

SANTA MONICA BIKE ACTION PLAN



NOVEMBER 2011



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EXECUTIVE SUMMARY

SANTA MONICA IS SHIFTING GEARS

The Bike Action Plan is guided and supported by Santa Monica's award-winning 2010 Land Use and Circulation Element (LUCE) which lays out a bold vision for the city's future, one that protects and enhances the city's beautiful neighborhoods, creates new community benefits in complete neighborhoods around the new light rail stations, supports community character through good design, and minimizes traffic through a "No Net New Vehicle Trips" policy. This Bike Action Plan strives to be equally bold and practical. On the one hand, this plan envisions a future Santa Monica in which it is attractive and fun for Santa Monicans of all ages and abilities to use a bike to get everywhere in the city and to meet all the needs of daily life. On the other hand, it is also a detailed five-year implementation strategy for moving toward that vision.

The adopted LUCE established a strong framework that supports the Bike Action Plan through:

- ▶ **Integrating Land Use and Transportation**
- ▶ **Creating Complete Streets**
- ▶ **Preserving and Enhancing Neighborhoods**
- ▶ **Managing Congestion**
- ▶ **Ensuring Quality Transportation Choices**
- ▶ **Facilitating Affordable and Healthy Transportation**
- ▶ **Supporting Economic Health**

What is the Bike Action Plan?

The Bike Action Plan is a statement of community priorities that will guide and coordinate implementation of bicycle programs and the LUCE bicycle network, and encourage residents, employees, and visitors to make bicycling their transportation of choice. It outlines where the community wants to go and how to get there, laying out a bold 20-year vision and a 5-year implementation strategy. The document also reviews the policy context and goals, assesses current conditions, identifies resources for project development



Santa Monica Aspires To...

The LUCE identified three overarching Bicycle Goals:

- ▶ **Goal T9:** Create a complete network of high-quality bicycle facilities including a minimum of one new north-south and one new east-west dedicated bicycle path, with the aim of increasing of the number of people who use bicycles for everyday transportation.
- ▶ **Goal T10:** Ensure that the bicycle network is attractive to cyclists of all ages and experience levels.
- ▶ **Goal T11:** Create a safe, comfortable cycling environment in the city through facility design and public education.

and implementation, and includes a monitoring program to ensure accountability and flexibility. The Plan outlines programs and a network of bikeways that form the City's implementation priorities for the near and long-term. The Plan supports efforts to collaborate with community partners including businesses, employers and schools. Finally, the Plan is expected to meet State Bicycle Transportation Account requirements, making the City eligible to apply for state funding pursuant to that legislation.

This Plan is a roadmap, setting a course developed with community participation and guidance for creating a Santa Monica that is truly bicycle friendly for all. Both programs and bikeway improvements are outlined as the encouragement of bicycling is inseparable from the need to provide facilities to support bicycling. The Plan is practical and flexible, and provides a menu to guide the implementation of select priority projects during the next five years. It allows for variation based on funding decisions and outside grant availability. Actions by granting agencies such as Metro and Caltrans, and public or private partners, will impact the timing of implementation, with offers of financial, technical and logistical support.

WHAT THE COMMUNITY SAID WAS IMPORTANT

Bicycling emerged as a key issue during the extensive public process that produced the Land Use and Circulation Element (LUCE). During dozens of community meetings including Board and Commission discussions, focused bicycle workshops, and a dedicated survey, people expressed a vision for bicycling that includes:

- ▶ A Connected Bicycle Network – reaching major destinations including commercial districts, schools, the beach, and transit.
- ▶ Supportive Programs – encouraging new riders, educating new and existing riders, and providing information.
- ▶ Recreational and Fun Events – celebrating bicycling as a part of social life and stimulating new ridership.
- ▶ On-going Communication - creating an on-going dialogue with the Santa Monica community and beyond.
- ▶ Raising Awareness – ensuring that all road users understand how to work together.
- ▶ Complete Facilities – providing bike racks, showers, maintenance and other facilities to support the complete trip.
- ▶ Streets for All – balancing the mix of roadway users to accommodate bicycles in concert with vehicles, pedestrians and transit.



A “How-To” for Getting More People on Bikes in Santa Monica

At the most basic level, the Bike Action Plan is about how to encourage more people in Santa Monica to ride bikes for fun and as an alternative to driving. The Plan’s strategies and recommendations build on Santa Monica’s strengths, and aim to create a world class bicycling experience throughout the city. Santa Monica is a place where nearly anyone can bicycle, with its year-round moderate climate, relatively flat terrain, close proximity of destinations and easy to navigate street system. The Bike Action Plan develops bikeways and programs that are inviting and comfortable enough to encourage all types of bicyclists. It reaches out to a diverse population by providing a broad array of facility types, from separated bike paths to in-lane sharrows, by educating all road users through awareness and information campaigns, and by developing encouragement efforts with businesses, employers and schools.

BICYCLING IN SANTA MONICA TODAY

Interest in bicycling in Santa Monica is growing steadily. Bicycling is being encouraged and promoted through the City’s existing bicycle programs and facilities. The community benefits from a modest bicycle network and a comprehensive package of bicycle programs.

Over the past ten years, approximately \$1.7 million has been invested in bicycle facilities and programs throughout the city.

Bicycles by the Numbers

Bicycle Commuters

According to the American Community Survey, the City of Santa Monica maintains a 3.4 percent bicycle commuter mode share (also known as the percentage of work commuters traveling by bicycle), which is higher than most California cities, but lower than leading “bicycle friendly” cities like Portland, Oregon (5.8 percent) and Boulder, Colorado (12.3 percent). Annual surveys of Santa Monica’s major employers show that bicycling’s popularity is increasing. The share of people accessing work by bicycle grew by roughly 29 percent between 2007 and 2010.

Bicycle Counts

The City conducts traffic counts at over 190 intersections every several years. The counts have included bicycle movements at signalized intersections. The most recent data from 2007 indicates that cyclists were observed through citywide intersections over 3,600 times during morning commute peak hour and 4,300 times during the evening commute peak hour. Ridership is highest on Arizona Avenue, Main Street, and throughout Downtown. Bicyclist counts are being updated for 2011.

Figure ES-1 Recent Changes Mode Shift in Santa Monica – Major Employers

	07/08 Mode Split	09/10 Mode Split	Change
Total Trips	100%	100%	
Drive alone	67.80%	65.76%	-3.0%
Carpool	12.96%	13.37%	+3.2%
Transit	9.10%	8.95%	-1.6%
Walk	3.40%	3.42%	+0.6%
Bike	2.59%	3.33%	+28.7%
Non-commute*	4.16%	5.16%	+24.0%

* Includes telecommute, compressed work week day off, and non-commute.

Bicycle mode share increased dramatically in the past two years. Source: Santa Monica Employer Annual Transportation Fee Filing Form/Invoice, FY07/08 - FY09/10

Bicycle Racks

The City has been actively expanding bicycle parking along commercial streets, at public buildings, and at the beach. In 2010, the city had 920 bike rack spaces at over 50 locations, with efforts underway to increase bike racks citywide.

Bike Valet

Attended bike parking known as “bike valet” has become a hugely popular service at special events and high demand destinations in Santa Monica. In fiscal year 2010-2011, the City provided valet service to 25,577 bikes at 157 events. The number of valeted bikes in 2010-2011 was nearly a quarter higher than observed in 2008-2009.



Bike Ownership

According to the 2010 citywide resident survey, two-thirds of Santa Monica residents own a bike, and over half of bicycle owners ride at least a few times a month.

Bicycle Programs Today

Bicycling today is encouraged and promoted through an array of programs and supporting facilities.

- ▶ The City actively participates in events such as Bike-to-Work and highlights bicycling at City-sponsored GLOW, the Santa Monica Festival, Tour de Arts, and National Night Out. Many of these activities involve partnering.
- ▶ The City initiated targeted awareness campaign strategies, including a media campaign about newly installed shared lane markings, also known as “sharrows.”
- ▶ Bicycle education is offered during school registration periods and bicycle training workshops. In Fall 2011, the City completed a bicycle training “campus” adjacent to the beach bike path near the south beach lots.
- ▶ Bicycle awareness is actively promoted through programs with schools, businesses, and visitor-serving entities.
- ▶ Santa Monica provides training for employers on how to encourage bicycling within employee commute reduction programs. The City also initiated and operates its own Bike@Work program and works with the schools through Bike It! Day and Safe Routes to School efforts.

- ▶ Bicycling information is provided on the City’s website and through printed maps. New residents are provided with welcome packets that include bicycle maps and safety information.
- ▶ The City also conducts targeted safety and enforcement campaigns.

Supporting Facilities

The City is continuously increasing on-street bike parking and operates the highly-successful bike valet program. The City has been upgrading traffic signals with bicycle detection. The City’s first Bike Center opened in Fall 2011 at the base of Santa Monica Place. As a hub for Downtown, it provides 350 secure bicycle parking spaces, offers showers and lockers for regular commuters, bike repairs, travel information and related services. It also promotes “green mobility” through outreach and education, conducting bicycle classes and tours. Bike parking is being designed into the rebuilding of the City’s Parking Structure No. 6 on 2nd Street between Broadway and Arizona, with construction beginning in 2012. The City also requires commercial developers to provide adequate bicycle parking and amenities for employee commuters.



A Bike Santa Monica spoke card - part of an ongoing effort to raise visibility and promote biking.

