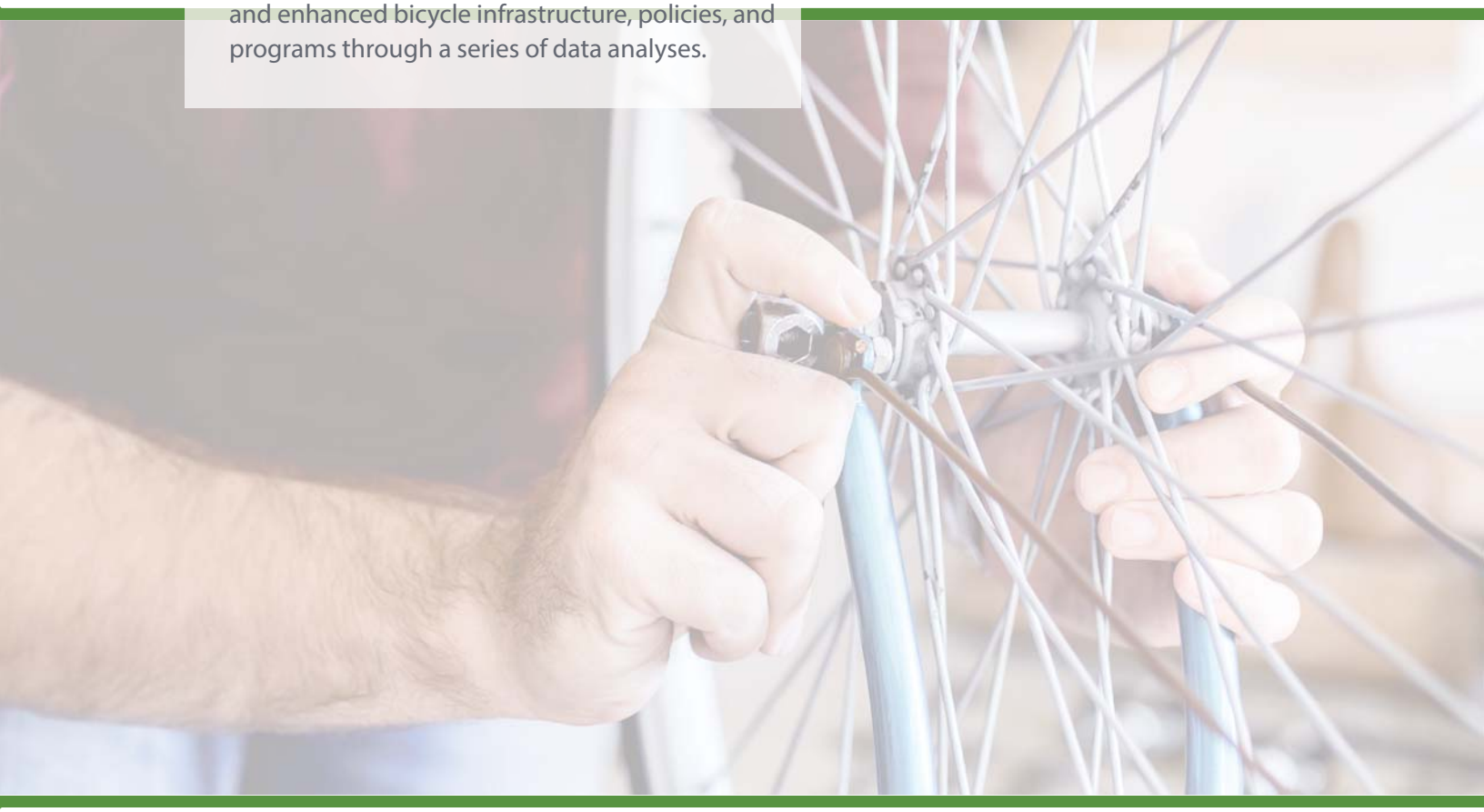
Long Beach Now

Existing Conditions & Needs Analysis

3

This chapter describes the existing state of bicycling in Long Beach including infrastructure and programs. It also details the need for more and enhanced bicycle infrastructure, policies, and programs through a series of data analyses.



3

Long Beach Now

Existing Conditions & Needs Analysis

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Local Context

Long Beach is well poised to expand the role and use of bicycle transportation. It has great weather, is relatively flat, and it already has a large number of existing bikeways. The City has installed bicycle parking at numerous locations throughout Long Beach. Transit is well linked to the bikeway network. A few locations have end-of-trip amenities such as showers and clothing lockers. These investments provide a foundation upon which the City can build a high quality, citywide bicycle transportation system—one that is safe and appealing for everyday use.

Land Use & Settlement Patterns

As described in the Mobility Element, Long Beach ballooned from a small, isolated beach community with just over 2,000 residents in 1900 to the second largest population center in Los Angeles County today. In between, Long Beach has witnessed the trends common to many other large urban areas in the United States, including a fluctuating downtown population, removal then replacement of rapid transit facilities, and demographic shifts in age, race, and ethnicity.

Why Ride in Long Beach?

Weather

Long Beach has wonderful, bikeable weather all year round.

Easy Terrain

Long Beach is nearly flat and has even topography.

Existing Network

Long Beach's existing bicycle network spans over 141 miles, connecting to the City's key destinations.

Well-Linked Transit

Long Beach is linked by Long Beach Transit, the Metro Blue Line light rail, and local connector busses.

Most of Long Beach has been developed in a grid pattern with residential uses spread throughout the city (Figure 3-1). Commercial development is also spread throughout the city, but mainly located around major arterials.

Demographics & Access to Vehicles

Long Beach is home to 468,594 people, according to 2014 American Community Survey (ACS) 5-year estimates. The median age is 33.2 years old, with 17.4 percent of residents under 18 years old and 9.8 percent over 65 years old. Over 58 percent of residents rent their homes. Regarding ethnic/racial demographics, a number of Long Beach residents identify as Hispanic or Latino (Table 3-1). The next most populous racial/ethnic group identifies as white, followed by those of Asian descent.

Table 3-1: Ethnicity/Race of Long Beach Residents

Ethnicity	
American Indian and Alaska Native alone	0.3%
Asian alone	12.8%
Black or African American alone	12.6%
Hispanic or Latino	41.7%
Native Hawaiian and Other Pacific Islander alone	0.9%
White alone	28.1%
Two or more races	3.4%
Some other race alone	0.2%

Source: 2014 American Community Survey (ACS) 5-year estimates

Figure 3-2: Commute Mode Share

Source: 2014 American Community Survey (ACS) 5-year estimates

The overall median income in Long Beach is $52,944 in Long Beach (Table 3-2), which is slightly less than the County's median income of $55,870.

Table 3-2: Household Income, 2014

Household Types	
All Households	$52,944
Family Households	$59,710
With own children under 18 years	$48,822
With no own children under 18 years	$70,967
Married-couple families	$81,621
Female householder, no husband present	$32,960
Male householder, no wife present	$45,221
Nonfamily Households	$41,350
Female householder	$38,442
Living alone	$33,037
Not living alone	$64,439
Male householder	$45,144
Living alone	$39,437
Not living alone	$65,681

Source: 2014 American Community Survey (ACS) 5-year estimates

Of the 209,232 Long Beach residents officially in the workforce as of 2014, only 1.1 percent stated they use a bicycle to commute (Figure 3-2). Bicycle ridership is likely higher than this as ACS does not factor recreational trips or trips where commuters use more than one mode when traveling to work, such as taking a bus partway then riding a bicycle to the final destination. Also, 5.4 percent of workers, or over 11,300, do not have access to an automobile. However, it is estimated that the number of people without access to a vehicle is closer to 38 percent due to one-car households or non-workers. These workers would rely on transit, walking, bicycling, or carpool to get to work.

