



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.



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Implementation Strategies & Projects

Getting it Done

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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**

The Pipeline and Backbone Next Step phases 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 Vision Network, so each recommended project in the Vision Network 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 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 connect to the Coyote Creek Bike 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.

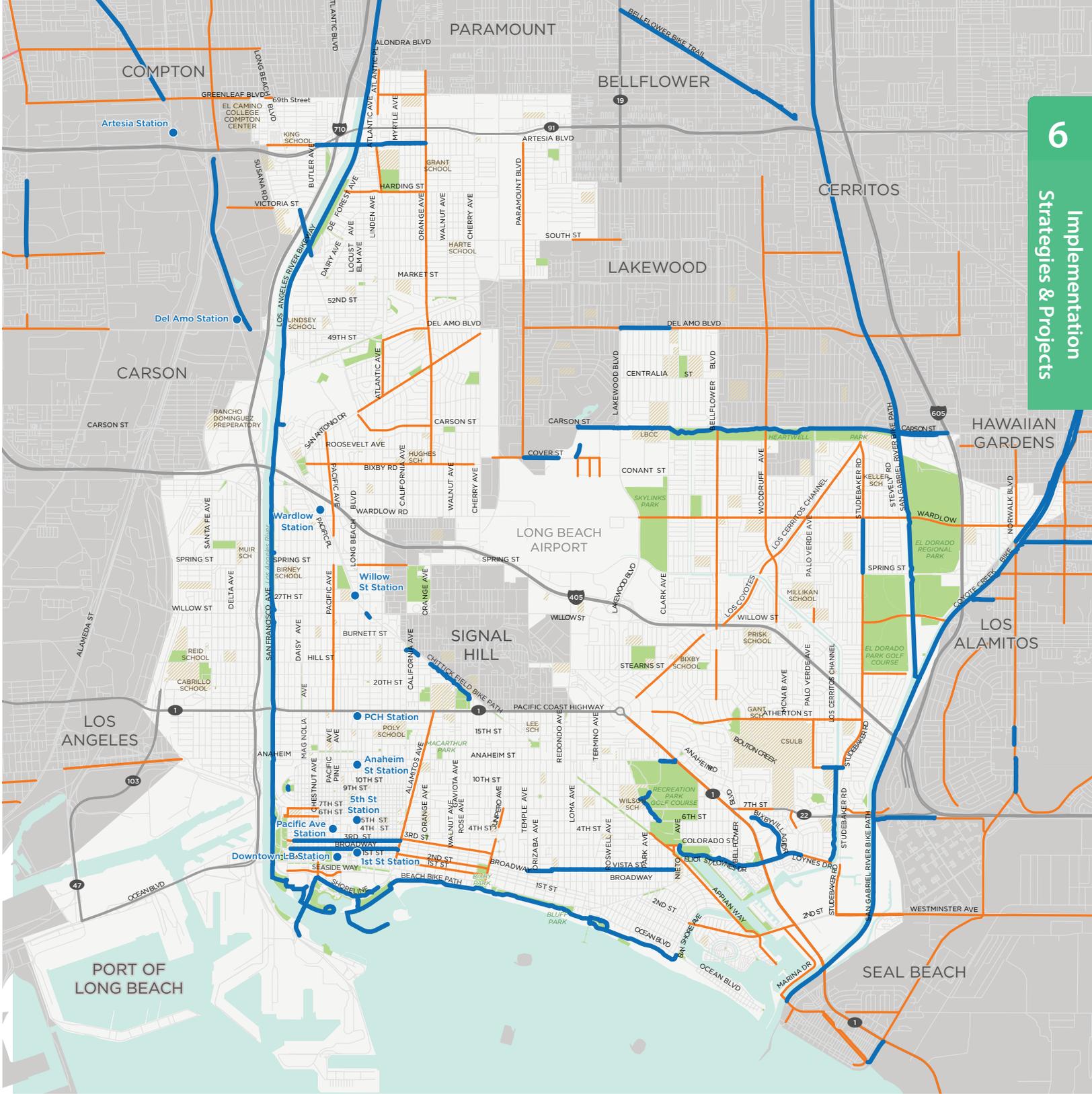


Figure 6-1: Existing 8-to-80 Bicycle Facilities and Class II Bike Lanes

- 8-to-80 Bikeway
- Bike Lane
- Blue Line Station
- Off-Street (Exclusive Right-of-Way)
- Bike Lane (Major or Residential Street)
- School
- On-Street
- Park
- Bicycle Boulevard (Residential Street)