Figure ES-2 Santa Monica Resident Bicycle Usage

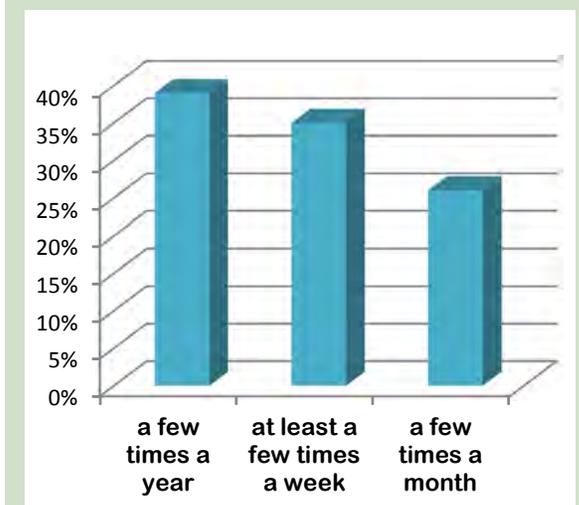
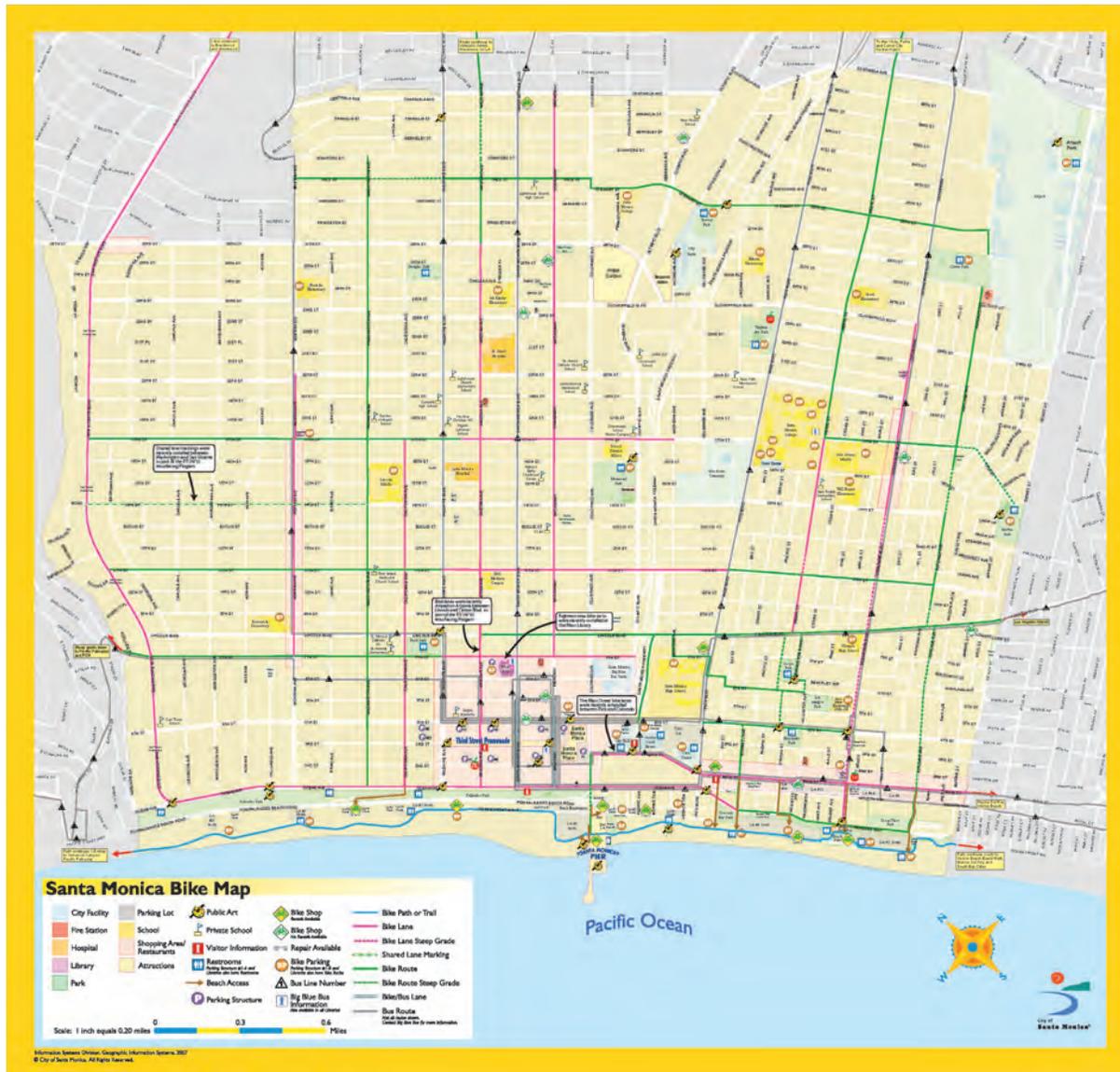


Figure ES-3 Santa Monica's Existing Bicycle Network



Santa Monica's bike network connectivity and major destinations. The bike map is available on the BIKE Santa Monica website at <http://www.bikesantamonica.org>.

The City's Bicycle Network

Today, Santa Monica has a bicycle network covering 37 miles, including 18 miles of bikeways (either bike lanes or paths) and 19 miles of bicycle routes. Key east-west bicycle connections include the bike lanes on Broadway and San Vicente Boulevards. Bike lanes on Main Street, Ocean Avenue, and portions of 11th Street offer important north-south connections. Figure ES-3 shows the city's existing bicycle network of bike lanes, signed routes, and bike paths.

Regional Network and Transit Connections

The Marvin Braude Beach Bicycle Trail provides a critical 20-mile off-street path used for commute and recreation trips, linking Santa Monica to South Bay cities at the southern end of the path and Will Rogers Beach in Los Angeles at the northern end.

Transit operators provide regional connections by accommodating bicycles on buses and trains. Bicycle facilities are connected with transit stops along the Downtown Transit Mall and along many of the major boulevards within the city.

SETTING A COURSE

Santa Monica strives to transform itself into a world class bicycling city. The Bike Action Plan recommends the development of innovative programs and bikeways to satisfy the goals for bicycling outlined in the LUCE. Making bicycling appealing and comfortable for people of all ages and abilities and for all types of trips calls for the City to invest in a complete network of high quality bikeways and an array of effective programs. Programs will improve bike awareness, encourage more cycling, provide supporting facilities, and enforce safe traveling. This Bike Action Plan is therefore comprised of two complementary and robust components: Programs and Bikeways.

Programs

Programs encourage people to get on bikes, build awareness for all road users, promote safety, and support a vibrant bicycling culture.



An electronic sign on Lincoln alerts people to expect more cyclists out for BikeIt! Day.

Figure ES-4 Local and Regional Bicycle Connections – City of LA Bicycle Plan



Partnerships with local non-profits, schools, and employers will strengthen bike programs. Programs include:

Education

People need the skills, knowledge, and understanding to feel comfortable on and along a bicycle. Santa Monica aspires to

provide bicycle education to as many people as possible, while communicating the rights and responsibilities of sharing the road to cyclists and drivers, and the many benefits of bicycling. Recommendations include bike rodeos to educate young people in how to ride safely, League Certified Instructor training courses for adults to help create more volunteer cycling

educators, Commuting 101 and bicycle repair skills courses, and bicycle skills training at a new Bicycle Campus. The Plan also calls for development of curriculum-based training programs for middle school students and development of a library of core educational content that can be used with targeted groups including students, seniors, those who receive traffic tickets, visitors, and commuters.

Events

Events provide opportunities to reach out to large numbers of people and engage them with bicycling in Santa Monica. Bicycle-focused events, bicycle elements in other events, and bicycle rides and tours raise the profile of bicycling in Santa Monica. Recommended events include expanded support for Bike to Work and Bikelt! Day efforts, stronger requirements for bike presence at City-permitted events, car-free street events held in conjunction with other events and the creation of special events including ribbon-cuttings and openings to highlight bicycle initiatives. The City seeks to support the development of car-free events that raise awareness of bicycling and provide opportunities for people to enjoy riding comfortably on streets reserved exclusively for bicyclists and pedestrians.



Non-Profit Partnerships help promote bicycle awareness in the community. Pictured above, at a Santa Monica Spoke, City Council Mixer & Forum To Discuss Bicycling. Source: Gary Kavanagh

Awareness

Awareness is the first step towards changing the culture so that all people see that bicycles have a place on city streets, where road users show mutual respect. The goal for awareness campaigns is to expose people to bicycle rights, resources, and facilities. Recommendations include promotion of the Bike Santa Monica program identity, a commitment by the City to lead by example and to continue to show how to integrate bicycling programs into all City operations and programs. Actions will also include annual education campaigns, convening of cycle talks and informal roundtables, and regular network showcasing, including bike tours focused on specific issues.

Information

It is essential for people to be informed of what is going on with bicycling in Santa Monica. The key recommendation is to develop a high-quality, robust web site that provides a comprehensive source for Santa Monica bike information. The site will include information about programs and facilities, real time trip planning, employee and visitor Transportation Demand Management support tools, and opportunities for public participation and input. Also recommended are attractive printed and online maps, self-guided bicycle tour routes, and the provision of information about transit connectivity.



Sustainable Streets provides bicycle training courses – from the basics to vehicular cycling. Source: Sustainable Streets

Encouragement

Reflecting the need for collaboration with community partners, encouragement programs include coordinating efforts with targeted groups. The Bike Action Plan supports business initiatives like “Buy Local” with a “Bike Local” component, school-based access improvements and training, and additional support for bicycling in employer TDM plans and the development of Transportation Management Associations. The Plan also encourages continued partnering, sharing of resources and co-hosting events with neighboring jurisdictions, non-profit bike groups and the Convention and Visitors Bureau. These programs support the goal of increasing the number of people using bicycles for school, work, shopping and entertainment.

Enforcement

The Bike Plan emphasizes coordination between education and enforcement to reduce bicycle related traffic violations and bicycle related crashes. Recommended enforcement programs include a Police Department Bicycle Ambassador program and ticket deferments for cyclists who participate in a bicycle safety course.

Supporting Facilities

Supporting facilities get more people on bikes by providing highly attractive, easily accessible, and visible bicycling amenities. Proposed facilities are noted below and displayed in Figure ES-5:

- ▶ Bicycle parking, including convenient short-term and secure long-term parking at all key

destinations as well as bike valet at regular and special events. The Plan calls for 2,500 new bike racks, including corrals and access-controlled bike parking in new City parking structures;

- ▶ Shared use of bicycles at multiple locations through development of a bike share system, expanding the Bike@Work fleet and making bike rentals available at Bike Centers and local bike shops. The Plan calls for a bike share program funded by a grant in 2016, and encourages early implementation of 250 bicycles at 25 locations;
- ▶ Comprehensive and coordinated wayfinding system, including destination and distance signs along bikeways throughout the city; and
- ▶ High-quality trip end facilities such as Bike Centers which provide secure bike parking and bike-related services, and showers, changing and locker facilities at transit stations and in major development projects.

Bikeways

The recommended bikeways in this Plan are designed to appeal to a wide range of Santa Monicans, including novice and experienced riders and young and senior residents. The LUCE Bicycle Network has been refined in this Action Plan through a combination of community outreach, analysis of physical characteristics along various corridors, extensive field review, and application of appropriate measures from the Bicycle Facility Toolbox (see Figure ES-7 for toolbox summary).

The network was designed with the following priorities in mind:

- ▶ Build upon and expand the current bike network;
- ▶ Provide at least two new high quality separated bikeways - one east-west and one north-south;
- ▶ Enhance heavily used bicycle corridors;
- ▶ Provide excellent connections to the Marvin Braude Bike Trail and planned Expo Bike Path regional facilities;
- ▶ Strengthen connections to schools, the Expo Light Rail stations and other destinations;
- ▶ Ensure that the bike network feels inviting to a broad array of existing and potential cyclists; and
- ▶ Connect to existing and planned bikeways in surrounding communities.

The resulting Priority Bicycle Network of 33 corridors, with three tiers of priority are shown in Figure ES-6. Future bikeways include improvements on 75 percent of the LUCE bike network including green bike lanes, cycle tracks, buffered bike lanes, climbing bike lanes, sharrows, neighborhood greenways and bike paths/trails. The proposed bikeway network is a balance of high-quality capital intensive projects and projects that can be easily installed without restriping or major changes to the streetscape.

Figure ES-5 Proposed Supporting Facilities



The network was informed by major public workshops, Planning Commission, Recreation and Parks Commission, and City Council review. The outreach process also informed the implementation plan. The Plan’s bikeway recommendations are organized into two phases: A 5-Year Implementation Plan and the 20-Year Vision. Projects are prioritized into these two phases based on funding, cost, publicly-endorsed priorities, and gaps in the existing bicycle network. Although

some projects require additional planning and engineering studies, public processes and environmental review, the 5-Year Implementation Program includes initial work necessary to bring many forward. Several high quality marquee projects are included in the near-term implementation as important demonstration projects that improve the bicycle network while also raising the awareness and visibility of bicycling. The recommended program projects are shown in

Figure ES-6 Priority Bikeway Network



Figure ES-9, the 5-Year Implementation Plan projects are listed in Figure ES-10, and the 20-Year Bikeway Vision Plan projects are listed in Figure ES-11.

Priority actions for bikeways in the 5-year Implementation include:

- ▶ Enhanced School Access:
 - ▶ Use information, education, and awareness programs to encourage responsible and safe driving and bicycling to and around schools

- ▶ Work with School District to identify and improve good bicycle routes to each school and to provide information about these routes to school communities and neighbors of schools
- ▶ New high-quality improvements on:
 - ▶ 17th Street: provide new north-south crosstown connection to the 17th Street Expo light rail station at Memorial Park, including direct connection to Santa Monica College
 - ▶ Michigan Avenue/20th Street crossing: Create a Michigan Avenue (east-west) bikeway with a 20th Street I-10 Crossing.