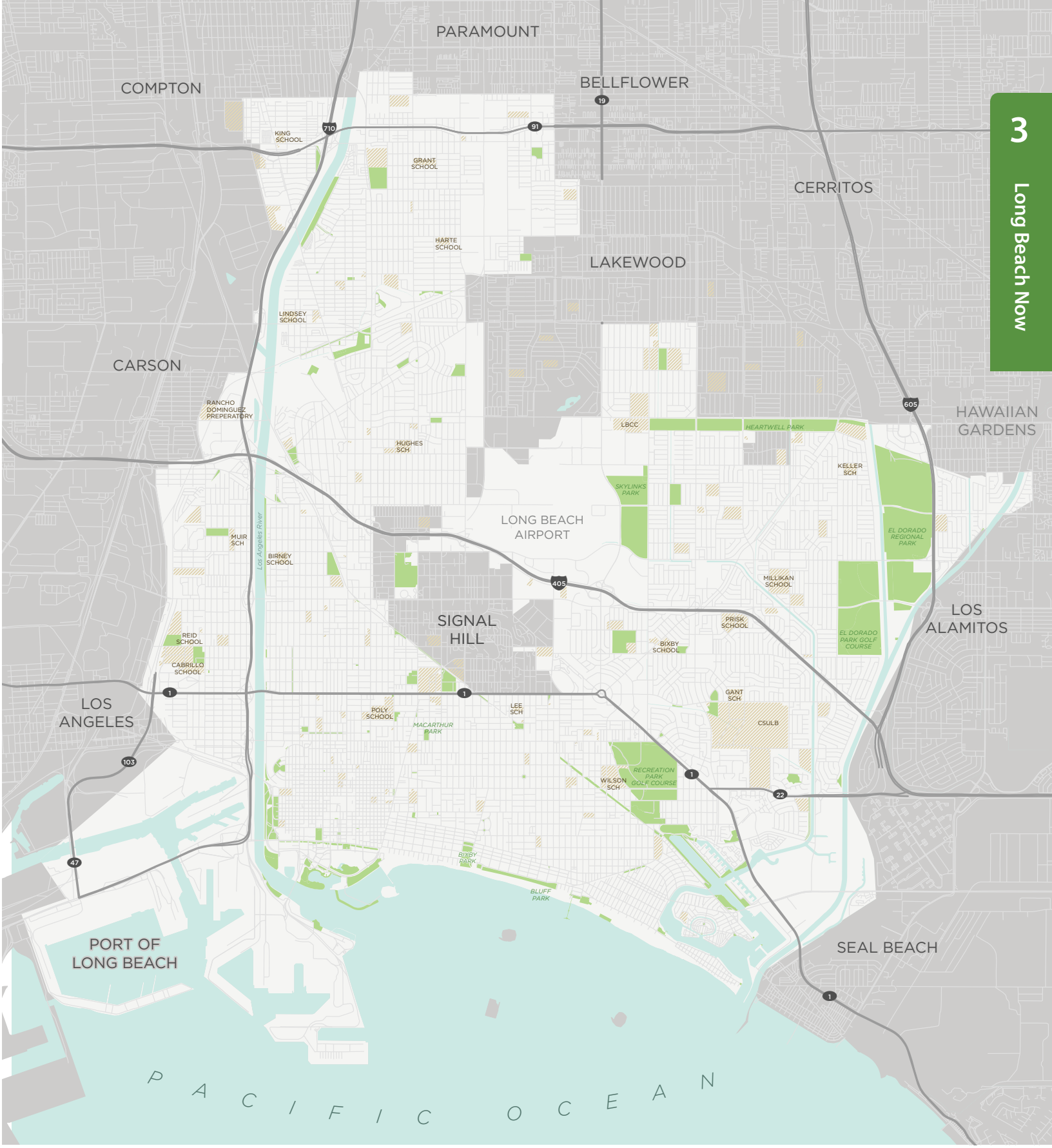


Figure 3-1: City of Long Beach Map

School
Park

Equity

This plan develops a bicycle network for the City of Long Beach, including areas where historically underserved populations reside. Equity considerations are necessary in the planning process because they can help address differences in the allocation of active transportation infrastructure to people of all ages and abilities. Historically, communities with large populations of people of non-white races and ethnicities and low-income households have received less investments from their local governments, including an uneven spatial distribution of bicycle facilities and safety improvements across a city. Equity issues are an important part of all planning processes. This plan examines areas of Long Beach that have been historically overlooked for capital improvement or bicycle facility investment and ensures that people of all income levels have access to convenient bikeways and safer streets.

In general, equity is defined as "just and fair inclusion." Historical factors and planning decisions, such as automobile-dependent patterns of metropolitan sprawl, have led to differences in residents' opportunities, access to services, and socioeconomic outcomes. In order to address socioeconomic disparities, equity has been a critical consideration in this Plan. An equity analysis was conducted to find "underserved" neighborhoods as determined by six indicators – race, age, income, environmental burden, educational attainment, and English proficiency.

An equity analysis was conducted using the CalEnviroScreen 2.0 tool, developed by the California Office of Environmental Health Hazard Assessment. The tool is a screening methodology that can be used to help identify California communities that are disproportionately burdened by multiple sources of pollution. It combines pollution burden indicators (such as ozone concentrations and drinking water contaminants) and population characteristic indicators (such as educational attainment and low-birth weights) into a single map that shows vulnerable populations relative to the State of California's entire population. This is the official tool that the California Environmental Protection Agency uses to designate communities as having a higher pollution burden per Senate Bill 535 and used in calculating Caltrans Active Transportation Program (ATP) grant application scoring. The "high pollution burden" communities identified in this Plan were the neighborhoods that scored greater or equal to 36.62 (Figure 3-3), the same cutoff used by ATP. This and other factors were used to identify and prioritize recommended projects, as explained in Chapter 6.

11,300 Long Beach residents do not have access to an automobile.

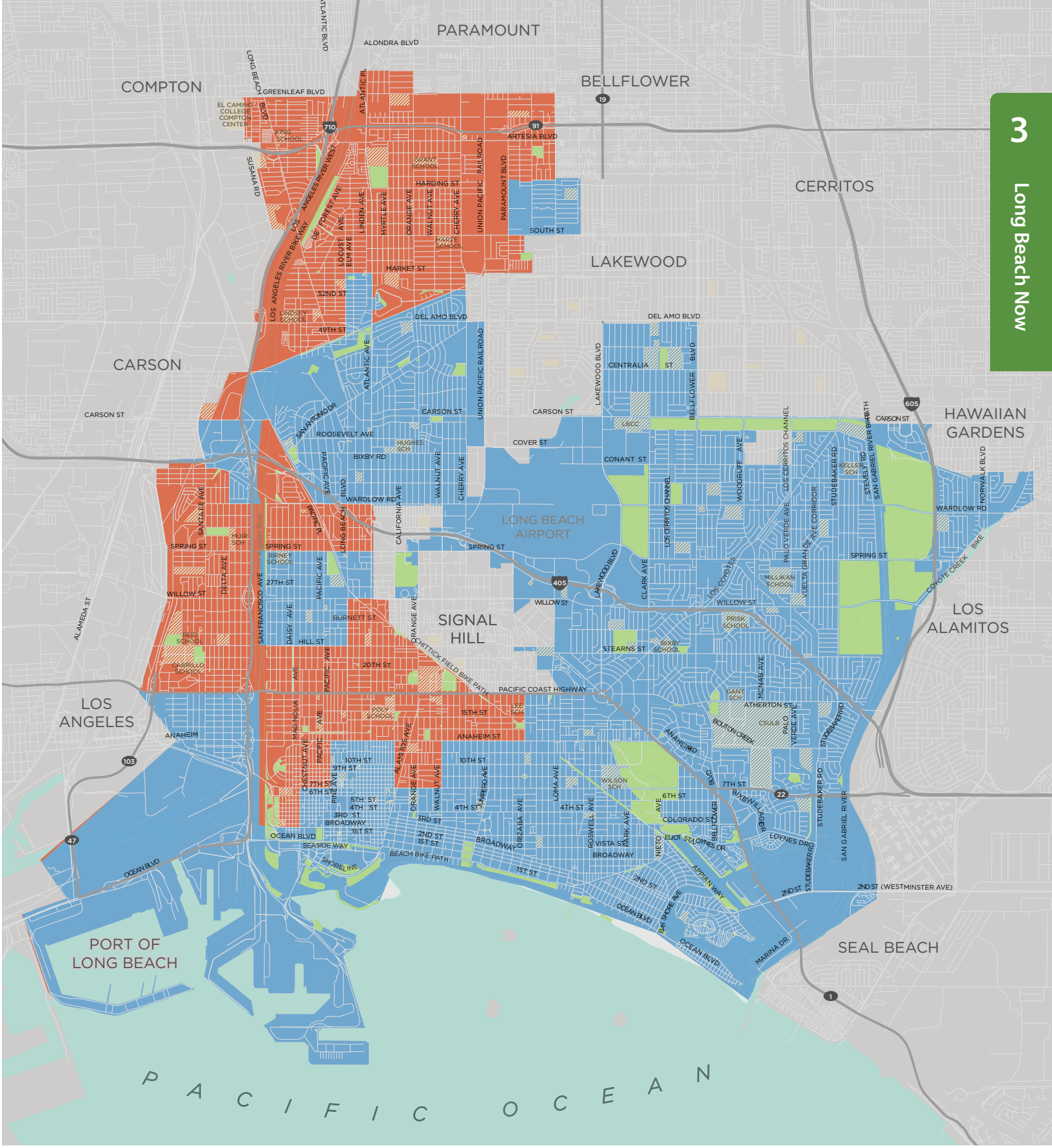


Figure 3-3: CalEnviroScreen 2.0

Higher Pollution Burden (>=36.62)

Lower Pollution Burden (<=36.62)

Based on pollution burden (potential exposures to pollutants and the adverse environmental conditions caused by pollution) and population characteristics (biological traits, health status, or community characteristics resulting in increased vulnerability to pollution. Source: CalEnviroScreen

Transit Access

Long Beach is well-served by multiple transit operators, and these services are enhanced by connections to the existing and proposed Bikeway Network. Urban transit services provide access and mobility to individuals on a city and regional scale, but in most cases, transit stations and bus stops are not adjacent to the riders' ultimate destination. Urban planners often refer to this gap in a potential transit rider's journey as the 'First/Last Mile Challenge' – when transit riders walk or bicycle between transit lines and their home, workplace, or personal and commercial activities. Safe and convenient bikeways can help increase the distance and ease people can travel to these transit stops, and Long Beach's existing bikeway network continues to provide these opportunities. Combining bicycling and transit helps Long Beach residents travel across the region, affordably and conveniently, providing greater mobility and access. Figure 3-4 shows the transit priority routes as identified by the City of Long Beach. This map is taken from the City of Long Beach Mobility Element.