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

Name	From	To	Length (Miles)
14th St	Magnolia Ave	Linden Ave	0.66
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
15th St/E 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 Trail	0.90
Harbor Ave/Delta Ave/W 10th St/W 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
Margo Ave	Vista St	State Route 22	0.46
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
Loma Ave	8th St	Pacific Coast Hwy	0.87
Loma Ave	Olympic Plaza	8th St	1.74
Myrtle Ave	Harding St	Artesia Blvd	0.50
Myrtle Ave	Artesia Blvd	72nd St	0.74
Pacific Ave	Del Mar Ave	Wardlow Rd	0.20
Park Ave	Pacific Coast Hwy	Los Coyotes Diag	0.57
Pier J/South Waterfront Path	Harbor Scenic Dr	Harbor Plaza	0.92
Spring St	DeForest Ave	Long Beach Blvd	0.86
Ocean Blvd	State Route 47	Long Beach Fwy	2.06

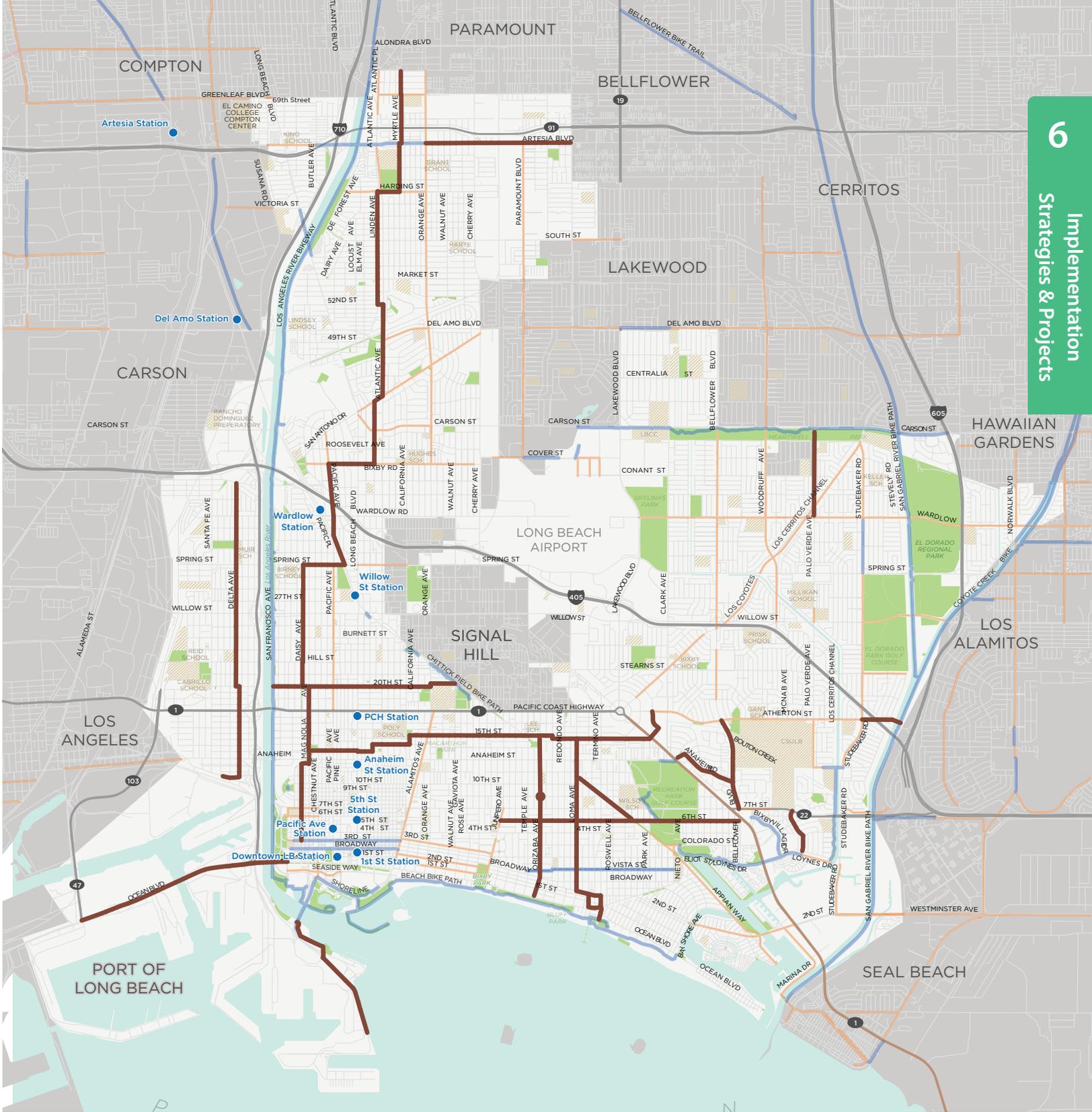


Figure 6-2: Recommended Pipeline Facilities

 Pipeline Projects

2. Backbone Next Step Facilities

The Backbone Next Step 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 the 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 the city's network with convenient, safe, and connected bikeways throughout the city.

