

BICYCLEmaster plan

City of Long Beach

FEBRUARY 2017



engineering | equity | education | encouragement

“The bicycle is not just a tool for transportation, health, fitness, and clean air, but also for community connection, youth empowerment, and societal change.”

– Mia Birk



BICYCLEmaster plan

A Supplement to the Mobility Element



Adopted by Long Beach City Council on February 7, 2017.

Prepared by the City of Long Beach Department of Development Services and the Department of Public Works.

Assisted by Alta Planning + Design, Here LA, and Sumire Gant Consulting.

This information is available in an alternative format by request to (562) 570-3807.

For an electronic version of this document, go to www.lbds.info.

Acknowledgements

Long Beach City Council

Honorable Mayor Robert Garcia
Lena Gonzalez, Councilwoman, 1st District
Jeannine Pearce, Councilmember, 2nd District
Suzie Price, Councilwoman, 3rd District
Daryl Supernaw, Councilman, 4th District
Stacy Mungo, Councilwoman, 5th District
Dee Andrews, Councilman, 6th District
Roberto Uranga, Councilmember, 7th District
Al Austin II, Councilmember, 8th District
Rex Richardson, Vice Mayor, 9th District

Long Beach Planning Commission

Donita Van Horik, Chair
Erick Verduzco-Vega, Vice Chair
Mark Christoffels
Ron Cruz
Richard Lewis (term began September 2016)
Andy Perez
Jane Templin
Alan Fox (term ended August 2016)

Office of the City Manager

Patrick H. West, City Manager
Tom Modica, Assistant City Manager
Anitra Dempsey, Interim Deputy City Manager

City of Long Beach Department of Development Services

Amy J. Bodek, AICP, Director
Oscar W. Orci, Deputy Director
Linda Tatum, AICP, Planning Manager
Carrie Tai, AICP, Current Planning Officer
Christopher Koontz, AICP, Advance Planning Officer
Ira Brown, Planner, Project Manager
Fern Nueno, AICP, Planner

Department of Public Works

Craig Beck, Director
Sean Crumby, Deputy Director/City Engineer
Eric Widstrand, City Traffic Engineer
Nathan Baird, Mobility Officer
Paul Van Dyk, Traffic Engineering Associate
Rachel Junken, Transportation Planner
Meredith Elguira, Capital Projects Coordinator
Nancy Villaseñor, Capital Projects Coordinator

Department of Health & Human Services

Lara Turnbull, Public Health Professional
Louisa Franco, Health Promotions Coordinator

Long Beach Transit

Karissa Selvester, External Affairs Manager
Shirley Hsiao, Service Planning Manager

Alta Planning + Design

Ryan Johnson, Planning Associate
Marc Caswell, Sr. Planning & Program Specialist
Lola Torney, Planner
Brian Battaglia, GIS Specialist

Here LA

Shannon Davis, Co-Director
Amber Hawkes, Co-Director
Alexander Jung, Senior Urban Designer
Chad So, Urban Designer

Sumire Gant Consulting

Sumire Gant



BIKE
LOCAL BICYCLISTS

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Vision:

Long Beach Bicycle Master Plan

1

This chapter provides an overview of the Long Beach Bicycle Master Plan. The Bicycle Master Plan envisions a livable community where people of all ages and abilities easily, comfortably, and safely ride a bicycle to access jobs, schools, public transit, recreation facilities, shopping, and other destinations as part of daily life.



1



Vision:

Long Beach Bicycle Master Plan

» Long Beach Bicycle Plan Master Plan Vision 3

Long Beach Bicycle Master Plan Vision

The City of Long Beach is a livable community where people of all ages and abilities easily, comfortably, and safely ride a bicycle to access jobs, schools, public transit, recreation facilities, shopping, and other destinations as a part of daily life.

This Plan envisions a Long Beach **25 years into the future** where bicycling will be the easiest, most convenient way to run errands, get to work or school, or travel for recreation.



Let's imagine a typical day in the life of a North Long Beach resident in the year 2040.

After finishing breakfast, you snap on the helmet of your 11-year-old child, then she joins several nearby classmates in the local "bicycle train" for a three mile ride to Harte Elementary School. The group rides along the quiet Myrtle Avenue Bicycle Boulevard, with traffic circles designed to allow bicycle riders and slow-moving, cautious drivers to share the street and keep neighborhoods safe and connected. The students then turn onto the Orange Avenue parking-protected bikeway and soon arrive at school, where there is abundant bicycle parking for the roughly 50% of students who arrive on bicycle. Much like your grandparents' generation, nearly all children now walk or ride a bicycle to school. Rather than sit in school drop-off lines, this extra time allows parents like yourself to enjoy an extra cup of coffee at home and wait for your recently ordered, locally-sourced household goods to be delivered via "bicycle freight" – i.e., cargo bikes.



After saying goodbye to your daughter, you hop on your own bicycle and ride the flat seven-mile trip to Downtown Long Beach, where you work at a state-of-the-art facility that designs electric-assist bicycles. You travel south, opting for the more leisurely and quaint Daisy Bicycle Boulevard, so you can marvel at the 120-year-old homes of Willmore on your way. Once Downtown, you park your bicycle in a fully-secured facility, where just a scan of your fingerprint and a passcode can retrieve your bicycle later.



A mid-day lunch meeting in Rose Park allows you the opportunity to enjoy a short two-mile ride using the public bike share system. You travel along Broadway's curb-separated bikeways – the first built in Southern California way back in 2011! You chuckle to yourself thinking that these bikeways were once considered "novel," and you wonder how there was ever a time when cities built bicycle lanes that placed riders between parked cars and moving traffic.



At the end of the work day, you decide to bring your bicycle aboard the Metro Blue Line so you can catch up on your social media updates while on the 15-minute stress free ride to Artesia Station. Riding east from the station in the fully separated bikeway along Artesia Boulevard, you enjoy the colors of the sunset reflecting off of the newly revitalized Los Angeles River before returning home.



Back in 2017, your future bicycle-friendly lifestyle is already becoming a reality in Long Beach. According to the Alliance for Biking and Walking's 2016 Benchmarking Report, Long Beach had the 18th highest rate of commuting by bicycle of all large U.S. cities – and this high ranking does not include the thousands of bicycle trips made for pleasure or daily errands in our city each day. And the City's commitment to make bicycling a safer and more enjoyable way to get around will continue to attract more people to join you on the bikeways!





The Long Beach City Council has committed to making Long Beach the most bicycle-friendly city in the United States, and the City has installed over 78 miles of bikeways since the previous Bicycle Master Plan was adopted in 2001. Today, the City has nearly 130 miles of bikeways. This updated Bicycle Master Plan reinforces this commitment and provides a clear path forward to increase bicycle ridership by residents and visitors of all ages and abilities. The City aims to see 10 percent of all trips made by bicycle in 10 years, 20 percent in 20 years, and 30 percent in 30 years. This 30 percent bike mode share is part of a larger goal to have fewer than 50 percent of trips made by solo drivers by 2040.

What would 30 percent of all trips by bicycle look like – and, perhaps, more importantly: what would it take to achieve this vision? This Bicycle Master Plan lays out over 200 miles of bikeways designed to provide safety and comfort for people of all ages and abilities. These projects are referred to as ‘8-to-80’

As Parks Commissioner of Bogota, Colombia, Gil Peñalosa realized that if public agencies were to create cities where people can be healthy and active, they must begin by building streets that are safe for people of all ages. “We have to stop building cities as if everyone is 30 years-old and athletic,” he stated in 2012. He believed the 6.7 million people living in Bogota deserved safe, convenient, and connected bikeways to allow people of all abilities to have the opportunity to choose to bicycle. Out of this broad idea, he coined the term ‘8 to 80’ -- creating a litmus test for determining if a bikeway or public space is safe enough as long as you would feel comfortable letting your 8-year-old child or 80-year-old grandparent use it. This is the guiding principal for Long Beach’s ‘8-to-80’ bikeway network -- which will guide design principles that will allow nearly all residents and visitors to feel safe bicycling throughout the City.

bikeways – meaning that the bicycle facility is designed so that anyone between the ages of 8 and 80 years old can ride bicycles easily and comfortably. These re-envisioned streets will connect seamlessly, providing high-quality connections for the bicycling public from Hamilton to Belmont Shore and Carson Park to The Pike – and everywhere in between.

Long Beach’s comfortable weather, mostly flat terrain, and growing bike network make it an ideal city for bicycling. In 25 years, with a complete network of 8-to-80 bikeways, residents will easily consider bicycling the most attractive mode of transportation. The effort of driving and parking a car will seem antiquated as more and more people discover how convenient and enjoyable it is to run errands by bike – and with facilities designed to support people of all ages, families can turn these daily tasks into healthy and fun activities, spending quality family time on two wheels while taking in the fresh ocean breeze.

The City of Long Beach aims to increase bicycle trips to:



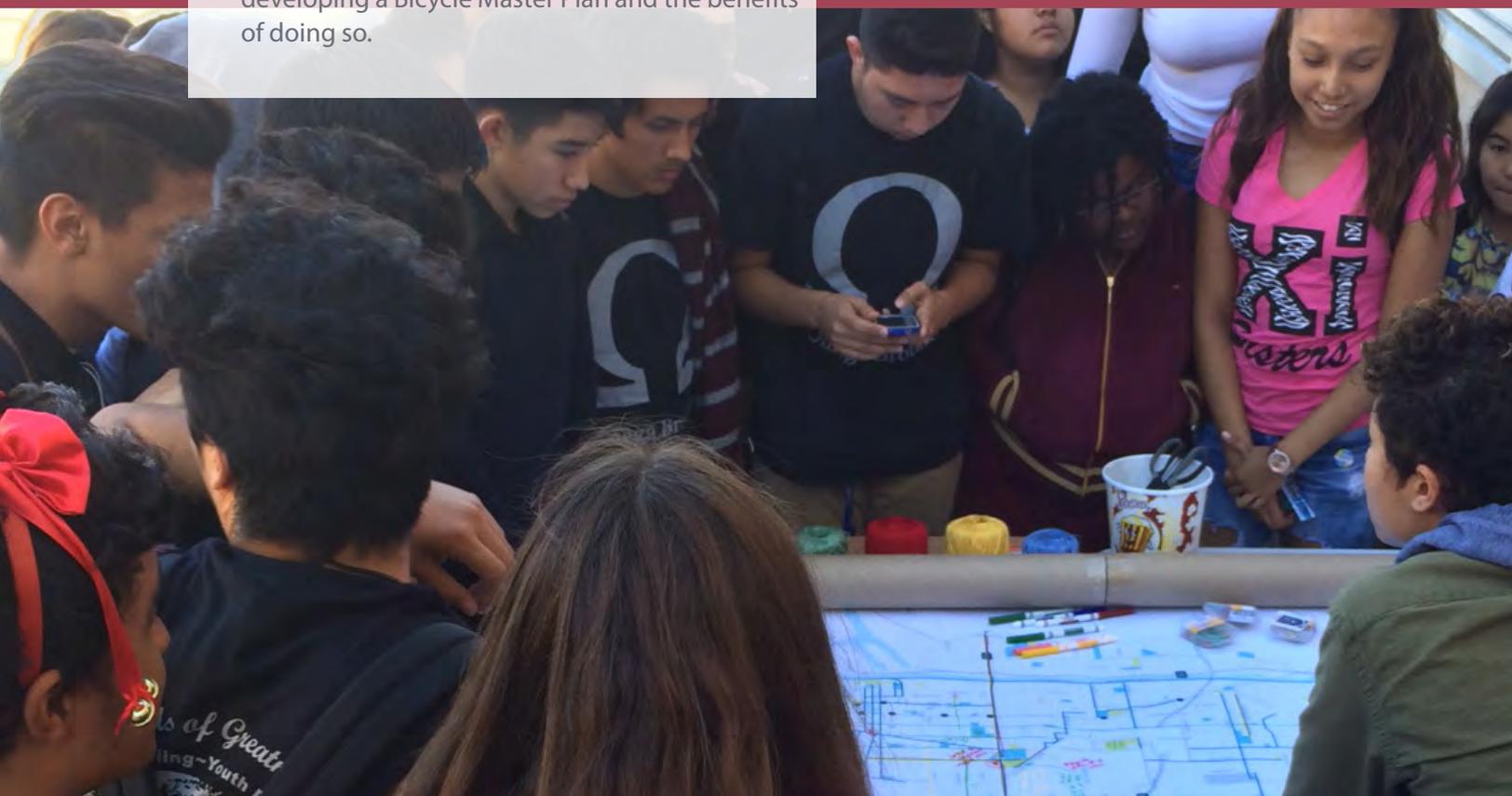


Introduction:

Why Develop a Master Plan?

2

This chapter provides the reasoning behind developing a Bicycle Master Plan and the benefits of doing so.



2



Introduction: Why Develop a Master Plan?

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Plan Purpose

This Plan continues to build upon a long-standing effort to make Long Beach a city known for its bicycle-friendliness, and as an active, healthy, and prosperous (i.e., “livable”) place to live, work, and play. It is compliant with California Assembly Bill 32 and the Complete Streets Act. This Plan expands upon the Mobility Element of the Long Beach General Plan by providing further details on bicycle planning and design. It also recommends a series of projects and programs to be implemented by the City of Long Beach in the next few decades. Fifteen years have passed since the City of Long Beach completed its first Bicycle Master Plan in 2001. Since then, many more bicycle-related projects have been completed, including:

- » Separated bikeways and dedicated bike signals along 3rd Street and Broadway in the Downtown core.
- » Separated bikeways along Artesia Boulevard in North Long Beach.
- » An expanding bike share system in Downtown and adjacent neighborhoods.
- » A lane reconfiguration along Alamitos Avenue, creating buffered bike lanes from 7th Street to Pacific Coast Highway.
- » A bike lane and signal added to Shoreline Drive, at the beach access lot entrance. A grooved bike ramp was also installed along the staircase at the north end of the lot, allowing cyclists to push their bike up and down the staircase to Ocean Boulevard.
- » A renovated beach path, separating pedestrian and bicycle traffic along the beach.
- » Installation of the first bike counter along the beach bike path.
- » Shared-lane markings (“sharrows”) along Pacific Avenue and several designated bike routes around the City.
- » Bike lanes and sharrows along Seaside Way, between Golden Avenue and Pine Avenue.
- » Beach Streets open street events.



Building upon this momentum, the City is looking to develop an updated, innovative, and inspiring Bicycle Master Plan. The state of bicycle planning has greatly advanced in the past decade, and we now have a much wider variety of permitted bikeway types enabling the City to better serve a broader variety of riders. As more people cycle, there is increased demand for improved and additional facilities; as the City builds out more facilities, more people will feel comfortable bicycling. The Bicycle Master Plan will advance the City's notoriety as a great community in which to bicycle.

The purpose of this current Plan is to update the former document, taking advantage of new innovative bicycle planning and bikeway design solutions, to guide City staff in prioritizing resources when implementing future projects and programs, and finally, to make the City eligible for more outside funding for these pursuits.

Benefits of Bicycling

Bicycling is a healthy, non-polluting, low-cost, quiet, and fun form of transportation that is ideal for many trips, including commuting and shopping. Long Beach's residents and visitors, even those who choose not to ride bicycles, could greatly benefit from the improvements recommended within this Plan. A more bicycle-friendly Long Beach will contribute to resolving issues like traffic congestion, poor air quality, climate change, poor public health, and diminishing quality of life.

Efficient, convenient, and affordable transportation options like bicycling can make life easier, better, and more enjoyable for both residents and visitors. The benefits of connected bicycle networks go beyond accessibility, safety, and comfort. This mode of transportation can deliver environmental and health benefits for communities.

At their best, well-designed bicycle networks can provide a variety of benefits. The chart to the right reviews the various benefits of bicycling.



Benefits of Bicycling

Safety



Conflicts between bicyclists and motorists result from poor riding and/or driving behavior, as well as insufficient or ineffective design. Encouraging development and redevelopment in which bicycle travel is fostered improves the overall safety of the roadway for all users – an official goal of the City of Long Beach stemming from its Vision Zero initiative to eliminate all traffic-related deaths and serious injuries by 2026. Designated bike facilities reduce the risk of crashes and injuries compared to biking alongside traffic without facilities or off-road in a shared environment with pedestrians.

Public Health



Physical inactivity is now widely understood to play a significant role in the most common chronic diseases in the United States, including heart disease, stroke, and diabetes, and approximately 280,000 adults in the U.S. die prematurely due to obesity-related illnesses every year. A study published in the American Journal of Preventive Medicine in 2004 by Frank et al., reported that for each extra 60 minutes spent in a car daily, there was a six percent increase in the chances of being obese. Creating a better physical environment that encourages bicycling is a key strategy to fighting obesity and inactivity and has been shown to have substantial impacts with relatively limited public investment.

Equity



Bicycling is an inexpensive and broadly accessible form of transportation. The average annual operating cost of a bicycle is \$308, compared to \$8,220 for the average car. Bicycling is an affordable means of transportation for the urban poor who are disproportionately people of color. Bicycles provide added freedom and independence for youth and parents (who are otherwise transporting their children), as well as for some people who cannot drive and those who have chosen not to drive.

Quality of Life



Creating conditions where bicycling is accepted and encouraged increases a community's livability from a number of different perspectives that are often difficult to measure but are nevertheless important. The design, land use patterns, and transportation systems that comprise the built environment have a profound impact on quality of life issues. The aesthetic quality of a community improves when visual and noise pollution caused by automobiles is reduced and when green space is reserved for facilities that enable people of all ages to recreate and commute in pleasant settings.

Economic



Bicycle programs and projects encourage more bicycle riding, which leads to better quality of life. According to Richard Florida, better quality of life attracts more diverse and creative people, leading to higher economic growth for a city and region. Additionally, the annual operating costs for bicycle commuters are 1.5% to 3.5% of those for automobile commuters. Cost savings associated with bicycle travel expenses are also accompanied by potential savings in health care costs. On a community scale, bicycle infrastructure projects are generally far less expensive than automobile-related infrastructure.

Environmental



Replacing vehicular trips with bicycle trips has a measurable impact on reducing human-generated greenhouse gases (GHGs) in the atmosphere that contribute to climate change. Fewer vehicle trips and vehicle miles traveled (VMT) translate into fewer mobile source pollutants released into the air, such as carbon dioxide, nitrogen oxides, and hydrocarbons.





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 enhanced bicycle infrastructure, policies, and programs through a series of data analyses.



3



Long Beach Now: Existing Conditions & Needs Analysis

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- » State of Bicycling in Long Beach 20



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 growing number of locations have end-of-trip amenities such as showers and repair stands and hydration stations. These investments provide a foundation upon which the City can build a high-quality, citywide bicycle transportation system 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 significant 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 nearly 130 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 3-2). Commercial development is also spread throughout the City, but mainly located around major arterials. The City limits of Long Beach partially or completely surround the cities of Lakewood and Signal Hill.

Demographics & Access to Vehicles

Long Beach is home to 468,594 people, according to 2014 American Community Survey (ACS) five-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, over 40 percent 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.

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

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

Table 3-2: Household Income, 2014

Household Types	
All Households	\$52,944
Family Households	\$59,710
With children under 18 years	\$48,822
With no 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

Figure 3-1: Commute Mode Share



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 3-1). 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, according to the ACS. However, it is estimated that the number of people without access to a vehicle is closer to

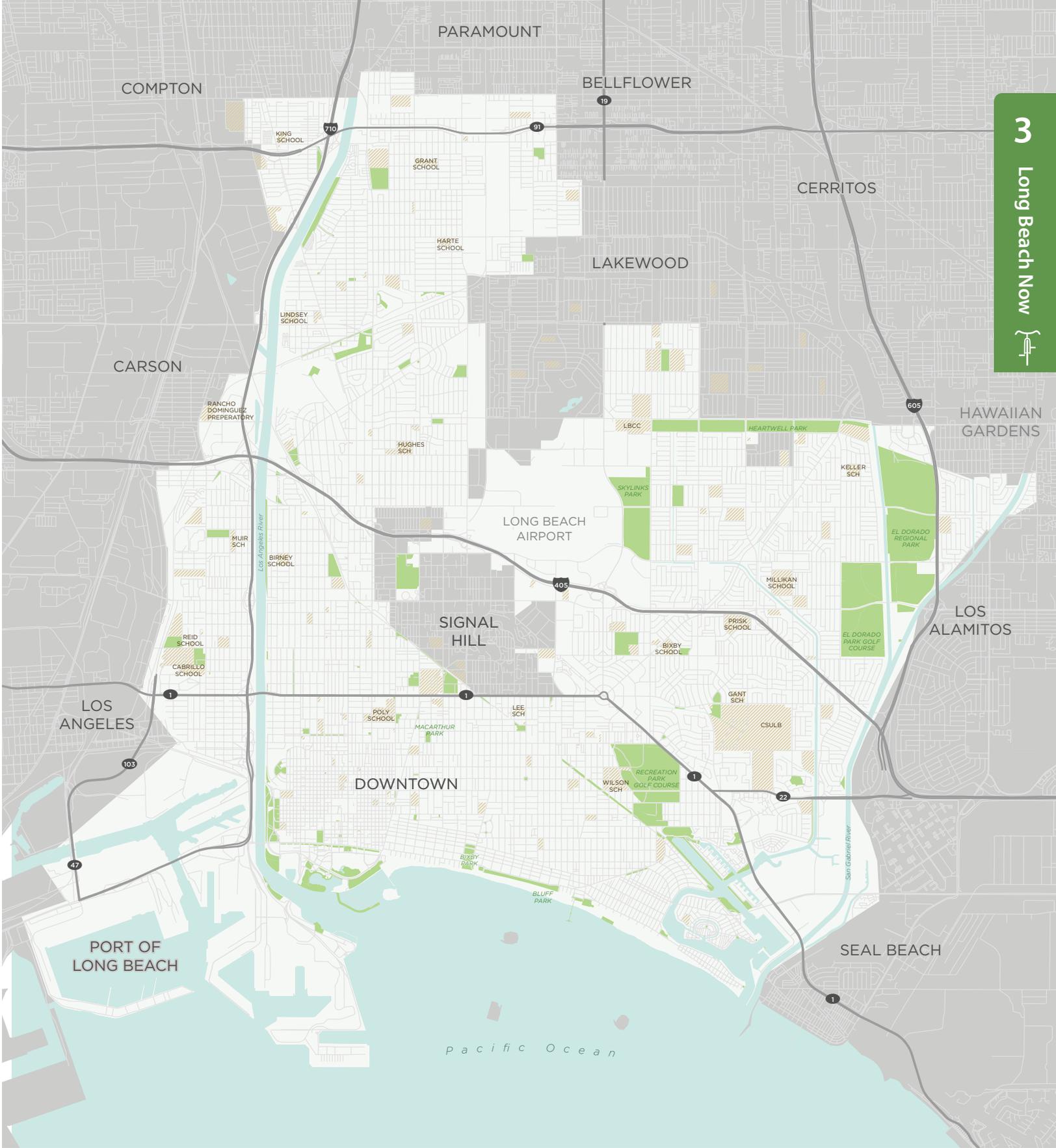


Figure 3-2: City of Long Beach Map

-  School
-  Park

38 percent due to the number of one-car households or non-workers. These workers would rely on transit, walking, bicycling, or carpooling to get to work.

