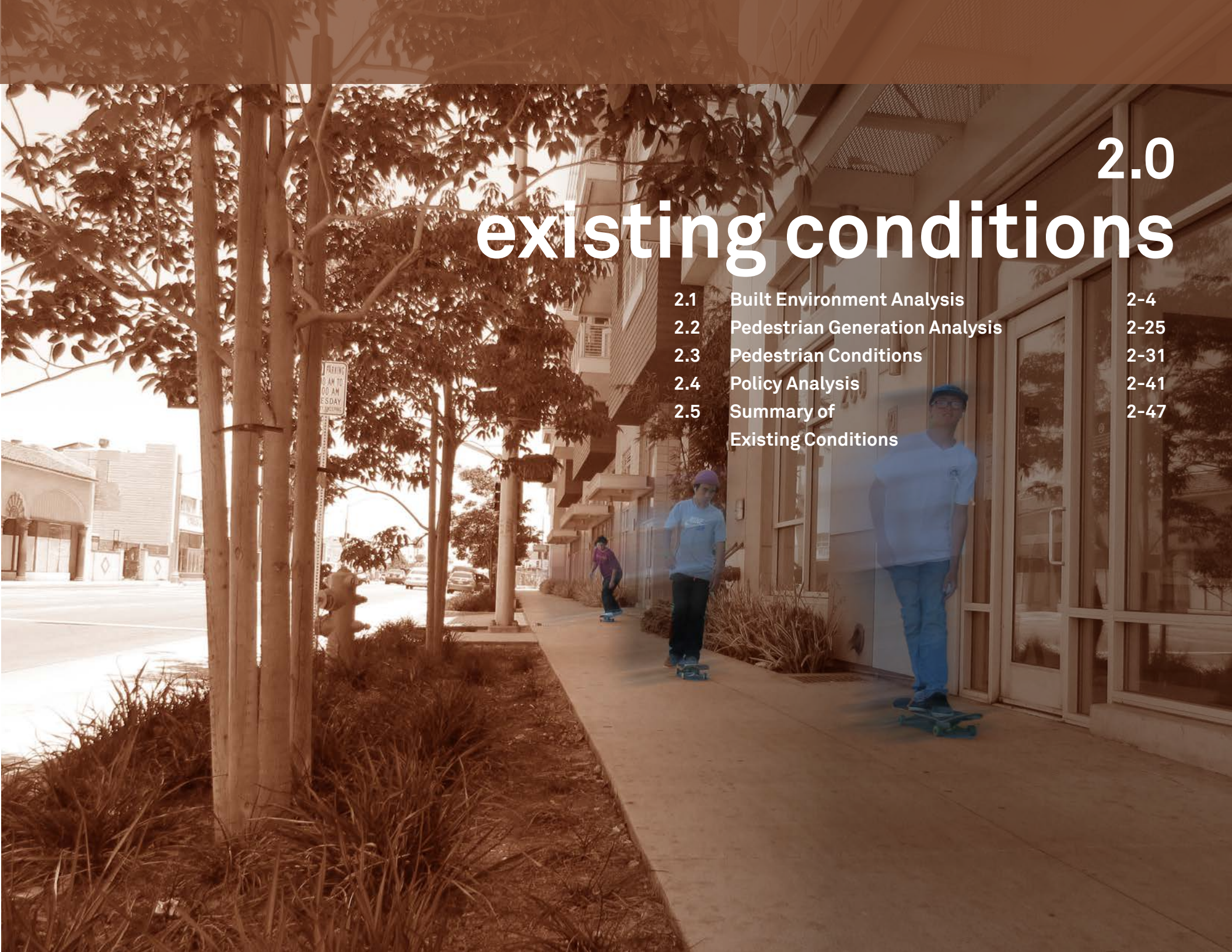


2.0 existing conditions

2.0 existing conditions

The Existing Conditions Report (ECR) provides a snapshot of pedestrian conditions in the planning areas. The ECR includes a current profile of pedestrians in the study area in order to understand the audience for pedestrian improvements. This part of the report also provides a discussion on proximity to transit, as the closer residents are to effective transit, the more likely they might be to walk to it. Second, it describes the existing infrastructure, such as sidewalks, street trees and lighting, and gaps in the existing sidewalk network. Finally, the ECR explores the array of programs and plans already in place. The City has made great strides towards improving the pedestrian environment thus far. Its Pedestrian Priority Street Standards, Mobility Element, and Downtown Plan are all examples of internal policies that will help the City meet its goals. These documents and other citywide education and enforcement programs are highlighted. The existing pedestrian conditions are discussed in the report by planning area.

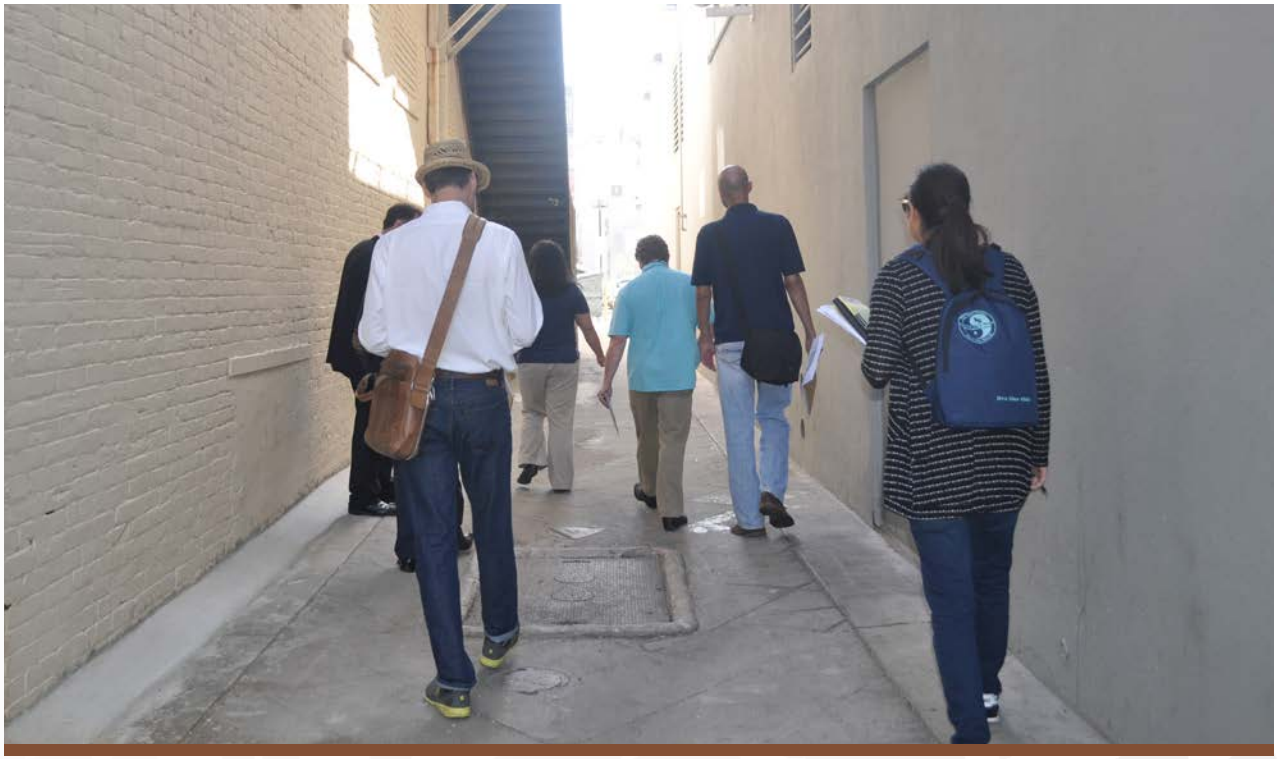


Figure 2.1 The PMP project team conducting a site visit to examine existing conditions.

2.1 Built Environment Analysis

To focus the built environment analysis, the team conducted a survey of key mobility corridors. These corridors include major arterials, alleyways, local streets, and the Promenade in the Downtown, Midtown, and Wardlow/Willow planning areas. A map of these corridors is presented in Figure 2.2. Key mobility corridors were selected using the following criteria:

- high level of retail activity
- iconic character
- connect major destinations, including Blue Line Stations
- representative of conditions along other corridors in study area

An understanding of the condition of existing pedestrian facilities in the plan area is necessary for determining future opportunities for improvement. While sidewalks and street lighting are identified in the Pedestrian Master Plan (PMP), other pedestrian infrastructure conditions such as street crossings and street connectivity were also evaluated.

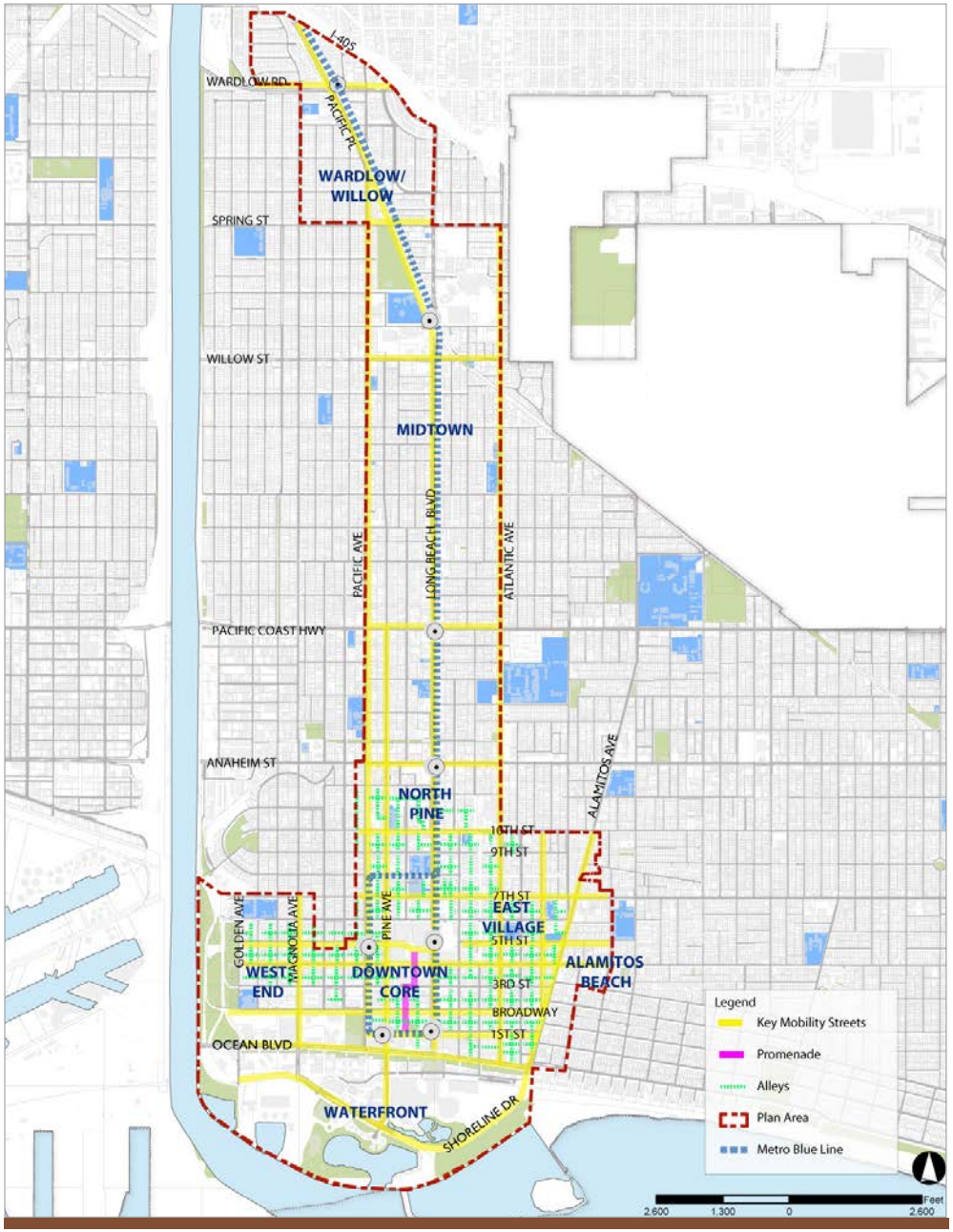


Figure 2.2 Key mobility corridors evaluated for the Built Environment Analysis.

2.1.1 Sidewalks

Sidewalks exist along both sides of most streets in the plan area, with the exception of a few locations in the north area of the city. Sidewalk design varies from wide sidewalks with street trees, such as along segments of Pine Avenue, Ocean Boulevard, Long Beach Boulevard to narrow sidewalks with limited pedestrian facilities, such as along Anaheim Street, Pacific Coast Highway, Willow Street and Wardlow Road. Traditional residential neighborhoods and areas that have seen recent redevelopment generally have street trees and landscaping, while other areas provide only basic pedestrian amenities.

According to the Geographic Information System (GIS) analysis, there are currently about 226 linear miles of sidewalk within plan area. Approximately 192 miles of a total 226 miles of publicly maintained roadways (or roughly 84% percent) provide sidewalks within the right-of-way. Approximately 5 percent, or 29 miles, of sidewalks within the plan area are no more than 7 feet, ranging from 4 feet to 7 feet. Most of the wider sidewalks are located in the Downtown District along Pine Avenue, Ocean Boulevard, Long Beach Boulevard and 1st Street. The sidewalk widths for these key mobility streets are shown in Figure 2.5.

Opportunities and Constraints: Sidewalks >> Downtown > 4th, Transit Mall

4th Street
between Golden Avenue and Pacific Avenue; Long Beach Boulevard to Alamitos

OPPORTUNITY: a pedestrian-scaled street with a mix of retail and residential

CONSTRAINTS: lacks shade trees and pedestrian-supportive infrastructure. Sidewalks and curbs are in need of repair.

Figure 2.3

1st Street Transit Mall
between Pacific and Long Beach Boulevard

OPPORTUNITIES: Comfortable pedestrian environment, connections to promenade, and excellent transit access provides anchor for future pedestrian improvements in the West End and East Village

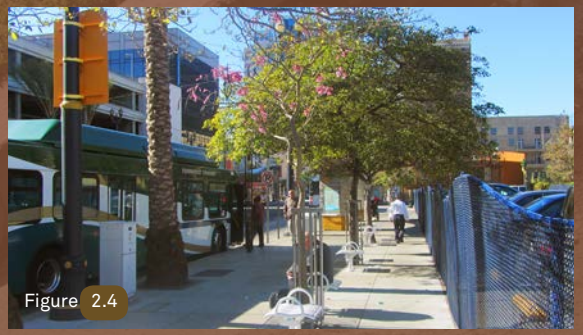
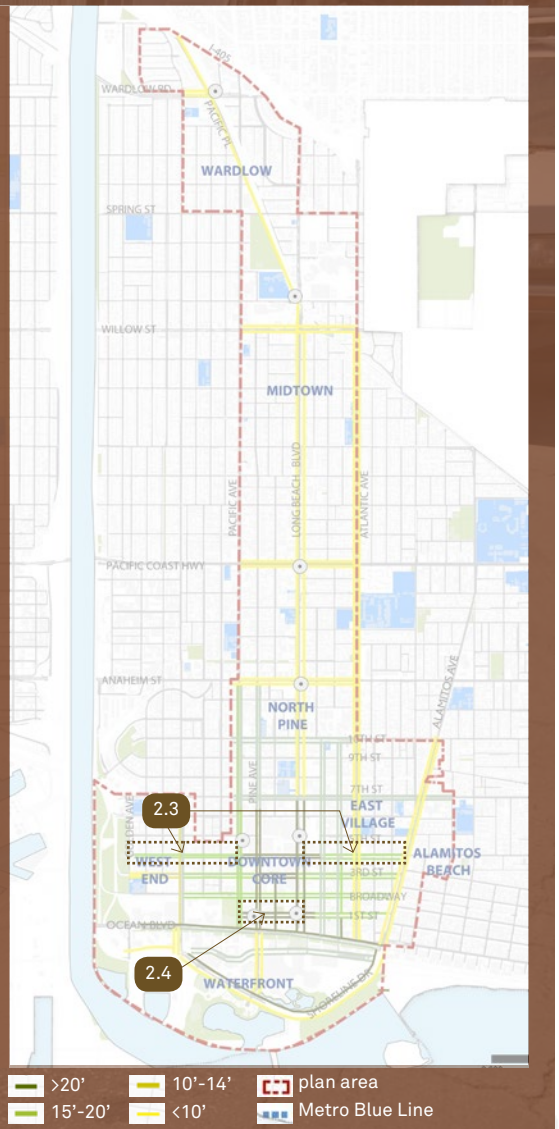


Figure 2.4

Figure 2.5: Sidewalk Widths



Constraints and Opportunities: Sidewalks >> Downtown > Alamitos

Alamitos
between Ocean and 7th Street

OPPORTUNITIES: connection to 1st street bike boulevard east of Alamitos, access to beach, Shoreline Gateway redevelopment project, possible median

CONSTRAINTS: Narrow sidewalks (<10'), short turning radii, limited ROW, curb cuts and surface parking lots, acceleration lane north of Ocean Boulevard.

Figure 2.6

Alamitos
at Ocean Boulevard, looking east

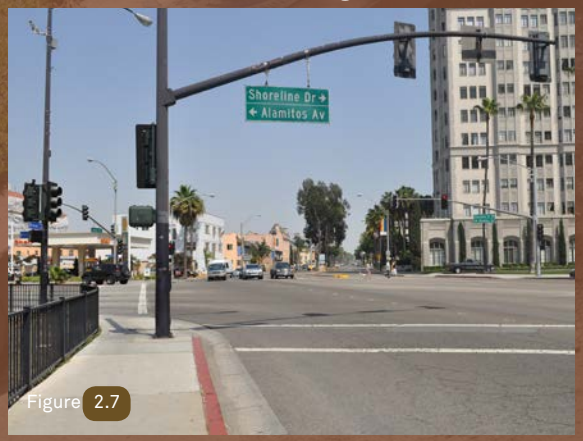
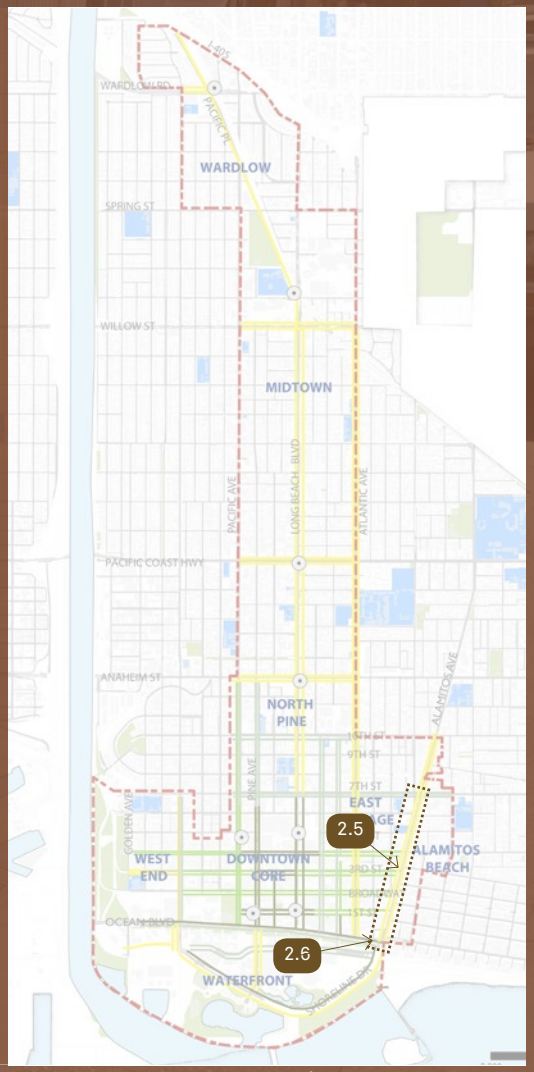


Figure 2.7

Figure 2.8: Sidewalk Widths



Downtown

In the Downtown District, the city street network is basically a traditional grid pattern. In several locations, the public right-of-way is reserved for pedestrians, most notably the Promenade, which links City Place to the Convention Center. A fairly complete sidewalk system (with sidewalks on both sides of streets) exists in the Downtown District. The Downtown District sidewalk environment includes a variety of pedestrian-supportive facilities such as ADA-compliant curb ramps, pedestrian-scale lighting, and street furniture such as benches and trash receptacles. Sidewalk widths vary by location, with the narrowest sidewalks measuring eight feet wide along Atlantic Avenue and Alamitos Avenue (see Figure 2.8). Sidewalk widths in and near the Downtown District vary by location. Just south of 6th Street, sidewalk widths range from 15 to 20 feet, including parkway or tree wells. Landscaping is, however, inconsistent.

The inner portions of the Downtown Core, East Village, and West End benefit from a relatively complete sidewalk system, with sidewalks present on both sides of most major and minor streets. However, the presence and width of boulevard landscaping also varies. There are a few areas with demonstration stormwater infiltration systems that have been implemented along 4th Street and 1st Street, but this is not typical.