Table 6-2: Backbone Next Step Facility Recommendations

Name	From	To	Length (Miles)
Alamitos Ave	10th St	17th St	0.64
Alamitos Ave	Ocean Blvd	10th St	0.91
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
Shoreline Dr	Shoreline Village Dr	Ocean Blvd	0.48
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
34th St	De Forest Ave	Maine Ave	0.23
Wardlow Rd	Hesperian Ave	Pacific Electric Rlwy	1.91

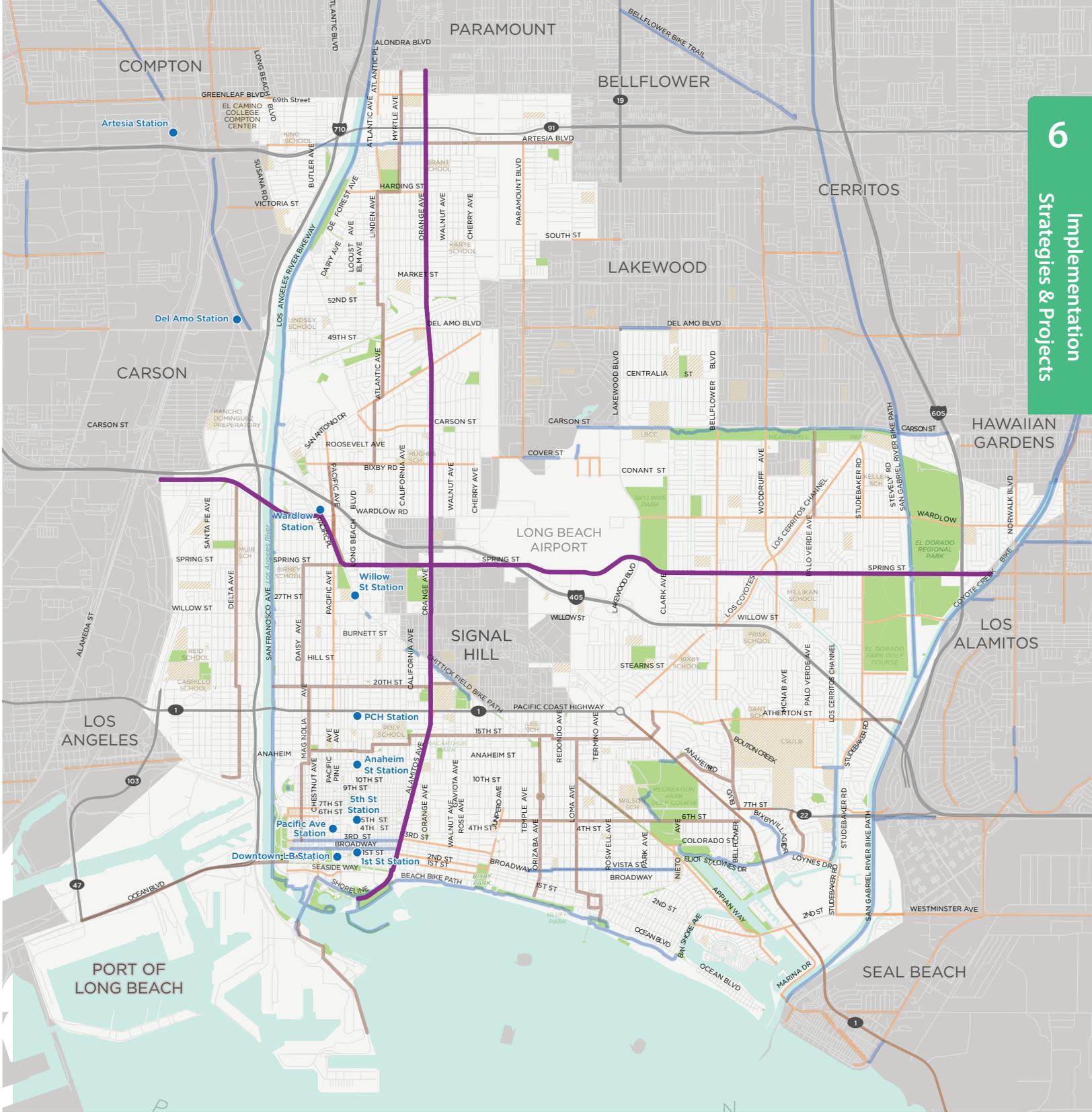


Figure 6-3: Proposed Backbone Next Step Bicycle Facilities

— Backbone Projects

3. Gap Closure Bicycle Facilities

The third phase of projects 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.