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 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 it is used in calculating scores for Caltrans Active Transportation Program (ATP) grant applications. 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 specified in the ATP guidelines. 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.

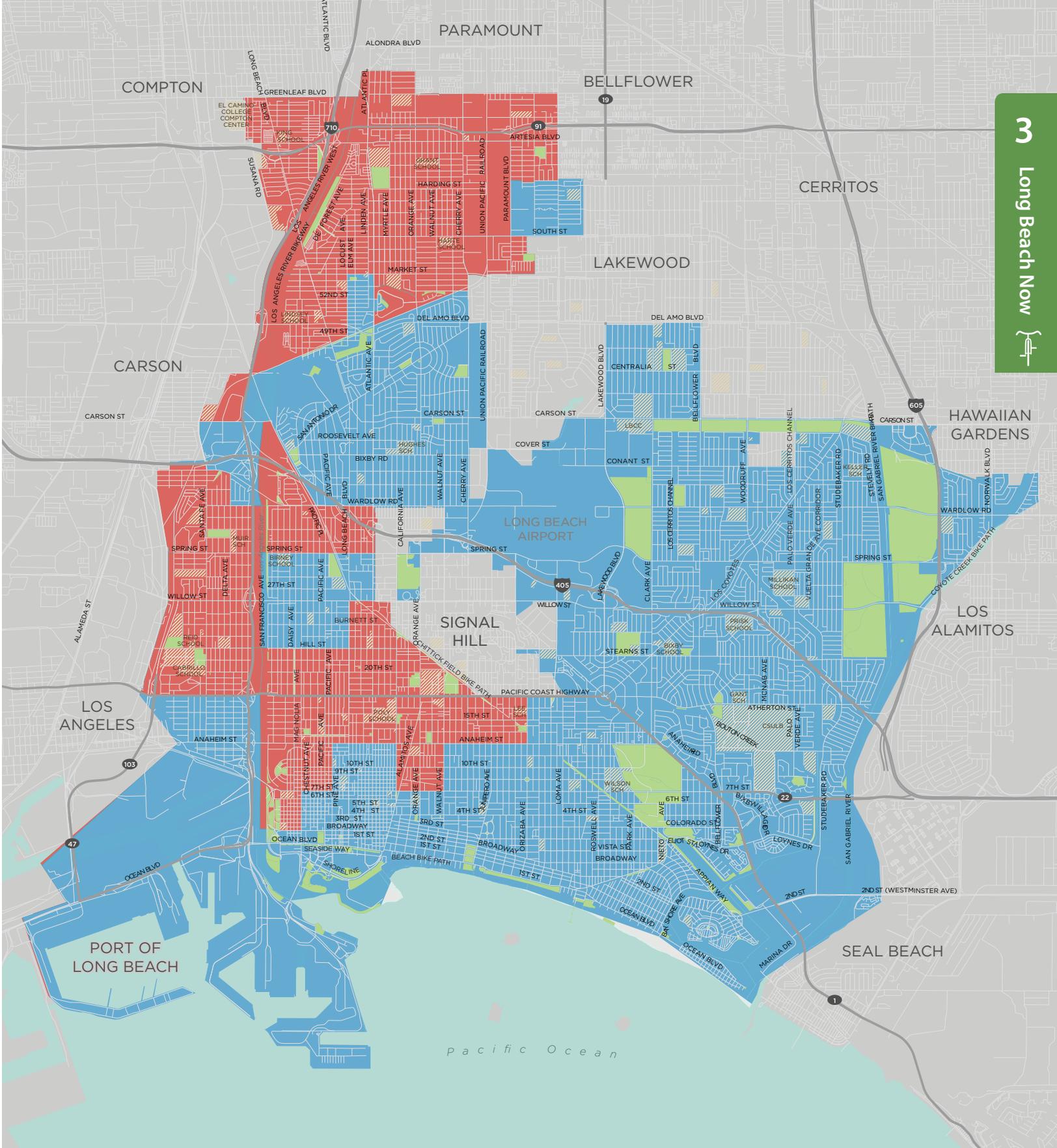


Figure 3-3: Relative Pollution Burden Map

- 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 ease of travelling 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.

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).



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

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 also operates an extended late night and early morning 'owl' service) 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 Los Angeles, 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 bicycles on their water taxis.

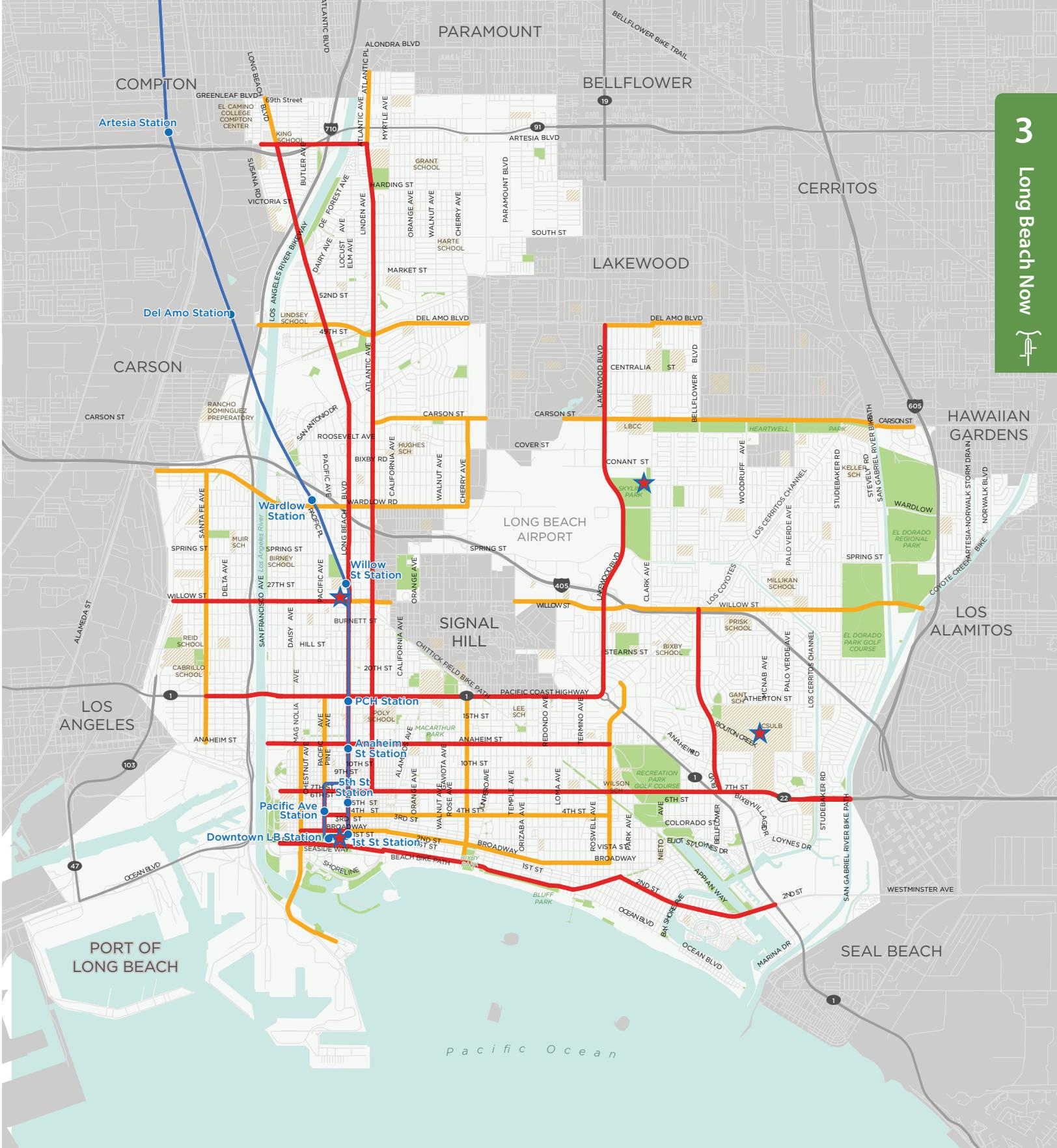


Figure 3-4: Transit Priority Streets Map

- Primary
- Secondary

- Metro Rail Blue Line
- ★ Mobility Hub

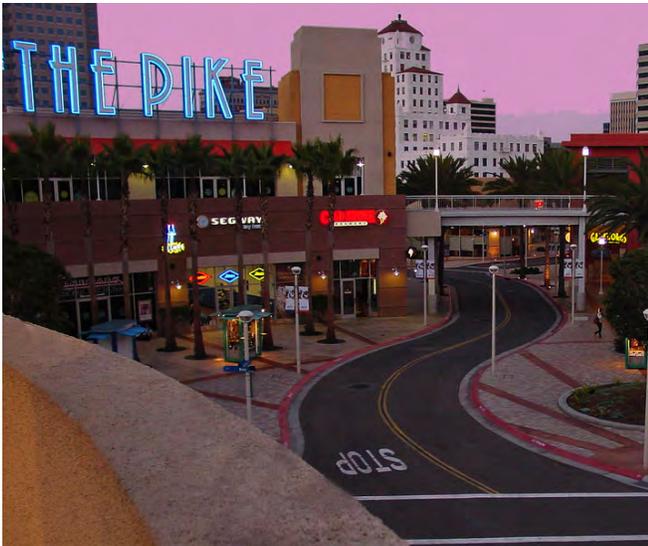
- Blue Line Station
- School
- Park

Trip 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). 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 Avenue in Uptown
- 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 communities. 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 the 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 the 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 approximately one percent of people will ride a bicycle under any circumstances. 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 will absolutely refuse to ride a bicycle. This Plan is mostly focused on the 60 percent of people who could be encouraged to ride a bicycle for transportation or

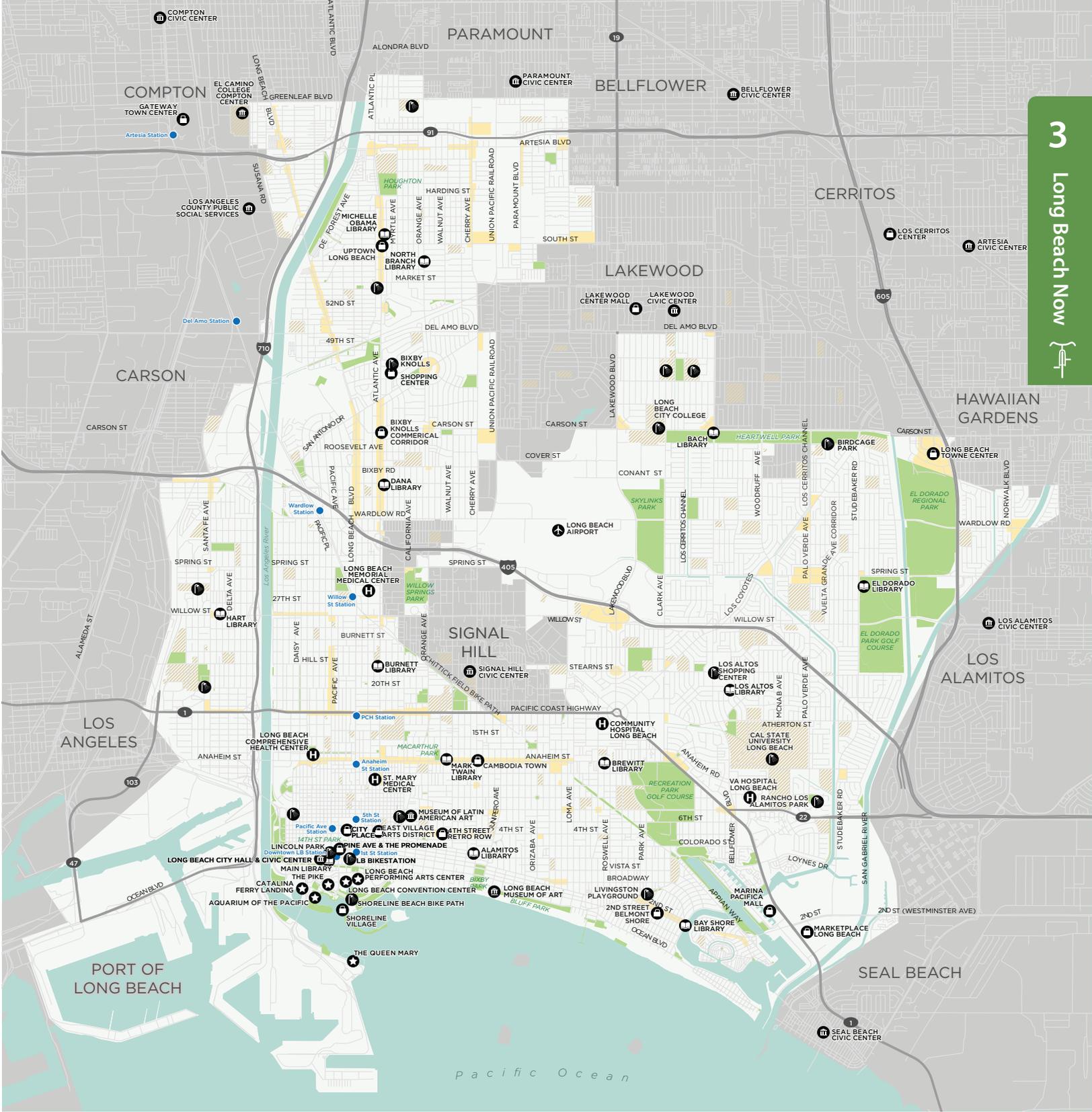


Figure 3-5: Attractors/Activity Generators in/Around Long Beach

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

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 Terminal Island (TI) Transition 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

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% 



Enthusied & 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 34.7 miles of shared-use path (Class I) facilities.



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 4.4 miles of separated bikeway 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 a single, 1.5 mile of bicycle boulevard along Vista Street.



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. 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 nearly 60 miles of roads with bike lanes.



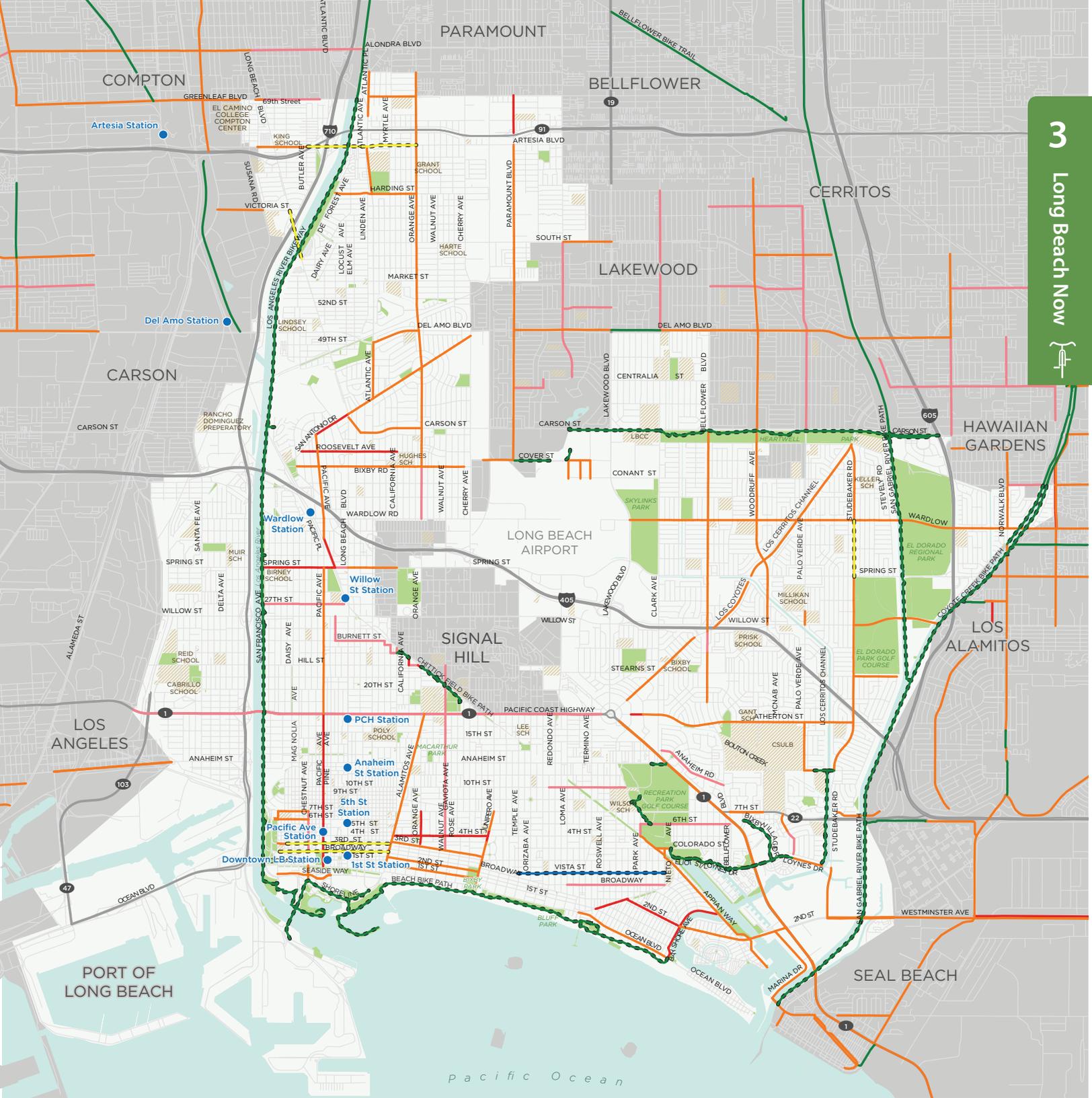


Figure 3-7: Existing Bicycle Network Map

- Off-Street Shared-Use Path (Class I)
- Bicycle Lane (Class II)
- Bicycle Boulevard (Class III-A)
- Sharrows (Class III-B)
- Bicycle Route (Class III-C)
- Separated Bikeway (Class IV)
- Existing 8-to-80 Bikeway Off-Street (Exclusive Right-of-Way)
- Existing 8-to-80 Bikeway On-Street (Major Street)
- Existing 8-to-80 Bikeway Bicycle Boulevard (Residential Street)
- Blue Line Station

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 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 about 10 miles of Class III-B bicycle routes designated with shared-lane markings and nearly 19 miles of Class III-C bicycle routes with signs only.



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 Existing Bicycle Facilities

Bikeway Class	Length (Miles)
Shared Use Path (Class I)	34.7
Bike Lane (Class II)	59.9
Bicycle Boulevard (Class III-A)	1.5
Sharrows (Class III-B)	7.9
Bicycle Route (Class III-C)	18.7
Separated Bikeway (Class IV)	4.4
Total	127.1

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 build-out 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, Long Beach City College, 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 bicycles 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 a 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 to work, 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.



Long Beach Bike Share Station

End-of-Trip Facilities

Bicycle parking can be provided in two general types: short-term racks and long-term high-security facilities. 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” and hydration stations in several locations to help riders that may face mechanical issues or need a drink of water.

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 U.S., Long Beach provides bike racks free of charge to businesses to help 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 project website at: www.bikelongbeach.org, and Public Works staff will review the request and install the bike rack, given 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.



Bicycle Corral

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 Long Beach Bikestation located in Downtown Long Beach along the First Street Transit Gallery 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 currently requirement for event organizers to provide these services.

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 local 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 and 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 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.

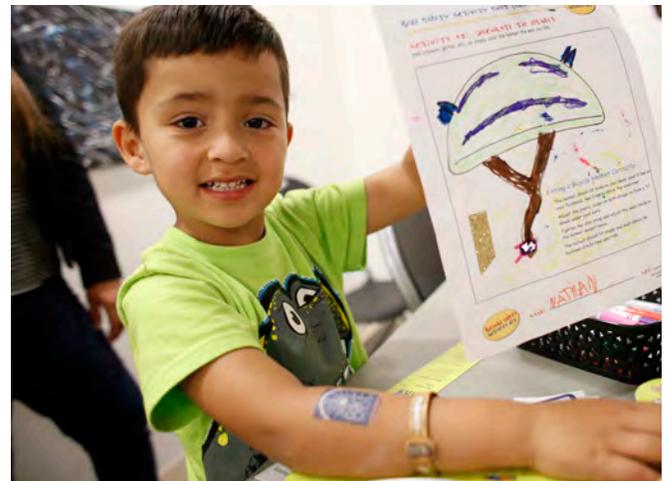
Safe Routes to School Education Program

The grant-funded Long Beach Safe Routes to School program reaches out to over 50 elementary and middle schools throughout the City, 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 encourages 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

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 bicycles are stolen and recovered, they can be returned to their owners regardless of where in the nation it was recovered.

Evaluation

Bicycle Counts

Since 2015, Long Beach has been conducting bicycle counts every year since 2008 at 30 locations. 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
- reducing roadway congestion

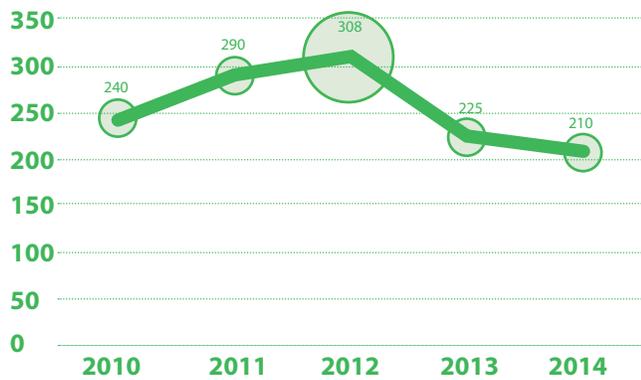
Estimated Benefits of Bicycle Plan Implementation and Future Activity Levels

A benefit impact analysis was conducted as a part of this Plan to quantify some of the health, environmental, and transportation benefits Long Beach may experience after implementation. These benefits correspond with direction from state and regional policy goals. The graphics shown in Figure 3-9 summarize some of the expected benefits of achieving various tiers of bicycle mode share; calculation details are in Appendix C.