Long Beach Transit operates public transit services in Long Beach, Lakewood, and Signal Hill. It manages 34 bus routes and almost 2,000 bus stops, as well as water taxis, dial-a-ride paratransit, and a free shuttle service called "Passport" that runs throughout downtown Long Beach to Long Beach Harbor. All Long Beach Transit buses have bicycle racks installed on the front that can hold up to two bicycles (image below). Long Beach Transit buses are equipped to record instances of passengers loading bicycles onto the front racks. A recent long-range planning process identified "Transit Priority Streets" across the city that will receive more transit investment (Figure 3-4).

The Los Angeles County Metropolitan Transportation Authority (Metro) is the public transportation operating agency for the County of Los Angeles. Metro operates the Blue Line light rail that serves Long Beach and connects to the 7th Street/Metro Center Station in downtown Los Angeles. Bicycles are allowed on all light rail trains at all times, so long as they can fit safely. Metro also operates two bus lines with stops in Long Beach: route 60 (which operates late night and early morning only) and route 232. All Metro buses have bicycle racks installed on the front that can hold up to either two or three bicycles.

LADOT Commuter Express, Orange County Transportation Authority (OCTA), Torrance Transit, Amtrak bus, and the LAX FlyAway shuttle also serve Long Beach community members with public transit options.

Mobility Hubs like the Long Beach Bikestation located in downtown Long Beach along the First Street Transit Gallery provide long-term bike parking, professional repair services, a restroom and shower, and locker facilities. In 2010, the City of Long Beach, in partnership with the City of Long Beach, was awarded more than $8 million by the Federal Transit Administration's (FTA) Job Access and Reverse Commute (JARC) program to create additional mobility hubs in partnership with Metro. Multiple mobility hubs are under construction across the region, and additional Long Beach locations are being evaluated. The transit network combined with the bicycle network recommendations in this Plan can help community members choose to ride a bike or take transit instead of drive to their destination.

Long Beach Transit allows up to two bicycles on each bus. (Sources: Bike Long Beach, Long Beach Transit)

Long Beach Transit allows bicycles on their water taxis

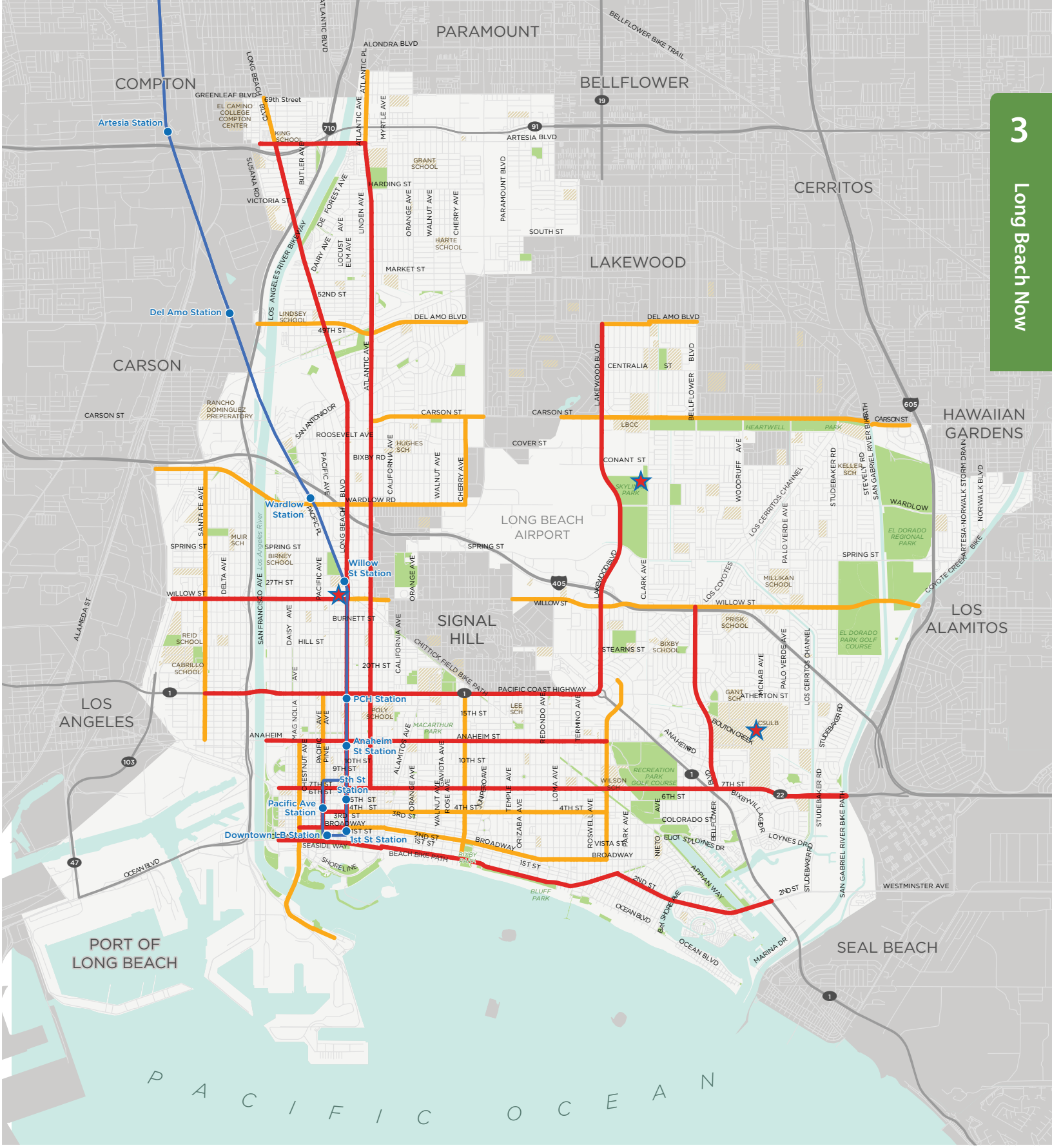


Figure 3-4: Transit Priority Map

- Primary
- Secondary
- Metro Rail Blue Line
- Multi-Modal HUB
- Blue Line Station
- School
- Park

Attractors & Generators

Attractors and generators are the destinations in and around Long Beach to which community members frequently travel in addition to work commutes. These include schools, civic centers, transit stations, parks, beaches, event centers, and commercial centers and corridors. Figure 3-5 maps these key locations. Among these major destination points and areas are:

- Long Beach Civic Center
- Long Beach Transit Gallery
- Metro Blue Line stations
- The Pike at Rainbow Harbor
- Shoreline Village
- El Dorado Park
- California State University, Long Beach
- Cambodia Town
- East Village Arts District
- 4th Street Retro Row
- Wrigley Village
- Atlantic Boulevard in Uptown
- Naples
- Belmont Shore
- Bixby Knolls

Relevant Existing Plans & Policies

The Long Beach Bicycle Master Plan is consistent with relevant planning, policy, and regulatory documents, including City and regional plans. Creation of the Plan took into consideration bicycle master plans of neighboring jurisdictions in order to design a bike network that connects well with bikeways in other jurisdictions. Table 3-3 shows the relevant documents that were taken into account for the creation of the Plan. The detailed policy and plan review can be found in Appendix B.

Existing Transportation Network

The City of Long Beach is served by a number of transportation networks that allow for the mobility of people, both locally and regionally. Six freeways and state routes provide regional automobile and goods movement connections to and from Long Beach, including I-405, I-605, I-710, SR-1, SR-22, and SR-91. Also, Metro's Blue Line provides north-south transit access directly to downtown Los Angeles.

There are a few locations in Long Beach that limit bicycle access. Man-made constraints include Long Beach Airport and golf courses. Natural constraints include Signal Hill and waterways such as the Los Angeles River, San Gabriel River, Alamitos Bay, and Los Cerritos Channel.