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 6-3: 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)	<p>Segment is at least partially within a census tract that has a CalEnviroScreen score of at least 36.62 (1x4 = 4 points)</p> <p>Segment is not within a census tract that has a CalEnviroScreen score of at least 36.62 (0 points)</p>
<i>Data Source: California Office of Environmental Health Hazard Assessment</i>					
Collision History	0 to 2	1	2	Bicyclist-Involved Collision History	<p>Segment directly addresses a location with 2 or more bicyclist-involved collisions between 2010 and 2014 (2 points)</p> <p>Segment directly addresses a location with 1 bicyclist-involved collision during this period (1 point)</p> <p>Segment does not address a location with a history of bicyclist-involved collisions during this period (0 points)</p>
<i>Data Source: California Highway Patrol Statewide Integrated Traffic Records System (SWITRS), 2010-2014</i>					
Levels of Traffic Stress	0 to 1	1	2	Perceived Levels of Roadway Stress	<p>Segment is along a High-Stress roadway and/or crosses a High-Stress roadway at an unsignalized intersection (2 points)</p> <p>Segment is along a Low- or Medium-Stress roadway and/or crosses a Medium-Stress roadway at an unsignalize intersection (1 point)</p>
<i>Data Source: GIS Analysis</i>					
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	<p>Employment/School, Retail District or Major Shopping Center, Mobility Hubs, Metro Stations, Recreation Center/Parks</p> <p>Gap Closure</p>	<p>Segment directly connects to major destination (1 point for each destination, up to a maximum of 3 points)</p> <p>Segment connects two existing bikeway segments to close gap (1 point)</p> <p>Segment neither connects to major destination nor closes a gap in bikeway network (0 points)</p>
<i>Data Source: Map of Attractors/Generators; Long Beach Transit Tier 1&2 Map</i>					
Total Possible Score			12		