Bicyclist-Involved Collisions

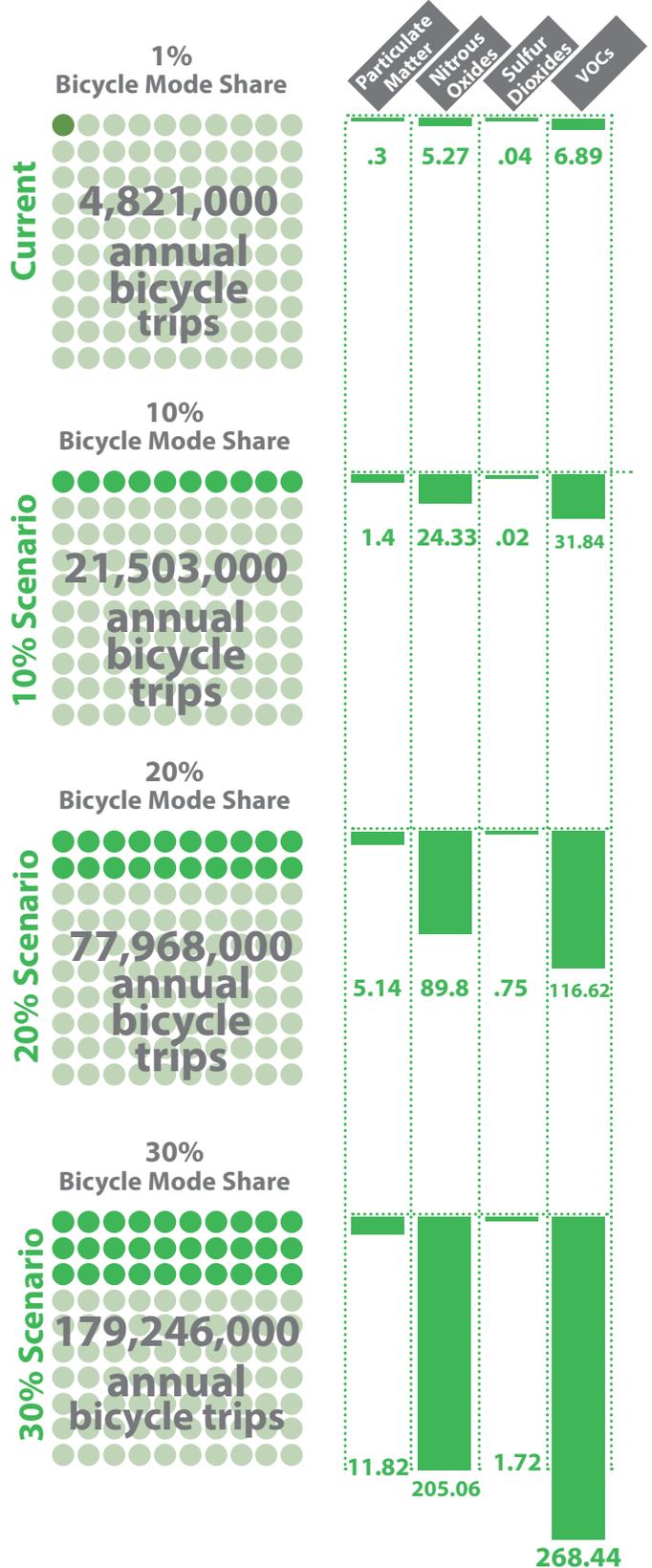
Between 2010 and 2014, there were 9,216 total collisions on Long Beach roadways, with 1,273 collisions (13.8 percent) involving a person on a bicycle. Eight of the 1,273 bicyclist-involved collisions (.06 percent) resulted in a fatality, and 68 (5.3 percent) resulted in a severe injury; 542 (42.6 percent) resulted in a visible injury; and 655 (51.5 percent) resulted in a complaint of pain. 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 disproportionately high. Figure 3-8 shows the number of bicyclist-involved collisions by year.

Figure 3-8: Bicycle-Related Collisions in Long Beach From 2010 to 2014



Source: SWITRS

Figure 3-9: Estimated Benefits of Future Activity Levels
Estimated “Emission Reduction” Benefits (measured in metric tons)



Collision Comparison

To provide a comparison, Table 3-5 shows the number of bicyclist-involved collisions and per capita crash rates in Long Beach compared to Los Angeles County as a whole and four peer cities in California between 2010 and 2014.

Table 3-5: Number and Rate of Bicyclist-Involved Collisions

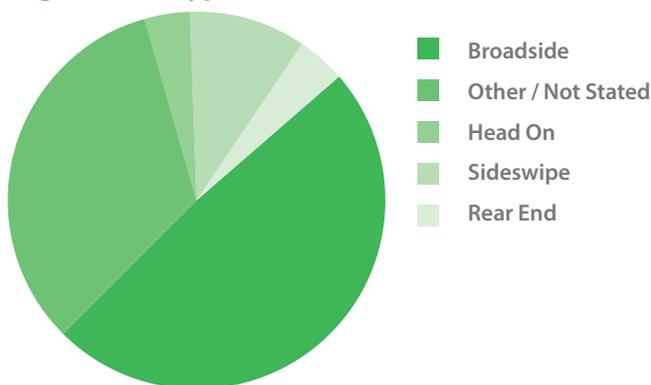
Jurisdiction	Number	Crash Rate*
Long Beach	1,273	0.27%
Los Angeles County	23,078	0.002%
Oakland	1,022	0.25%
Pasadena	489	0.35%
San Diego	2,545	0.19%
San Jose	1,778	0.18%

Source: SWITRS, American Community Survey Per Capita (Number / Population)

Type of Collision

Figure 3-10 shows the breakdown of the bicyclist-involved collisions by . 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 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.

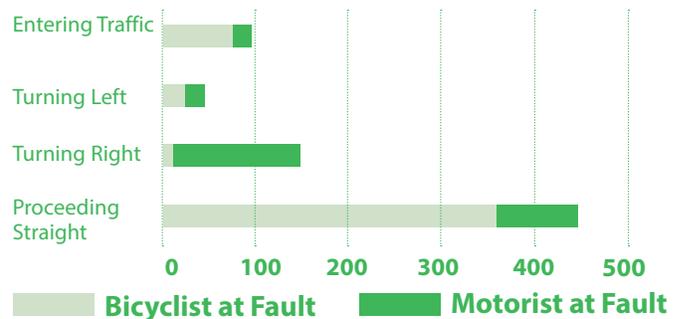
Figure 3-10: Types of Collision



Partly At Fault and Violation Type

According to the collision reports, 726 bicyclists (56 percent) were *not* at fault for the collision they were involved in. For 560 collisions (44 percent), 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.

Figure 3-11: Movement Preceding Collisions From 2010 to 2014



Source: SWITRS

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 motorist is violating the right-of-way of the motorists 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 with bicyclists. 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 bicyclist involved collision.

Table 3-6: Violation That Contributed to Bicyclist-Involved Collisions (from 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 of these 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 and are major commercial corridors.

Weather and Time of Day Factors

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.

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.

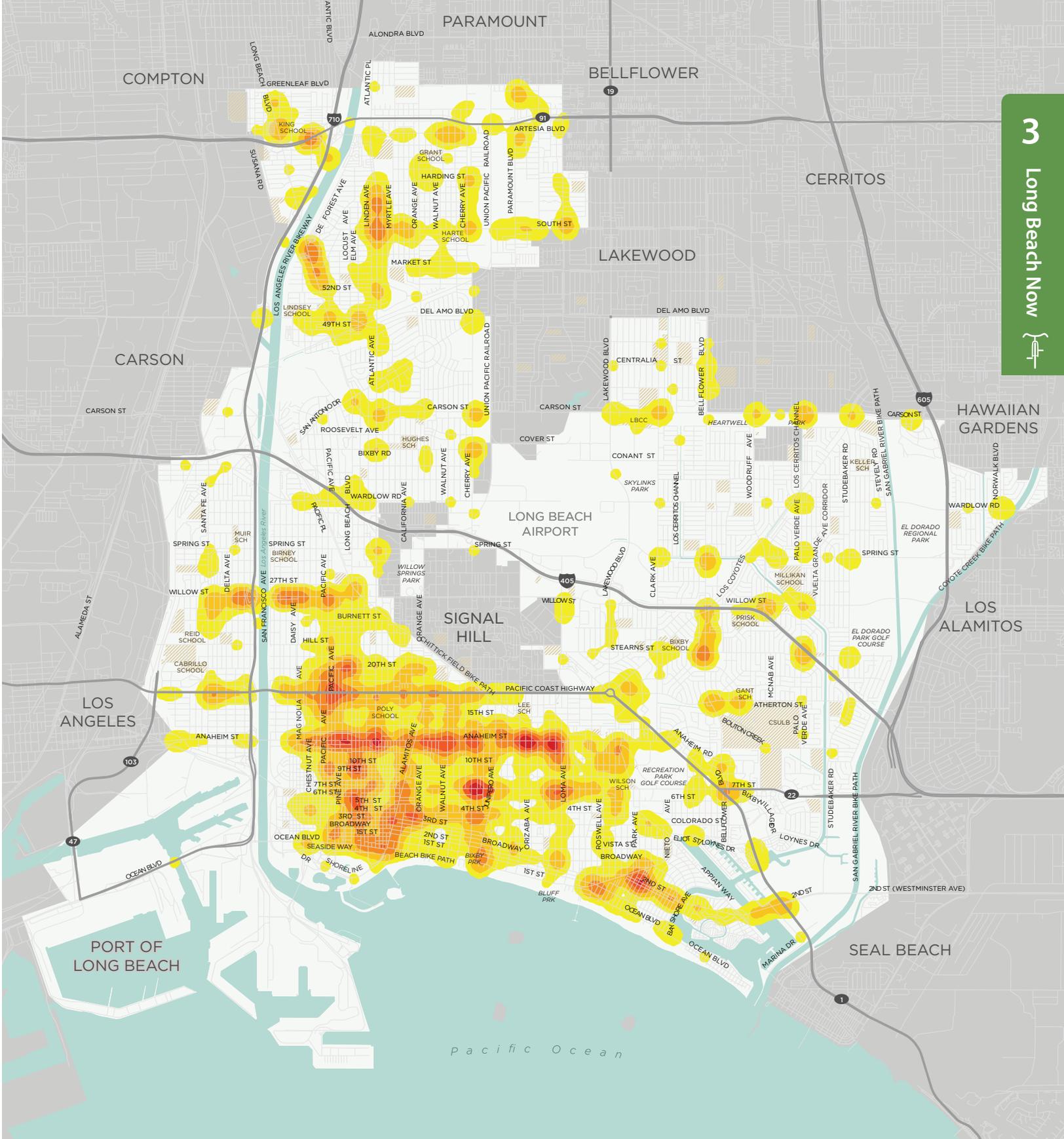


Figure 3-12: Bicyclist-Involved Collisions From 2010-2014

Source: SWITRS



Levels of Traffic Stress

A Levels of Traffic Stress (LTS) analysis was conducted as a part of this Bicycle Master Plan. This analysis incorporates data about bicycle infrastructure and roadway size to rate each street segment according to three levels:

- Level 1/Low Stress - Suitable for most adults and children
- Level 2/Medium Stress - Tolerable for “enthused and confident” cyclists
- Level 3/High Stress - 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 was 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 low stress bicycling network. Closing 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 that 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.

Summary of Needs Analysis

Based on the evaluation of Long Beach’s collision data, Levels of Traffic Stress, the existing bikeway 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 the bikeway 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: Stress Network by Travel Lanes & Presence of Bikeway



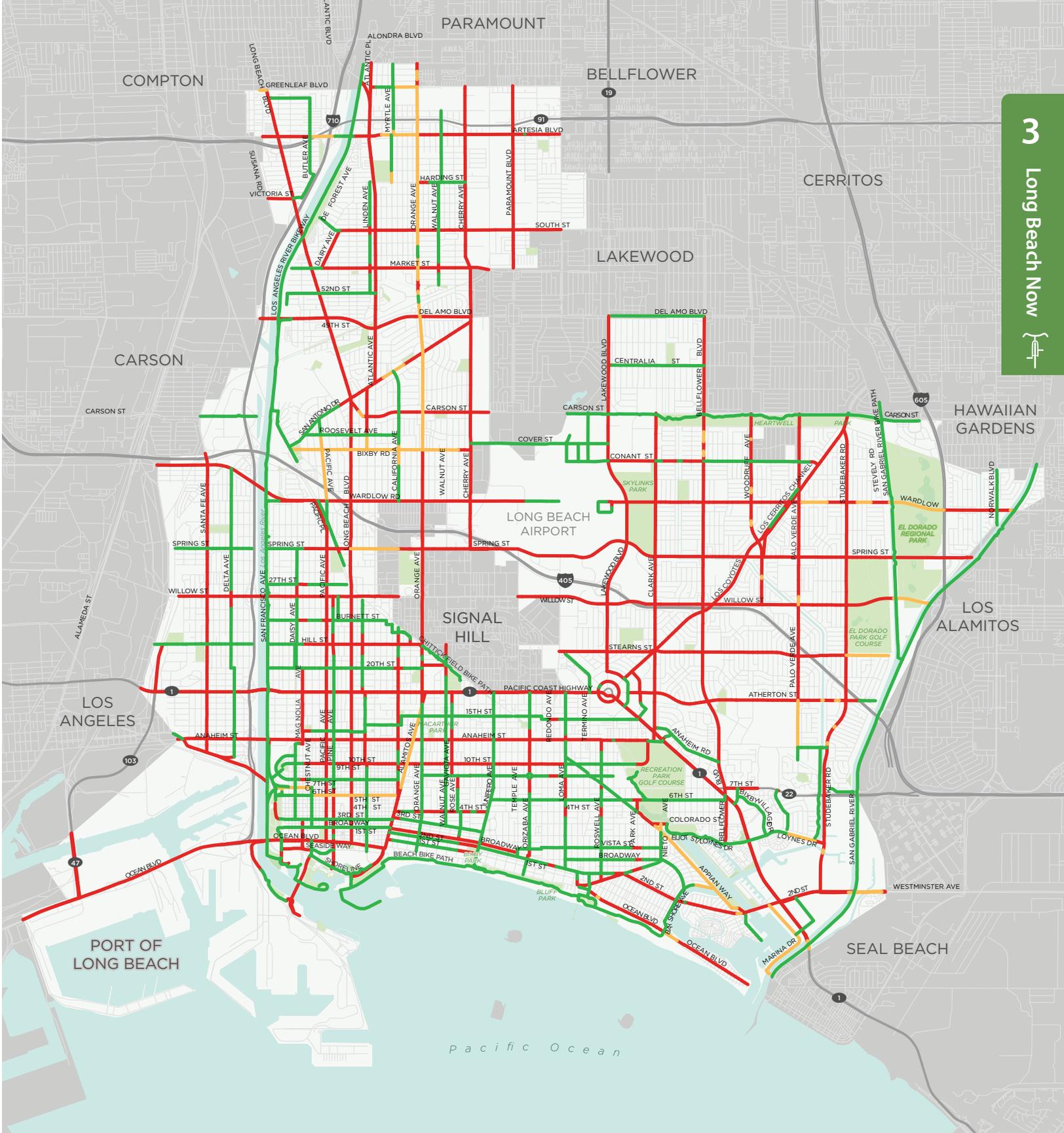


Figure 3-14: Level of Traffic Stress Map

- Low Stress
- Medium Stress
- High Stress



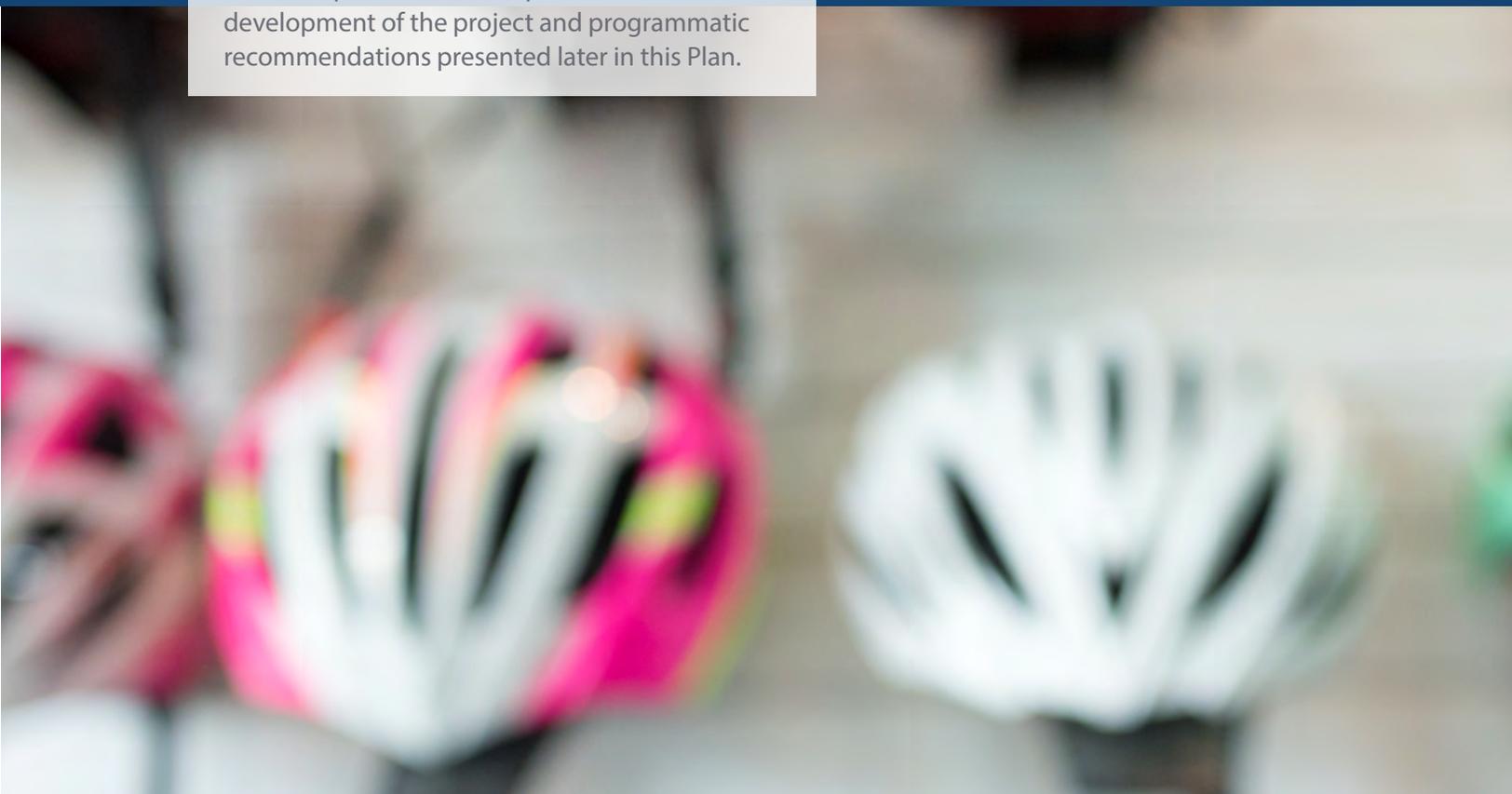


Community Input:

Listening & Gathering Feedback

4

This chapter provides an overview of the outreach conducted in order to develop this Bicycle Master Plan. This public comment process led to the development of the project and programmatic recommendations presented later in this Plan.



4



Community Input:

Listening & Gathering Feedback

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Community Outreach Strategy

Extensive community input was collected through the Bicycle Master Plan process, with public feedback especially solicited to inform policy and infrastructure recommendations. The project team took a thorough approach to reach parts of the city and population groups that are often absent from the planning process. In total, the Bicycle Master Plan team held a citywide community meeting, attended 9 community events, set up 8 pop-up mapping exercises, and held 9 focus groups. Outreach activities took place in all council districts across the City. Additionally, a survey was administered online and in person in four different languages (English, Spanish, Khmer, and Tagalog). The survey garnered 469 responses. A more detailed analysis of community input can be found in Appendix D.



Outreach at Community Events

Table 4-1 lists each community event attended by the Bicycle Master Plan Outreach team. The project team asked community stakeholders to provide input at various stages of the planning process

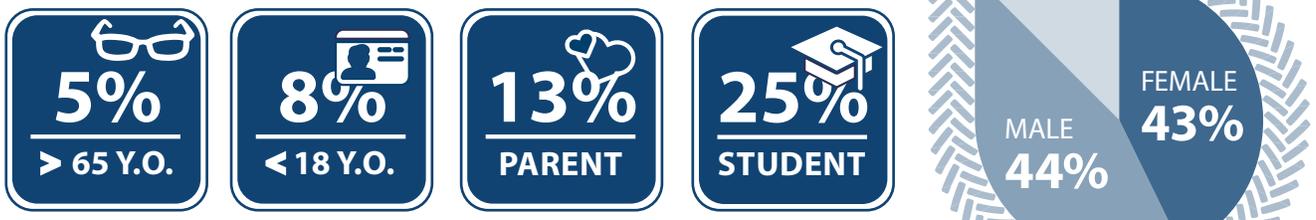
Table 4-1: Community Events Attended by the Bicycle Master Plan Team

#	Event Name	Location	Council District
1	Beach Streets Downtown	Downtown LB/Bixby Park	1
2	Cambodia Town Culture Festival	MacArthur Park	6
3	Green Prize Festival	Admiral Kidd Park	7
4	Long Beach Bike Festival	East Village	2
5	Alamitos Bay Farmers Market	Alamitos Bay	3
6	Uptown Jazz Fest	Houghton Park	9
7	Municipal Band at Whaley Park	Whaley Park	4
8	First Fridays in Bixby Knolls	Bixby Knolls	8
9	Municipal Band at El Dorado Park	El Dorado Park	5

Survey Results

Overall, 469 people participated in both the online and hard copy surveys. Of the 469 people that responded, 57 percent stated that they typically use a car to get around town. Most respondents identified "exercise" as the main reason they ride a bicycle, and over half stated that they do not feel safe riding a bicycle in Long Beach under current conditions.

Figure 4-1: Key Survey Findings



How do you usually get around?



Do you feel safe riding a bike?



