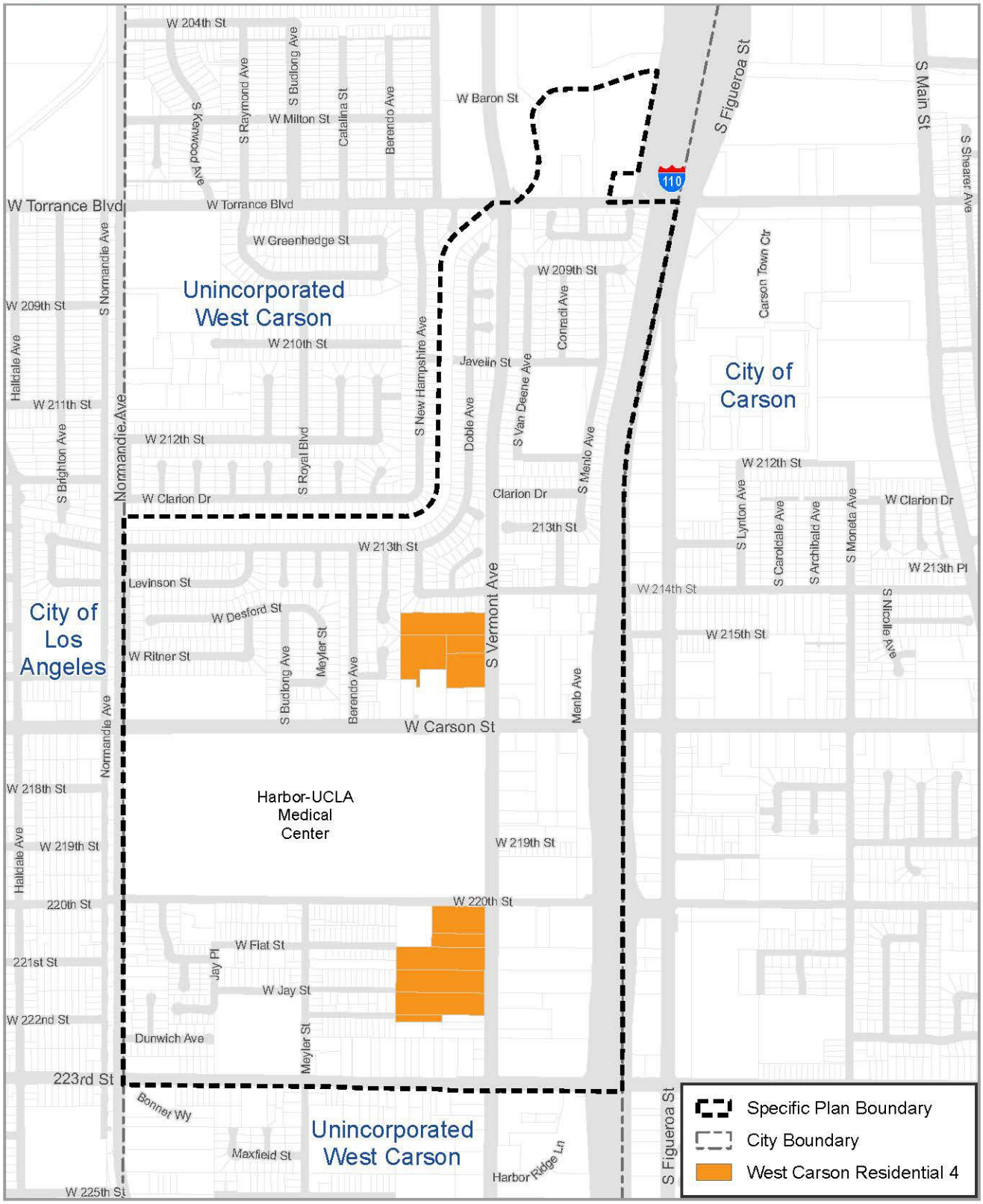
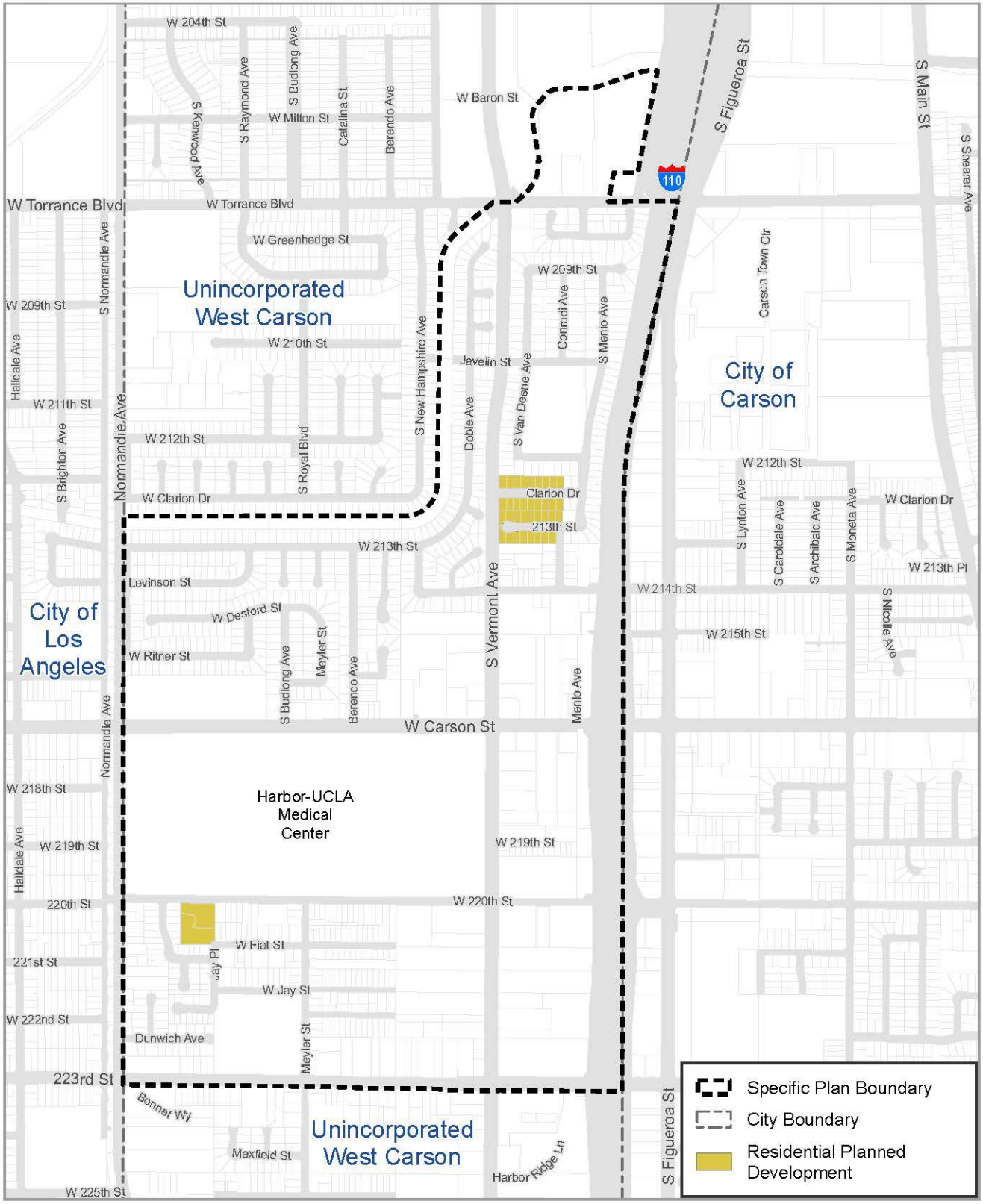


Figure 2.5 Residential Planned Development Areas



2.1.5 Neighborhood Commercial Zone

The Neighborhood Commercial (NC) Zone is designated to provide a range of neighborhood-serving retail and service establishments to meet the needs of residents in West Carson. Please refer to Figure 2.6 for areas designated as NC Zone.

2.1.6 Unlimited Commercial Zone

The Unlimited Commercial (UC) Zone is designated to promote a diverse range of retail, personal, and professional services, as well as multi-family housing development within a well-designed and walkable environment, while ensuring compatibility with adjacent land uses. Given its proximity to the elementary school and single-family neighborhoods, multi-family housing development is allowed in a stand-alone or mixed-use configuration. Please refer to Figure 2.7 for areas designated as UC Zone.

2.1.7 Industrial Flex Zone

The Industrial Flex (IF) Zone is designated to accommodate non-industrial and non-residential uses, such as commercial and office, where appropriate. This zone acknowledges the transition occurring in the West Carson community from traditional small-scale light industrial uses to a broader range of uses to serve the community. These include service commercial establishments, professional and medical offices. Over time, the IF Zone will facilitate a more compatible transition to the existing single-family and multi-family residential areas. Please refer to Figure 2.8 for areas designated as IF Zone.

2.1.8 Alpine Village Zone

The Alpine Village (APV) is designated to address the complexity of the historically significant area known “Alpine Village” in West Carson. This zone is designed to accommodate light industrial uses while transitioning the area to non-residential uses, such as commercial, retail, and other community serving uses. This zone acknowledged the transition occurring in the West Carson community from traditional small-scale light industrial uses to a broader range of uses to serve the community. Over time, the APV Zone will facilitate a more compatible transition to the existing single-family and multi-family residential neighbors to the west and the south.

2.1.9 Harbor-UCLA Medical Zone

The Harbor-UCLA Medical Zone is designated to support the existing and future needs of the Harbor-UCLA Medical Center campus while ensuring compatibility with adjacent land uses.

This zone works with the Harbor-UCLA Campus Master Plan, which seeks to maintain, enhance, and expand various facilities such as hospitals; clinics; medical offices; research and development centers; community-serving amenities; and associated supportive uses such as transitional housing, incidental retail, parking, and public open spaces. Additionally, the Campus Master Plan incorporates transportation infrastructure enhancements to improve mobility and connectivity within the campus and surrounding community. Please refer to Figure 2.9 for areas designated as Harbor-UCLA Medical Zone.

Figure 2.6 Neighborhood Commercial Areas

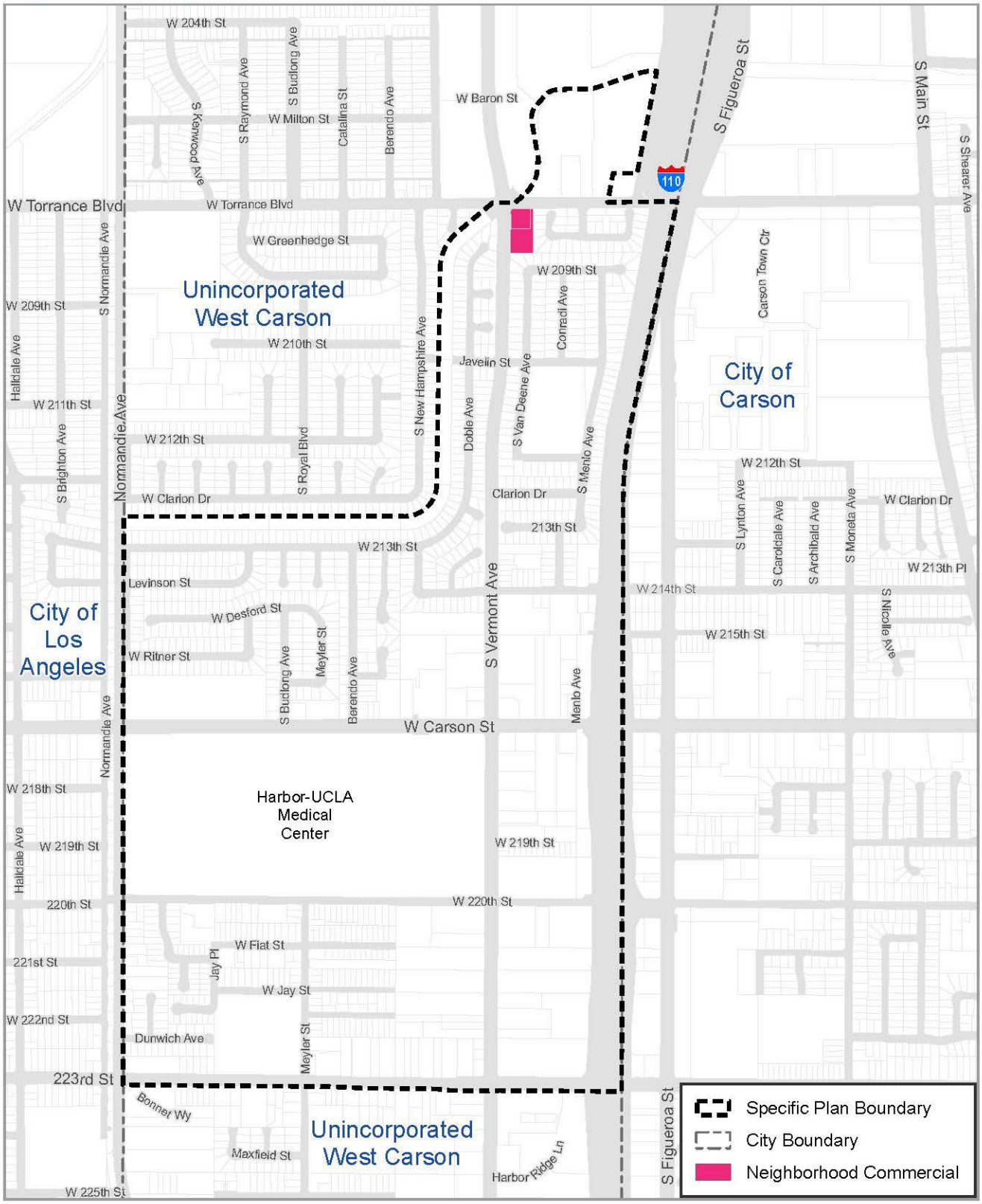


Figure 2.7 Unlimited Commercial Areas

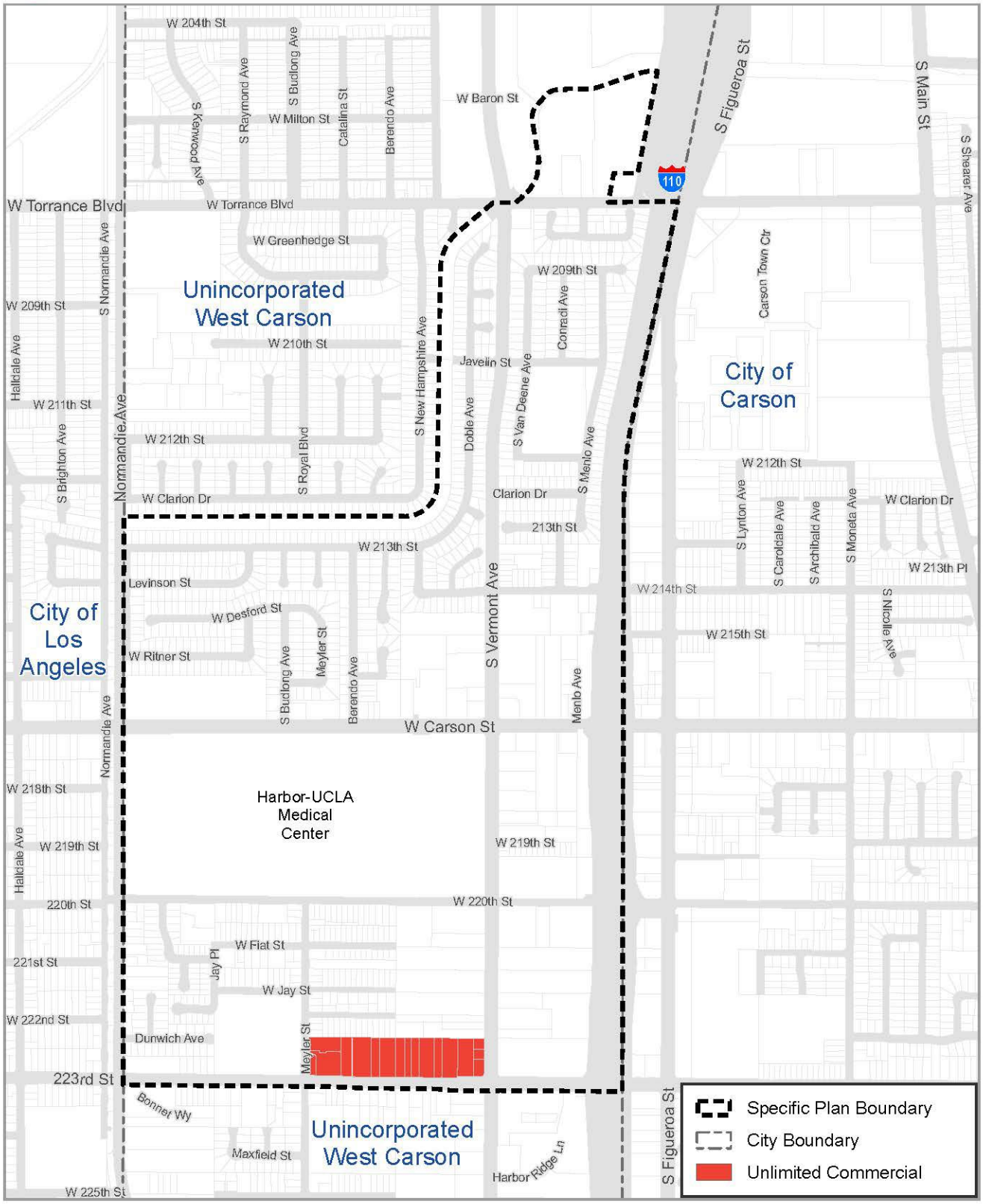


Figure 2.8 Industrial Flex Areas

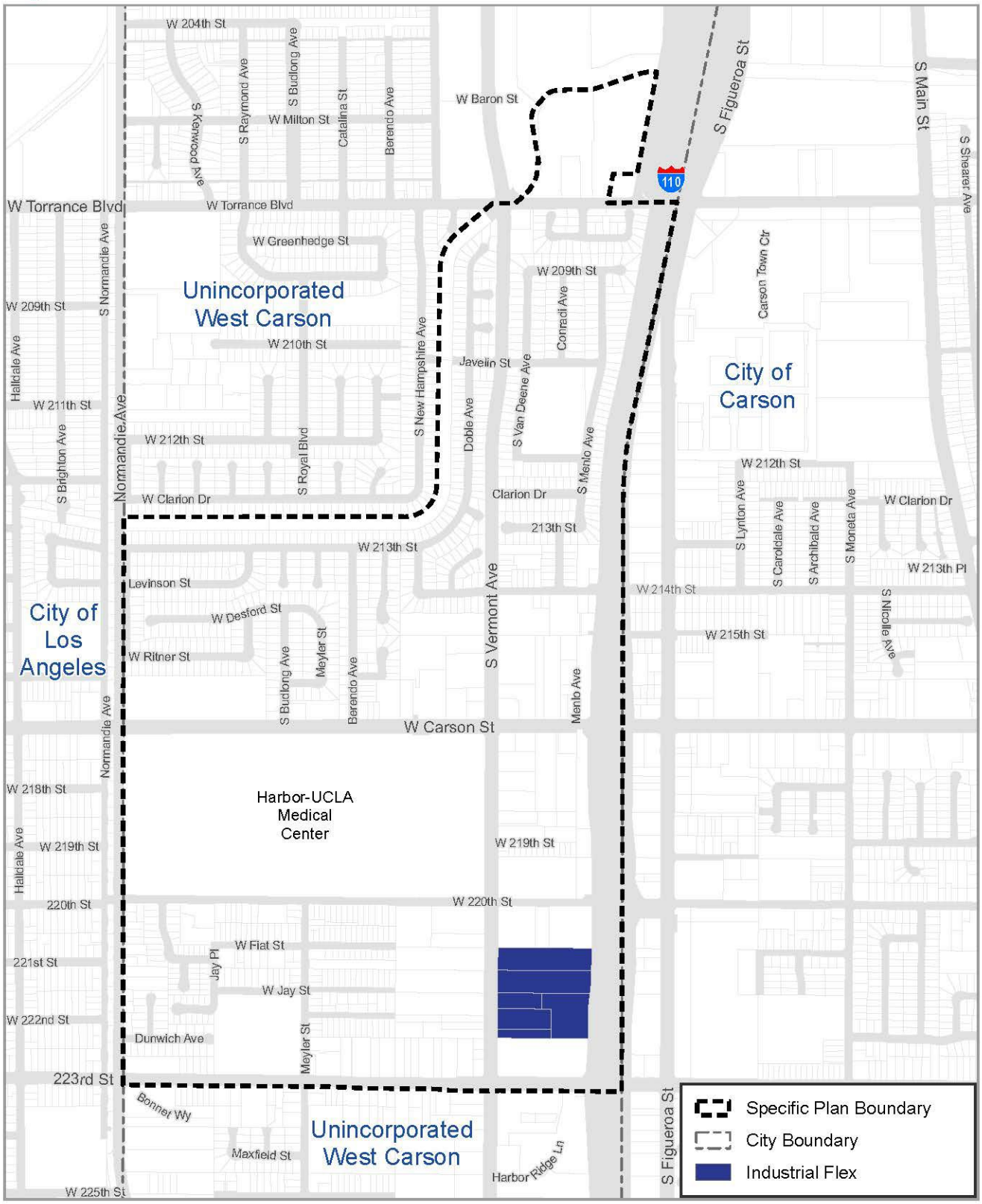


Figure 2.9 Alpine Village

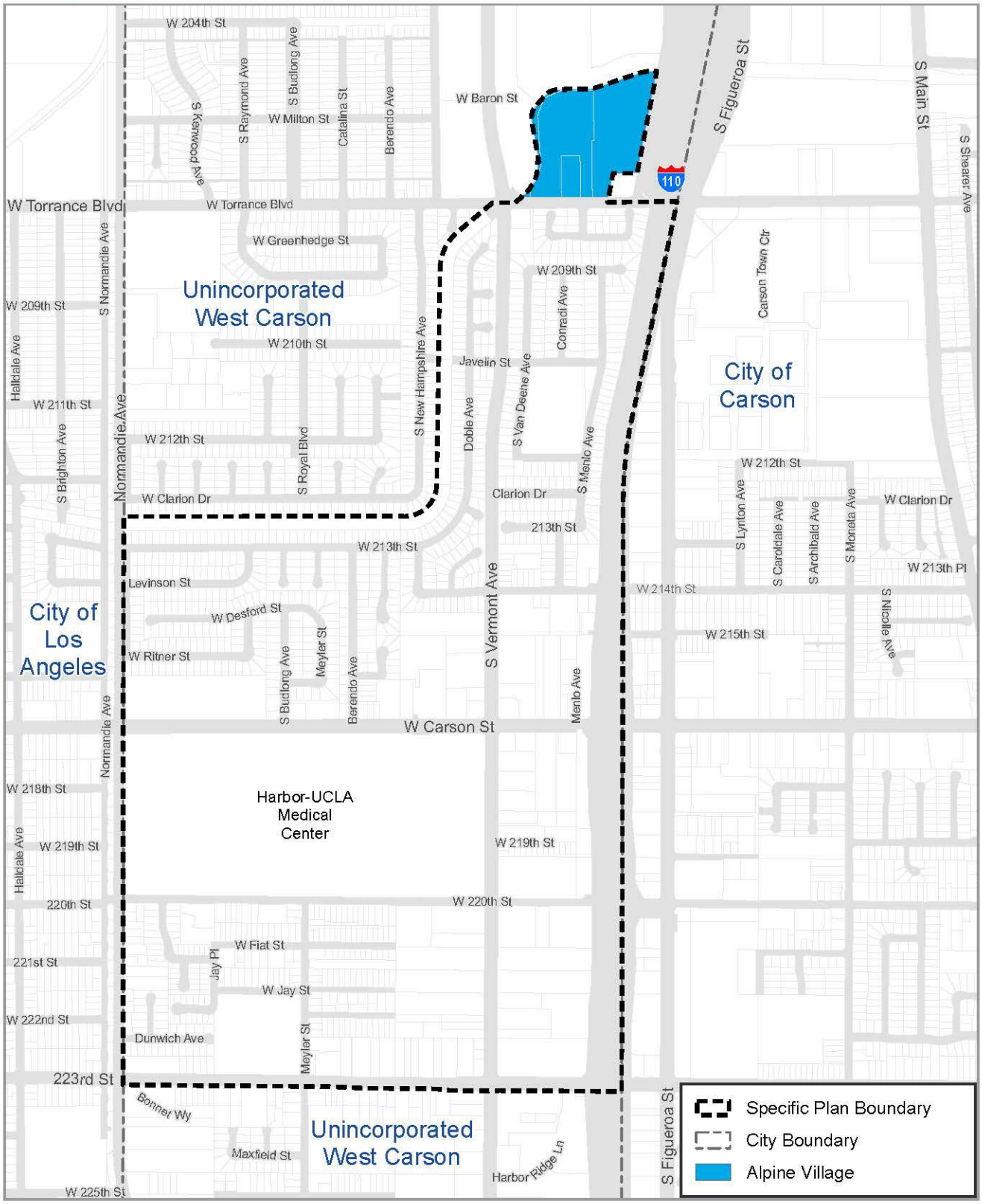
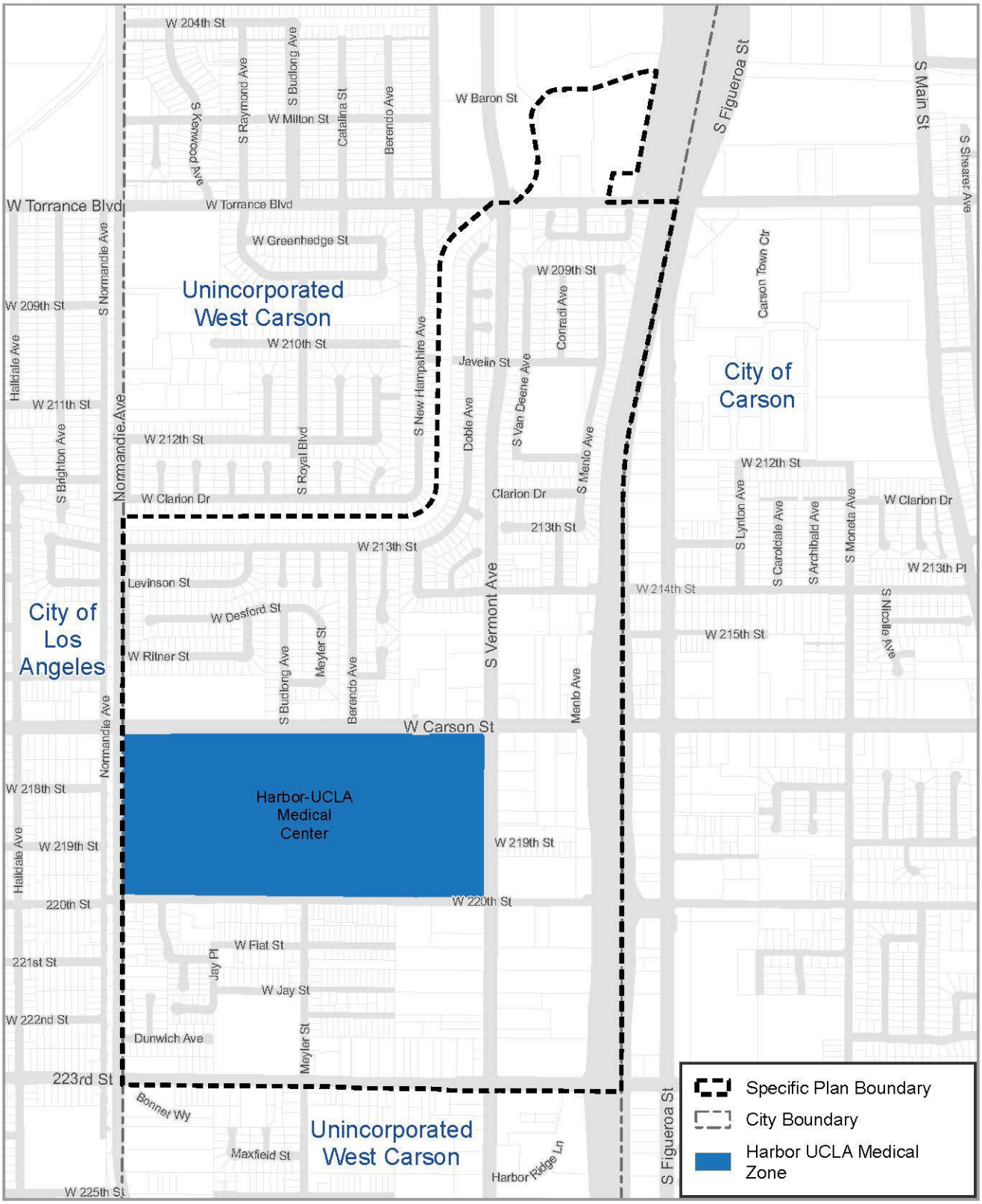


Figure 2.10 Harbor – UCLA Medical Zone Areas



2.1.10 Mixed Use 1 Zone

The Mixed Use 1 (MU-1) Zone is designated to promote mixed-use developments that integrate residential, office, and commercial spaces, with a focus on serving the neighborhood and the medical campus with retail, restaurants and services. Uses can either be developed in a stand-alone or vertical mixed-use configuration. This zone allows for developments of various scales, including retail or mixed-use centers, multi-family housing units, and private/public open spaces. Additionally, it prioritizes strong bicycle and pedestrian connections to the Carson Street Station, medical campus to the south, and the broader West Carson community. Please refer to Figure 2.10 for areas designated as MU-1 Zone.