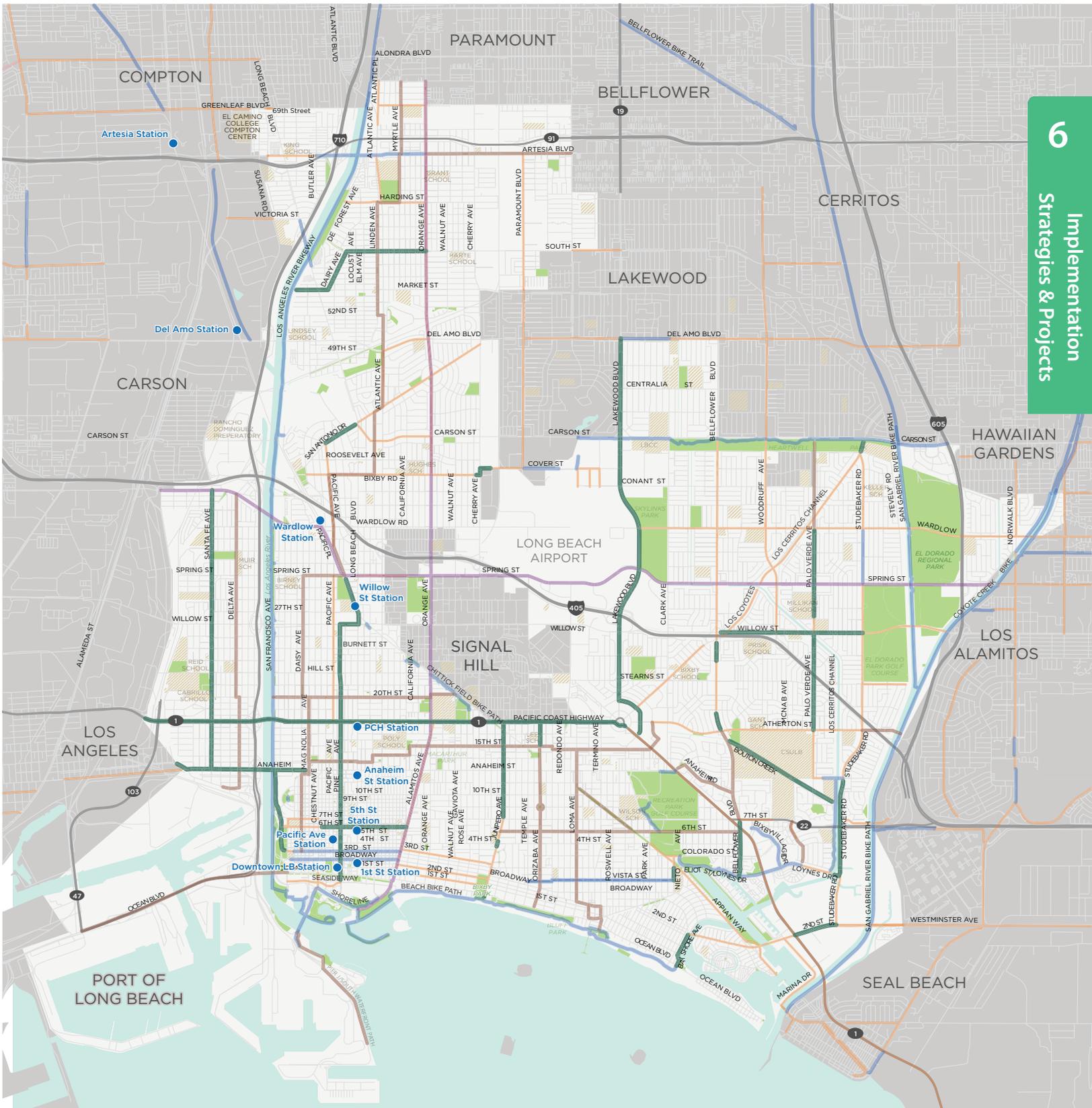


Figure 6-4: Recommended Gap Closure Facilities

- Gap Closure Projects
- Backbone Facilities
- Pipeline Bikeway
- Existing 8-to-80 Bikeway
 - Off street (Exclusive Right-Of Way)
 - On Street (Major Street)
 - Bicycle Boulevard (Residential Street)
- Bike Lane
 - Bike Lane (Major or Residential Street)

Table 6-4: Gap Closure Bicycle Facilities Recommendations

Name	From	To	Length (Miles)
6th Street	Orange Ave	San Francisco Ave	1.57
Bay Shore Ave/54th Pl	Ocean Blvd	Broadway	0.51
Bellflower Blvd	Loynes Dr	Pacific Coast Hwy	0.49
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
2nd St	Bay Shore Ave	Pacific Coast Hwy	1.13
Atherton St	Park Ave	Palo Verde Ave	1.68
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
South St	De Forest Ave	Orange Ave	1.07
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
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
Loynes Dr	Margo Ave/Bikeway Route 10	Studebaker Rd	0.41
Market St	Pacific Ave	Atlantic Ave	0.94
Bellflower Blvd	Spring St	Carson St	1.50
Bellflower Blvd	Stearns St	Spring St	1.00
Lakewood Blvd	Jacinto Way	Conant St	2.30
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 Diag	1.36

Table 6-4: Gap Closure Bicycle Facilities Recommendations (Continued)

Name	From	To	Length (Miles)
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
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/W 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
Pacific Coast Hwy	Union Pacific RR	Santa Fe Ave	0.75
6th St	San Francisco Ave	Topaz Ct	0.03
9th St/W I St	Southern Pacific RR 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
Pacific Coast Hwy	Santa Fe Ave	Pine Ave	1.36
Westminster Ave/E 2nd St	Pacific Coast Hwy	City Limits	1.12
Ximeno Ave/E Rosada St	Pacific Coast Hwy	Lakewood Blvd	0.51

4. Vision Network Facilities

The final phase builds out the complete Vision Network of bicycle facilities. This phase would install a complete network of bicycle 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 gap closure projects can be found in Appendix K: Vision Network.