Constraints and Opportunities: Sidewalks >> Downtown > 5th, 4th, north-south local streets

5th Street
between Golden and Pacific

OPPORTUNITIES: direct connection to Pacific Avenue Blue Line station, wide boulevards and sidewalks, mix of pedestrian-scale houses and multi-family buildings
CONSTRAINTS: limited pedestrian-level lighting, wide crosswalks at select intersections


Figure 2.9

4th Street
between Elm and Alamitos

OPPORTUNITIES: Berlin Cafe parklet and active pocket park across street activates 4th and Frontenac, possible alley enhancement, medians, and bumpouts, proximity to 5th Street station, existing retail and restaurants
CONSTRAINTS: turning movements into alley potentially make mid-block crosswalk difficult,


Figure 2.10

Daisy, Chestnut, Linden, Lime
between 7th Street and 3rd Street

OPPORTUNITIES: future bike boulevards, higher density residential, trees and landscaped medians
CONSTRAINTS: angled parking on one side, limited ROW


Figure 2.11


Figure 2.12 Lime Avenue

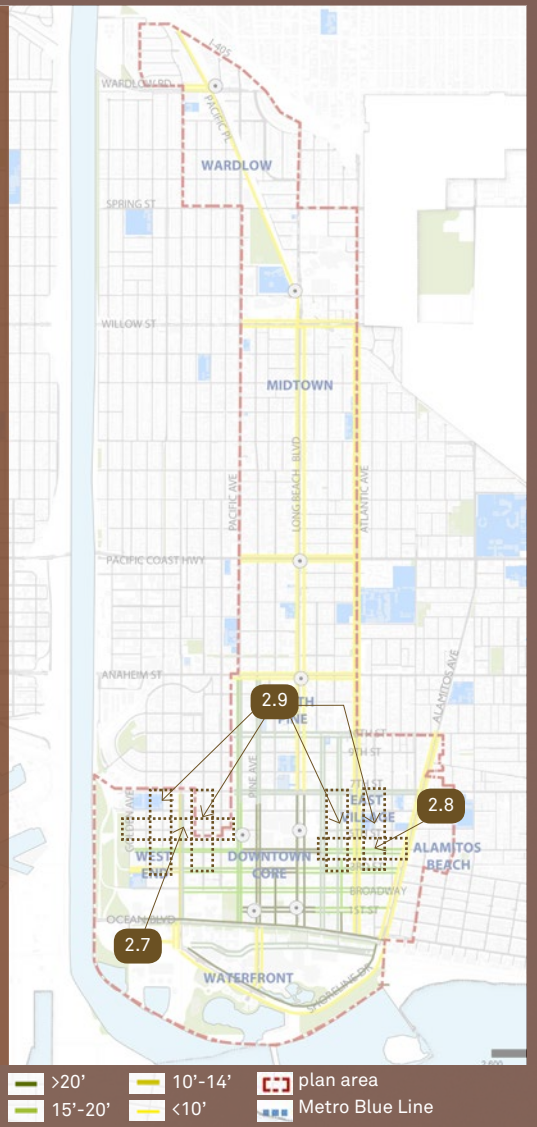


Figure 2.13: Sidewalk Widths

Constraints and Opportunities: Sidewalks >> Midtown

Anaheim
between Pacific and Atlantic

OPPORTUNITIES: potential median with pedestrian refuge, widen sidewalks over time through redevelopment setbacks

CONSTRAINTS: Narrow right-of-way, narrow sidewalks, most buildings located at lot line, no shade trees or protection from moving traffic, heavy traffic volumes

Figure 2.14 Typical conditions along Anaheim Street.

Midtown

While most major streets in the Midtown District include sidewalks on both sides, the sidewalks along east-west streets are narrow and measure approximately seven feet. The existing condition of the pedestrian environment along Anaheim Street between Pacific Avenue and Atlantic Avenue is poor with narrow and/or obstructed sidewalks and minimal inconsistent street trees in various sized tree wells. Pedestrian obstructions such as parking meters, power poles and road signs can be found in the sidewalks, narrowing the accessible sidewalk. The street primarily provides driveway entrances to parking structures and surface lots, and businesses as well as access to service entrances for a majority of businesses. This street is also characterized by fencing and/or walls directly adjacent to the back of the sidewalk, with no setback for planting. Parallel on-street parking lines both sides of the street.

A new multi family development project just west of Anaheim Station could serve as a model for future redevelopment projects. The building is situtated eight feet south of the lot line, providing enough room for a 15'-wide sidewalk with a planted boulevard. The image at left shows the Long Beach Senior Arts Colony (right side of image), a marked contrast from typical conditions across the street.

Constraints and Opportunities: Sidewalks >> Wardlow/Willow

Wardlow/Willow Stations

OPPORTUNITIES: create connection to station using Metro Blue Line ROW, large senior population, Daisy bike boulevard will connect both sides of tracks north of Willow
CONSTRAINTS: no crossings south of Wardlow Road on Pacific Place, gap in sidewalk, wide crossing distances to station, substandard sidewalks widths

Figure 2.15 Wardlow Station

Figure 2.16 Poor connectinos across Pacific Place to Willow Station.

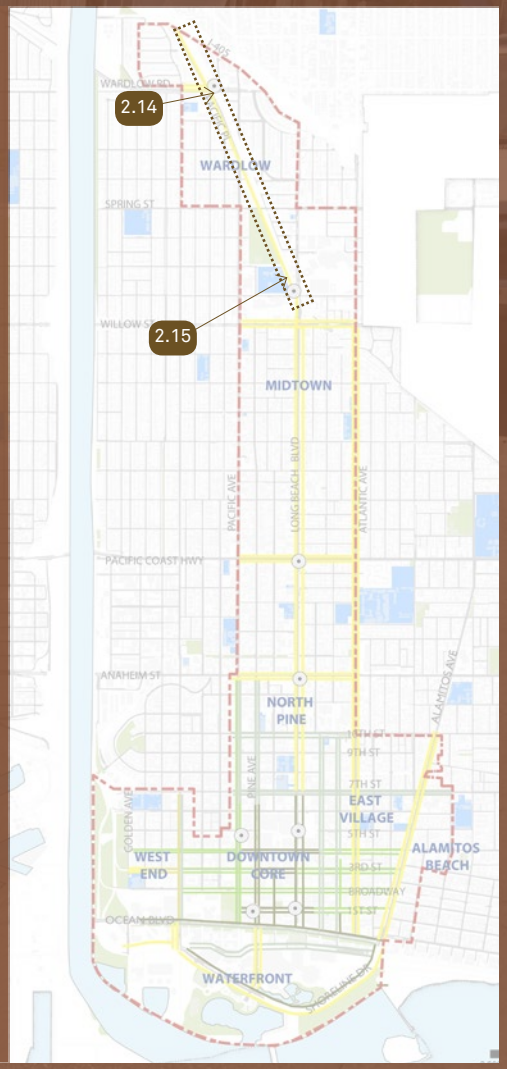


Figure 2.17: Sidewalk Widths

Wardlow/Willow

With the exception of several recently-constructed residential subdivisions Willow District's far northeastern areas, the sidewalk system in outlying areas is somewhat fragmented. Notable major streets lack sidewalks including segments of Pacific Place and segments of Wardlow Road.

Figure 2.18 An underutilized Metro right-of-way could serve as a connection between adjacent neighborhoods and the Wardlow/Willow Stations

Figure 2.19 Missing sidewalk and pedestrian crossings south of Wardlow

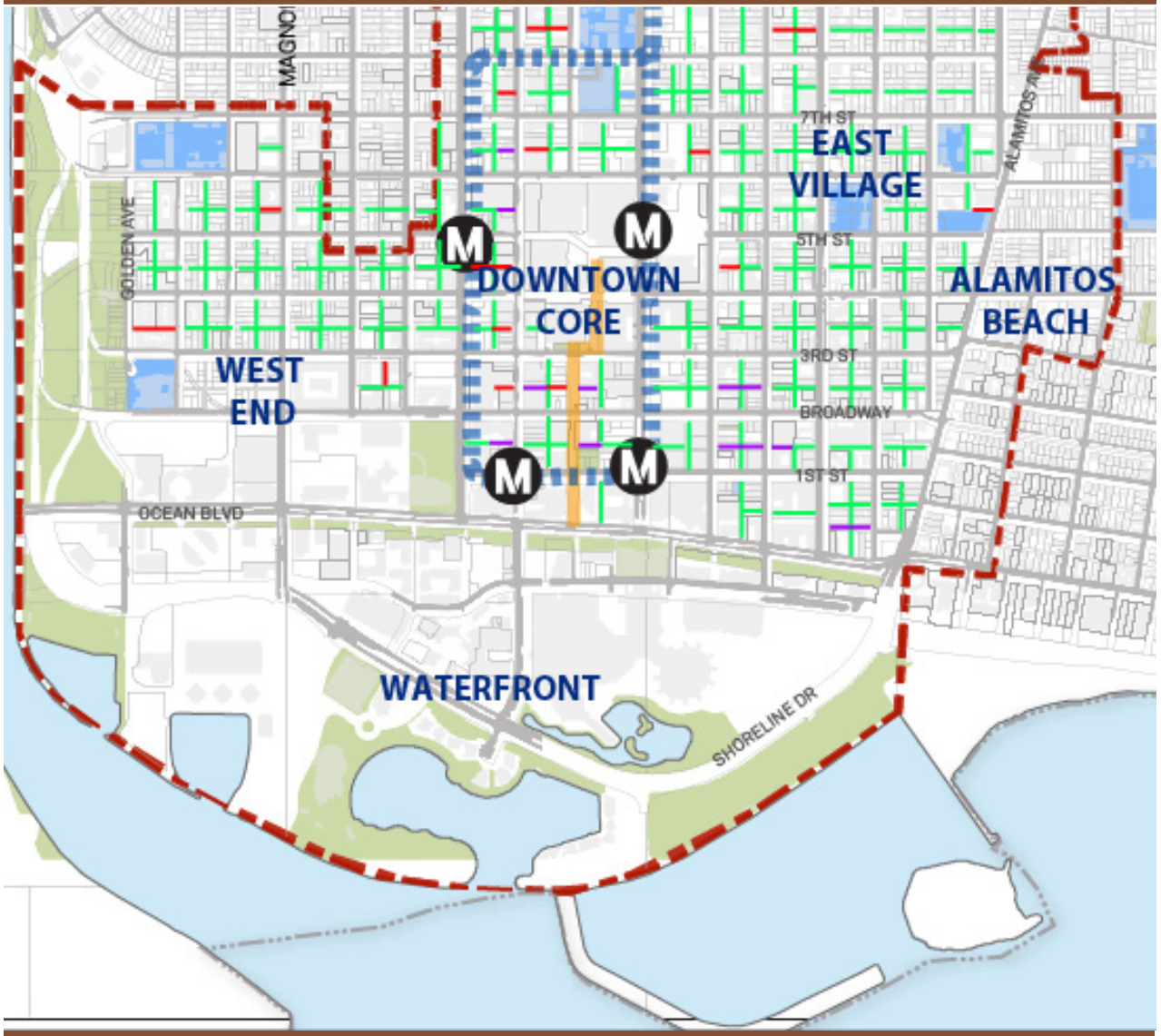
2.1.2 Alleys

Alleys and passages in cities across the world have traditionally provided a functional purpose, such as access for service vehicles collecting trash, deliveries for adjacent businesses, back door access for employees or corridors for power lines, water lines, sewer lines and drainage. Alleys usually run behind or along the sides of buildings to keep these service functions hidden from view and out of the street.

The City of Long Beach has many alleys located downtown and throughout the city. These alleys and passages vary in character, function, and condition. Each alley has the potential for some degree of improvement. In tight urban conditions, alleys and passages provide intimate corridors for pedestrians, and allow for convenient shortcut routes to adjoining streets and destinations.

Encouraging activity to spill out from adjacent buildings into alleys and passages can strengthen retail, provide additional space for outdoor dining and special events, and expand the pedestrian and bicycle network linking many different areas. Public investment designed to improve the aesthetics of alleys and passages, such as paving upgrades, the addition of furniture, lighting or landscaping, will attract people to these spaces, and can potentially revitalize adjacent properties. Ultimately, once a more complete network is established, alley improvements will help to make more direct connections to the Metro Blue Line.

Figure 2.20: Opportunities and Constraints: Alleys



There are a number of alleys in downtown Long Beach that are currently substandard (<20 feet) and provide great opportunities to create unique urban spaces in Downtown. There is a concentration of substandard alleys (pedestrian only) along Pine Avenue that have been enhanced with paving, lighting, and public art.

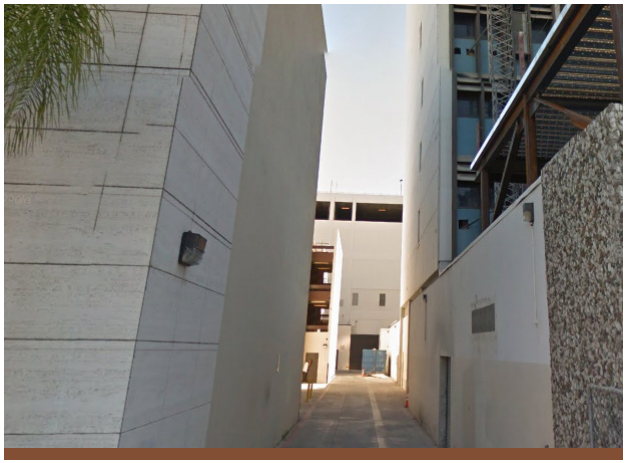
Figure 2.21 Opportunities and Constraints: Alleys

STANDARD

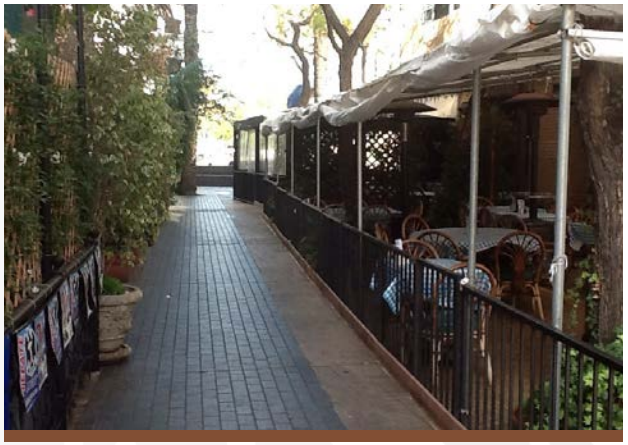
OPPORTUNITY: wide alleys, some with curbs, that could be shared by pedestrians, and service vehicles.

OPPORTUNITY: simple improvements, including landscaping, paving, and lighting, can make residential alleys inviting to pedestrians.

SUBSTANDARD



OPPORTUNITY: substandard alley in the downtown district that could be programmed as a pedestrian path.



Conversion of Alta Way to a pedestrian-walkway and green alley, with sidewalk cafes, trees, and lighting.

2.1.3 Traffic/Pedestrian Signals

There are 163 signals within the plan area, as shown in Figure 2.22. There are three primary types of traffic signal operation used throughout the plan area - pre-timed, actuated signal operation, and semi-actuated.

Pre-Timed Signals

There are 56 pre-timed signals within the plan area. At pre-timed traffic signals, each signal phase or traffic movement is serviced in a programmed sequence that is repeated throughout the day. Major street traffic receives a fixed amount of green time followed by the amber and red clearance intervals. The same interval timing is then repeated for the minor or side street. The amount of time it takes to service all conflicting traffic movements is referred to as the cycle length. The signal timings and cycle lengths may vary by time of day to reflect changes in traffic volumes and patterns. For example, during peak traffic periods, cycle lengths may range from 90 - 128 seconds to accommodate heavier volumes, particularly on the busier arterial roadways. During off peak times of day, cycle lengths are reduced as traffic volumes are much lighter and therefore not as much green time is required to effectively service all movements. With pre-timed signals, pedestrian walk/don't walk signal indications are automatically displayed in conjunction with the green signal for vehicles.

Pre-timed signals can provide fairly efficient operation during peak traffic periods, assuming signal timing settings reflect current conditions. However, during off-peak times, particularly at night, traffic on the major roadways often stops for no reason because of little or no traffic or pedestrians on cross streets. With pre-timed signals, the only method to avoid this unnecessary delay is to program the signals for flashing operation during the night time hours, generally 12:30 - 6:00 a.m. Night flash operation was once common practice by many cities and municipalities, but with advancements in signal technology and detection devices, it is rarely used.

Actuated Signals

Actuated signal control differs from pre-timed in that it requires "actuation" by a vehicle or pedestrian in order for certain phases or traffic movements to be serviced. Actuation is achieved by vehicle detection devices and pedestrian push buttons. The most common method of detecting vehicles is to install inductive loop wires in the pavement at or near the painted stop bar. Video detection is used at 4 select locations i.e. Long Beach and Pacific Coast Highway, Long Beach and Wardlow Road, Long Beach and Anaheim Street and Pacific Avenue and 1st Street. Actuated signals consist of two types: semi-actuated and fully-actuated.

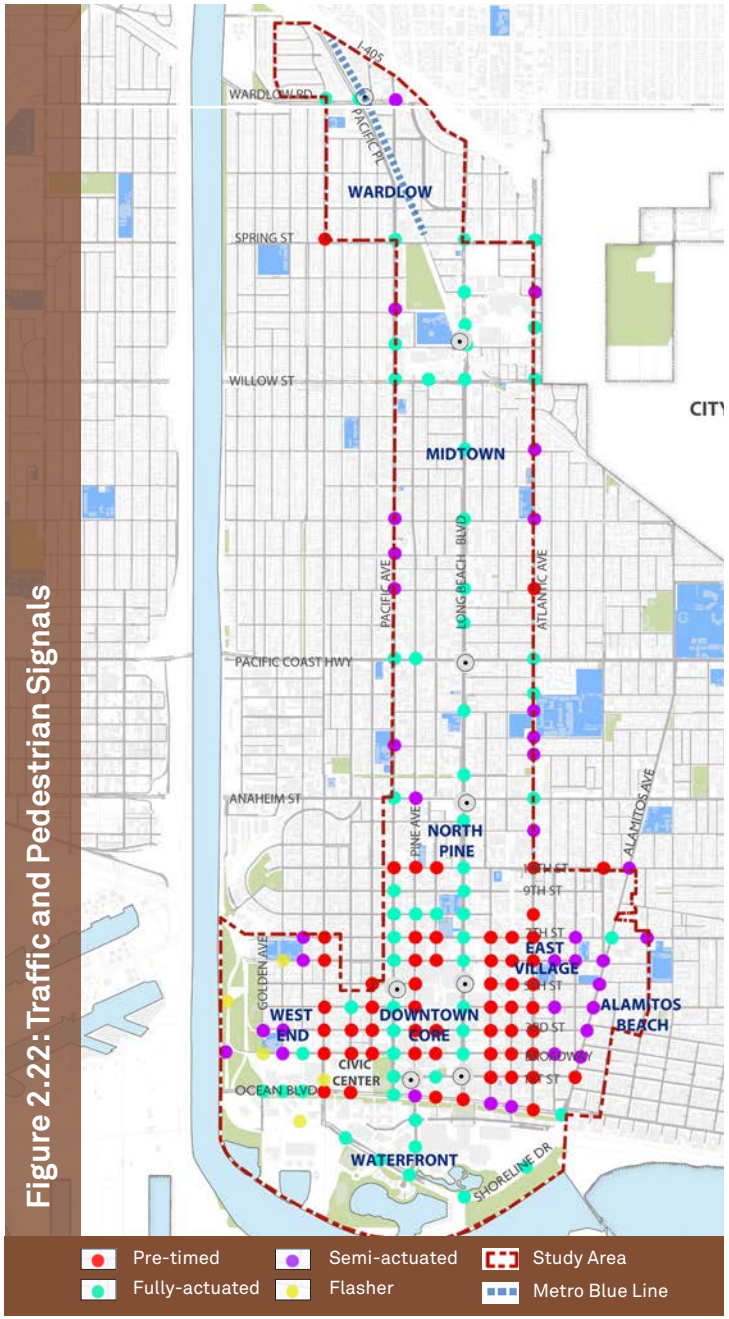


Figure 2.22: Traffic and Pedestrian Signals

Semi-Actuated Signals

There are 35 semi-actuated signals within the plan area. Vehicle loop detectors are installed on the minor street approaches and push buttons are provided for pedestrians wanting to cross the major roadway. The traffic signals remain green on the major roadway until either a cross street vehicle is detected or a pedestrian pushes the button. When this occurs a "call" is sent to the traffic signal controller and at the appropriate time in the cycle the main street green will terminate and time its clearance intervals before the minor street is serviced. If the side street is servicing vehicle demand only, a minimum green of 5-7 seconds is provided which can extend up to a preset maximum provided additional vehicles are being detected. After the last vehicle passes over the detector loop or the preset maximum green time has been reached, the signals will return to a green state on the main street. If the side street is servicing a pedestrian demand, the "walk" & "flashing don't walk" signal indications will be displayed, again at the appropriate time in the cycle. At pedestrian actuated signals, the "walk" indication is displayed for 5-7 seconds. This allows the pedestrian to enter the crosswalk and begin crossing. At the end of the "walk" signal the "flashing don't walk" indication is displayed which provides the pedestrian already in the crosswalk sufficient time to safely complete their crossing and clear the intersection before conflicting traffic receives a green signal. Pedestrians who are already in the crosswalk at the start of this interval continue to have the right of way over turning vehicles. Pedestrians who have not begun to cross when this interval begins should wait until the next cycle.

Fully-Actuated Signals

There are 67 fully-actuated signals within the plan area. Vehicle detector loops and pedestrian push buttons are installed on all approaches. All signal phases including left turn arrows have preset minimum and maximum greens and are serviced on demand only. Pedestrians must activate the push buttons in order to receive the "walk" & "flashing don't walk" indications. A single press of the button locks the "call" in the controllers memory that a pedestrian has requested service. Fully-actuated signals are most efficient at isolated locations where coordination with adjacent signals is not a concern and where the intersecting roadways have similar traffic volumes. Actuated signal control provides greater efficiency compared to pre-timed signals by servicing cross street traffic and pedestrians only when required. The primary disadvantage with pre-timed signals is avoided as street traffic is not interrupted unnecessarily. This is particularly beneficial during off peak conditions. The result is fewer stops and delays to traffic on the major arteries, while still providing for safe pedestrian crossings as and when required, which ultimately leads to a decrease in fuel consumption and pollution.

Flasher

There are 5 flasher signals within the plan area. Flashers encourage drivers to slow down for pedestrians who are about to cross the street.

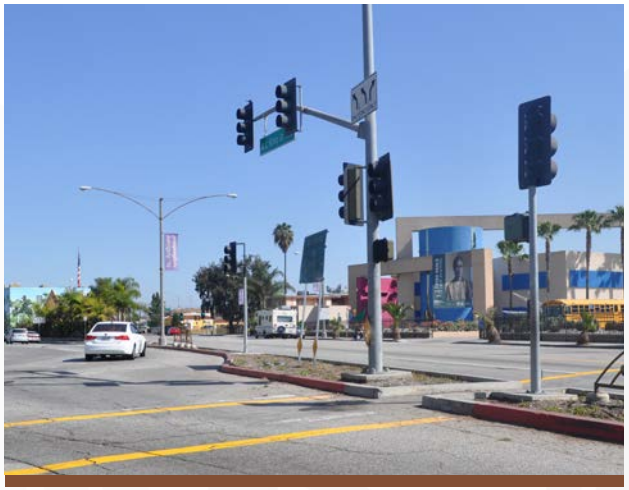


Figure 2.23 Signalized intersection with a pedestrian refuge at Martin Luther King Jr. Avenue.