2.1.11 Mixed Use 2 Zone

The Mixed Use 2 (MU-2) Zone is designated to facilitate the development of a transit-supportive environment characterized by a diverse mix of higher-intensity retail, office, restaurant, and residential developments in a compact, walkable layout. This zoning encourages various types of multi-family housing, either as a stand-alone or mixed-use configuration. The development standards and design requirements prioritize vital private/public open spaces, bicycle and pedestrian connections to the Carson Street Station and medical campus to the west, and proximity to the Interstate 110 freeway. The MU-2 Zone is intended to promote community redevelopment through higher-intensity, transit-supportive infill development. Please refer to Figure 2.11 for areas designated as MU-2 Zone.

2.1.12 Public Zone

The West Carson Public (P) Zone is designated to accommodate various established public uses, including schools, parks, 208th Street Drain channel, the Carson Street Transit Station park-and-ride, and other public facilities. This designation is intended to promote the use of publicly owned land for community open space, connection, and recreational activities. Please refer to Figure 2.12 for areas designated as P Zone.

Figure 2.11 Mixed Use 1 Areas

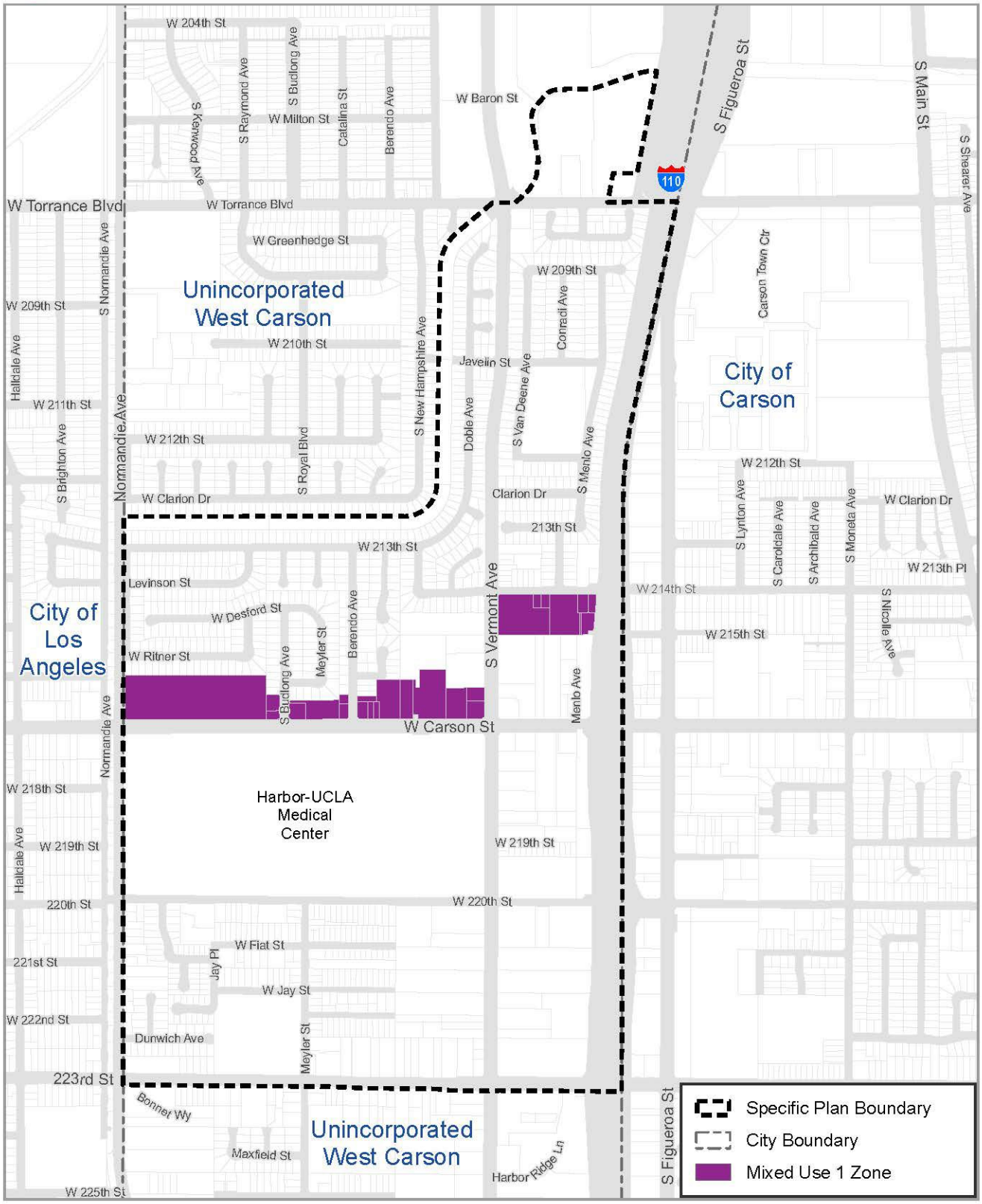


Figure 2.12 Mixed Use 2 Areas

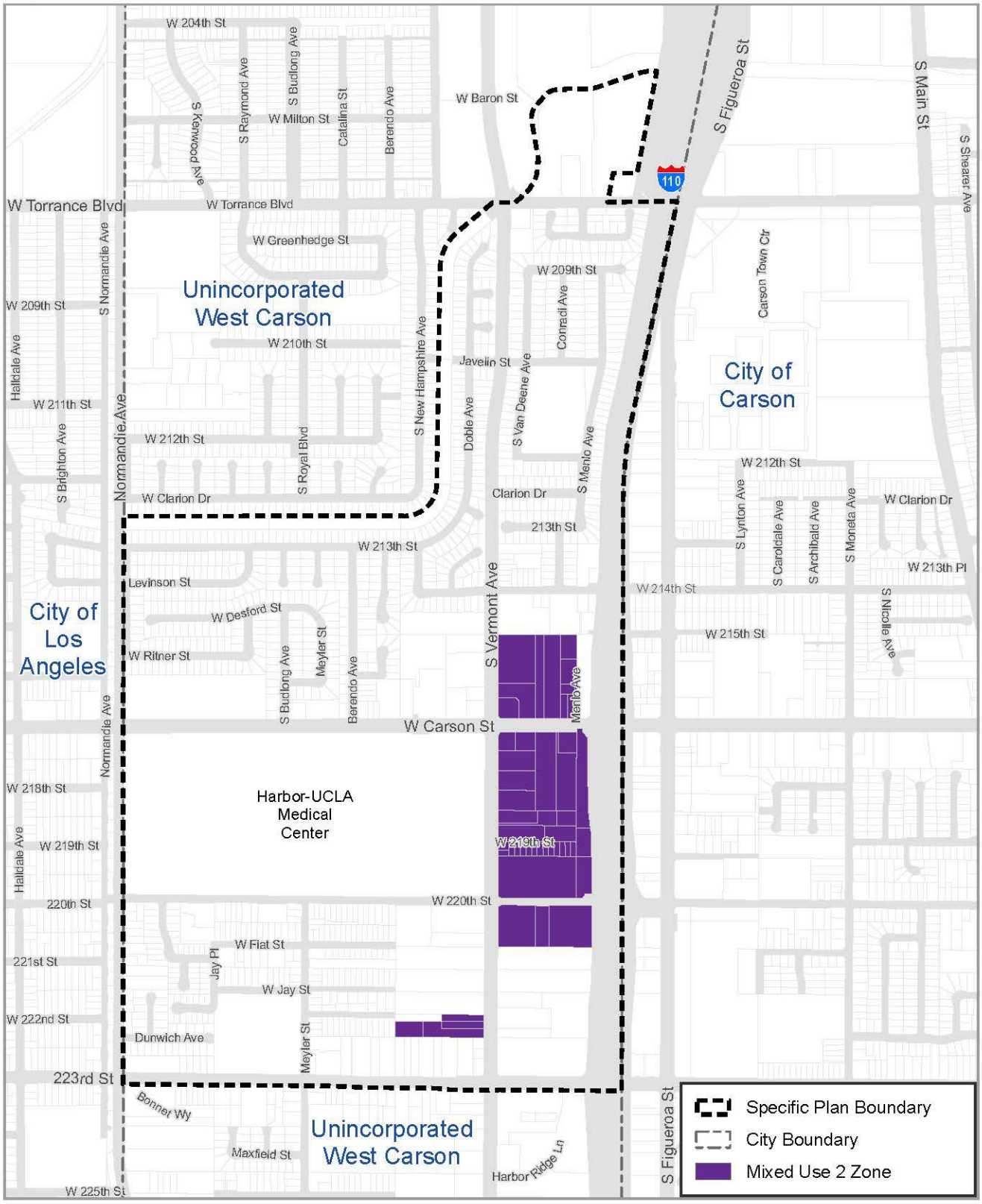
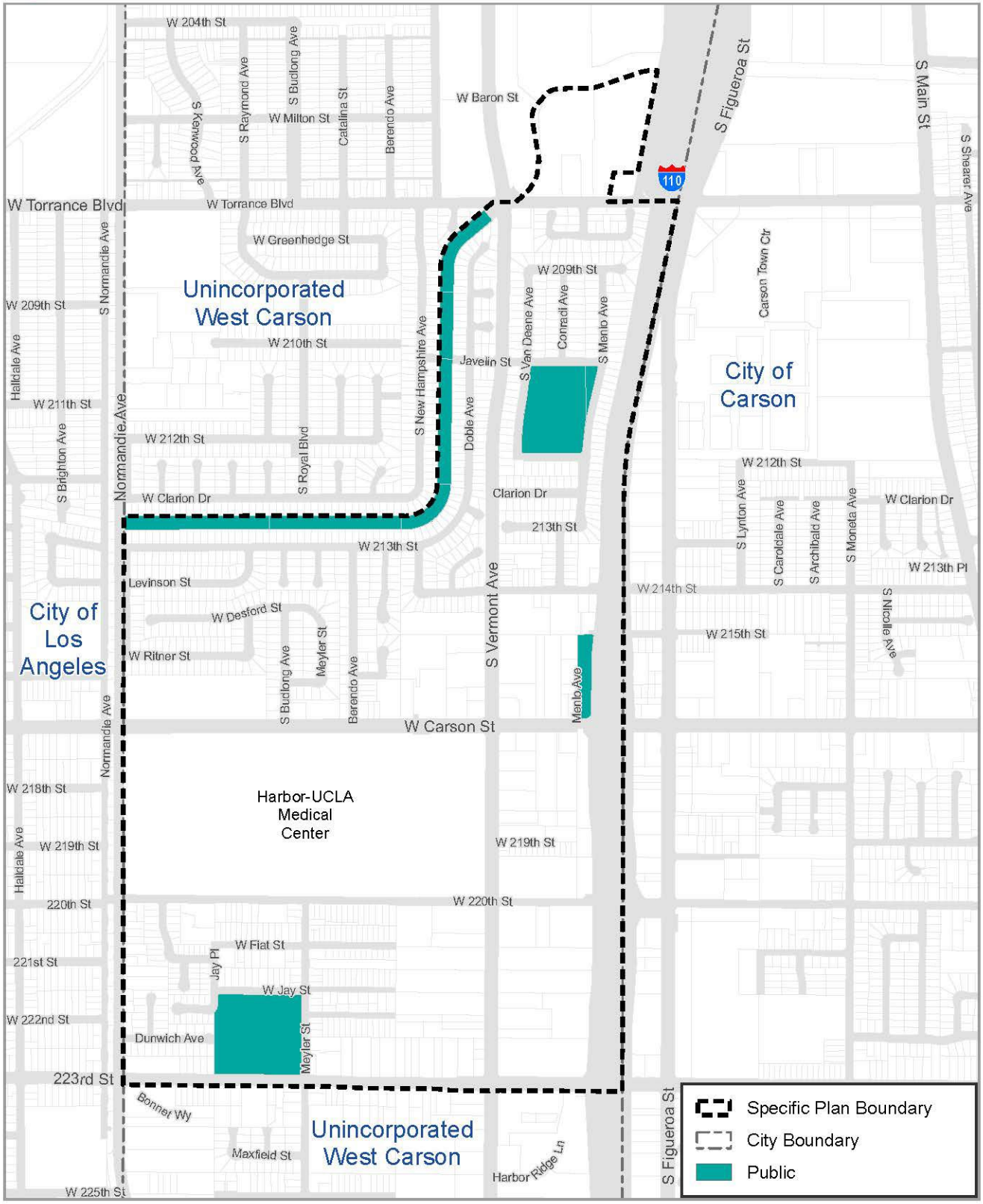


Figure 2.13 Public Zone Areas



2.2 URBAN DESIGN GUIDELINES

Design plays a crucial role in bringing the vision for West Carson to life. The layout of the blocks, site design, architectural character, outdoor spaces, landscaping, and views collectively contribute to a "sense of place" that is unique to West Carson.

The purpose of these guidelines is to provide direction for a comprehensive approach to high-quality design specific to West Carson. These are provided in addition to the development standards outlined in Chapter 22.414 of Title 22 of the County Code. These guidelines do not impose a particular architectural style in the area; rather, they encourage innovative design features and site-appropriate architecture that is constructed with quality materials and complemented by landscape, open spaces, and connectivity between uses. These guidelines are recommendations that are advisory in nature.

2.2.1 Site Design

Site design is an important process critical to any development that may occur in the Specific Plan area. The resulting site plan determines the placement of buildings, access points, and the overall layout of structures and spaces in relation to each other and adjacent off-site uses. All new projects should incorporate the following recommended guidelines into their site design.

Example of buildings in relation to the public realm.

2.2.1.1 Building Placement and Orientation

Building placement and orientation significantly influence the way people perceive a developed site and interaction with local conditions such as views, wind patterns, and sun movements. Buildings that are visually appealing and are oriented towards the street shape character of the area and enhance the visitor experience. Placing parking behind buildings, positioning buildings closer to public street edge, and locating a majority of active ground-floor uses along the same frontage all contribute to creating an inviting environment for pedestrians.

Example of a parking structure with architectural and screening features.

»» Buildings should be oriented to maximize energy efficiency, capturing daylight, minimizing heat gain, and taking advantage of prevailing breezes for natural ventilation.

2.2.1.2 Site Access

»» Dead-end driving aisles should be avoided.

2.2.1.3 Parking Structures

»» Parking structures should incorporate shaded structures or photovoltaic arrays on the top deck to reduce heat island effects.

»» Parking structures should incorporate usage technology to assist visitors and minimize the time spent searching for a space.

Example of a public space created as part of adjacent development.

2.2.1.4 Service & Loading Areas

- Where feasible, access to service and loading areas should be provided from a secondary or service road.
- To minimize noise impacts on adjacent properties, service and loading areas should be located away from residential properties or have restricted hours of use.

Example of a primary and secondary building frontages.

2.2.2 Building Design

This section provides guidelines for the design elements of a building that contribute to creating an engaging public realm, including building frontage treatment, façade design and composition, colors and materials, windows and doors, and roofs. Architects are encouraged to innovate while maintaining awareness of appropriate height, massing, variety, and quality of materials to ensure architectural integrity. It is important to note that specific design standards related to building design are detailed in Title 22 of the County Code. Architects should consider the guidelines and incorporate the recommendations presented in this section alongside the requirements specified in Title 22 to ensure compliance and enhance the overall quality and cohesiveness of the built environment.

2.2.2.1 Frontages

This Specific Plan identifies permitted ground-floor frontage types per applicable street type along W. Carson Street, S. Vermont Avenue, and W. 223rd Street. Title 22 provides design standards for each frontage type to ensure that proposed development relates to the street and meets community design objectives. These frontages dictate the relationship between the street (back of right-of-way) and the façade of the ground floor of the building.

Example of a building aligned with the right- of-way.

Guidelines for frontage types that are established for the Specific Plan area are provided below. Tables 2.1 to 2.6 on subsequent pages outline the purpose of each frontage type and offer guidelines for their application to the building façade and street front.

Table 2.1 Shopfront Frontage Type

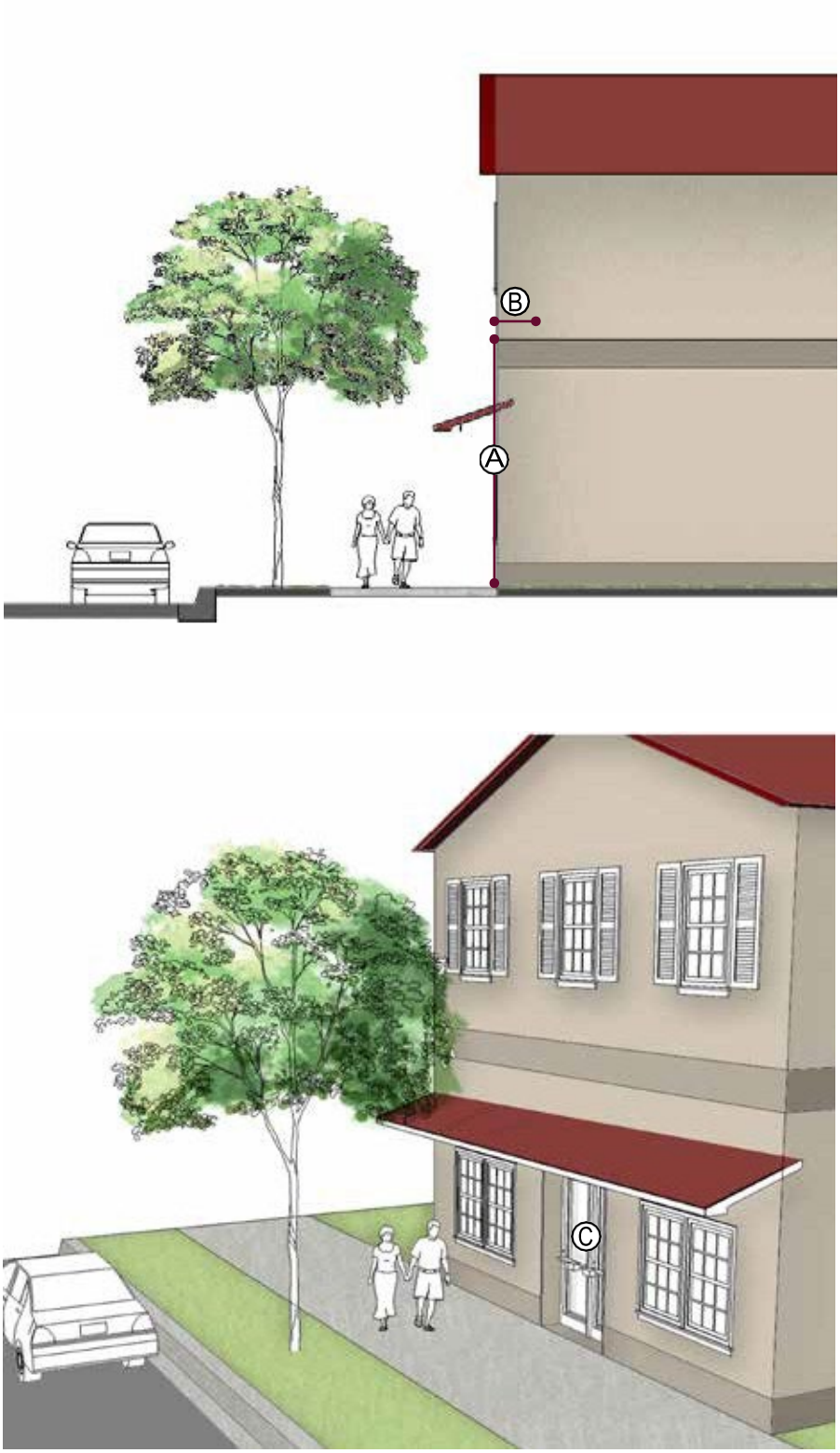
SHOPFRONT FRONTAGE
DESCRIPTION
A shopfront is a type of frontage wherein the building façade and entrance are at sidewalk level, close to the pedestrian zone. Typically, shopfronts feature large transparent openings and doors with cantilevered roof(s) or awning(s). They are designed to provide direct access from sidewalks and are oriented to showcase ground-level commercial uses. This frontage type is conventional for commercial use. It can be used in conjunction with terrace and/or forecourt to enhance the street environment.
GUIDELINES
While a wide range of shopfront designs are possible, the following guidelines are recommended: a. The shopfront should provide clear views of merchandise displays. b. A base of similar or visually "heavier" materials than the walls is recommended below display windows. c. Doors should be substantial, well detailed, and match the materials, design, and character of the display windows.

Example of shopfront frontage type.

Example of shopfront frontage type.

Example of shopfront frontage type.

Figure 2.14 Shopfront Frontage Type



Images for illustrative purposes only.

Table 2.2 Forecourt Frontage Type

FORECOURT FRONTAGE
DESCRIPTION
A forecourt is a frontage wherein a section of the building façade is recessed from the primary building façade. This space may be used as an entry court and open space for residential uses, or as additional shopping or seating areas for commercial uses. Forecourts with large trees and lush landscaping offer visual and environmental variety to the urban streetscape. This frontage type is suitable for both residential and commercial uses. It allows for a combination of uses, such as using the forecourt as a residential entrance while commercial spaces occupy the street-adjacent building space. Forecourts can also be paired with shopfronts and stoops to create a transition into residential frontages.
GUIDELINES
While a wide range of forecourt designs are possible, the following guidelines are recommended: a. The proportions and solar orientation of the forecourt should be considered for user comfort. Canopies of large trees within the forecourt may overhang into the pedestrian zone. b. A fence or wall at the property line can define the private space of the court and should comply with Section 2.2.3, Public Realm Design, below. c. Entrances and pedestrian "gateways" may be announced with posts or pilasters, and may be combined with trellises, special landscaping, decorative lighting, public art, or other special features.

Example of forecourt frontage type.

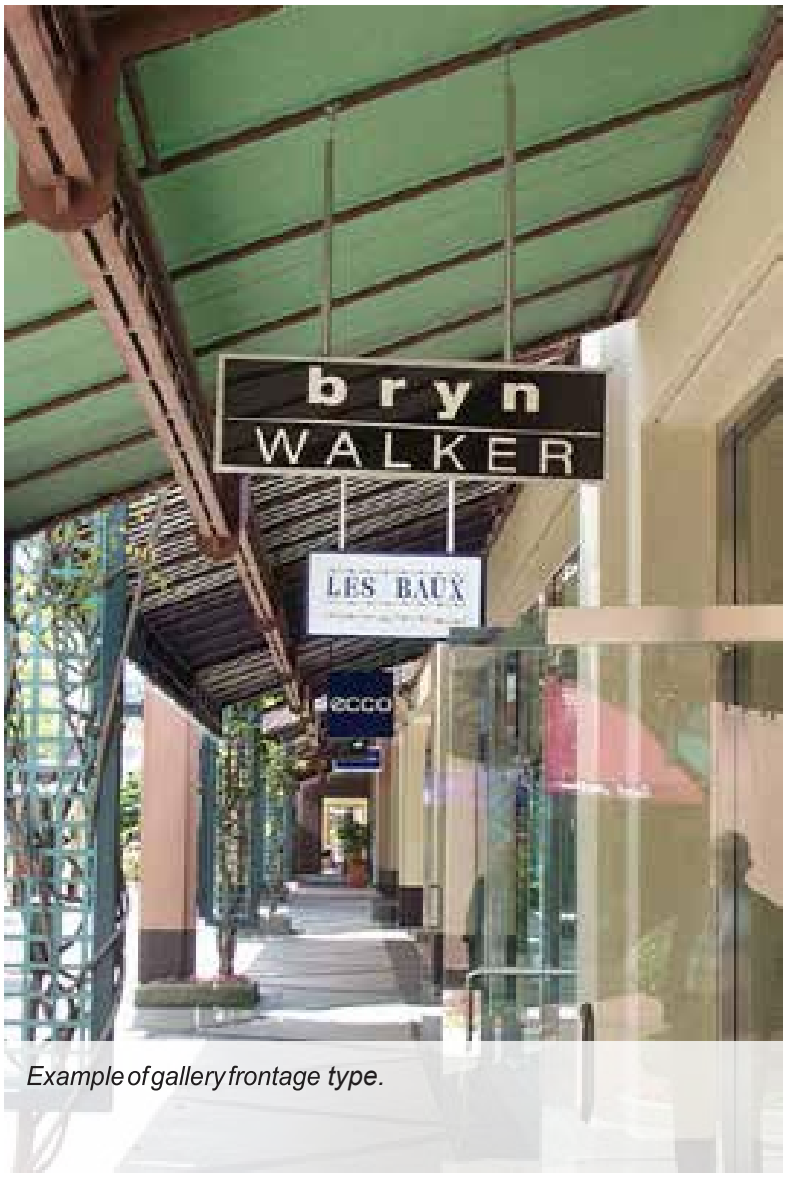
Example of forecourt frontage type.

Figure 2.15 Forecourt FrontageType

Images for illustrative purposes only.

Table 2.3 Gallery Frontage Type

GALLERY FRONTAGE
DESCRIPTION
A gallery is a frontage wherein the building façade features an attached, cantilevered shed or a lightweight colonnade overlapping the sidewalk. The colonnade may support a roof or balcony above, with balconies potentially used for outdoor dining. The gallery covering the sidewalk provides pedestrian shelter and creates opportunities for covered outdoor dining. This frontage type is conventional for commercial use.
GUIDELINES
While a wide range of gallery designs are possible, the following guidelines are recommended: a. Galleries should align with adjacent galleries and/or arcades to the extent possible. b. The height and the proportions of the gallery should correspond to storefront openings and the building façade consistent with the architectural style of the building. c. Soffits, columns/arches should be treated consistent with the architecture of the building. d. Entrances should be at sidewalk grade. e. The pedestrian zone sidewalk and gallery frontage should be consistent in design and material.



Example of gallery frontage type.

Table 2.4 Arcade Frontage Type

ARCADE FRONTAGE
DESCRIPTION
An arcade is a frontage wherein the building façade is aligned close to the pedestrian zone with a colonnade recessed into the building. The colonnade supports habitable commercial or residential space above. The colonnade covering the sidewalk provides pedestrian shelter and opportunities for covered outdoor dining. This frontage type is conventional for commercial use.
GUIDELINES
While a wide range of arcade designs are possible, the following guidelines are recommended: a. Arcades should align with adjacent galleries and/or arcades to the extent possible. b. The height and the proportions of the arcade should correspond to storefront openings and the façade consistent with the architectural style of the building. c. Soffits, columns/arches should be treated consistent with the architecture of the building. d. Entrances should be at sidewalk grade.

Figure 2.16 Arcade Frontage Type

Images for illustrative purposes only.

Example of arcade frontage type.

Images for illustrative purposes only.

Table 2.5 Terrace Frontage Type

TERRACE FRONTAGE
DESCRIPTION
A terrace is a frontage wherein the building façade is set back from the street, paseo, or open space, by an elevated open area that is paved or planted. This frontage type can effectively buffer building uses from the sidewalk. This type is recommended for residential and commercial use as it allows for semi-private use of frontage areas.
GUIDELINES
While a wide range of terrace designs are possible, the following guidelines are recommended: a. Terraces should be raised to transition into the building but maintain ADA access.

Figure 2.17 Terrace Frontage Type

Example of terrace frontage type.

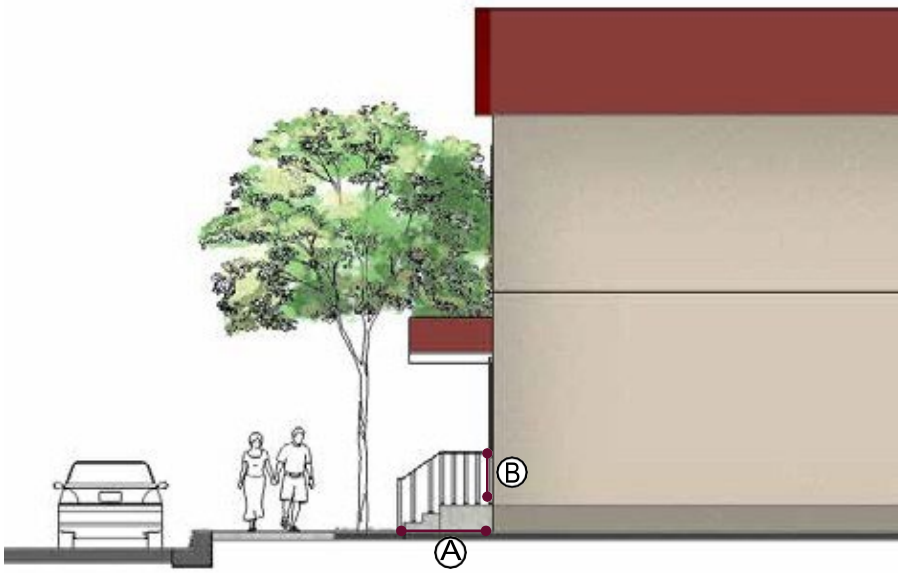
Example of terrace frontage type.

Images for illustrative purposes only.

Table 2.6 Stoop Frontage Type

STOOP FRONTAGE
DESCRIPTION
A stoop is a frontage wherein the building façade is separated from the street, paseo, or open space by an entrance to the elevated ground floor of the building. The entrance is usually an exterior stair and landing and may be covered. This type is recommended for ground-floor residential use as it facilitates a transition onto more residential frontage.
GUIDELINES
While a wide range of stoop designs are possible, the following guidelines are recommended: a. Stoops should be raised to transition into the building. b. Building façade may be set back the depth of the entry stair from the sidewalk. c. The stoop may include a covered roof, awning, or door inset within the building front.

Figure 2.18 Stoop Frontage Type



Images for illustrative purposes only

2.2.2.2 Corner Treatment

- Special attention should be paid to the architectural style and detail of buildings at prominent intersections, including display windows, façade materials, colors, art features, rooftop elements, and stepbacks.
- Corner buildings along major roadways such as S. Vermont Avenue, W. Carson Street, Torrance Boulevard, W. 223rd Street, and Normandie Avenue, should incorporate vertical elements like towers, spires, domes, etc., to serve as a landmark and orientation point.

Example of a corner architectural treatment.

2.2.2.3 Building Entrances

- Each individual storefront entrance should be clearly defined and distinct from others.