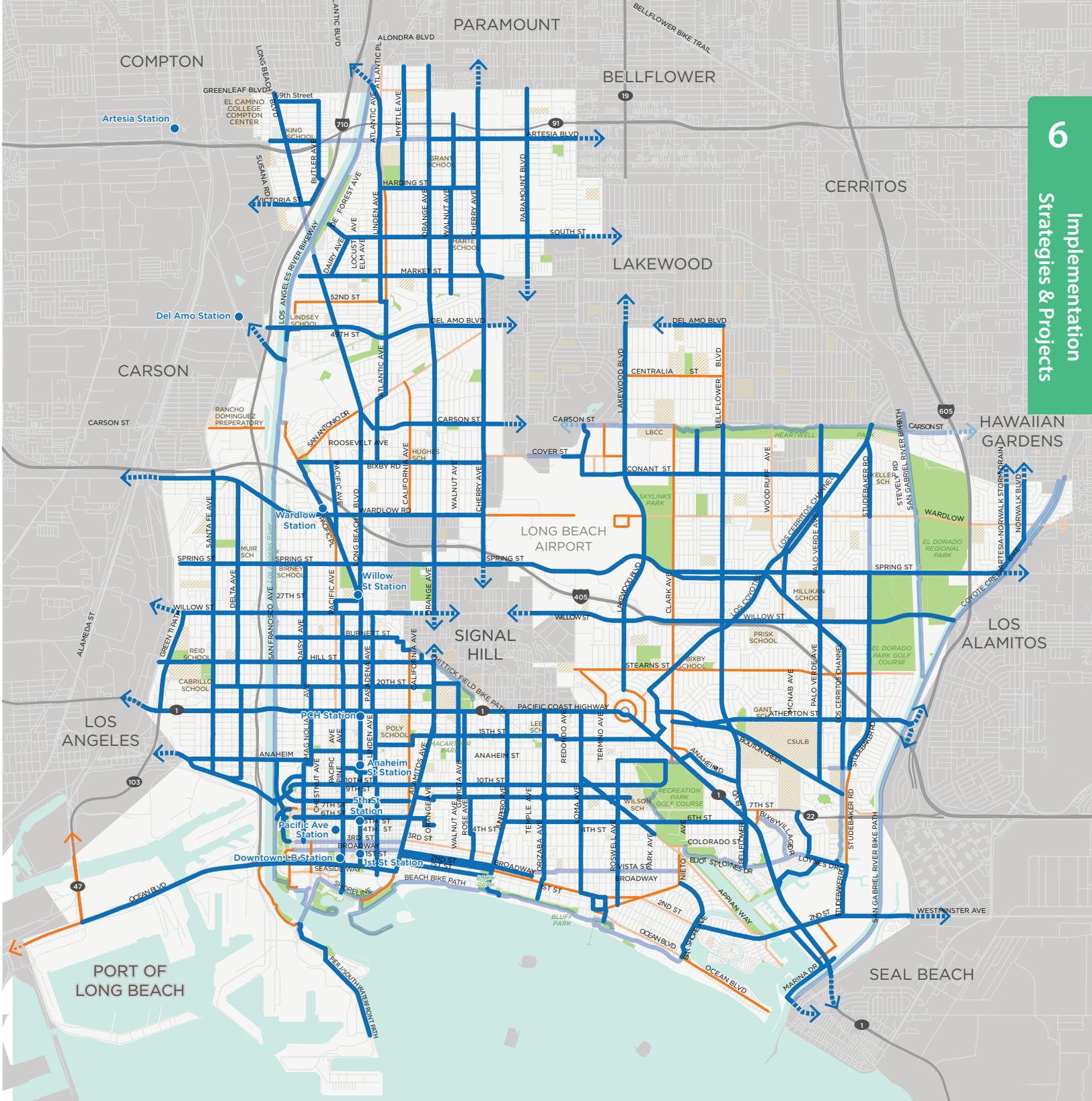


Figure 6-5: Vision for a Complete Network

- 8-to-80 Bikeway
 - Off-Street (Exclusive Right-of-Way)
 - On-Street
 - Bicycle Boulevard (Residential Street)
- Bike Lane
 - Bike Lane (Major or Residential Street)
- 8-to-80 Bikeway
 - Off Street (Exclusive Right-of-Way)
 - On-Street (Major Street)
 - Bicycle Boulevard (Residential Street)

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 Bicycle 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