Figure 2.24 A fully-actuated traffic signal at the intersection of Pacific Avenue and 4th Street.

2.1.4 Street Trees

Trees have both functional and aesthetic benefits. One very basic benefit is the widely shared opinion that trees make neighborhoods look better and more cared for. Streets with trees attract more use and pedestrian activity. Research by the Human Environment Research laboratory at the University of Illinois found that apartment buildings surrounded by trees and greenery are dramatically safer than buildings devoid of planting, suffering 52 percent fewer crimes overall and 56 percent fewer violent crimes. Carefully-placed trees also provide a multitude of direct functional benefits. Drivers perceive tree-lined streets as narrower and tend to reduce speed. Tree-planting strips establish a buffer between sidewalks and auto lanes. Safe, appealing streets encourage walking, which, in turn, has health benefits. A California study found that tree-lined streets within a half mile of schools were among the factors that encourage more students to walk to school. Also, studies support that trees lower surface and air temperatures by providing shade. Shaded surfaces, for example, can be 20–45°F (11–25°C) cooler than the peak temperatures of unshaded materials.

There are an estimated 8,700 street trees on public rights-of-way within the plan area, as shown in Figure 2.27. The predominant trees in the plan area include Mexican Fan Palm, Brisbane Box, Canary Island Date Palm, Indian Laurel Fig, Jacaranda, Pink Trumpet tree, Queen Palm and Southern Magnolia.

Figure 2.25 Mexican fan palm trees line iconic streets such as Long Beach Boulevard (above) and Ocean Boulevard, but do not offer protection from the sun for pedestrians.

Figure 2.26 Queen palm trees are common throughout the East Village. The image above is of Alamitos, where queen palms provide shade along a narrow sidewalk.

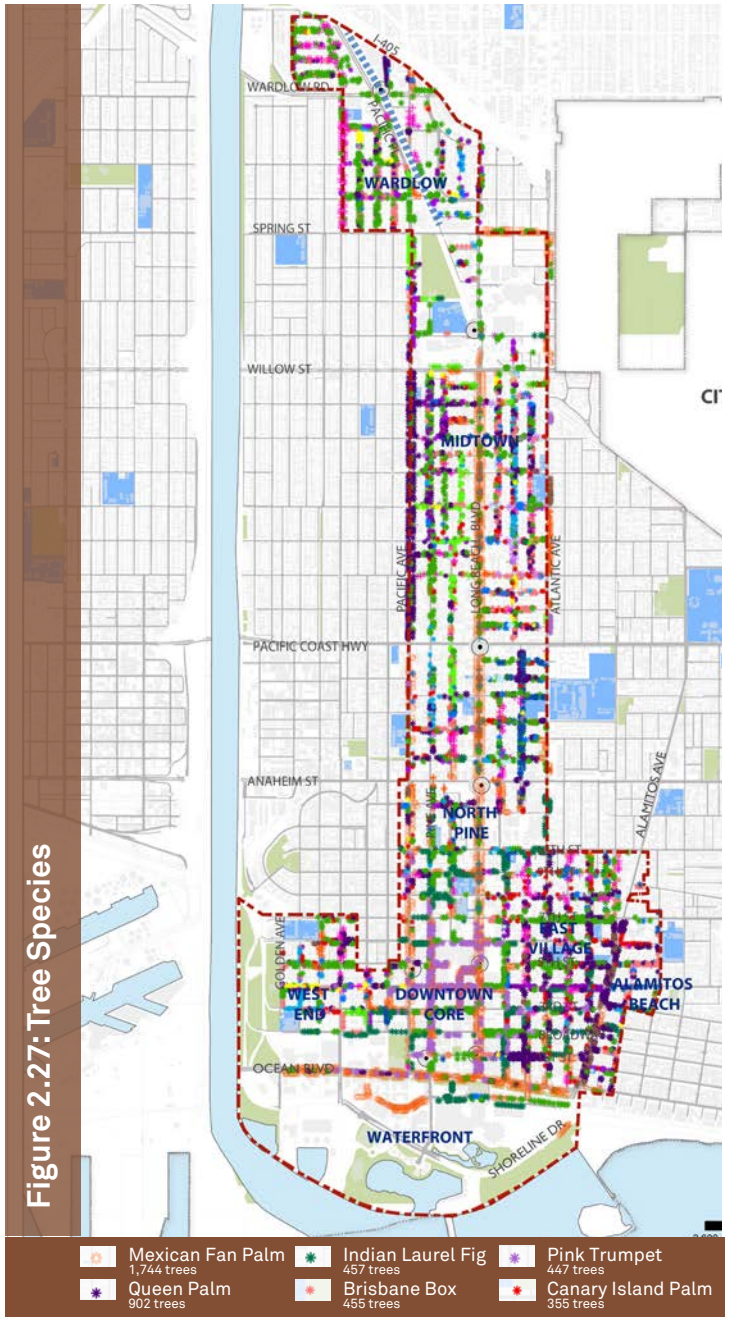


Figure 2.27: Tree Species

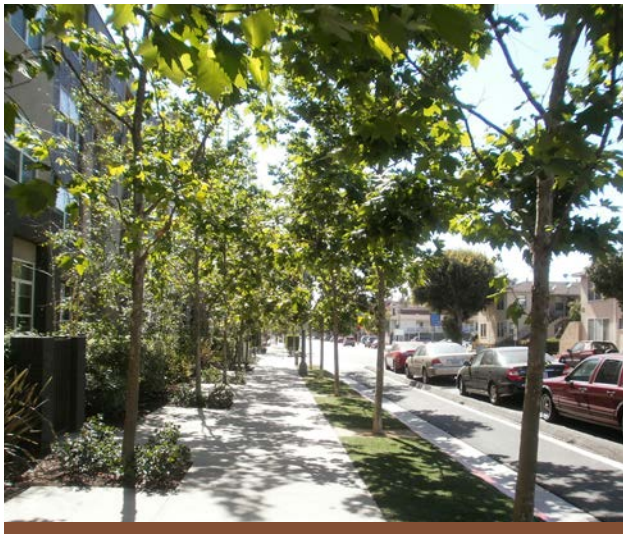


Figure 2.28 A double-row of London plane trees along 3rd Street creates an inviting pedestrian environment.

Figure 2.29 Ornamental pink trumpet trees are found throughout the downtown core, particularly along Pine Ave. and 4th Street.

Figure 2.30 Indian Laurel Fig (ficus) trees along Broadway, showing damage to the sidewalk from extensive root systems. Ficus trees should be phased out over time.

The existing palm trees (Canary Island Palms and Mexican Fan Palm) along segments of Long Beach Boulevard, Pine Avenue, Pacific Avenue and Ocean Boulevard are among the plan area's most positive assets, providing a strong, visual unity to the street edges as seen from a distance. Shade trees provide better cover from a wider and lower canopy and frame pedestrian spaces to enhance feeling of enclosure on sidewalks. Limited shade is provided on sidewalks to shield pedestrians and bicyclists from the harsh sun. There is also a lack of shade trees along the Waterfront.

In the Midtown and Wardlow/Willow districts, there are gaps in the tree canopy and a general lack of consistent tree palette. Additionally, parkway landscaping and maintenance is lacking in many areas, which diminishes the condition of the pedestrian environment.

The Public Works Department (DPW) is responsible for all tree plantings in City parkways, medians and right-of-way and for trimming of trees. DPW has a goal of pruning street trees every two to eight years depending on the tree species; however, tree trimming related to safety (tree limbs that interfere with safe passage of vehicles or pedestrians) are scheduled immediately. Other trims are scheduled as funds are available.

2.1.5 Boulevards

Much of Downtown and main streets in Midtown do not have boulevard conditions, but have tree wells with permeable concrete grates, metal grates or dirt to create more walkable areas for pedestrians. The residential areas of East Village and West End, Midtown, and Wardlow incorporate parkways with a variety of groundcover solutions. Grass is the groundcover choice for most parkways, but there are several planted boulevards throughout the districts including stormwater boulevards on 1st and 4th Streets. Other solutions to lower maintenance requirements include large scale pots, synthetic turf, gravel, decomposed granite and drought-tolerant plantings.

Landscaped parkways provide a number of benefits. They can help to infiltrate and clean stormwater before it is released into the ocean, protect pedestrians from moving traffic, protect pedestrians from the sun, and add to the overall vitality of a corridor. However, when selecting parkway treatments, the City should be sensitive to ongoing maintenance costs. While treatments that require extensive irrigation should be avoided, shade trees, succulents, and other green vegetation should be used where appropriate.

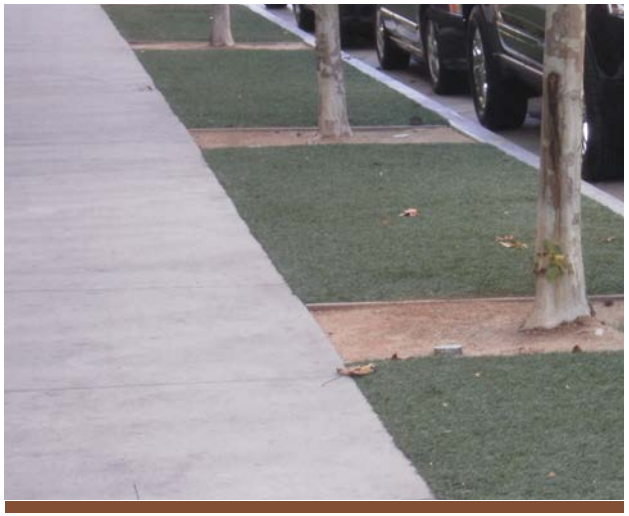


Figure 2.31 Synthetic turf used as a low-maintenance solution.

Figure 2.32 Gravel and natural stone is used along some boulevards to decrease water use.

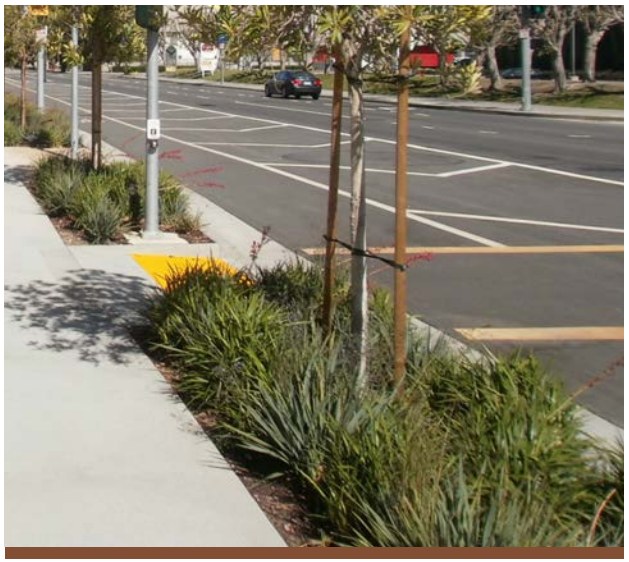


Figure 2.33 Planted parkways along Broadway are attractive and protect pedestrians from moving bikes and traffic.

Figure 2.34 Tree grates along Pine Avenue.

2.1.6 Street Lighting

The map at right is an inventory of street lights in the plan area. There are a total of approximately 4,680 street lights in plan area. Nearly 18% of the existing lights are pedestrian lights. Segments of Pine Avenue, Pacific Avenue, Long Beach Boulevard and 1st Street within the Downtown District have the highest concentration of pedestrian street lights, averaging about one every 50 feet. Greater distances between street lights exist along the other east-west arterial roadways and north of 4th Street. Street lighting along these roadways is typically spaced about 150 feet to 200 feet apart, although in some cases, exceeds 500 feet.

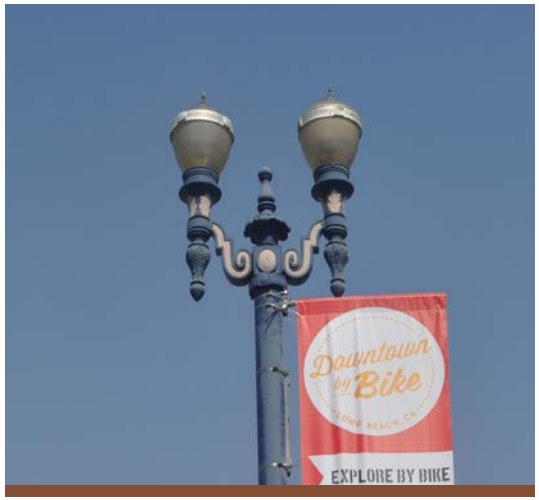
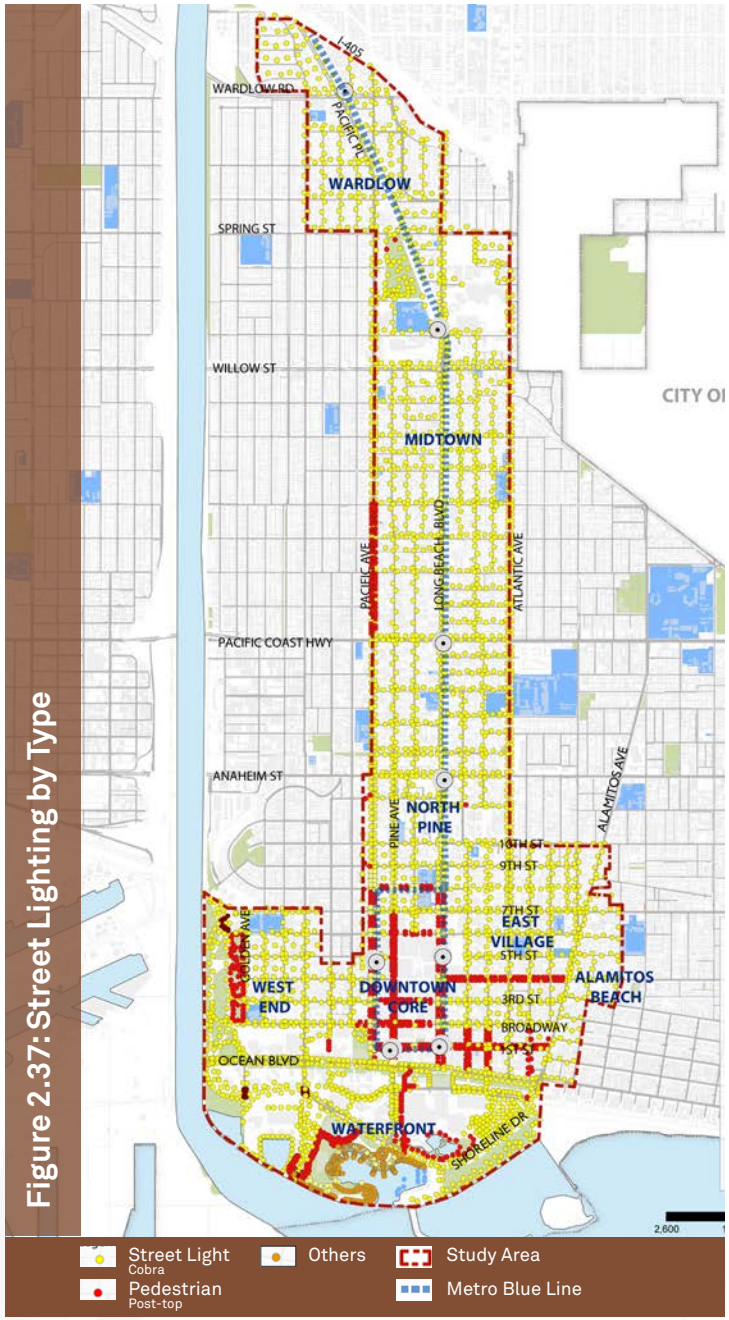


Figure 2.35 Historical street lighting along Long Beach Boulevard and Pacific Avenue.

Figure 2.36 Modern inverted conical pedestrian lighting in East Village, found along 1st Street and intersecting avenues.



2.1.7 Street Furniture

Clear and uncluttered pedestrian pathways are vital for an efficient and accessible streetscape and the importance of placing street furniture to enhance this activity is central to a successful plan. Benches and other street furniture also provide respite for pedestrians walking to and from Metro Blue Line Stations.

Benches and Trash Receptacles

The existing street furniture palette is inconsistent throughout the districts and does not occur along the streets in a standardized way. Standard metal backless benches are found at transit stops and distinctive district bench and trash receptacles can be found at City Place but there is not an observable palette that can be discerned for each district.

Bike racks

Long Beach has a long history of providing a variety of bike parking options for its cyclists. The City, through its Bicycle Parking Rack Program provides many unique racks to business owners that can be installed in the public right-of-way free of charge. Bike racks can contribute greatly to a district identity and encourage the use of bikes and walking as a viable form of transportation. The program has created a colorful and vibrant streetscape in many districts, but has also contributed to a certain degree of clutter and inconsistency.

Figure 2.38: Opportunities and Constraints: Street Furniture

CONSTRAINT: Street furniture is diverse and often creative, but has resulted in a variety of styles that lack a consistent identity.

Trash Receptacles




Benches


Bike Racks




Transit Shelters

A well-designed bus shelter is an essential part of any successful urban mass-transit system. A well-designed shelter provides visibility, accessibility, comfort and convenience and information.

Many transit agencies and cities have specific guidelines for locating bus shelters. Specific Federal Transportation Administration (FTA) guidelines for locating bus shelters are:

- Bus shelters near intersections should be set back from the crosswalk approximately 10 feet to avoid conflicts with pedestrian traffic. If a bus stop is on the far side of an intersection, the shelter should be located a minimum of 40 feet from the crosswalk to allow adequate room for the bus to stop.
- A distance of four feet should be allowed between the bus shelter and the curb for free movement in boarding and exiting from the bus.
- Bus shelters should have their long side parallel to the sidewalk to minimize interference with pedestrian traffic.
- Exit and entry openings should be oriented so that people are protected from the wind. However, it is important to keep the side of the shelter facing the street open to allow passengers to board or exit the bus easily.
- Elements such as information kiosks or vendors that can obstruct the view of oncoming buses should be located “down-stream” from the shelter.

The plan area includes various transit shelters. The Long Beach Transit Mall extends along 1st Street between Pacific Avenue and Long Beach Boulevard. As the City’s major transit center, this section of 1st Street is closed to private vehicles and only light-rail trains and transit vehicles are allowed. In 2010, a $7 million project was undertaken by Long Beach Transit to upgrade the transit mall. New bus shelters were constructed, with improved lighting and new artwork. These new shelters are unique to the area and create an iconic statement for the mall. A kaleidoscope system with solar lighting is the standard Long Beach Transit shelter; however, many aging bus shelters are located within the plan area. In some locations, the bus stops only have a sign and a bench.

Figure 2.39 An innovative bus shelter that doubles as public art and helps to create a sense of place.

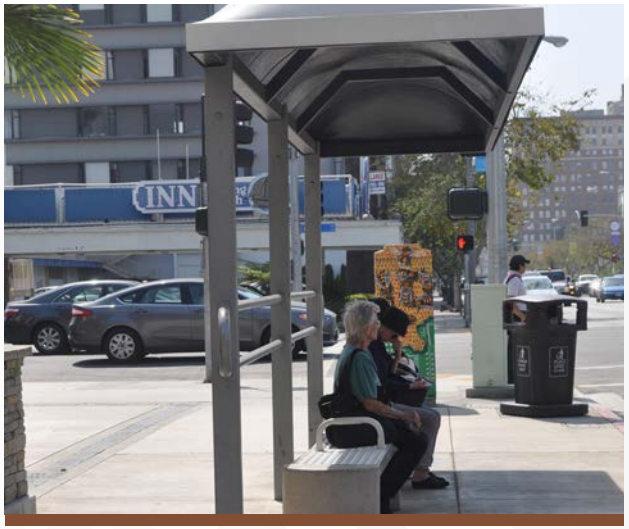


Figure 2.40 A standard bus shelter.

Figure 2.41 The recently-renovated Long Beach Transit Gallery.

2.1.8 Public Art

Public art has a distinctive place within the public realm and the City of Long Beach understands the importance and value of this resource. Public art is free and available for everyone to enjoy. There are many examples of public art projects that are represented within the plan area. The former Long Beach Redevelopment Agency implemented an ambitious plan to transform traffic signal controller cabinets into pieces of art in the City and these installations can be found throughout the plan area. Larger sculptural pieces of modern art are found throughout the East Village and the Downtown Core Sub-districts. These are generally located along Broadway, 4th Street and Ocean Boulevard. These create opportunities to support an urban art walk that spans neighborhoods. Unique tile artwork has been installed on buildings along First Street in East Village. The vibrant sidewalk mosaic tile artwork at the Transit Mall supports dynamic urban design along this important connector street.

Figure 2.42 Painted utility boxes installed as part of a City-sponsored improvement program.

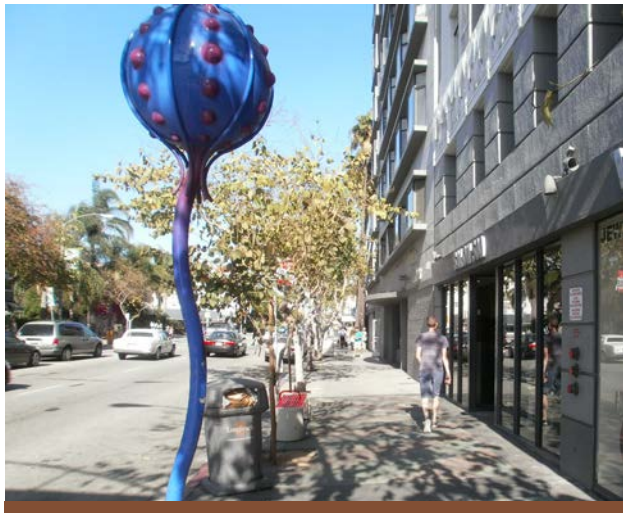


Figure 2.43 Public art along Broadway Avenue.