2.2.2.4 Scale, Mass, and Articulation

Building massing refers to the overall shape and form of a building, including its size, scale, orientation. It encompasses how various building components are organized and articulated to create its architectural form. This includes considerations of height, width, depth, volume, and the arrangement of elements such as floors, wings, and towers. For example, a building can have a taller mass in one wing, step down in another wing, and have a tower that emphasizes its entrance—all of which is achieved by modeling its massing. Building massing can be used to frame public spaces, step down to adjacent uses, and provide architectural variety. It is generally more interesting to see multiple buildings with a variety of heights and massing rather than a uniform large building block.

- A variety of roof forms and heights can be used to enhance the visual appeal of the building and reduce its overall mass. Roof forms should match the overall architectural style of the building.

Example of a clearly defined and distinct building entrances.

Example of a building with massing that creates architectural variety.

Example of a building façade with a distinct base and varying treatment to breakup building mass.

2.2.2.5 Façades

Façade generally refers to a building's external wall that faces a public street or open space. The design and composition of façades involves the arrangement of architectural elements, such as doors, windows, balconies, caps, and pilasters, on the walls of buildings. The façade and ground floor of a building are the most visible components seen by pedestrians, bicyclists, and motorists.

- The highest level of architectural detailing should be focused along the building's ground-floor façade or any area visible from the public realm.

Example of architectural detailing at the street level.

2.2.2.6 Awnings, Canopies, and Marquees

Encroachments such as awnings, canopies, and marquees are encouraged, but it is important to ensure that they are well designed and proportioned to minimize adverse impacts on the sidewalk environment, as required by Title 22. Canopies and awnings are encouraged along all retail street frontages.

2.2.2.7 Architectural Lighting

- Lighting should enhance a building's form and enhance the pedestrian experience at night.
- Internal and external storefront lighting should be designed for ground-floor retail and restaurant spaces to augment the pedestrian space.
- Use warm white light where possible. Colored lights should be avoided except when they are integral to a comprehensive architectural lighting theme in commercial areas or establishments.

Example of architectural lighting that enhances the pedestrian experience.

Example of the use of color and material to create a modular façade.

Example of the use of colors and materials that are consistent with an overall architectural theme.

Example of an electric vehicle charging station.

2.2.2.8 Colors and Materials

The selection of colors and materials for buildings is fundamental in shaping the aesthetic appeal of streetscapes and the visual character of urban spaces when applied in harmony with façade design. Quality materials not only enhance longevity and durability but preserve the quality of the public realm.

- »» Architectural style and materials can vary slightly for mixed-use projects to differentiate between residential and commercial portions.
- »» All sides of a building should be finished appropriately to provide continuity. Backs of buildings may use more utilitarian materials provided they are compatible with the overall design.

2.2.2.9 Windows, Doors, and Balconies

Windows, the main source of natural light and fresh air into buildings, should be designed to maximize the amount of light entering and to facilitate natural ventilation.

- »» For residential buildings, windows should be of high quality and afford a shadow line as well as depth. This may be achieved through inset windows with an integral frame or insetting the window into the exterior wall.

2.2.2.10 Roofs

- »» The incorporation of green roofs, living plants and growing medium atop a conventional roofing system is encouraged.

2.2.2.11 Green/Sustainable Building Design

- »» Energy efficient, non-toxic, and recycled-content building materials should be used whenever possible, such as EPA "Energy Star" labeled windows.
- »» Natural lighting should be utilized where possible to maximize daylighting and reduce cooling and heating requirements.
- »» In new development, incorporate zero emission and electric vehicle charging stations in parking areas.
- »» Where feasible, use recyclable and sustainable building materials in new development.

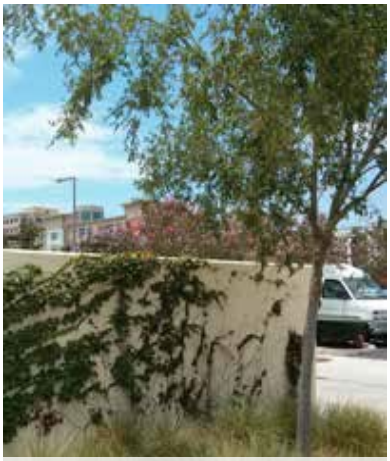
Example of landscaping in the public realm.

2.2.3 Public Realm Design

2.2.3.1 Landscaping

In all zoning areas, landscaping must conform to the landscape standards contained in Chapter 22.414 of Title 22. For matters not addressed in Chapter 22.414, Title 12 (Environmental Protection), Title 22 (Planning and Zoning), and Title 31 (Green Building Standards) of the County Code shall apply. Additionally, the following guidelines offer further specifications that complement the standards outlined in the County Code:

- Permeable surfaces should be used where feasible, and lawns should be limited to areas that serve a functional purpose.
- Landscaping should be used to highlight building façades; screen less attractive elements; add color, texture, and visual interest; provide shade; and define the spatial organization of the site.
- Bio-filtration and bio-retention measures are encouraged to slow and treat stormwater runoff.



Example of landscaping used as a screening element.

2.2.3.2 Screening: Fences, Walls, and Gates

All provisions of the County Code shall apply to the construction of walls, fences, and hedges in the Specific Plan area. Additionally, the following guidelines offer further specifications that complement the development standards outlined in Chapter 22.414:

- If fencing is required for security reasons in the front yard, wrought-iron-style fences that do not obscure views are encouraged.
- To prevent defacement, walls and fences should be enhanced with landscaping elements such as trees, vines, and other greenery.

Example of outdoor lighting located at all building entryways.

2.2.3.3 Outdoor Lighting

- Lighting fixtures should be designed at human scale and ensure they are located at all building entryways, parking areas, seating areas, transit stops, open spaces, and pedestrian paths.

2.2.4 Special Treatments: Transit Station Areas & Gateways

Key intersections and gateways hold significant importance due to their prominent locations and sensitive relationship to the public realm. Special attention to the treatment of buildings and the public realm at key locations can greatly enhance their character and establish a distinct identity within the community.

Opportunities for improvements exist along major corridors and entry points in the Specific Plan area, including S. Vermont Avenue, W. Carson Street, Torrance Boulevard, W. 223rd Street, and Normandie Avenue.

- Buildings located at key gateways and intersections should be oriented and designed to emphasize the corner as a node of activity and architectural prominence. Strategies for creating exemplary projects at these locations include:
  - Incorporating tower elements to create a prominent massing feature.
  - Establishing entry plazas on corner sites.
  - Implementing distinct changes in the building volume at the primary entry.
  - Integrating prominent landscape features, such as tall trees.
  - Implementing unique building lighting for nighttime effect.
  - Installing public art installations that reflect and enrich the community theme.
- Buildings should serve as iconic representations of the community character.
- Trademark buildings (franchise architecture) should be prohibited if they are not consistent with other design principles established in the standards outlined in Chapter 22.414 of Title 22.

03

MOBILITY AND PUBLIC REALM

MOBILITY AND PUBLIC REALM

3.1 INTRODUCTION

The West Carson Mobility and Public Realm Strategy outlines the circulation improvements needed to facilitate transit-oriented development within the Specific Plan area. A key aspect of the Specific Plan involves transitioning the existing circulation network, which largely supports vehicular travel, into a network that prioritizes complete streets and multi-modal design principles. The strategies outlined in this document aim to establish a sustainable circulation network that integrates both motorized and non-motorized transportation modes.

3.2 GOALS AND POLICIES

The following goals and policies establish the framework for West Carson's mobility and public realm strategy. They serve as guidelines and provide direction for future decision-making and development activities. Derived from input received from community members, stakeholders, and County staff during the community engagement process and County Task Force meetings, the following major mobility goals and policies for the Specific Plan are identified:

- **Goal 1:** Provide and maintain a comprehensive circulation system that improves accessibility to transit, connections within the community, and the safe and efficient movement of all roadway users.
  - »» Policy 1.1: Implement complete streets designs to support multi-modal transportation system.
  - »» Policy 1.2: Ensure roadway improvements prioritize safer and more efficient transit operations, enhancing passenger safety and accessibility.
  - »» Policy 1.3: Collaborate with local jurisdictions to create attractive and convenient bus stops, incorporating amenities like shade/weather protection, seating, transit information, and bus shelters where appropriate.
  - »» Policy 1.4: Design bus stops to minimize conflicts between buses and bicyclists.
- **Goal 2:** Provide safe, connected, and accessible bikeway and pedestrian networks.
  - »» Policy 2.1: Establish a connected pedestrian and bicycle network linking key destinations like Metro J Line Station, Harbor-UCLA Medical Center, residential neighborhoods, local schools, and retail corridors.

- »» Policy 2.2: Enhance bicycle infrastructure to close gaps in the County's Bicycle Master Plan and provide connections to adjacent communities to enhance regional connectivity.
- »» Policy 2.3: Identify opportunities for dedicated bicycle lanes and pedestrian sidewalks connecting neighborhoods and commercial areas to community services.
- »» Policy 2.4: Establish and maintain attractive and functional sidewalks to maximize accessibility, enhance pedestrian environment, and foster social interaction.
- »» Policy 2.5: Ensure bicycle and pedestrian infrastructure complies with federal, State, and local design standards, including ADA accessibility requirements.

- **Goal 3:** Provide and maintain attractive mobility corridors promoting livability and sustainability.
  - »» Policy 3.1: Enhance mobility corridors with street lighting, street trees, landscaping, and wayfinding elements to improve safety and aesthetics.
  - »» Policy 3.2: Integrate pedestrian amenities such as benches and public art to create inviting public spaces along corridors.
  - »» Policy 3.3: Identify opportunities to incorporate public park and open space improvements within the area that provide small-scale, but well-designed outdoor areas for unstructured play and socializing.
- **Goal 4:** Promote efficient use of parking resources and support programs that encourage mode shifts from single auto occupancy travel to transit, rideshare, bicycle, or pedestrian travel.
  - »» Policy 4.1: Utilize shared parking where possible and establish guidelines and standards to optimize parking supply.
  - »» Policy 4.2: Encourage and allow shared parking for new development instead of off-street parking provision.

3.3 STREET NETWORK

The Specific Plan provides guidance for the design of a comprehensive and context-sensitive street network to connect the West Carson community, as shown in Figure 3.1 Street Network. While much of the street network within the Specific Plan area will remain unchanged to support new development and growth, some streetscape improvements are proposed along key arterials. These improvements are intended to transform the existing auto-oriented streetscape into a more sustainable and multi-modal design. The Specific Plan's roadway and circulation network plans are described below.

3.3.1 Torrance Boulevard

Existing Conditions

Torrance Boulevard is classified as a Secondary Highway on the County's Highway Plan and runs east-west along the northern edge of the Specific Plan boundary. It currently meets the minimum width right-of-way standards for a Secondary Highway classification, which is 80 feet as specified in the General Plan. The corridor is primarily surrounded by residential land use with some light industrial and general commercial use. The posted speed limit along Torrance Boulevard is 35 miles per hour. Within the Specific Plan area, the roadway consists of two travel lanes in each direction with a dedicated auxiliary lane in the center. On-street parking is not permitted along the corridor within the plan area. Additionally, Torrance Transit operates a local bus line along a short segment of the corridor.

Vision

Torrance Boulevard's role as a key corridor connecting neighborhoods and communities within West Carson should be reinforced and enhanced through the provision of a well-connected network of high-quality pedestrian and bicycle infrastructure. Enhancements such as wider sidewalks equipped with pedestrian amenities like street trees, landscaping, and lighting should be considered to enhance safety and the overall pedestrian environment. Bicycle facilities and amenities should be installed to improve connectivity to the broader bikeway network, encourage active transportation modes, and to provide first-and-last mile strategies to transit.

Plan Strategy

Consistent with the County's Bicycle Master Plan, the Specific Plan proposes the addition of Class II bicycle facilities along Torrance Boulevard to improve connectivity with the regional bikeway network, which includes the proposed 208th Street multi-use

path and the Dominguez Channel located in the neighboring City of Carson. The Specific Plan also encourages the provision of community facilities, such as community centers, community gardens, and libraries, as well as enhancements to the pedestrian environment such as landscaping, street trees, and lighting to encourage more pedestrian activity and social interactions.

3.3.2 S. Vermont Avenue

Existing Conditions

S. Vermont Avenue is classified as a Major Highway on the County Highway Plan and runs north and south within the Specific Plan boundary. It currently meets the minimum width right-of- way standards for a Major Highway classification as set forth in the General Plan, which is 100-feet. The corridor is surrounded by a variety of land uses including residential, mixed-use, light industrial, and public spaces. The posted speed limit is 40miles per hour. Within the Specific Plan area, S. Vermont Avenue features two travel lanes in each direction with a dedicated auxiliary lane in the center. Additionally, Class II striped bike lanes run in both directions within the plan area. While on-street parking is permitted along much of the corridor, it is not available in all sections. Torrance Transit and Metro operate bus lines along the corridor.

Vision

S. Vermont Avenue serves as a primary transit corridor within West Carson, with multiple bus routes from various local transit agencies. S. Vermont Avenue's role as a key transit corridor should be reinforced and enhanced through the provision of high-quality transit stop amenities and pedestrian infrastructure, landscaping, lighting, and streetscape improvements. These enhancements aim to facilitate increased pedestrian activity and improve access to the area's rich transit network.

Plan Strategy

The Specific Plan introduces mixed-use and higher density residential development along S. Vermont Avenue to activate the corridor and encourage more pedestrian activity. Additionally, streetscape improvements are introduced, including a striped buffer between existing Class II bicycle facilities and on-street parking to enhance bicycling safety. Landscaped medians will also be incorporated to enhance the overall aesthetics along the corridor.

3.3.3 Normandie Avenue

Existing Conditions

Normandie Avenue, classified as a Secondary Highway on the County Highway Plan, runs north and south within the Specific Plan boundary. The corridor currently does not meet the minimum width right-of-way standards required for its classification, which is 80 feet as specified in the General Plan. The roadway is located entirely within the City of Los Angeles and is not maintained by Public Works. The corridor is surrounded by a variety of land uses, including residential, mixed-use, and public spaces. The posted speed limit along Normandie Avenue is 35 miles per hour. Within the Specific Plan area, the roadway consists of two travel lanes in each direction with a dedicated auxiliary lane in the center. While on-street parking is permitted along much of the corridor within the plan area, it is not available in all sections of the corridor. Both Gardena Municipal and Torrance Transit operate bus lines along the corridor.

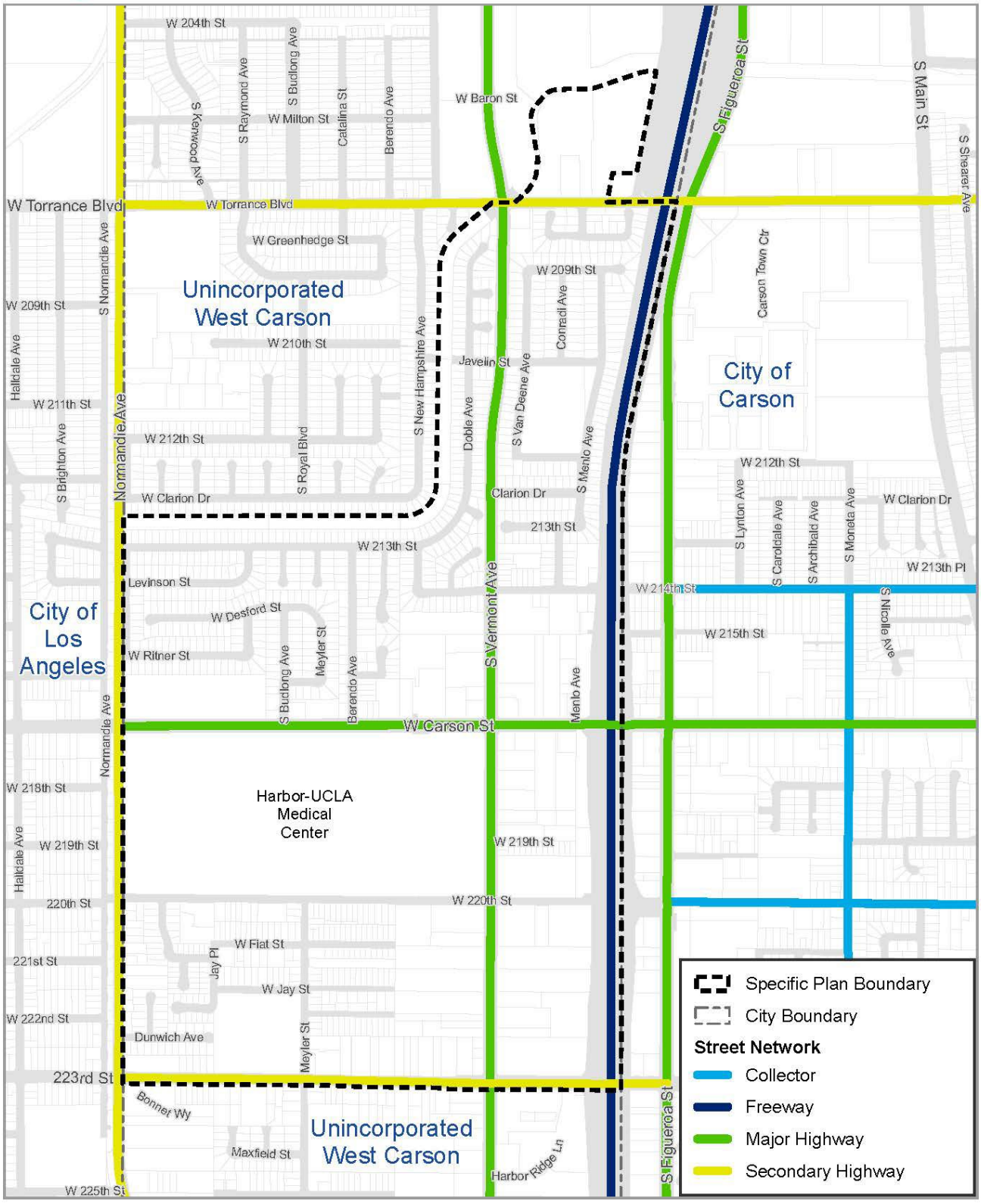
Vision

Normandie Avenue is a major roadway connector throughout the Specific Plan area as well as throughout the local region. Normandie Avenue is a key point of access to the West Carson area and the Harbor-UCLA Medical Center, with several bus routes from multiple transit agencies servicing the corridor. Its role as a key corridor should be reinforced and enhanced through the provision of streetscape improvements, transit amenities, and a well-connected network of high-quality pedestrian and bicycle infrastructure.

Plan Strategy

The Specific Plan proposes wider sidewalks along Normandie Avenue to accommodate high levels of pedestrian activity generated by the Harbor-UCLA Medical Center and adjacent proposed mixed-use land use. The Specific Plan also introduces a Class II bicycle facility along Normandie Avenue to improve connectivity to the broader regional bikeway network.

Figure 3.1 Street Network



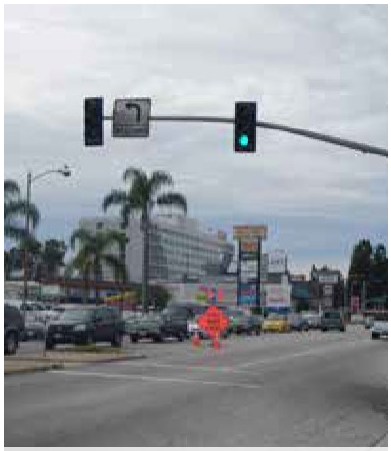


Photo showing the existing condition of W. Carson Street.

3.3.4 W. Carson Street

Existing Conditions

W. Carson Street is a Major Highway that runs east and west within the Specific Plan boundary. The corridor currently meets the minimum width right-of-way standards for its classification as set forth in the General Plan, which is 100 feet. The posted speed limit along W. Carson Street is 35 miles per hour. Within the Specific Plan area, the roadway consists of two travel lanes in each direction with a dedicated auxiliary lane in the center. On-street parking is permitted along much of the corridor. Both Torrance Transit and Metro operate bus lines along the corridor.

Vision

W. Carson Street is a gateway to the Specific Plan area and serves as a primary roadway connector to the Harbor-UCLA Medical Center. The Specific Plan envisions a more livable and sustainable Carson Street with more mixed-use development opportunities, enhanced pedestrian and bicycle infrastructure, and a shift towards a multi-modal circulation approach for the area.

Plan Strategy

The Specific Plan accommodates mixed-use and higher density development along and adjacent to W. Carson Street to lay the foundation for a more livable and sustainable corridor that works to improve air quality, traffic congestion, and mobility. The Specific Plan introduces wider sidewalks, landscaping, street trees, reduced on-street parking, striped buffers between existing bicycle facilities and vehicular traffic, and a multi-use pathway to encourage active transportation modes. The Specific Plan also encourages the provision of transit amenities such as shelters, benches, lighting, wayfinding elements, service route maps and information, and streetscape improvements geared towards facilitating safe and efficient transit movement.

3.3.5 W. 223rd Street

Existing Conditions

W. 223rd Street is a Secondary Highway that runs east and west within the Specific Plan boundary. The corridor meets the minimum width right-of-way standards set forth in the County Code, which requires various right-of-way widths ranging from 80 to 100 feet depending on the location. The corridor is surrounded by a variety of land uses including residential, general commercial, light industrial, and public space. The posted speed limit is 25 miles per hour between Normandie Avenue and S. Vermont Avenue and 35 miles per hour east of S. Vermont Avenue. Within the Specific Plan area, the roadway consists of two travel lanes in each direction, with on-street parking permitted along much of the corridor.

Photo showing the existing condition of 223rd Street.

Vision

The Specific Plan envisions a transformation of the existing auto-oriented design of W. 223rd Street to a more multi-modal streetscape. This entails integrating the principles of complete streets into its design, with a focus on enhancing safety through the provision of bicycle facilities, pedestrian amenities, and traffic calming measures.

Plan Strategy

Consistent with the County's Bicycle Master Plan and recent efforts to secure grant funding for active transportation projects, the Specific Plan introduces both a Class II and a Class III bicycle facility along various segments of the corridor to improve connectivity to the regional bikeway network. The proposed bicycle facilities are also intended to provide first-last mile solutions to transit within the West Carson area.

3.4 TRANSIT CIRCULATION

A key component of the Specific Plan is to improve accessibility to the existing transit system and the overall transit experience, which encompasses more than the transit ride itself, but also includes getting to and from a transit stop and the rider's experience waiting for transit. The following section describes transit circulation within the plan area and identifies strategies to improve transit access and the overall transit experience.

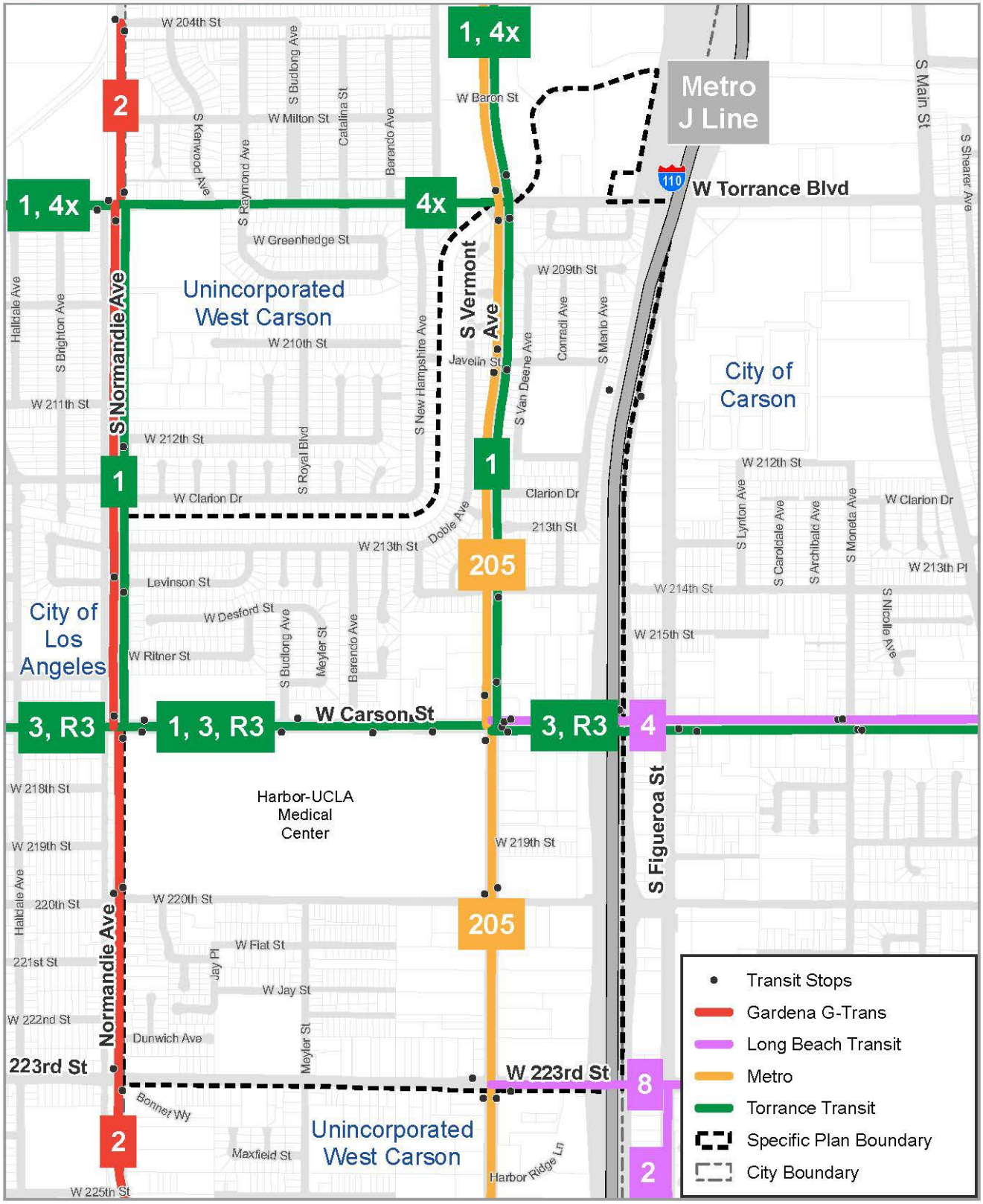
3.4.1 Local Bus Services

The Specific Plan area encompasses a rich transit network served by three local transit agencies: Metro, Torrance Transit, and Gardena Municipal. As illustrated in Figure 3.2, a total of eight local bus routes traverse the Specific Plan area along primary transit corridors, including Normandie Avenue, S. Vermont Avenue, W. Carson Street, and 220th Street. Of these streets, Normandie Avenue, S. Vermont Avenue, W. Carson Street, and W. 223rd Street benefit from completed Traffic Signal Synchronization Programs (TSSP), which prioritize the movement of transit vehicles.

The local bus routes identified in Figure 3.2 not only serve the West Carson community, but also act as feeder routes to the Metro J Line, located along the Interstate 110 freeway. The J Line provides key connections between Downtown Los Angeles and the South Bay communities.

The Specific Plan recommends the coordination of operating schedules between local feeder bus routes and the J Line to improve overall transit service. Schedule improvements such as minimizing passenger wait times between transfers can help improve efficiency and consequently encourage more transit ridership. Recommended improvements include enhancements to bus route arrival/departure times, frequency, and the relocation of bus stops to facilitate better connection timing with the J Line stop. Local transit agencies should collaborate to ensure service hours for routes improve transit connectivity and the efficiency of multi-operator transit trips.

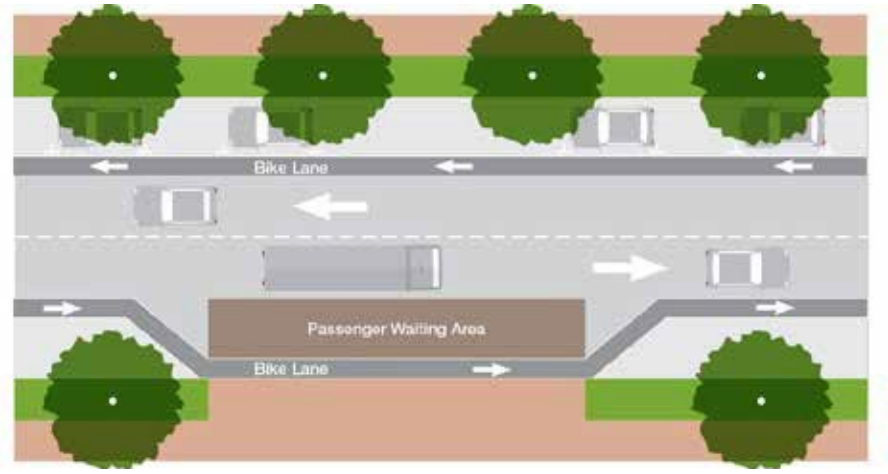
Figure 3.2 Existing Transit Network



3.4.2 Bus and Bike Interface

The Specific Plan also recognizes the symbiotic relationship between alternative modes of transportation, such as transit and bicycling, which often interact with one another on urban and suburban streets. However, the coexistence of buses and bikes on roadways presents significant challenges due to differences in size, average speed, and stopping patterns. Conflicts often arise as bicyclists must share the right-hand lane and curb with stopping buses. To minimize these conflicts, the Specific Plan encourages the exploration of alternative bus stop designs beyond conventional curbside stops. One such design involves creating a short bike channel that diverts bicycle traffic behind transit stops as depicted in Figure 3.3. Additional analysis should be conducted to assess feasibility and evaluate the effectiveness of this design.

Figure 3.3 Floating Bus Stop and Bike Channel Design



3.4.3 Transit Access, Comfort and Safety

- A key factor impacting the overall transit experience is the safety and comfort of the transit stop environment. An individual's perception of safety and comfort while walking to and from a transit station, as well as waiting for transit, will influence their decision to use public transit. The Specific Plan proposes the following improvements to safety and comfort at the Carson Street stop.