State of Bicycling in Long Beach

Types of Bicyclists

According to Roger Geller, bicycling researcher and educator from the City of Portland, there are four identified types of bicyclists, as shown in Figure 3-6. His research shows that there are approximately one percent of people who will ride a bicycle no matter what. About five percent of people love riding a bicycle and will do so most of the time. Approximately 60 percent of people want to ride a bicycle, but are concerned about being hurt. Lastly, about 35 percent of people refuse to ride a bicycle. This Plan is

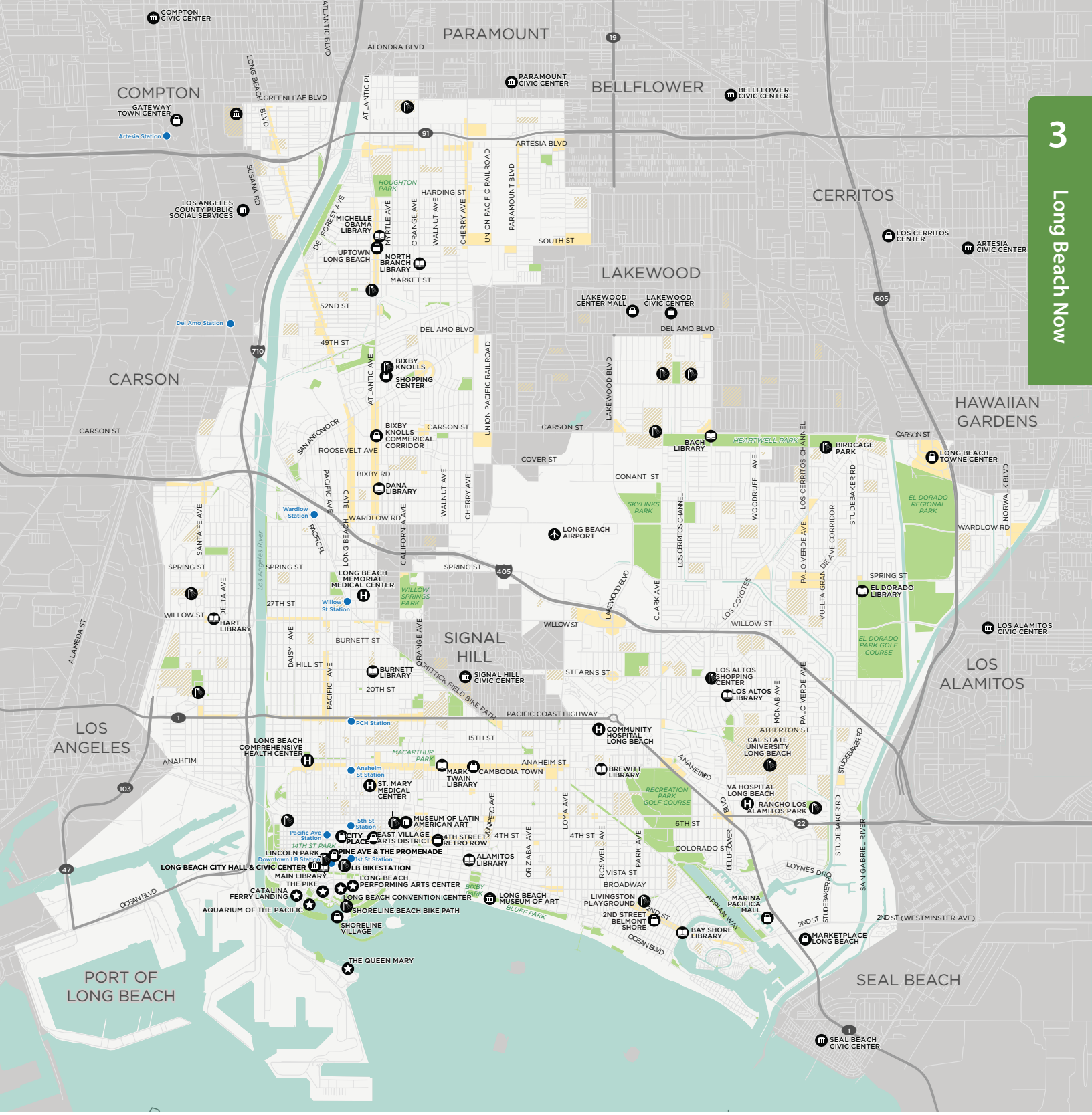


Figure 3-5 Activity Generators in and Around Long Beach

- Light Rail Station
- Shopping Center
- Library
- Civic Center
- Entertainment / Mixed Use
- Hospital
- Shower Facility
- Airport
- School
- Park

Table 3-3: Relevant Existing Plans and Policies

Document	Agency	Year Adopted
CX3 Pedestrian Plan	City of Long Beach	In progress
Draft Southeast Area Specific Plan	City of Long Beach	In progress
Long Beach General Plan Elements	City of Long Beach	In progress
Downtown & TOD Pedestrian Master Plan	City of Long Beach	2016
Vision Zero Long Beach	City of Long Beach	2016
Green TI Plan	City of Long Beach	2015
Livable West Long Beach Plan	City of Long Beach	2015
Long Beach Healthy Communities Policy	City of Long Beach	2014
Sustainable City Action Plan	City of Long Beach	2010
Long Beach Green Building Policy	City of Long Beach	2009
Bellflower & Paramount Bicycle Master Plan	Cities of Bellflower and Paramount	2016
Carson Master Plan of Bikeways	City of Carson	2013
City of Compton Bicycle Master Plan	City of Compton	2015
Los Angeles Mobility Plan 2035	City of Los Angeles	2016
LA Metro Active Transportation Strategic Plan	Metro	2016
Los Angeles County Metro First Last Mile Strategic Plan	Metro	2013
Metro Blue Line Bike and Pedestrian Access Plan	Metro	2011
Metro Bicycle Transportation Strategic Plan	Metro	2006
OCTA Districts 1 and 2 Bikeways Strategy	OCTA	2013
OCTA Commuter Bikeways Strategic Plan	OCTA	2009
SCAG Regional Transportation Plan (RTP)	SCAG	2016
California State Bicycle & Pedestrian Plan	State of California	In progress
SB 99 - Active Transportation Program Act	State of California	2013
Caltrans Deputy Directive 64 – Complete Streets	State of California	2008
AB 1358 - Complete Streets Act	State of California	2008
SB 375 - California Sustainable Communities Strategy	State of California	2008
AB 32 - California Global Warming Solutions Act	State of California	2006
Policy Statement on Bicycle & Pedestrian Accommodation Regulations and Recommendations	United States DOT	2010

mostly focused on the 60 percent of people who could be encouraged to ride a bicycle for transportation or recreation if they felt safer while doing so. These are called the "interested but concerned." Building an 8-to-80 bicycle network and expanding the bicycle-related programs in Long Beach can encourage more of the interested but concerned community members to choose to ride a bicycle instead of drive a car.

Bikeway Types

The California Department of Transportation (Caltrans) designates four classes of bicycle facilities: Classes I, II, III, and IV. Long Beach further designates types of Class III facilities, as described below. This section describes the 8-to-80 facilities first, followed by the other bikeway facilities.

Figure 3-6: Types of Bicyclists

Four General Categories of Cyclists & Comfort Levels

Strong & Fearless

<1%

Enthused & Confident

5%

Interested but Concerned

60%

No Way, No How

35%

Source: www.portlandoregon.gov/transportation/article/264746

Shared-Use Paths (Class I)

Shared-use paths or paved trails are designated "Class I" by Caltrans. These 8-to-80 facilities provide completely separated, exclusive right-of-way for bicycling, walking, and other non-motorized uses. These facilities can be considered the easiest to ride on, especially for the interested but concerned riders, as there are few potential conflicts between people riding and people driving. Long Beach currently has 37.6 miles of shared-use path (Class I) facilities.

Bicycle Boulevards (Class III-A)

Bicycle Boulevards are on-street 8-to-80 bicycle facilities along low-speed roadways. These routes have been optimized for bicycle travel through signage, shared-lane markings, and engineering tools to slow traffic, reduce cut-through vehicle trips, and assist bicyclists and pedestrians in crossing busier roadways. Although riders share the road with drivers, the engineering treatments installed along bicycle boulevards encourage safe driving to allow bicyclists to feel comfortable while riding. Long Beach currently has 1.5 miles of Bicycle Boulevards.

Separated Bikeways (Class IV)

A separated bikeway, also known as a cycle track or Class IV bikeway, is an on-street 8-to-80 facility that is physically separated from motor vehicle traffic by a vertical element or barrier, such as a curb, bollards, or vehicle parking aisle. This facility type is considered an 8-to-80 facility because it provides extra separation between moving vehicles and people riding bicycles so that interested but concerned bicyclists feel more secure while traveling along a roadway. Long Beach currently has 3.3 miles of separated bikeway facilities.

Bicycle Lanes (Class II)

Bicycle lanes are striped, preferential lanes on roadways for one-way bicycle travel. Some bike lanes include striped buffers that add a few feet of separation between the bicycle lane and traffic lane or parking aisle, as shown. These facilities are also important for the overall bikeway network Long Beach strives to achieve in that they provide a designated space for riders along a roadway. Long Beach currently has 59 miles of roads with bike lanes.