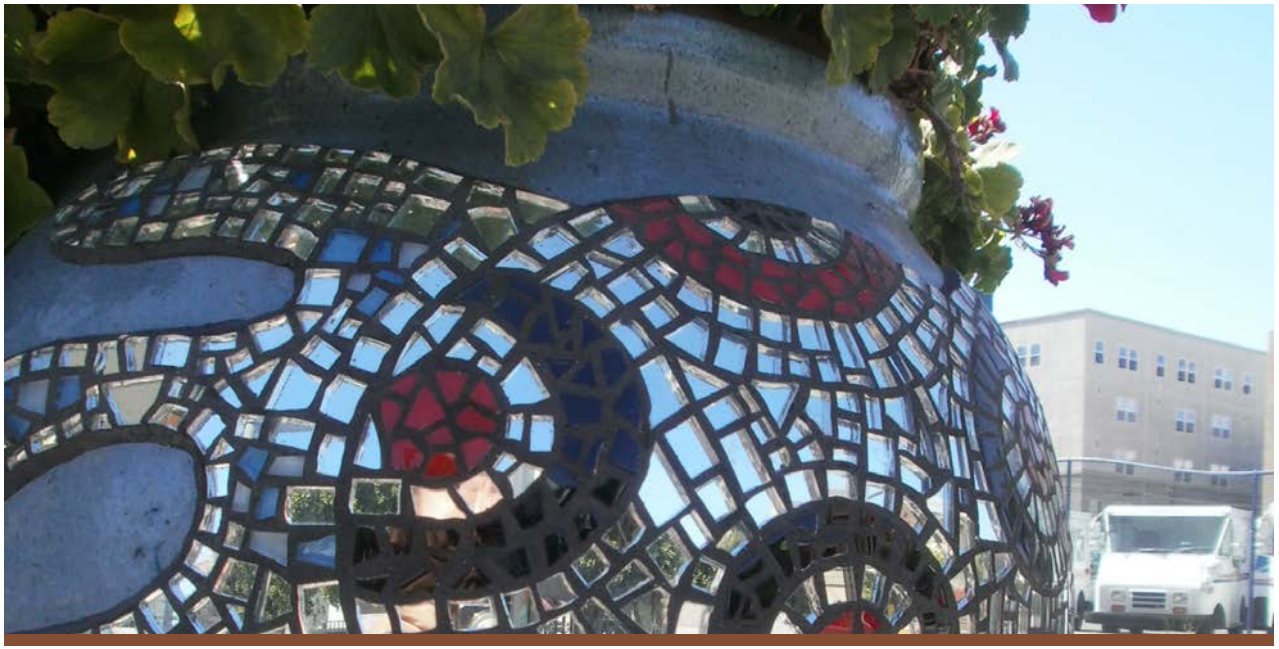


Figure 2.44 Decorative art planters installed along protected bike lanes on 3rd and Broadway.

2.1.9 Parklets and Pocket Parks

There is currently one parklet on 4th street between Elm and Linden Streets and another on 1st Street that accommodates bicycle parking. This is the only example of additional seating or amenities within parking spaces that were formerly occupied by cars. As initially conceived, a parklet is always open to the public; however, Long Beach has a unique program that allows parklets for restaurants use only. The parklet is a temporary installation, part of the City's approach to using "quick, fast, and cheap" treatments that pave the way for future, more permanent solutions.

Figure 2.45 Pocket park along 4th Street.

Figure 2.46 An enlarged curb extension at 2nd Street and Orange Avenue (outside of the plan area) that has been turned into a sidewalk cafe.

Figure 2.47 Berlin Cafe, which participates in the CIty's parklet program, operates a sidewalk cafe in an area once reserved for on-street parking.

2.1.10 Crosswalks

Crosswalks are either “marked” or “unmarked.” The California Vehicle Code defines a “crosswalk” as the portion of a roadway at an intersection, which is an extension of the curb and property lines of the intersecting street or is any other portion of a roadway that is marked as a pedestrian crossing location by painted lines. A “marked crosswalk” is any crosswalk, which is delineated by white or yellow painted markings placed on the pavement. All other crosswalk locations are therefore “unmarked.” Marked crosswalks are an essential part of the pedestrian realm that enable safe, convenient pedestrian travel across roadways. In special cases, they may also be a unique urban design treatment.

The standard treatment for marked crosswalks at intersection locations consists of two 12”-wide white stripes that delineate the sides of pedestrian walking area. Near a school, these standard crosswalks are yellow per state code. Crosswalks should be no less than 10 feet in width. A more desirable width for high pedestrian areas is 15 feet to 20 feet. Crosswalks must be outfitted with curb ramps and tactile warning strips per federal accessibility guidelines and the Manual on Uniform Traffic Control Devices (MUTCD) standards and guidance on crosswalk warning signs and supplementary markings.

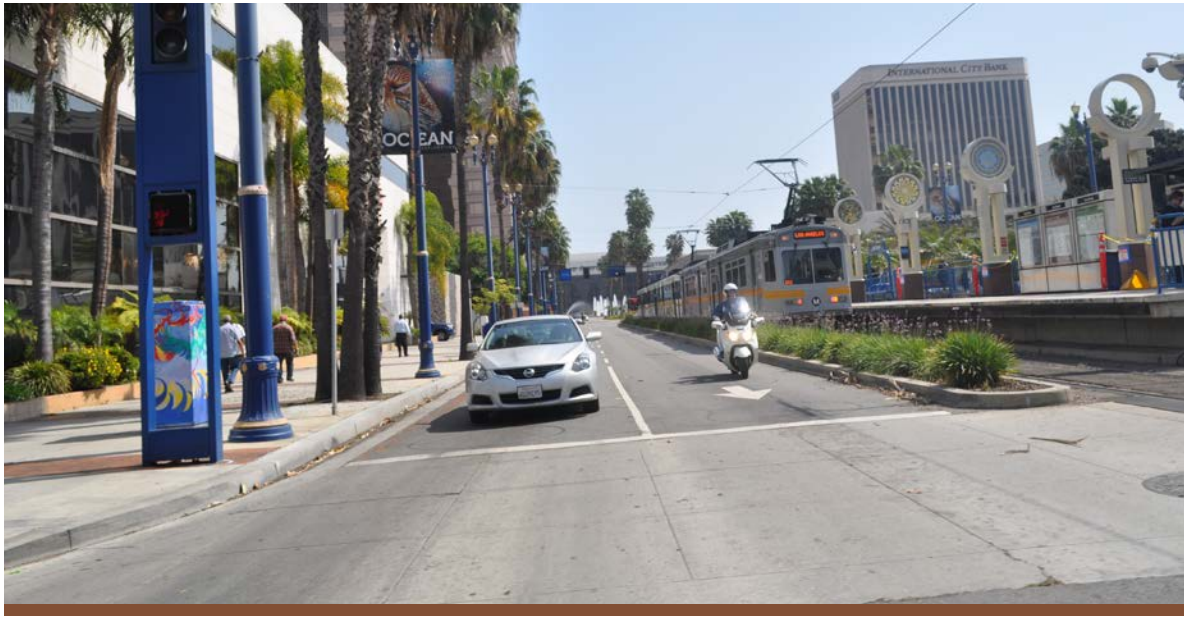


Figure 2.48 Missing crosswalk markings along Long Beach Boulevard.

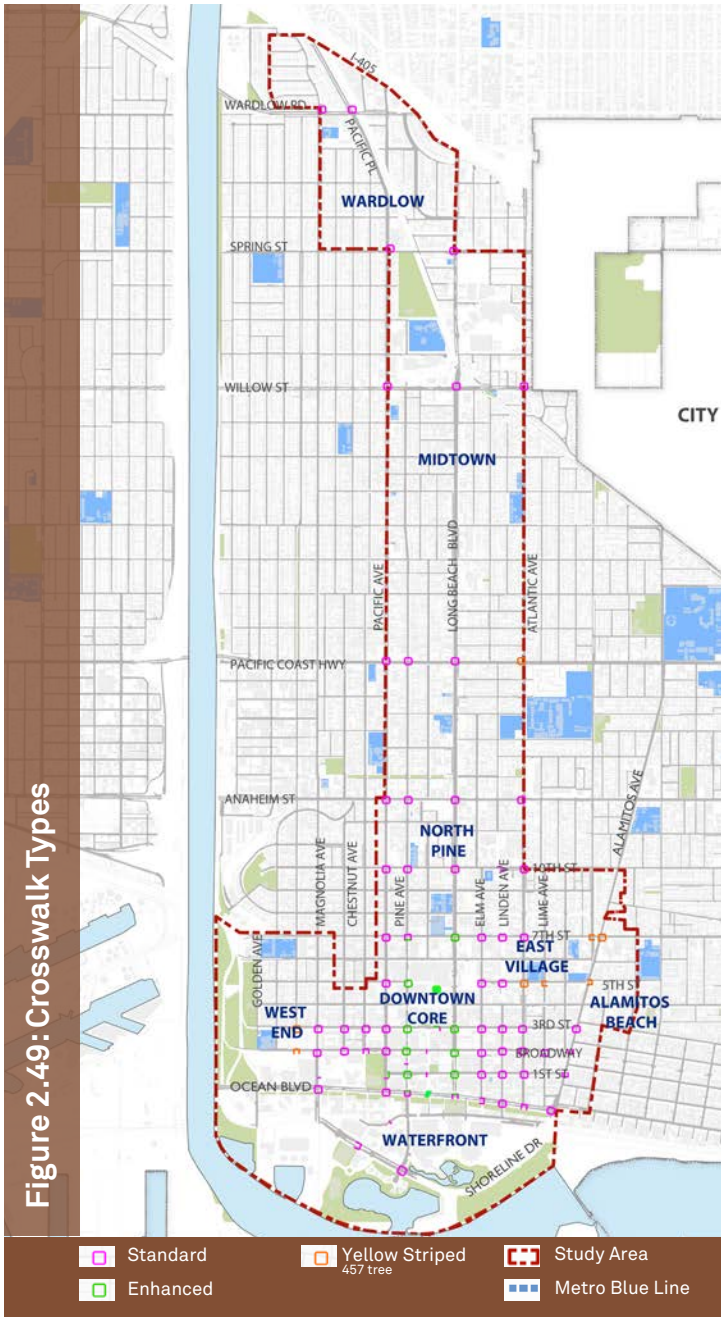


Figure 2.49: Crosswalk Types

The majority of crosswalks in the plan area are standard retro-reflective thermoplastic or painted 12”-wide white lateral markings; however, stamped crosswalks are employed in a few locations, especially along Pine Avenue and Long Beach Boulevard intersections in the Downtown District. A few schools in the plan area employ yellow crosswalks near schools consistent with MUTCD recommendations. Generally, there is a lack of high-visibility crosswalks such as continental crosswalks in the plan area with exception of a few enhanced crosswalks within the Downtown District. In some locations the crosswalks are not as wide as the sidewalk. In many locations, the crosswalks are not marked clearly. In some locations at signalized intersections there are no marked crosswalks. In addition, the mid-block crossings along Long Beach Boulevard near the Blue Line stations do not have any markings.

2.1.11 Curb Ramps

Pedestrian accommodations within the project area include concrete sidewalks with curb ramps at intersections to allow for safe crossing. The sidewalks are generally in compliance with ADA/ Title 24 path of travel slope requirements. However, some areas have abrupt vertical changes exceeding 1/2” due to heaving pavement, some of which has been repaired by grinding and/or floating-out the pavement. There are also isolated locations with obstructions an non-compliant surface elements. A number of curb ramps are not ADA compliant due to their slope, missing truncated domes, or general condition.

Figure 2.50 Standard crosswalk at Elm and 3rd Street.

Figure 2.51 Enhanced crosswalk at Pine Avenue and 5th Street.

Figure 2.52 Non-compliant zero curb face lacks truncated domes. This condition is common along many streets in East Village and Alamitos Beach.

2.1.12 Stormwater Infrastructure

Stormwater within the plan area is collected through storm drain facilities that flow generally to the west and into the Los Angeles River. The Los Angeles River is the largest regional drain flowing through the City of Long Beach. In 2008, the City enacted a Low Impact Development Standards ordinance to control runoff and manage storm water on site. There is no large-scale regional treatment in place within the project area.

Downtown

The drainage pattern in this district is from east to west. There are three storm drain systems that outfall to the Los Angeles River. Two of these systems outfall by pumping at 6th Street and at pumping station south of Shoreline Drive with a maximum operating capacity of 109 cubic feet/second (cfs) and 221cfs, respectively. The third system outfalls by gravity at 3rd Street. The storm drain facilities and conveyance systems are owned by either the City of Long Beach, County of Los Angeles or the California Regional Water Control Board. Existing catch basins intercept runoff and convey flows into the storm drain system.

There is a specialized demonstration planter installed in the sidewalk on 1st Street that is designed for runoff to flow into the planter through an inlet at street level. These planters manage stormwater by providing storage, infiltration, and evapotranspiration of runoff. There is also an area along 4th Street between Long Beach Blvd and Elm Street that employs a permeable paving system to manage stormwater, but these are rare occurrences within the public right-of-way.

Midtown Plan Area

Stormwater runoff is collected by existing storm drain facilities that generally flow west towards the Los Angeles River. These facilities are owned and maintained by various agencies including the City of Long Beach, Los Angeles County and Caltrans. A few scattered and privately maintained systems can be found within this subarea. Storm drain sizes vary from 12 to 96 inches of reinforced concrete pipes. Existing catch basins throughout this area intercept runoff and convey flows into the storm drain system.

Wardlow Plan Area

The drainage in this district generally flows to the southwest. There are two main storm drain systems in this district that outfall to the Los Angeles River through the pump at 34th Street and the Willow Pump Station. The storm drain facilities and conveyance systems are owned by either the City of Long Beach, County of Los Angeles or the California Regional Water Control Board. Existing catch basins intercept runoff and convey flows into the storm drain system.

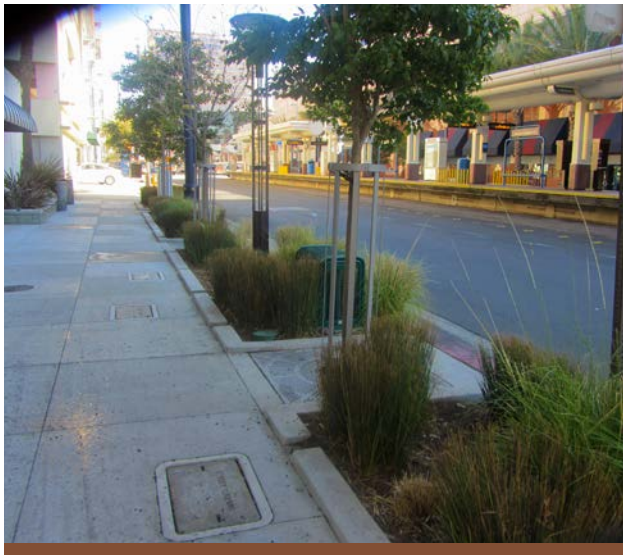


Figure 2.53 Tree trenches infiltrate sidewalk stormwater runoff at the intersection of 1st Street and Pacific Avenue .

Figure 2.54 Permeable boulevard plantings along 4th Street helps reduce polluted runoff and recharge groundwater.

2.2 Pedestrian Generation Analysis

Everyone is a pedestrian at some point during the day, whether walking the entire way to a destination, walking to transit, or simply walking to and from a car into a building. One goal of the PMP is to evaluate indicators of current or potential pedestrian demand across the plan area, such as presence of schools, transit centers, youth, and elderly. Studying the distribution of certain population segments and land use types in the plan area helps to understand where the greatest potential for a walking trip might be, and will thereby allow the PMP to focus its resources in these areas.

In addition to understanding the potential demand for walking, it is also important to understand current and potential barriers to walking, such as freeways, rail rights-of-way, unsafe intersections, and poor infrastructure connectivity. The key outcome of the Pedestrian Generation Analysis presented in this chapter is a thorough understanding of current and potential pedestrian demands and barriers in the City, which will then become the focus for project recommendations.

The Pedestrian Generation Analysis identifies the location and intensity of existing and proposed pedestrian generating land uses and subpopulations across the plan area. This analysis guides the planning process toward those areas where investments in pedestrian facilities is most beneficial in terms of the current propensity for pedestrian activity.

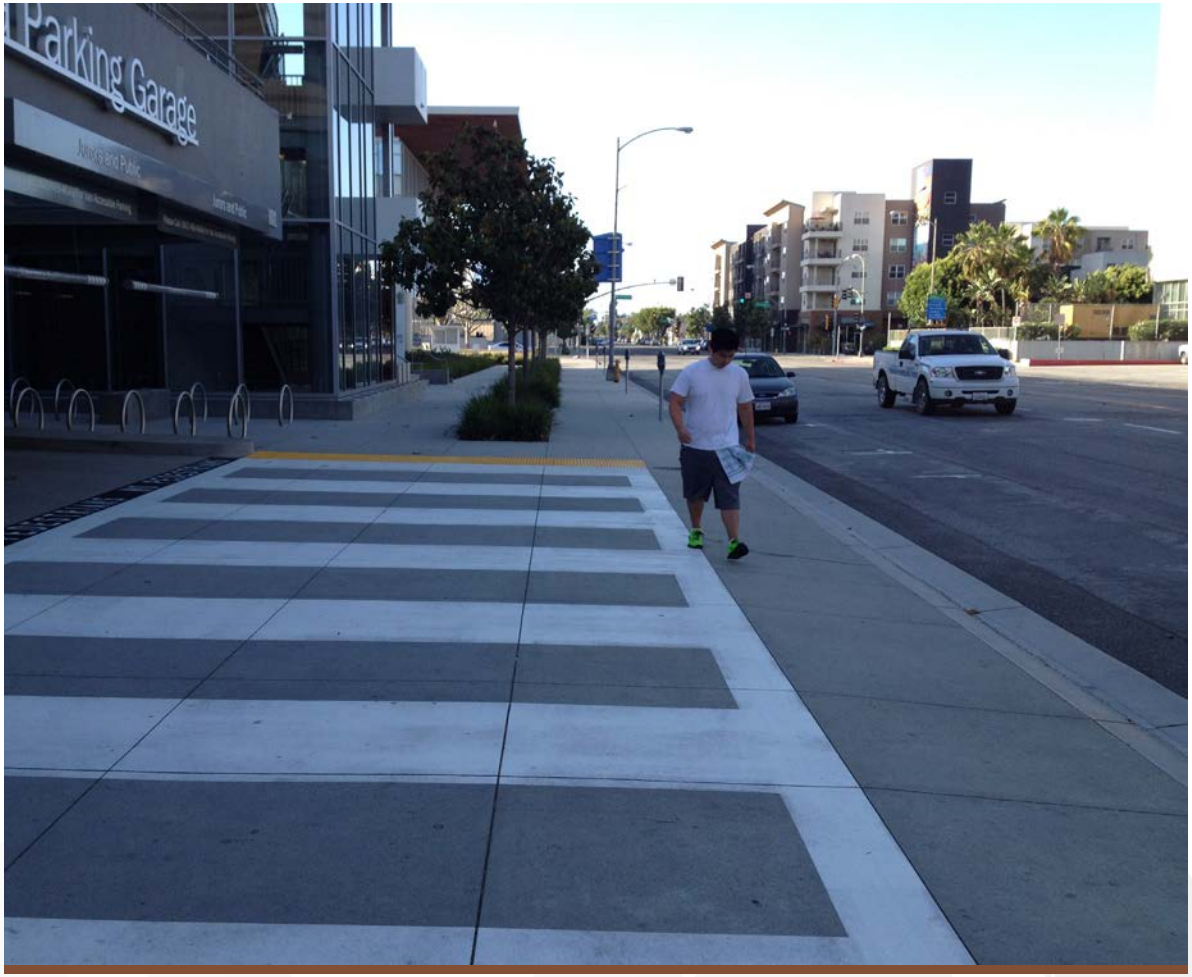


Figure 2.55 A pedestrian walks along Magnolia Avenue.

2.2.1 Blue Line Station Walkshed

Frequently in transit access analyses, simple distance-based buffers are applied around each station to estimate the extent of a 10-minute (half-mile) walk to the station. Increasingly, however, distance-based buffers are making use of route finding software to better reflect the true travel distance from a station as determined by the street network. Figure 2.5.7 shows the 10-minute walkshed for plan area stations.

2.2.2 Total Population and Employment Density

Population density, measured as the number of persons per acre of residential land, is a strong indicator of potential pedestrian activity. Generally, higher population densities are associated with more urban environments, which tend to support pedestrian travel through mixed land uses and interconnected street networks.

Figure 2.58 displays population density for the plan area. As shown, areas of East Village, the West End near Pacific station, and the area west of Anaheim Station have some of the highest residential densities in the plan area. Low population densities can be found in the Waterfront, Downtown Core, and north of Willow Street. While the Downtown Core currently has a low population density, there are several planned multi-family housing projects that will bring new residents to the area.

Figure 2.59 displays employment density for the plan area. There are several locations with high concentrations of employment, including the Waterfront and Downtown Core, and the area along Long Beach Boulevard between Spring Street and Willow Street which is the site of the Long Beach Memorial Hospital. Low employment densities occur in the northwest quadrant, in the area bordered by I-405 and Wardlow Road and southwest quadrant.

2.2.3 Pedestrian-Dependent Populations

This section summarizes demographic characteristics associated with higher levels of walking, including youth, elderly, physically disabled, and median household income. Certain population characteristics, such as age and household income, have been shown to influence pedestrian activity. For example, youth tend to walk more since they cannot legally drive; elderly and physically disabled tend to walk or use sidewalk facilities more due to physical impairments which may restrict their ability to drive; and finally, lower income households tend to walk more given their lack of access to vehicles for driving. Mixed land uses tend to generate higher levels of pedestrian activity since multiple and varying opportunities within close proximity of each other creates shorter trip lengths, which in turn increases the propensity to make a trip on foot. Figure 2.60 displays the distribution of population younger than 17 years across the plan area. The distribution and intensity of youth generally follows overall population density patterns, although there is a notable concentration of youth in the East Village, Alamitos Beach and Midtown District. Figure 2.61 displays the distribution of population older than 65 years. The distribution of higher concentrations of elderly population generally follow similar patterns to the overall population, with notable concentrations near the Wardlow and Willow Stations and portions of West End, North Pine and East Village neighborhoods.