Transit Stop Relocation Along the Interstate110

The existing Interstate 110 Carson Street transit stop, which services Metro's J Line, is accessed by patrons via stairways and elevators from the Carson Street overpass. The stop's location directly below the Carson Street overpass and along the Interstate 110 freeway contributes to its perceived lack of safety. Although lighting exists at the transit stop, the stop lacks transparency, or the degree to which an individual can see or perceive what lies beyond the edge of a street or public space to feel safe. Additionally, high travel speeds along the freeway also impact perceived safety as the existing stop fronts the Interstate 110 freeway. These factors likely contribute to the low utilization of the existing station.

To improve transit access and safety, the Specific Plan proposes relocating the existing transit stop from below the Carson Street overpass to a new location along the Interstate 110 freeway. Relocating the stop would improve visibility of waiting transit patrons and overall safety. An example of this configuration is illustrated in Figure 3.4.

Figure 3.4 ProposedTransit Stop Relocation

Freeway Underpass and Overpass Enhancements

Because the Interstate-110 freeway forms the eastern boundary of the Specific Plan area, freeway underpass and overpass enhancements are key in improving safety and comfort for the residents and visitors of West Carson. The Specific Plan recommends incorporating visually-engaging elements at freeway crossings to create a more inviting streetscape and attract active transportation users along the pathway. Additionally, incorporating public art along the Interstate-110 overpass or underpass can enhance pedestrians and bicyclists experience by providing visually compelling points of interest.

Enhancing the pedestrian experience and safety along the overpass can also be achieved by installing special paving and bollards along curb edges. These features help improve safety for pedestrians with visual impairments and provide a valuable cue separating the sidewalk from the roadway and vehicular traffic.

Transit Amenities

Transit stop amenities are essential for improving operations, ridership levels, and the overall transit experience. These amenities can include shelters, improved plaza areas, benches, lighting, transit information, bicycle racks, and public art. Well-designed transit stops can improve patron comfort and convenience and attract new riders. Installation of transit stop amenities should be done in consultation with the local transit agencies servicing the area, which includes Metro, Torrance Transit, and Gardena Municipal. Figure 3.26 Pocket Park Concept at the Caltrans Park-n-Ride lot at W. Carson Street and Interstate-110, is another recommendation for improving transit amenities and safety near the Carson Street Station. These improvements would require coordination with Caltrans, the owner of the parcel.

Bus shelters play an important role in transit operations by providing patrons shelter from varying weather conditions and a place to rest and wait. They should include amenities such as benches, stop ID, route information, and lighting. Additionally, shelter placement should not obstruct the loading and unloading of passengers or the pedestrian pathway.

Transit information is also an important amenity at transit stops, providing patrons with information on service routes and schedules, as well as local area maps and wayfinding information. Providing transit information at stops allow patrons to verify if they are at the correct stop and where they need to go once they arrive at their destination. Ideally, real-time arrival information should also be included whenever possible to improve transit reliability and encourage transit usage.

3.5 FIRST-LAST MILE STRATEGIES

In 2014, Metro approved its First Last Mile Strategic Plan, which identifies design strategies to improve active transportation access and connections to public transit. The Specific Plan recognizes that station access is a key element in successful TOD station area planning and identifies strategies that focus on improving accessibility during the first and last miles of a transit rider's journey. These strategies include streetscape improvements, bicycle and pedestrian infrastructure improvements, as well as signage and wayfinding improvements.

3.5.1 Pathways

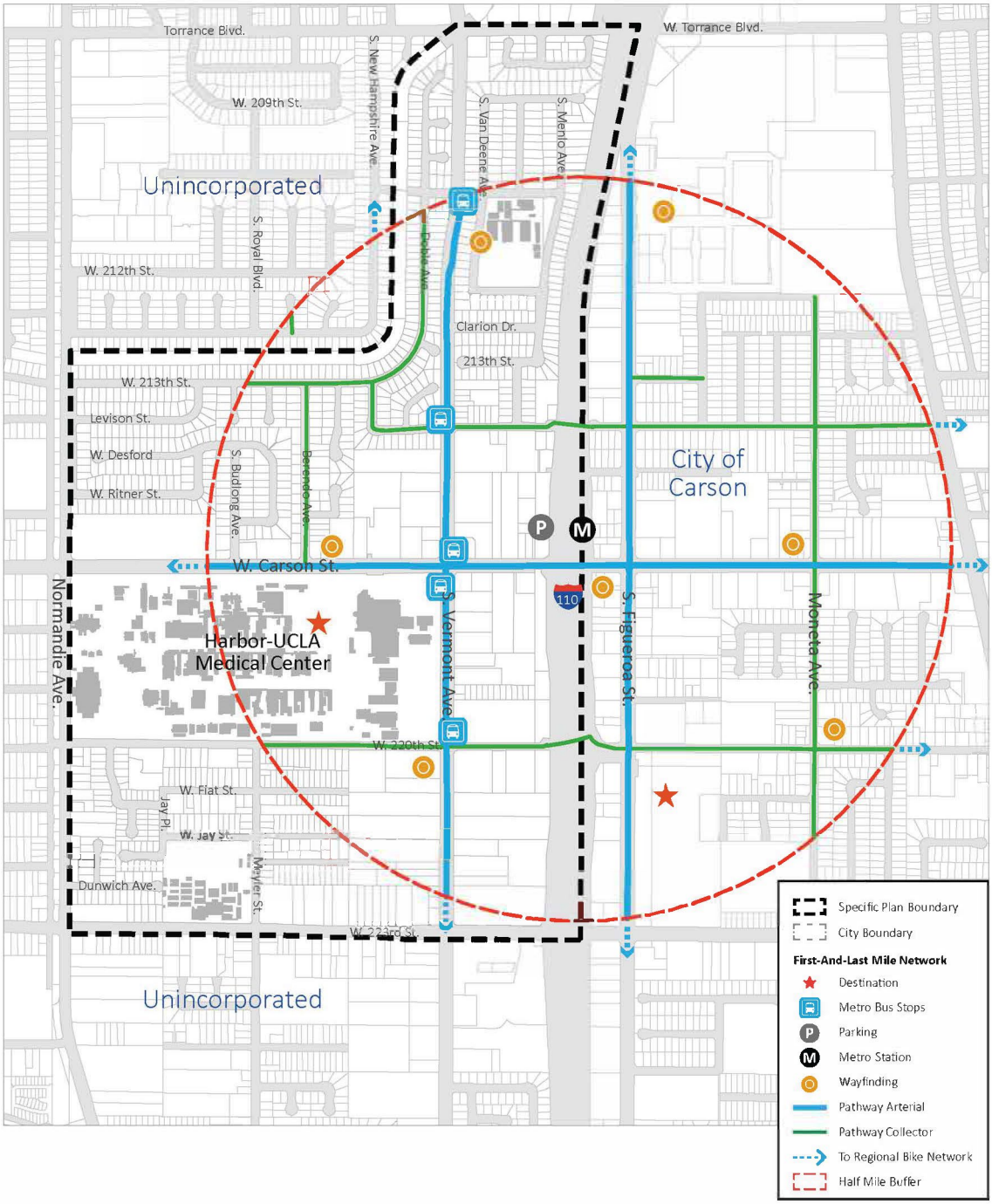
The Metro Pathways concept established in Metro's First-Last Mile Strategic Plan includes a hierarchy of pathways that extend to and from a transit station and are designed to support active modes of transportation. These pathways take into consideration the existing street network, key destinations, feeder transit services, existing and planned infrastructure, existing bike and pedestrian volumes, and surrounding land uses to design a physical active transportation network that improves transit station access. The Metro Pathways concept is comprised of two types of pathways: pathway arterials and pathway collectors. Pathway arterials serve as the main branches of the network, while pathway collectors serve as feeder routes. Figure 3.5 illustrates the proposed Metro Pathway network and includes pathway arterials, pathway collectors, existing Metro bus stops, key destinations, and suggested areas for wayfinding signage.

Pathway Arterials

Pathway arterials are primary routes that extend from stations and support maximum throughput activity for active transportation users. They are designed to accommodate high levels of active transportation and a broad range of users. They typically include design treatments such as separated active transportation lanes, signal and crossing improvements, wayfinding, and plug-in components (i.e. bike share). Pathway arterials should typically radiate out from a station portal in at least four directions and extend out at a minimum of one-half mile from the station to an upper limit of three miles from the station. Pathway arterials should also integrate the regional bikeway network at opportune points beyond the one-half mile access shed. As illustrated in Figure 3.5, pathway arterials surrounding the Carson Street station include W. Carson Street, S. Vermont Avenue, and Figueroa Street.

To be updated for BOS Hearing

Figure 3.5 First And Last Mile Pathway Network Map



Pathway Collectors

Pathway collectors are routes within the station area that both feed into pathway arterials and support crossing movements and general station area permeability. They work to reduce travel distances for non-motorized users by providing efficient access to pathway arterials. Pathway collectors include streets and routes located within the one-half mile access shed of a transit station and streets that feed into the main branch lines or pathway arterials. They typically include design considerations that improve intersection and mid-block crossings. As illustrated in Figure 3.5, pathway collectors surrounding the Carson Street station include 213th Street, 214th Street, 220th Street, Moneta Avenue, and Berendo Avenue.

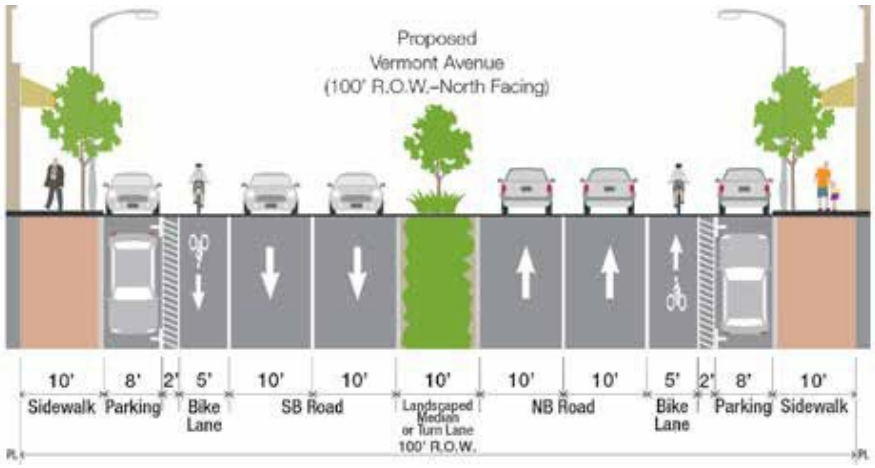
3.5.2 Streetscape Improvements

The Specific Plan recognizes the role that the built environment and street design play in fostering community health and wellness. Well-designed streets can provide safer and more attractive settings for pedestrians and cyclists, as well as encourage more transit use. The Specific Plan focuses on laying the foundation for a more unified network of streets that promote multi-modal circulation and facilitate the safe and efficient movement of motorized and non- motorized transportation modes. The Specific Plan proposes various streetscape improvements to promote a livelier and more sustainable streets. More detailed landscape and hardscape design recommendations are included in the Public Realm Design and Park Strategies section below.

S. Vermont Avenue

S. Vermont Avenue serves as a pathway arterial connecting the W. Carson Street transit stop. Proposed streetscape improvements for S. Vermont Avenue are illustrated in Figure 3.6. These improvements are intended to enhance and encourage multi-modal activity along the corridor as well as support its role as a pathway arterial with high levels of non-motorized activity. Streetscape improvements include a Class II bicycle facility with striped buffer between on-street parking to enhance safety, street trees, lighting, reduced travel lane widths, and a landscaped median to improve visual aesthetics along the corridor. The Specific Plan also recommends the installation of wayfinding signage along the corridor to improve navigation to the transit stop.

Figure 3.6 Proposed S. Vermont Avenue Streetscape Improvements



W. Carson Street

Similar to S. Vermont Avenue, W. Carson Street also serves as a pathway arterial connecting the Carson Street transit stop and serves as a primary transit corridor with several local bus routes traversing the corridor. Given its role as a pathway arterial and transit corridor, it necessitates a multi-modal streetscape design that prioritizes the safe and efficient movement of multiple modes of transportation. Streetscape improvements to W. Carson Street are illustrated in Figure 3.7 and include wider sidewalks, Class II bicycle facilities with striped buffers, reduced travel lane widths, landscaped medians street trees, lighting, and a multi-use path along the south side of W. Carson Street. It should be noted that the proposed Class II bicycle facilities align with existing County street improvement plans. The County secured grant funding from the California Caltrans Active Transportation Program (ATP) to install a 0.5-mile Class II bicycle facility along W. Carson Street between Normandie Avenue and S. Vermont Avenue. The new bikeway is intended to improve connections to existing facilities and the regional bikeway network and support Metro's First-Last Mile Strategic Plan.

Figure 3.7 Proposed W. Carson Street Streetscape Improvements

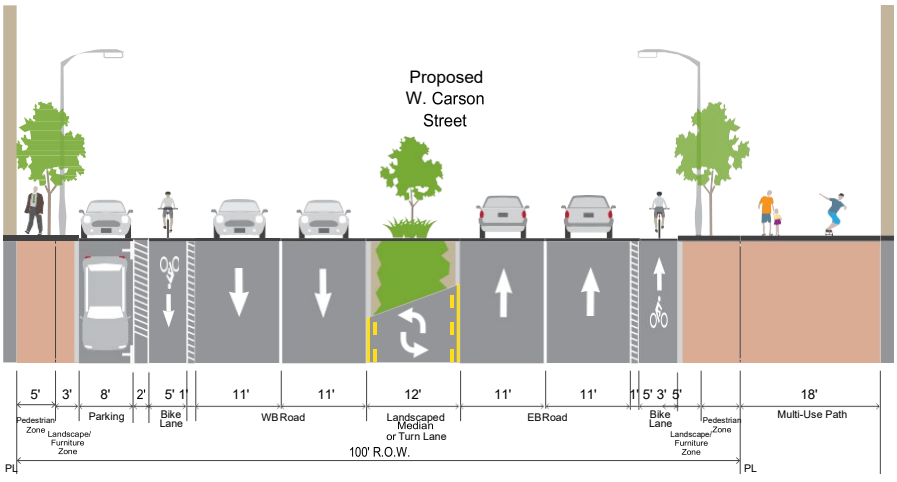


Figure 3.8 Green-backed Sharrows

Possible treatment options for green-backed sharrows.

W. 223rd Street

W. 223rd Street is classified as a Secondary Highway under the County's Highway Master Plan. Proposed streetscape improvements for the 82-foot right-of-way segment of the corridor between Normandie Avenue and S. Vermont Avenue are illustrated in Figure 3.9. These improvements include incorporating a Class III bicycle facility along the roadway to enhance connectivity with the greater regional bikeway network. The bicycle facility will incorporate green-backed sharrows to provide high visibility and send a strong signal to bicyclists as to where they should ride as well as to help alert motorists of their presence. Examples of green-backed sharrows are provided in Figure 3.8. Streetscape improvements also include improved landscaping and street trees.

Streetscape improvements for the 100-foot right-of-way segment of the corridor between S. Vermont Avenue and the city boundary for the City of Carson are illustrated in Figure 3.10. These improvements include reduced travel lane widths, the provision of on-street parking along the westbound portion of the corridor, and the introduction of a Class II bicycle facility in each direction with striped buffers. These proposed improvements are intended to support the Specific Plan's vision of transforming the existing auto-oriented design of W. 223rd Street to a more multi-modal streetscape.

Figure 3.9 Proposed W. 223Rd Street 82'-Row Streetscape Improvements

Figure 3.10 Proposed W. 223Rd Street 100'-Row Streetscape Improvements

220th Street

220th Street serves as a pathway collector and provides connections to the S. Vermont Avenue and Figueroa Street pathway arterials. As a pathway collector, it supports crossing movements and moderate levels of activity for active transportation users. Proposed streetscape improvements to the segment of 220th Street adjacent to the Harbor-UCLA Medical Center are illustrated in Figure 3.11. These improvements include relocating the exterior fence surrounding the medical center behind the existing culvert and covering the culvert to accommodate an expanded pedestrian pathway and landscaping. Improvements to the remaining segment of 220th Street are illustrated in Figure 3.12 and include Class III bicycle facilities, street trees, lighting, and wider sidewalks.

In addition to the proposed streetscape improvements, the Specific Plan recommends improvements to the existing 220th Street pedestrian bridge, which spans the Interstate 110 freeway and is accessed via a walkway at 220th Street. The existing bridge has low visibility and inadequate lighting, which adversely impacts safety and contributes to the bridge's low levels of utility. The Specific Plan proposes enhanced safety measures at the bridge, including overhead lighting and lighting along the proposed handrails. Furthermore, aesthetic enhancements such as a painted walkway, painted support poles, and a mural are proposed to deter graffiti and improve the bridge's visual appeal. These proposed improvements are illustrated in Figure 3.13.

Figure 3.11: Proposed 220th Street Streetscape Improvements (Harbor-UCLA Medical Center)

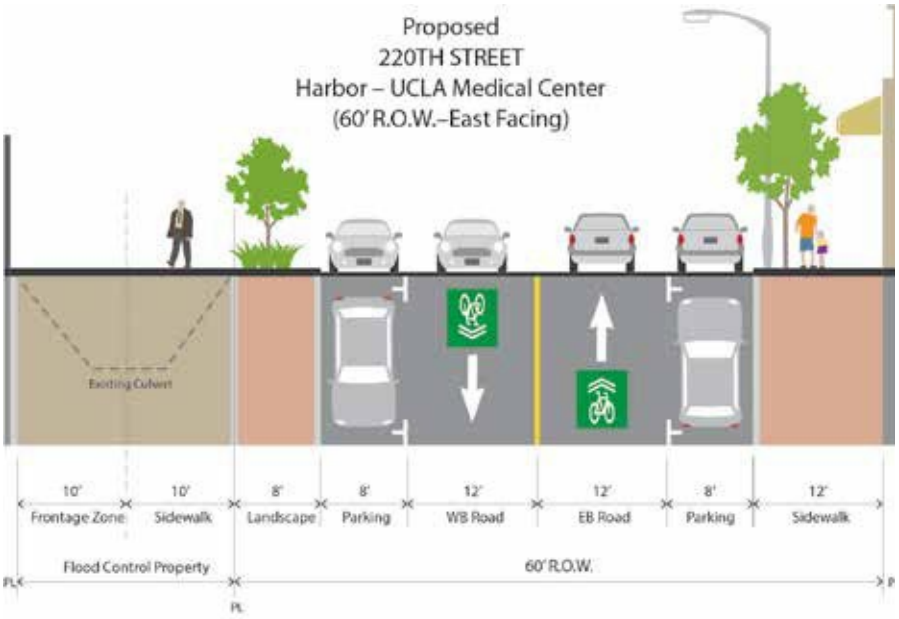
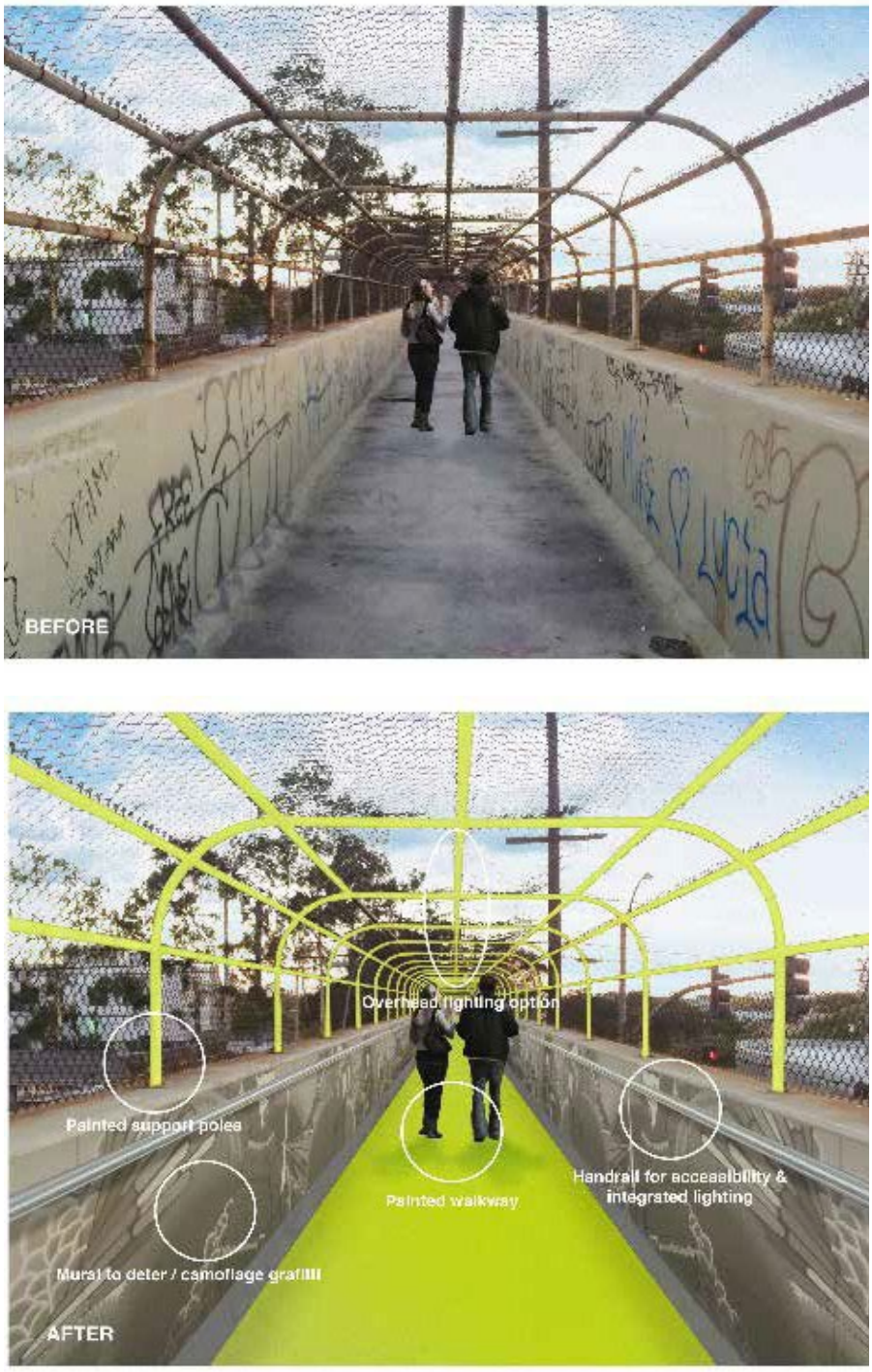


Figure 3.12: Proposed 220th Street Streetscape Improvements

Figure 3.13: Proposed 220th Street Pedestrian Bridge Improvements



Before and after renderings of the 220th Street pedestrian bridge.

Normandie Avenue

Similar to S. Vermont Avenue and W. Carson Street, Normandie Avenue serves as a pathway arterial connecting the Carson Street transit stop. Due to right-of-way constraints, only the pedestrian sidewalk along the east side of Normandie Avenue lies within the County's jurisdiction. The remaining section lies within the City of Los Angeles' right-of-way. Proposed streetscape improvements to Normandie Avenue include improved landscaping to enhance the pedestrian environment as illustrated in Figure 3.14.

Figure 3.14: Proposed Normandie Avenue Streetscape Improvements

3.6 PUBLIC REALM DESIGN AND PARK STRATEGIES

One of the most important components of place-making is thoughtful urban design that integrates buildings, open spaces, and landscaping to create inviting and comfortable outdoor environments for residents, visitors, and workers of an area. Places such as sidewalks and parkways, multi- purpose trails, parks, plazas, and squares should be linked to each other and to the larger community. This interconnected pattern creates a range of valuable venues that accommodate a full spectrum of urban, commercial, and family-oriented activities.

This section identifies various recommendations for change in the public realm, including pedestrian circulation, new small park opportunities, a landscape plan for major roads, and the creation of a transit plaza for riders using Metro's Carson Station. It's worth noting that as the Harbor-UCLA Medical Center Master Plan is implemented over time, significant improvements in landscaping, fencing, pedestrian paths, lighting, seating, and public art that will greatly enhance the public realm around the campus. The landscape design plan for this Specific Plan is intended to be integrated with and complement the medical campus.

The recommended strategies aim to enhance the public realm and park network by utilizing public land/streets and pedestrian connections to bring park and open space amenities within reasonable walking distance for residents. Key components of this strategy include:

- Creating new open space amenities in tandem with new development, guided by the applicable regulations in Title 22.
- Ensuring new developments give due consideration to the design principles and guidelines outlined in the Specific Plan, as well as comply with the development standards in Title 22. These design principles include prioritizing a development's engaging relationship with public streets, thoughtful design of building entrances, careful consideration of front setback designs, and locating parking to the rear or side of buildings.
- Enhancing the visibility and safety of existing and new plaza areas, transit stops, pedestrian bridges, and park spaces.
- Repurposing vacant or publicly-owned lots, drainage channels, and cul-de-sacs into pocket parks and pathways.
- Improving the sidewalk and parkway systems along arterial roadways involve adding street trees, parkway plantings, street furniture, enhanced street crossings, bus stop improvements, and pedestrian lighting where needed.

- Enhancing pedestrian crossings with marked crosswalks, pedestrian safety islands and curb extensions where feasible, and other techniques.

3.6.1 Pedestrian Environment

Sidewalk Hierarchy

The quality of the pedestrian environment often influences a person's decision to walk or drive to an area. Adequate pedestrian infrastructure, together with appropriate land use designations, can activate corridors and encourage pedestrian activity. This section examines some of the existing opportunities to improve the pedestrian environment within West Carson and to reinforce the area as a TOD district.

Sidewalks are not merely pedestrian amenities; they are the backbone of West Carson's pedestrian network, providing innovative opportunities to transform streets into public spaces.

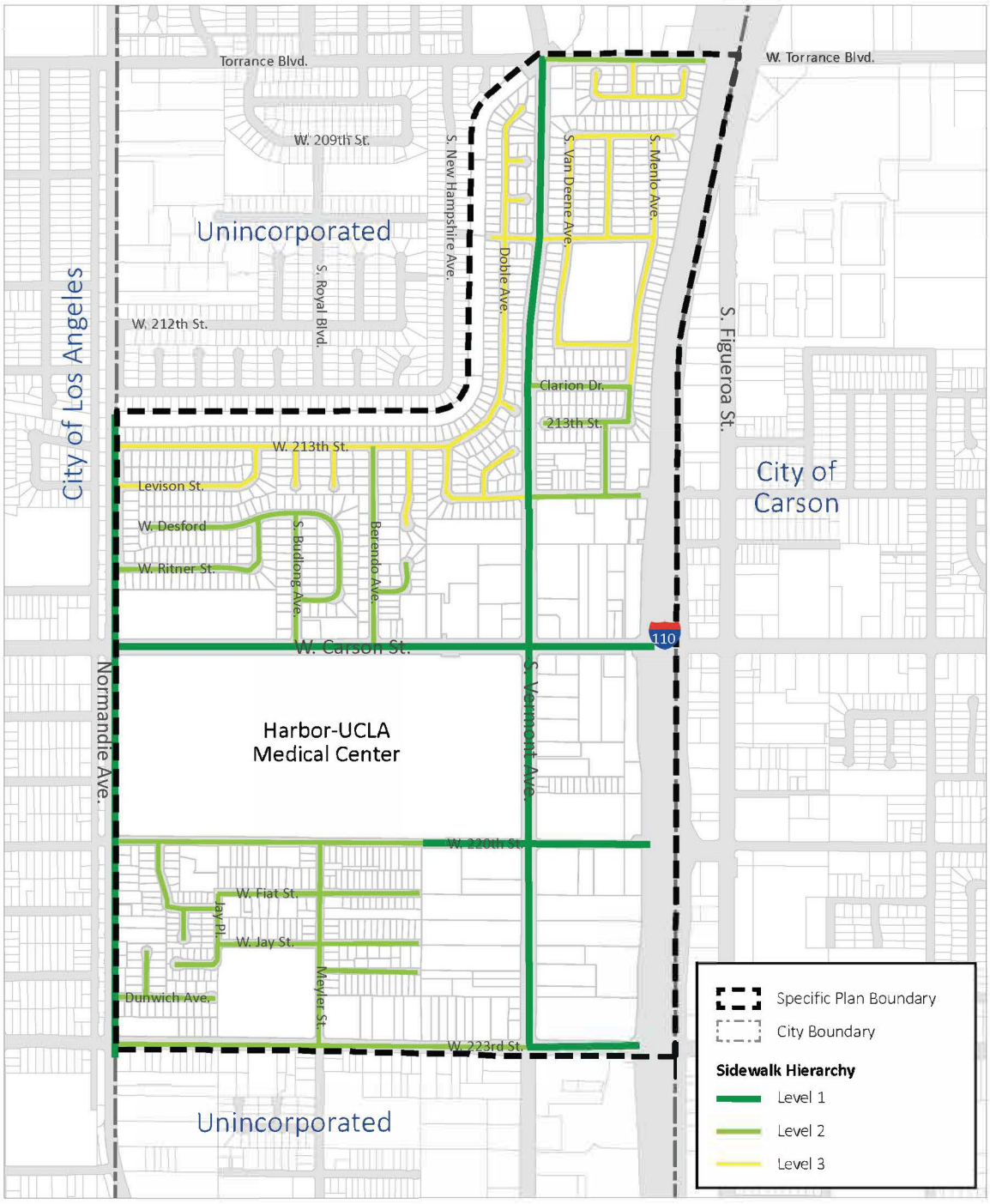
Although sidewalks exist along major streets within the Specific Plan area, most are narrow and do not support high levels of pedestrian activity. The Specific Plan proposes a sidewalk hierarchy to establish a physical framework for sidewalk design. This hierarchy aims to allocate space effectively to encourage people to walk as a part of their everyday routine.