The facility will link the beach area, Civic Center, Santa Monica High School, Bergamot Expo station and residential areas

- ▶ Buffered Green Bike Lanes – colorized buffered lanes will improve visibility and comfort on two of the City’s most popular bikeways:
 - ▶ Main Street/Second Street (north/south): also extend Main Street connection northward on 2nd Street
 - ▶ Broadway (east/west)
- ▶ Better Beach Connections on California Incline and Pier Bridge/Ramp
- ▶ North/South Improvements on:
 - ▶ 6th Street: Emerging neighborhood greenway south of Pico
 - ▶ 7th Street: Better crosstown connection from Olympic to north City Limit
 - ▶ 11th Street: Better crosstown connection with extended lanes
 - ▶ 14th Street: Better crosstown connection with new lanes
 - ▶ Yale/Stewart Streets
- ▶ Potential bicycle connections (requiring collaboration) through and around:
 - ▶ Santa Monica High School
 - ▶ Santa Monica College
 - ▶ Major office complexes
 - ▶ Marine Park/Penmar Park
 - ▶ Clover Park
 - ▶ Airport/Airport Park

Figure ES-7 Bicycle Facility Toolbox Summary

Neighborhood Greenways

Low stress bike routes and a liveable street environment for pedestrians, bikes and vehicles



Cycle Tracks

Physically separated facility parallel to the roadway



Bike paths, side paths and multi-use trails

Provides a shared use or dedicated path physically separated from motorized vehicle traffic by an open space or barrier



Bike lanes, buffered

Provides additional buffer from parked cars or traffic, which greatly increases user comfort



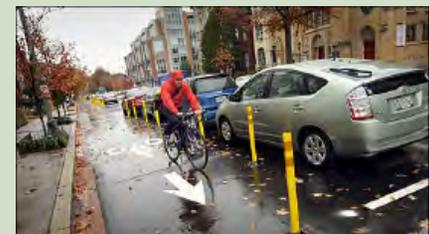
Bike lanes, climbing

Provides a bike lane in the climbing direction and shared lane markings in the downhill direction



Bike lanes, contraflow

Provides dedicated lane in the opposite direction of traffic



Bike lanes, double

Provides additional capacity for cyclists by creating two four-foot wide bike lanes side by side



Intersection treatments

Includes through lanes and merge treatments, bike boxes, box turn facilities, bike detection, signal timing, and phasing to support bicyclists



Figure ES-7 Bicycle Facility Toolbox Summary

Shared lane markings

Guides cyclists away from the “door zone” and signals to motorists that cyclists are present; shared lane markings are also known as “sharrows”



Bicycle access enhancements

Median crossings provide two phase crossing for bikes and pedestrians, while half closures prioritize bicycle through-movements at key locations



Signalization

Include bike detection or automatic bike-friendly timing at signalized intersections. Use green wave progression where appropriate. Use bike boxes and detection symbols to encourage good lane positioning at signals



Wayfinding and Branding

Allows cyclists to get to important destinations, navigate streets in real time, and provides a visible cue to all road users that cyclists belong



Complete Local Streets

A designation for neighborhood streets that focus street trees, lighting, and stormwater design and other features that enhance the bicycling and walking experience



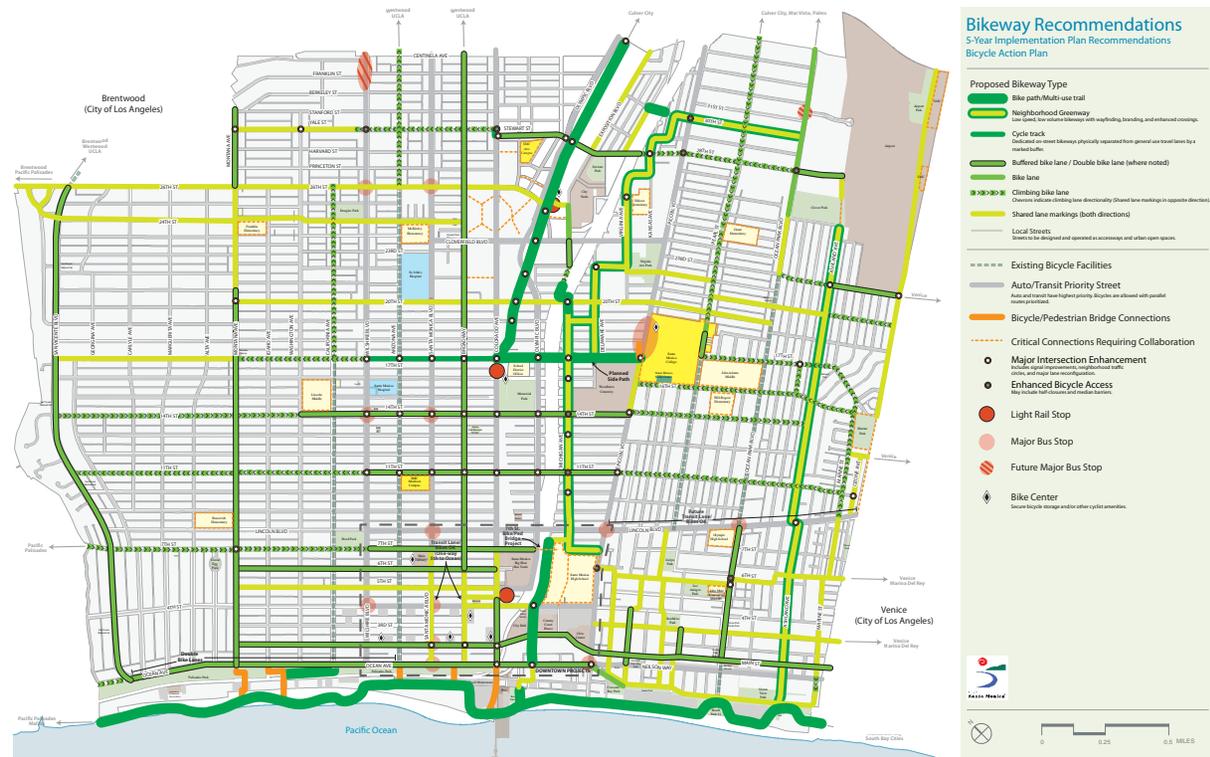
At a 2011 Bicycle Action Plan workshop, community members provided input on the bikeway treatments to be included in the toolbox.

HIGH VISIBILITY BIKEWAYS

As part of the 5-Year Implementation Plan, the City of Santa Monica will begin striping high visibility bikeways enhanced with green color pavement treatments. Corridors that will be enhanced with these highly visible treatments are those that experience high bicycle demand and connect into major transit hubs or future Expo Light Rail stations. Although the City is adopting a bike lane striping standard that includes green colored bike lanes for all buffered bike lanes, the corridors that are prioritized for initial investment include:

- ▶ Broadway Bikeway
- ▶ 2nd / Main Bikeway
- ▶ 11th Street Bikeway
- ▶ 14th Street Bikeway
- ▶ Colorado Esplanade

Figure ES-8 5-Year Implementation Plan



The Plan emphasizes bikeways that connect to the regional Expo Bike Path that is also planned within the 5-Year time frame, providing a major east-west connection from 17th Street into Downtown Los Angeles. The City is also working with the County of Los Angeles and other cities along the Marvin Braude beach bike trail to upgrade and enhance signing and striping, and seek funding to ultimately widen the facility so there is a separate pedestrian path and bicycle path north of the Santa Monica Pier.

Rolling It Out Implementing the Plan

The 5-Year Implementation Plan incorporates conceptual cost estimates to support budgeting and development of grant applications, as well as inform staff work-plan development. Funding for planning and implementation is anticipated from grants, Capital Improvement Projects, a Transportation Impact Fee, Development Agreements and

other outside sources. Completing the 20-Year Vision is expected to cost over \$25 million.

Measuring and Monitoring

The things which we measure often receive the most consistent attention. Building upon the Sustainable City Report Card's success, the Bike Action Plan includes regular monitoring of its progress. It proposes performance indicators tied to key plan components. The recommended indicators are summarized in Figure ES-12.

Next Steps

Keep It Current

The Bike Action plan is a living document. In order to meet the goals of this Plan and keep it current, it will be necessary to revisit it at least every five years to examine the state of Santa Monica's bicycle network and programming. The plan and process will adjust implementation in response to needs and opportunity. Changing land uses and transportation conditions should be considered in each update, making this a living document and making cycling ever more appealing.

Make It Happen

Bike Action Plan implementation will occur using a variety of strategies.

Existing Tools

The City of Santa Monica can encourage implementation through existing processes, and in conjunction with LUCE implementation, including:

- ▶ Developing Zoning Ordinance standards and Development Agreement guidelines that incentivize or require inclusion of high quality bicycle facilities;
- ▶ Preparing bicycle network implementation and maintenance guidelines applicable to the City's annual pavement resurfacing program and maintenance projects; and
- ▶ Facilitating the establishment of Transportation Demand Management

Districts and/or Transportation Management Associations to support implementation and utilization of bicycle programs and facilities.

Grants

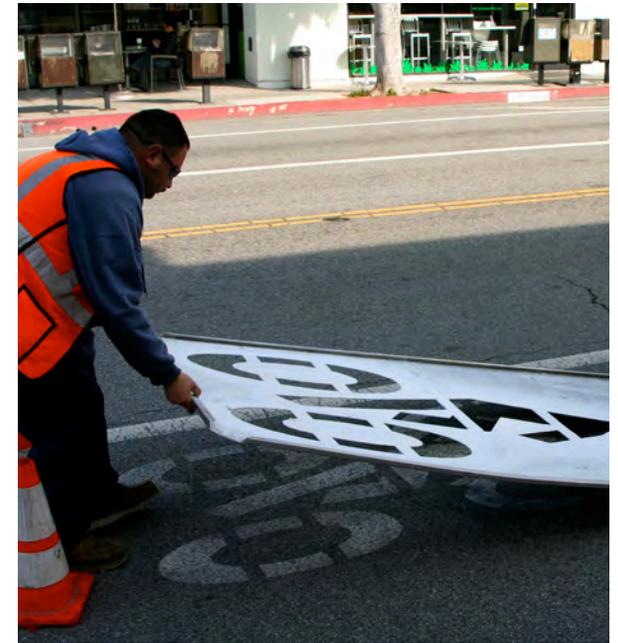
With adoption of the Bike Action Plan, the City will be more competitive when applying for grant funds from numerous sources. The clarity of programs, bikeways and supporting facilities, along with the Plan's community-based vision to increase cycling numbers is anticipated to make Santa Monica's projects attractive for funding.

Capacity Building

Partnerships among community members and across City departments are a critical component of plan implementation. The Plan seeks to build on the energy and enthusiasm of all bicycle advocates to expand programming and to facilitate and support bikeway network completion. An ongoing dialogue will be fostered to share information and drive implementation.

Bicycling into the Future

Santa Monicans are experiencing a cultural shift in the way they move around the city. Bicycling, along with walking and transit, have emerged as cornerstones of Santa Monica's integrated land use and transportation approach. Increasing the number of people who embrace bicycling as part of their daily



City crews install bicycle lane symbols and directional arrows.

lives is an achievable vision. The physical and programmatic changes included in this Plan will harness existing momentum to provide the reassurance necessary for others to make the shift to cycling. This Plan is intended to expand on the successes of the past with visible and effective programs that promote the benefits of bicycle travel. It also identifies specific high quality bicycle facilities that provide direct connections to destinations citywide. Whether they are neighborhood greenways, cycle tracks, bike paths, or buffered bike lanes, Santa Monica's bikeways will weave seamlessly into the city's fabric and provide a convenient and fun option for getting around.