Cycling Destination by Experience

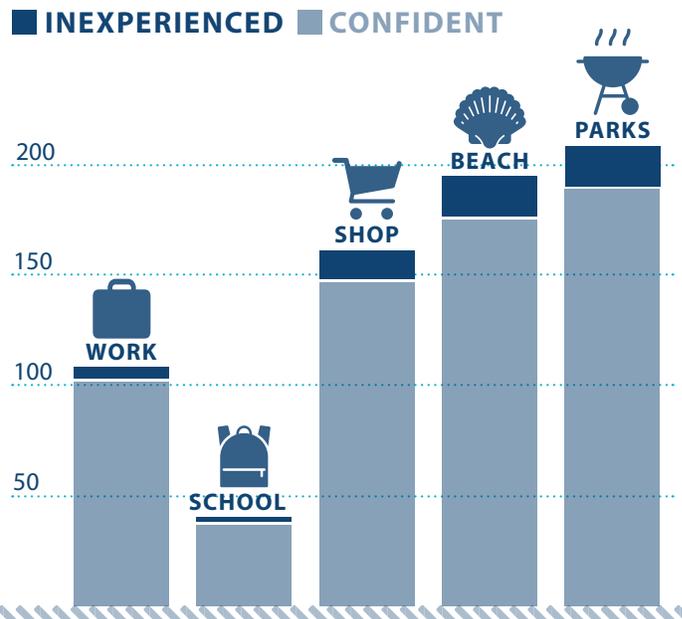


Figure 4-1: Key Survey Findings, Continued

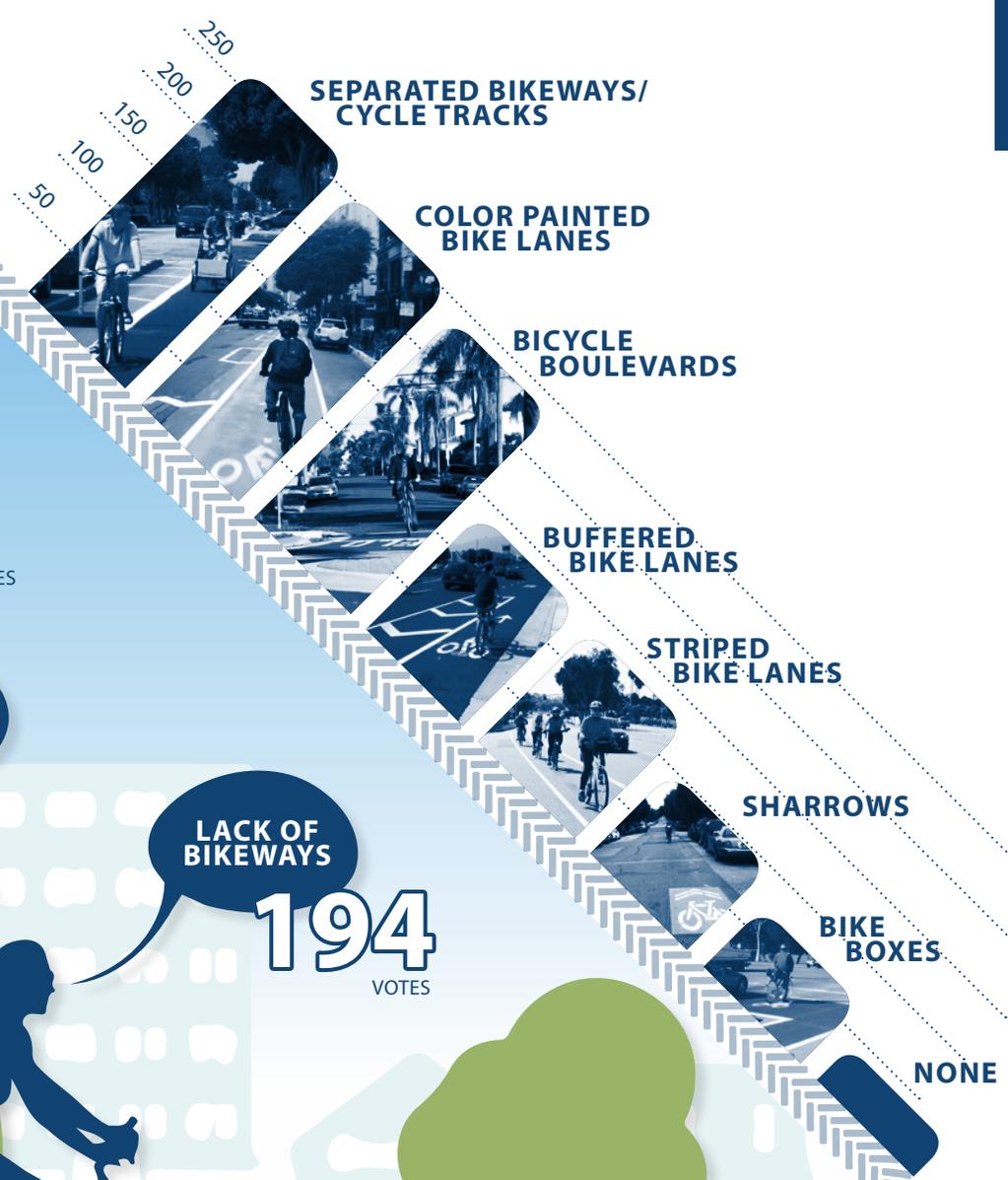
Why do you ride a bicycle?



What keeps you from riding a bicycle more often?



Types of Bike Facilities People Want in Long Beach



233 VOTES

FEEL UNSAFE

69 VOTES

LIMITED BIKE PARKING

LACK OF BIKEWAYS

194 VOTES



Non-Traditional Workshops

During the spring and summer of 2016, the Long Beach Bicycle Master Plan Project team went ‘on the road,’ traveling to various locations around the city and gathering feedback about bicycling in Long Beach. The project team set up a 3D interactive mapping activity, along with a bicycle-powered radio that community members rode, and a popcorn

machine and giveaways to attract participants. During these “pop-up” events, the project team asked people about where they would like to see new bikeways added, existing bikeways enhanced, new facilities introduced, or deficiencies addressed. Figure 4-2 represents a summary of feedback received at these non-traditional workshops.

Table 4-2: Non-Traditional Workshops

#	Event Name	Location	Council District
1	Bike-to-Work Day	Downtown Promenade	1
2	First Fridays in Bixby Knolls	Bixby Knolls	8
3	Love Long Beach Festival	Granada Beach	8
4	Fruit and Vegetable Party	Martin Luther King, Jr. Park	6
5	Activate Uptown	Houghton Park	9
6	Beach Streets Midtown	Anaheim Street	1
7	Jordan High School WRAP Program	Jordan High School	9
8	Long Beach City College Sustainability Fair	Long Beach City College	5



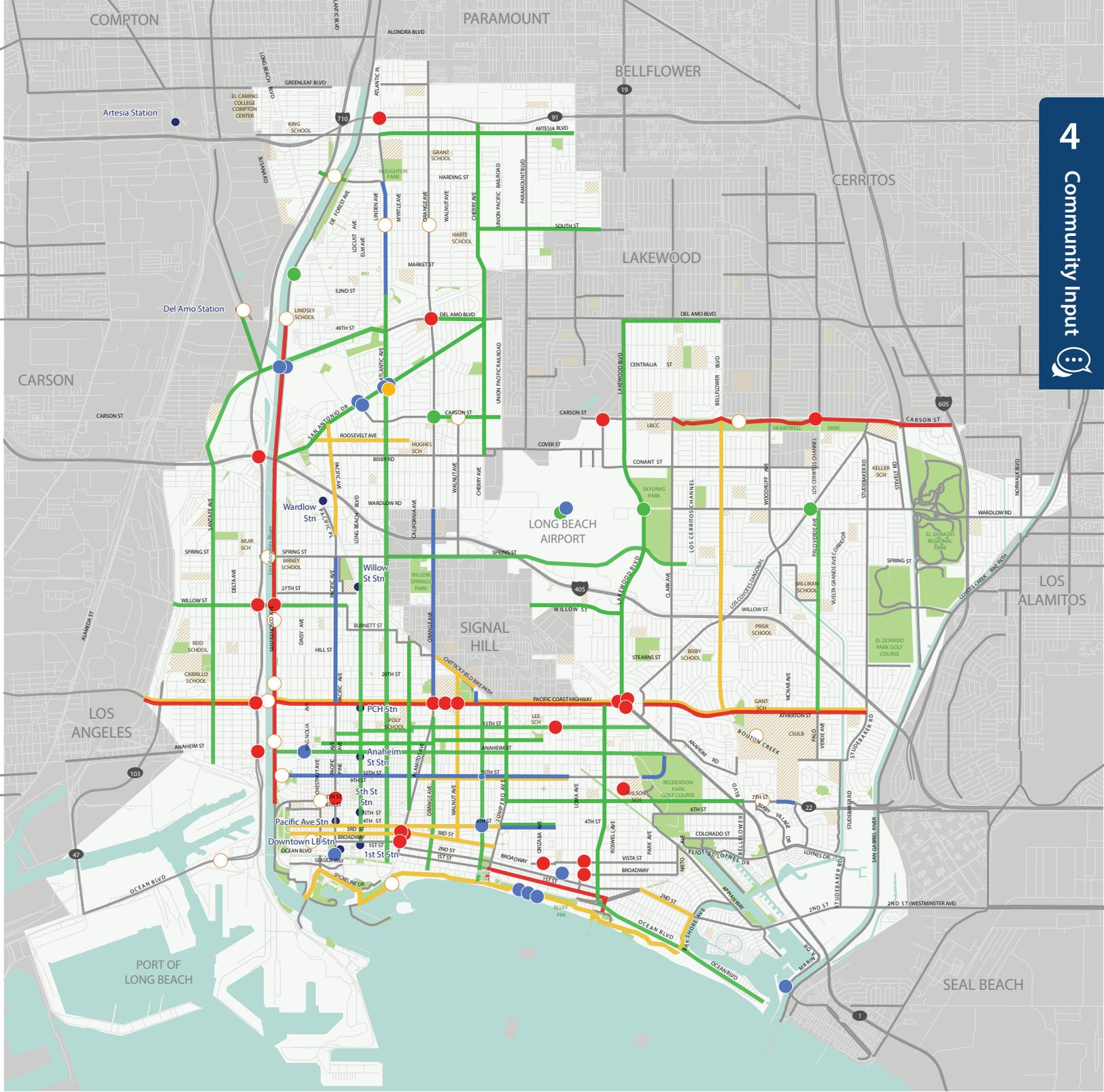


Figure 4-2: Non-Traditional Workshop Feedback Map

- Desired Route
- Good Route, Keep As-Is
- Existing Route, Needs to be Enhanced
- Gap in the Network
- Existing Route
- Bikeway Network Should Connect to this Destination
- Great Bicycle Asset
- Difficult Intersection to Cross by Bike
- Destinations that Need Bike Parking
- Other

Focus Groups

The Bicycle Master Plan team held nine focus groups with community stakeholders recruited from across the City. Table 4-3 shows the target audience and location of these meetings.

Table 4-3: Focus Group Meetings

#	Group Theme	Location
1	Teen Cyclists	Uptown Bike Hub
2	Experienced Cyclists	Uptown Bike Hub
3	Female Cyclists	Expo Building
4	Senior Cyclists	Expo Building
5	“Have To” Cyclists	Building Healthy Communities
6	Advocacy Organizations	Building Healthy Communities
7	Council of Business Associations	Elise’s Tea Room
8	Proposed Plan Review	Building Healthy Communities
9	Education	CSULB



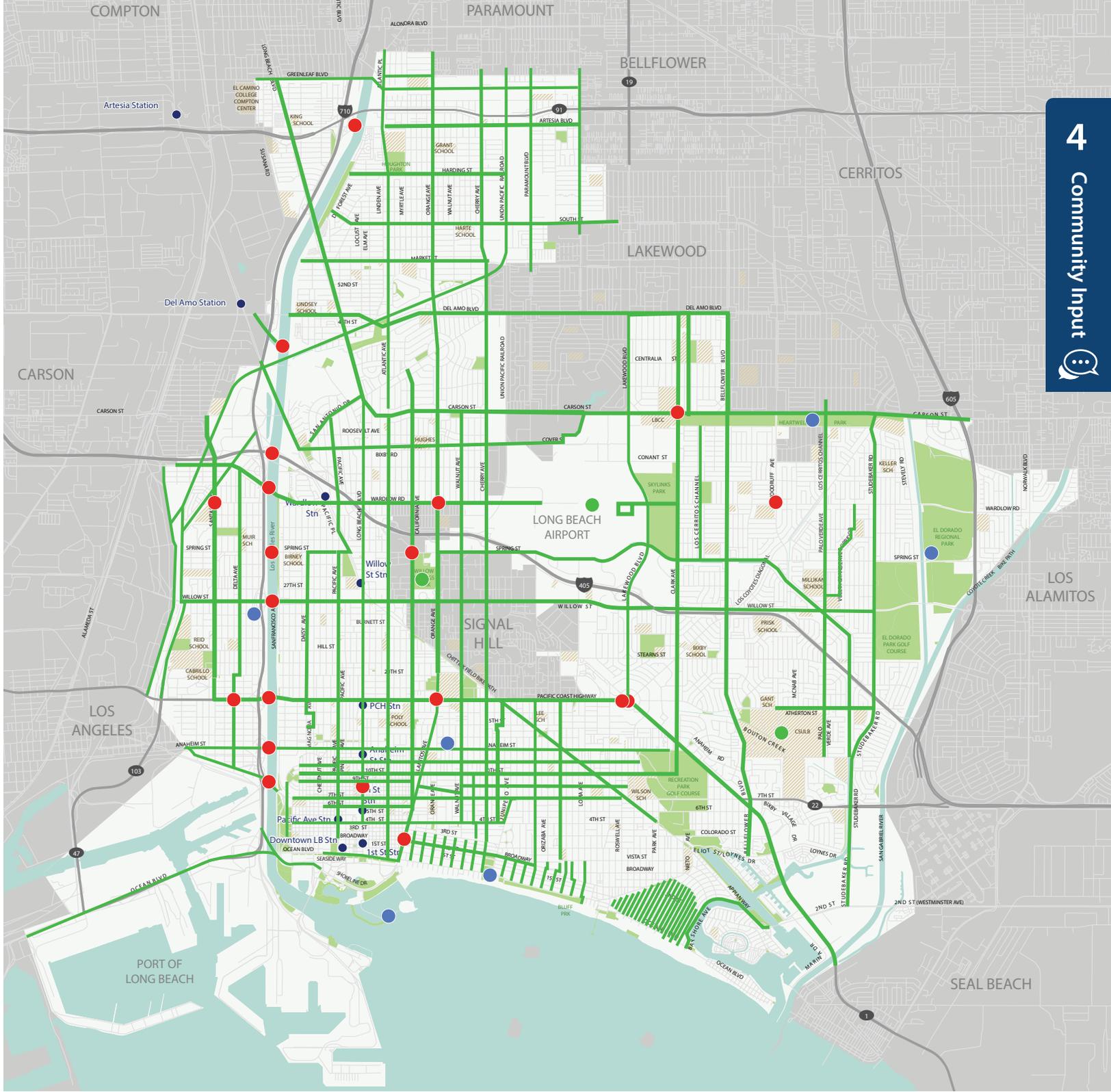


Figure 4-3: Focus Group Feedback Map

- Desired Route*
- Bikeway Network Should Connect to this Destination
- Difficult Intersection to Cross by Bike
- Destinations that Need Bike Parking

* Thicker lines indicate more than one response





Goals, Strategies, and Policies: Mobilizing

5

This chapter outlines the overarching goals, action statements, and action items Long Beach will take in order to achieve its vision of becoming the most bicycle-friendly city in America.



5



Goals, Strategies, and Policies: Mobilizing

- » Overview 51
- » Goals, Strategies, and Policies..... 52



Overview

The goals of the updated City of Long Beach Bicycle Master Plan reflect the priorities expressed by the community throughout the public outreach phase of this Plan. Discussions with various City Departments, best practices across the nation, and input from community stakeholders have shaped the proposed strategies and policies intended to help the City achieve these goals.

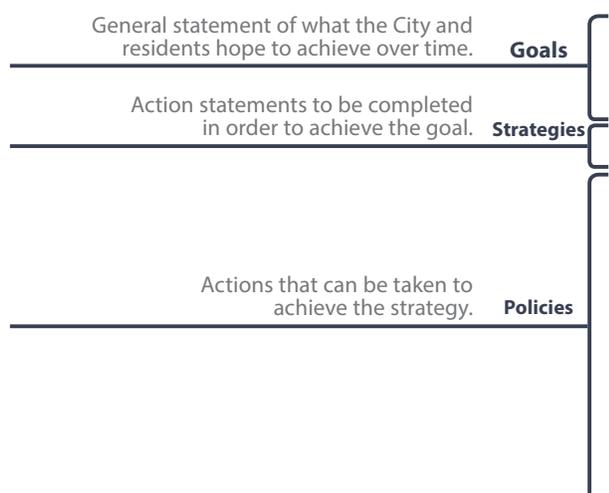
All of the following goals, strategies, and policies support the larger citywide directive to eliminate traffic-related fatalities by the year 2026 (“Vision Zero”). They are also in conformance with the City’s “Complete Streets” policy, which instructs staff to consider the needs of all modes of travel when developing any transportation facility. The

goals, strategies, and policies are designed to guide the work of City staff and elected officials, partner agencies, and private developers to improve the livability of communities, economic vitality citywide, and safety of residents throughout Long Beach. The hope is to make it easier for households to drive less and possibly give up one or more personal vehicles.

The Bicycle Master Plan’s strategies and policies in this section are organized under the following goals:

- » Design bicycle facilities that are accessible and comfortable for people of all ages and abilities.
- » Increase awareness and support of bicycling through programs and social equity.
- » Identify, develop, and maintain a complete and convenient bicycle facility network.

How to Read the Goals, Strategies, and Policies: Example



GOAL 1
Design bicycle facilities that are accessible and comfortable for people of all ages and abilities.

Strategy 1: Develop a Comprehensive Bikeway Network

 1.1	 1.2	 1.3	 1.4
Expand, improve, and connect the bikeway network to provide a viable transportation option for all levels of bicycling abilities.	Use innovative bicycle facility designs and standards such as those in the NACTO Urban Bikeway Design Guide, when developing bicycle projects.	Implement a citywide speed limit of 15 miles per hour in school zones.	Upgrade bridges, intersections, freeway ramps, tunnels, and any other obstacles that impede safe and convenient bicycle passage.

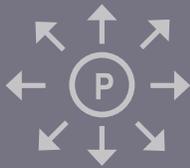
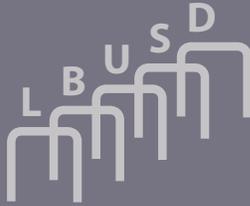
GOAL 1

Design bicycle facilities that are accessible and comfortable for people of all ages and abilities.

Strategy 1: Develop a Comprehensive Bikeway Network

 <p>1.1</p>	 <p>1.2</p>	 <p>1.3</p>	 <p>1.4</p>
<p>Expand, improve, and connect the bikeway network to provide a viable transportation option for all levels of bicycling abilities.</p>	<p>Use innovative bicycle facility designs and standards such as those in the NACTO Urban Bikeway Design Guide, when developing bicycle projects.</p>	<p>Implement a citywide speed limit of 15 miles per hour in school zones.</p>	<p>Upgrade bridges, intersections, freeway ramps, tunnels, and any other obstacles that impede safe and convenient bicycle passage.</p>

Strategy 2: Implement Citywide Bicycle Support Facilities

 <p>2.1</p>	 <p>2.2</p>	 <p>2.3</p>	 <p>2.4</p>
<p>Develop and implement citywide bicycle rack and location standards.</p>	<p>Continue to expand citywide bike parking supply including short-term and long-term facilities for commercial and residential land uses and public rights-of-way.</p>	<p>Ensure the provision of convenient and secure end-of-trip facilities (showers and changing rooms) at key destinations.</p>	<p>Work with the Long Beach Unified School District to ensure quality bike racks are installed at all Long Beach schools.</p>



Strategy 3: Develop a Multimodal Transportation Network that Provides for Local and Regional Mobility to Meet the Challenges of Climate Change.



3.1

Maximize bicycle amenities at transit stops and stations to meet demand.



3.2

Work with neighboring jurisdictions to connect facilities and provide seamless travel between cities.



GOAL 2

Increase awareness and support of bicycling through programs and social equity.

Strategy 4: Increase Awareness of Bicycle Safety Practices

 <p>4.1</p>	 <p>4.2</p>	 <p>4.3</p>	 <p>4.4</p>	 <p>4.5</p>
<p>Continue and expand existing bicycle-related programs citywide and at Long Beach schools.</p>	<p>Support and encourage third-party bicycle education classes and bicycle repair workshops for adults and students.</p>	<p>Develop public relations campaigns to educate cyclists on safe riding techniques including nighttime riding requirements, lane placement, helmet usage, and other legal and safety topics.</p>	<p>Work with the Long Beach Police Department to ensure officers are trained on safe bicycling practices and are up-to-date on bicycle-related laws.</p>	<p>Develop a Bicycle Ambassador program and encourage the Bicycle Ambassador to attend public events, including health fairs and community bike rodeos, to broaden awareness of bicycling and provide safety information.</p>

Strategy 5: Strive for Social Equity

<p>25% ↓ DISADVANTAGED COMMUNITIES</p> <p>5.1</p>	 <p>5.2</p>	 <p>5.3</p>	 <p>5.4</p>
<p>Hold at least 25 percent of the offered adult bicycle education classes and bicycle repair workshops in identified disadvantaged communities.</p>	<p>Update the Long Beach Municipal Code to conform to the California Vehicle Code by removing the prohibition of 'Riding in a Group.'</p>	<p>Prioritize the implementation of projects in historically underserved communities, areas with high pollution rates, and along corridors with relatively high fatality and injury rates.</p>	<p>Proactively reach out to underserved communities through a variety of traditional (e.g., internet and community association meetings) and non-traditional (e.g., outreach via PTAs and the school district, farmers' markets, and sidewalk workshops) public participation techniques to ensure inclusivity.</p>



Strategy 6: Promote Bicycle Riding as a Fun and Easy Way to Travel



6.1

Provide valet bicycle parking at large public events.



6.2

Support organized rides or cycling events.



6.3

Promote bicycling to work for residents and City employees through events such as Bike to Work Day/Month.



6.4

Provide and distribute physical and electronic copies of the citywide Bikeway Map with help from local partners and stakeholders.



6.5

Continue to maintain the www.BikeLongBeach.org website to provide bicyclists with current information about future improvements, events, network maps, route information and suggestions, maintenance, and other relevant information.



6.6

Develop an online tool for riders to report hazards, potholes, and other bicycle-related issues for the City to address. Ensure these requests are addressed in a timely manner.

GOAL 3

Identify, develop, and maintain a complete and convenient bicycle facility network.

Strategy 7: Identify and Pursue all Potential Funding Sources for Bicycle Enhancements Funding



7.1

Actively pursue innovative and diverse funding mechanisms (as identified in Chapter 7) to implement this Bicycle Master Plan.

Strategy 8: Enhance Standard Operating Practices for Bicycle Facility Maintenance



8.1

Implement on-street bicycle facilities proposed in this Plan when completing road rehabilitation and reconstruction projects, following the Complete Streets Checklist.



8.2

Design and maintain all streets so that they incorporate Complete Street standards (see Appendix A for Bicycle Facility Design Guidelines).



8.3

Adopt an accelerated pavement maintenance schedule for all designated existing and planned bikeways.



8.4

Apply pavement stenciling to indicate detection areas at all traffic signals.



8.5

Identify opportunities to remove travel lanes from roads where there is excess capacity in order to provide new or improved bicycle facilities.