The sidewalk hierarchy is composed of three levels: Level 1, Level 2, and Level 3 as shown in Figure 3.15 Pedestrian Network Map. Each level allocates space differently among the frontage zone, pedestrian zone, furniture zone, and curb zone, which are defined as follows:

- **Frontage Zone:** The frontage zone is the area of the sidewalk that separates pedestrians from the property line or building/store fronts. It typically accommodates outdoor seating, store entrances, street vendors, and acts as a buffer for pedestrians from opening doors and other architectural elements. Various frontage types determine how buildings are accessed and how private property interfaces with the sidewalk. Guidelines for frontage types on key streets within the Specific Plan area are outlined in Chapter 2.

To be updated for BOS Hearing

Figure 3.15 Pedestrian Network Map



- **Pedestrian Zone:** The pedestrian zone is the area of the sidewalk that is specifically reserved for pedestrian travel. It should be free of obstacles, well-lit, and functional in all weather conditions. Items like street furniture, plantings, outdoor seating, utility boxes, and other elements should not protrude into the pedestrian zone. Additionally, the surface of the pedestrian zone is of key importance and should be smooth, stable, and slip-resistant, with minimal gaps and rough surfaces.
- **Furniture Zone:** The furniture zone is the area of the sidewalk between the pedestrian zone and the street curb. It provides space for utilities like traffic poles and fire hydrants, as well as amenities, such as benches, bus shelters, and street trees. Items placed in this zone shall be strategically located to avoid obstructing sight lines, prevent damage from vehicles on the street, and allow for access to and from parked cars.
- **Curb Zone:** The curb zone is the first six inches of sidewalk area immediately adjacent to the roadway. It serves to deter motor vehicles from driving onto the sidewalk, prevents excess water from collecting onto the sidewalk, and signify the boundary that separates the sidewalk from the roadway and vehicular traffic.

Each level within the hierarchy is designed to support varying levels of pedestrian activity. Locations of each level corresponds with the locations of the various pathways in the Metro Pathways hierarchy. For instance, Level 1 sidewalks, the widest sidewalks in the hierarchy, should be located along pathway arterials to accommodate high pedestrian volumes. Level 2 sidewalks should be located along pathway collectors to accommodate moderate pedestrian activity, while Level 3 sidewalks should be reserved for low-density residential streets. The various levels of the sidewalk hierarchy are defined as follows:

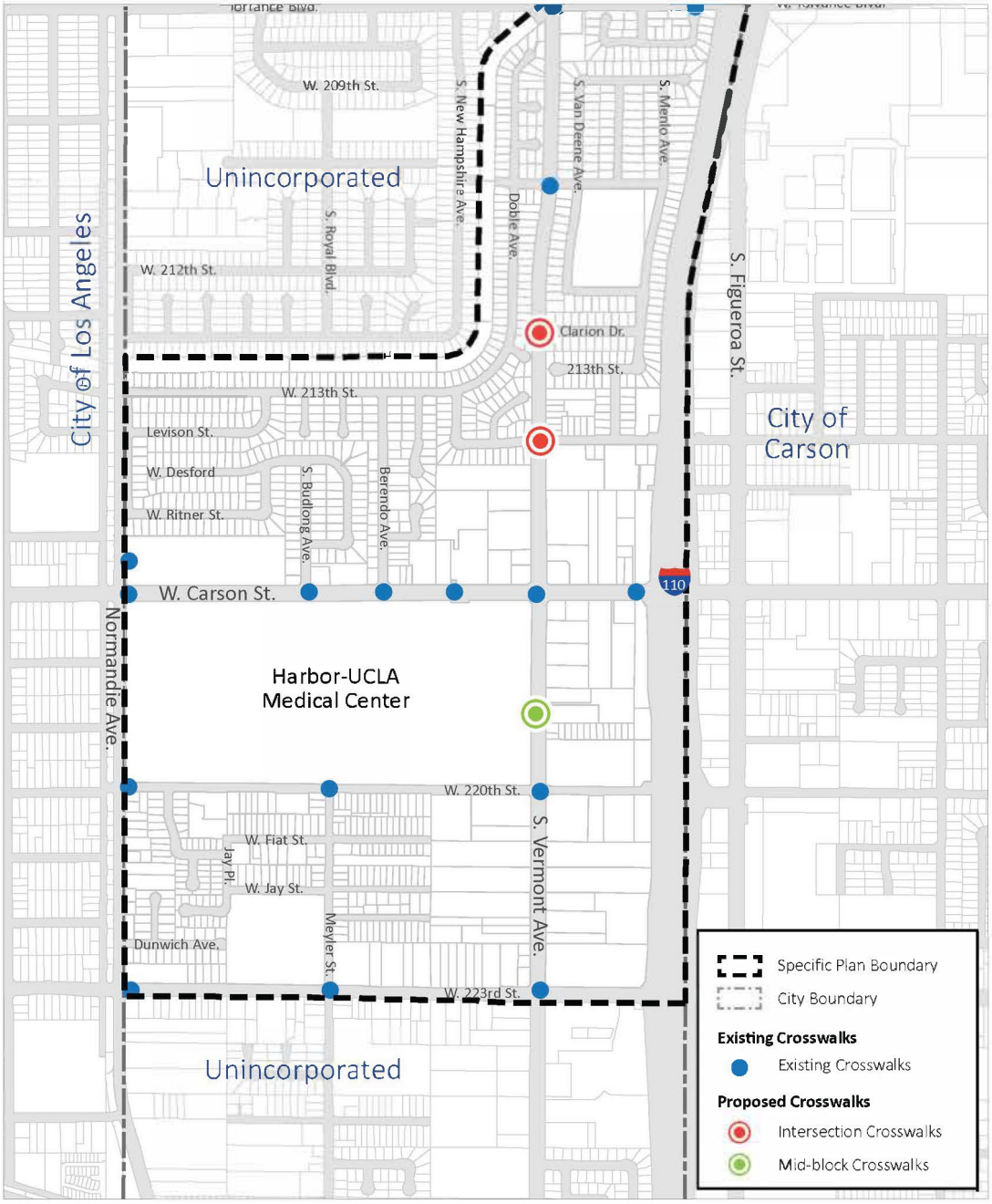
- **Level 1:** Level 1 sidewalks are the widest sidewalks within the hierarchy and should have a minimum width of 10 feet to support high pedestrian volumes and accommodate amenities such as street trees, benches, and outdoor seating. Level 1 sidewalks should be located along pathway arterials and areas with higher density, mixed-use, or commercial land use development. Space allocation for Level 1 sidewalks should favor the pedestrian and frontage zone to provide adequate passing space between pedestrians and to accommodate store-front amenities such as outdoor seating within commercial or mixed use zones. Examples of a Level 1 sidewalks can be seen in the S. Vermont Avenue and W. Carson Street streetscape improvements illustrated in Figures 3.6 and 3.7.

- **Level 2:** Level 2 sidewalks are slightly narrower in width than Level 1 sidewalks and should have a minimum width of seven feet. They are designed to accommodate moderate levels of pedestrian activity and some pedestrian amenities. Level 2 sidewalks should be located along pathway collectors. Space allocation for Level 2 sidewalks should favor the pedestrian and furniture zone. Examples of a Level 2 sidewalk can be seen in the 82-foot right-of-way streetscape improvement for 223rd Street as illustrated in Figure 3.9.
- **Level 3:** Level 3 sidewalks are the narrowest sidewalks within the hierarchy and should be located along low-density residential streets that do not carry high volumes of traffic or pedestrian activity. They should have a minimum width of five feet to comply with ADA standards and should favor the pedestrian zone.

Figure 3.15 illustrates the suggested locations for the various sidewalk levels. However, the Specific Plan recognizes that sidewalk design and construction may face constraints such as narrow rights-of-way, utilities, grading, and topography. These factors must be carefully considered during the design and construction phases to ensure the creation of accessible sidewalks.

To be updated for BOS Hearing

Figure 3.16 Pedestrian Crossing Map



Pedestrian Crossings

A safe and comprehensive pedestrian network relies on two important functions: facilitating pedestrian movement along streets and ensuring safe street crossings. Several tools exist to enhance pedestrian safety and experience, including crosswalk installations at intersections and mid-block, curb ramps, pedestrian crossing signs, signals, and more. Figure 3.16 illustrates both existing and proposed locations for pedestrian crosswalks. In addition, the Specific Plan recommends the following design guidelines to facilitate safe pedestrian crossing:

Example of signage used to indicate a pedestrian crossing.

Marked Crosswalks: Marked crosswalks are a key element in ensuring safe pedestrian crossings indicating where it is safe to cross and alerting drivers of pedestrian movements. Crosswalks can be located at intersections, mid-block crossings, or uncontrolled crossings. They should meet visibility requirements and adhere to guidelines set forth in the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD). The Specific Plan recommends the installation of crosswalks at the following locations whenever possible:

1. At all signalized intersections
2. Near key transit stops and stations
3. Along locations with heavy pedestrian traffic, such as S. Vermont Avenue
4. Along school walking routes, such as Meyler Street
5. At trail crossings

Pedestrian Safety Islands: Pedestrian safety islands provide pedestrians refuge and reduce exposure time experienced when crossing wide intersections. They should be installed at locations where pedestrians must cross three or more lanes of traffic in one direction, such as along W. Carson Street and S. Vermont Avenue.

Curb Extensions: Curb extensions are traffic calming treatments that narrow the roadway to create safer and shorter crossing distance for pedestrians. They also help to improve the overall visibility of pedestrians by placing them in alignment with on-street parking. They should be placed on streets with high pedestrian volumes or along wide streets that are difficult to cross.

Curb Ramps: Curb ramps are essential for improving accessibility for pedestrians with mobility limitations and visual impairments. They should be installed at all crosswalks to comply with ADA requirements.

Pedestrian Signage: Pedestrian crossing signage is used to alert motorists to the presence of pedestrians along roadways. They should be installed at uncontrolled crossings and near key destinations, such as Meyler Elementary School and Van Deene Avenue Elementary School to alert motorists in advance.

Streetscape Design

Streets with comfortable sidewalks and planted parkways provide the unifying structure of the plan area. Pedestrian-friendly sidewalks should incorporate amenities that are attractive and pleasant, offer visual stimulation, and promote activity. The Specific Plan recommends the following design guidelines to guide the installation of streetscape amenities:

1. **Street Trees:** Street trees serve various urban design functions such as acting as a pedestrian buffer, accentuating spaces, creating a sense of enclosure, improving air quality and enhancing visual aesthetics along a corridor. They also reduce the heat island effect by providing shade and filtered light. Street trees should be incorporated whenever possible, especially along pathway arterials, and planted in accordance with established County planting standards.

2. **Seating:** Seating provides reprieve for pedestrians and offers a place to rest or wait. Providing comfortable places to sit can transform a sidewalk into a gathering place for social activity. Pedestrian seating and benches should be installed where feasible, adhering to ADA standards and avoiding obstruction of pedestrian pathways.

3. **Street Lights:** Street lights provide a sense of safety and security for pedestrians and waiting transit patrons, as well as facilitate the safe movement of vehicular traffic. Appropriate levels of street lighting should be installed to provide safe, consistent lighting along a corridor, while reducing energy consumption and costs. Installing pedestrian lighting on Carson Street and segments of S. Vermont Avenue within the Specific Plan area is highly recommended to increase safety.

4. **Public Art:** Public art features provide visual stimulation and improve visual aesthetics along a corridor. They can unify an area or district or identify a neighborhood gateway. Care should be given to the installation of public art to ensure it does not obstruct pedestrian pathways and adheres to ADA standards. Introducing public art within the

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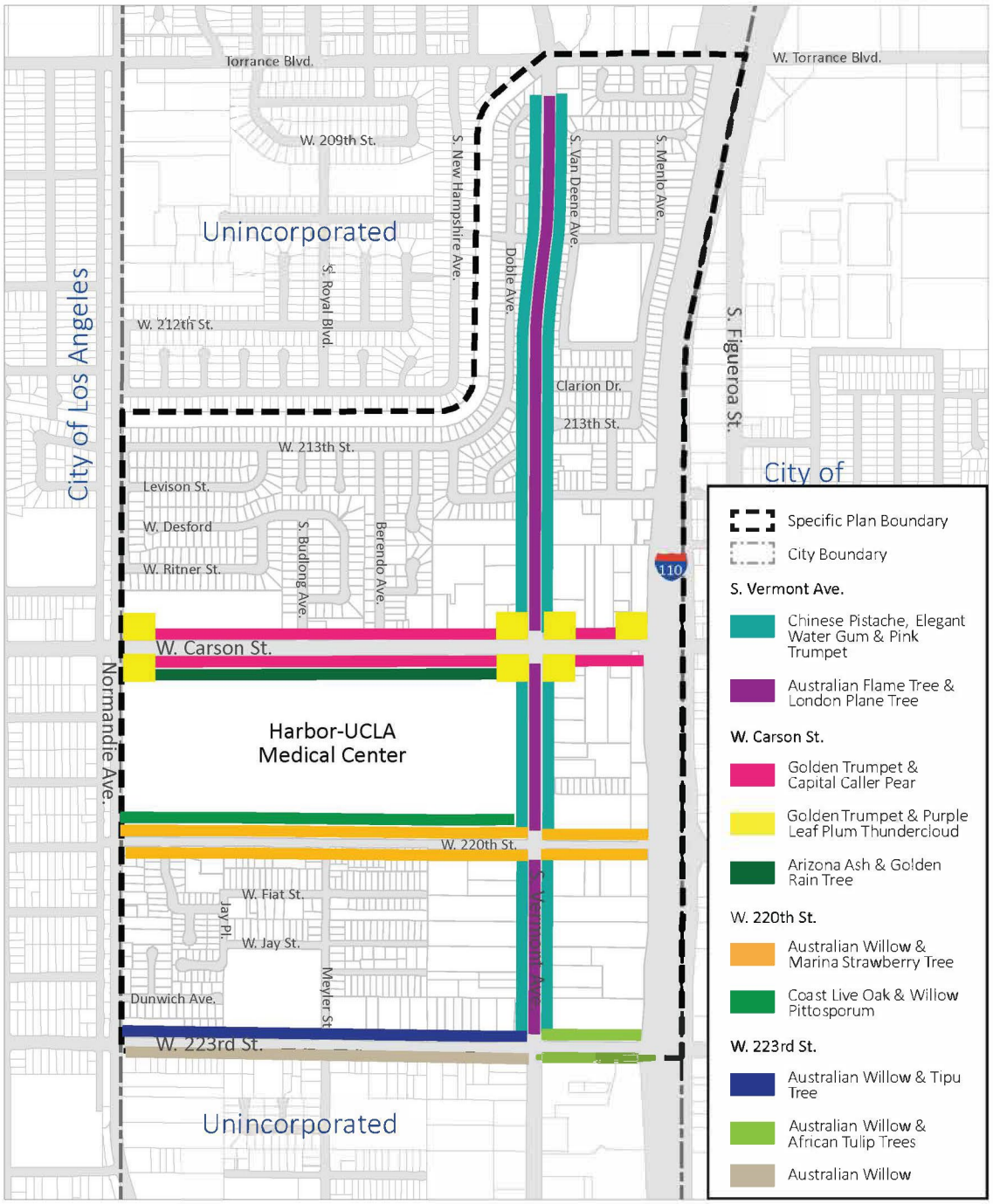
Figure 3.17 Street Tree Plan



Example of public art used to brand a district.

median at the intersection of W. Carson Street and the Interstate 110 off/on ramps would be appropriate. The art could be an extension of the art improvements planned for Harbor-UCLA Medical Center.

5. **Furnishings:** Furnishings such as seating and bike racks encourage pedestrian and bicycle activity by providing comfort and convenience. Pedestrian-oriented streets and hubs of high pedestrian activity should provide seating at regular intervals. Seating should be located in areas with shelter, shade, trees, and lighting and may be enhanced with features like seat walls, landscaping, fountains, and trellises. Bike racks should be placed in areas with ample space per bike and adequate pedestrian clearance, with design elements that enhance the community's identity.

The streetscape design recommendations as shown in Figures 3.17 - 3.24, focus on major roadways such as W. Carson Street, South Vermont Avenue, West 220th Street, and West 223rd street. Currently, there are few street trees or planted parkways within the public rights-of-way, though some trees have been planted along front property lines to provide shade for pedestrians. A consistent, well-designed landscape plan for the streets can provide shade, introduce seasonal color, define the street edge, and invite pedestrian activity. The following landscape and planting design recommendations are conceptual and based on Public Works' Tree Selection Catalog, Los Angeles County's Drought Tolerant Plant List, and Harbor-UCLA Master Plan Landscape Design Guidelines. When considering such improvements, these recommendations will be further evaluated and supplemented on a case-by-case basis.

- Major streets will feature signature plantings from the plant palette to create clearly defined identities unique to each street to improve wayfinding and announce arrival into West Carson.
- Formal plantings will be arranged along parkways and landscape easements at intervals appropriate to street scale and canopy cover to provide a sense of rhythm and movement within the streetscape.
- Flowering trees and trees with seasonal color have been selected to create a dynamic color palette, enhancing the landscape's visual interest.

- The plant palette incorporates deciduous plant material to provide shade canopies during the warm seasons while allowing penetration of sunlight during the cooler months to provide a more comfortable and inviting atmosphere.
- Incorporating suspended pavement system(s) will improve soil volume to support larger tree species development and improve plant health, promoting higher plant success rates. Additionally, these systems provide stormwater quality management through capture, evapotranspiration and storage.
- The placement of trees and portions of planted parkways will increase separation between pedestrians and vehicle traffic, promoting sidewalk use by enhancing pedestrian experience.


Pink Trumpet Tree


Australian Flame Tree


London Plane Tree


Tipu Tree


Golden Rain Tree


Golden Trumpet Tree


Purple Leaf Plum Thundercloud


New Zealand Christmas Tree

Arizona Ash

Elegant Water Gum

Coast Live Oak

Marina Strawberry Tree

African Tulip Tree

Australian Willow

Desert Willow

Chinese Pistache

Figure 3.18 Street Trees: W. Carson Street

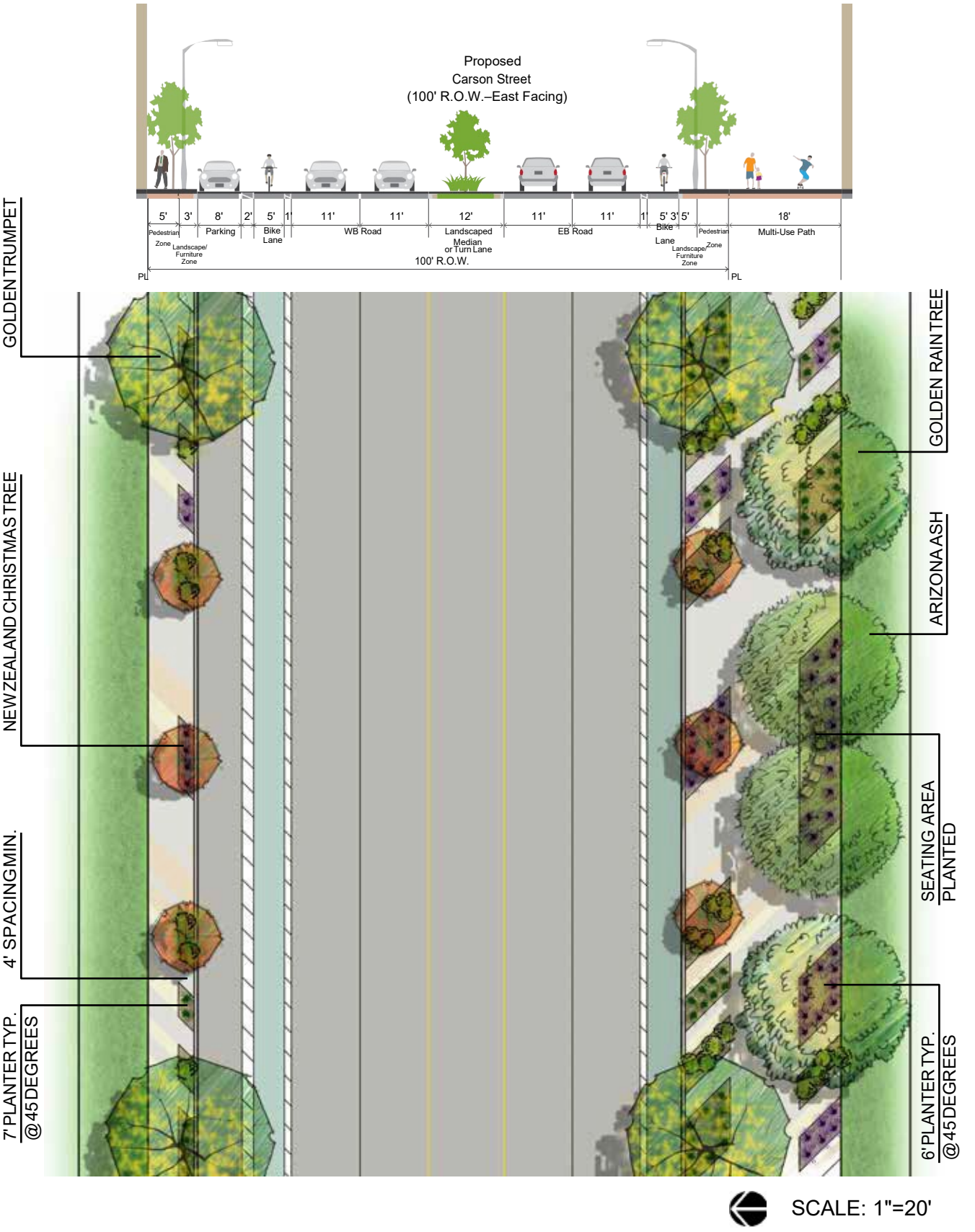


Figure 3.19 Street Trees: S. Vermont Avenue

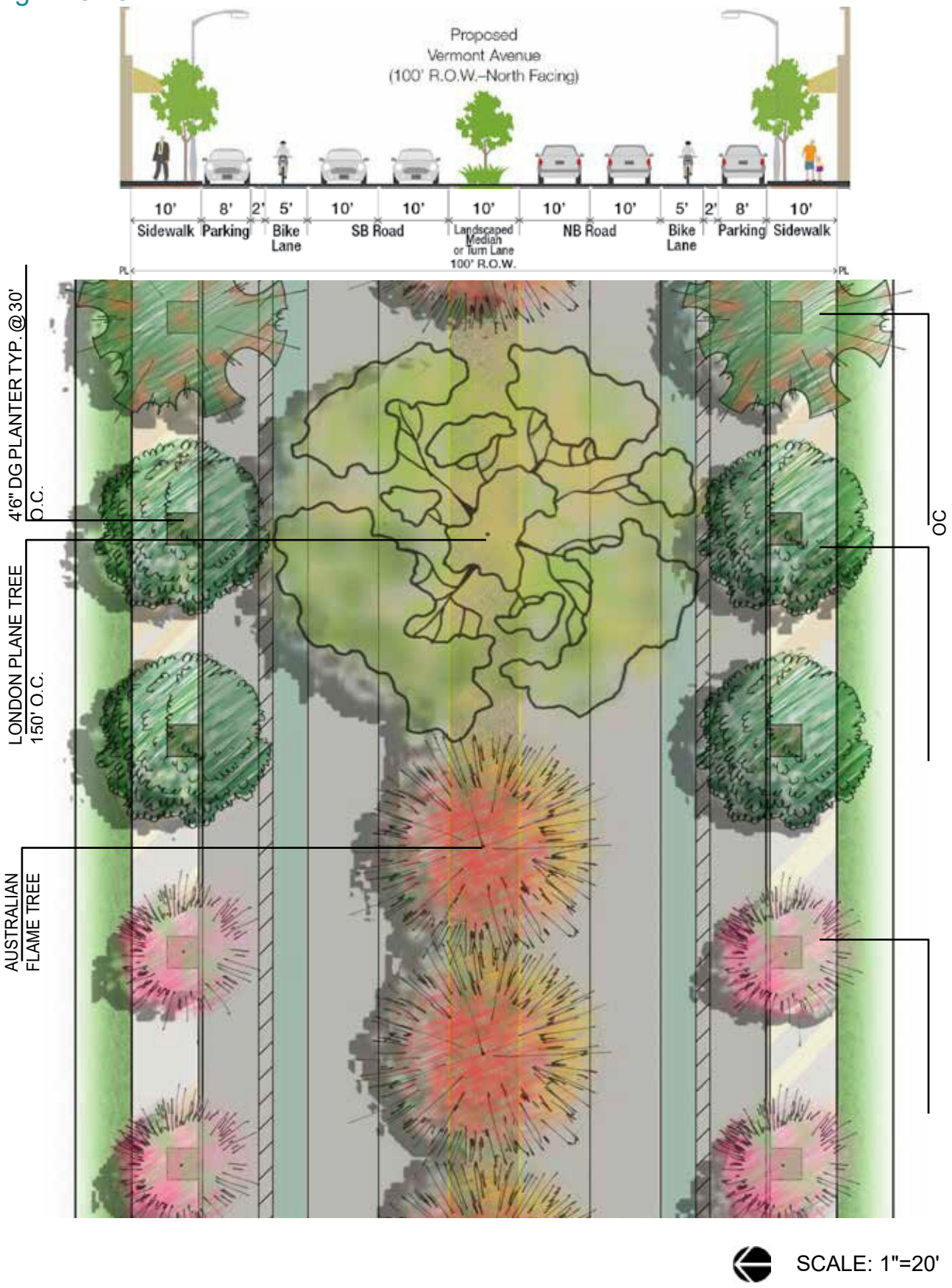
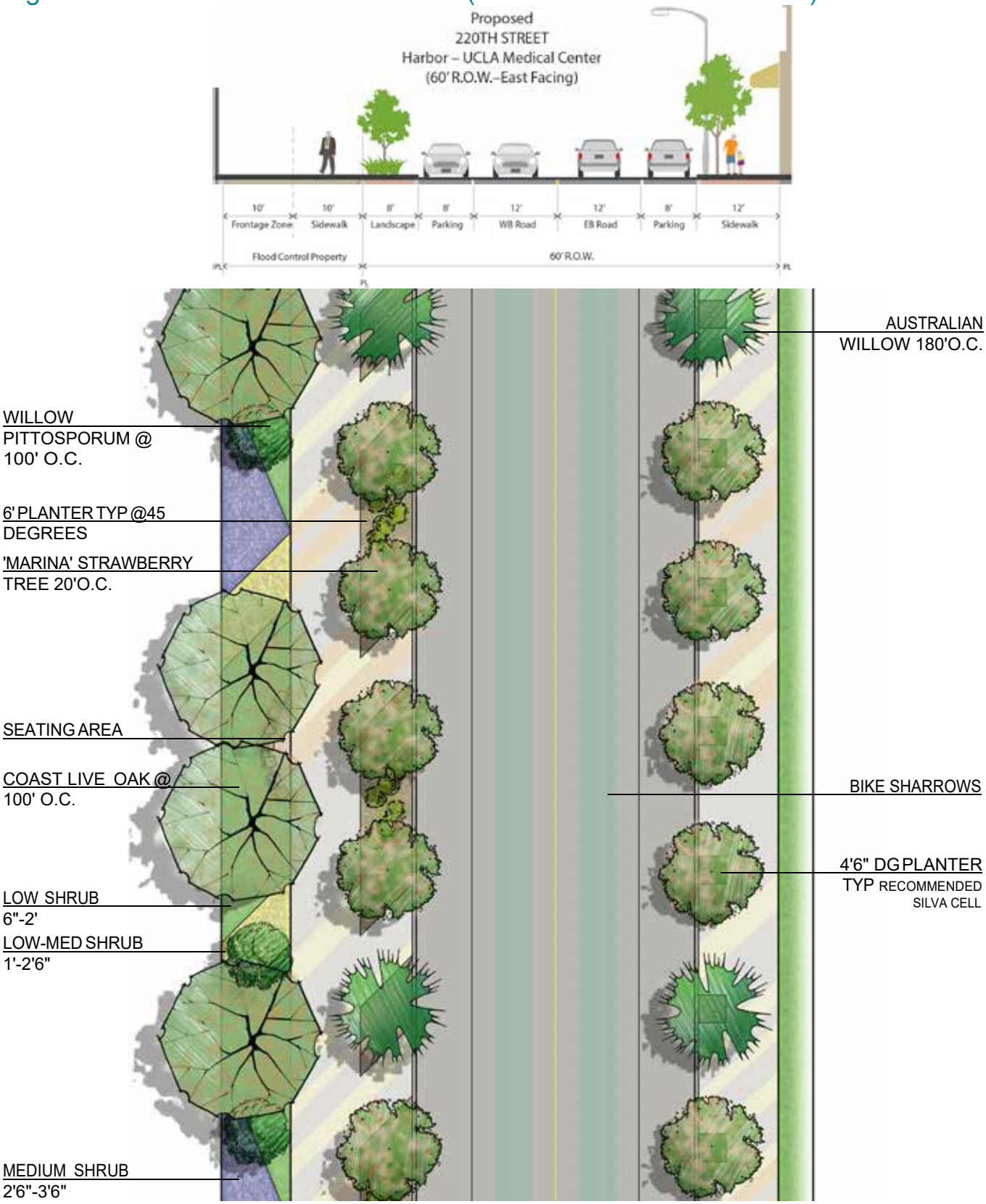


Figure 3.20 Street Trees: 220th Street (West of S. Vermont Avenue)



SCALE: 1"=20'

Figure 3.21 Street Trees: 220th Street (East of S. Vermont Avenue)