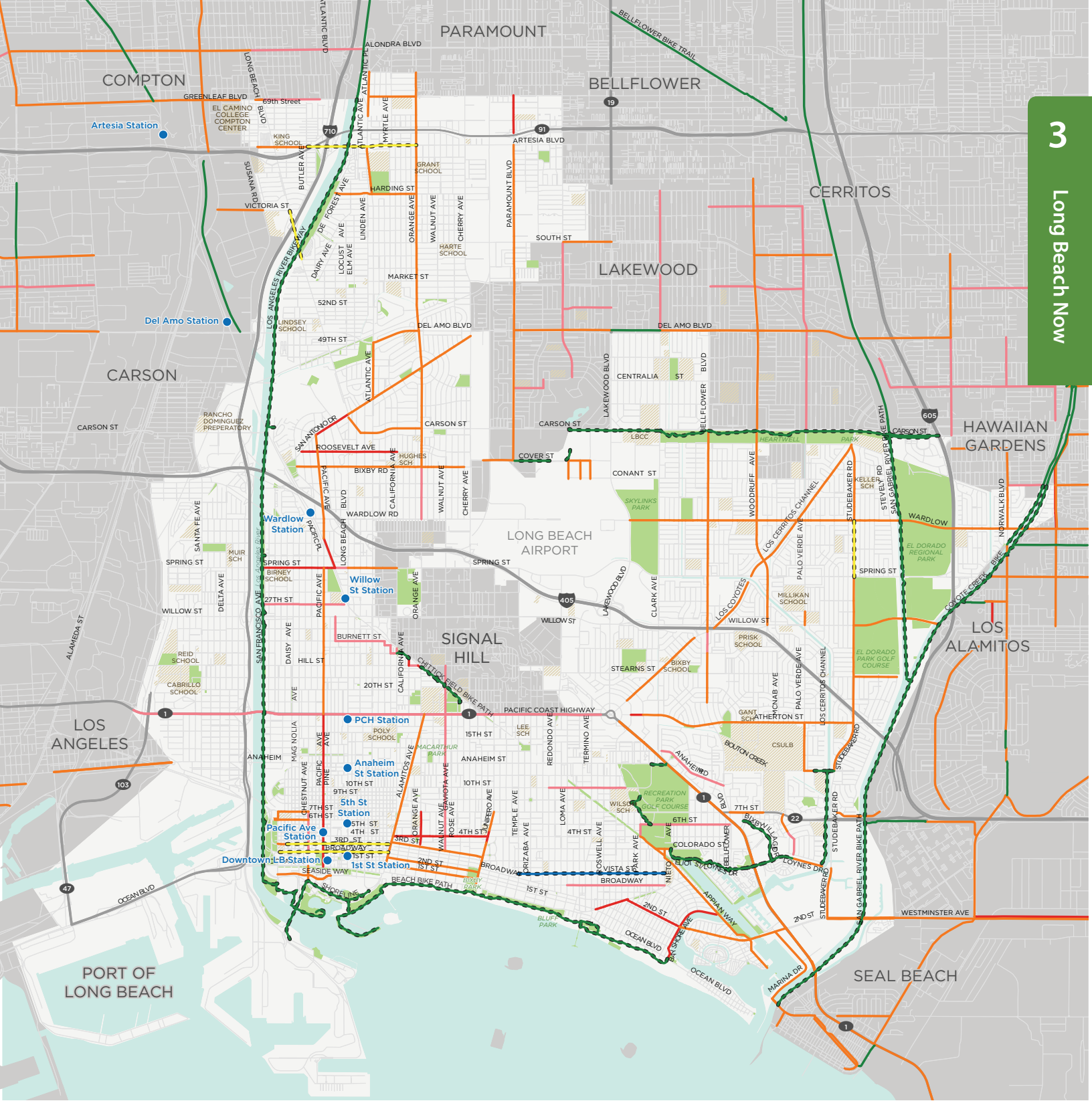


Figure 3-7: Existing Bicycle Network

- Shared-Use Path (Class I)
- Bicycle Lane (Class II)
- Bicycle Boulevard (Class III-A)
- Bicycle Route (Class III-B and III-C)
- Sharrow (Class III)
- Separated Bikeway (Class IV)

Existing 8-to-80 Bikeway

- Off Street (Exclusive Right-of-Way)
- On Street (Major Street)
- Bicycle Boulevard (Residential Street)

Bicycle Routes (Class III-B and III-C)

Bicycle routes are signed routes where people riding bicycles share a travel lane with people driving motor vehicles. Because they are mixed-flow facilities, bicycle routes are only appropriate for low-volume streets with slow travel speeds. Some routes are designated only by Caltrans-compliant Bike Route signs (Class III-C), while others are designated by signs and painted shared lane markings, or "sharrows," to indicate a shared lane environment for bicycle riders and motorists (Class III-B). Among other benefits, shared lane markings reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and wayfinding guidance. Long Beach currently has 26.9 miles of designated bicycle routes.

Existing Bikeway Network

Long Beach currently has nearly 130 miles of bikeways. Table 3-4 lists the total miles of bicycle facilities by classification. Figure 3-7 shows the existing bicycle network in Long Beach.

Table 3-4: Total Miles of Bicycle Facilities

Bikeway Class	Length (Miles)
Class I	37.6
Class II	59
Class III	18.7
Class III Bicycle Boulevard	1.5
Class III with Sharrow	8.2
Class IV	3.3
Total	128.3

Planned Bikeways in Adjacent Jurisdictions

The following routes are planned bikeways in neighboring cities that connect to Long Beach. This is not an exhaustive list, as some cities either do not have bicycle plans or do not publish their planned bikeways.

- 70th Street (Paramount)
- Anaheim Street (Los Angeles)
- Artesia Boulevard (Compton)
- Atlantic Avenue (Compton)
- Compton Creek (Carson)
- Del Amo Boulevard (Carson)
- Greenleaf Boulevard (Compton)
- Long Beach Boulevard (Compton)
- Pacific Coast Highway (Los Angeles)
- Ramona Street (Bellflower)
- Vermont Avenue (Paramount)
- Vincent Thomas Bridge (Los Angeles)
- Wardlow Road (Carson)

Bike Share

In 2016, Long Beach launched a bike share system with 26 stations and 100 bikes. At buildout of the initial phase, Long Beach Bike Share will have 50 stations and 500 bikes. The City envisions someday having over 1500 bikes serving residents and visitors across Long Beach. Key locations will be downtown, California State University Long Beach, LBCC, Belmont Shore, Bixby Knolls, the Memorial Hospital area, Metro Blue Line stations, and other strategic locations. The system allows users to pick up a bicycle in one location and drop it off near their destination, without committing to owning a bicycle. The image above shows some of the bicycles, which can be locked to a station or a rack within 100 feet of a station if the station is full.

The Long Beach bike share system is beneficial in that they reduce concerns people may have about bicycle theft. Bike share also helps solve the "first/last mile problem" many cities face. The first/last mile problem is when community has difficulty in getting people from a transportation hub, especially railway stations, bus depots, and ferry slips, to their final destination. If people are unsure how they can access their final destination by using public transportation, they are more likely to drive. Bike share helps alleviate this problem by offering another option to travelers so they may choose to take public transportation and bike instead of taking a car. Bike share systems also encourage carpooling, since workers can use the bicycles for short trips (e.g., for lunch) during the work day rather than needing a motor vehicle. Bike share also facilitates spontaneous, convenient active-transportation mode choices.

End-of-Trip Facilities

Bicycle parking can be provided in two general types: short-term racks and long-term high-security bicycle parking. Many commuters or recreational riders need to freshen up after a long ride, and many locations provide shower facilities. Lastly, the City has installed fix-it stations in several locations to help riders that may face mechanical issues.

Short-Term Bicycle Parking

Long Beach has an extensive sidewalk bike rack program, with more than 2,500 bike racks installed on sidewalks and public property for public use, mostly along commercial corridors. Similar to many cities in the US, Long Beach provides bike racks free of charge to businesses in order to promote the local economy and encourage residents and visitors to bicycle more often by providing a convenient and safe place to lock their bikes. Residents and visitors can request a bike rack through the website www.bikelongbeach.org, and a Public Works staff member will review the request and install the bike rack, assuming it meets design guidelines.

Many of the bike racks are artistically designed to look like fish, palm trees, and many other creative forms. The City also has a bicycle corral program. Corrals, or large racks accommodating up to 14 bicycles, can be installed to replace one on-street automobile parking space.

Racks and corrals are best for short-term needs such as quick shopping trips or errands. Racks are especially beneficial in commercial corridors, helping to keep the sidewalk clear while people dine, shop, or run errands. Racks are often placed at dispersed locations to take advantage of the point-to-point flexibility of the bicycle.

Long-Term Bicycle Parking

Commuters and those who park for longer times need additional security. High-security parking may consist of lockers, attendant parking, or automated parking. The image on the top left shows the Long Beach Bikestation located in downtown Long Beach along the First Street Transit Mall. The Bikestation provides long-term bike parking, professional repair services, showers, and locker facilities.

The City of Long Beach requires the installation of bike parking at any new construction or expansion of more than 5,000 square feet; however, city code does not specify the level of security required. Some buildings have installed secure, long-term bike parking facilities by their own initiative, but since it is not required, there is no official estimate of how many of these facilities exist in Long Beach.

There are multiple providers of temporary, event-based bike valet services in Long Beach and throughout the region. These services are popular when provided at large events in Long Beach, but there is no requirement for event organizers to provide these services currently.

Fix-It and Hydration Stations

Long Beach has fix-it and hydration stations Citywide. Fix-it stations are small units with bicycle repair tools attached to cables, along with a permanent universal bicycle pump. These give bicyclists a place to go if they need a quick repair for their bike while out on the road or if a tire is getting low on air. There are 14 fix-it stations installed around the city with plans to expand in other areas depending on demand.

Hydration stations are drinking fountains with an additional chamber that allows you to fill up water bottles or containers from the top in a very short period of time. There are 11 installed around the city with plans to expand depending on demand.

Existing Bicycle-Related Programs

The City of Long Beach has a wide variety of programs that support the goal of becoming "the most bicycle friendly city in America." These programs include bicycle education at our schools and community centers, open streets events, an informative website designed to keep the community aware of the latest bicycle-related activities in Long Beach, and programs designed to help our businesses become more bicycle friendly.