2.2.4 Pedestrian Generator Map

Figure 2.62 displays the composite generator map of all pedestrian generation factors, including population and employment densities, demographics, and major destinations. This map was developed using a GIS tool called Spatial Analyst which combines all of the individual generators, as discussed in the previous sections, into a single, composite file. The pedestrian generators are weighted individually, with higher values assigned to locations with higher levels of pedestrian-generating features. Differing multipliers are also applied to each factor to account for the relatively greater importance of some factors over others. Figure 2.56 displays the pedestrian generators, along with the associated weights and multipliers.

Interpreting the weight and multiplier values assigned to one of the generators is useful for understanding this process. In the case of population density, five classes of density were defined (<15 persons per acre, 15 - 30 persons per acre, 30 - 45 persons per acre, 45 - 60 persons per acre, and >60 persons per acre).

Point values were then assigned to the different classes, with higher population densities receiving higher point values. A multiplier value of 1 or 2 was

applied to all factors. Factors receiving a multiplier of 2 should have a greater impact on pedestrian activity than those receiving a multiplier of 1. The population density generator was assigned a multiplier of 2, meaning that it is more highly correlated with walking than some of the other pedestrian generators. The point and weight values were assigned in accordance with the relative impact of these characteristics on pedestrian activity understood through planning practice, academic research, and professional judgment.

As shown in Figure 2.62, the final pedestrian generator map identifies several high-generator areas within the plan area, especially within the Downtown and several smaller, high generation areas within the Midtown and Wardlow and Willow station areas.

Figure 2.56: Pedestrian Generation Analysis Weights and Multipliers

Pedestrian Generator	Weights	Multipliers	Final Score
Pedestrian Density (persons per residential acre by TAZ)			
<15	0	2	0
15-30	1		2
30-45	2		4
45-60	3		6
>60	4		8
Employment Density (employees per non-residential acre by TAZ)			
<40	0	2	0
40-80	1		2
80-120	2		4
120-160	3		6
> 160	4		8
Youth (population younger than 17 years per acre by TAZ)			
<5	0	2	0
5-10	1		2
10-20	2		4
Elderly (population older than 65 years per residential acre by TAZ)			
<10	0	1	0
10-25	1		1
25-30	2		2
30-40	3		3
Land use Adjacencies			
Presence of major destination (Figure 1.3)	1	3	3

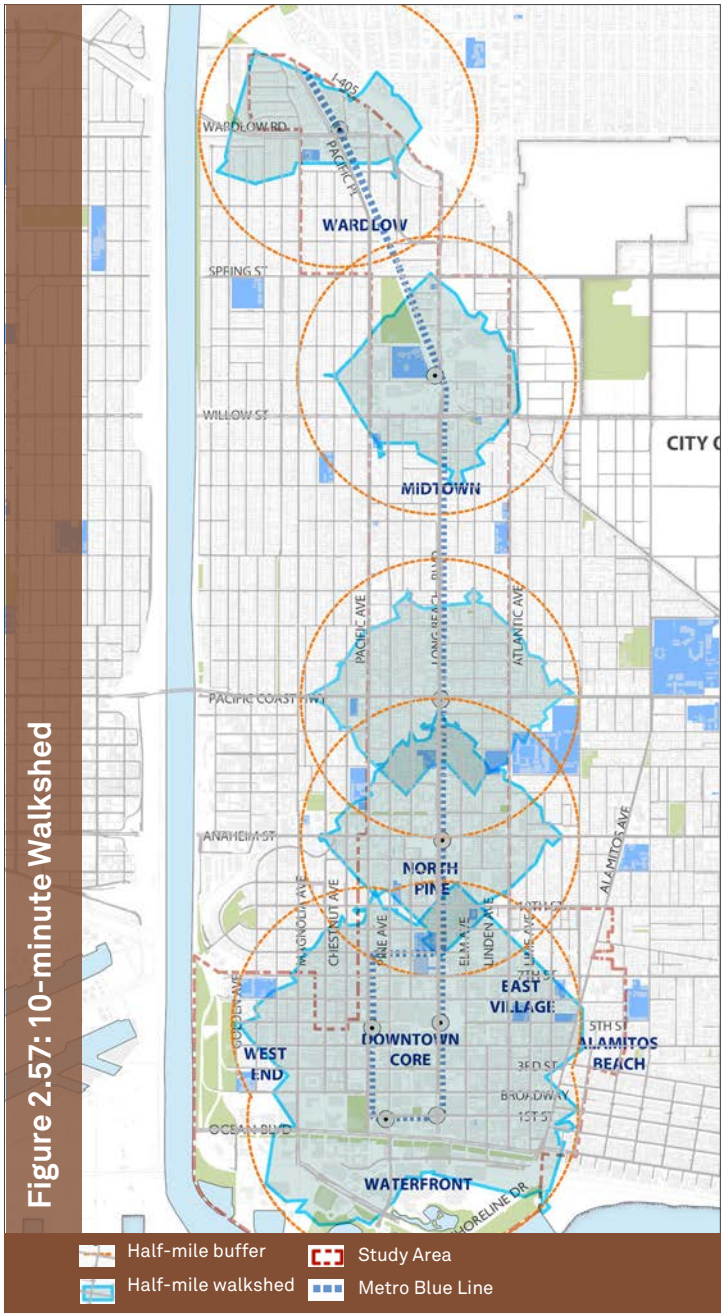


Figure 2.57: 10-minute Walkshed

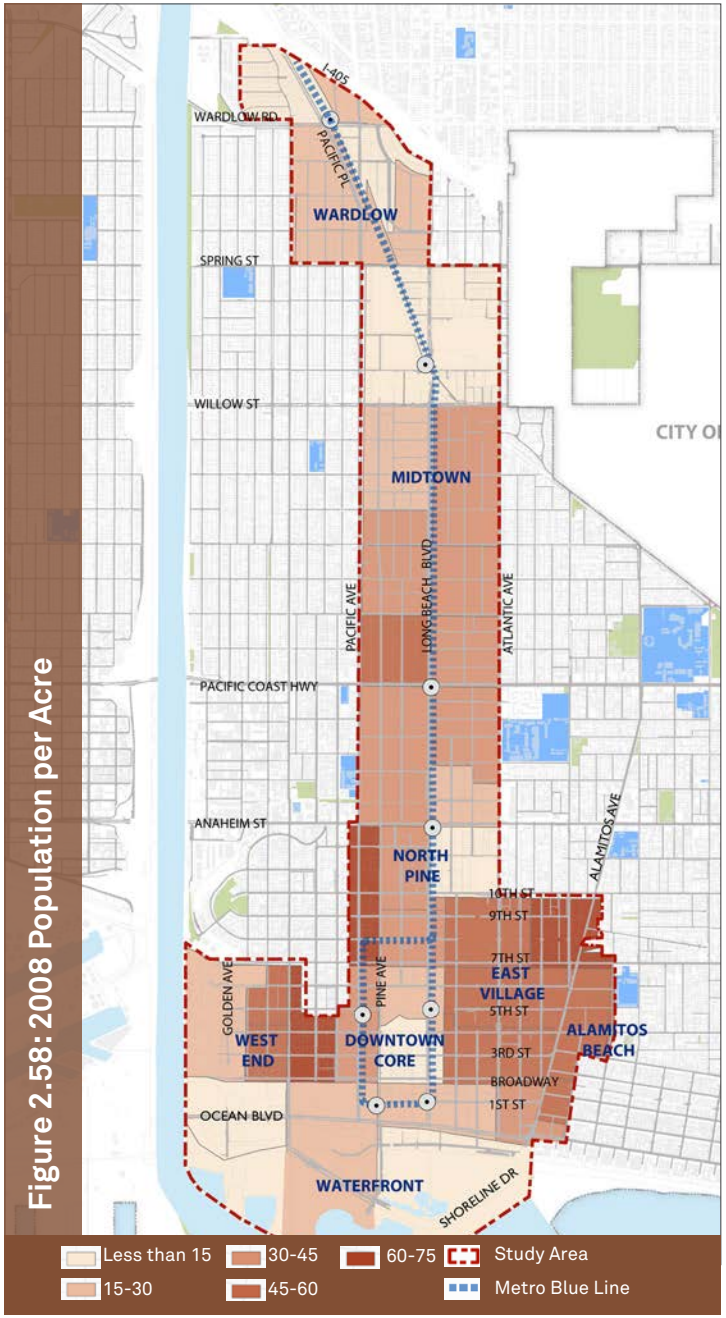


Figure 2.58: 2008 Population per Acre

Figure 2.59: 2008 Jobs per Acre

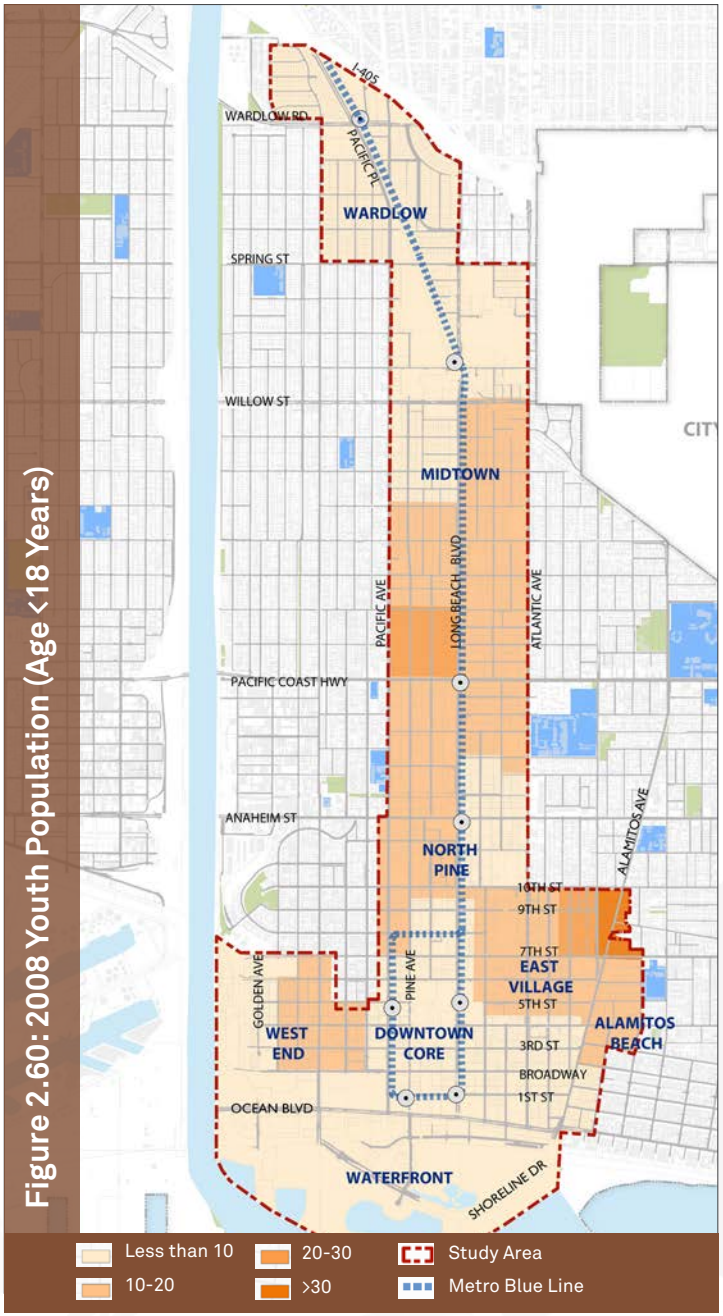


Figure 2.60: 2008 Youth Population (Age <18 Years)

Figure 2.61: 2008 Senior Population (Age >65 Years) per Acre

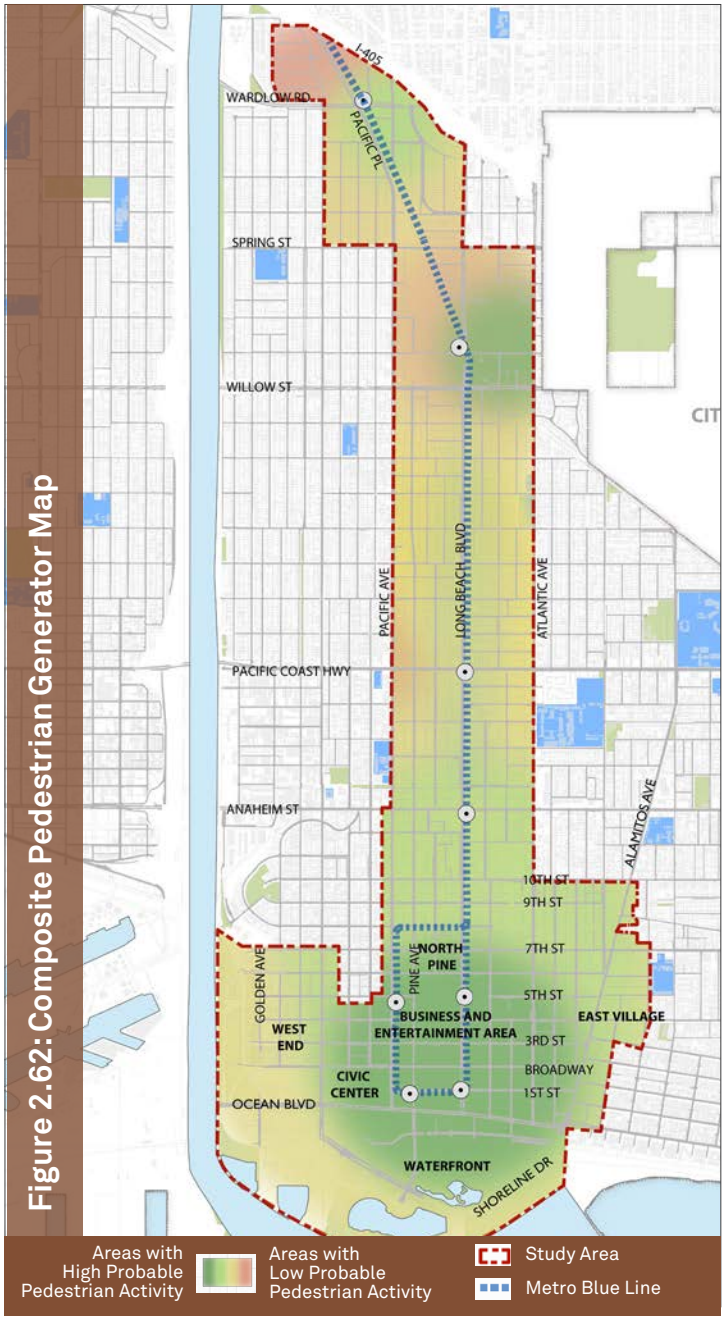


Figure 2.62: Composite Pedestrian Generator Map

2.3 Pedestrian Conditions

This section focuses on modal split, major pedestrian activity generators, transit ridership, and collision patterns.

2.3.1 Modal Split

In downtown Long Beach, much of the transit usage is directly related to pedestrian travel by residents and downtown employees who travel to and from the downtown area via transit. A mode share cordon study was conducted in 2008 for the Downtown Long Beach Specific Plan, utilizing traffic counts and boardings (outbound) and alightings (inbound) in downtown Long Beach. In 2008, it was estimated that approximately 72.7 percent of trips were made via automobile, 18 percent were made via transit, 6.5 percent were made via walking, and 2.8 percent were made via bicycle or another means of transportation. In addition, the Metro Blue Line Bicycle and Pedestrian Access Improvement Study prepared in March 2011 examined mode of travel to access Metro Blue Line Stations.

The input variables from the 2008 downtown Long Beach cordon evaluation were updated to reflect 2014 conditions, and included new boarding/alighting counts on Long Beach Transit (LBT) buses, Metro buses, and the Metro Blue Line. Table 1 shows the percentage breakdown of unlinked trips, by mode, according to the US Census and the downtown Long Beach cordon evaluation. As shown, approximately 86.3 percent of trips in Long Beach are made via car or truck, 6.6 percent are made via transit, 2.5 percent are made via walking, and 1.7 percent are made via bicycle or another means of transportation. In Downtown Long Beach, the percentage of trips made via car or truck is lower than the City of Long Beach overall (73.4 percent in downtown versus 86.3 percent in Long Beach as a whole), and the percentage of trips made via transit, walking and bicycling is higher (17.3 percent, 6.5 percent and 2.8 percent in downtown versus 6.6 percent, 2.5 percent and 1.7 percent in Long Beach, respectively). The boarding and alighting data obtained by LBT and Metro for the 2014 cordon evaluation also confirms a similar mode split in downtown Long Beach, with approximately 70.2 percent of trips made via car/truck and 20.5 percent of trips made via transit.

As the mode split analysis shows, the Downtown area is ideal for leveraging the existing high transit mode split to improve the pedestrian environment in and around transit stations.

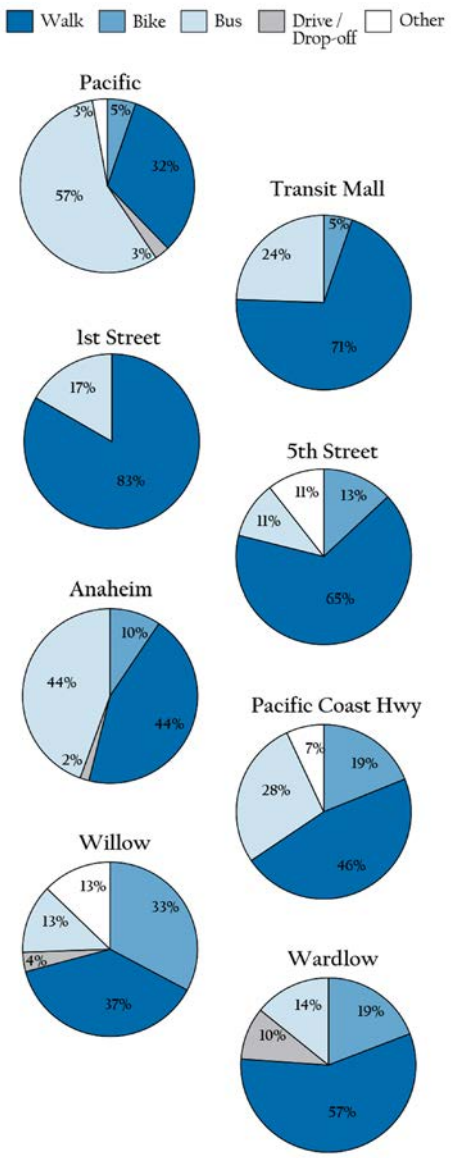


Figure 2.63 2008 Modal Split by Station
Source: Metro Blue Line Bicycle and Pedestrian Access Improvement Plan, 2011.

2.3.2 Major Pedestrian Activity Generators

One of the many goals of the PMP is to develop a network of infrastructure facilities for pedestrians that directly link transit stations and bus stops to major activity centers in the plan area. These may include educational activity centers (elementary schools, middle schools, high schools, preschools), community activity centers (the Civic Center), recreational sites (parks), retails centers (shopping areas, restaurants or movie theaters), or other significant land uses that may generate significant pedestrian traffic such as the Aquarium of the Pacific or the Long Beach Convention Center. Figure 2.64 shows the location of each activity center within each District i.e. Downtown District (he Downtown District encompasses North Pine, Downtown Core, East Village, West End, Alamitos Beach and Waterfront Sub-districts), Midtown District and Wardlow District. These main activity centers are also listed at right.