This Plan will require the ongoing commitment of the city’s policymakers, staff, residents, and businesses and the continued enthusiasm of the cycling community. Working together, a partnership of involvement can transform Santa Monica into a world-class bicycle community. The City can harness the power of the bicycle in promoting a more vibrant local economy, improving the quality of life for all residents, nurturing a more sociable community, encouraging healthier lifestyles, and creating a more sustainable future. Santa Monicans have places to go and the bicycle is well-positioned to take them there.

How to Use the Plan

The document is organized as follows:

- ▶ Chapter 1: Shifting Gears – describes the goals and policy basis for the Plan, the integration into the LUCE community vision and process, the development of the Plan, and why cycling is integral to the achievement of the community’s larger goals.
- ▶ Chapter 2: Bicycling in Santa Monica Today – presents the physical network and supportive programs available in the city today, as well as key information about bicycling trends in Santa Monica.
- ▶ Chapter 3: Setting a Course – presents the 5-year Implementation Plan and 20-year Vision for bicycle facilities, as well as a toolbox of bicycle programs for encouragement, education, information, awareness and events which are further refined in Chapter 4.
- ▶ Chapter 4: Rolling It Out – presents the strategies to implement the 5-year bicycle vision through existing and new facilities improvements, and detail on anticipated costs of facility improvements. This chapter also outlines the Plan’s proposed monitoring approach.



Program Implementation

Figure ES-9 lists recommended program projects and Figures ES-10 and ES-11 list recommended bikeway projects for 5-Year Implementation and 20-Year Vision Plans. The **bold** print indicates that some funding has been secured for that item.



Figure ES-9 Program Implementation Strategy

Program Category	Base	Medium	High
Education	Bicycle Campus Planning, Develop a City TV episode highlighting benefits of biking, safety, etc., Bike Education at events, Bike Rodeos, One time bike training for city workers	Educational videos, Bicycle Campus Opening, Classes offered through City Bike Center , Additional City TV Episodes, Bike Training for adults and additional training for youth and targeted groups like Seniors	Develop Core Educational Programming, Ongoing Bicycle Training, Bicycle Repair Skills
Events	Bike to Work Day, Bike It! Day, Bike to Park Day, Presence at special events (Glow, Marathon), Technical support for events with bike element (i.e. Tour da Arts)	Bike cross-promotion at events, Success celebrations for programs and facilities, Revise event requirements regarding bicycles, Bike Center Tours , Car Free Street Elements at existing events such as Glow, Santa Monica Festival	Cyclovia, Major car free street events, Upgrade bike-friendly status of Santa Monica events
Awareness	Attend public forums and existing group and or commissions' meetings, Create Bike Program Identity, One targeted Sharrow campaign including bus tailcards	Continued collaboration with Advocacy Groups, City Leadership Cycle Talks , Awareness Campaigns, Bicycle Showcase Tours, Giveaways with targeted campaigns	Ongoing targeted campaigns, Leadership role, Legislative advocacy, Promotion of high profile facilities including green paint, bike boxes, and signalization
Information	Request System (City Go App and Web Page), Bike info. at City Events, Self-guided bike tour maps, bike on bus web information and on maps	Electronic map information on City website and others , Updated Bike Map, Directions to major destinations, Encourage others to include cycling in promos, New resident packet, Info incorporated into event process, Web Improvements, Web based multi-modal trip planning	Real-time bike parking availability information
Encouragement	Offer technical assistance to schools for access, Support Bikelt! Day, Employer TDM web services, Provide information to employers regarding Bike@Work and Bike Parking, Work with bicycle advocacy groups, New resident outreach	Safe Routes to School (Samohi, Middle School bicycle training, Middle and Elementary encouragement) , Mobile School Bike Training, Bike Friendly Business Recognition, Support Buy Local, Encourage Bike Local bike to business discounts, Car-Free Tourism support, TMA Formation Planning , Bike Pooling, Partner with SMC on programming	TMA Formation Outreach, Santa Monica High School access and parking improvements, No Net New Trips Toolkit that provide help and incentives for employers , Bicycle ownership programs, Mobile bike assistance, Bike-friendly districts, Work with School District to identify and improve good bicycle routes to each school and to provide information about these routes to school communities and neighbors of schools

Figure ES-9 Program Implementation Strategy

Program Category	Base	Medium	High
Enforcement	PD Bicycle Ambassador, Establish Ticket Diversion Program, Encourage bike registration	Prioritize enforcement based on safety, Agency coordination on rules and rights of the Road	Consider anti-harassment rules
Supporting Infrastructure			
Bicycle Parking (Valet, Bike Centers, and public racks)	Bike Valet at Sunday Farmers' Market, Bike Parking at Santa Monica High School, 800 New public bike parking spaces	Increased bike parking requirements and amenities, Bike Valet at additional Farmers' Markets, 2,500 new bike parking spaces for public, provide on site bike racks for schools and businesses as part of TDM toolkit, Create four bike corrals	Complete and Operate Bike Centers – full and self service at Parking Structures 7 and 8, additional Bike Centers at two rail stations
Bike Share	Planning efforts for local and citywide Bike Share	Pilot Bike Share Program in Downtown focused on Employees or in business areas	Citywide Public Bike Share Program – 25 locations with 10 bikes each, Develop and pursue opportunities to accelerate the implementation of bike share in Santa Monica, Expand the scope of the initial bike share program as needed to provide good coverage throughout the city, Encourage and support the development of a bike share program at the regional level
Wayfinding	Planning Beach Bike Trail signage improvements, Initial wayfinding to downtown Santa Monica Bike Center	Install Beach Trail signage and striping plans, Citywide wayfinding to major destinations and on primary bikeways	Design and phased implementation of comprehensive wayfinding system



Figure ES-10 5-Year Implementation Plan Recommended Projects

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)
San Vicente Bikeway ▶ San Vicente	Ocean Avenue	26th Street	2.02	Buffered bike lanes
Montana Avenue Bikeway ▶ Montana	Ocean Avenue	21st Street	1.51	Buffered bike lanes
Montana Avenue Bikeway ▶ Montana	21st Street	Stanford Avenue	0.68	Buffered bike lanes, Shared lane markings, Raised median crossing
California Avenue Bikeway ▶ California Incline	Pedestrian Bridge	Ocean Avenue	0.2	Bike path (determined by design process)
California Avenue Bikeway ▶ California	17th Street	26th Street	0.68	Climbing bike lanes, Shared lane markings
Arizona Avenue Bikeway ▶ Arizona	26th Street	Centinela Avenue	0.52	Climbing bike lane, Shared lane markings
Broadway Bikeway ▶ Broadway ▶ Santa Monica Boulevard	Ocean Avenue	7th Street / 6th Street	0.83	Shared lane markings (Green "Super-sharrow"), Bus-bike lane
Broadway Bikeway ▶ Broadway	6th Street	Centinela Avenue	2.04	Buffered bike lanes (green)
Santa Monica Pier Improvements ▶ N/A - Off-Street	Ocean Avenue	SM Pier	N/A	Determined by design process, Short-term shared lane markings
Colorado Esplanade ▶ Colorado	Ocean Avenue	7th Street	0.45	Buffered bike lanes (green), Shared lane markings
2nd/Main Bikeway ▶ Main	Colorado Avenue	South City Limit	1.27	Buffered bike lanes (green)
Exposition Bike and Pedestrian Path	17th Street	Centinela Avenue	1.36	Bike path (determined by design process)
Virginia Avenue Shared Lane Markings ▶ Virginia	Stewart Street	Dorchester Tunnel	0.2	Shared lane markings

N/A incorporated in other City projects

Figure ES-10 5-Year Implementation Plan Recommended Projects

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)
Michigan Avenue Neighborhood Greenway ▶ Arcadia Terrace ▶ Appian Way ▶ Pacific Terrace ▶ Olympic Drive ▶ East Olympic Boulevard	Ocean Front Walk	7th Court	0.6	Neighborhood greenway, Bike path, Shared lane markings, New intersection, Bicycle signal
Michigan Avenue Neighborhood Greenway ▶ Michigan ▶ 7th Court	East Olympic	19th Court	0.98	Neighborhood greenway, Shared lane markings, Neighborhood traffic circles, Bicycle access enhancement
Michigan Avenue Neighborhood Greenway ▶ Michigan ▶ 20th Street ▶ I-10 right-of-way	19th Court	21st Street	0.17	Shared use path, Bicycle Signal
Michigan Avenue Neighborhood Greenway ▶ Michigan	21st Street	Bergamot Station	1.85	Contraflow bike lane, Buffered bike lanes, Bike lanes, Shared lane markings, Bike path
Michigan Wiggle Neighborhood Greenway ▶ 19th ▶ Delaware ▶ 22nd ▶ Virginia ▶ Kansas ▶ Yorkshire ▶ Urban ▶ Dorchester ▶ 30th	Michigan Avenue	Ocean Park Blvd	1.69	Neighborhood greenway, Shared lane markings, Neighborhood traffic circles, Median diverter with refuges
Pearl Street Bikeway ▶ Pearl ▶ Bay ▶ Bicknell ▶ Pacific ▶ Hollister	Barnard Way	Centinela Avenue	4.14	Buffered bike lanes, Bike lanes, Climbing bike lanes, Shared lane markings
Ocean Park Boulevard Bikeway ▶ Ocean Park	Main Street	Lincoln Boulevard	0.52	Buffered bike lanes (green)

Figure ES-10 5-Year Implementation Plan Recommended Projects

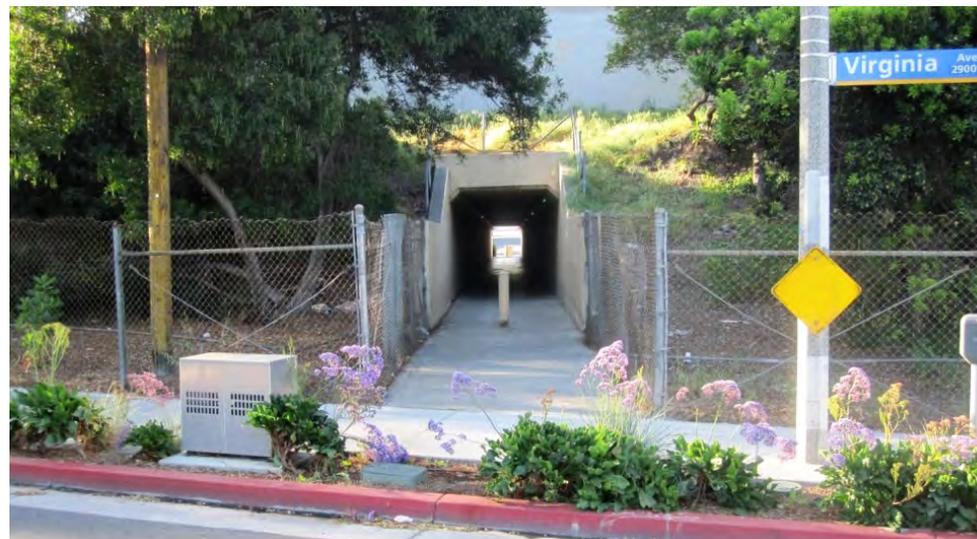
Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)
Ocean Park Boulevard Bikeway ▶ Ocean Park	Cloverfield Boulevard	Centinela Avenue	0.83	Bike lanes, Shared lane markings
Ashland Avenue Neighborhood Greenway ▶ Ashland ▶ 28th Street	Barnard Way	28th Street	1.91	Neighborhood greenway, Shared lane markings
Marine/Navy/Ozone/Dewey/Airport Bikeway ▶ Marine ▶ Navy ▶ Ozone ▶ Dewey ▶ Airport Way	Barnard Way	Bundy	4.85	Climbing bike lane, Shared lane markings, Full closure retrofit
Marvin Braude Bike Trail	North City Limit	South City Limit	3.07	Bike path, wheel troughs
Ocean/Barnard Way Bikeway ▶ Ocean	North City Limit	Pico Boulevard	1.89	Climbing bike lane, Double bike lanes, Buffered bike lanes (green)
Ocean/Barnard Way Bikeway ▶ East Ocean ▶ Barnard Way	Pico Boulevard	Neilson Way	1.11	Bike lanes, Climbing bike lane, Shared lane markings
2nd/Main Bikeway ▶ 2nd Street	Montana Avenue	South City Limit	1.02	Buffered bike lanes (green), Intersection redesign
3rd Street Bikeway ▶ 3rd Street	Main Street	South City Limit	0.88	Shared lane markings
4th Street and 5th Street Shared Lane Markings ▶ 4th Street ▶ 4th Court ▶ 5th Street	California Avenue	Olympic Boulevard	1.42	Shared lane markings
6th Street / 7th Street Bikeway ▶ 6th Street ▶ 7th Street	North City Limit	Olympic Boulevard	1.76	Buffered bike lanes, Climbing bike lane, Shared lane markings