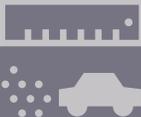


8.6

Provide bicycle detour routes and signs during roadway construction.



Strategy 9: Conduct Ongoing Planning and Evaluation for Bicycle Facilities

 <p>9.1</p>	 <p>9.2</p>	 <p>9.3</p>	 <p>9.4</p>	 <p>9.5</p>	
<p>Where feasible, conduct before-and-after studies when implementing a bicycle project in order to measure the efficacy of the facility.</p>	<p>Whenever LOS studies are required, include measures that account for bicyclists and pedestrians as part of the overall throughput of the corridor.</p>	<p>Encourage local community input in the planning and implementation of bikeways and other bicycle-related improvements by holding public meetings and workshops within the neighborhood where the project will be implemented.</p>	<p>Require City Council public hearing and approval for the proposed removal of an existing or designated bicycle lane or path.</p>	<p>Include bicycle parking, Long Beach Bike Share, and other bicycle incentives as Transportation Demand Management (TDM) measures to reduce work-related vehicle trips.</p>	
 <p>9.6</p>	 <p>9.7</p>	 <p>9.8</p>	 <p>9.9</p>	 <p>9.10</p>	 <p>9.11</p>
<p>Monitor and participate in the development of regional, state, and federal bicycle facility policy and design.</p>	<p>Measure reductions in greenhouse gas emissions that may result from a decrease in vehicular use as bicycle use increases.</p>	<p>Coordinate planning and implementation efforts of policies, programs, and infrastructure to facilitate bicycle travel for all user groups.</p>	<p>Work with the Long Beach Police Department to improve the reporting and analysis of bicycle-involved collisions and bicycle thefts.</p>	<p>Continue to expand the City's Annual Bicycle Count Program.</p>	<p>Regularly monitor implementation of the Plan, and review and update the recommended bike facilities every five years.</p>



SUGGEST

Lakewood

SYSTEM



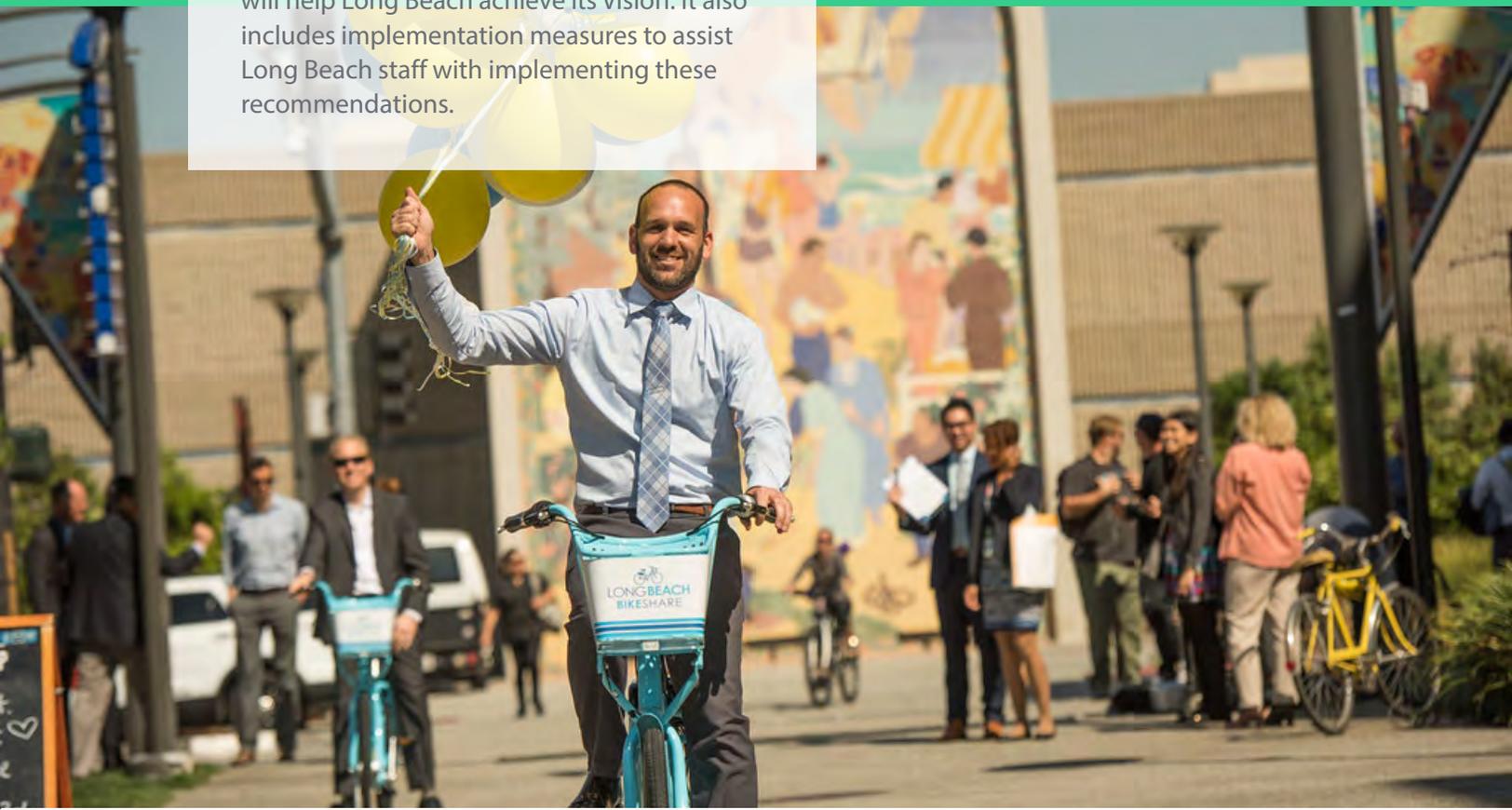
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Implementation Strategies & Projects: Getting it Done

6

This chapter presents the strategies the City of Long Beach should use when implementing this Plan. This chapter includes the bicycle network recommendations divided by prioritization as well as the recommended support facilities that will help Long Beach achieve its Vision. It also includes implementation measures to assist Long Beach staff with implementing these recommendations.



6



Implementation Strategies & Projects: Getting it Done

- » Infrastructure Recommendations 62
- » Bikeway Project Phasing 62
- » Network Spot Improvements 74
- » Bicycle Support Facilities 78
- » Non-Infrastructure Bicycle Programs 80
- » Implementation Measures 80



GHOST
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Infrastructure Recommendations

The complete existing bikeway network in Long Beach is presented in Chapter 3. Highlighting the existing 8-to-80 bikeways and removing non-Bicycle Boulevard (Class III-A) facilities from the map clearly illustrates gaps in the low stress bikeway network (Figure 6-1). Many of the recommended 8-to-80 low stress facilities will upgrade existing bicycle facilities such as converting a bicycle lane (Class II) to a separated bikeway (Class IV).

Bikeway Project Phasing

The four phases of bikeway project installations are:

- 1 **8-to-80 Bicycle Facilities in the Pipeline**
- 2 **Backbone Next Step Bicycle Facilities**
- 3 **Gap Closure Bicycle Facilities**
- 4 **Vision Network**

Phases 1 and 2 should be implemented in the short-term (within five years of Plan adoption). Projects in the Gap Closure phase should be implemented in the medium-term, or within 10 years of Plan adoption. The Vision projects should be implemented by 2040 (long-term). There are a significant number of projects in the recommended Gap Closure and Vision Network phases, so each recommended project in these two phases was scored against a set of evaluation criteria in order to rank installation. More information about this process is detailed on the following pages.

Stages of Project Development

Each of the recommended 8-to-80 bikeway projects will be evaluated by City staff to determine specific implementation details. Some bikeways may be developed first as short-term demonstration or slightly longer pilot projects, while other segments may be built immediately at the interim or permanent stage if conditions allow. Regardless, the City's goal is to ultimately build out all recommended projects to "permanent" status.

Demonstration projects, sometimes called tactical urbanism or temporary installations, enable City staff and other stakeholders to test the efficacy of particular treatments and applications at a relatively modest cost due to utilizing short-term materials (e.g., traffic cones, spray chalk). Where feasible, demonstrations should be left in place for more than one day to better evaluate the treatment and to gather quality feedback from the community.

Pilot projects can be installed for longer periods (around one to two years), typically prior to interim or permanent construction. This pilot period allows for more extensive data collection and public input, which is especially valuable for potentially contentious projects. Pilot projects often use paint and flexible delineators, whereas interim and permanent projects typically use thermoplastic, cement, and firm bollards. Interim installation of a bicycle project is often just the prelude to permanent installation, completed while the implementing agency is awaiting further construction funds.

1. Pipeline 8-to-80 Facilities

Low stress bikeway facilities that have already been funded and/or designed make up the collection of 8-to-80 Pipeline Facilities that will connect many of the existing bicycle facilities to create a more complete network across Long Beach (Table 6-1 and Figure 6-2). Facilities will be installed along the Gerald Desmond Bridge, much of 14th and 15th Streets, the east end of 6th Street, and Atherton Street (including a bicycle- and pedestrian-only bridge connecting to the San Gabriel River Bicycle Path). In the north-south direction, Pipeline facilities will be installed along Delta, Orizaba, and Loma Avenues, as well as along the Myrtle/Linden/Daisy/Magnolia/Pacific corridor. A new path would also be created along Pier J to the south waterfront. These projects should be implemented within five years of Plan adoption.

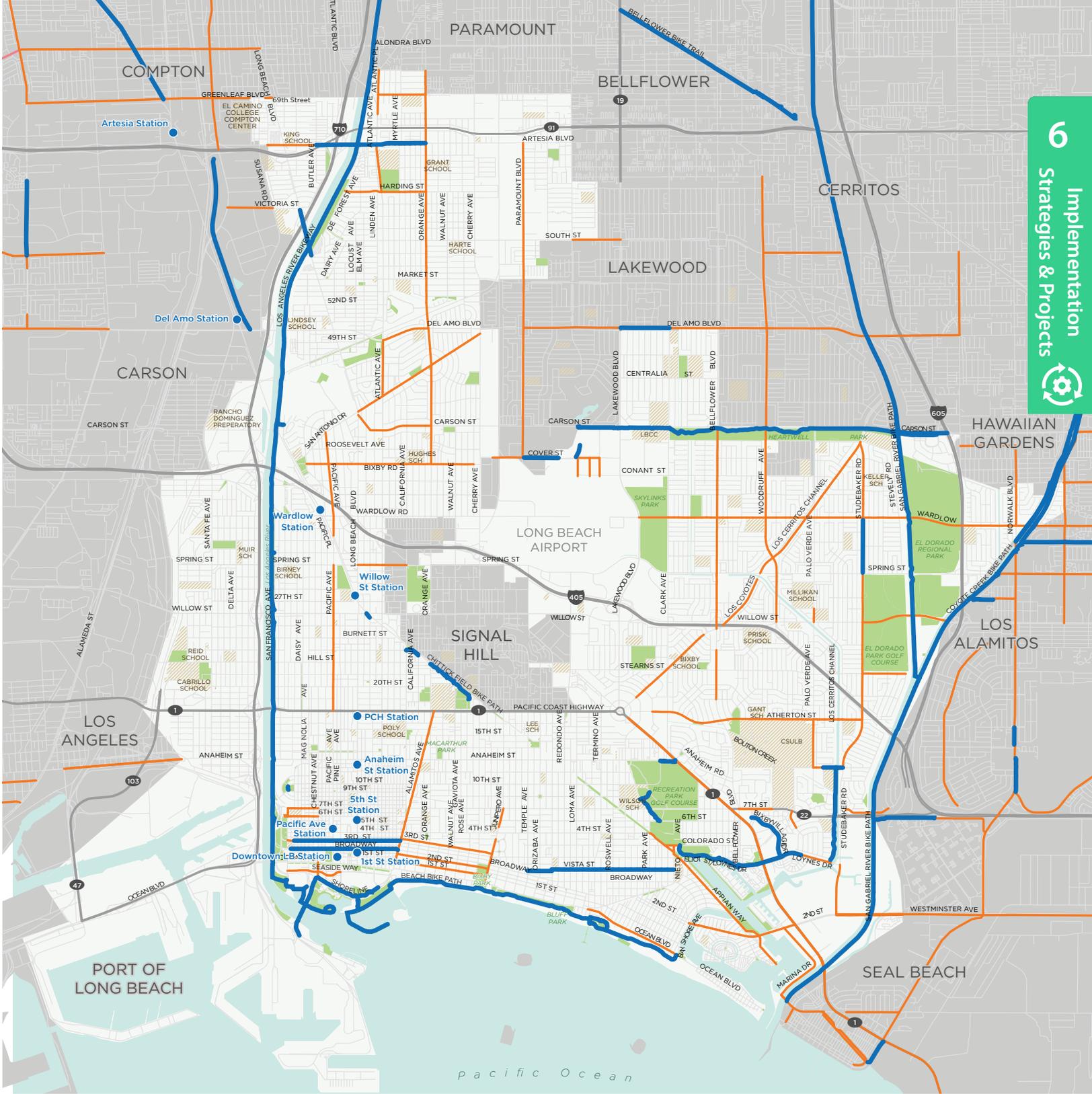


Figure 6-1: Existing 8-to-80 Bikeway Facilities and Class II Bike Lanes Map

- 8-to-80 Bikeway
- Bike Lane
- Blue Line Station
- School
- Park

Table 6-1: 8-to-80 Bikeway Facilities in the Pipeline

Name	From	To	Length (Miles)
14th St	Magnolia Ave	Linden Ave	0.66
15th St/New York St/Lewis Ave	Linden Ave	Pacific Coast Hwy	2.99
20th St	Orange Ave	Walnut Ave	0.25
52nd St	Linden Ave	Atlantic Ave	0.06
6th St	Junipero Ave	Pacific Coast Hwy	2.50
Artesia Blvd	Orange Ave	Downey Ave	1.49
Atherton St	Palo Verde Ave	San Gabriel River Bike Path	0.90
Bellflower Blvd	Pacific Coast Hwy	Stearns St	1.55
Daisy Ave	Hill St	Spring St	1.00
Daisy Ave/Loma Vista Dr/Magnolia Ave	3rd St	20th St	1.66
Del Mar Ave	Long Beach Blvd	Bixby Rd	1.47
Delta Ave	Hill St	Spring St	1.00
Delta Ave	Spring St	Wardlow Rd	0.84
Harbor Ave/ Delta Ave/10th St/ 20th St	W 9th St	Hill St	1.39
Harbor Plaza	Harbor Scenic Dr	Queens Wy	0.54
Linden Ave	Bixby Rd	San Antonio Dr	0.65
Linden Ave	52nd St	Harding St	1.17
Loma Ave	8th St	Pacific Coast Hwy	0.87
Loma Ave	Olympic Plaza	8th St	1.74
Margo Ave	Vista St	State Route 22	0.46
Myrtle Ave	Harding St	Artesia Blvd	0.50
Myrtle Ave	Artesia Blvd	72nd St	0.74
Ocean Blvd	State Route 47	Long Beach Fwy	2.06
Pacific Ave	Del Mar Ave	Wardlow Rd	0.20
Park Ave	Pacific Coast Hwy	Los Coyotes Diagonal	0.57
Pier J/South Waterfront Path	Harbor Scenic Dr	Harbor Plaza	0.92
Spring St	DeForest Ave	Long Beach Blvd	0.86

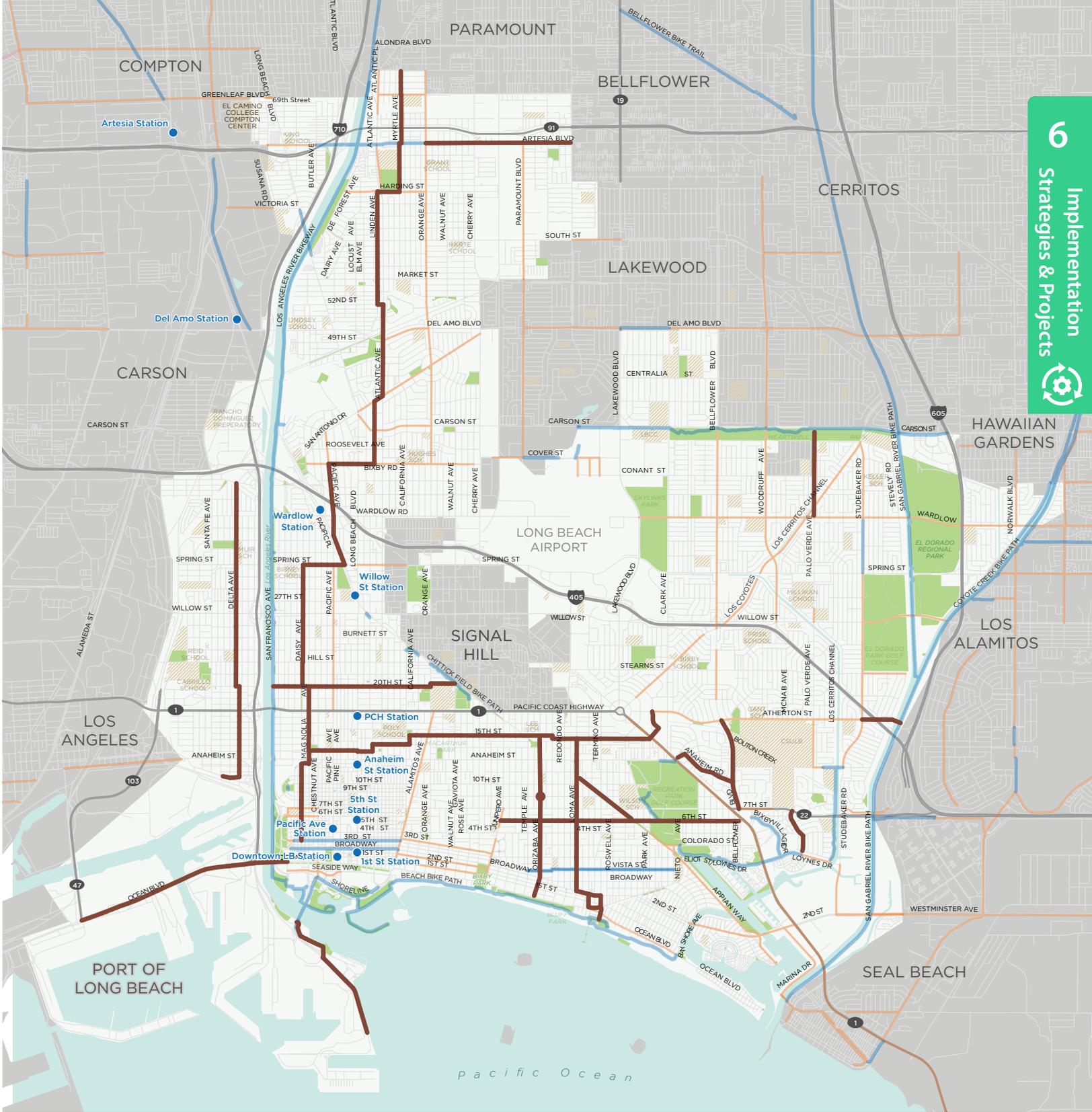


Figure 6-2: Bikeway Facilities in the Pipeline Map

- Pipeline Bikeway
- Existing 8-80 Bikeway
- Existing Bike Lane
- Blue Line Station

2. Backbone Next Step Bikeway Facilities

The Backbone Next Step Bikeway Facilities would stretch across the City of Long Beach from the northern border to the southern border as well as the eastern border to the western border creating the basis for a more complete 8-to-80 network. The facilities would connect to dozens of miles of existing bike lanes, as well as Class I bike paths along the Los Angeles River to the west and Coyote Creek

to the east. The north/south route will connect residents across the city to the Beach Bike Path and Class IV separated bikeways in both Uptown and Downtown Long Beach. Once the remaining proposed projects in this Bike Plan are completed, these Next Step routes will form the backbone for a network of convenient, safe, and connected bikeways throughout the City.

Table 6-2: Backbone Next Step Bikeway Facility Recommendations

Name	From	To	Length (Miles)
34th St	De Forest Ave	Maine Ave	0.23
Alamitos Ave	10th St	17th St	0.64
Alamitos Ave	Ocean Blvd	10th St	0.91
Orange Ave	Del Amo Blvd	Harding St	1.41
Orange Ave	Harding St	Jackson St	1.25
Orange Ave	10th St	Hill St	0.68
Orange Ave	Willow St	Bixby Rd	1.54
Orange Ave	Bixby Rd	Del Amo Blvd	1.40
Shoreline Dr	Shoreline Village Dr	Ocean Blvd	0.48
Spring St	Cherry Ave	Clark Ave	2.23
Spring St	Clark Ave	Palo Verde Ave	1.50
Spring St	Palo Verde Ave	City Limits	1.81
Spring St	Long Beach Blvd	Cherry Ave	1.25
Wardlow Rd	Hesperian Ave	Pacific Electric Right-of-Way	1.91

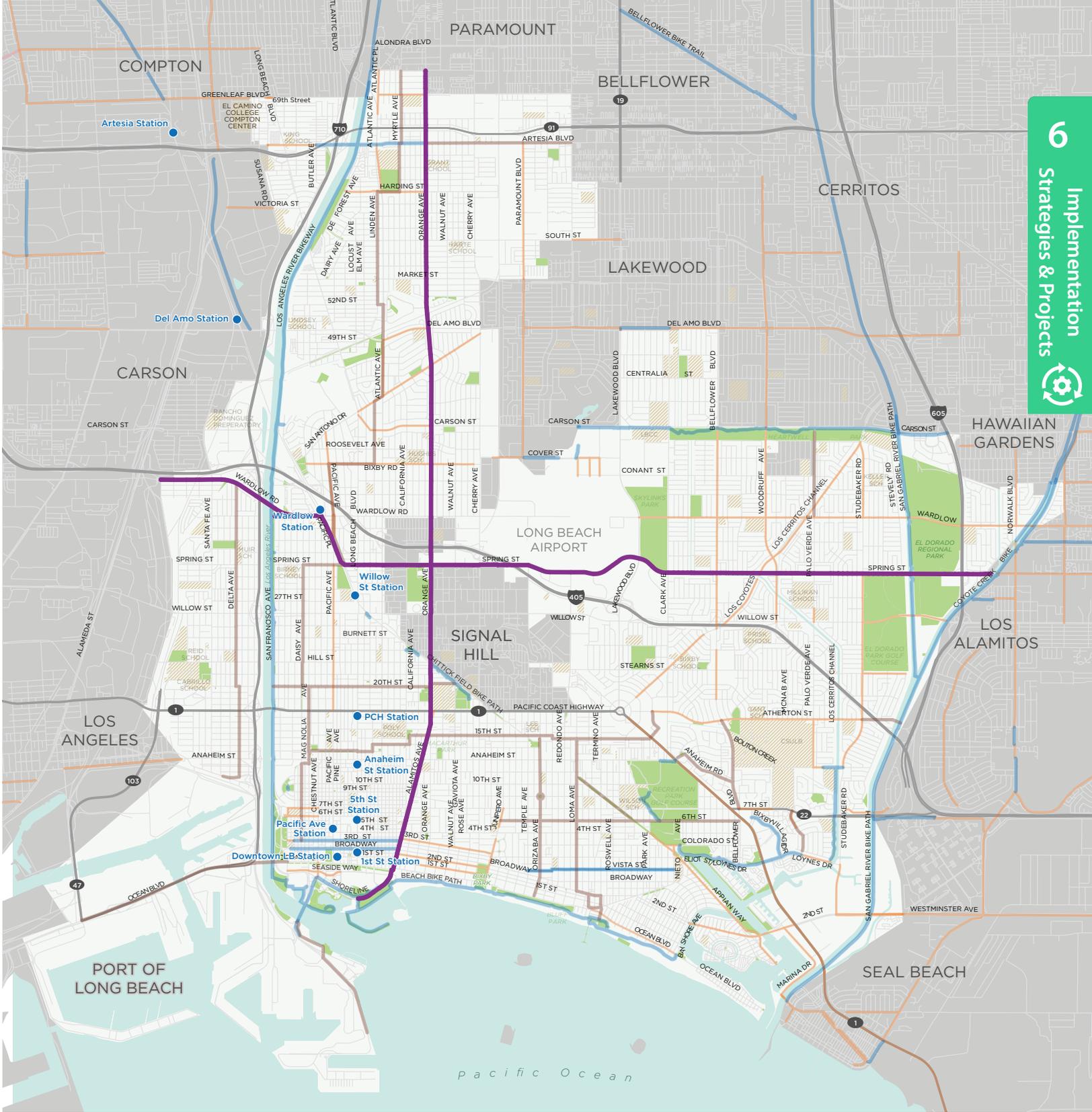


Figure 6-3: Proposed Backbone Next Step Bikeway Facilities Map

- Backbone Next Step Bikeway
- Existing 8-80 Network
- Existing Bike Lane
- Blue Line Station

3. Gap Closure Bikeway Facilities

The third phase of recommended bikeways are called the Gap Closure facilities (Figure 6-4 and Table 6-4). These are major projects that would connect the existing bicycle network together, as well as highlight Long Beach's commitment to making the bicycle a viable transportation option for people of all abilities and comfort levels. This is shown by installing facilities on roads such as Pacific Coast Highway, Lakewood Boulevard, Santa Fe Avenue, and 6th Street in Downtown. It also provides another bicycle-friendly connection across the Los Angeles River along Anaheim Street. These projects should be implemented within 10 years of Plan adoption.