Downtown

The high density of Metro Blue Line stations in Downtown Long Beach (Pacific Station, the Downtown Station, 1st Street Station, and 5th Street Station) reflects the dense urban environment. Downtown has a large number of activity centers relating to employment, shopping, residential and recreation uses. Employment areas in the Central Business District, the Civic Center, and Convention Center draw a large number of weekday pedestrians. Additional destinations in downtown include the City Place Shopping Center and recreational activities along Shoreline Drive. The City is already working to improve conditions

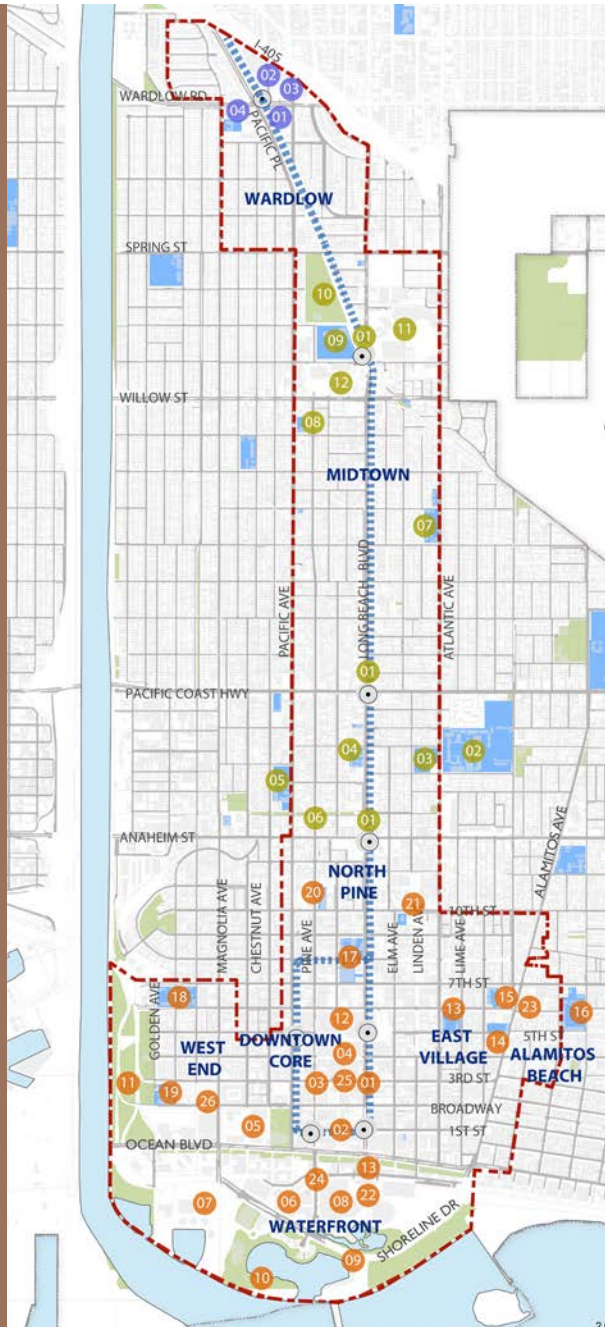


Figure 2.64: Major Pedestrian Activity Generators

1. The Blue Line Transit Corridor i.e. 5th, 1st, Downtown, Pacific
2. Transit Mall and the Long Beach Transit Gallery
3. Pine Avenue
4. The Promenade
5. Civic Center & Lincoln Park
6. The Pike at Rainbow Harbor
7. Aquarium of the Pacific
8. Long Beach Convention Center
9. Shoreline Village
10. Shoreline Aquatic Park
11. Caesar E. Chavez Park
12. City Place
13. Victory Park
14. Robert L. Stevenson Elementary School
15. St. Anthony Elementary School
16. St. Anthony High School
17. Benjamin Franklin Middle School
18. Thomas A. Edison Elementary School
19. Cesar Chavez Elementary School
20. First Baptist Church
21. Montessori on Elm
22. International City Theater
23. Museum of Latin American Art
24. Motorsports Walk of Fame
25. Downtown Friday Farmer's Market
26. Governor George Deukmejian Courthouse

MIDTOWN DISTRICT

1. Blue Line Stations i.e. Anaheim Street, PCH and Willow Street
2. Long Beach Polytechnic High School
3. Theodore Roosevelt Elementary School
4. Poly Academy of Achievers and Leaders
5. George Washington Middle School
6. Linear Park
7. Peter H. Burnett Elementary School
8. Holy Innocents Elementary School
9. Jackie Robinson Academy
10. Veterans Memorial Park
11. Long Beach Memorial Medical Center
12. Wrigley Market Place

WARDLOW DISTRICT

1. Blue Line Station i.e. Wardlow Road
2. Hillcrest Care Center
3. Grace Lutheran Preschool
4. Vista Del Mar Senior Living

for bicyclists by installing curb extensions, bike boxes, bike corrals, and new bike lanes. The Promenade is reserved for pedestrians, which links City Place to the Convention Center. An icon for the City, Ocean Boulevard features wide setbacks that support a pedestrian-oriented environment. Several educational facilities are also located in this area, including Robert L. Stevenson Elementary School, St. Anthony Elementary School, St. Anthony High School, Benjamin Franklin Middle School, Thomas A. Edison Elementary School, Cesar Chavez Elementary School.

Midtown

Blue Line Stations in Midtown, including Anaheim Street, Pacific Coast Highway and Willow Street, as well as Memorial Medical Center, Wrigley Market Place, and Veterans Memorial Park are key pedestrian destinations in this area. Several educational facilities include the Jackie Robinson Academy, Oakwood Academy, Holy Innocents Parish Church and Child Development Center, and Long Beach Polytechnic High School.

Wardlow/Willow

The Blue Line Stations at Wardlow Road and Willow Street, Hillcrest Care Center and Grace Lutheran Pre-School are key pedestrian destinations in this area.

Figure 2.65 A group of schoolchildren explores the Promenade.

2.3.3 Transit Boardings/Alightings

To gain a better understanding of where transit riders are boarding the system, daily boarding and alighting data was requested from Long Beach Transit and Metro. Bus stops within the plan area were analyzed and sorted according to the total number of daily boardings and alightings. Figure 2.66 at right shows all bus stops within the plan area with over 500 daily boardings or alightings. As shown, the top three boarding locations are all located in the Waterfront, East Village, West End, and Business and Entertainment and North Pine Districts and are all along Long Beach Boulevard at 6th Street (1,427), 1st Street (1,074), and Anaheim Street (1,034).

The top three alighting locations were located in the Waterfront, East Village, West End, Business and Entertainment and North Pine Districts, as well as the Midtown District along Long Beach Boulevard at Pacific Coast Highway (1,175) and 7th Street (1,026), and on 1st Street at Shelter D N (899). Figures 2.67 through 2.69 graphically show the daily boarding and alighting data. None of the LBT or Metro stops in the Wardlow District had over 500 weekday boardings or alightings.

Figure 2.66: Downtown Long Beach Daily Bus Boardings and Alightings
Source: Long Beach Transit

Districts	Stop Name	Routes Served	Weekday Boardings	Weekday Alightings
Downtown District	6th St and Long Beach Blvd SE	91, 92, 93, 94, 96	1,427	26
Downtown District	1st St and Shelter H S	21, 22, 81, 121, 151	1,074	434
Downtown District	Anaheim St and Long Beach Blvd SE	45, 46	1,034	110
Downtown District	1st ST and Shelter G S	51, 61	840	547
Downtown District	1st St and Shelter C N	111, 112, 191, 192	789	899
Downtown District	1st St and Shelter E S	91, 92, 93, 94	745	525
Downtown District	5th St and Long Beach Blvd	46, 51, 81	680	56
Downtown District	10th St and Pine Ave NW	Passport, 81	570	749
Downtown District	Aquarium of the Pacific N E	Passport	554	313
Downtown District	7th St and Long Beach Blvd N W	51, 81, 91, 92, 93, 94, 96, 172, 173, 174	173	1,026
Downtown District	1st St and Shelter D N	1, 71, 72, 121, 151	293	976
Downtown District	Long Beach Blvd and Anaheim St S W	1, 46, 51	136	960
Downtown District	5th St and Pacific Ave S W	51, 81, 91, 92, 93, 94, 172, 173, 174, 182	108	705
Downtown District	Anaheim St and Long Beach Blvd N W	45	50	532
Midtown District	Pacific Coast Highway and Long Beach Blvd SE	171, 172, 173, 174, 176	870	171
Midtown District	Pacific Coast Hwy and Pacific Ave S E	1, 171, 172, 173, 174, 176	566	138
Midtown District	Willow Ave and Long Beach Blvd SE	101, 102, 103, 104	561	118
Midtown District	Pacific Coast Hwy and Long Beach Blvd NE	171, 172, 173, 174, 176	336	1,175
Midtown District	Willow Ave and Long Beach Blvd NW	101, 102, 103, 104	162	592

Source: Long Beach Transit

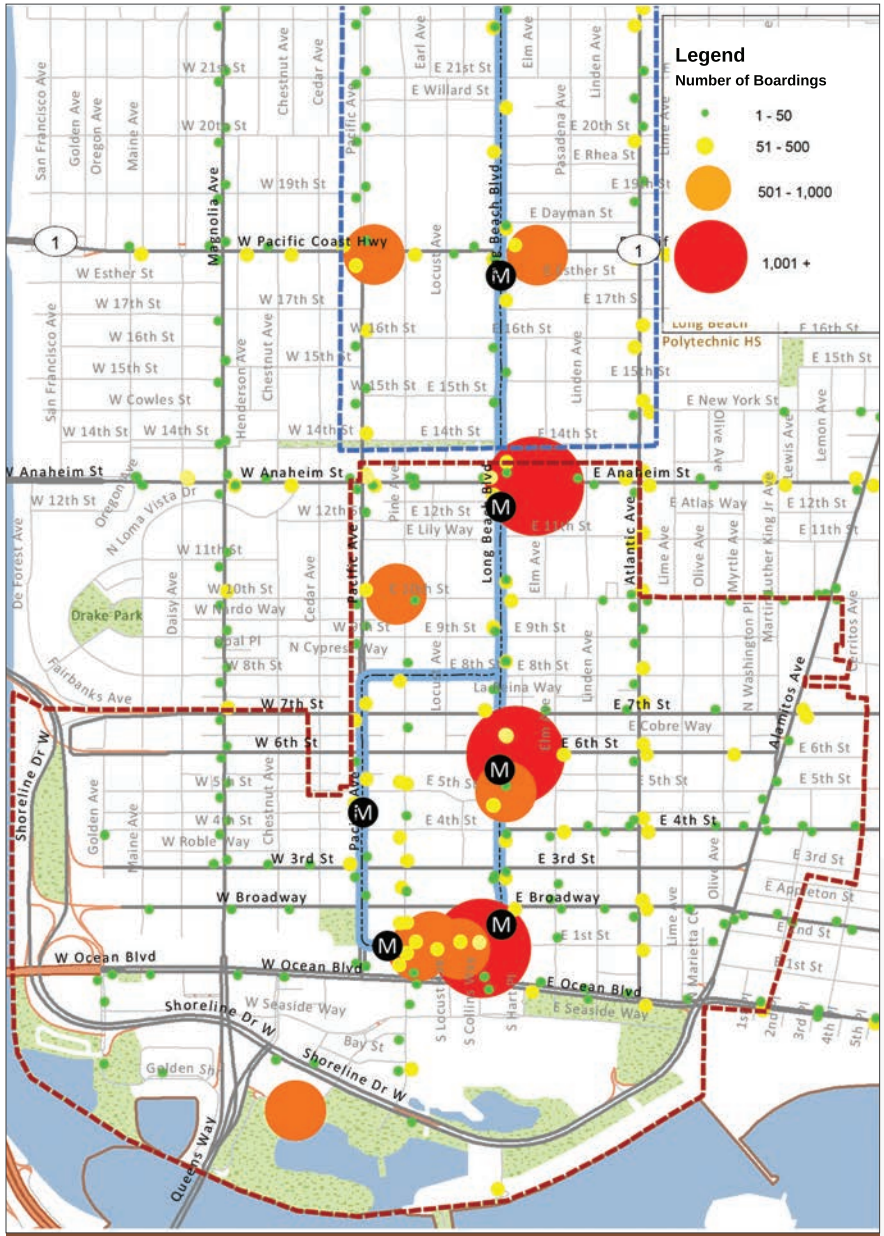


Figure 2.67: Downtown Daily Boardings

Figure 2.68: Midtown Daily Boardings

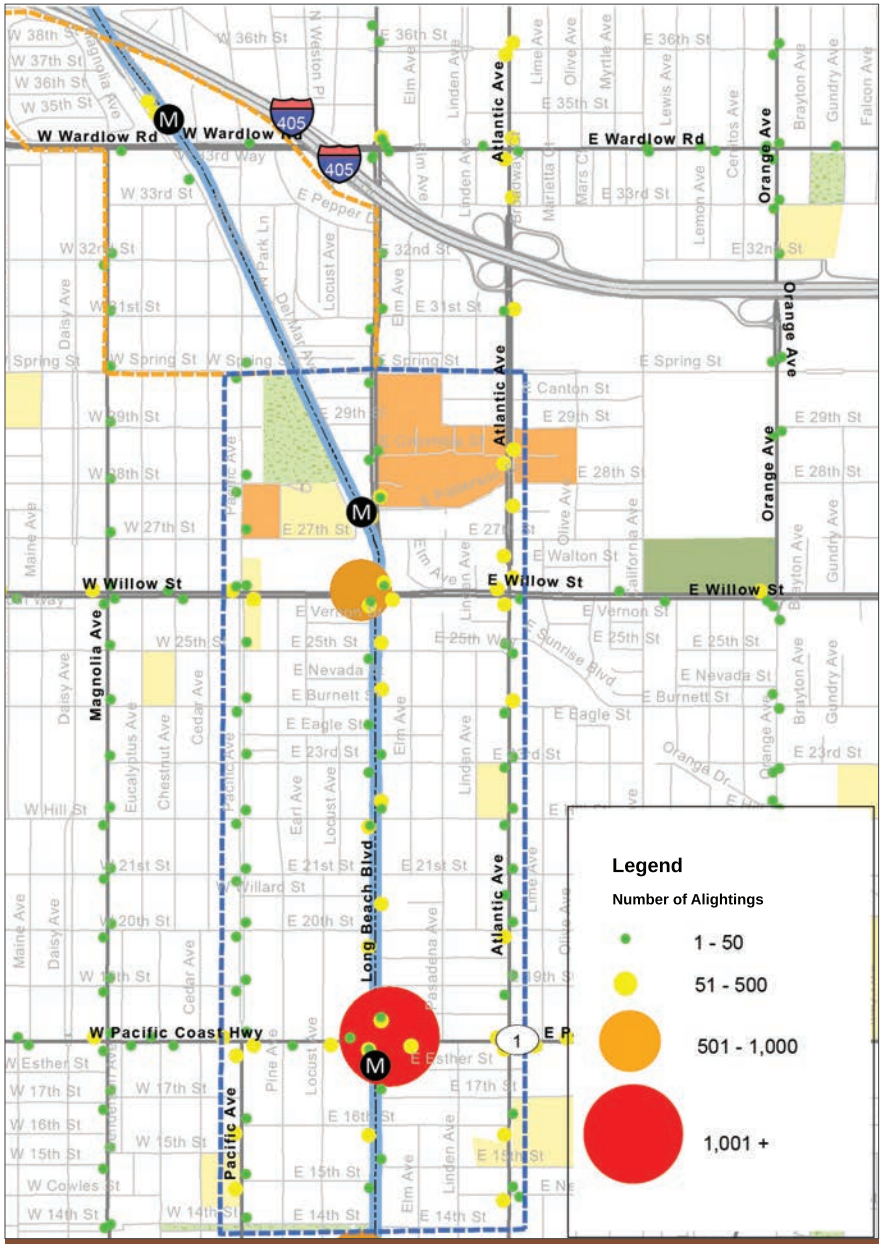


Figure 2.69: Wardlow/Willow Daily Boardings

2.3.4 Bicycle and Pedestrian Collisions

Bicycle Collisions

The bicycle collision analysis examined a total of 425 reported vehicle-bicycle collisions in the plan area between 2008 and 2012. Figure 2.70 lists the primary collision factors and Table 6 lists the collision type for vehicle-bicycle collisions. As shown, of the 425 total vehicle-bicycle collisions in the plan area, approximately 17 percent (72 collisions) occurred as a result of an auto violation, and approximately 43 percent (183 collisions) occurred as a result of a bicyclist violation. The cause of the remaining 40 percent of the bicycle collisions was either unknown, not stated, or was a result of a miscellaneous factor.

The vehicle-bicycle collision types are broken down into the following categories; broadside, hit object, rear-end, sideswipe, vehicle/pedestrian, head-on, overturned, or other. Of the 425 vehicle-bicycle collisions, 11 percent (47 collisions) were categorized as broadside collisions with bicycles, three percent (12 collisions) were sideswipe collisions, and two percent (seven collisions) was either rear-end or head-on collisions. The collision type for the remaining 84 percent of the collisions were either unknown, not stated, or was a result of a miscellaneous factor.

In total, 22 percent of the bicycle collision locations (93 locations) had two or more collisions reported between 2008 and 2012, and of those, 14 locations had five or more collisions. The following intersections observed between five and 10 bicycle-related collisions between 2008 and 2012:

Long Beach Boulevard and 6th Street (6 Collisions)
Long Beach Boulevard and Willow Street (6 Collisions)
Long Beach Boulevard and 20th Street (7 Collisions)
Alamitos Avenue and Ocean Boulevard (7 Collisions)
Atlantic Avenue and Anaheim Street (10 Collisions)

Two-thirds (330 collisions) of the reported vehicle-bicycle collisions resulted in an injury, and two collisions resulted in fatalities. Both bicyclist fatalities occurred within the Waterfront, East Village, West End, Business and Entertainment and North Pine Districts at following locations:

6th Street at Magnolia Avenue
Shoreline Drive and Shoreline Village Drive

Figures 2.71 and 2.72 graphically show the location and number of the bicycle-related collisions in the plan area.

Figure 2.70: Bicycle Collision Factors

Primary Collision Factor	Downtown District	Midtown District	Wardlow District	Total	
				Total	Percent
Auto R/W Violation (Auto Violation)	43	28	1	72	16.9%
Brakes (Bicyclist Violation)	1	0	0	1	0.2%
Following Too Closely (Bicyclist Violation)	2	0	0	2	0.5%
Improper Passing (Bicyclist Violation)	4	0	0	4	0.9%
Improper Turning (Bicyclist Violation)	22	13	0	35	8.2%
Lights (Miscellaneous Cause)	2	0	0	2	0.5%
Not Stated (Miscellaneous Cause)	13	2	0	15	3.5%
Other (Miscellaneous Cause)	20	5	1	26	6.1%
Other Hazardous Movement (Bicyclist Violation)	21	5	1	27	6.4%
Other Than Driver (Miscellaneous Cause)	2	1	0	3	0.7%
Pedestrian R/W Violation (Bicyclist Violation)	12	7	1	20	4.7%
Pedestrian Violation (Bicyclist Violation)	8	4	0	12	2.8%
Traffic Signals (Miscellaneous Cause)	26	10	0	36	8.5%
Unknown (Miscellaneous Cause)	56	31	1	88	20.7%
Unsafe Lane Change (Bicyclist Violation)	4	2	0	6	1.4%

Bicycle Collisions (2008-2012)

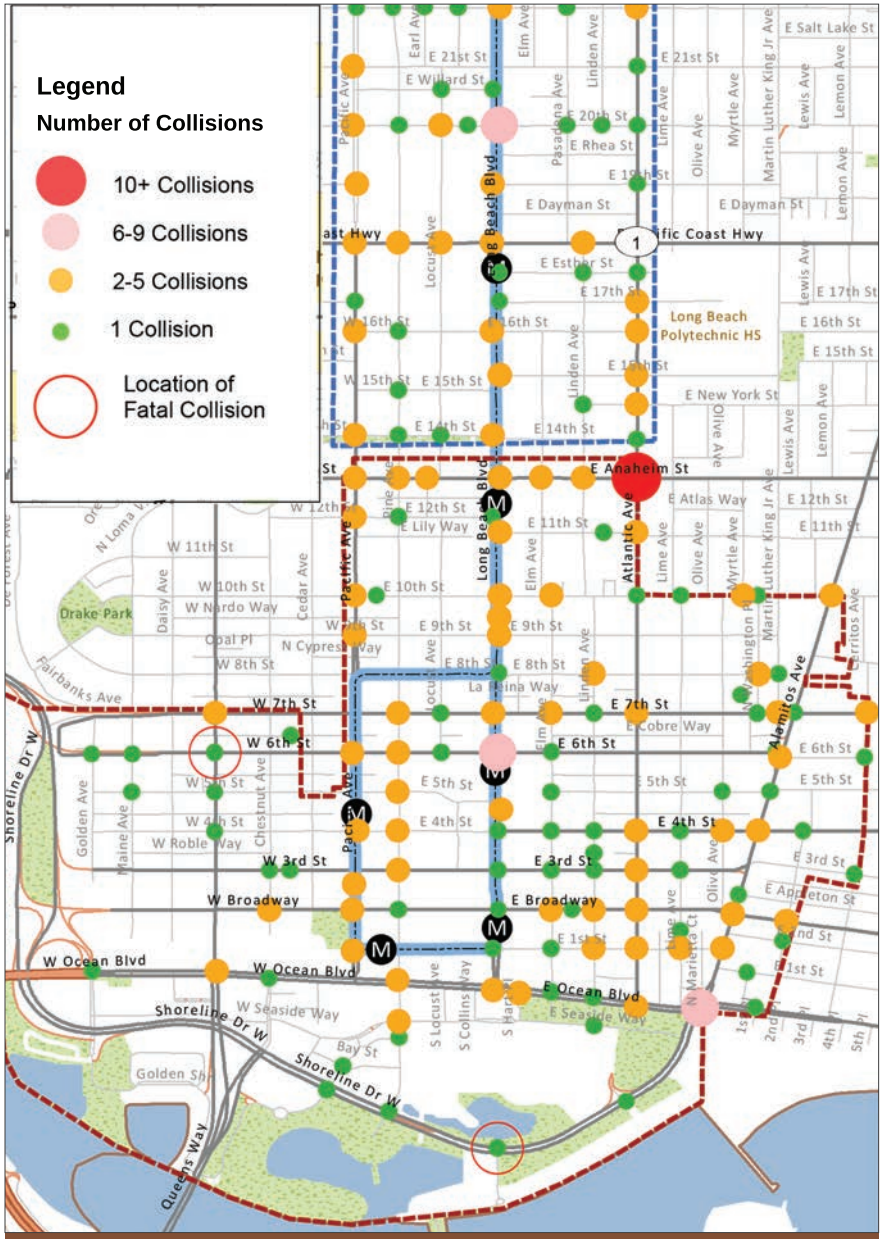


Figure 2.71: Downtown Bicycle Collisions

Figure 2.72: Wardlow/Willow Bicycle Collisions

Pedestrian Collisions

The pedestrian collision analysis examined a total of 378 reported vehicle-pedestrian collisions in the plan area between 2008 and 2012. Table 7 shows the collision statistics for vehicle-pedestrian collisions in the plan area. As shown, of the 378 vehicle-pedestrian collisions between 2008 and 2012, nearly half occurred as a result of a pedestrian violation (180 collisions), and approximately 14 percent occurred as a result of an auto violation. The cause of the remaining 39 percent of the collisions were either unknown, not stated, or were a result of a miscellaneous factor.

In total, 19 percent of the pedestrian collision locations (72 locations) had two or more collisions reported between 2008 and 2012, and of those, 12 locations had five or more collisions. The following intersections reported between five and 10 bicycle-related collisions between 2008 and 2012:

Pine Avenue and Pacific Coast Highway (5 Collisions)
Pacific Avenue and Willow Street (5 Collisions)
Magnolia Avenue and Ocean Boulevard (5 Collisions)
Long Beach Boulevard and 7th Street (5 Collisions)
Locust Avenue and Pacific Coast Highway (6 Collisions)
Pine Avenue and 7th Street (6 Collisions)
Elm Avenue and Anaheim Street (6 Collisions)
Long Beach Boulevard and Willow Street (7 Collisions)
Long Beach Boulevard and PCH (8 Collisions)
Atlantic Avenue and Anaheim Street (8 Collisions)
PCH and Pacific Avenue (10 Collisions)
Long Beach Blvd. and Anaheim Street (10 Collisions)

Of the 378 reported collisions, 91 percent (344 collisions) resulted in an injury and eight collisions resulted in fatalities. Five of the eight pedestrian fatalities occurred within the Waterfront, East Village, West End, Business and Entertainment and North Pine Districts, and three pedestrian fatalities occurred in the Midtown District at the following locations:

Linden Avenue and Anaheim Street
Lime Avenue and Anaheim Street
Pine Avenue and 7th Street
Pacific Avenue and 7th Street
Atlantic Avenue and 4th Street
Pasadena Avenue and 27th Street
Pasadena Avenue and Willow Street
Pacific Avenue and 25th Street

Figures 2.74 and 2.75 graphically show the location and number of pedestrian-related collisions in the plan area.