Figure ES-10 5-Year Implementation Plan Recommended Projects

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)
6th Street / 7th Street Bikeway ▶ 6th Street ▶ 7th Street ▶ Pico ▶ Bay ▶ Raymond ▶ Highland	Michigan Avenue	South City Limit	1.17	Shared lane markings, Bicycle Signal, Bicycle access enhancement
11th Street Bikeway ▶ 11th Street	San Vicente Boulevard	Wilshire Boulevard	1.14	Climbing bike lane, Shared lane markings
11th Street Bikeway ▶ 11th Street	Wilshire Boulevard	Marine Street	1.86	Buffered bike lanes (green), Climbing bike lane, Shared lane markings
14th Street Bikeway ▶ 14th Street	San Vicente Boulevard	Ashland Avenue	1.58	Climbing bike lane, Shared lane markings
14th Street Bikeway ▶ 14th Street	Wilshire Boulevard	Pico Boulevard	1.29	Buffered bike lanes (green)
17th Street / 16th Street Bikeway ▶ 17th Street	San Vicente Boulevard	Wilshire Boulevard	1.20	Climbing bike lane, Shared lane markings
17th Street / 16th Street Bikeway ▶ 17th Street ▶ Pico	Wilshire Boulevard	Pico Boulevard	1.25	Side path, Cycle track
17th Street / 16th Street Bikeway ▶ 17th Street ▶ 16th Street ▶ Hill	Pico Boulevard	Marine Street	1.66	Climbing bike lanes, Shared lane markings
20th Street Bikeway ▶ 20th Street	Montana Avenue	Ocean Park Blvd	2.12	Shared lane markings
22nd Street and 21st Street Shared Lane Markings ▶ 21st Street ▶ 22nd Street	Virginia Avenue	Dewey Street	1.02	Climbing bike lane, Shared lane markings
23rd Street Bikeway ▶ 23rd Street	Ocean Park Boulevard	Dewey Street	0.19	Buffered bike lane, Climbing bike lane, Shared lane markings

Figure ES-10 5-Year Implementation Plan Recommended Projects

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)
24th Street Shared Lane Markings ▶ 24th Street ▶ La Mesa Way/Drive ▶ Chelsea ▶ Park	26th Street	Broadway	1.91	Shared Lane Markings
26th Street Shared Lane Markings 26th Street	North City Limit	Exposition Bike Path	1.88	Shared Lane Markings
Yale/Stewart/28th Bikeway ▶ Yale	Montana Avenue	Colorado Avenue	1.03	Climbing bike lane, Shared lane marking, Neighborhood traffic circle
Yale/Stewart/28th Bikeway ▶ Stewart ▶ Colorado	Colorado Avenue	Kansas Avenue	0.34	Cycle Track, Buffered bike lanes, Median Bicycle Only Turn Pocket
Yale/Stewart/28th Bikeway ▶ Stewart ▶ 28th Street	Kansas Avenue	Santa Monica Airport	0.75	Buffered bike lane, Climbing bike lanes, Shared lane markings, Half closure
Dorchester Tunnel Improvements ▶ N/A - Off-Street	Virginia Avenue	Urban Avenue	N/A	Tunnel enhancements



The 20-Year Vision includes all projects outside of the 5-year Plan. The 20-year Vision is flexible in that the City can implement 20-year projects earlier if funding is available.

Figure ES-11 20-Year Vision Plan Recommended Bikeway Projects

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)
San Vicente Bikeway ▶ San Vicente	Ocean Avenue	26th Street	2.02	Bike path, Buffered bike lanes
Washington Avenue Neighborhood Greenway ▶ Washington ▶ Stanford ▶ Lipton ▶ Berkeley	Ocean Avenue	Arizona Avenue	2.65	Neighborhood greenway, Shared lane markings, Neighborhood traffic circles, Bicycle access enhancement
California Avenue Bikeway ▶ California	Ocean Avenue	17th Street	1.20	Buffered bike lanes
Arizona Avenue Bikeway ▶ Arizona	Ocean Avenue	26th Street	2.41	Buffered bike lanes, Neighborhood traffic circles
Nebraska Avenue Bikeway ▶ Nebraska	26th Street	Centinela Avenue	0.68	Buffered bike lanes, Shared lane markings
Michigan Avenue Neighborhood Greenway ▶ N/A – Off-street	Marvin Braude Bike Trail	Appian Way	0.08	Bike Path
Michigan Avenue Neighborhood Greenway ▶ N/A – Off-street	Bergamot Station parking lot	Stewart Street	0.16	Shared use path
Pearl Street Bikeway ▶ Pearl	Barnard Way	Centinela Avenue	0.67	Buffered bike lanes, Neighborhood traffic circles, Intersection refuge
Ocean Park Boulevard Bikeway ▶ Ocean Park	Barnard Way	Main Street	0.13	Buffered bike lanes
Ocean Park Boulevard Bikeway ▶ Ocean Park	Lincoln Boulevard	Cloverfield Boulevard	1.22	Buffered bike lanes, Bike lanes
Ocean Park Boulevard Bikeway ▶ Ocean Park	Cloverfield Boulevard	Centinela Avenue	0.67	Buffered bike lanes, Raised median extension
Ashland Avenue Neighborhood Greenway ▶ N/A – Off-street at Clover Park	Barnard Way	Douglas Loop	0.03	Shared use path, Shared lane markings

Figure ES-11 20-Year Vision Plan Recommended Bikeway Projects

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)
Marine/Navy/Ozone/Dewey/Airport Bikeway ▶ Dewey Street alley	Lincoln Boulevard	Dewey Street closure	0.48	Shared use path, Shared lane markings
Virginia Avenue Shared Lane Markings ▶ Virginia	Stewart Street	Dorchester Tunnel	0.19	Shared lane markings
Marvin Braude Bike Trail	North City Limit	South City Limit	3.06	Bike path, Stair troughs (partnering with LA County/City of LA)
3rd Street Bikeway ▶ 3rd Street	Pico Boulevard	South City Limit	0.13	Bike path
6th Street / 7th Street Bikeway ▶ 6th Street	Michigan Avenue	South City Limit	0.06	Bike/pedestrian bridge, Neighborhood greenway, Bike path/Cycle track
17th Street Bikeway ▶ Pearl ▶ 16th Street ▶ Pico	Pico Boulevard	Pearl Street	0.43	Side path/Bike path
20th Street Bikeway ▶ 20th Street	Wilshire Avenue	Pico Boulevard	1.12	Buffered bike lanes
24th Street Neighborhood Greenway ▶ La Mesa Drive ▶ La Mesa Way ▶ 24th Street ▶ Chelsea ▶ Park	26th Street	Broadway	N/A	Neighborhood greenway, Curb ramps, Intersection enhancements, Crossing treatments
26th Street Bikeway ▶ 26th Street	North City Limit	Exposition Bike Path	1.88	Buffered bike lanes (green)
Airport Loop (Bikeway)	Recreational loop roughly circumnavigating Santa Monica Airport site, Airport Park, and Clover Park		3.00	Shared use path

Figure ES-12 Santa Monica Bicycle Action Plan Performance Indicators

Indicator	Trend	Data Source	Frequency	Baseline	Costs/Time Consumption to Monitor*
Mode Share					
Journey to Work – Bicycle Usage	Increase over time (to 15%)	US Census American Community Survey 3- and 5-year estimates	Annual	3.4% (2009 Estimate)	Low
Bicycle Ownership	Increase over time	Resident survey	2 years	62% own a bicycle (2011)	Low
Frequency of Bicycle Riding	Increase over time	Resident survey	2 years	5% daily riders; 16% a few times a week (2011)	Low
Bike Mode Share	Increase over time	Employer Emission Reduction survey	Annual	66% drove alone; 3.3% bicycle (FY09-10)	Low
Walk/Bike Trips by Children	Increase over time	Bikelt! Day participation; student surveys	Bi-Annual (Bikelt! Day); every 2-3 years (surveys)	Bikelt! Day: 270 participants (Santa Monica High School and Lincoln MS, Oct .2010) No baseline for surveys	Low; High
Safety					
Perception of Safety when Riding	Increase over time (to 50% in FY2012-13)**	Resident survey	2 years	19% very safe; 24% somewhat safe; 39% neutral (2011)	Low
Bicyclist Crash Rate	Decrease over time	City of Santa Monica, Police Department	Annual	Baseline for crash, injury, or, fatality rates: 134 total crashes (2010), 126 total injuries (2010), 0 total fatalities(2010)	Low
Infrastructure and Services					
Bicycle Network Completeness	Increase over time (5 new miles per year in FY2011-12 and FY2012-13)**	Bikeway Recommendations map	Annual	37 miles of bikeways	Low
Bicycle Deficiencies	Decrease over time	Walking and Bicycling Demand GIS model	2 years	Travel Demand Model -map in Chapter 3 (2010)	Med
Bicycle Parking	Increase over time (150 new spaces in both FY2011-12 and FY2012-13 plus 4 new bike corrals in FY2011-12)**	Work orders and purchase records	Annual	920 spaces (December 2010)	Med
Bicycle Valet	Increase over time	Transportation staff	Annual	25,100 bikes valeted and 157 bike valet events (FY10-11)	Low

* Low – already being done, Medium – can be implemented easily; High – will be costly and/or time consuming

** City of Santa Monica, Planning and Community Development Budget Goal

1. SHIFTING GEARS

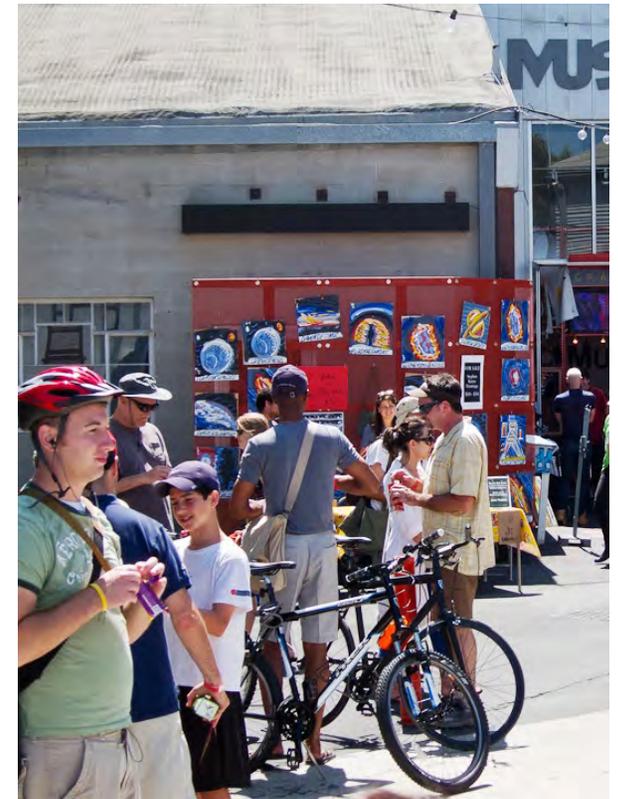
Bicycles are integral to Santa Monica's unique character. As a vibrant, culturally diverse and naturally beautiful beach town, Santa Monica has been attracting generations of recreational and commuter cyclists for over 120 years. In recent years, as the City has made investments in better bicycle facilities and programs, Santa Monica's residents and visitors have increasingly found bicycling to be a convenient and attractive alternative to driving for daily needs and activities. As a fossil fuel-free way to get around, bicycling supports a more sustainable future for next generations.