Long Beach has been a leader in the "4Es" approach to non-infrastructure bicycle programs. Communities that have the highest rates of bicycling consistently use this holistic approach, which includes:

- **Education** – providing safety education for bicycle riders, motorists, bus drivers, and education about the environmental and health benefits of bicycling
- **Encouragement** – promoting bicycling as a fun and efficient means of transportation and recreation
- **Enforcement** – enforcing laws pertaining to both motorists and bicyclists
- **Evaluation** – monitoring the success of the effort through counts, surveys, and review of various data

The City has been carrying out the following non-infrastructure programs in recent years to support bicycling.

Education

Community Workshops

The Long Beach Department of Health and Human Services partners with the a local nonprofit organization to host free bicycle safety workshops throughout Long Beach.

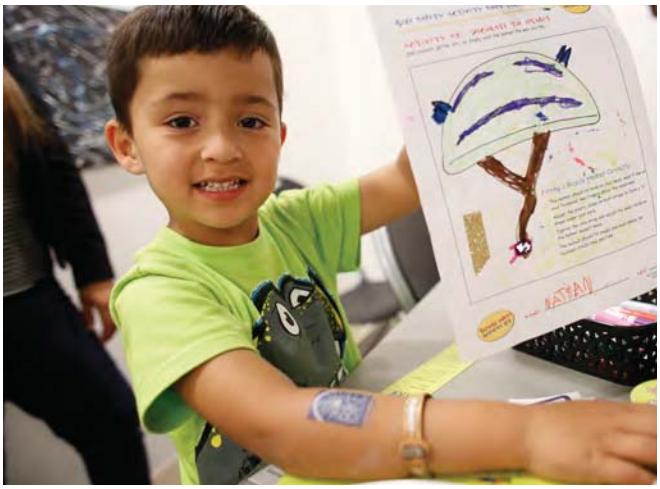
LACBC Classes

The Los Angeles County Bicycle Coalition (LACBC) is a nonprofit advocacy organization that offers free bicycle classes throughout the county. There are a variety of class types for all skill levels and ages year-round, including bicycle repair and skills classes.

Safe Routes to School Education Program

The grant-funded Long Beach Safe Routes to School program reaches out to over 50 elementary and middle schools throughout Long Beach, and to over 60,000 students each year. The program consists of school based workshops and bicycle rodeos where children have the opportunity to get hands-on experience and tips for bicycling safely in and around their neighborhoods. The program also includes community based outreach with bicycle rodeos offered to nonprofit community groups throughout the city. More programs were also facilitated by Long Beach Unified School District in previous years to encourage students to bike or walk to school, but the efforts have largely slowed or stopped. Share Our Streets

The grant funded "Share Our Streets" program focuses on increasing safety for bicyclists through an outreach and media campaign aimed at bicyclists, motorists, and pedestrians. The campaign includes bus ads, citywide banners, social media (Facebook, Twitter, and website posts), group bicycle rides, and adult safety classes. As part of this campaign, the top causes of bicyclist-involved collisions in Long Beach were examined, helping focus the campaign on a few simple but lifesaving rules, such as "don't ride against traffic" and "watch for bicyclists when turning right".



Encouragement

Bicycle Friendly Business Districts

The Long Beach "Bicycle Friendly Business District" program was one of the first of its kind in the United States. The program is aimed at helping businesses and business districts become more bicycle friendly in order to attract customers on bicycles and thereby promote local businesses. The mantra for the program is bike, shop, dine local.

Bike Saturdays

The "Bike Saturdays" program encourages local businesses to offer discounts to anyone riding their bicycle to the business on Saturdays. Similar to the bicycle friendly business district program, Bike Saturdays is aimed at encouraging people who live in the neighborhood or are visiting to ride their bicycle to local establishments. More than 170 businesses offer deals to customers who bicycle instead of drive. This has the effect of enticing people to get on their bicycles and to shop locally. The benefits include reduced traffic, less pollution, increased local business activity, and more exercise for riders.

Long Beach Bike Fest

The Long Beach Bike Fest is an annual event held in early May. The festival, along with the Tour of Long Beach, is one of the signature events for the city. The event and tour increase awareness of bicycling in Long Beach and have raised hundreds of thousands of dollars for Miller Children's & Women's Hospital.

Beach Streets

The City initiated and supports an "open streets" event for bicyclists, pedestrians, scooter riders, and other non-motorized users. The events bring people out to bicycle in a comfortable environment with streets blocked to motor vehicle traffic.

Enforcement

Bicycle Light Intercept Distributions

The Los Angeles County Bicycle Coalition (LACBC) conducts "Operation Firefly," an education and bicycle light distribution program which organizes groups of volunteers to meet for "street distributions" at undisclosed locations. The volunteers invite people who are riding bicycles without lights to stop in order to give them front and rear lights along with an informational "spoke card" that explains the laws related to riding at night as well as tips they should know for nighttime safety. The spoke cards are printed in English and Spanish, and "Team Firefly" volunteers always include at least a few people who speak Spanish.

Bike Registration

Long Beach residents can obtain a bicycle license by registering their bicycles with the National Bike Registry (NBR). Upon registration, owners receive a Certificate of Registration and a tamper-resistant NBR label to identify their bike. In the event registered bikes are stolen and recovered, bicycles can be returned to their owners regardless of where in the nation it was recovered.

Evaluation

Bicycle Counts

Long Beach has been conducting bicycle counts every year since 2008 at 30 locations (as of 2015). During these counts, data on cyclist behavior and traffic volumes is collected to help determine the City's growing number of cyclists, how bicyclist behavior has changed, which types of bicycle infrastructure are used, and more.

Current Bicycling Activity Levels

According to the latest ACS estimates, the bicycle mode share for work or school commutes in Long Beach is 1.1 percent. Based on the city's population, this results in an estimated 4,821,000 annual bicycle trips for work or school purposes. Local, regional, and state policy goals, however, aim to increase the proportion of trips that are made by active, sustainable modes such as bicycling and walking. The reasons for this push are many, including:

- increasing public health,
- improving environmental conditions,
- enhancing mobility and access, and
- reducing roadway congestion

Estimated Benefits of Bicycle Plan Implementation and Future Activity Levels

A benefit impact analysis was conducted as a part of this Plan to quantify some of the benefits Long Beach may experience after implementation. Three quantifiable benefits of implementing a Bicycle Master Plan are health, environmental, and transportation benefits. These benefits correspond with policy direction from state and regional policy goals. The graphics shown in Figure 3-8 summarize the expected benefits of achieving various tiers of bicycle mode share; calculation details are in Appendix C.

Bicyclist-Involved Collisions

Between 2010 and 2014, there were 9,216 total collisions on Long Beach roadways, with 1,273 collisions (13.8 percent) involving a person on a bicycle. Eight of the 1,273 bicyclist-involved collisions resulted in a fatality (0.6 percent), and 68 resulted in a severe injury (5.3 percent). Five hundred forty-two resulted in a visible injury (42.6 percent), and 655 resulted in a complaint of pain (51.5 percent). During this time period, the total number of collisions across all modes have declined. At the same time, the rate of collisions in proportion to the increasing number of cyclists is also declining. However, compared to Long Beach's 1.1 percent bicycle mode share, the likelihood of bicyclist-involved collisions is disproportionally high. Figure 3-9 shows the number of bicyclist-involved collisions by year.

Figure 3-9: Bicycle-Related Collisions in Long Beach from 2010 to 2014

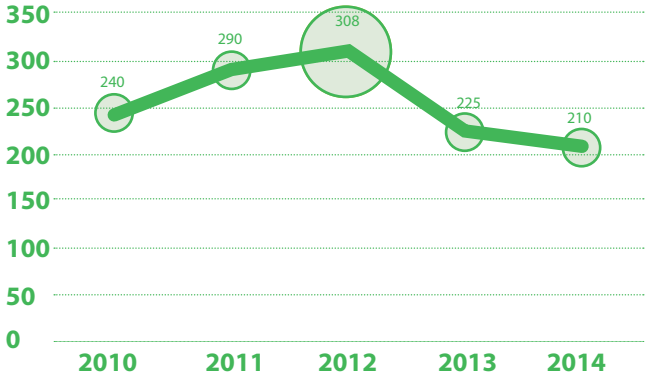
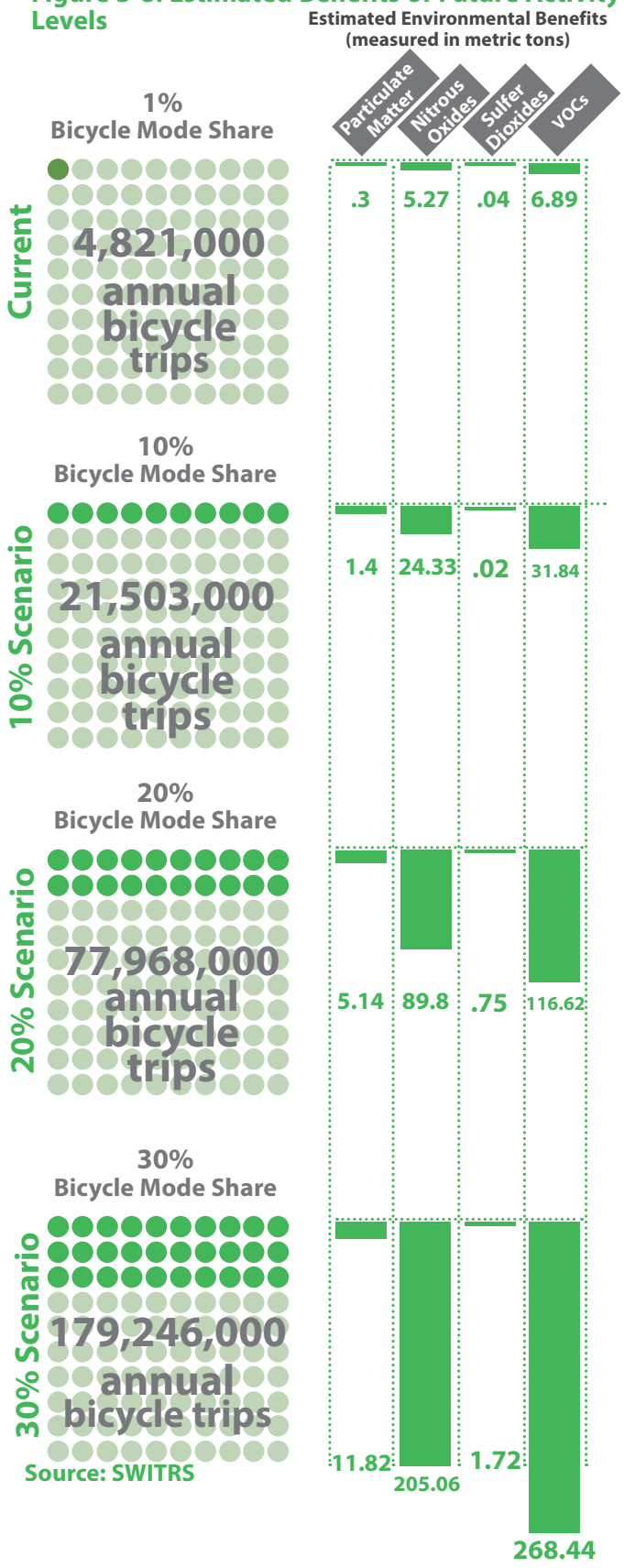