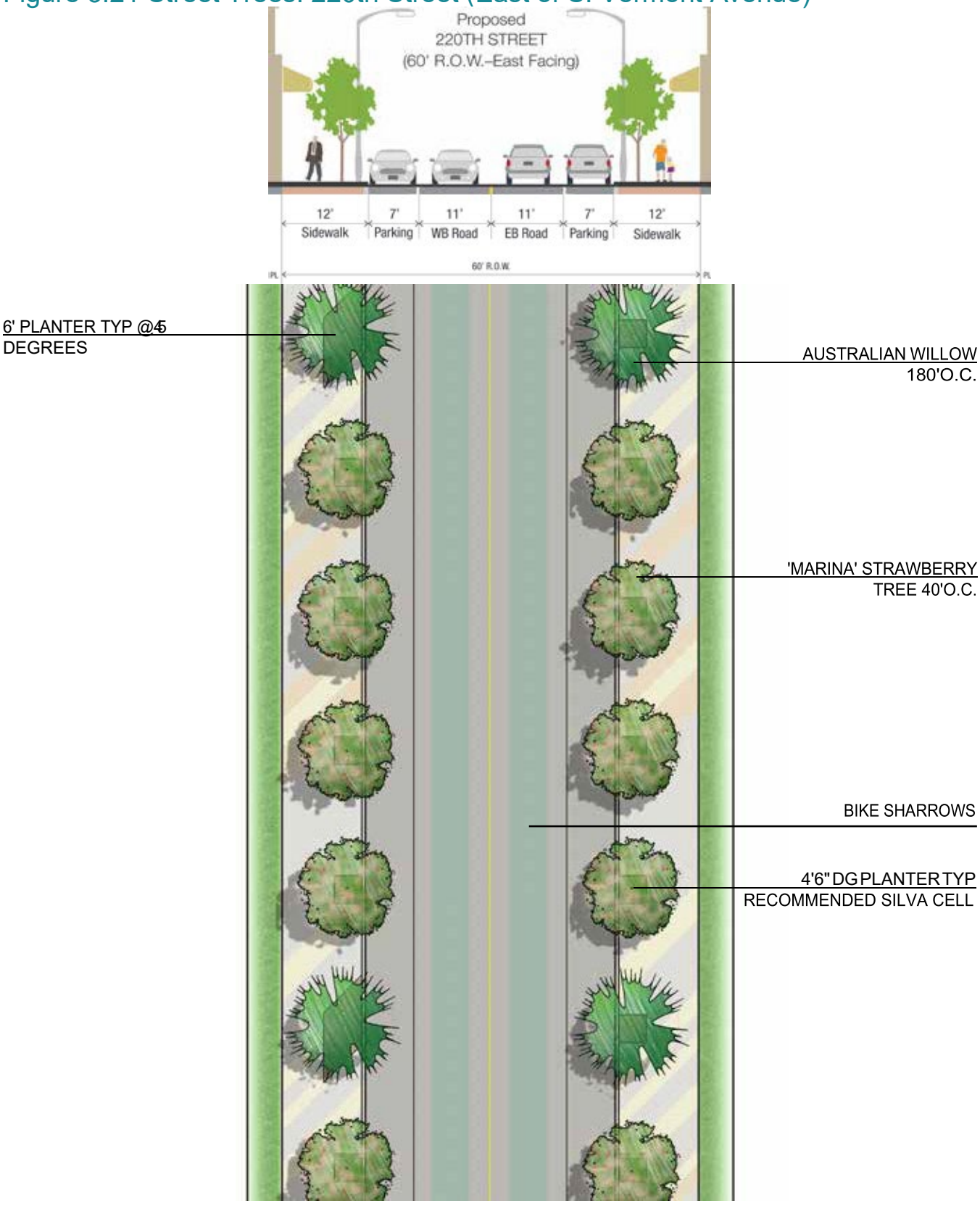


Figure 3.22 Street Trees: W. 223rd Street (West of S. Vermont Avenue)

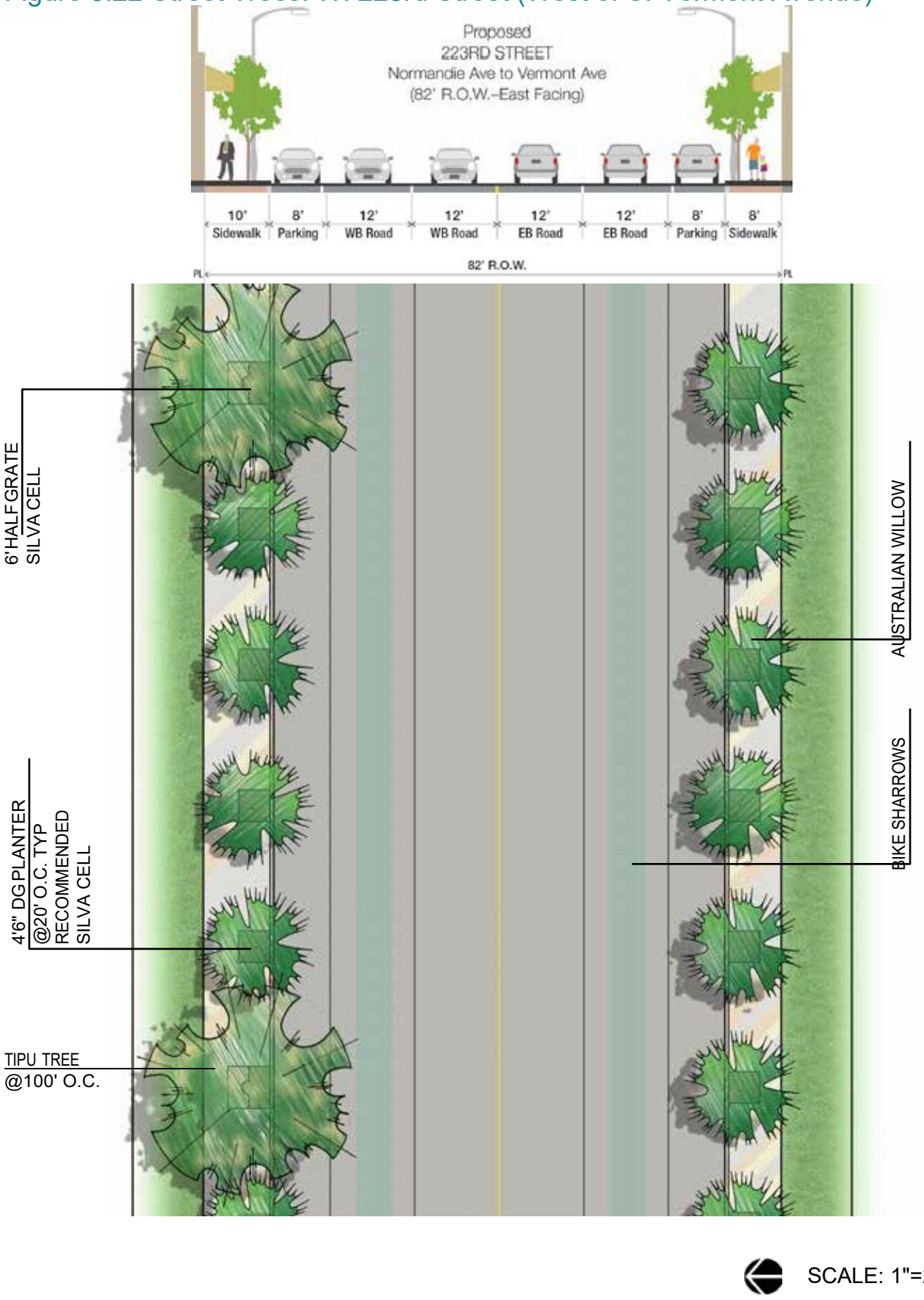
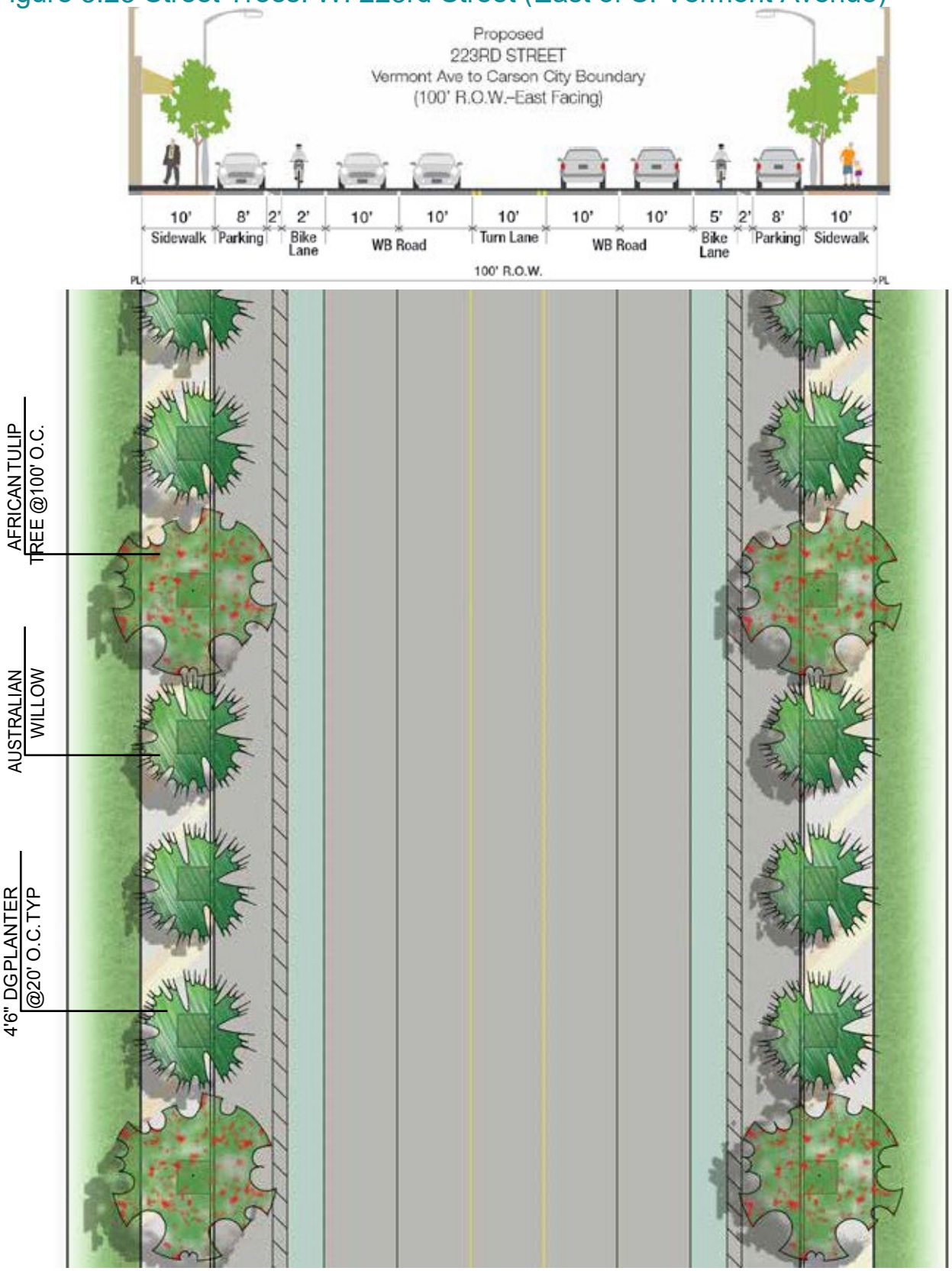


Figure 3.23 Street Trees: W. 223rd Street (East of S. Vermont Avenue)



SCALE: 1"=20'

Figure 3.24 Design Recommendations






3.6.2 New Park Opportunities

Within the entire unincorporated West Carson area, there is an average of about 0.4 park acres per 1,000 residents, which is well below the County average of 3.3 park acres per 1,000 people. In addition, only 24 percent of West Carson residents live within walking distance (half-mile) of a park, as opposed to the County's average of 49 percent. Despite the high demand for parkland and park amenities among residents within the Specific Plan area, there is almost no vacant publicly-owned land available for developing new parks.

Within the Specific Plan area, there is half an acre of parkland at the Park Learning Grove County Park, which serves as a small public green space with no amenities. This area operates as a joint-use facility with Meyler Street Elementary School. Additionally, another joint-use park facility is located within the Specific Plan area at Van Deene Avenue Elementary School, offering amenities like basketball courts and playground equipment, but lacking green or open space. Beyond the Specific Plan area, the nearest park facilities can be found at the Normandale Recreation Center in the City of Los Angeles, the Veterans Sports Complex in Carson, Carson Park in Carson, and joint-use facilities at White Middle School.

Figures 3.25 - 3.31 identify potential locations for the creation of pocket parks by converting cul-de-sacs, partially covering drainage channels, and potentially reclaiming property no longer needed by Harbor-UCLA Medical Center. Each of these concepts shows the potential for passive and active recreation. The ultimate design and programming of these spaces should be conducted in collaboration with the neighborhood in which they are located. Pocket parks can provide socialization opportunities for a wide variety of age groups.

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Figure 3.25 New Park Opportunities

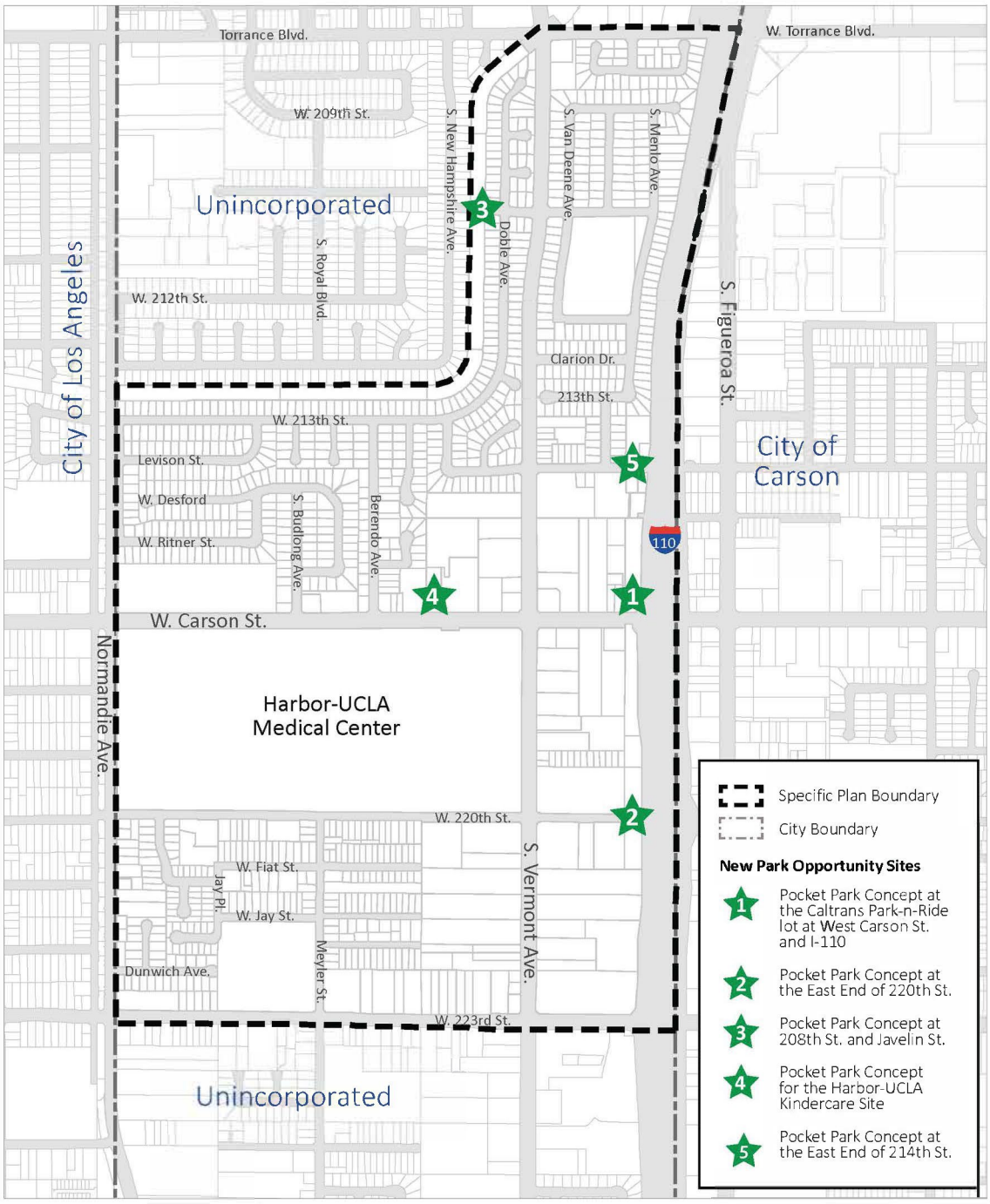


Figure 3.26 Pocket Park Concept at the Caltrans Park-n-Ride lot at W. Carson Street and Interstate 110

Ⓐ Pergola or other type of overhead structure to anchor corners and provide shade

Ⓑ Real-time bus tracking kiosk

Ⓒ Introduction of new W. Carson St. landscape palette

Ⓓ Bike parking/sharing

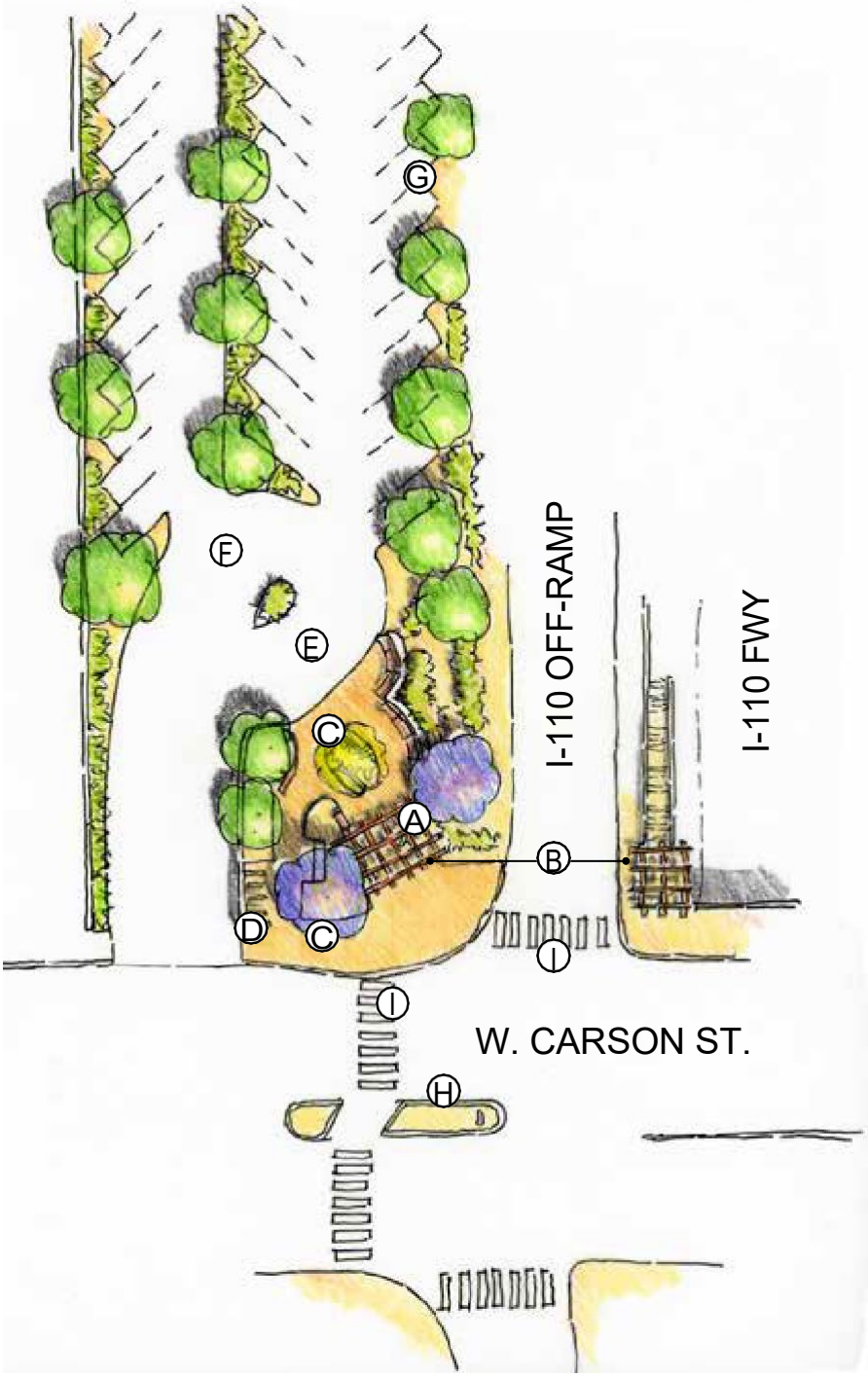
Ⓔ Benches against planter walls

Ⓕ Modified entry to parking lot and restriping

Ⓖ Parking lot landscaping

Ⓗ Entry monument or public art

Ⓘ Enhanced cross-walk for safety



Opportunity

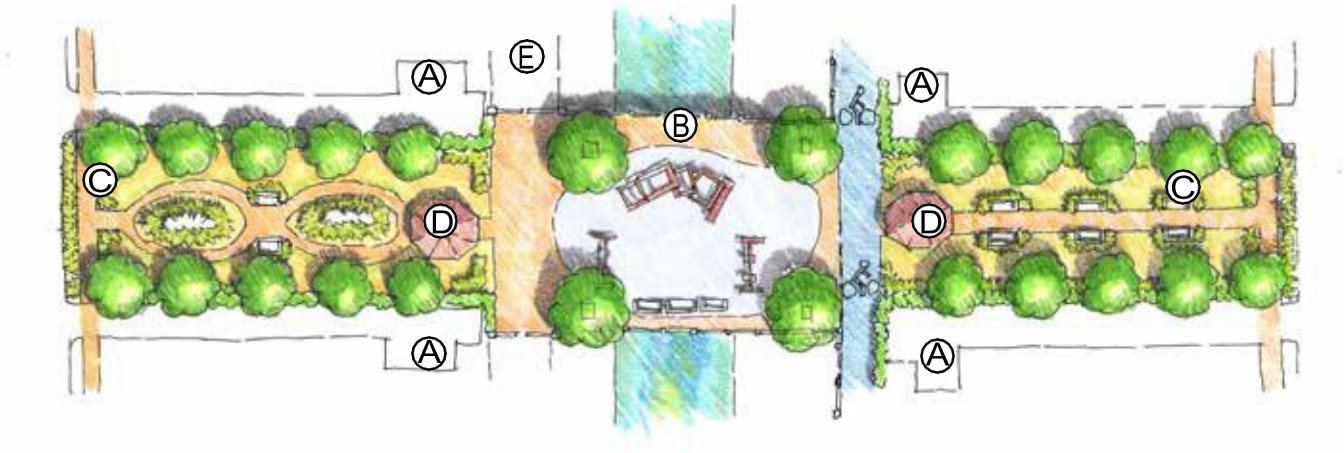
- Redesign Caltrans park-n-ride to include transit waiting plaza.
- Create a gateway to West Carson with landscape/hardscape elements that also bring visibility to the transit station.

Figure 3.27 Pocket Park Concept at the East End of 220th Street

Opportunity

- To provide children and parents with a safer and inviting walking experience to White Middle School via a pedestrian bridge over the Interstate 110.
- To create a small pocket park within the cul-de-sac at 220th Street.
- To improve the pedestrian bridge with new fencing and lighting.

Figure 3.28 Pocket Park Concept at 208th Street and Javelin Street



Opportunity

- To provide new park space to serve the single-family neighborhood north of W. Carson Street.
- Converts the two cul-de-sacs along Javelin St., connected by a channel cap for additional playground space.
- Includes bike path on one side of the channel and access road on other side.

Ⓐ New 10' drive to garage

Ⓑ Channel cap with hardscape, playground equipment and boxed trees for shade

Ⓒ Areas for unstructured play, seating, picnics

Ⓓ Shade structure with table

Ⓔ Existing maintenance road with gates at edge of park

Figure 3.29 Pocket Park Concept for the Harbor-UCLA Kindercare Site (Option 1)

Ⓐ Parking for the park site only

Ⓑ Opportunity for differently programmed park areas

Ⓒ Community garden

Ⓓ Re-purposed parks and recreation building

Opportunity

- To repurpose the Harbor-UCLA Medical Center Kindercare site, if and when this use relocates to the main hospital campus.
- To provide new park and recreation opportunities accessible from W. Carson Street and the residential neighborhoods to the north.
- To repurpose the Kindercare building as the West Carson Youth Center, with structured programs and events.
- Create a combined access drive to both the multi-family housing project and the park at the signalized intersection.

Figure 3.30 Pocket Park Concept for the Harbor-UCLA Kindercare Site (Option 2)

Ⓐ Combined parking for the park and guests of the residential project

Ⓑ Opportunity for differently programmed park areas

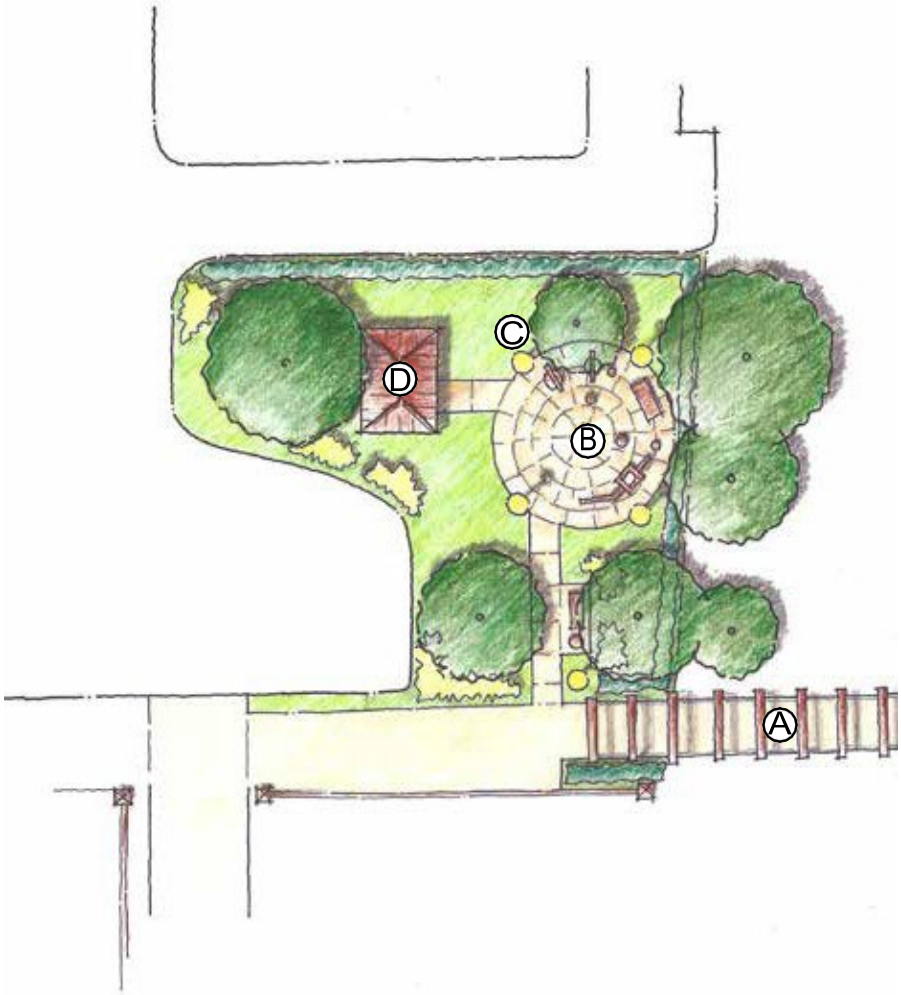
Ⓒ Community garden

Ⓓ Re-purposed parks and recreation building

Opportunity

- To repurpose the Harbor-UCLA Medical Center Kindercare site, if and when this use relocates to the main hospital campus.
- To provide new park and recreation opportunities accessible from W. Carson Street and the residential neighborhoods to the north.
- To repurpose the Kindercare building as the West Carson Youth Center, with structured programs and events.
- Create a combined access drive to both the multi-family housing project and the park at the signalized intersection.

Figure 3.31 Pocket Park Concept for the East End of 214th Street



Opportunity

- To provide children and parents with a safer and inviting walking experience via a pedestrian bridge over the Interstate 110.
- To create a small pocket park within the cul-de-sac at 214th Street.
- To improve the pedestrian bridge with new fencing and lighting.

3.6.3 Bicycle Circulation

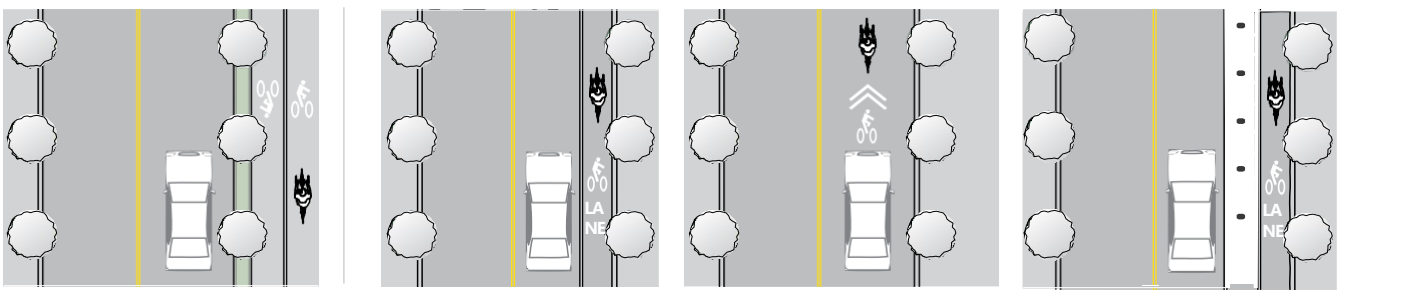
Bicycling provides a sustainable solution for traveling the first and last mile to and from a transit station. While transit and bicycling are complementary modes, infrastructure connectivity issues often influence a person's decision to bike the first and last mile of their journey from transit. The following section outlines improvements to the bicycle network to promote bicycling within the Specific Plan area.