Santa Monica's adopted 2010 Land Use and Circulation Element (LUCE) expresses the community's shared vision for livable neighborhoods and streets designed for all people. The LUCE also defines the critical role of the bicycle in meeting the plan's progressive, long-term goals. This Santa Monica Bike Action Plan is an implementation tool of the LUCE, providing a 20-year roadmap for increasing, improving and enhancing bicycling in the city, and positioning cycling as a convenient,

healthy, and enjoyable means of transportation and recreation. The Plan also outlines a focused 5-year Implementation Plan for investment in the bicycle network and programs, with specific action steps to increase the number of cyclists, and the extent and quality of bicycle facilities in the city.

SUSTAINABLE, FUN AND HEALTHY TRANSPORTATION

Communities are shaped by their streets and open spaces. Streets that encourage walking and bicycling support social interaction, greater public health, more tourism and visitor spending, better mobility for low-income residents, and greater overall person capacity of the transportation system, allowing more people to move through Santa Monica without increasing congestion. Bicycling is also good for the environment: Approximately 40 percent of California's carbon dioxide emissions are created by transportation sources, and 70 percent of those emissions come from automobiles. The most effective way for Santa Monica to reduce these emissions is



Bicycling is becoming an integral element of the Santa Monica lifestyle. Source: BerettaRose Photography

through a commitment to diversify mobility – emphasizing a reduction in auto trips and an increase in walking, bicycling and transit use. Improving the facilities and programs that support walking, bicycling and transit encourage people to make this shift.

The social costs of auto transport include physical inactivity, time taken away from family and friends while commuting, and vulnerability to fuel price increases. Walking and bicycling as a part of daily life reduce childhood and adult obesity and provide a consistent level of physical activity that promotes on-going health and wellness.¹

Creating comfortable connections for people of differing abilities enables people of all ages—especially youth and seniors—to have enduring and independent access to their social networks and daily needs. Mobility is also a social activity —providing an opportunity for interaction. Public streets are spaces for social interaction and gathering, and casual interaction on public streets builds community and awareness.



Bicycling is a viable transportation option, even for running errands.

Santa Monicans are Shifting Gears

Informed by the LUCE process and public involvement in developing this Bike Action Plan, Santa Monica is at the crossroads of growing interest in bicycling. People are riding bicycles for improved quality of life, environmental, social, and health reasons. This culture shift is cultivating the ideal atmosphere to change behaviors using the right mix of bicycle programming and investment in high quality bicycle infrastructure. Santa Monicans have clearly and eloquently voiced their wish to improve upon the existing bicycling environment and to transform into a top tier bicycling city.

The City's Urban Form is Adapting to the Bicycle

As in many communities in Southern California, the rise of the personal automobile played a major role in Santa Monica's evolution and urban form. The new policies adopted in the LUCE seek to reclaim the city's automobile-dominated spaces by encouraging new pedestrian-oriented places with ground level, local-serving retail and walkable design. Linked closely to robust transit, bicycle, and pedestrian facilities, new mixed-use "activity centers" will be shaped by quality connections to nearby neighborhoods and by the opportunity to create meaningful, engaging and animated public places.

¹ Roux et al. (2008). Cost effectiveness of community-based physical activity interventions, *American Journal of Preventive Medicine*, 35, 578-588.



This symbol identifies sections of the Bike Action Plan that provide specific responses to Bicycle Transportation Account requirements listed in Appendix D.

THE LUCE ESTABLISHED A FRAMEWORK FOR THE BIKE ACTION PLAN

The Bike Action Plan is strongly supported by the integrated land use and transportation vision of Santa Monica's award-winning LUCE. This community-based vision provides land use strategies that encourage complete mixed-use neighborhoods and that identify activity areas which can be connected by transit, walking and bicycling. Most importantly, the LUCE supports bicycling as a part of improving the quality of residential neighborhood streets, and providing access to daily needs within neighborhood commercial districts and downtown. The Bike Action Plan creates an extensive bicycle network, context sensitive street design, and complementary programs and supporting facilities to realize the LUCE goals of:

- ▶ **Integrating Land Use and Transportation:** The city's mobility needs are inextricably linked to its form and the distribution and intensity of land uses. The LUCE coordinates long-term strategies to focus limited change near transit corridors and Expo Light Rail stations, and target circulation improvements near centers of activity. Quality urban design for both the streets and buildings is needed to create great places for people. Proactive planning through the bicycle plan, specific plans and area plans facilitates this integration.

- ▶ **Creating Complete Streets:** Streets make up almost 25 percent of the city's land area, and are the community's most extensive public space. Sustainable street design supports walking, bicycling, and transit while also providing opportunities for enhanced landscaping, recreation, outdoor activities, and public gathering.
- ▶ **Preserving and Enhancing Neighborhoods:** The LUCE preserves and enhances the extensive residential neighborhoods of Santa Monica, which make up almost 90 percent of the city. Complete local streets and open spaces support the places and neighborhoods they serve.
- ▶ **Managing Congestion – No Net New Trips:** The LUCE establishes a goal of No Net New Evening Peak Period Vehicle Trips and emphasizes a complete multi-modal transportation system with improved transit, pedestrian, and bicycle facilities designed to encourage people to choose non-automotive means for as many trips as possible. Transportation Demand Management (TDM) programs help to encourage and incentivize the 10 percent mode shift needed to reach the goal.
- ▶ **Ensuring Quality Transportation Choices:** Santa Monica's transportation choices are key to its high quality of life, and these choices should be enjoyable for everyone who uses them and reflect the different needs and desires of the city's diverse population.



Bicycles come in all shapes and sizes. People can use bicycles for any number of reasons such as transporting children.

- ▶ **Facilitating Affordable and Healthy Transportation:** Reducing transportation costs relieves household burdens and increases affordability. Increasing the number of people who can safely travel by active transportation modes like walking and bicycling can significantly improve public health outcomes.
- ▶ **Supporting Economic Health:** The city's transportation system supports Santa Monica's thriving neighborhood commercial districts and the Downtown which enable most residents and employees to be within walking and bicycling distance of daily needs.

BIKE ACTION PLAN: AN IMPLEMENTATION TOOL FOR THE LUCE

This Plan implements the LUCE in several key ways:

- ▶ **Connects People with Destinations.** Planned facilities connect the city’s commercial districts, schools, and recreational amenities, facilitating resident access to daily needs and destinations. New east-west and north-south backbone connections tie together the whole city.
- ▶ **Supports Bicycling as an Alternative to Driving.** This Plan identifies programs, routes, paths and greenways as well as ample bike parking to support bicycling as a convenient and attractive alternative to many car trips and achieve the 10% mode shift necessary to meet the “No Net New Trips” goal.
- ▶ **Improves Neighborhood Streets.** Neighborhood streets are great places for bicycling, and improvements like sharrows, bike lanes and greenways support the slower local-serving character of neighborhood streets. Increasing bicycling in the neighborhoods encourages using the public streets as recreational and open space that encourages neighborhood social interaction.
- ▶ **Preserves Santa Monica’s Community Character.** Bicycles share a prominent role in Santa Monica’s beach town character. The Bike Action Plan outlines innovative bicycling facilities and fun, recreational and educational bicycle programs to encourage more people to bicycle and celebrate our history, beautiful climate and setting. Whether carrying a surfboard or a briefcase, the bike plan aims for all Santa Monicans to feel comfortable riding their bikes all over town.
- ▶ **Balances Roadway Use.** The Bike Action Plan outlines a network of varied bicycle routes, paths, lanes, cycletracks, and other facilities that respond to roadway conditions, context and opportunities, recognizing that all streets that cars use will also be used by cyclists. Carefully designing and prioritizing these facilities encourages cyclists of all types, and roadway users of all modes, to share the road.
- ▶ **Supports Seamless Transitions.** The bicycle is a perfect “last mile” connection between other modes and destinations. For people using transit, bicycles are a great tool to get to and from the stop, expanding transit’s effective reach throughout the city. For pedestrians, bike-sharing facilities can bridge longer distances, allowing quick movements between different walking destinations.
- ▶ **Turns Policy into Action.** With the support of the LUCE’s land use vision, this bicycle plan outlines implementation strategies and potential solutions, including more information on average costs, actions required, responsibilities and partnerships.

This Bike Action Plan strives to be equally bold to support the LUCE’s land use vision, while also being practical so that it can be quickly implemented. On one hand, this plan envisions a future Santa Monica in which it is convenient and fun for Santa Monicans of all ages to use a bike to get everywhere in the city. On the other hand, it is also a detailed, five-year implementation strategy for moving toward that vision complete with program and facility improvements, infrastructure recommendations and funding strategies. Unlike other bicycle plans that are stand-alone documents, this plan is carefully integrated into the City’s thinking about the other modes of transportation and about land use. Indeed, this document should be seen as an implementation supplement to the larger LUCE vision.

SANTA MONICA ASPIRES TO...

Driven by Santa Monica's growing bicycle and bicycle-interested community, and guided by the policy framework set forth in the LUCE, the City of Santa Monica aspires to:

...Increase Cycling Numbers

In cities that invest in bicycle transportation, bicyclists beget more bicyclists. Increasing ridership will increase awareness and a sense of comfort. So how does Santa Monica do that? *By encouraging people who do not ride.* Special events and fun activities encourage bicycling among people who might otherwise never try. Social events can get people to try riding with friends or increase opportunities for existing riders to help new friends to ride. Other programs like classes, information and educational events can provide the knowledge and awareness that help new riders feel comfortable on the road. Student events like Bikelt! Day create fun competitions that spark new riders.

As with any mode of transport, the more universal cycling is, the more accepted it is. As the number of bicyclists on the street increases, drivers are more likely to look for and expect to see bicyclists, in turn making bicycling more comfortable and increasing the perception of safety. In addition to a complete, integrated bikeway network, supportive programs can educate and encourage bicycling and safety.



About 62% of Santa Monicans own a bicycle—a relatively high proportion. Of course, people need access to a bicycle to increase cycling numbers. But people do not need to own a bike. Bike sharing and bike rental offer options to access a bike when you need it. Bike sharing operates like bike rental programs, but can take many forms including a co-op, workplace sharing program, or dedicated city-wide system. New and used bikes are also available in many locations in Santa Monica, including non-profit organizations and bike advocacy groups that assist in bike repair and maintenance. Those Santa Monicans that do own a bicycle need someplace to store it. This suggests that homes, offices, and shopping locations should have bike garages, or at least bike parking incorporated into the building design.

CYCLING TYPES

Cyclists can be categorized based on experience level, or trip type. It can be more useful to focus on the style of cycling, and most cyclists are covered within the following range:

- ▶ **Vehicular cycling** – when cyclists ride in mixed traffic flow and use the same movements that cars do, such as merging into a left turn lane to turn left. Vehicular cycling is accommodated on all roadways, and in such on-road facilities as bike lanes. In the US, less than one percent of the population is comfortable with vehicular-style cycling on all roads.
- ▶ **Non-vehicular cycling** – when cyclists ride using behaviors more similar to pedestrians than motorists. When non-vehicular cyclists use bike lanes, rather than merging to turn left, they tend to make a “box turn,” using the crosswalks to cross first one street, then the other. Non-vehicular cyclists are best accommodated in bike paths, cycle tracks and other facilities not shared by high speed or high volume motor vehicles.