Figure 3-8: Estimated Benefits of Future Activity Levels



Source: SWITRS

Collision Comparison

To provide a comparison, Table 3-5 shows the number of bicyclist-involved collisions in Long Beach compared to Los Angeles County as a whole and four peer cities in California.

Table 3-5: Type of Bicyclist-Involved Collisions

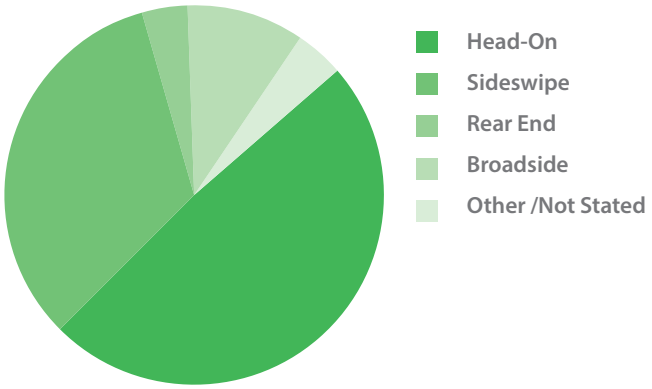
City	Number	Crash Rate*
Long Beach	1,273	0.27%
Los Angeles County	23,078	0.002%
Oakland	1,022	0.25%
Pasadena	489	0.35%
San Diego	2,545	0.19%
San Jose	1,778	0.18%

Source: American Community Survey
*** Per Capita (Number / Population^2**

Type of Collision

Figure 3-10 shows the breakdown of the type of collision. By far, the most common type of collision was a broadside collision. In this type of collision, the automobile driver and bicyclist are often traveling at perpendicular to each other. This type of collision typically occurs at intersections, driveways, or within parking lots, many times when a driver is making a right turn across a bicyclist's path of travel. Sideswipes, on the other hand, generally occur when a driver or bicyclist fails to yield while changing lanes.

Figure 3-10: Types of Collision



At Fault

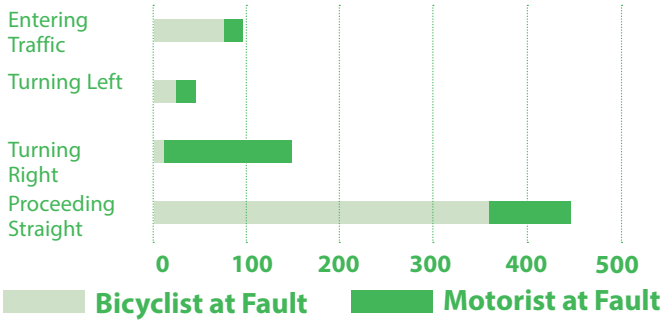
According to the collision reports, 726 (56%) bicyclists were not at fault for the collision they were involved in. For 560 (44%) collisions, however, the bicyclist was considered at fault. Because multiple parties may be involved in a collision, this number is higher than the total number of bicyclist-involved collisions during this time period. Figure 3-11 summarizes the movement preceding the collision for the party found to be at fault.

Based on this data, when determined to be at fault, bicyclists were usually traveling straight, as opposed to motorists who were most often making a right turn when they were deemed to be at fault for a collision.

Table 3-6 summarizes the violations that contributed to the collisions when bicyclists or motorists were at fault. When bicyclists were determined to be at fault for the collision, nearly 40 percent of collisions were attributed to a bicyclist riding on the wrong side of the road.

More than 30 percent of collisions where motorists were at fault were attributed to a driver violating the right-of-way of another motorist. If, for example, a vehicle runs a red light that car is violating the ROW of the cars that currently have the green signal. The result of running that red light can result in reactions from other drivers which can lead to collisions. An additional 15 percent were attributed to a driver making an improper turn, reinforcing the previous finding that motorists were most often making a right turn when they were found to be at fault for a collision.

Figure 3-11 Movement Preceding Collisions. 2010-2014



Source: SWITRS

Table 3-6: Violation that Contributed to the Collisions, 2010-2014

Violation Type	Bicyclist at Fault	Motorist at Fault	No Fault
Driving Under the Influence of Drugs/Alcohol	0	2	0
Failure to Obey Traffic Signals or Signs	78	46	15
Following Too Closely	4	6	0
Improper Passing	4	6	0
Improper Turning	27	59	11
Inadequate Brakes	7	0	0
Inadequate Lights	4	0	0
Pedestrian Violation	20	0	1
Unsafe Lane Change	12	12	3
Unsafe Speed	13	17	6
Unsafe Starting or Backing	1	9	3
Violated Automobile Right-of-way	93	122	7
Violated Pedestrian Right-of-way	2	39	4
Wrong Side of Road	218	4	7
Unknown/Other	312	115	35
Total	**548**	**391**	**334**

Highest Number of Violations per Category (Bicyclist at Fault vs. Motorist at Fault)

Source: SWITRS

Top Collision Locations

Figure 3-12 shows a heat map of collision frequency by location in Long Beach from 2010 through 2014. There are several locations where there were between 8 and 11 collisions in those five years.

All of these intersections have streets with multiple lanes in both directions and two intersections do not have traffic signals.

As the list points out, three of the six top collision locations are along Anaheim Street. Other corridors where several collisions occurred are 2nd Street, 7th Street, Atlantic Avenue, Carson Street, Pacific Coast Highway, and Willow Street. All of these roadways have multiple lanes in both directions, are major commercial corridors, and only 2nd Street has bicycle facilities installed along the roadway in the form of green-backed sharrows.

Weather and Time of Day

Seventy-seven percent of reported collisions occurred during daylight hours, disproportionate from the nearly 60 percent of day that can be considered "daylight." Nearly 17 percent were at night and 4.4 percent were at dusk or dawn. Only four collisions occurred in rainy weather.