Bicycle Facility Types

Bikeways are facilities that are designated primarily for bicycle travel. They are generally categorized into four types: Class I, Class II, Class III, and Class IV.

- **Class I (Bike Path):** These paths provide a completely separated right-of-way (off-street) designated for the exclusive use of bicycles and pedestrians with crossflow traffic minimized.
- **Class II (Bike Lane):** These lanes offer a restricted right-of-way (on-street) designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but crossflows by pedestrians and motorists permitted. Vehicle parking may be allowed to the right of bike lane if sufficient right-of-way width exists.
- **Class III (Bike Route):** These routes facilitate shared use with pedestrians or motor vehicles and are (on-street) designated by signs or permanent markings.
- **Class IV (Separated Bikeway): Separated bikeways or** cycle tracks are located in or adjacent to a roadway and are separated from traffic by physical barriers such as bollards, on-street parking, or planters. This design ensures an exclusive right-of- way for bicycle travel.

Figure 3.32 Bike Facility Types



Class I (Bike Path) *Class II (Bike Lane)* *Class III (Bike Route)* *Class IV (Separated Bikeway)*

Bicycle Network

1. Figure 3.33 illustrates the bicycle accessibility within a three-mile radius of the Carson/Harbor Freeway transit station. Starting from the station, all possible bicycle routes were mapped based on the street grid and then consolidated into a larger catchment shape or bike shed. The existing bicycle network within the Specific Plan area offers limited accessibility and connectivity, comprising approximately five miles of bikeway infrastructure. Of the five miles, four and one-half miles are Class II bicycle facilities and half a mile are Class III. One of the main constraints of the existing bicycle network is the limited north-south access, with only two north-south bike paths traversing through West Carson.

2. The Specific Plan proposes adding approximately 7.50 miles of bikeways to the existing network. These streets were selected based on the opportunities they provide to enhance connectivity within West Carson and the regional bikeway network of neighboring cities. The proposed bicycle facilities include:

- 208th Street Drainage Channel Multi-Use Path or Class I bicycle facility
- Meyler Avenue Multi-Use Path (between 220th Street and W. Carson Street)
- Normandie Avenue Class II bicycle facility
- W. Carson Street Class II bicycle facility with striped buffer
- W. 223rd Street Class II bicycle facility with striped buffer (between S. Vermont Avenue and the City of Carson boundary)
- W. 223rd Street Class III bicycle facility (between Normandie Avenue and S. Vermont Avenue)
- 220th Street Class III bicycle facility
- Meyler Avenue Class III bicycle facility
- Doble Avenue Class III bicycle facility
- 214th Street Class III bicycle facility

3. Buffered Class II bicycle lanes are proposed along W. Carson Street, and the segment of W. 223rd Street between S. Vermont Avenue and the City of Carson boundary. Buffered bicycle lanes are created by painting a striped buffer between the bicycle facility and on- street parking. These striped buffers help to improve safety and provide additional space between parked cars and bicyclists. Striped buffers are recommended along streets with average speeds of 40 mph or more.

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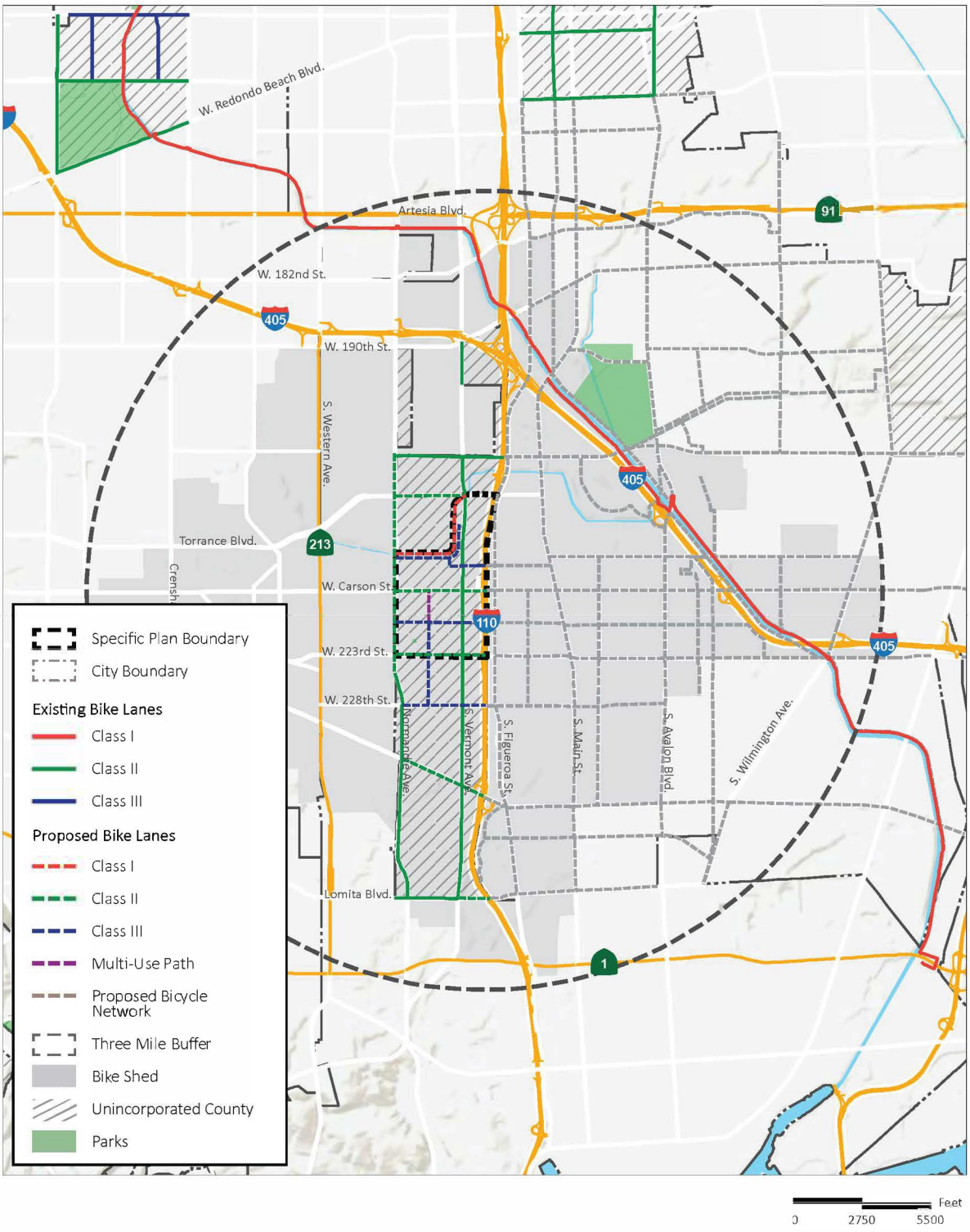
Figure 3.33 Bicycle Network



4. Additionally, the County, on behalf of West Carson, applied and received funding assistance for its West Carson Community Bikeways project under the Caltrans ATP Cycle 2 program. The project includes the design and construction of 0.5 miles of Class II bicycle facilities on both Lomita Boulevard and W. Carson Street, as well as 0.65 miles of Class III bicycle facilities on 220th Street, between Normandie Avenue and S. Vermont Avenue.

208th Street Multi-Use Path

The 208th Street drainage channel presents an opportunity to implement a multi-use path to encourage and promote active transportation. Located along the northern boundary of the Specific Plan area, the 208th Street drainage channel offers connectivity to the larger regional bikeway network, which includes the existing Class I bicycle facility along the Dominguez Channel. Figure 3.33 depicts the proposed location of the multi-use pathway, while Figure 3.34 illustrates its proposed design.

Example of multi-use path in a drainage channel.

Figure 3.34 Proposed 208th Street Drain Channel Bikeway

Bicycle Infrastructure Amenities

In addition to the provision of bikeways, the Specific Plan recommends the following design guidelines for the installation of bicycle infrastructure amenities:

Example of bicycle parking.

1. **Bicycle Parking:** Providing ample, well-designed bicycle parking is essential for promoting cycling within an area. Bicycle parking should consist of racks that support the bicycle upright and provide a secure place to lock. Installation should be carefully managed to avoid obstructing pedestrian pathways and to comply with ADA standards. Priority should be given to installing bicycle parking near key transit stops and key destinations. The required amount of bicycle parking for each land use is set forth in Chapter 22.414 of Title 22.
2. **Bicycle Crossing Signals:** Bicycle signals facilitate safe intersection crossing by instructing bicyclists when they can enter an intersection and by restricting conflicting vehicular movement.
3. **Bicycle Wayfinding Signage:** Bicycle wayfinding systems typically consist of signs or pavement markings that indicate information regarding routes, destinations, and directions. They help familiarize bicyclists with the bikeway network, identify the best routes to destinations, and alert motorists to the presence of bicyclists. Wayfinding signage should be placed along all streets that are part of the bikeway network.

3.7 SAFETY AND COMFORT

Example of children walking to school on a sidewalk.

3.7.1 Safe Routes to School

The Safe Routes to School (SRTS) program focuses on ensuring the safety of children walking and bicycling to school. Both Meyler Street Elementary School and Van Deene Avenue Elementary School are located within the Specific Plan area, highlighting the need for a safe network of pedestrian and bicycle infrastructure for children to utilize. Public Works has identified suggested crossings to be used by children for various elementary schools within the unincorporated areas of the County. Figures 3.35 and 3.36 illustrate the suggested routes for both schools. Although some controlled intersections exist within the area, there is a general lack of pedestrian crossing signage and protected crosswalks surrounding the area. The Specific Plan proposes the following design guidelines to promote safer routes to school:

1. Appropriate levels of street lighting should be installed on both sides of wide streets.

2. Appropriate traffic controls, such as marked crosswalks, traffic signals, and warning signs or flashers should be utilized at pedestrian crossing locations.

3. Curb ramps with warning strips, such as truncated domes, should be provided at pedestrian street crossings to facilitate safe crossings for pedestrians with mobility or vison impairments.

Example of a marked crosswalk.

Figure 3.35 Meyler Street Elementary School Safe Routes to School Map

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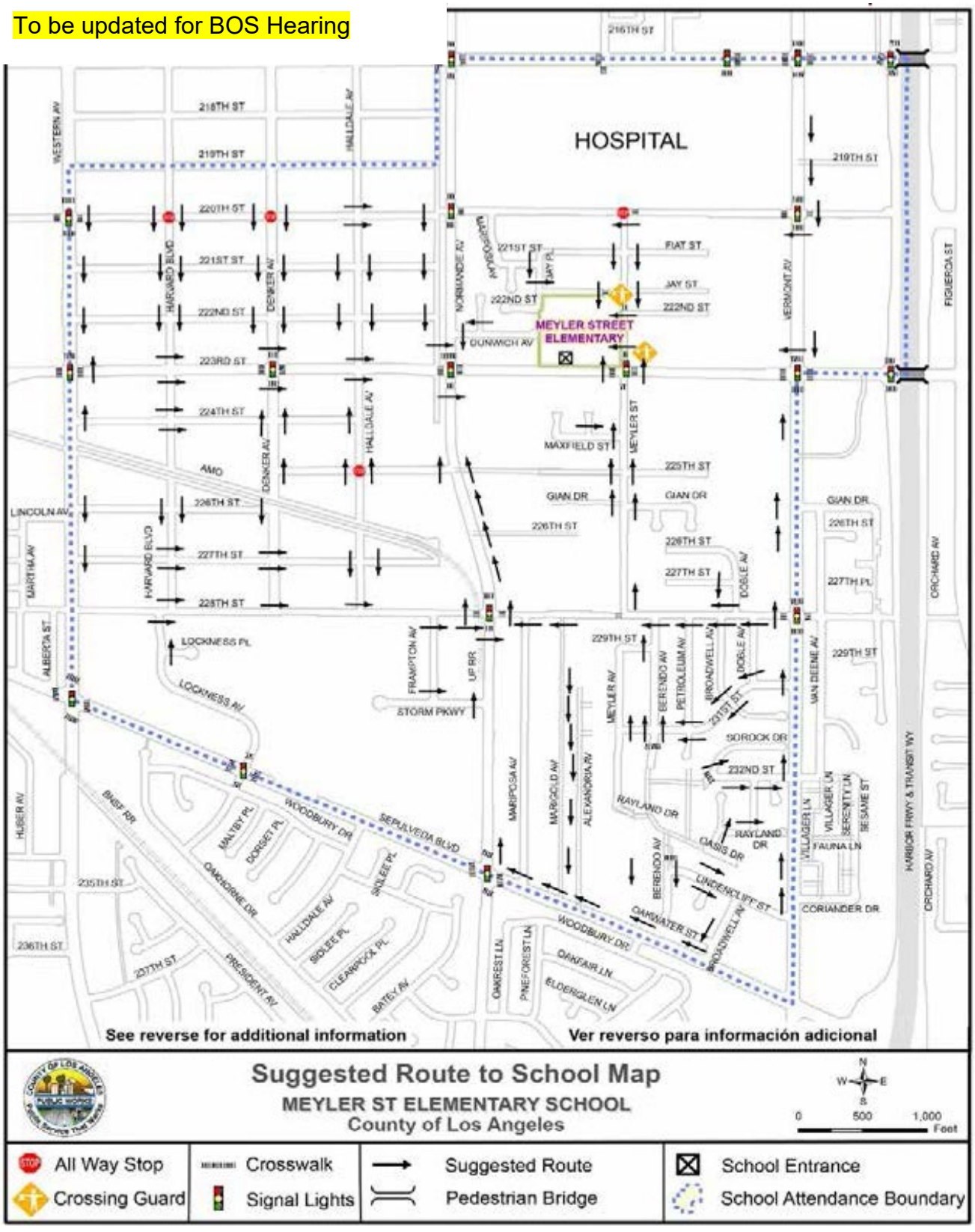
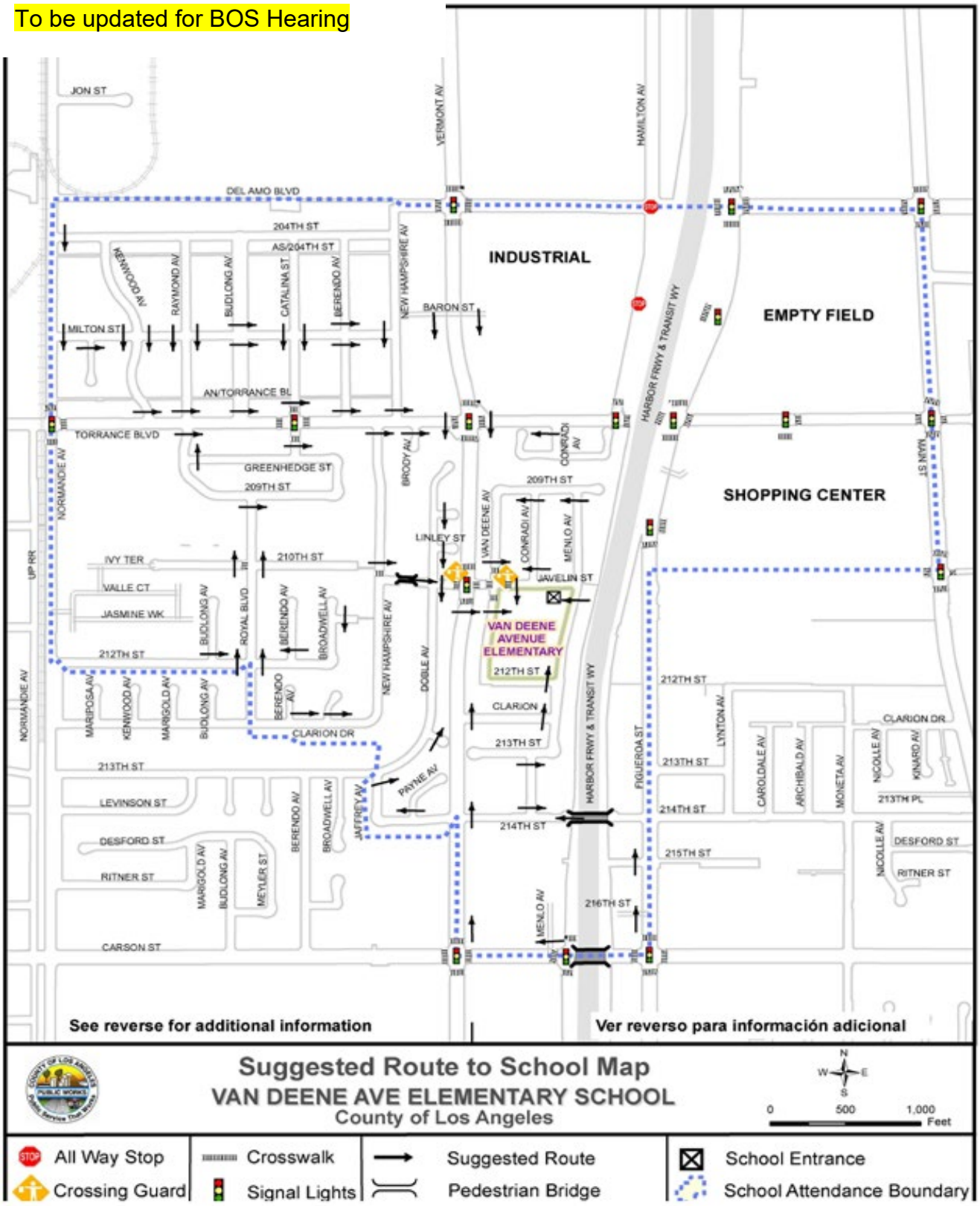


Source: Los Angeles County Department of Public Works

Figure 3.36 Van Deene Avenue Elementary School Safe Routes to School Map

To be updated for BOS Hearing



Source: Los Angeles County Department of Public Works

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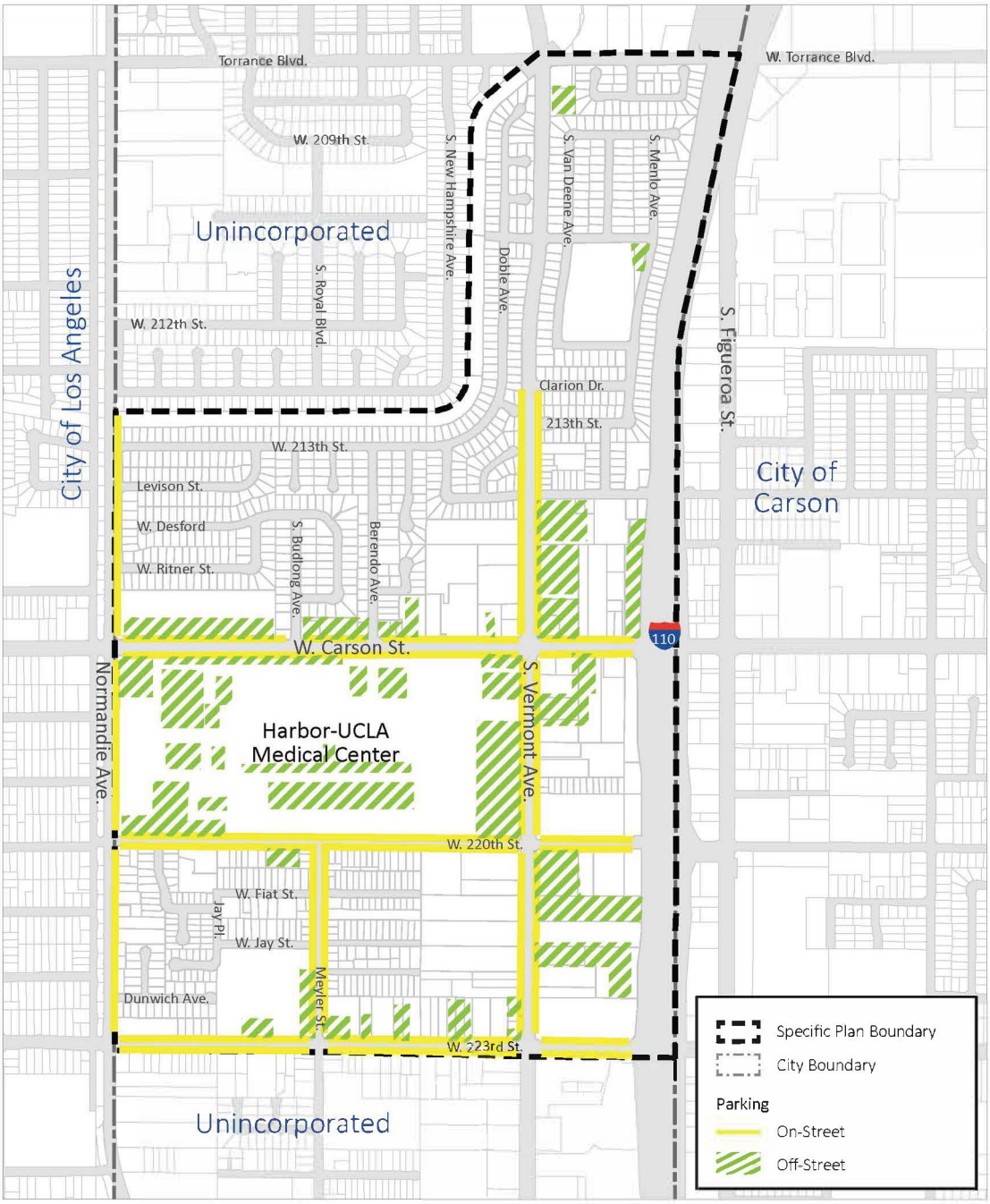
Figure 3.37 Parking



04

INFRASTRUCTURE

INFRASTRUCTURE

4.1 INTRODUCTION

Utility service infrastructure such as water, wastewater, gas and electric facilities, and stormwater drainage facilities are critical services for ensuring orderly growth and community investment. This chapter provides an overview of existing and future conditions for water, sewer, and storm drain systems serving the West Carson Specific Plan area. It identifies the current conditions for these infrastructure systems and recommends upgrades to accommodate the levels of new development proposed as part of the Specific Plan land use concepts.

4.2 WATER SERVICES

The Rancho Dominguez District of the California Water Service is the provider of potable water within the boundary of the West Carson TOD Specific Plan. The customer needs are met through a combination of local groundwater and surface water purchased from the Metropolitan Water District of Southern California.

4.2.1 Existing Conditions

The Specific Plan area is serviced by pipe sizes ranging from two-inch connectors to 33-inch main lines. The vast majority of pipe is composed of one of two materials – transite or PVC. The largest pipe connects the plan area to the east side of Interstate 110 via a 33-inch water main, which decreases to a 16-inch main before connecting to the 10-inch distribution pipe on the west boundary of the plan area on Normandie Avenue. The majority of distribution pipes off the main lines are 6-inch and 8-inch water lines. Figures 4.1 and 4.2 illustrate water pipe materials and size for the Specific Plan area.

Water supply requirements and flows were estimated using industry standards to determine capacities. The Harbor-UCLA Medical Center, located along the 33-inch to 24-inch main, is the largest estimated consumer in the area. The large water main located next to the medical center campus can provide both water supply and fire flow protection with minimal head loss. The distribution pipe size is large enough to sufficiently supply the Specific Plan area with water.

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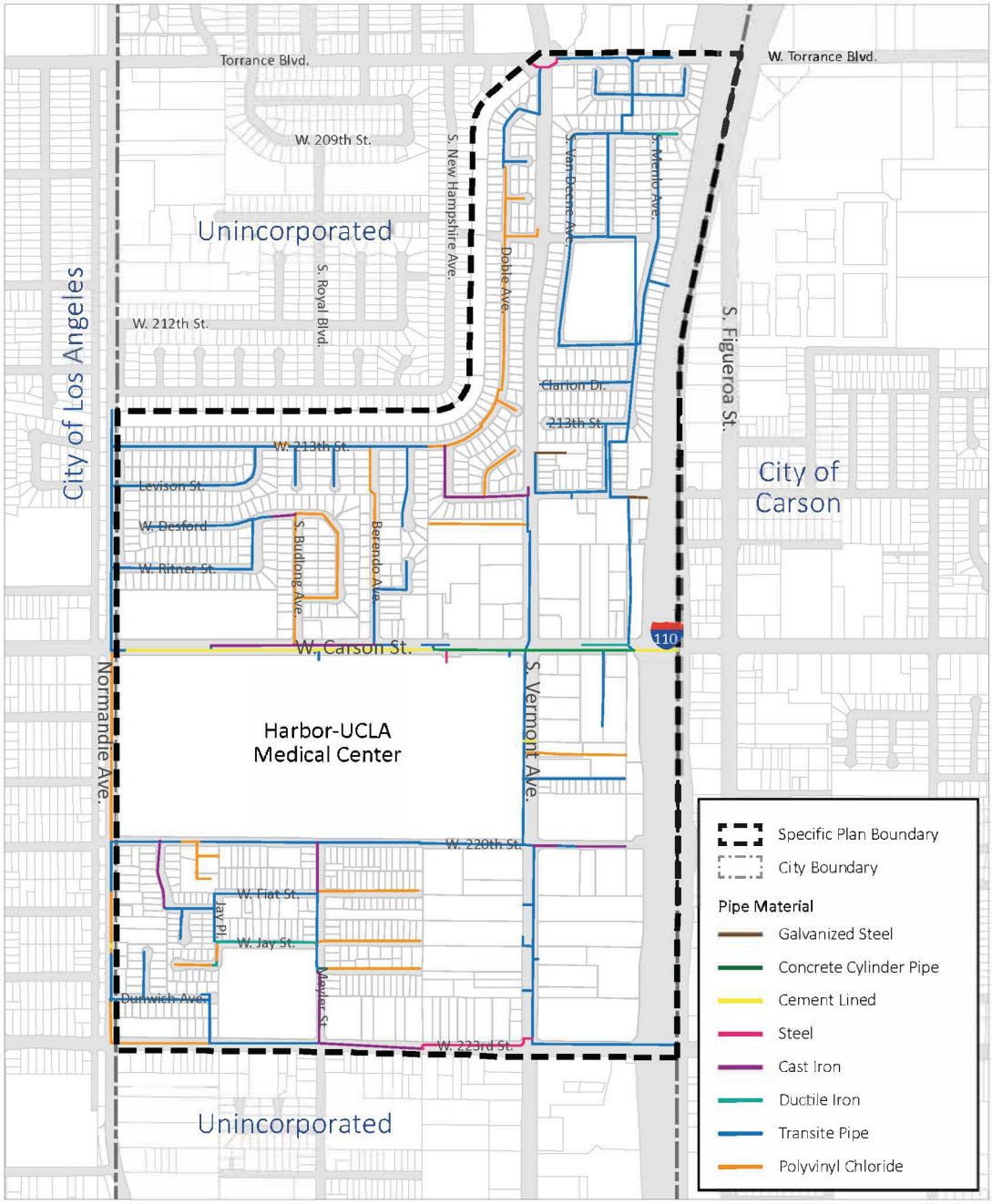
Figure 4.1 Water System- Pipe Material



California Water Service has a waterline replacement plan in place with the goal to replace water mains every 50 years. The pipes in West Carson are included in this plan. The district no longer uses transite pipes for water mains, and so existing transite pipes will be phased out and replaced over time.

4.2.2 Future Conditions

Buildout of the Specific Plan includes a substantial influx of households which in turn results in an increase in water demand and water flow on the north end of W. Carson Street and the east side of S. Vermont Avenue near the Harbor-UCLA Medical Center. South from West 220th Street along S. Vermont Avenue, this increase in flow is a result of additional proposed development on both sides of S. Vermont Avenue. The water main service line in the area is the 33-inch and 24-inch pipe along W. Carson Street coming from the east.

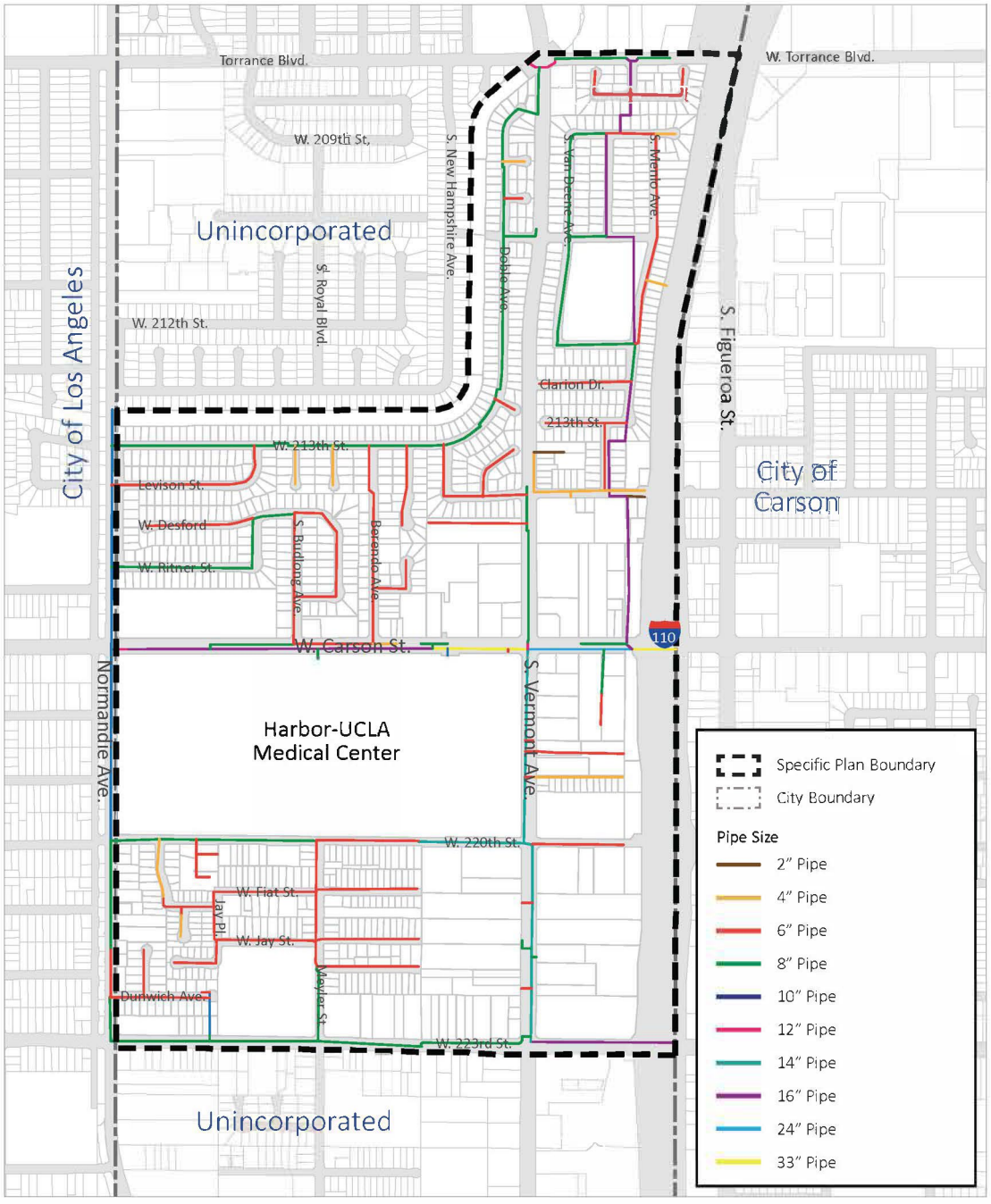
The two largest areas associated with planning zone West Carson Residential 1 have no need to increase capacity of service lines because the decrease in square footage will decrease flow to the areas.