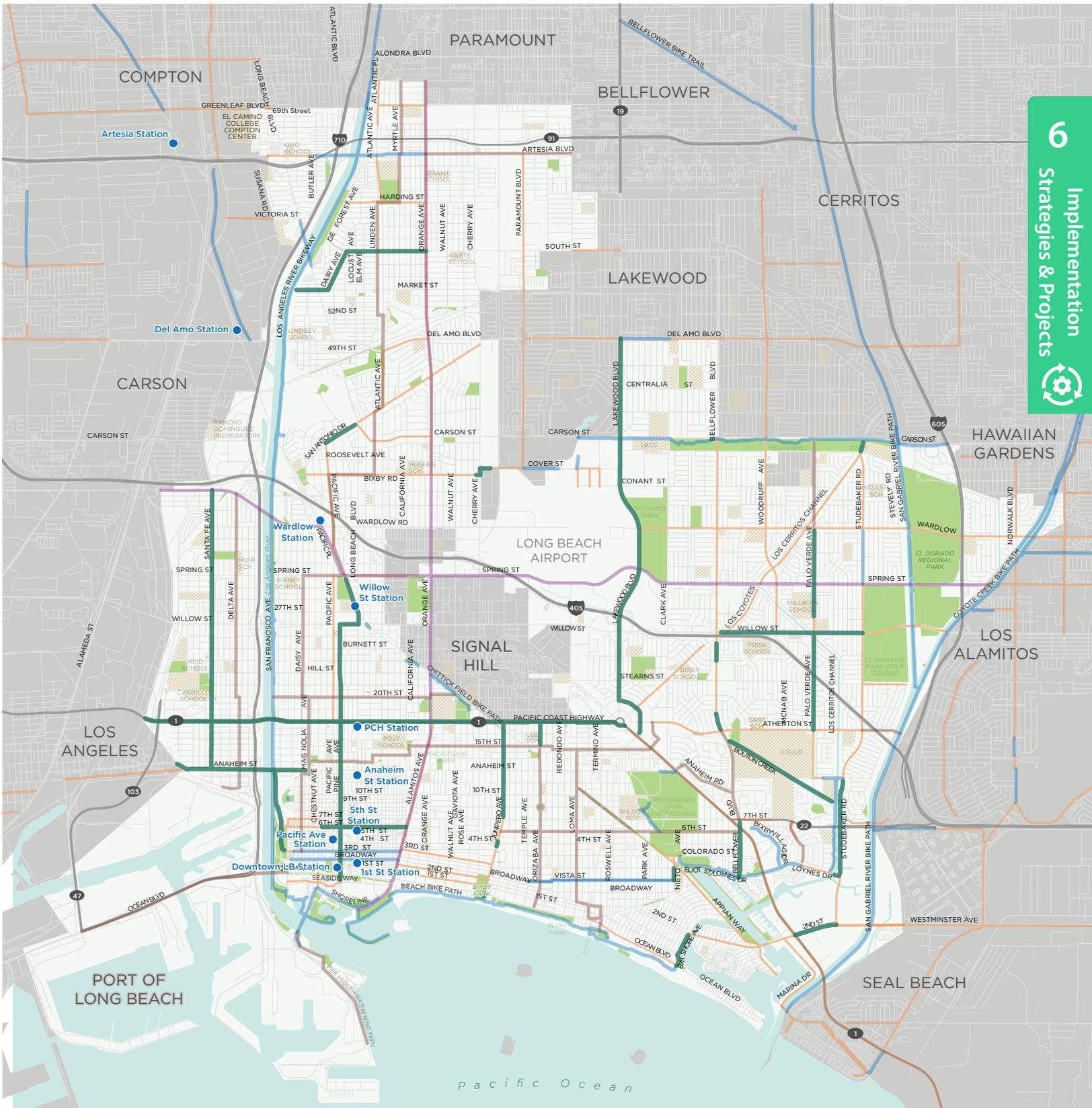


Figure 6-4: Recommended Gap Closure Facilities Map

- Gap Closure Bikeway
- Backbone Next Step Bikeway
- Pipeline Bikeway
- Blue Line Station
- Existing 8-to-80 Bikeway
- Existing Bike Lane

Table 6-3: Gap Closure Bikeway Facilities Recommendations

Name	From	To	Length (Miles)
2nd St	Bay Shore Ave	Pacific Coast Hwy	1.13
6th St	San Francisco Ave	Topaz Ct	0.03
6th Street	Orange Ave	San Francisco Ave	1.57
9th St/ I St	Southern Pacific Railroad Right-of-Way	City Limits	1.13
Anaheim St	9th St	Magnolia Ave	1.26
Artesia Blvd/Pacific Coast Hwy	Gale Ave	Butler Ave	0.49
Atherton St	Park Ave	Palo Verde Ave	1.68
Bay Shore Ave/54th Pl	Ocean Blvd	Broadway	0.51
Bellflower Blvd	Loynes Dr	Pacific Coast Hwy	0.49
Bellflower Blvd	Spring St	Carson St	1.50
Bellflower Blvd	Stearns St	Spring St	1.00
Bouton Creek Path	Clark Ave	Long Beach Bikeway Rte 10	1.92
Cover St	Cherry Ave	Heinemann Ave	1.00
Dairy Ave	Market St	South St	0.44
Junipero Ave	6th St	Pacific Coast Hwy	1.12
Junipero Ave	Beach Bike Path	6th St	0.86
Lakewood Blvd	Conant St	Del Amo Blvd	1.52
Lakewood Blvd	Jacinto Way	Conant St	2.30
Loynes Dr	Margo Ave/Bikeway Route 10	Studebaker Rd	0.41
Market St	Pacific Ave	Atlantic Ave	0.94
Nieto Ave	Broadway	Appian Wy	0.29
Orizaba Ave	Ocean Blvd	Broadway	0.21
Orizaba Ave	Broadway	8th St	0.81
Orizaba Ave	8th St	Pacific Coast Hwy	0.85
Pacific Coast Hwy	Santa Fe Ave	Pine Ave	1.36
Pacific Coast Hwy	City Limits	Loynes Dr	1.32
Pacific Coast Hwy	Pine Ave	Walnut Ave	1.17
Pacific Coast Hwy	Walnut Ave	Loma Ave	1.26
Pacific Coast Hwy	Loma Ave	Anaheim St	1.38
Pacific Coast Hwy	Loynes Dr	Anaheim St	1.42

Table 6-3: Gap Closure Bikeway Facilities Recommendations (Continued)

Name	From	To	Length (Miles)
Pacific Coast Hwy	Union Pacific Railroad	Santa Fe Ave	0.75
Palo Verde Ave	Stearns St	Spring St	1.04
Palo Verde Ave	Anaheim Rd	Stearns St	1.09
Palo Verde Ave	Spring St	Carson Bike Path	1.50
Pine Ave	Pacific Coast Hwy	Willow St	1.00
Pine Ave	Shoreline Dr	Pacific Coast Hwy	1.86
San Francisco Ave/3rd St/ Fairbanks Ave/De Forest Ave	3rd St	Anaheim St	0.89
Santa Fe Ave	Hill St	Spring St	1.00
Santa Fe Ave	Spring St	Warnock Wy	1.00
Santa Fe Ave	9th St	Hill St	1.14
South St	De Forest Ave	Orange Ave	1.07
Studebaker Rd	Anaheim Rd	Stearns St	1.02
Studebaker Rd	Loynes Dr	Anaheim Rd	1.00
Studebaker Rd	Westminster Ave	Loynes Dr	0.51
Studebaker Rd	Stearns St	Spring St	1.03
Studebaker Rd	Spring St	Los Coyotes Diagonal	1.36
Westminster Ave/2nd St	Pacific Coast Hwy	City Limits	1.12
Willow St	Palo Verde Ave	City Limits	1.42
Willow St	Clark Ave	Palo Verde Ave	1.43
Willow St	Clark Ave	Willow St	1.66
Ximeno Ave/Rosada St	Pacific Coast Hwy	Lakewood Blvd	0.51

4. Vision Network Bikeway Facilities

The final phase builds out the complete Vision Network of bikeway facilities. This phase would install a complete network of bikeway facilities that connects neighborhoods and links Long Beach to neighboring jurisdictions (Figure 6-5). To prioritize implementation of the large number of Vision phase facilities, the recommended projects were scored against the evaluation criteria (Table 6-3). This helps the City to determine the order of importance when planning, designing, and implementing these projects, though staff could still implement projects “out of order” if opportunities arise (such as when a roadway is being repaved and restriped). The full table of recommended Vision Network Bikeways can be found in Appendix E.

To prioritize implementation of the large number of facilities recommended for the Gap Closure and Vision phases, the projects were scored against objective evaluation criteria (Table 6-3). This helps the City to determine the order of importance when planning, designing, and implementing these projects. This scoring is based on an equity model that considers pollution burden, safety, comfort, and connectivity. In the case of a tie when scoring, the tiebreaker is assumed to be the project that scored higher in the pollution burden category, followed by the safety category.

Table 6-4: Evaluation Criteria for Facilities in the Gap Closure and Vision Phases

Feature	Scale	Weight	Max Score	Measurements	Scoring Breakdown
High Pollution Burden (Equity)	0 to 1	4	4	High Pollution Burden Score (CalEnviroScreen)	Segment is at least partially within a census tract that has a CalEnviroScreen score of at least 36.62 (1x4 = 4 points)
					Segment is not within a census tract that has a CalEnviroScreen score of at least 36.62 (0 points)
Collision History	0 to 2	1	2	Bicyclist-Involved Collision History	Segment directly addresses a location with 2 or more bicyclist-involved collisions between 2010 and 2014 (2 points)
					Segment directly addresses a location with 1 bicyclist-involved collision during this period (1 point)
					Segment does not address a location with a history of bicyclist-involved collisions during this period (0 points)
Levels of Traffic Stress	0 to 1	1	2	Perceived Levels of Roadway Stress	Segment is along a High-Stress roadway and/or crosses a High-Stress roadway at an unsignalized intersection (2 points)
					Segment is along a Low- or Medium-Stress roadway and/or crosses a Medium-Stress roadway at an unsignalize intersection (1 point)
Network Connectivity <i>(1 point for each destination or existing bikeway the proposed segment connects with, up to a maximum of 3 for destinations and up to 1 for connecting with an existing bikeway)</i>	0 to 3 (cap)	1	3	Employment/School, Retail District or Major Shopping Center, Mobility Hubs, Metro Stations, Recreation Center/Parks	Segment directly connects to major destination (1 point for each destination, up to a maximum of 3 points)
				Segment connects two existing bikeway segments to close gap (1 point)	
	0 to 1	1	1	Gap Closure	Segment neither connects to major destination nor closes a gap in bikeway network (0 points)
Total Possible Score			12		

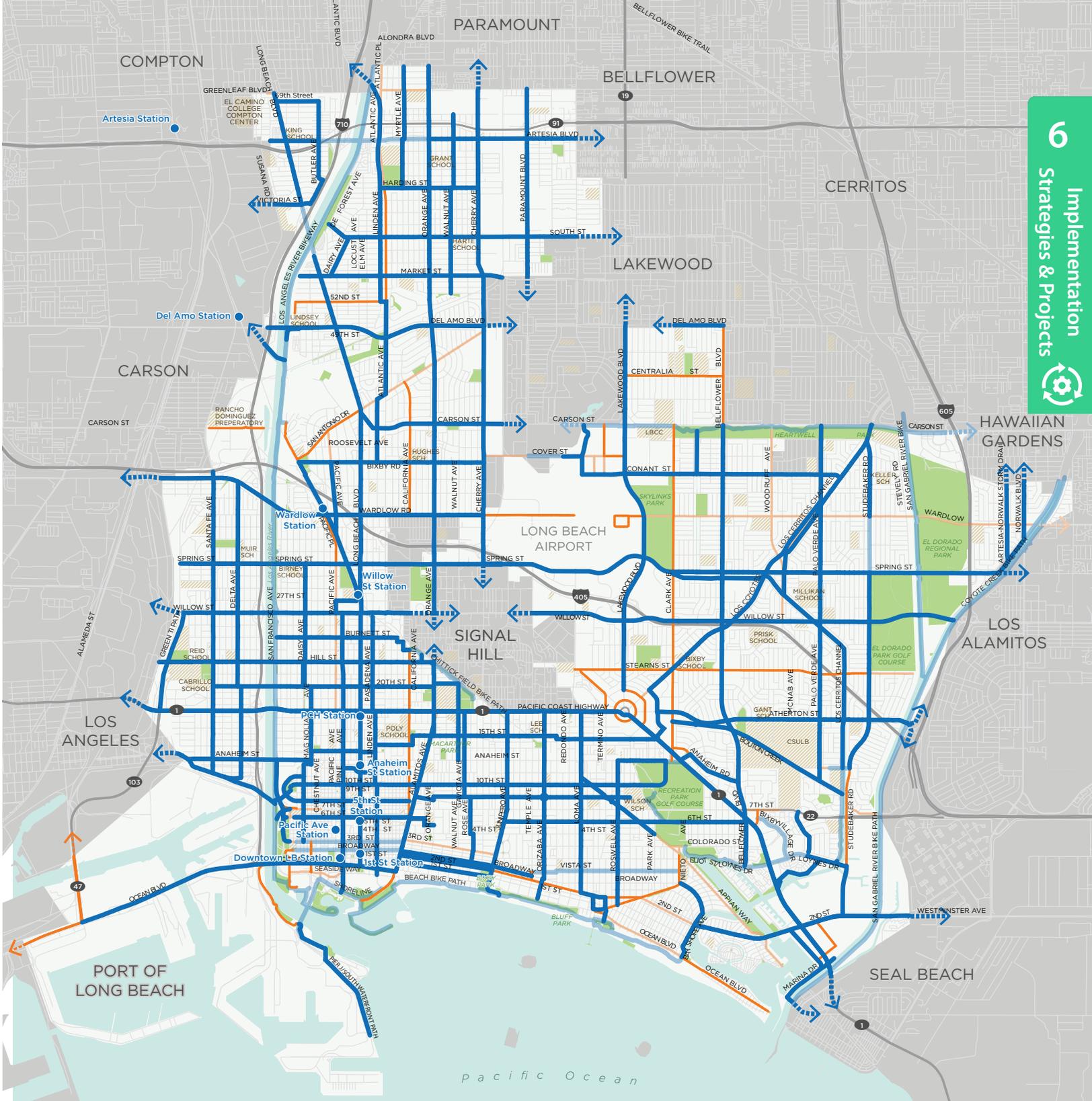


Figure 6-5: Vision for a Complete Network Map

- Recommended 8-to-80 Bikeway
- Recommended Bike Lane
- Existing 8-to-80 Bikeway
- Existing Bike Lane

Network Spot Improvements

In addition to safe and connective bikeway segments, a fully functioning bicycling network addresses localized spot issues that would otherwise present barriers and network gaps. Spot issues might include:

- » Intersections that do not comfortably facilitate travel by bicycle.
- » Lack of or poorly maintained access to off-street shared-use paths.

- » Bridges lacking bikeway infrastructure that serve as barriers to bicycle travel.
- » Freeway on- and off-ramps.
- » Other community-identified gaps.

Table 6-5 and Figure 6-6 identify spot improvements that should be made to facilitate development of a comprehensive bicycling network that allows people of all ages and abilities to ride comfortably.

Table 6-5: Spot Improvement Recommendations

Project Number	Location	Description
1	36th Pl, 225 ft south of Ocean Blvd	Add bike channel to beach access stairs
2	Coronado Ave, 45 ft south of Ocean Blvd	Add bike channel to beach access stairs
3	Loynes Dr at Vista St	Improve Bridge Crossing
4	Atlantic Ave at I-405 Fwy	Improve bicycle crossing at freeway ramps
5	Palo Verde Ave at Carson St	Improve Intersection
6	Long Beach Blvd at Ellis St	Improve High-Collision Intersection
7	Willow St at Golden Ave	Improve High-Collision Intersection
8	Pacific Coast Hwy at Pacific Ave	Improve High-Collision Intersection
9	Artesia Blvd at Buffer Ave	Improve High-Collision Intersection
10	Artesia Blvd at LA River Bike Path	Create connection to LA River Bike Path
11	South St at Atlantic Ave	Improve High-Collision Intersection
12	Atlantic Avenue, 180 ft south of Anaheim St	Improve High-Collision Location
13	Anaheim St at Orizaba Ave	Improve High-Collision Intersection
14	7th St at St Louis Ave	Improve High-Collision Intersection
15	6th St at Long Beach Blvd	Improve High-Collision Intersection
16	2nd St at Park Ave	Improve High-Collision Intersection
17	Stearns St at Bellflower Blvd	Improve High-Collision Intersection
18	Wardlow Rd at I-710 Fwy	Improve connection to LA River Bike Path
19	7th St at Shoreline Dr	Improve connection to LA River Bike Path
20	Anaheim St at Harbor Ave	Improve Intersection
21	Anaheim St at Santa Fe Ave	Improve Intersection

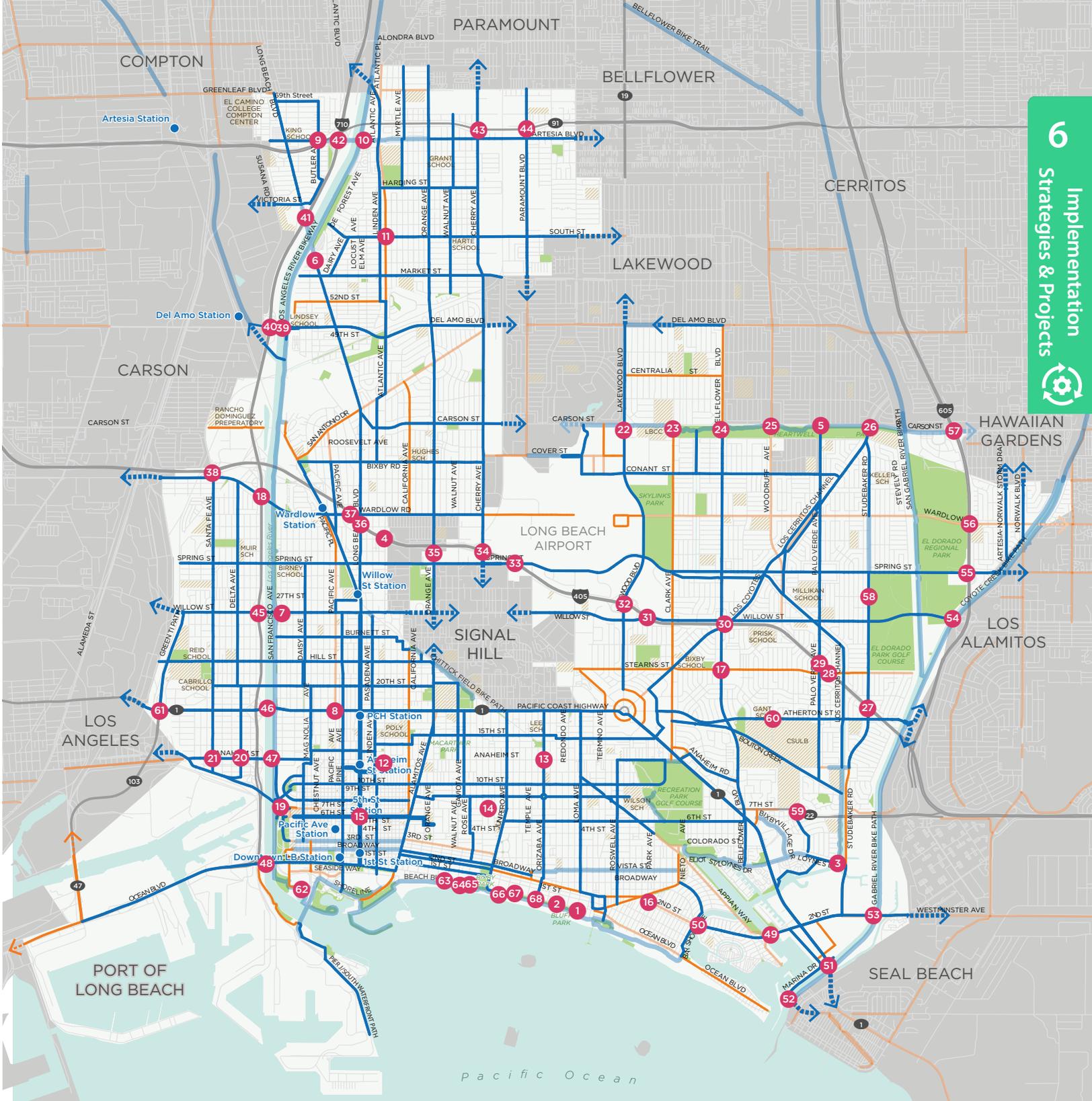


Figure 6-6: Recommended Spot Improvements Map

- # Spot Improvement
- Recommended 8-to-80 Bikeway
- Recommended Bike Lane
- Existing 8-to-80 Bikeway
- Existing Bike Lane