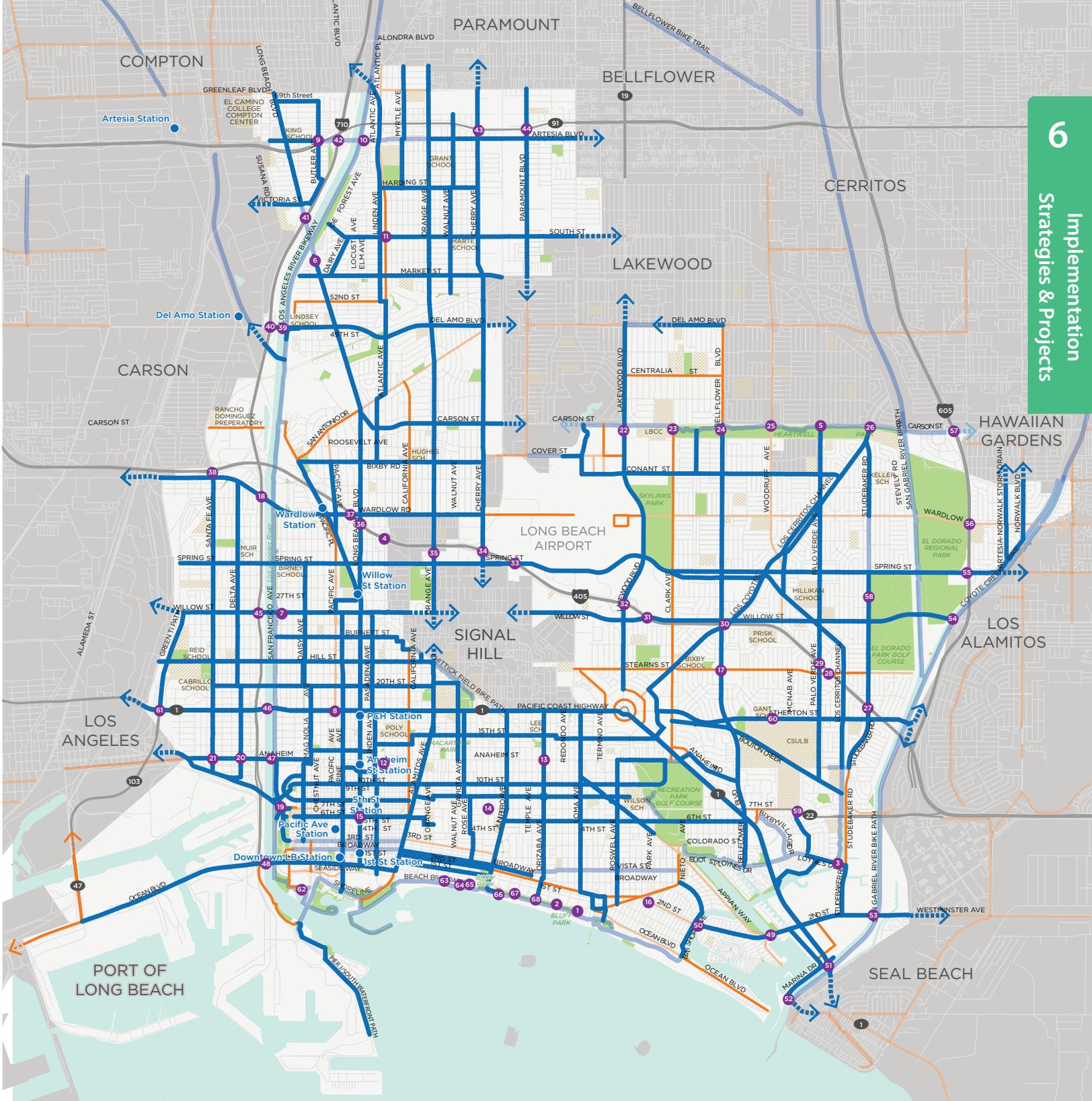


Figure 6-6: Vision for a Complete Network Spot Improvements

- # Spot Improvement
- 8-to-80 Bikeway
 - Off-Street (Exclusive Right-of-Way)
 - On-Street
 - Bicycle Boulevard (Residential Street)
- Bike Lane
 - Bike Lane (Major or Residential Street)
- 8-to-80 Bikeway
 - Off Street (Exclusive Right-of-Way)
 - On-Street (Major Street)
 - Bicycle Boulevard (Residential Street)