To allow people to cycle in large numbers and make bicycling safe and comfortable for all, streets and paths need to be designed with both types of cycling in mind. Intersections need to allow for cyclists turning with traffic, and cyclists turning with pedestrians. Programs need to provide education to support those riding in traffic, and those who simply will not—no matter how skilled they are.



Events like riding in the 4th of July Parade bring the fun out of bicycling.

...Make Bicycling Fun for Everyone

Cycling along the beach bike path or through the city's lush, tree-lined, traffic-calmed residential streets can be joyous. The sensations of wind, sun, and awareness of Santa Monica's neighborhoods and streets can be an invigorating experience. Simply enjoying the time spent in motion, and arriving at your destination in a new way can be appealing and fun.

It's common to see a group of chattering pedestrians or a motorist engaged in conversation with his or her passenger(s). Bicycling also is a convivial activity for small and large groups. Bicycling can be part of social gathering, conversation and memory-making. Fortunately, like most jurisdictions, Santa Monica allows cycling two abreast. This



Bicycling should be comfortable for cyclists young and old.

may not be the solution at all times and in all places, but promoting cycling as a sociable activity seems to be an optimal way to increase ridership.

Bicycling is also fun and increasingly fashionable among young people. Bicycle gatherings that feature bicycle design, fashion and innovation can show off these creative efforts, celebrate some of the community's spirit, and raise awareness of a growing interest in cycling.

Great cycling communities also have numerous events that celebrate those that ride, allow families to ride safely together, or pay homage to dedicated cyclists. Some common events include: organized and supported rides; ciclovias or Sunday Parkways activities where local streets are closed to cars, and cyclists

are free to ride; bike to work month, week, or day, where local companies can compete for the highest cycling rates; and bicycle carnivals or events that showcase numerous types of cycling. All these events can help to build a culture that is friendly to cycling and make the bicycle more than a mode of transportation—it can be made fun!

...Make Bicycling Convenient and Comfortable

Facilities should connect the destinations that Santa Monicans most want to visit—neighborhood commercial areas, schools, the beach, Downtown, and community gathering places. In the design of bicycle facilities, much is said about type, width, surface, location, traffic volume, and usage. Not much has been written about comfort. All bike routes in the city should be well designed and comfortable.

There is a wide range of cyclists and cyclist needs. *Facilities should be designed to accommodate all types of cyclists.* To attract some new cyclists, it can help to provide facilities on slower streets or with greater physical separation from motor vehicles. Design of intersections to create clear priority areas for cyclists may also encourage riders by increasing the perception of safety. When developing designs, it is critical to consider how cyclists and motorists interact, particularly

at intersections. The research is clear, however, that when cities provide high quality, dedicated bikeways, people use them.

In addition, residents should never have to second guess the convenience of bicycling. Cyclists should feel confident that abundant and secure bicycle parking is available at trip destinations. For longer trips, showers and lockers are needed. Wayfinding should be provided so that bicyclists can find their destinations.

Trip length is a key factor in deciding whether to make a trip by bicycle. Effortless cycling has a range of three miles—roughly a 20-minute commute at 10 miles per hour—which covers the entire length of Santa Monica. If people must travel farther than three miles to work, school, or play, bicycling can work alone or as part of a transit trip. Bikes can be integrated into the light rail system so that people can use a bike for the last (or first) leg of the journey.

The combination of the LUCE’s strategic land use vision for active and abundant destinations, a density of bikeway options, and programs that encourage cycling will make the bike an attractive transportation option. Bicycling will be so engrained in the way Santa Monicans live their lives that deciding to ride a bike will be unconscious and natural.

BICYCLING BENEFITS SANTA MONICANS

The Santa Monica Bike Action Plan recognizes the fundamental role that bicycles play in our city as a fitness and recreation tool, and as a means to shop, commute to work and move about the city. The Bike Action Plan promotes bicycling as a legitimate and sustainable alternative to driving, and supports the development of a comprehensive and connected network of bike facilities that are enhanced through an ambitious set of programs designed to encourage bicycling in our community. The myriad benefits of bicycling will help shape Santa Monica’s identity and character. More than anything else, the benefits of bicycling directly tie into Santa Monicans’ deeply held and unique community values.

Bicycling Contributes to Neighborhood Quality of Life

Neighborhood streets serve as the primary public space in which neighbors interact and socialize, and are the “living rooms” of our city. Street design that makes bicycling fun and easy succeeds in strengthening connections between people, moderating vehicle speeds, and linking residents to the places outside their neighborhoods that serve their daily needs. Street improvements can also offer neighborhood sustainability features that increase mature tree canopy and parkway



Bicycling brings families together and fosters social cohesion.

landscaping, infiltrate water, promote carbon exchange, and provide shade.

Bicycling Improves Mobility

Bicycles are the most space efficient and flexible vehicles on the road. Bicyclists are able to bypass congested roadways, and enjoy free flow along all city streets even during peak periods of the day. Instead of being stuck in traffic, cyclists arrive on time to their destinations and often enjoy parking closer to their final destinations. At the same time, each cycling trip represents one fewer vehicle trip and helps to minimize congestion and the emissions associated with traveling and idling.

THE BICYCLE IS PERFECT FOR SANTA MONICA

Santa Monica's bicycle riders are as varied and diverse as the bicycles they ride, and so are their reasons for bicycling. Yet most of Santa Monica's cyclists enjoy the city's main biking assets and ideal conditions for bicycling year-round:

- ▶ **Weather.** Santa Monica may well have the most perfect weather in the world for cycling. It's never too cold. It's rarely too hot. Rain is confined to a brief, predictable season, and there is never ice or snow.
- ▶ **Topography.** Santa Monica does have the steep palisades west of downtown, but most of the city's topography is gentle – and the steeper places can usually be avoided by choosing an alternate route. Happily, the prevailing westerly breezes push uphill.
- ▶ **Most Santa Monicans already own a bike and want to ride more.** According to the 2010 Citywide survey, 62 percent of residents interviewed own bikes—a quarter of which ride at least a few times per week. Another 30 percent ride their bicycle a few times per month.

- ▶ **Most vehicle trips are short.** Approximately 80 percent of vehicle trips in Santa Monica are less than 2 miles, making it easy to imagine a big shift toward cycling if riding was made to feel safer, more pleasant, and more convenient.
- ▶ **Changing demographics.** Santa Monica is getting both older and younger. As its older residents become less comfortable driving a car, bicycles and even tricycles can help them maintain their independence. As its employers attract young, creative talent, they are finding their employees are demanding to be able to ride their bikes.
- ▶ **Complete, connected streets.** Santa Monica enjoys a highly connected grid of streets, most of which can be made bike-friendly, through a range of improvements described in the plan toolbox.
- ▶ **Complete retail.** Santa Monica's strong downtown and neighborhood commercial districts offer a rich array of service and all the needs of daily life. The whole city is within a ten minute ride of downtown, and most residents are just a few minutes' ride to their local neighborhood center.
- ▶ **Supportive politics.** The City enjoys a high level of public involvement, a well organized business community and forward-thinking leadership, all of which makes it possible to organize sustainable change.



Bicycling is space-conscious and ideal for the many short trips made in the city.

Monica's geography for thousands of guests, and unlock new retail opportunities for small businesses, hotels, and cultural centers. Readily available literature and wayfinding showcasing the city's inter-connected network of bikeways allows visitors to move about the city with ease and confidence.

In addition to tourism, increasing bicycle access to local commercial districts encourages residents to shop locally and support local businesses and services. This can be encouraged through the Buy Local campaign and partnerships with local Santa Monica businesses. An environment supportive of bicycling is also important to the expanding creative industry in Santa Monica, and a class of professionals that share the community's values for creativity, sustainability, and livability.

Bicycling Supports a Sustainable Local Economy

Approximately 36% of Santa Monica's visitors come from overseas, and many arrive without a car. Only 7% of overnight visitors use a car while visiting Santa Monica.² While many

visitors already enjoy the Marvin Braude Beach Bike Trail, extending bicycle trails, paths and facilities expands the reach of Santa Monica's unique car-free visitor economy so visitors can see—and spend their money in—more of the city. Bike share programs that allow for pick-up and drop-off of bicycles at numerous locations around the city could further expand Santa

² 2009 Santa Monica Tourism Economic & Fiscal Impacts and Visitor Profile. Santa Monica Convention & Visitors Bureau.

Bicycling Increases Connections to Expo Light Rail Stations and the Regional Walking & Bicycle Path

Expo Light Rail, arriving in 2015, will provide Santa Monicans with reliable and frequent regional transit service to the Westside and Downtown Los Angeles, and includes creation of a parallel regional walking/bicycling path. Increased bicycle connections to the stations expand the number of Santa Monicans who can access these improvements easily. Much of Santa Monica is within a 10-minute walk of the stations, but all of Santa Monica is within a 10-minute bicycle ride. Bicycle access to Expo is essential, as are strong and legible bicycle connections throughout the areas surrounding the stations.

Bicycling Makes Santa Monica more Resilient to Fluctuations in Fuel Prices

The bicycle is nonpolluting and entirely human-powered. Its manufacture and maintenance use few non-renewable resources—rubber tires and chain oil can be made from renewable sources, and metal frames can be entirely recycled. Bicyclists are generally most comfortable on smoothly paved roads, but even pavement is not necessary for them to be enjoyed. The bicycle is so energy efficient, in fact, that it is superior even to walking and far superior to transit. From the standpoint of ecological sustainability, the bike is perhaps

the greenest transport technology ever invented. By investing in bicycle programs and infrastructure, Santa Monica can make itself significantly more resilient to an economy in which energy is more expensive. It is also an economical way to reduce smog-inducing air pollutants and greenhouse gases. Bicycling can help keep Santa Monica's economy strong in an uncertain future.

Bicycling Promotes Active Living and Healthy Communities

Bicycling is both fun and good for your health. Santa Monicans have embraced bicycling as

a popular recreational and fitness tool—as well as a means to get around—and have leveraged the year-round good weather and limited changes in elevation to incorporate bicycling into the daily routine. The positive benefits bicycling has on community health are substantial. Bicycling is a low-impact, fun activity appropriate for riders of almost all ages and abilities. Indeed, cycling is one of the easiest ways to exercise. Bicycling is a beneficial cardiovascular exercise that reduces stress and builds strength, and builds resistance to common health risks like diabetes and heart conditions.



San Vicente is Santa Monica's most popular active recreation corridor.

SANTA MONICA DESERVES A COMPLETE BICYCLE NETWORK

Santa Monica needs a bicycle network that connects desirable destinations, closes gaps, and provides facilities for all users. It is imperative for all streets to at least anticipate the occasional use by cyclists, if only for a short stretch. Similarly, dedicated bicycle facilities that link together other routes are invaluable in creating a comprehensive bikeway network. A complete bicycle network for Santa Monica should be:

- ▶ **Cohesive**, making connections throughout the community, including all major destinations
- ▶ **Direct**, without unnecessary circuitousness
- ▶ **Understandable**, with clear destination-oriented signage for cyclists
- ▶ **Integrated**, with streets, parking, buildings and transit facilities
- ▶ **Enforced**, so that bikeways are free of parked cars and debris
- ▶ **Clear**, so that both motorists and cyclists know whether they have shared or separate spaces
- ▶ **Safe**, providing varying levels of separation from moving/parked vehicles for cyclists/ pedestrians
- ▶ **Secure**, no isolated, unlit or inaccessible areas
- ▶ **Gap-free**, continuous interconnection of routing including connections with adjacent cities
- ▶ **Conflict-free**, with particular care toward intersections, ensuring that cyclists can safely cross boulevards and other major streets (a bicycle network is only as good as its weakest link) and clearly communicating protocols
- ▶ **Extensive**, city-wide coverage within ¼-mile reach of any point in the city
- ▶ **Beautifying**, adds aesthetic component to Santa Monica's neighborhoods
- ▶ **Appropriate**, design adapted to the unique needs of Santa Monica's cycling community

Bicycling Extends Household Income

Aside from walking, the bicycle is the most cost-effective transportation option available, allowing cyclists almost unlimited personal mobility at negligible cost. Reduced transportation costs free up income for other household needs including education and leisure. Households that can eliminate a car can afford more housing—every eliminated car is the equivalent of an additional \$100,000 in a 30-year mortgage.³ Bicycling is an affordable housing strategy that can enable more Santa Monica employees to afford to live locally.