Table 2.73: Pedestrian Collision Factors

Primary Cause	Downtown District	Midtown District	Wardlow District	Total	
				Total	Percent
Auto R/W Violation (Auto Violation)	9	4	0	13	3.4%
Driving Under Influence (Auto Violation)	0	1	0	1	0.3%
Improper Turning (Auto Violation)	7	8	0	15	4.0%
Not Stated (Miscellaneous Cause)	9	5	2	16	4.2%
Other (Miscellaneous Cause)	18	13	1	32	8.5%
Other Hazardous Movement (Auto Violation)	4	2	0	6	1.6%
Other Improper Driving (Auto Violation)	0	1	0	1	0.3%
Other Than Driver (Miscellaneous Cause)	1	1	0	2	0.5%
Pedestrian R/W Violation (Pedestrian Violation)	60	30	1	91	24.1%
Pedestrian Violation (Pedestrian Violation)	41	32	2	75	19.8%
Traffic Signals and Signs (Miscellaneous Cause)	6	2	1	9	2.4%
Unknown (Miscellaneous Cause)	51	35	2	88	23.3%
Unsafe Speed (Auto Violation)	8	5	0	13	3.4%
Unsafe Starting or Back (Pedestrian Violation)	7	7	0	14	3.7%
Wrong Side of Road (Auto Violation)	2	0	0	2	0.5%
Total	**223**	**146**	**9**	**378**	

Source: City of Long Beach

Pedestrian Collisions (2008-2012)

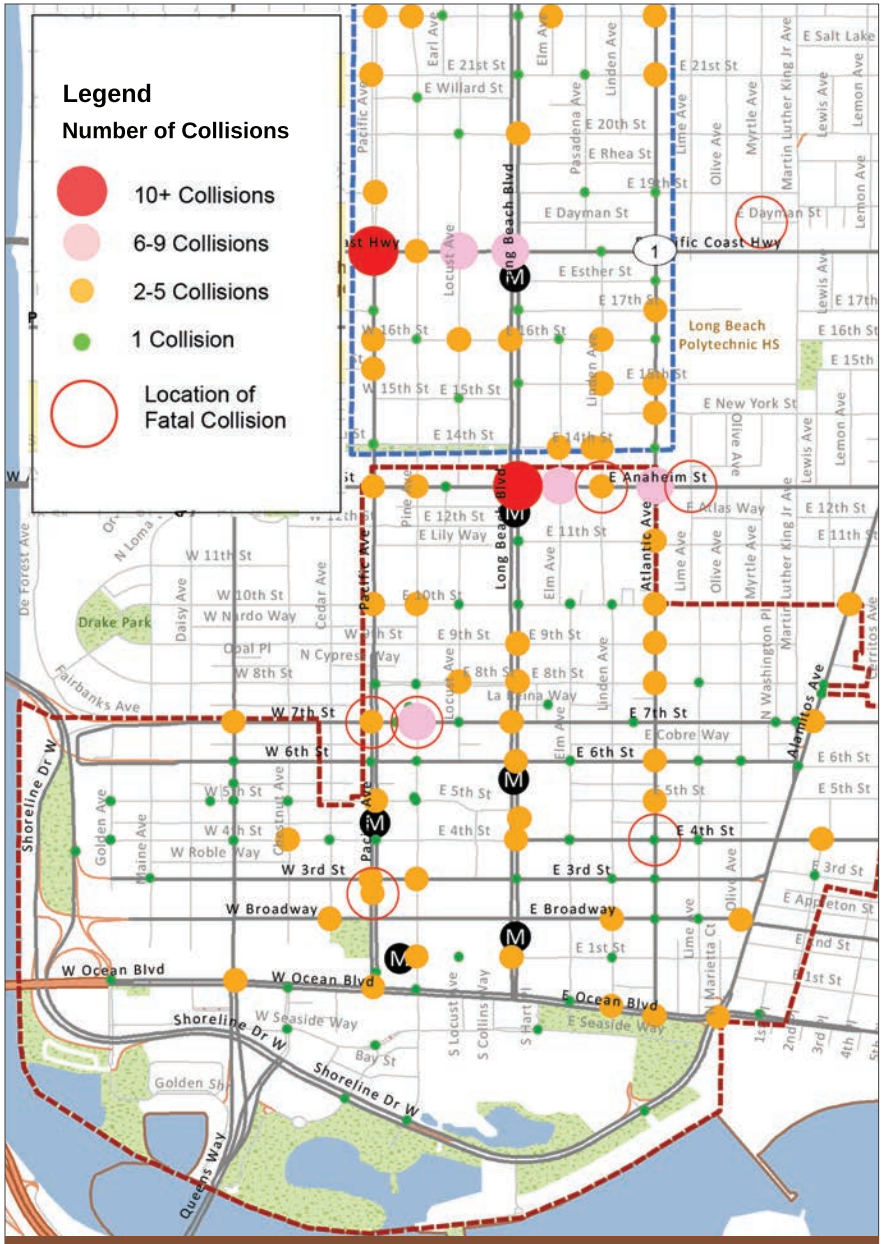


Figure 2.74: Downtown Pedestrian Collisions

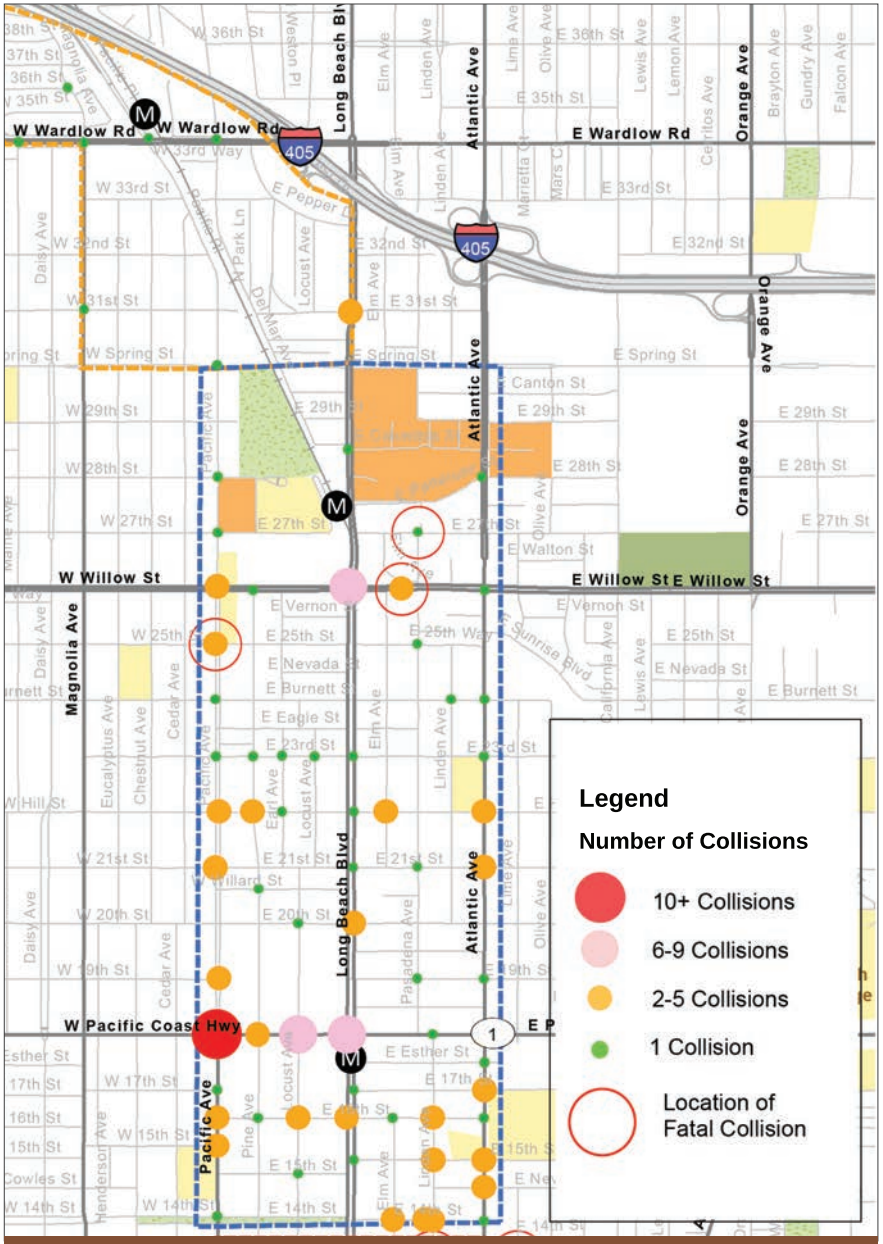


Figure 2.75: Wardlow/Willow Pedestrian Collisions

2.4 Policy Analysis

Through its recent planning efforts, The City of Long Beach has committed to improving walking conditions for residents and visitors. The PMP is intended to address remaining obstacles to increased walking, such as deficient facilities, concerns about safety, attractiveness and appeal, and lack of connectivity, in order to boost transit ridership and encourage residents and visitors to explore the city on foot. The PMP, as guided by existing and proposed goals and policies, sets forth specific obtainable strategies that will result in tangible improvements over the next 20 years.

Many policies pertaining to pedestrians exist in current City documents. To achieve the goal of making City of Long Beach a pedestrian-friendly city, current planning practices should have a unified and coherent vision. The existing documents and policies pertaining to pedestrian and transportation planning were reviewed to highlight pedestrian-related policies. It is important for the vision, goals and objectives of the PMP to be aligned and consistent with relevant existing plans and policies. The following section summarizes the policy guidance and past planning efforts to inform the goals and strategies of the PMP. A full examination of existing and proposed policies, goals, and objectives is presented in Chapter 6.

2.4.1 Mobility Element

Adopted October 2013

The Mobility Element outlines the structure of the City's existing and future multi-modal transportation system by mode -- pedestrian, bicycle, transit, motor vehicle -- and also contains information about various transportation-related topics including parking, transportation demand management, goods movement, airports, seaports, transportation funding, and regional transportation.

To create a more efficient, balanced, and multi-modal mobility network, the Mobility Plan focuses on:

- Establishing a network of complete streets and prioritized travel corridors for different modes of transportation.
- Reconfiguring streets to emphasize modal priorities.
- Strategically improving congested intersections and corridors.
- Establishing a more flexible level of service approach to traffic analysis and improvements.
- Reducing the environmental impacts of the transportation system.
- Managing the supply of parking

In addition, the Mobility Element also serves as a guide for a wide range of City planning documents and programming activities, such as the Capital Improvement Program (CIP), transportation-related master plans, development permit applications and regional planning documents.

The Mobility Element establishes a vision, goals, strategies, policies and implementation measures necessary to achieve a balanced mobility system that serves the needs of all users of the public rights-of-way, guided by complete streets and context-sensitive design principles. The Mobility Element is the first element to be adopted as part of a larger comprehensive general plan update.

The Mobility Element places an emphasis on enhancing the mobility of people by making walking easier, safer and more enjoyable. It identifies pedestrian-priority areas (see Figure 2.76 at right) where the City plans to place importance on capital and operational improvements that promote safe and enjoyable pedestrian travel. The Mobility Element recommends the development of PMP that details future improvements for the pedestrian environment, including the pedestrian-priority areas. The Mobility Element also introduces a "Pavement to Plazas" scheme to temporarily reclaim unused swaths of roadway and turn them into small public plazas.

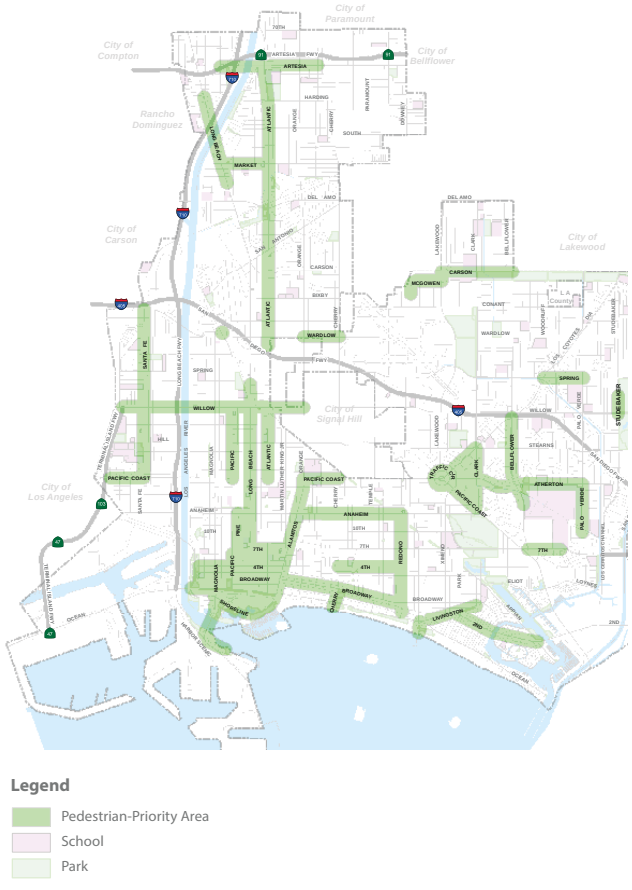


Figure 2.76 Pedestrian Priority Areas in Long Beach.

2.4.2 Downtown Plan

Adopted January 2012

In January 2012, the Long Beach City Council approved the Downtown Plan, a zoning document that established the permitted land uses, zoning, development, and other design standards for Downtown. The Downtown Plan recognizes many facets that contribute to Downtown's unique sense of place including a social heart (Pine Avenue and the waterfront), a civic core (Civic Center, City Hall, Courthouse) and major attractions (Convention Center, aquarium and major hotels, restaurants and beaches).

The Downtown Plan calls for a multi-modal transportation network to reinforce the role of Downtown as the focal point of the City. The Plan identifies standards and guidelines for an interconnected pedestrian network of open spaces, urban parks, plazas, community gardens, courtyard and paseos. It encourages a balance of transportation modes through good planning, design and development. The Downtown Plan focuses on the relationship of buildings to the street and creating a livable, walkable downtown. Topics include: sidewalks, setbacks, street wall design, ground floor treatment, tower treatment, circulation and parking, on-site open space, other building elements, streetscape improvements and sustainable design.

The Downtown Plan calls for creating a city-wide multi-modal transportation network that reinforces the role of Downtown as the focal point of the City by:

- Facilitating walkability using initiatives such as the recent Pine Avenue Streetscape Improvement Project as a model for other pedestrian right-of-way enhancements in Downtown.
- Strengthening connectivity between Downtown and areas south of Ocean Avenue, such as the convention center, The Pike, Shoreline Village and the Alamitos Beach bike path, to attract visitors to and from the waterfront.
- Emphasizing pedestrian safety improvements such as the installation of decorative street lighting, pedestrian crossings and curb extensions - such as those recently installed in Downtown East Village - to calm automotive traffic.
- Exploring linkages between Downtown and Alamitos Beach.
- Creating plazas, paseos, and walkways that interconnect various Downtown attractions and facilitate pedestrian activity.

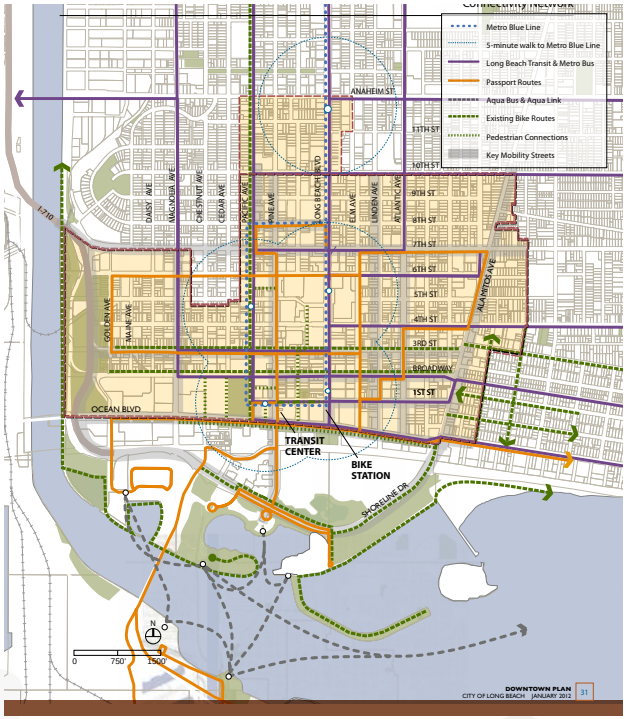


Figure 2.77 Existing connectivity network.

The Downtown Plan identifies standards and guidelines for an interconnected pedestrian network of open spaces, urban parks, plazas, community gardens, courtyards and paseos. The Plan places great importance on streetscape design, a critical aspect of the City's public realm.

2.4.3 Midtown Specific Plan

The Midtown Specific Plan and Program Environmental Impact Report (EIR) is a project to redevelop a 2.5-mile stretch of Long Beach Boulevard directly north of Downtown Long Beach.

The Midtown Specific Plan enforces Planned Development District 29 and regulates the project area through the application of four development districts: Transit Node, Corridor, Medical, and Open Space. Each district has its own development standards and land use patterns. Overall, the 358-acre Specific Plan could ultimately support roughly 7,000 homes and 10,000 jobs in 3.8 million square feet of building space, concentrating and intensifying development at key transit and employment nodes.

The mobility and streetscape plan for Midtown is guided by the City's General Plan Mobility Element. Creating an efficient, balanced, multi-modal mobility network is a priority for both plans. While, Long Beach Boulevard is already a multi-modal corridor, the PMP emphasizes combining autos, public transit, bicycles, and pedestrians into a complete street. Synchronizing traffic signals, reconfiguring streets and freeway ramps, and applying a context-sensitive approach to balance the mobility system along the boulevard are just a few of the strategies that will help to create an enjoyable area for all users of the corridor.

The Midtown Specific Plan reclassifies the streets into Regional Corridor, Boulevard, Major Avenue, Minor Avenue, Neighborhood Connector, and Local Street. The reclassifications are consistent with the General Plan Mobility Element. Long Beach Boulevard has been classified as a Boulevard and Pacific and Atlantic Avenues as Major Avenues.

The plan proposes six catalytic projects referred to as "Big Six" to offer improvements to key aspects of life within Midtown, confidence in the community, and inspiration for further investment. These include :
Willow Transit Village, Hancock Container Village, Space Designed for Feet and Pedals, Shade and Streetscape, Wellness Parks, and streetlets.

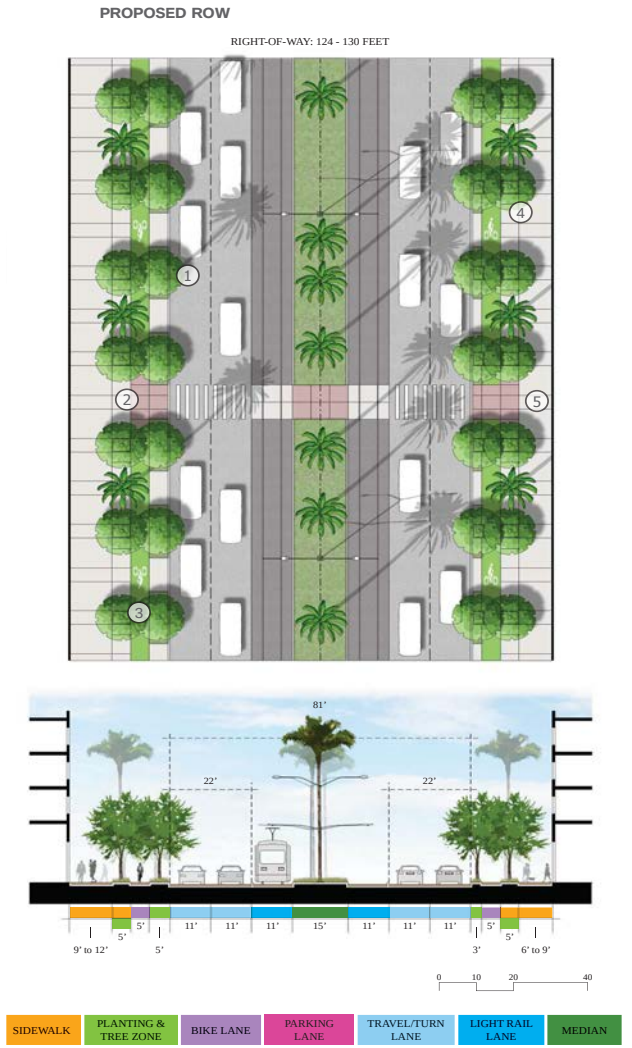


Figure 2.78 Proposed cross section of long Beach Boulevard.

2.4.4 Bicycle Master Plan

The overarching commitment of the Bicycle Plan is to increase, improve and, enhance bicycling in the City as a safe, healthy, and enjoyable means of transportation and recreation. In order to fulfill this commitment the Plan establishes three goals:

- Make bicycling safer, more convenient and more enjoyable for all types of bicyclists, transportation and recreation related, with a goal to increase bicycle use by 5% by the year 2020.
- Encourage more people to bicycle for transportation to provide an attractive and healthy transportation option, which will reduce traffic congestion, air pollution, and noise pollution.
- Develop an economical transportation option that promotes social equity.

Long Beach is using PLACE Program funds to update the City's General Plan (Long Beach 2030) with active living policies and programs and amend the City's Bicycle Master Plan. The plans will include pedestrian and bike friendly principles that are based on community input and best-practice research. They will emphasize complete streets; i.e. streets that meet the needs of all users of the roadway, including pedestrians, bicyclists, children, and the elderly, as well as motorists. Additionally, the Bicycle Master Plan will identify potential bike lanes and facilities to be placed throughout the city.