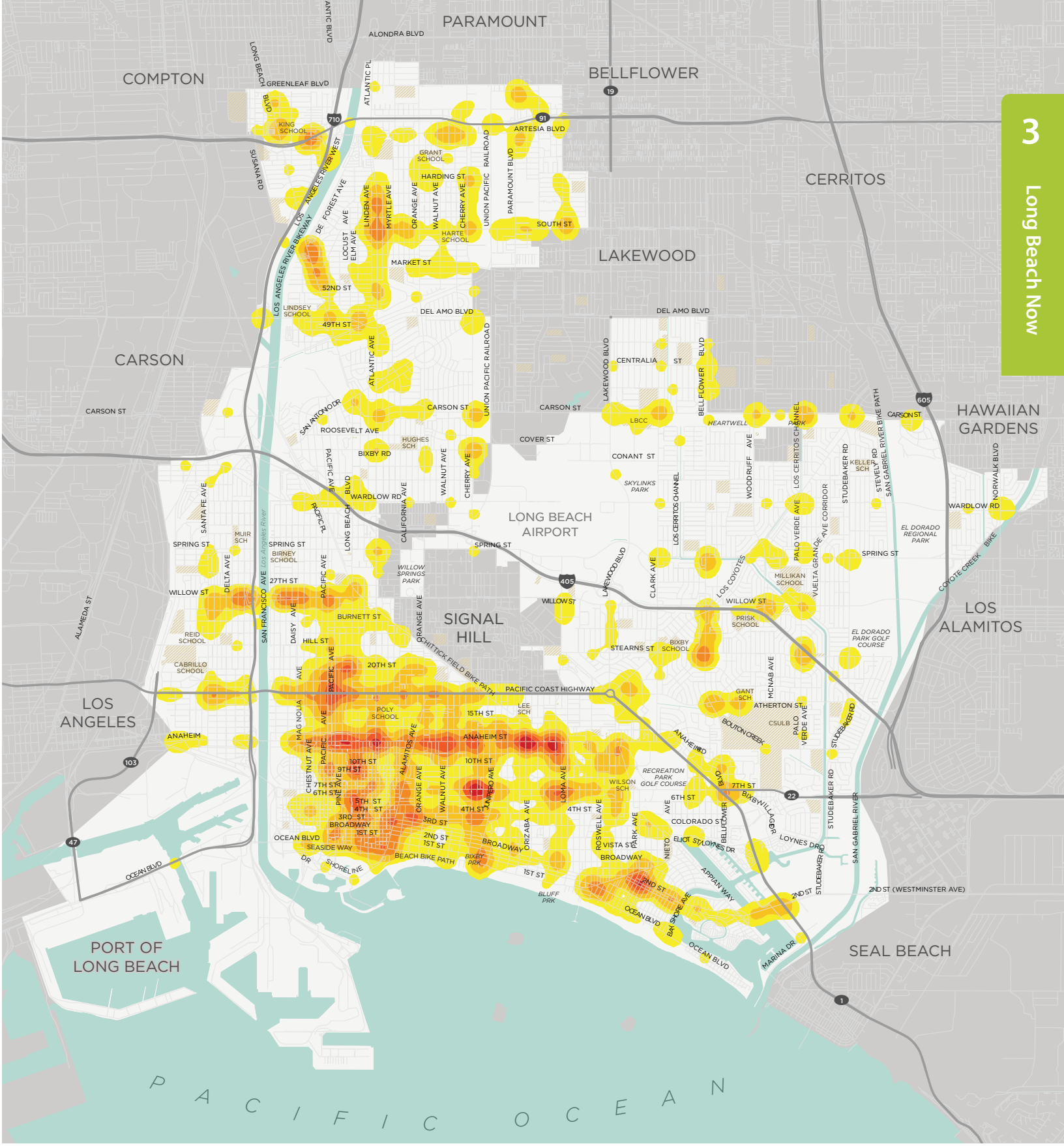


Figure 3-12: Bicycle Collisions 2010-2014

Source: SWITRS

1 collision within 250 feet — 10 or more collisions within 250 feet

As weather and visibility were not a factor in the vast majority of collisions, this instead suggests a need for improvements to infrastructure and education of roadway users about their rights and responsibilities on the roadway.

Levels of Traffic Stress

A Level of Traffic Stress (LTS) analysis was conducted as a part of this Bicycle Master Plan. The following inputs were included in this analysis, inspired by the Mineta Transportation Institute Report 11-19. This analysis incorporates data about bicycle infrastructure and roadway size to rate each street segment according to three levels:

- Level 1 - Suitable for most adults and children
- Level 2 - Tolerable for "enthused and confident" cyclists
- Level 3 - Tolerable for "strong and fearless" cyclists

Figure 3-14 shows how each level of stress was determined for each facility type. In this case, the number of vehicle travel lanes were the determining factor for each level of stress a person on a bicycle may feel while riding a bicycle.

The analysis is built on the assumption that a network is only as strong as the weakest link and sometimes a roadway is so stressful a person simply will not use it. For example, "interested but concerned" riders who live in a low stress area may want to visit a destination in another low stress area. However, they most likely cannot or will not make the trip by bicycle if they have to travel along roadways or through intersections that are highly stressful to navigate. This simple graphical depiction of the network allows planners and decision makers to understand where there are "gaps" in the bicycling network. Fixing the gaps allows people to make more trips and provides greater access.

Mapping the quality of existing infrastructure is a good way to see where bike facilities could be performing better. It also emphasizes the fact that not all bicycle facilities are created equal and even two bike lanes are not created equal. Mapping only existing bicycle facilities helps City staff understand what bikeways might be candidates for upgrades and also what pieces of infrastructure the average bicyclist will use. It also helps build the case for the development of the 8-to-80 network.

Based on the evaluation of Long Beach's collision data, Level of Traffic Stress, the existing bicycle network, and community-identified needs, the following key themes were identified:

- **Closing gaps** in the bicycle facilities network
- **Upgrading existing bike lanes** to be buffered with paint or separated with physical elements
- **Expanding bicycle network** to disadvantaged areas
- Implementing **more non-infrastructure programming** to teach, encourage, enforce, and evaluate safe and enjoyable bicycling behavior
- Updating the municipal code to **include bicycling-supportive policies**

Figure 3-13: Determining Factor for Level of Stress

#of Lanes	Class I	Bike Blvd	Class IV	Class II	Class III	Sharrow	None
Off Street	1						
1		1	1	1	1	1	1
2		1	1	1	1	1	1
3			1	2	3	3	3
4			1	2	3	3	3
5			2	3	3	3	3
6			2	3	3	3	3
7			2	3	3	3	3
8			2	3	3	3	3
9			2	3	3	3	3

Level 1: Suitable for most adults & children

Level 2: Tolerable for "enthused & confident" cyclists

Level 3: Tolerable for "strong & fearless" cyclists

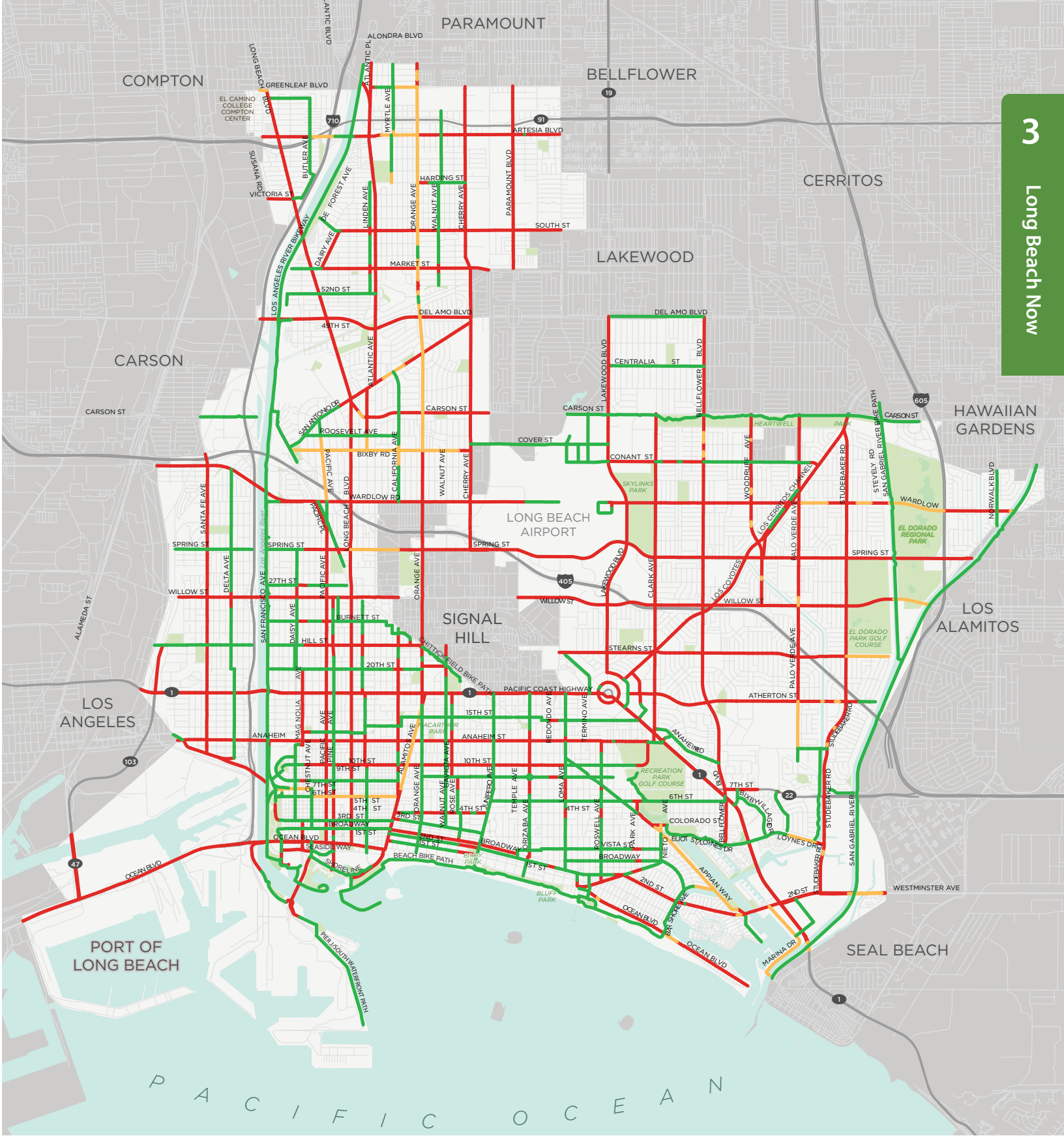


Figure 3-14: Level of Traffic Stress

- Low Stress
- Medium Stress
- High Stress
- Uncoded