Table 6-5: Spot Improvement Recommendations (Continued)

Project Number	Location	Description
22	Carson St at Lakewood Blvd	Improve Intersection
23	Carson St at Clark Ave	Improve Intersection
24	Carson St at Bellflower Blvd	Improve Intersection
25	Carson St at Woodruff Ave	Improve Intersection
26	Carson St at Los Coyotes Diagonal	Improve Intersection
27	Studebaker Rd at I-405 Fwy	Improve bicycle crossing at freeway ramps
28	Stearns St at I-405 Fwy	Improve bicycle crossing at freeway ramps
29	Palo Verde Ave at 405 Fwy	Improve bicycle crossing at freeway ramps
30	Bellflower Blvd at I-405 Fwy	Improve bicycle crossing at freeway ramps
31	Willow St at I-405 Fwy	Improve bicycle crossing at freeway ramps
32	Lakewood Blvd at I-405 Fwy	Improve bicycle crossing at freeway ramps
33	Spring St at I-405 Fwy	Improve bicycle crossing at freeway ramps
34	Cherry Ave at I-405 Fwy	Improve bicycle crossing at freeway ramps
35	Orange Ave at I-405 Fwy	Improve bicycle crossing at freeway ramps
36	Long Beach Blvd at I-405 Fwy	Improve bicycle crossing at freeway ramps
37	Wardlow Rd at I-405 Fwy	Improve bicycle crossing at freeway ramps
38	Sante Fe Ave at I-405 Fwy	Improve bicycle crossing at freeway ramps
39	Del Amo Blvd at LA River Bicycle Path	Improve bridge crossing
40	Del Amo Blvd at I-710 Fwy	Improve bicycle crossing at freeway ramps
41	Long Beach Blvd at I-710 Fwy	Improve bicycle crossing at freeway ramps
42	Artesia Blvd at I-710 Fwy	Improve bicycle crossing at freeway ramps
43	Cherry Ave SR-91	Improve bicycle crossing at freeway ramps
44	Paramount Blvd at SR-91	Improve bicycle crossing at freeway ramps
45	Willow St at I-710 Fwy	Improve bicycle crossing across bridge and at freeway ramps

Table 6-5: Spot Improvement Recommendations (Continued)

Project Number	Location	Description
46	Pacific Coast Hwy at I-710 Fwy	Improve bicycle crossing across bridge and at freeway ramps
47	Anaheim St at I-710 Fwy	Improve bicycle crossing across bridge and at freeway ramps
48	Ocean Blvd at I-710 Fwy	Improve bicycle crossing across bridge and at freeway ramps
49	2nd St at Alamitos Bay	Improve Bridge Crossing
50	2nd St between Bay Shore Ave and The Toledo	Improve Bridge Crossing
51	Pacific Coast Hwy at the San Gabriel River	Improve Bridge Crossing
52	Marina Dr at the San Gabriel River	Improve Bridge Crossing
53	Westminster Blvd at the San Gabriel River	Improve Bridge Crossing
54	Willow St/Katella Ave at Coyote Creek Bikeway	Improve Bridge Crossing
55	Spring St at I-605 Fwy	Improve bicycle crossing across bridge and at freeway ramps
56	Wardlow Rd at I-605 Fwy	Improve Bridge Crossing
57	Carson St at I-605 Fwy	Improve bicycle crossing at freeway ramps
58	Barrios St at Studebaker Rd	Improve access into El Dorado Park
59	7th St at Campus Rd/Margo Ave	Improve access to CSULB
60	Atherton St at Fanwood Ave	Improve access to CSULB
61	Pacific Coast Hwy at SR-103	Improve bicycle crossing at freeway ramps
62	Catalina Ferry Landing	Improve path crossing at Catalina Ferry Landing
63	9th Pl, 200 ft south of Ocean Blvd	Add bike channel to beach access stairs
64	Buff Pl, 25 ft north of beach path	Connect to beach path
65	14th Pl, 150 ft north of beach path	Add bike channel to beach access stairs & connect to beach path
66	Junipero Ave at parking lot entrance	Improve path connection
67	Molino Ave, 20 ft south of Ocean Blvd	Add bike channel to beach access stairs
68	Orizaba Ave, 75 ft west of Ocean Blvd	Add bike channel to beach access stairs

Bicycle Support Facilities

Bicycle support facilities are amenities other than bikeways that make the bicycling environment in Long Beach more comfortable for riders. These include bicycle parking, wayfinding, signal detection, hydration stations, and fix-it stations. Support facilities should be installed citywide.

Bicycle Parking

Bicycle parking is available throughout Long Beach (see Chapter 3), but some locations do not provide the adequate amount of bike parking to meet demand. As such, many bicyclists instead lock their bikes to street fixtures such as trees, telephone poles, and sign poles. This Plan recommends that the City install more short and long-term bicycle parking facilities throughout Long Beach and encourage private establishments to do so on their property.

Table 6-6 shows guidelines Long Beach should adopt and use for bicycle parking locations and quantities based on land use.

Bicycle Detection at Signals

Detection of bicyclists at actuated (not pre-timed) traffic signals is important for the safety of bicyclists and motorists. Section 4D.105 of the California Manual on Uniform Traffic Control Devices (CA MUTCD) requires that all new and modified traffic signals be able to detect bicyclists with passive detection (rather than having to push a button). Per Policy 1.1, this Plan recommends that the City of Long Beach continue to adhere to this requirement by ensuring passive detection of bicyclists at all signalized intersections.

In addition, signal detection should include the pavement marking shown in the figure below. The pavement marking indicates to those on a bicycle where to rest their bikes in order to be detected by the signal.



Bicycle Wayfinding Program

A high-quality bicycling environment allows users to easily navigate the bikeways network. Bicycle wayfinding assists residents, tourists, and visitors in finding key community destinations by bicycle. Signs may also include “distance to” or “time to” information, which displays mileage or travel time to various community destinations. This Plan recommends the development of a comprehensive bicycle wayfinding program that offers guidance to key destinations including schools, parks, regional trails, landmarks, civic buildings, and bicycle parking facilities. Additionally, this Plan recommends the City analyze the wayfinding program at least every five years in order to upgrade signs to change or add destinations, install new signs, and potentially refresh the branding.



**Table 6-6: Bicycle Parking Guidelines**

Land Use or Location	Siting	Quantity
Parks	Adjacent to restrooms, picnic areas, fields, and other attractions	8 bicycle parking spaces per acre
Schools	Near office and main entrance with good visibility	8 bicycle parking spaces per 40 students
Public facilities (libraries, community centers)	Near main entrance with good visibility	8 bicycle parking spaces per location
Commercial, retail, and industrial developments over 10,000 square feet	Near main entrance with good visibility	1 bicycle parking space per 15 employees or 8 bicycles per 10,000 square feet
Shopping centers over 10,000 square feet	Near main entrance with good visibility	8 bicycle parking spaces per 10,000 square feet
Transit stations	Near platform, security, or ticket booth	1 bicycle parking space or locker per 30 automobile parking spaces
Multi-family residential	Near main entrance with good visibility	1 short-term bicycle parking space per 10 residential units and 1 long-term bicycle parking space per 2 residential units

Hydration and Fix-it Stations

Long Beach currently has a hydration and fix-it station program in place. Long Beach should continue to find funding and implement this program (see Policy 7.1).

Automated Bicycle Counters

Automated bicycle counters are permanent fixtures that automatically count the number of bicyclists that pass the counter. Counting bicyclists is crucial to understanding current numbers and predicting future demand. Using these count data can help the City of Long Beach secure funding for project implementation through grant programs. Counting is done through tubes installed over the roadway or facility or through infrared detection. Some counting devices can display the cumulative number of passing bicycles in real time.



Non-Infrastructure Bicycle Programs

In addition to engineering (i.e., infrastructure) improvements, bicycle-related education, encouragement, enforcement, and evaluation programs are an integral part of any bicycle-friendly city. The recommended bicycle-related programs for the City of Long Beach are organized into what are commonly referred to as the “Four Non-Infrastructure E’s” (see Appendix G for a comprehensive suite of bicycle-related programs):

- » **Education** programs are designed to improve safety and awareness. They can include programs that teach students how to safely ride or teach drivers to expect bicyclists. They may also include brochures, posters, or other information that targets messages towards bicyclists or drivers.
- » **Encouragement** programs provide incentives and support to help people leave their car at home and try biking instead. They also highlight how fun it can be to ride a bicycle around Long Beach.
- » **Enforcement** programs enforce legal and respectful bicycling and driving. These programs include a variety of tactics, ranging from police enforcement to neighborhood signage campaigns.
- » **Evaluation** programs are an important component of any investment. These programs help measure success at meeting the goals of this plan and to identify adjustments that may be necessary.



Implementation Measures

This Plan sets a series of Implementation Measures, or action items the City should take in order to achieve its Vision. Some of these measures are taken from the Long Beach General Plan Mobility Element in order to highlight this Plan’s relationship to the Mobility Element.

Overall

- » Install all Pipeline and Backbone projects within five years of adoption of this Plan.
- » Install all Gap Closure projects within 10 years of adoption of this Plan.
- » Install all Vision projects by 2040.

Engineering

- » Develop a street design standards manual to reflect the new street typologies that incorporate the concept of complete streets.
- » Create separated lanes for pedestrians and cyclists for the entire length of the beach path.
- » Implement midblock crossings and traffic calming as needed in the more suburban locations of the City where larger blocks and wider streets inhibit bicycling.
- » Install 200 new public bike racks per year for the next five years.
- » Develop an on-street bike parking (e.g., bike corrals) program, including standards and procedures.
- » Continue to install sensors to passively detect bicycle riders at all signalized intersections.
- » Coordinate and collaborate with local school districts to provide enhanced, safer bicycle and pedestrian connections to school facilities throughout Long Beach.
- » Continue to find funding for and install hydration and fix-it stations.
- » Continue to support the Bikestation and encourage the development of small-scale bike-transit hubs throughout the City of Long Beach.
- » Routinely integrate the financing, design, and construction of bicycle facilities with street projects. If a roadway or intersection is being updated, install bicycle-related improvements at the same time.
- » Work with Caltrans to improve freeway entrance and exit ramps to increase safety for bicyclists.

- » Support the installation of adequate lighting, mile markers, and emergency call boxes on the Los Angeles and San Gabriel River Trails.
- » Actively pursue opportunities to develop mountain biking/BMX facilities within the City.
- » Install automated bicycle counters on all new 8-to-80 bike facilities.
- » Install 25 new bike lockers per year for the next five years.
- » Adopt a new bicycle parking ordinance for the required number and type of bicycle parking racks installed within the public right-of-way and private developments.

Education

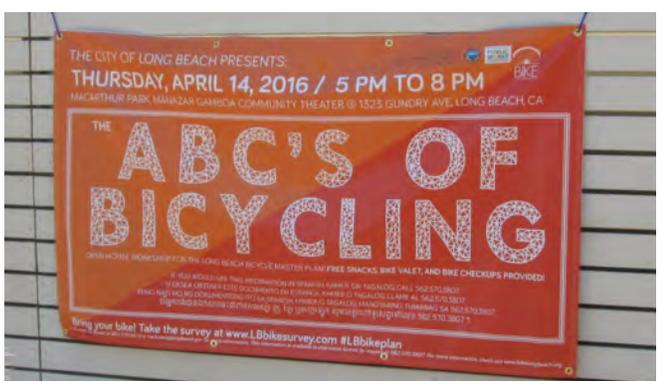
- » Continue existing bicycle education initiatives and implement new initiatives in both school classrooms and in other public forums to increase residents’ and visitors’ knowledge of traffic rules and on-road bicycling skills.
- » Develop citywide marketing campaigns to educate people driving, bicycling, and walking about safe roadway behavior.
- » Develop and adopt a Comprehensive Safe Routes to School Strategic Plan, in partnership with the community and local schools.
- » Work with Long Beach Unified School District (LBUSD) to encourage students to bike and walk to school more often.

Encouragement

- » Develop a comprehensive bicycle wayfinding program that offers guidance to key destinations including schools, parks, regional trails, landmarks, civic buildings, and end-of-trip facilities such as bicycle parking and hydration stations.
- » Develop a policy for retrofitting existing automobile parking spaces for bike parking at existing commercial and multi-family developments.
- » Upgrade the current Bicycle-Friendly Community level from silver to platinum, as designated by the League of American Bicyclists.
- » Pilot an “individualized marketing campaign” to help residents choose safe, convenient routes to replace automobile trips with bicycling, walking, and transit trips.
- » Establish a Rails-to-Trails Program to repurpose, share, or reconfigure surplus rights-of-way to greenbelts with bicycles facilities.
- » Update the Long Beach Municipal Code to allow children to bicycle on sidewalks.
- » Institutionalize the Bicycle-Friendly Business Districts and Bike Saturday campaign in Long Beach.
- » Participate in and support Citywide events to promote bicycling, such as National Car-Free Day, Bike to Work Day, Bike Saturdays, Park[ing] Day, women on bikes campaigns, and bike buddy programs.
- » Continue to actively support “open street” activities in Long Beach through the Beach Streets program.

Enforcement

- » Routinely work with law enforcement to ensure officers are updated on new bicycle-related laws and policies.
- » Encourage the Long Beach Municipal Court to start a bicycle traffic school/ticket diversion class for bicyclists who are ticketed for traffic violations.
- » Develop a program to address bicycle theft, including consideration of registration options, incentives for purchasing bike locks (e.g., coupons), and education materials on how to correctly lock a bicycle.



Evaluation

- » Use Neighborhood Traffic Control techniques when excessive vehicle speed, excessive volume, or bicycle/vehicle safety concerns warrant them.
- » Continue to conduct annual bike counts, street audits, and other data collection efforts and analyses related to bicycle facilities for program evaluation and to support grant-making efforts.
- » On an annual basis, identify locations with a high number of bicycle collisions; determine the primary factors contributing to those collisions; evaluate whether current engineering, education, and enforcement countermeasures have been effective; and recommend alternative countermeasures.
- » Prepare and publish a Bicycle Master Plan Annual Report including analyses of crash data, bicycle count data, and bike share usage data.
- » Continue to use the Complete Streets Assessment to evaluate opportunities to improve the bicycle network, public safety, and support facilities.
- » Develop an interdepartmental team of City staff whose focus is implementation of the Bicycle Master Plan.
- » Work with the public health community to develop a fuller understanding of bicycle-related collisions in Long Beach and to promote the health benefits of bicycling that will reduce vehicle use, improve air quality, and provide health benefits.
- » Work with law enforcement to provide more accurate and complete collision information, especially if the collision involves a bicyclist or other vulnerable road user.



Administration & Funding:

Logistics and Planning

7

This chapter presents the administrative tasks Long Beach will need to consider while implementing this Plan. It also offers funding strategies and sources to implement this Plan.



7



Administration & Funding:

Logistics and Planning

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Overview

Without ongoing administration and funding, the programs and projects recommended in this Plan may never get implemented. This Plan helps Long Beach remain competitive when applying for funds to install the recommended projects or develop potential programs.

The administration section of this chapter ensures that projects and programs are implemented well. Through environmental compliance and a complete streets checklist, Long Beach is poised to design and implement projects and programs that will fulfill its goal of becoming an 8-to-80 city.

Complete Streets Assessment

The Complete Streets Assessment is a checklist required to be filled out by City staff when analyzing roadway projects' design and implementation. It includes information about the number of collisions that have occurred in the area, existing condition of the facility, and the trip generators in the vicinity that would attract walking, transit, or bicycling trips. The Assessment was developed to ensure that the City of Long Beach Capital Improvement Projects comply with the City's Complete Streets Policy. The intent of this assessment is to provide appropriate accommodation for and promote safe operation by pedestrians, bicyclists, transit riders, freight transporters, and people of all abilities. The Assessment must be signed off by the Director of Public Works, City Engineer, or City Traffic Engineer to ensure Complete Streets elements are being incorporated into the project scope.

CEQA

The California Environmental Quality Act (CEQA) provides a process for evaluating the environmental effects of plans or applicable projects undertaken or approved by public agencies. Bicycle Plans, such as this one, are exempt from the CEQA process and do not require an Environmental Impact Report (EIR). Additionally, when implementing this Plan, specific projects that involve restriping roadways or the expansion of existing bicycle trails that do not significantly alter land, water, or vegetation are also exempt from the environmental review process. For bicycle facilities that are not exempt from CEQA review but are initially shown to not have a significant impact on the environment, the City can file either a Categorical Exemption or a Mitigated Negative Declaration in lieu of completing an EIR. When implementing specific bicycle infrastructure projects, the City should consult CEQA guidelines and Senate Bill 1380 for further information.

NEPA

The National Environmental Policy Act (NEPA) requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions. If any of the recommendations in this Plan are located fully or partially on federal lands, the NEPA process will be triggered. It is unlikely any of the project recommendations in this Plan would trigger the NEPA process.

ATP Compliance

The Active Transportation Program (ATP) is a Caltrans program with specific requirements for bicycle and/or pedestrian plans. Although Plans are no longer required to comply with the ATP guidelines in order to receive Caltrans funding, it is strongly recommended. This Plan is in compliance with ATP guidelines as shown in Appendix H: ATP Compliance.

Cost Estimates

Infrastructure Costs

Planning level cost assumptions can be used to determine general cost estimates for particular infrastructure projects, based on length or other units of measurement, as the project segments are further conceptualized and designed. The cost assumptions in Table 7-1 show the industry standard costs in 2016 dollars for the types of treatments recommended in this Plan. While they reflect typical costs, unit costs do not consider project-specific factors such as right-of-way

acquisition, intensive grading, landscaping, or other location-specific factors that may increase actual costs. For some segments or facilities, project costs may be significantly greater. This Plan does not recommend specific types of projects, only the order for recommended projects to be implemented. City staff may use these numbers when estimating a project cost.

Table 7-1: Planning Level Cost Assumptions

Treatment	Unit of Measurement	Per Unit Cost Estimate
Shared-Use Path (Class I)*	Mile	\$700,000
Separated Bikeway (Class IV)*	Mile	\$600,000
Bicycle Boulevard with Traffic Calming (Class III-A)*	Mile	\$50,000
Bicycle Lanes (Class II)	Mile	\$45,000
Buffered Bicycle Lanes (Class II)	Mile	\$95,000
Bicycle Route – Signs Only (Class III-C)	Mile	\$2,000
Bicycle Route - Sharrow Marking Only (Class III-B)	Each	\$100
Bicycle Parking U-Rack	Rack	\$350
On-Street Bicycle Parking Corral	Corral	\$1,500
Long-Term Bicycle Locker	Locker	\$800
Hydration Station	Station	\$3,500
Fix-It Station	Station	\$1,300

*Indicates 8-to-80 facility

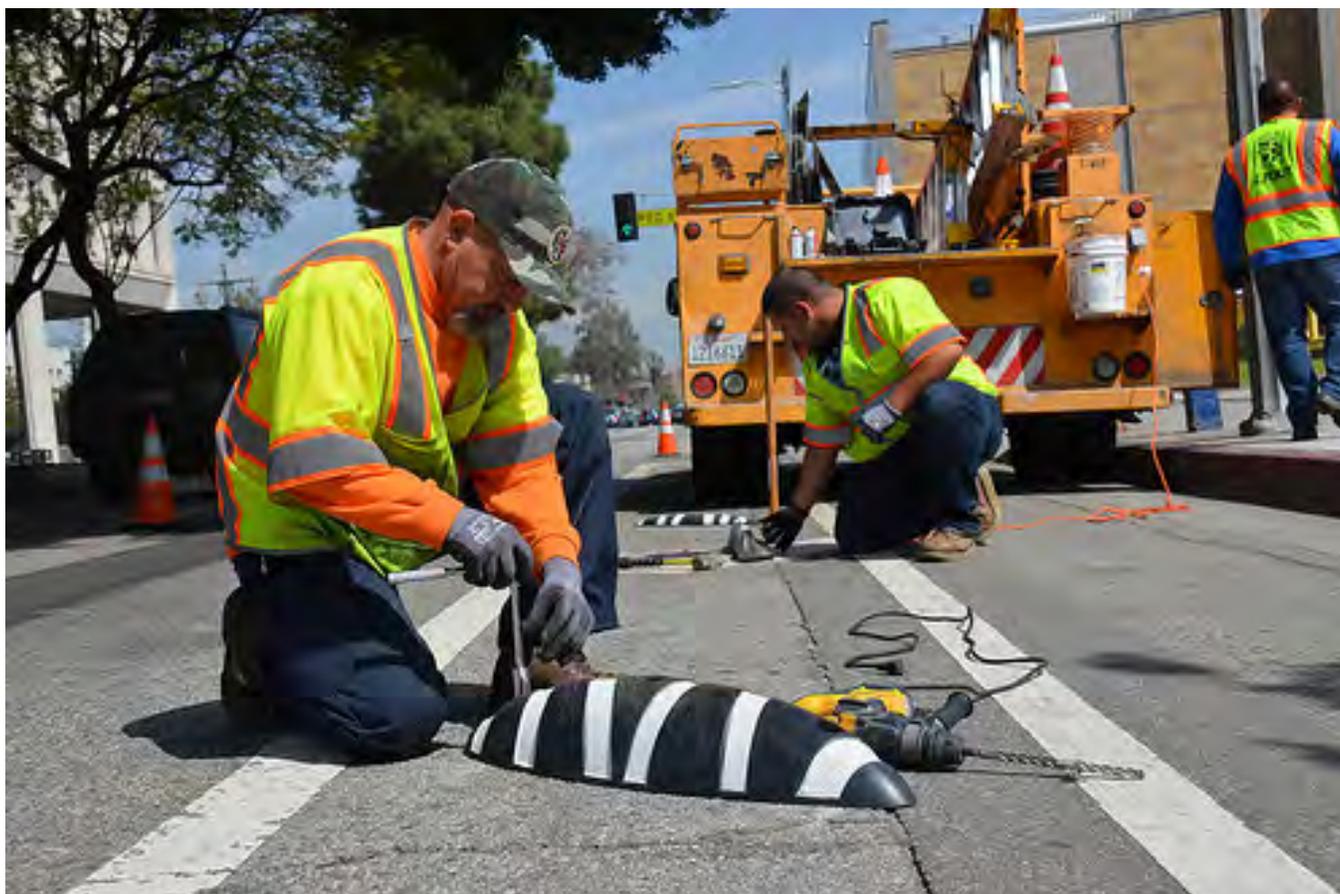


Bikeway Maintenance Costs

Maintenance is a very important piece to a successful bicycle network. Maintenance, like new projects, requires funding, and maintenance costs are important to factor in during the City's annual budgeting process. Table 7-2 shows the estimated annual costs of maintaining the bikeway facility types discussed in this Plan.