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	I-405 Fwy at Studebaker Rd	Improve bicycle crossing at freeway ramps
28	Stearns St at I-405 Fwy	Improve bicycle crossing at freeway ramps
29	I-405 Fwy at Palo Verde Ave	Improve bicycle crossing at freeway ramps
30	I-405 Fwy at Bellflower Blvd	Improve bicycle crossing at freeway ramps
31	Willow St at I-405 Fwy	Improve bicycle crossing at freeway ramps
32	I-405 Fwy at Lakewood Blvd	Improve bicycle crossing at freeway ramps
33	Spring St at I-405 Fwy	Improve bicycle crossing at freeway ramps
34	I-405 Fwy at Cherry Ave	Improve bicycle crossing at freeway ramps
35	I-405 Fwy at Orange Ave	Improve bicycle crossing at freeway ramps
36	I-405 Fwy at Long Beach Blvd	Improve bicycle crossing at freeway ramps
37	Wardlow Rd at I-405 Fwy	Improve bicycle crossing at freeway ramps
38	I-405 Fwy at Santa Fe Ave	Improve bicycle crossing at freeway ramps
39	Del Amo Blvd at LA Rover 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	SR-91 at Cherry Ave	Improve bicycle crossing at freeway ramps
44	SR-91 at Paramount Blvd	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 ISR-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 off-street facilities that make the bicycling environment in Long Beach more comfortable for riders. These include bicycle parking, wayfinding, signal detection, and hydration stations, and fix-it stations. Support facilities should be installed citywide.

Bicycle Parking

Bicycle parking is available throughout Long Beach, 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.

Bicycle parking can be categorized into short-term and long-term parking. Sidewalk bicycle racks or bicycle corrals are preferred for short-term bike parking (less than two hours), serving people who leave their bicycles for relatively short periods of time, typically for shopping, errands, eating or recreation. Bicycle racks provide a high level of convenience but relatively low level of security. Bike corrals are on-street racks that take the place of a vehicle parking space and hold up to 14 bicycles. This Plan recommends installing more bike corrals, especially at intersection corners to increase visibility at the intersections for all users.

Long-term bike parking includes bike lockers (small, stand-alone lockers that can hold one or two bikes), bike rooms (bicycle storage rooms in existing buildings), and Bike Stations (standalone buildings that store bicycles). Long-term parking serves people who intend to leave their bicycles for longer periods of time and is typically found at workplaces and in multi-family residential buildings, transit stations, and other commercial buildings. These facilities provide a high level of security but are less convenient than bicycle racks. Long Beach has long-term bike parking available at the Long Beach Bikestation and bike lockers available at select Metro Blue Line stations. Policy 7.1 of this Plan requires that the City actively pursue innovative and diverse funding mechanisms. This funding could be used for installation of additional stations and ongoing maintenance costs. Table 6-6 shows guidelines Long Beach should adopt and use for bicycle parking locations and quantities based on land use. These quantities may be separate from short-term racks installed in the public right-of-way, depending on location of bike parking and available right-of-way.

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, as seen below. 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

Table 6-6: Bicycle Parking Guidelines

Land Use or Location	Physical Location	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

five years in order to upgrade signs to change or add destinations, install new signs, and potentially refresh the branding.



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, per Policy 7.1 of this Plan.

Automated Bicycle Counters

Automated bicycle counters are permanent bicycle counters 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.



Non-Infrastructure Bicycle Programs

In addition to engineering (i.e., infrastructure) improvements, bicycle-related education, encouragement, entertainment, 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 riding a bicycle around Long Beach can be.
- » **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

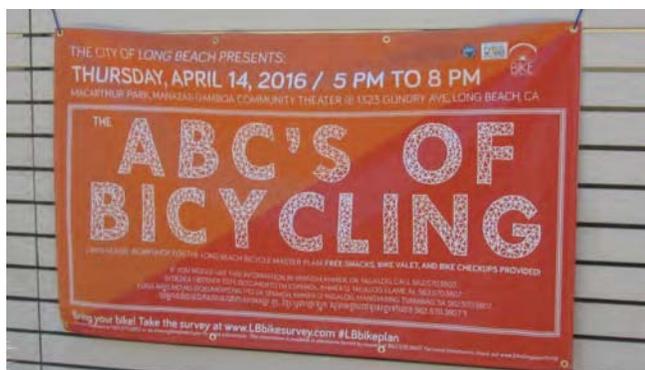
- » Develop a street design standards manual to reflect the new street typologies that incorporate the concept of complete streets.
- » Create separated lanes for pedestrians and cyclists for the entire length of the beach path.
- » Implement midblock crossings and traffic calming as needed in the more 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 and implement new bicycle education initiatives in both school classrooms and in other public forums to increase bicycle riding 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 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 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
- » Work with law enforcement to provide more accurate and complete collision information, especially if the collision involves a bicyclist or other vulnerable road user.
- » 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 your 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 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 analysis of crash data, bicycle count data, and bike share data.
- » Continue to use the complete streets checklist to evaluate opportunities to improve the bicycle network, public safety, and support facilities.
- » Develop an interdepartmental team of City staff whose focus is the implementation of the Five E's.
- » 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.