2.4.5 Safe Routes to School

The Safe Routes to School Program (SRTS) was established in August 2005 as part of SAFETEA-LU. Section 1404 of this legislation provided funding (for the first time) for State Departments of Transportation to create and administer SRTS programs.

The administration of Section 1404 was originally assigned to FHWA's Office of Safety. At the beginning of FY 2013, FHWA's Office of Planning, Environment, and Realty assumed program oversight.

The purpose of the SRTS program is to address these issues head on. At its heart, the SRTS Program empowers communities to make walking and bicycling to school a safe and routine activity once again. The program makes funding available for a wide variety of programs and projects, from building safer street crossings to establishing programs that encourage children and their parents to walk and ride safely to school.

2.4.6 Pine Avenue Streetscape Plan

The project will replace sidewalks; install new pedestrian-friendly landscaping and install modern amenities such as scrambler crosswalks and removable bollards.

The current project represents a scaled-down version of the one originally envisioned for the stretch back when it began as a Long Beach Redevelopment Agency streetscape improvement plan in 2009.

Now, with $500,000 in capital improvement money from the DLBA along with additional help from Long Beach's Department of Public Works, Metro, and infrastructure funds from both the 1st and 2nd Council Districts, the Pine Avenue Improvement Project is again moving forward.

The raised planters between Ocean Boulevard and 7th Street, for example, will be removed to allow more pedestrian traffic on Pine's busiest blocks. Removable bollards will also be placed at Broadway, 3rd St., 7th Street and 8th Street, allowing for street closures to accommodate DLBA and Historic Old Pine Avenue events such as Summer and Music and Party on Pine. The street itself will also be re-paved with rubberized asphalt.

Figure 2.79 Perspectives from the Pine Avenue Streetscape Plan.

2.5 Summary of Existing Conditions

2.5.1 Downtown Opportunities

Downtown Long Beach is one of the most walkable destinations in Southern California, with a WalkScore consistently at or above 90. Upon arriving at one of four Downtown Blue Line stations, pedestrians can access a number of retail, entertainment, business, and recreational destinations. Pedestrian conditions along the walk route to these destinations vary considerably, however, often making it difficult for riders to access the system. Recent investments in the Pine Avenue streetscape and Promenade have brought renewed vitality to Downtown, but adjacent connections from the Blue Line are often lacking. Several surface parking lots near Metro stations, including some on sites owned by the City, offer an opportunity to improve connections to key Downtown destinations as new development projects are proposed.

A number of bike boulevards and class II bike lanes have been proposed as part of the City's Bicycle Master Plan. There are also several schools within walking distance of the Blue Line. The City should prioritize pedestrian improvements along corridors that have previously been identified for improvement, leveraging multiple sources of funding.

The map on the following page shows opportunities for pedestrian improvements in Downtown Long Beach.

Figure 2.80 There are several surface parking lots downtown, several of which are located between Pacific and Pine Avenues and west of First Street Station, presenting opportunities for new pedestrian improvements.

Figure 2.81 The Long Beach Bicycle Master Plan identifies local corridors such as Daisy, Chestnut, Linden, and Lime as candidates for future bike boulevards.

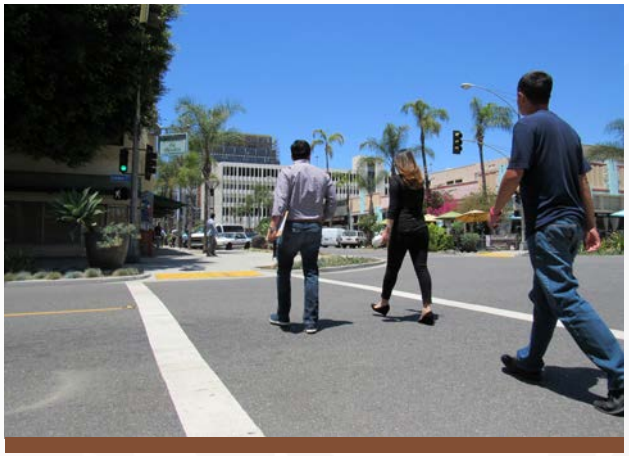
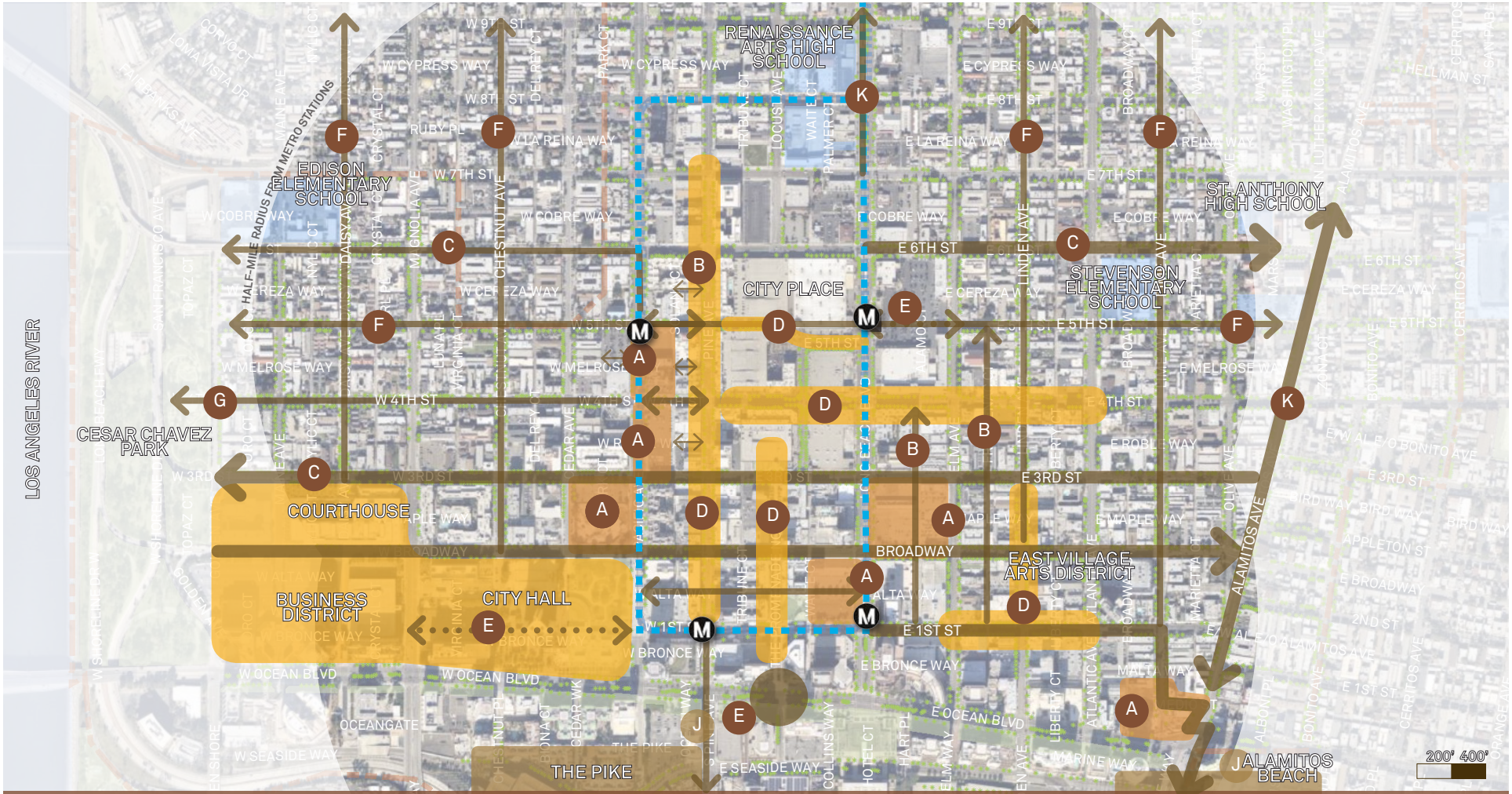


Figure 2.82 Pedestrian improvements have been made along 1st Street in East Village, but there is a gap between this vibrant neighborhood and First Street Station.

Figure 2.83 The plan area is home to a number of schools that are within walking distance of transit.

Figure 2.83: Downtown Opportunities



Opportunities

- A Possible TOD Redevelopment Opportunities
- B Opportunities to Strengthen Alley Connections
- C Strengthen Connections to Schools
- D Connect to Key Activity Zones
- E Close Gaps in Street/Alley Grid
- F Future Bicycle Infrastructure Improvements
- G Connect to Park/LA River
- H Close Gaps in Street/Alley Grid
- I Future Bicycle Improvements
- J Improve Connections to Waterfront
- K Widen/Improve Sidewalks
- L Future Bicycle Improvements
- M Metro Blue Line Station
- Metro Blue Line Tracks
- Schools

2.5.2 Midtown Opportunities

In Midtown, the Blue Line includes the Anaheim Street and Pacific Coast Highway stations. These intersecting corridors are some of the most dangerous for pedestrians in the study area. Along Anaheim Street, there are no traffic calming devices to slow drivers though the corridor, resulting in high speeds and dangerous conditions. Between 2008 and 2012, there were over 10 pedestrian collisions at the intersection of Anaheim and Long Beach Boulevard alone. There were several additional collisisons between Long Beach Bouelvard and Atlantic Avenue. The collisions are a direct result of difficult pedestrian conditions along the corridors, including narrow sidewalks, wide lanes, and no barriers between moving traffic and pedestrians.

There are a number of institutions within walking distance of the stations, including St. Mary Medical Center and four schools. The Long Beach Senior Arts Colony, a multi-family residential project located just west of the Anaheim Street Blue Line Station, can be a model for future development projects along the corridor. The building is set back 8 feet to allow for wider sidewalks and landscaping. This strategy should be coupled with more immediate improvements to the right-of-way, which could include new medians, enhanced crosswalks, and landscaping. Additional opportunities are presented in the map on the next page.

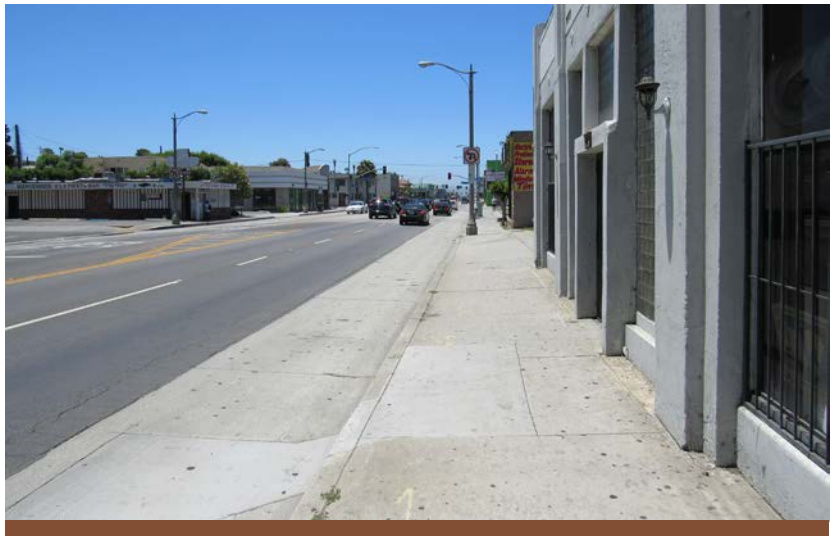


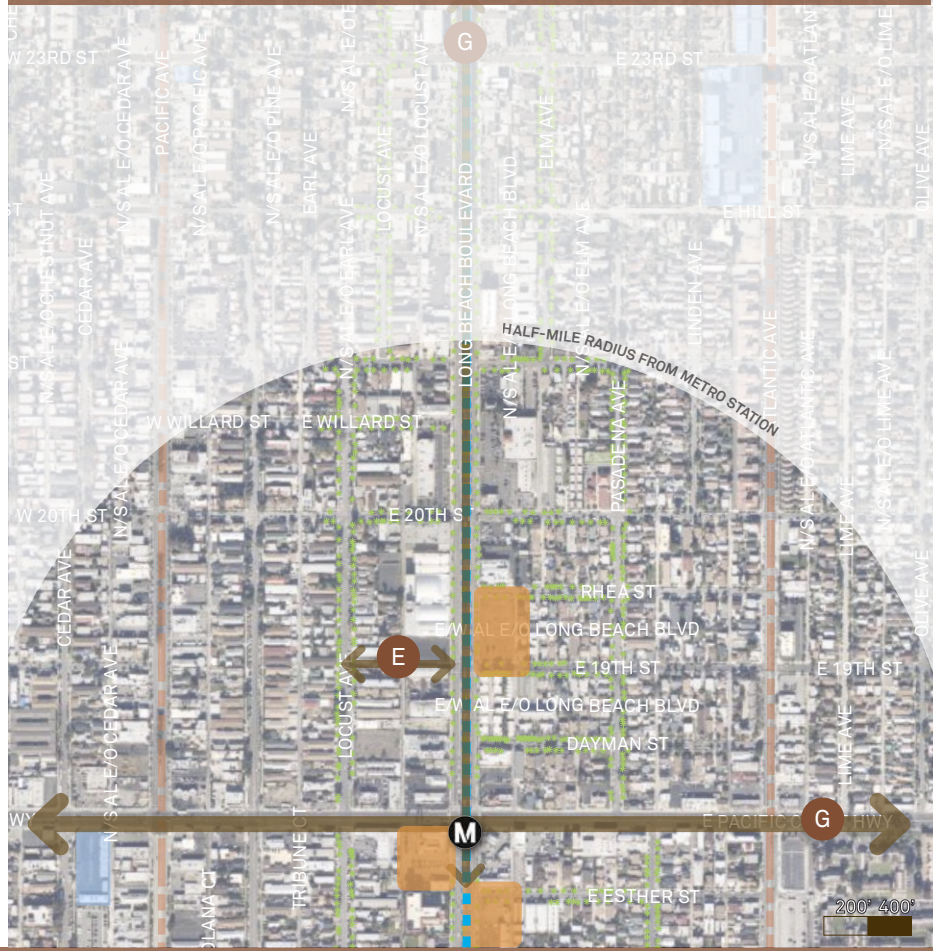
Figure 2.84 With narrow sidewalks, little to no landscaping and pedestrian amenities, and a high incidence of pedestrian collisions, Anaheim Street is an unsafe and unattractive environment for pedestrians.

Figure 2.85 St. Mary Medical Center, with over 1,400 employees, is located within walking distance of Anaheim Station and could become a major source of ridership with improved pedestrian connections.

Figure 2.86: Midtown Opportunities Map

Anaheim Station Area

Pacific Coast Highway Station Area



Opportunities

- A Possible TOD Redevelopment Opportunities
- B Opportunities to Strengthen Alley Connections
- C Strengthen Connections to Hospital
- D Connect to Key Activity Zones
- E Close Gaps in Street/Alley Grid
- F Future Bicycle Infrastructure Improvements
- G Widen/Improve Sidewalks, Crosswalks
- H Strengthen Connections to Schools
- I Open Space Opportunity
- M Metro Blue Line Station
- Metro Blue Line Tracks

2.5.3 Wardlow/Willow Opportunities

The Blue Line provides regional transit access at the Wardlow and Willow stations, but due to steep slopes along the right of way and very few marked crossings, the corridor effectively acts as a barrier for pedestrians. The underutilized public right-of-way along the Blue Line north of Willow Station, however, presents an opportunity to reconnect neighborhoods near the Wardlow and Willow stations. Travel time from these stations to Downtown Los Angeles is only 50 minutes, presenting an opportunity to connect more residents with major regional job centers. The City is currently preparing plans for a bike boulevard that would connect Downtown Long Beach to the Wardlow Station Area and beyond, along Spring Street and Del Mar Avenue. Some sections of the bike boulevard would run parallel to the Blue Line corridor.

At the Wardlow station, the City should prioritize pedestrian improvements that enhance mobility for the area's senior population. Along the west side of the Wardlow Station Area, there are very few opportunities to cross Pacific Place, making it difficult for residents to access the station. Additionally, there is no sidewalk along Pacific Place leading from the 405 offramp to the station.

The Wrigley Shopping center, a transit-oriented development, and Miller Childrens Hospital are major destinations near Willow Station. While a paseo connects the station to the shopping center, the connection between Willow Station and the hospital is poor.

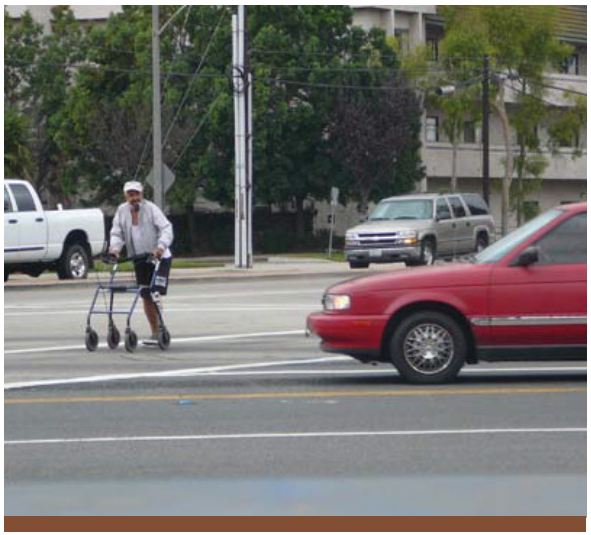
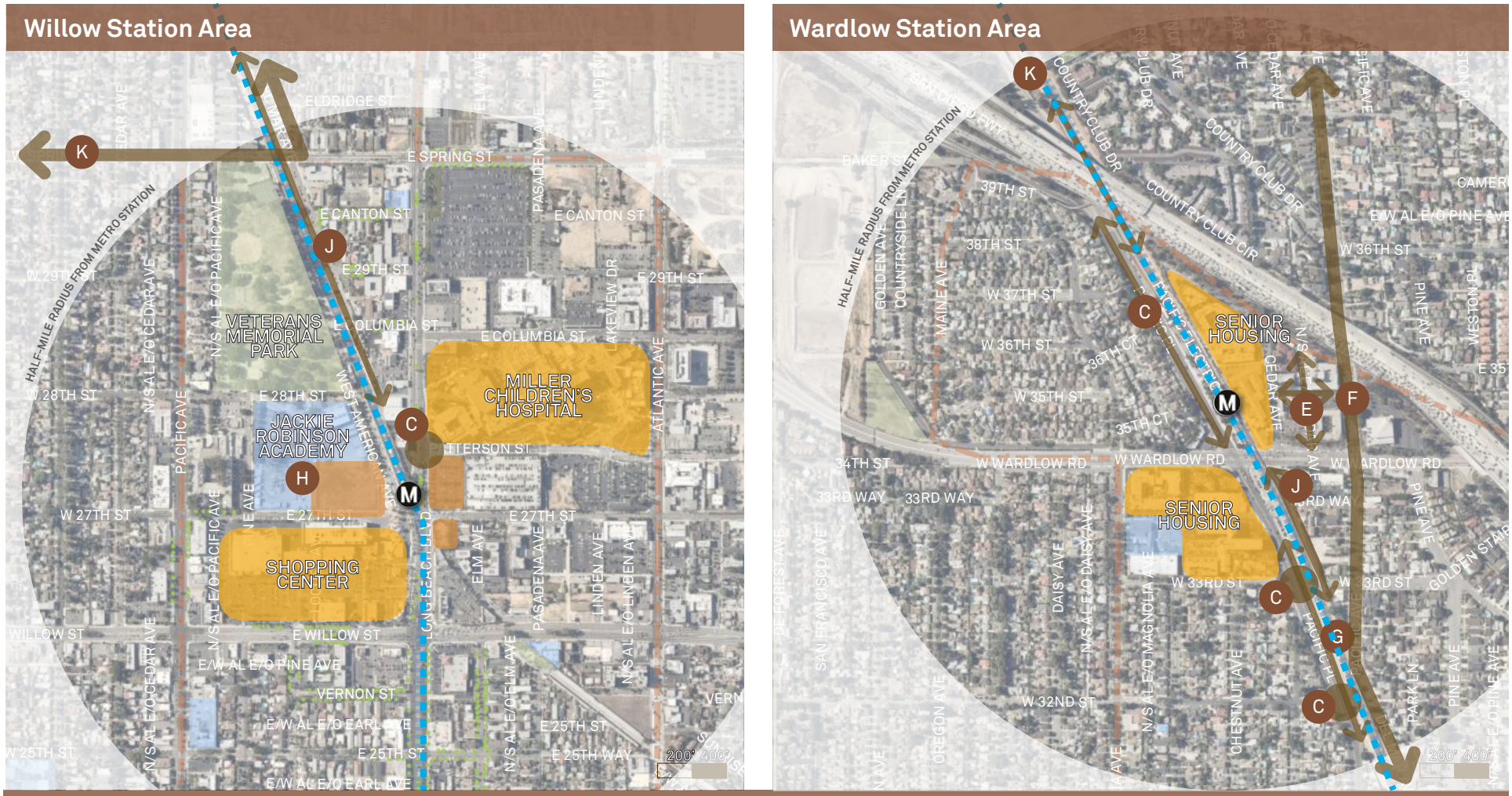


Figure 2.87 The Wardlow Station Area is home to a number of senior memory care, adult daycare, and assisted living facilities, affording the opportunity to improve mobility for Long Beach's senior population.

Figure 2.88 Excess land within the Metro Blue Line right of way could be converted to a path that connects several neighborhoods between the Wardlow and Willow stations.

Figure 2.89: Wardlow/Willow Opportunities



Opportunities

- A Possible TOD Redevelopment Opportunities
- B Opportunities to Strengthen Alley Connections
- C New/Improved Crosswalks
- D Connect to Key Activity Zones
- E Close Gaps in Street/Alley Grid
- F Future Bicycle Infrastructure Improvements
- G Extend Sidewalk
- H Strengthen Connections to Schools
- I Open Space Opportunity
- J Repurpose Underutilized Metro Right of Way
- K Connect to Los Cerritos Park
- M Metro Blue Line Station
- Metro Blue Line Tracks
- Schools


Exit to Street
1st Street Station
LOS ANGELES