Table 7-2: Annual Maintenance Costs

Facility Type	Cost per Mile per Year	Notes
Class I Shared-Use Path	\$8,500	Lighting, debris cleanup, and removal of vegetation overgrowth
Class IV Separated Bikeways (two sides)	\$4,000	Debris removal; repainting stripes and stencils; sign replacement; replacing damaged barriers
Class II Bicycle Lanes (two sides)	\$1,500	Repainting lane stripes and stencils; sign replacement as needed
Class III Bicycle Routes (two sides)	\$1,000	Sign and shared-lane stencil replacement as needed



Sources of Potential Funding

All levels of government and private entities offer funding sources to further plan, design, and construct bicycle transportation projects (Table 7-3). This section provides information on potential funding sources that could help the City of Long Beach or other organizations make bicycle infrastructure improvements or fund education and encouragement programs in the City.

Federal Sources

Fixing America’s Surface Transportation FAST Act

The FAST Act, which replaced the Moving Ahead for Progress in the 21st Century Act (MAP-21) in 2015, provides long-term funding certainty for surface transportation projects. This means states and local governments can move forward with critical transportation projects with the confidence that they will have a Federal partner over the long term (i.e., for at least five years).

Table 7-3: Sources of Potential Funding

Name	Source
Fixing America’s Surface Transportation FAST Act	Federal
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	Federal (administered through SCAG)
Bus and Bus Facilities Grants Program	Federal (FTA)
Highway Safety Improvement Program (HSIP)	Federal
Rivers, Trails, and Conservation Assistance Program (RTCA)	Federal (NPS)
Community Transformation Grants	Federal (CDC)
Transportation Investments Generating Economic Recovery (TIGER) Program	Federal
Community Action for a Renewed Environment	Federal (EPA)
Community Development Block Grant Program (CDBG)	Federal (US HUD)
Active Transportation Program (ATP)	State (CTC & Caltrans)
State Transportation Improvement Program (STIP)	State (Caltrans)
Caltrans Sustainable Transportation Planning Grant Program	State (Caltrans)
Office of Traffic Safety (OTS) Grants	State (OTS)
Environmental Enhancement and Mitigation Funds (EEMP)	State (Natural Resources Agency)
Land and Water Conservation Fund	State (Parks)
California Strategic Growth Council	State (Strategic Growth Council)
Coastal Conservancy Grants	State (Coastal Conservancy)
Local Coastal Program Local Assistance Grant Program	State (Coastal Commission)
AB2766 Motor Vehicle Subvention Program	Regional and Local (SCAQMD)
Metro Local Return Program	Regional and Local (LACMTA)
Metro Call for Projects	Regional and Local (LACMTA)
Metro Open Streets Program	Regional and Local (LACMTA)
Interstate 710 Corridor Project	Regional and Local (TAC)
Metro Transit Oriented Development (TOD) Planning Grant Program	Regional and Local (LACMTA)
SCAG Sustainability Planning Grant Program	Regional and Local (LACMTA)
Transportation Development Act	Regional and Local (Administered by LACMTA)
City of Long Beach Sales Tax Measure A	Regional and Local
Traffic Impact Fees	Regional and Local (Long Beach)
PeopleForBikes Community Grant Program	Private
The Robert Wood Johnson Foundation	Private
The Walmart Foundation	Private
Kodak American Greenways Program	Private (Conservation Fund)
Rails-to-Trails Conservancy	Private
Knight Cities Challenge	Private (Knight Foundation)
Plan4Health Coalitions	Private (APA and APHA)
Corporate Donations	Private
Roadway and Utility Construction, Repair, and Upgrade	Joint projects

The law makes changes and reforms to many federal transportation programs. For example, it allows local entities that are direct recipients of federal dollars to use a design publication that is different than one used by their state Department of Transportation, such as the Urban Bikeway Design Guide published by the National Association of City Transportation Officials (NACTO).

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

CMAQ provides funding to state and local agencies for transportation projects that help meet Clean Air Act objectives. Funded projects must work to reduce congestion and improve air quality in nonattainment or maintenance zones for ozone, carbon monoxide, or particulate matter. CMAQ funds can be used for bicycle and pedestrian projects that are included in the metropolitan planning organization's (MPO) current transportation plan and transportation improvement program (TIP). Projects can include bicycle and pedestrian facilities that are not exclusively recreational and outreach related to safe bicycle use. Studies that are part of the project development pipeline (e.g., preliminary engineering) are also eligible for funding.

CMAQ funding is administered at the local level through the Southern California Association of Governments (SCAG). These funds are eligible for transportation projects that contribute to the attainment or maintenance of National Ambient Air Quality Standards in non-attainment or air-quality maintenance areas. Examples of eligible projects include enhancements to existing transit services, rideshare and vanpool programs, projects that encourage bicycle transportation options, traffic light synchronization projects that improve air quality, grade separation projects, and construction of high-occupancy vehicle (HOV) lanes. Projects that are proven to reduce direct PM2.5 emissions are to be given priority.

Bus and Bus Facilities Grants Program

The Federal Transit Administration (FTA) offers formula allocations and grants to a variety of organizations, including local governments, to pay for buses and related facilities. Agencies can use these funds to pay for bicycle routes to transit, bike racks, bike shelters, and bicycle equipment for public transportation vehicles. In Long Beach, these funds flow directly to Long Beach Transit and are used to fund bus

and bus-related facilities.

Highway Safety Improvement Program (HSIP)

HSIP is a data-driven funding program for construction-related projects with a goal of reducing traffic fatalities and serious injuries on all public roads. Agencies must identify eligible projects through crash analyses. Agencies can use HSIP funds for both infrastructure and non-infrastructure projects, including bicycle and pedestrian safety improvements, enforcement activities, traffic calming projects, and crossing treatments in school zones. In California, all HSIP projects must be consistent with the California Strategic Highway Safety Plan.

Rivers, Trails, and Conservation Assistance Program

The Rivers, Trails, and Conservation Assistance Program (RTCA) is the community assistance arm of the National Park Service (NPS). RTCA provides technical assistance to a variety of agencies and organizations in order to preserve open space and develop trails. RTCA's funds can be used for developing plans, engaging the public, and identifying other sources of funding for conservation and outdoor recreation projects.

Community Transformation Grants

The Centers for Disease Control and Prevention (CDC) administers Community Transportation Grants, which support community-level efforts to reduce chronic diseases such as heart disease, cancer, stroke, and diabetes. These grants are awarded to a variety of state and local agencies and other organizations. Active transportation infrastructure and programs that promote healthy lifestyles are a good fit for this program, particularly if such improvements benefit groups experiencing the greatest burden of chronic disease.

Transportation Investments Generating Economic Recovery (TIGER) Program

TIGER discretionary grants are awarded annually to state, local, and tribal governments for innovative transportation infrastructure projects, including multimodal and multi-jurisdictional transportation projects. These projects, which can include bicycle and pedestrian improvements, must promise significant economic and environmental benefits to an entire metropolitan area, a region, or the nation. In urban areas, the project must be at least \$6.25 million to meet match requirements.

Community Action for a Renewed Environment (CARE)

The Environmental Protection Agency's CARE is a competitive

grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people’s exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on the path to a renewed environment. Transportation and “smart-growth” types of projects are eligible, and grants range between \$75,000 and \$300,000.

Community Development Block Grant Program (CDBG)

The Community Development Block Grants program run by the U.S. Department of Housing and Urban Development (HUD) provides money for a variety of different projects, including pedestrian and bicycle improvements and streetscape revitalization. The CDBG Entitlement Program provides annual grants to municipalities of at least 50,000 people and counties, and the Section 108 Loan Guarantee Program provides loan guarantees for local government or third party developers.

State Sources

Active Transportation Program (ATP)

The California Transportation Commission and Caltrans jointly administer the ATP, which combines funds from federal and state sources to encourage increased use of active modes of transportation throughout the state. The funding is distributed through both a statewide competition and regional pools, and can be used both for infrastructure and non-infrastructure projects. The goals of the ATP are to:

- » Increase the proportion of trips accomplished by biking and walking.
- » Increase safety and mobility for active transportation users.
- » Advance active transportation efforts of regional agencies to achieve California’s greenhouse gas reduction goals, pursuant to SB 375 (of 2008) and SB 341 (of 2009).
- » Enhance public health.
- » Ensure that disadvantaged communities fully share in the benefits of the program.
- » Provide a broad spectrum of projects to benefit many types of active transportation users.

The minimum request for funding is \$250,000, except for Safe Routes to School (SRTS) projects, non-infrastructure

projects, recreational trail projects, or plans, which have no minimum. Eligible bicycle and SRTS projects include:

- » Infrastructure projects: Capital improvements that will further program goals, typically including planning, design, and construction.
- » Non-infrastructure projects: Education, encouragement, enforcement, and planning activities that further program goals. The focus of this category is on pilot and start-up projects that can demonstrate funding for ongoing efforts.
- » Active transportation plans for disadvantaged communities: Includes bike, pedestrian, safe routes to school, or comprehensive active transportation plans for disadvantaged communities.

State Transportation Improvement Program (STIP)

The STIP is a five-year plan developed by Caltrans that allocates funding to new construction projects that add capacity to the transportation network. STIP consists of two components, Caltrans’ Interregional Transportation Improvement Program (ITIP) and regional transportation planning agencies’ Regional Transportation Improvement Program (RTIP). STIP funding is a mix of state, federal, and local taxes and fees. Bicycle and pedestrian projects can be programmed under ITIP and RTIP.

Caltrans Sustainable Transportation Planning Grant Program

The Sustainable Transportation Planning Grant Program supports transportation planning processes which address local and regional transportation needs and issues. The program offers two types of grants: Strategic Partnerships and Sustainable Communities. The Strategic Partnership Grants fund regional agencies to address state highway system deficiencies, strengthen government relationships, and result in programmed system improvements. The Sustainable Communities Grants fund a variety of projects at all levels of government. Projects are expected to “identify and address mobility deficiencies in the multimodal transportation system, encourage stakeholder collaboration, involve active public engagement, integrate Smart Mobility 2010 concepts, and ultimately result in programmed system improvements.”

Office of Traffic Safety (OTS) Grants

The California OTS distributes grants statewide to establish new traffic safety programs or fund ongoing safety programs. Grants are used to establish new traffic safety programs, expand ongoing programs, or address deficiencies in

current programs. The list of traffic safety priority areas includes pedestrian and bicycle safety. Eligible grantees are governmental agencies, state colleges and universities, school districts, fire departments, and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess need include potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous OTS grants. The California application deadline is January of each year. There is no maximum cap to the amount requested; however, all items in the proposal must be justified to meet the objectives of the proposal.

Environmental Enhancement and Mitigation Funds (EEMP)

The California Natural Resources Agency provides grants to projects that indirectly mitigate the environmental impacts of new transportation facilities. Funds are available for land acquisition and construction and should fall into one of the following three categories: urban forestry projects, resource lands projects, or mitigation projects beyond the scope of the lead agency. The local Caltrans district must support the project. The average award amount is \$250,000.

Land and Water Conservation Fund

The Land and Water Conservation Fund is a federal program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. In California, the fund is administered by the California State Parks Department. Cities, counties, and districts authorized to acquire and develop park and recreation space are eligible for grant funding. While nonprofits are ineligible, they are allowed to apply in partnership with eligible agencies. Applicants must fund the project entirely and will be reimbursed for half of the cost.

California Strategic Growth Council

The Strategic Growth Council is a state agency that manages the Sustainable Communities Planning Grant and Incentives (SCPGI) Program, as well as the Affordable Housing and Sustainable Communities (AHSC) program. The SCPGI program provides grants for development and implementation of plans that have a variety of environmental, economic, and social benefits. The AHSC program provides funding for compact transit-oriented development and related infrastructure and programs that reduce greenhouse

gas emissions. These projects increase the accessibility of housing, employment centers, and key destinations via low-carbon transportation options such as walking, biking, and transit.

Coastal Conservancy Grants

The State of California Coastal Conservancy provides grants to public agencies and nonprofit organizations which support the Conservancy's enabling legislation, Division 21 of the California Public Resources Code. Bicycle and pedestrian facilities and trails are eligible if they help to preserve, protect, or restore coastal resources in the State.

Local Coastal Program Local Assistance Grant Program

The California Coastal Commission provides grants to local governments to develop or update their Local Coastal Programs (LCPs) to be consistent with the California Coastal Act. The Act requires LCPs to include a public access component, which could include plans for improving bicycle access to coastal zones. The California Coastal Commission is not currently awarding grants, but will resume in the future.

Regional & Local Sources

AB 2766 Motor Vehicle Subvention Program

The State of California charges a motor vehicle registration fee authorized by AB 2766. The South Coast Air Quality Management District (SCAQMD) distributes these Motor Vehicle Subvention Program funds to cities and counties based on their populations within its district, which includes the City of Long Beach. Cities and counties use these funds to develop measures or programs that reduce motor vehicle emissions. Funds can be used for projects that encourage biking, walking, and/or use of public transit. For bicycle-related projects, eligible uses include: "designing, developing and/or installing bikeways or establishing new bicycle corridors; making bicycle facility enhancements/improvements by installing bicycle lockers, bus bicycle racks; providing assistance with bicycle loan programs (motorized and standard) for police officers, community members and the general public."

Metro Local Return Programs

Proposition A, Proposition C, Measure R, and Measure M Local Return programs are each one-half cent sales taxes that finance countywide transit development. Metro is responsible for distributing a certain proportion of the tax revenues to cities and counties to develop and improve public transit,

paratransit, and related transportation infrastructure. Funds from Proposition C and Measures R and M can be used for bicycle-related uses such as infrastructure, signage, bicycle sharing, and education efforts. These Local Return Funds are distributed monthly to jurisdictions on a per capita basis.

Metro Call for Projects

Every other year, Metro accepts Call for Projects applications in eight modal categories from local jurisdictions, transit operators, and other public agencies. One of the modal categories is Bicycle Improvements, and includes projects that “provide access and mobility for local and regional bicycle travel, gap closures that connect bikeway networks, on-street improvements to transit hubs, high-capacity bicycle parking, and innovative projects that promote bicycling. Rehabilitation, Restoration, and Resurfacing (3R) are eligible as a component of a larger project.” Long Beach has successfully competed for Call for Projects funds in the past, including a recent grant to partially fund the Bike Share program.

Metro Open Streets Program

Metro allocates up to \$2 million annually, through a competitive application process, to fund local Open Streets events in Los Angeles County cities. These events temporarily close streets to vehicle traffic and open them to non-motorized transportation. The first cycle, announced in 2014, funded 12 open streets events to occur in 2015 and 2016. Applications for the second funding cycle were solicited in fall 2016. Long Beach won Metro Open Streets funding for the first Beach Streets Uptown in 2015, as well as the November 12, 2016, Beach Streets Midtown.

Interstate 710 Corridor Project

Caltrans, Metro, and a number of other agencies are working to make changes to the Interstate 710 Freeway from the Port of Long Beach to Interstate 5. The project will widen the freeway and modify interchanges, access points, and the streets leading to the freeway. A Technical Advisory Committee (TAC) comprised of these agencies along with the cities along the freeway is helping to steer the planning effort as well as make sure certain improvements, such as enhanced bicycle access, are incorporated into the project. The City of Long Beach’s representative to the TAC can help ensure that the planned bicycle projects in the I-710 area are included in the project’s implementation, including during its “early action program” that commits to funding local active transportation mitigation measures.

Metro Transit Oriented Development (TOD)

Planning Grant Program

Metro’s TOD Planning Grants are intended to spur the adoption of transit-supportive land use and other regulatory plans around station areas in order to increase access to and utilization of public transit. Los Angeles County jurisdictions with land use authority within one-half mile of existing, planned, or proposed transit stations are eligible for grant funding.

SCAG Sustainability Planning Grant Program

SCAG’s Sustainability Planning Grant Program provides member jurisdictions with technical assistance for planning and policy work that work towards the implementation of the regional Sustainable Communities Strategy (SCS). SCAG awards grants under three categories, including Active Transportation, which includes bicycle, pedestrian, and SRTS plans and non-infrastructure programs. The 2016 grant cycle limited proposed planning and non-infrastructure programs to a maximum award of \$200,000.

Transportation Development Act (TDA)

The TDA provides local agencies with two major sources of funding: The Local Transportation Fund (LTF) and the State Transit Assistance fund (STA). These funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance.

Administered by Metro in Los Angeles County, TDA Article 3 funds are allocated annually on a per capita basis to both cities and the County of Los Angeles for the planning and construction of bicycle and pedestrian facilities. Local agencies may either draw down these funds or place them on reserve.

City of Long Beach Sales Tax Measure A

Long Beach residents voted to approve local Measure A in June 2016, providing an additional source of General Fund revenue to implement public infrastructure projects across the City. Funding will be used to fund a variety of city services, including implementation of the City’s complete streets policy, reconstruction and resurfacing of public streets, and

sidewalk improvements citywide.

Port of Long Beach Community Grant Program (CGP)

The Port of Long Beach offers grants “designed to improve community health by lessening the impacts of Port-related air pollution, and to reduce the emissions of greenhouse gases.” According to the recently published 2016 Community Grants Investment Plan, the Port will award grant funding for bicycle and pedestrian infrastructure and traffic-calming projects that work to address the effects of congestion.

Traffic Impact Fees

As a condition for development approval, Long Beach requires developers to pay traffic impact fees to fund specific infrastructure improvements to meet the traffic needs of future development, which can include bikeway, pedestrian, and transit improvements. The allowable projects are identified and approved by the City Council as a part of the City’s Traffic Mitigation Program.

Private Sources

PeopleForBikes Community Grant Program

PeopleForBikes is a coalition of bicycle suppliers and retailers that has awarded \$2.9 million in community grants and leveraged an additional \$670 million since its inception in 1999. The grant program funds bicycle paths and rail trails, as well as mountain bike trails, bicycle parks, BMX facilities, and large-scale bicycle advocacy initiatives.

The Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation was established as a national philanthropy in 1972, and today is the largest U.S. foundation devoted to improving the health of all Americans. The organization awards grants to public agencies and nonprofit organizations for a variety of health-related projects, including bicycle education and bicycle infrastructure projects.

The Walmart Foundation

The Walmart Foundation offers a Community Grant Program and a State Giving Program. The Community Grant Program awards grants of \$250 to \$5,000 through local Walmart and Sam’s Club stores. Application opportunities are announced annually in February with a final deadline for applications in December.

The State Giving Program provides grants of \$25,000 to \$250,000 to nonprofits working within one of five focus areas: Hunger Relief & Nutrition, Education, Environmental Sustainability, Women’s Economic Empowerment, or Workforce Development. The program has two application cycles per year: January through March and June through August.

Kodak American Greenways Program

The Conservation Fund’s American Greenways Program has teamed with the Eastman Kodak Corporation and the National Geographic Society to award small grants (\$250 to \$2,000) to stimulate the planning, design, and development of greenways. These grants can be used for activities such as mapping, conducting ecological assessments, surveying land, holding conferences, developing brochures, producing interpretive displays, incorporating land trusts, and building trails. Grants cannot be used for academic research, institutional support, lobbying, or political activities.

Rails-to-Trails Conservancy

The Rails-to-Trails Conservancy provides technical assistance for converting abandoned rail corridors to use as multi-use trails.

Knight Cities Challenge

The Knight Cities Challenge awards grants to innovative projects at the city, neighborhood, and block level that help cities attract and keep talented people, improve economic prospects for individuals, and encourage civic involvement. The grant program is funded by the Knight Foundation, and the funds are distributed over an 18-month period.

Plan4Health Coalitions

The American Planning Association (APA) and the American Public Health Association (APHA) work to build local capacity in addressing population health goals and promoting the inclusion of health in non-traditional sectors such as transportation. Each proposal must address inactivity, unhealthy diets, and/or health equity. Awards average \$150,000, and no more than two awards will be granted in a single state.

Corporate Donations

Corporate donations are often received in the form of liquid investments (i.e., cash, stock, bonds) and in the form of land. Employers recognize that creating places to bicycle and walk is one way to build community and attract a quality work force. Bicycling and outdoor recreation businesses often support local projects and programs. Municipalities typically create funds to facilitate and simplify transactions from corporations. Corporations typically donate when a widely supported capital improvement program is implemented.

Roadway and Utility Construction, Repair, and Upgrade

Cities should coordinate bicycle infrastructure improvements with ongoing road resurfacing/maintenance, road diet, utility company capital improvement, cable installation, and other road infrastructure projects within the same area or corridor, following the City’s Complete Streets Checklist. Doing so can take advantage of efficiencies and save money.

Joint projects between cities and utility companies require a great deal of coordination, a careful delineation of scope items, and some type of agreement or memorandum of understanding. Joint projects between cities and cable television and telephone companies also require a significant amount of advance planning and disruption of travel lanes. Because of this, it may be possible to request reimbursement for impacted bicycle and pedestrian facilities.

Other Sources

Cities should be creative when considering how to develop or maintain bicycle infrastructure. Soliciting volunteer work can substantially reduce the cost of implementing some routes, particularly shared-use paths. For example, Long Beach could partner with a local college design class and landscape architecture or engineering firm to design a shared route for a class project when the opportunity is available. When possible, the City should organize work parties to help clear the right-of-way for the route or ask a local construction company to donate or offer discount services for construction work. Where feasible, Long Beach should develop an “adopt a trail” program, where local businesses or residents can “adopt” a bicycle route to help with construction and maintenance.

Conclusion

The City of Long Beach continually receives funding from many of the aforementioned sources in this chapter, at all levels. This money has and will continue to play a pivotal role in financing many of the needed and desired bicycle infrastructure projects that Long Beach needs. Continuing to build and maintain partnerships with these agencies and organizations will be very important to the City’s continued grant application success. Long Beach will submit more competitive projects going forward based on the phasing prioritization strategies established in this Bicycle Master Plan. This Plan lays the necessary groundwork that many of these grant applications require for approval.





Long Beach Development Services

333 W. Ocean Blvd., 3rd Floor

Long Beach, CA 90802

Visit us at www.lbds.info

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