To accommodate the demand for water consumption and flows resulting from buildout of the Specific Plan land uses, the following upgrades in water line pipe sizes are recommended:

- The 14-inch Pipe from W. Carson Street to 220th Street along S. Vermont Avenue will require resizing to a minimum of a 20-inch pipe due to a dramatic increase in flow.
- South from 220th Street to W. 223rd Street, the 14-inch pipeline is near the headloss threshold. The flow rate north from W. Carson Street to 214th Street is split between two lines: an 8-inch pipe along S. Vermont Avenue, and a 16-inch pipe along Menlo Avenue. Depending on the locations of the planned households and which distribution line supplies the water, one or both of these lines will require replacement. Without knowing the flow into each pipeline, exact sizing cannot be recommended at this time. Figure 4.3 highlights the general location of these water system impacts.
- Based on a fact sheet from California Water Boards titled "August 2015 Statewide Conservation Data," the average flow in the South Coast Hydrologic Region has decreased significantly to roughly 100 gallons per capita per day. Considering this flow, along with the assumption that water conservation measures such as low water use toilets, low flow showerheads, watering lawns and gardens in morning or evening hours, improved leak detection and repair, etc. are in

To be updated for BOS Hearing

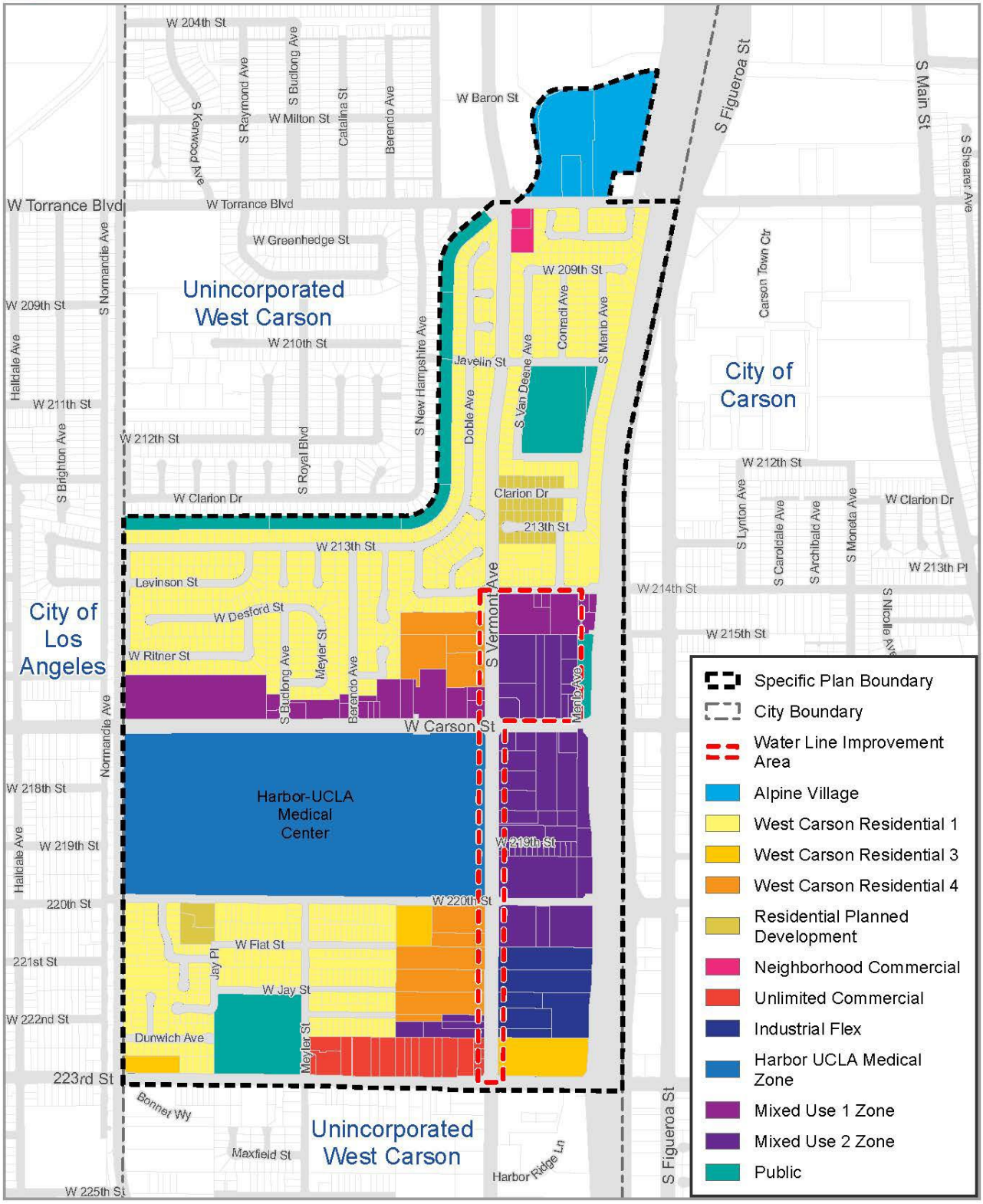
Figure 4.2 Water System- Pipe Size



place to maintain a low average daily demand, none of the pipes exceed the threshold of headloss per 1,000 feet.

These recommendations are based on an assumption of flow into the area that is independent of factors in the surrounding area. California Water Service will evaluate all future development and determine whether water facilities require upgrades.

Figure 4.3 Water Service Area of Concern



4.3 SEWER SERVICES

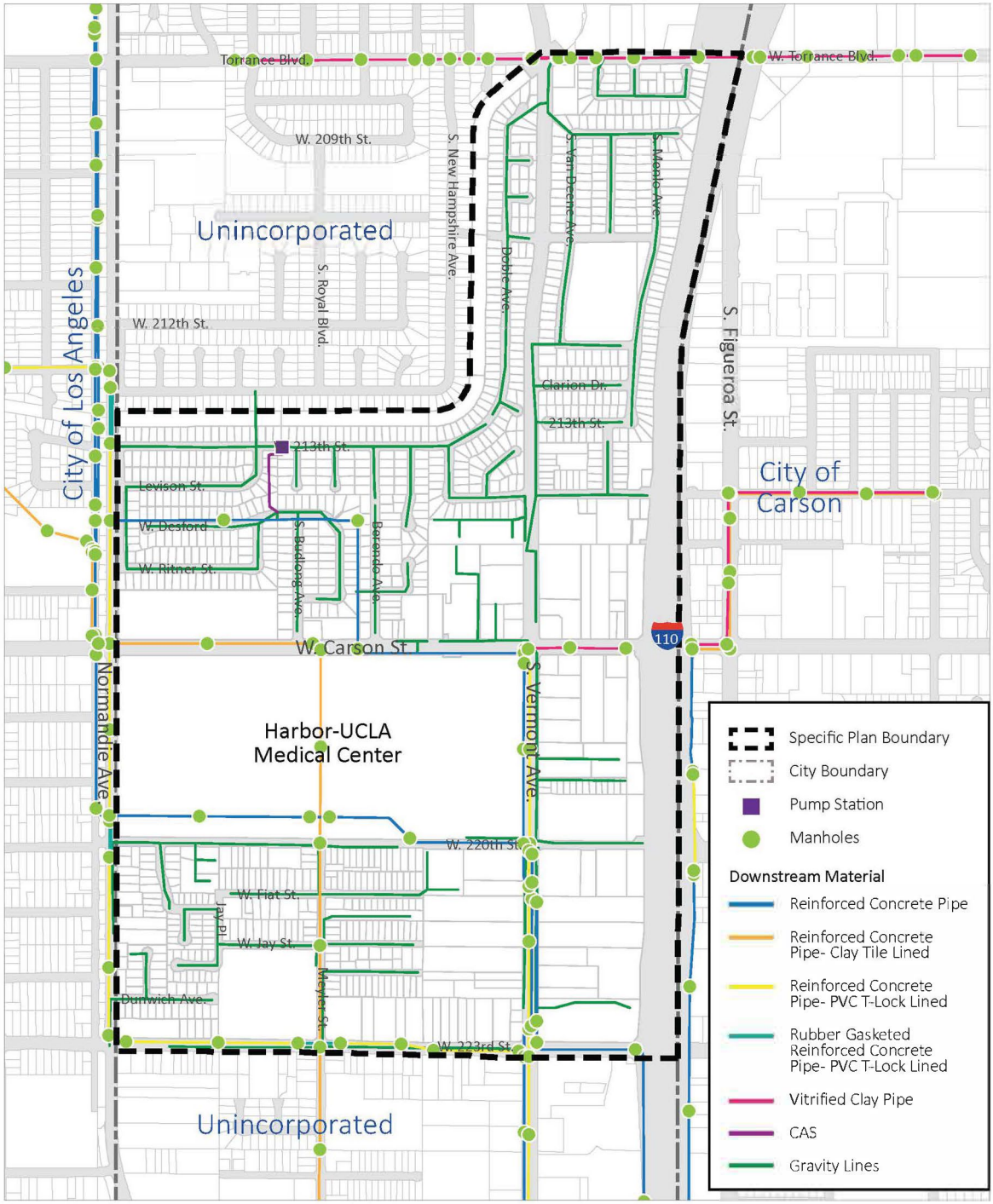
4.3.1 Existing Conditions

Two sanitary systems exist in the Specific Plan area – local lines and trunk sewers. The local lines are a series of primarily 8-inch gravity mains with laterals connecting to existing buildings, all composed of Vitrified Clay Pipe (VCP). The northwest section of the Specific Plan area collects into a pump of the main trunk. All local sewer lines are owned and operated by Public Works.

The trunk sewer lines are owned and operated by the Carson District of the Los Angeles County Sanitation Districts (LACSAN). There are four main segments of these trunk lines collecting sewage from the Specific Plan area. The northeast corner is served by a 12-inch VCP Trunk. Another trunk line runs east on Desford Street, south on Berendo Avenue, and east on W. Carson Street before connecting with the large trunk that runs south on S. Vermont Avenue. A third trunk, 54 inch in size, runs east on W. Carson Street at the Specific Plan boundary, cutting south through the Harbor-UCLA Medical Center campus along the same center line as Meyler Street, continuing south past the Specific Plan boundary. The final trunk line runs east on W. 223rd Street, connecting with the second trunk and continuing south on S. Vermont Avenue. There are three segments of trunk line that are out of service: 1) 63-inch trunk running east along the southern Harbor-UCLA access road (adjacent to 220th Street) connecting at S. Vermont Avenue, 2) 66-inch to 78-inch trunk running south along S. Vermont Avenue from W. Carson Street to W. 223rd Street, and 3). The continuation of the first unused trunk running south from 220th Street to W. 223rd Street. The majority of these lines are reinforced concrete with linings as shown in Figure 4.4.

To be updated for BOS Hearing

Figure 4.4 Sanitary Utilities



The 8-inch sanitary collection lines are of sufficient size to collect sanitary waste from houses and shops in the area and transport them to the main collection trunks. The medical center is located in close proximity to one of the larger trunks. Because of this, the higher volume of waste produced from the medical facilities is sufficiently captured. In the event the status of the plan area were to change with the addition of industrial sites, the collection lines would require evaluation.

4.3.2 Future Conditions

Sewer services in the Specific Plan area would require updating to accommodate buildout of the Specific Plan. The connection laterals of the largest zone: West Carson Residential 1, are large enough to accommodate the changes of the area. The large increase in flows under buildout result from a large anticipated increase of population located along a sanitary trunk main that runs along W. Carson Street north of Harbor-UCLA Medical Center and then along S. Vermont Avenue east of Harbor-UCLA; and along West 223rd Street, between Normandie Avenue and S. Vermont Avenue.

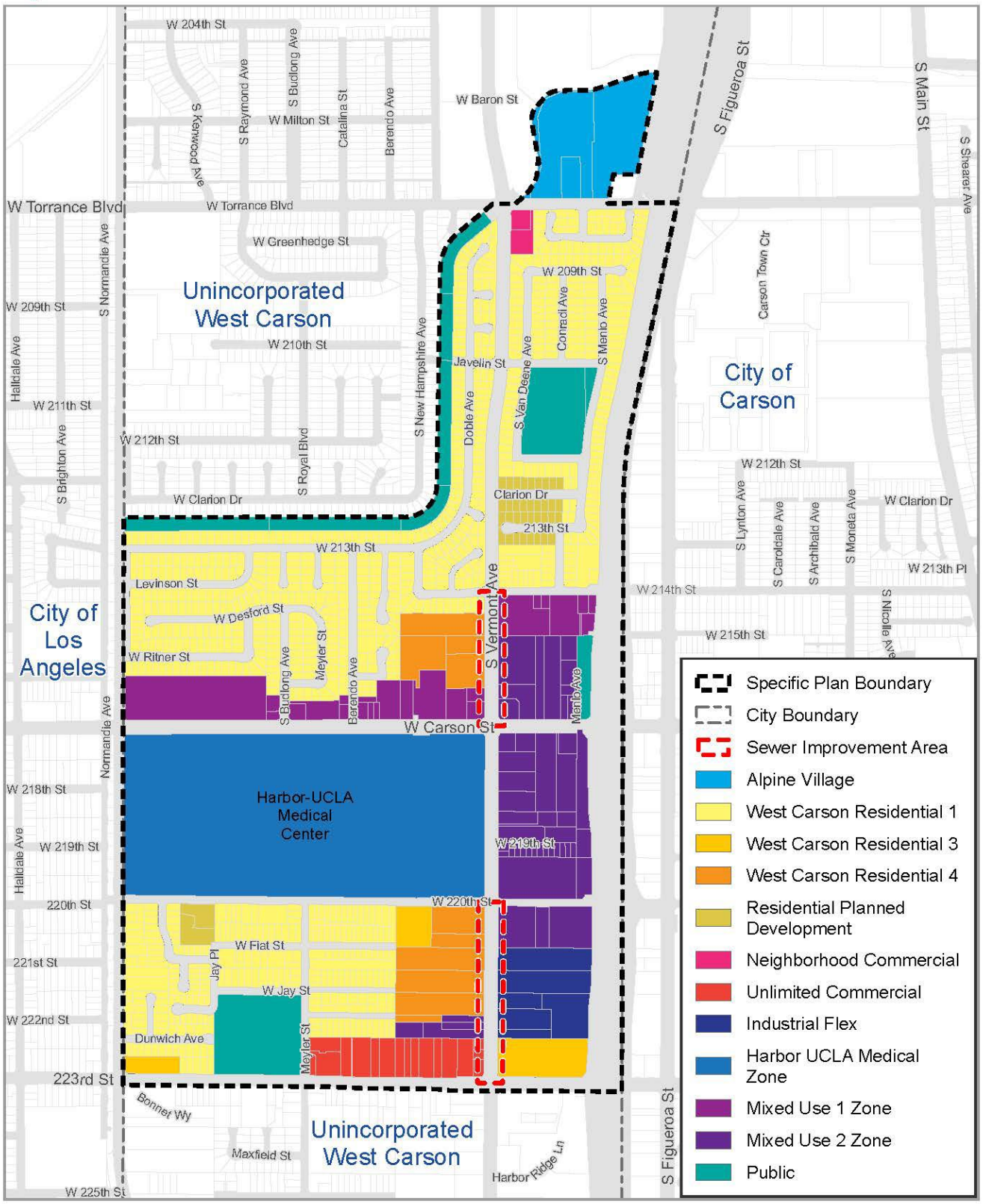
Due to the location of increased development in the Specific Plan, substantial amounts of new development will occur near existing collection trunks. Therefore, collection laterals are not anticipated to require resizing. However, with buildout of the Specific Plan, areas north of W. Carson Street and east of S. Vermont Avenue would require connection to the trunk line south of W. Carson Street. The increased flow in that area cannot be handled by the existing 8-inch collection laterals. With the large increase in flow along the east side of S. Vermont Avenue, more collection laterals may need to be installed to adequately capture and distribute the flow to the trunk line servicing the area. The total increased flow to the area will result in an increase in peak flow from 4.23 cubic feet per second to 9.90 cubic feet per second. Areas of potential impact are shown in Figure 4.5.

Trunk sewer capacity is highly dependent on upstream and downstream flows. The trunk line south of 220th Street past the Specific Plan area is undersized for the flow in the area. With an increase of 5.6 cubic feet per second, this trunk line would need to be addressed. Strategies that could address the flow needs include:

- Installing a pumping station, which could provide pressure to the line;
- Allowing more sewage flow through it;
- Increasing the size of the trunk; or
- Increasing the slope at which the trunk carries the sewage.

Using the same low flow data from the water service, the trunk line would still be undersized and would need to be addressed. The peak factor would increase the flow by 2.8 cubic feet per second. As these collection trunks span the entire collection system of LACSAN, it will evaluate all developments that will occur and conduct its own analysis of changes to the service trunk and necessary sewer infrastructure upgrades.

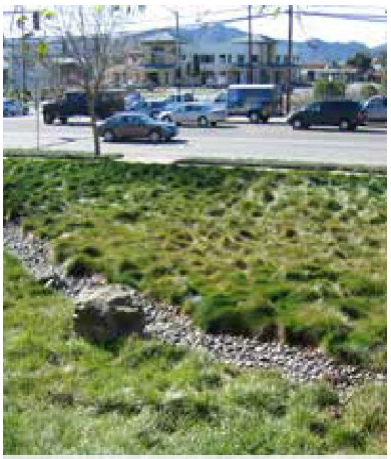
Figure 4.5 Sewer Service Area of Concern



4.4 STORMWATER SERVICE

4.4.1 Existing Conditions

Stormwater runoff in the Specific Plan area is managed by closed and open drainage channels. The primary source for drainage is a 10-foot reinforced cement concrete channel, which is also the north boundary of the Specific Plan Area. All but two sections of pipe drain into this channel, including the five-foot reinforced cement concrete channel located on the north side of West 220th Street. All drainage basins in the area connect to this channel via reinforced concrete pipe ranging from 18 inches to 84 inches in size. This drainage channel drains east and connects to the Dominguez Channel located to the northeast in the City of Carson. The storm drains on the southern part of the Specific Plan area drain south, eventually connecting with the Wilmington Drain. Figure 4.6 illustrates the storm drain system within the Specific Plan area.



Example of a pervious surfaces used to manage stormwater.

4.4.2 Future Conditions

Stormwater services in the Specific Plan area are connected to the large network of open channel drains, which are tied to a larger collection basin. Stormwater flow in these channels is greatly dependent on upstream and downstream flow. Buildout of the Specific Plan will generate little increase in runoff to the existing drainage system, since the area is completely developed.

New development will primarily affect the existing impervious surfaces surrounding Harbor-UCLA Medical Center and S. Vermont Avenue. The volume of stormwater runoff is not expected to significantly change due to the minimal disturbance of areas with existing pervious surfaces. Areas designated as West Carson Residential 1 are the primary locations of pervious surfaces in the Specific Plan area, which will remain primarily undisturbed.

Recent trends from the National Oceanic and Atmospheric Administration (NOAA) indicate increasing intensity of rainfall events but decreasing duration. This increased intensity does not allow as much stormwater to be captured by pervious surfaces and increases instantaneous flow on impervious surfaces. This trend should be monitored by the County's stormwater management team for future development.

Example of a pervious surfaces used to manage stormwater.

4.4.3 Green InfrastructureRecommendations

Impervious roadways frequently wash stormwater runoff containing harmful pollutants into nearby water bodies, such as rivers and flood control channels, which ultimately flow into the ocean. These pollutants, which include common substances found on roadway surfaces such as dirt, oil, grease, toxic chemicals, and trash, pose a significant threat to wildlife in local water bodies as well as nearby vegetation. Impervious roadways can also contribute to problems with stormwater quantity. When stormwater falls onto impervious surfaces, it cannot seep into the ground and therefore can cause flooding on roadways.

Public Works has developed Green Infrastructure Guidelines to guide new construction and reconstruction of road and flood projects. The goal of the guidelines is to incorporate sustainable practices into the design, construction, and operation of Public Works' infrastructure. The guidelines provide low-impact development (LID) design options to consider during planning or designing phase of road and flood projects intended to manage stormwater runoff.

The Specific Plan recommends that all new development projects involving the construction of new roadways conform to the Green Infrastructure Guidelines established by Public Works. The guidelines define roadway projects to include the new and reconstruction of public roads, maintenance access roads, road widening, medians, bike paths, sidewalks, parking lots, grade separation, etc. Further, all new development projects are required to integrate the following best management practices as identified in the guidelines:

Example of a pervious surfaces used to manage stormwater.

Permeable Surfaces

Permeable surfaces should be incorporated whenever feasible to allow infiltration of rainfall and to reduce the total volume of runoff, replenish groundwater, and improve water quality. The following lists some of the guidelines for the application of permeable surfaces from Public Works' Green Infrastructure Guidelines:

- Permeable sidewalks must adhere to existing Public Works standards for sidewalk design.
- Permeable access roads are not recommended for roadways with high volume of equipment trucks, as they can cause damage to permeable surfaces.
- Permeable pavement and underdrain systems for parking lots must be directed toward LID-type best management practices if needed to achieve the required volume reduction.
- Permeable alleys are recommended for alleys that are less than eight feet wide since they prevent access from heavy vehicles.

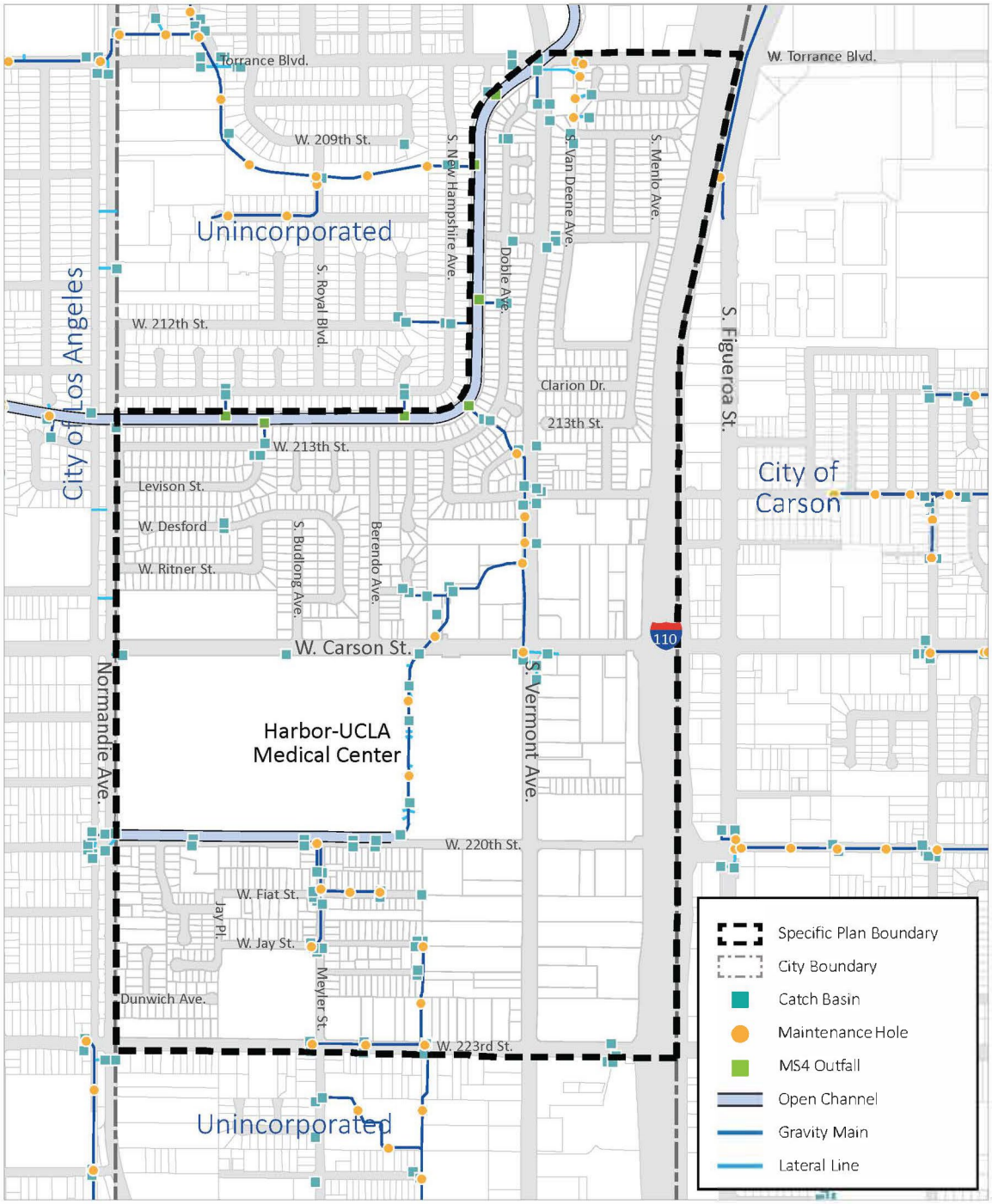
Vegetation and Landscaping

Vegetation and landscaping elements such as vegetated swales, vegetated buffers, planter/tree box filters, bioretention, and filter strips are intended to maximize available permeable space in an area to reduce pollutant concentrations in stormwater runoff and reduce runoff rates. The following lists some of the guidelines for the application of vegetation and landscaping from Public Works' Green Infrastructure Guidelines.

1. Vegetated swales must be designed in accordance with Chapter 3 of Public Works' Best Management Practices Design and Maintenance Manual.
2. Vegetated swales are recommended in areas where slope is between one and six percent.
3. Plant species for vegetated swales must be tolerant to both extreme wet and dry conditions. Refer to the vegetated swale plant list of Public Works' Best Management Practices Design and Maintenance Manual.
4. Vegetated swales should be greater than 100 linear feet in length and at least 12 inches in depth from the top of the sidewalk to the swale bottom.

To be updated for BOS Hearing

Figure 4.6 Storm Drain System



5. Bioretention facilities must be designed in accordance with Chapter 5 of Public Works' Best Management Practices Design and Maintenance Manual.

6. Planting/tree box filter designs should typically incorporate a concrete vault filled with a bioretention soil mix and vegetation. Additionally, they may contain an underdrain connected to an adjacent flood control conveyance.

4.5 SOLID WASTE MANAGEMENT

The Specific Plan area utilizes the residential/commercial franchise system for solid waste collection services. Currently, Calmet Services Incorporated provides trash collection and recycling services to the unincorporated residents of Oceanview-La Rambla-West Carson under an exclusive residential franchise agreement with the County.

Key issues surrounding waste management within the County include increasing volumes of waste being disposed of and generated, a lack of solid waste processing facilities to accommodate the volumes of waste generated, and public opposition towards the construction of new solid waste management facilities. As available space for landfills becomes more limited, local jurisdictions must implement effective waste management strategies to reduce solid waste volumes.

In 2014, the County Board of Supervisors (Board) adopted a Roadmap to a Sustainable Waste Management Future. This roadmap outlines the process by which the County can implement strategies to reduce solid waste generation in unincorporated areas and with County operations. The West Carson community is part of this program, which includes goals to reduce solid waste destined for landfills by 80 percent by 2030 and 95 percent by 2040.

4.6 ELECTRICAL SERVICES

Electricity is provided to the Specific Plan area by Southern California Edison (SCE), a private utility company. SCE sets its own service standards, with oversight from the California Public Utilities Commission (CPUC), and facility improvement strategies. Electricity is transmitted by above-ground power lines that currently supply sufficient electrical service to the Specific Plan and have adequate capacity to serve the area with buildout of the Specific Plan.

4.7 NATURAL GAS SERVICES

The Southern California Gas Company, a subsidiary of Sempra Utilities (The Gas Company), a private utility company, is the natural gas service provider for the Specific Plan area. Natural gas pipelines exist along all major street rights-of-way within the area.

The assessment of capacity to meet future demand under buildout of the Specific Plan will be conducted by The Gas Company in coordination with the County at the time development occurs and building plans are submitted.

4.8 TELECOMMUNICATIONS AND CABLE SERVICES

AT&T and Time Warner, two separate private utility companies, both provide local and long-distance telecommunications services in the Specific Plan area. Time Warner Cable provides cable and high-speed internet services. Additionally, various wireless carriers offer service within the Specific Plan area. Wireless communications facilities, whether freestanding or attached to a building or structure, must comply with the design guidelines and obtain approval of a conditional use permit. Conditional use permits for wireless communications facilities are valid for a duration of 10 years from the date of approval, unless amended or extended by the planning commission or hearing officer.


COUNTY OF LOS ANGELES
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