³ American Automobile Association Exchange (2011). Your Driving Costs.

Bicycling Expands Personal Mobility

For children too young to drive and seniors for whom driving is difficult, the bicycle can greatly expand personal mobility. If safe bikeways are provided, children can explore and navigate more of their neighborhoods independently, without the need for adults to chauffeur them to activities and school. By allowing children to get around on their own, not only do children learn important social skills, but traffic congestion can be reduced by as much as 25 percent at key intersections near schools.⁴ For seniors, bicycling can be a liberating opportunity. As seniors' reaction time

⁴ Transportation Authority of Marin (2006). Safe Routes to School, Evaluations and Recommendations 2005-2006.

Children are more likely to bike or walk to school when there are recreational facilities and bike paths nearby.⁵

and vision decline, and as their joints make high-impact activity—even walking—painful, the bicycle can extend their independence for many years and significantly improve their cardiovascular health. Seniors may need protected bikeways to feel confident riding. They may also want to use adult tricycles to reduce the risk of falls and broken bones.

⁵ Ziviani, P., et al. (2009). "Environmental correlates of children's active transportation: a systematic literature review," *Health & Place*, 15, 827-40.



The community gathered in December 2010 to provide input for the Plan.

A HISTORY OF THE PROCESS...

Bicycling emerged as a critical issue during the extensive public process of the LUCE, during which the key goals and policies guiding this plan were developed and are included on page 1-13. Many people spoke out about the need to improve access, reduce impacts of auto congestion and relieve neighborhood streets from the pressure of cars. In response, the City developed the No Net New Vehicle Trips target, and embraced the complete streets goal that creates a multi-function street network that encourages walking, bicycling and transit in balance with vehicles.

The first dedicated Bike Action Plan workshop was held on December 13, 2010 and included numerous stations that allowed people to

discuss the major components of the Bike Action Plan like encouragement and education programs, bicycle parking and bicycle facilities improvements. Following the workshop, the City released a Bicycle Plan survey to widen outreach and solicit detailed input. The survey included questions on which streets should be prioritized for bicycle travel, and which programs should be the focus of City investment. In the Spring of 2011, the Planning Commission reviewed the detailed bikeway projects that were emerging from the public outreach, and provided direction for further refinements.

Another public workshop was held on May 16, 2011 including several stations to provide information and capture input on proposed

WHAT THE COMMUNITY SAID WAS IMPORTANT

Bicycling emerged as a key issue during the extensive public process that produced the Land Use and Circulation Element (LUCE). During dozens of community meetings, including Board and Commission discussions, focused bicycle workshops, and a dedicated survey, people expressed a vision for bicycling that includes:

- ▶ **A Connected Bicycle Network** – reaching major destinations including commercial districts, schools, the beach, and transit.
- ▶ **Supportive Programs** – encouraging new riders, educating new and existing riders, and providing information.
- ▶ **Recreational and Fun Events** – celebrating bicycling as a part of social life and stimulating new ridership.
- ▶ **On-going Communication** – creating an on-going dialogue with the Santa Monica community and beyond.
- ▶ **Raising Awareness** – ensuring that all road users understand how to work together.
- ▶ **Complete Facilities** – providing bike racks, showers, maintenance and other facilities to support the complete trip.
- ▶ **Streets for All** – balancing the mix of roadway users to accommodate bicycles in concert with vehicles, pedestrians and transit.

corridor improvements, monitoring strategies, and program ideas. This workshop included a detailed round table activity to prioritize future projects and programs.

Outreach has been on-going throughout the Plan development, with dozens of meetings and discussions with City boards and commissions including the Planning Commission, Recreation and Parks Commission, Task Force on the Environment, Commission for the Senior Community, and other subcommittees focused on bicycle and pedestrian issues. In addition staff has participated in meetings with local advocacy groups and reached out to local stakeholders in an on-going dialogue. All the comments from these meetings, workshops, surveys and discussions were taken into consideration in developing the Bike Action Plan.



The City is committed to installing more bike parking in commercial districts like downtown.

BIKE ACTION PLAN GOALS AND POLICIES

The Bicycle section (Chapter 4) of the LUCE contains overarching goals and policies for bicycles. The LUCE's goals and policies that form the basis for recommended actions in the Bike Action Plan are:

Goal T9: Create a complete network of high-quality bicycle facilities including a minimum of one new north-south and one new east-west dedicated bicycle path, with the aim of increasing the number of people who use bicycles for everyday transportation.

Policies:

T9.1 Simultaneously pursue design investments, and education, encouragement and enforcement programs to improve bicycling.

T9.2 Pursue completion of the Citywide bicycle network.

T9.3 Implement standards for pavement design; stripe roadways and intersections so that all streets are bicycle-friendly.

T9.4 Consider replacing stop signs on bikeways with other design features that encourage safe auto speeds and clarify intersection right-of-way among users.

T9.5 Continue to support physical and policy-related changes to encourage access to regional and local transit via bicycle.

T9.6 Continue to advocate for and cooperate with regional partners to create a complete and comprehensive network connecting Santa Monica to other destinations.

T9.7 Partner with the Santa Monica-Malibu Unified School District (SMMUSD) and Santa

Monica College to promote cycling and bicycle access.

T9.8 Develop all planning processes, such as neighborhood and specific plans, to identify areas where better bicycle connections can be implemented and increased bicycle parking can be provided.

T9.9 Require large property development (defined as greater than one typical City block) to provide through access for bicyclists and pedestrians.

Goal T10: Ensure that the bicycle network is attractive to cyclists of all ages and experience levels.

Policies:

T10.1 Enhance and beautify existing trails, tunnels, bridges and paths for bicycling.

T10.2 Encourage major employers to provide covered and secure bicycle parking and shower and locker facilities for their bicycle commuters, or to assist in funding bicycle transit centers in nearby locations.

T10.3 Strive to expand the bicycle valet program to all major community and commercial events.

T10.4 Coordinate with the SMMUSD to identify safe bicycling routes to each of its schools.

Goal T11: Create a safe, comfortable cycling environment in the City through facility design and public education.

Policies:

T11.1 Provide information on safe bicycling and bicycle route selection.

T11.2 Strive to increase bicycle commuting through information that identifies personalized routes.



2. BICYCLING IN SANTA MONICA TODAY

INTRODUCTION

With its year-round moderate climate, relatively flat terrain, and easy to navigate street system, Santa Monica is ideally suited for riding bikes. The city benefits from a robust bicycle network and a comprehensive package of bicycle programs. Over the past ten years, more than \$1.7 million has been invested in bicycle facilities and programs throughout the city.¹ In order to become a world-class bicycling community and to make the city a comfortable place to ride for more people, further investment in Santa Monica's bicycle programs and network is needed. To understand and better address next steps, we begin with a review of the current bicycle facilities, programs, and travel behavior in Santa Monica.

This chapter also highlights the faces of bicycling in Santa Monica: residents and visitors who bike Santa Monica today. These profiles include insight and anecdotes on why the bicycle is

¹ Includes bicycle projects only. Does not include street resurfacing projects where bike lanes were striped; if these types of projects were included, the City has spent significantly more than \$1.7 million.

important to them and what improvements are needed to advance bicycling in Santa Monica.

The City's Land Use and Circulation Element (LUCE) makes an ongoing commitment to invest in alternative modes of transportation. The City's land use vision and principles support bicycling as an attractive transportation option in the following ways:

- ▶ **Neighborhood Preservation.** Make streets more comfortable for cyclists and residents by proposing bicycle improvements on some neighborhood routes.
- ▶ **Convenient Access to Goods and Services.** Provide bicycle connections to all of the city's neighborhood commercial districts and activity centers, making it easy for residents to meet their daily needs without a car.
- ▶ **Reduction in New Vehicle Trips.** Reduce new vehicle traffic by locating new businesses and residents near transit and near services, and by providing better choices to get around.
- ▶ **Schools and Institutions.** Link the city's schools, colleges, hospitals and other institutions that provide valuable services for residents and help define the city's unique character.



A mother and son prepare to bike away after picking up their bike at a valet.

- ▶ **Active Living.** Promote a healthy and active lifestyle by developing programs and infrastructure that encourage bicycling.
- ▶ **Local Economy.** Support the local economy by creating a bicycle system that makes it easy for residents to bike to their local destinations.
- ▶ **Connection to Exposition Light Rail Line.** Provide bicycle connections that will link into the future Exposition Light Rail Line in order to effectively integrate local and regional transit and bicycling.

Figure 2-2  shows the City Council-approved land use plan from the LUCE. The city is comprised of well-established single-family residential neighborhoods, mid-rise density commercial and multi-family residential nodes, as well as mixed-use activity centers such as the downtown core. Neighborhood commercial areas such as Montana Avenue and Main Street provide local shopping and gathering and are destinations for many people seeking a walkable neighborhood experience. Complete new neighborhoods are created at the Expo Memorial Park and Bergamot Stations, where new housing, open space, daily needs and activities combine to support the area and future transit. The Downtown continues to be a center of community life and commercial activity. The city is bounded by parkland and beach to the west.

BICYCLES BY THE NUMBERS

Bicycle Commuters

According to the American Community Survey, the City of Santa Monica boasts a bicycle commuter mode share of 3.4%, which is notably higher than most California cities. However, the City’s bicycle commuter mode share still lags behind other leading “bicycle-friendly” cities in the country, including Portland, Oregon (5.8%) and Boulder, Colorado (12.3%).

Recent surveys of Santa Monica businesses with 50 or more employees report that one out of every 30 employees bikes to work.¹ This is a 29% increase from the 2008 employee survey, signifying a marked increase in the number of commuter cyclists even though there remains a lot of area for improvement (Figure 2-1). When comparing bicycling to other choices on how to get to work, it is clear that bicycling has seen the most dramatic increase in riders. More than half of Santa Monica residents rode a bicycle in the past year.

Bicycle Counts

Every two to three years, the City conducts traffic counts at over 190 of its intersections.

¹ City of Santa Monica, Department of Planning and Community Development, Employer Annual Transportation Fee Filing Form/Invoice (for businesses with 50 or more employees), FY07/08 - FY09/10.

Figure 2-1 Recent Changes Mode Shift in Santa Monica – Major Employers

	07/08 Mode Split	09/10 Mode Split	Change
Total Trips	100%	100%	
Drive alone	67.80%	65.76%	-3.0%
Carpool	12.9%	13.37%	3.2%
Transit	9.10%	8.95%	-1.6%
Walk	3.40%	3.42%	.6%
Bike	2.59%	3.33%	28.7%
Non-commute*	4.16%	5.16%	24.0%

* Includes telecommute, compressed work week day off and non-commute.

Bicycle mode share increased dramatically in the past two years. Source: Santa Monica Employer Annual Transportation Fee Filing Form/Invoice, FY07/08 - FY09/10

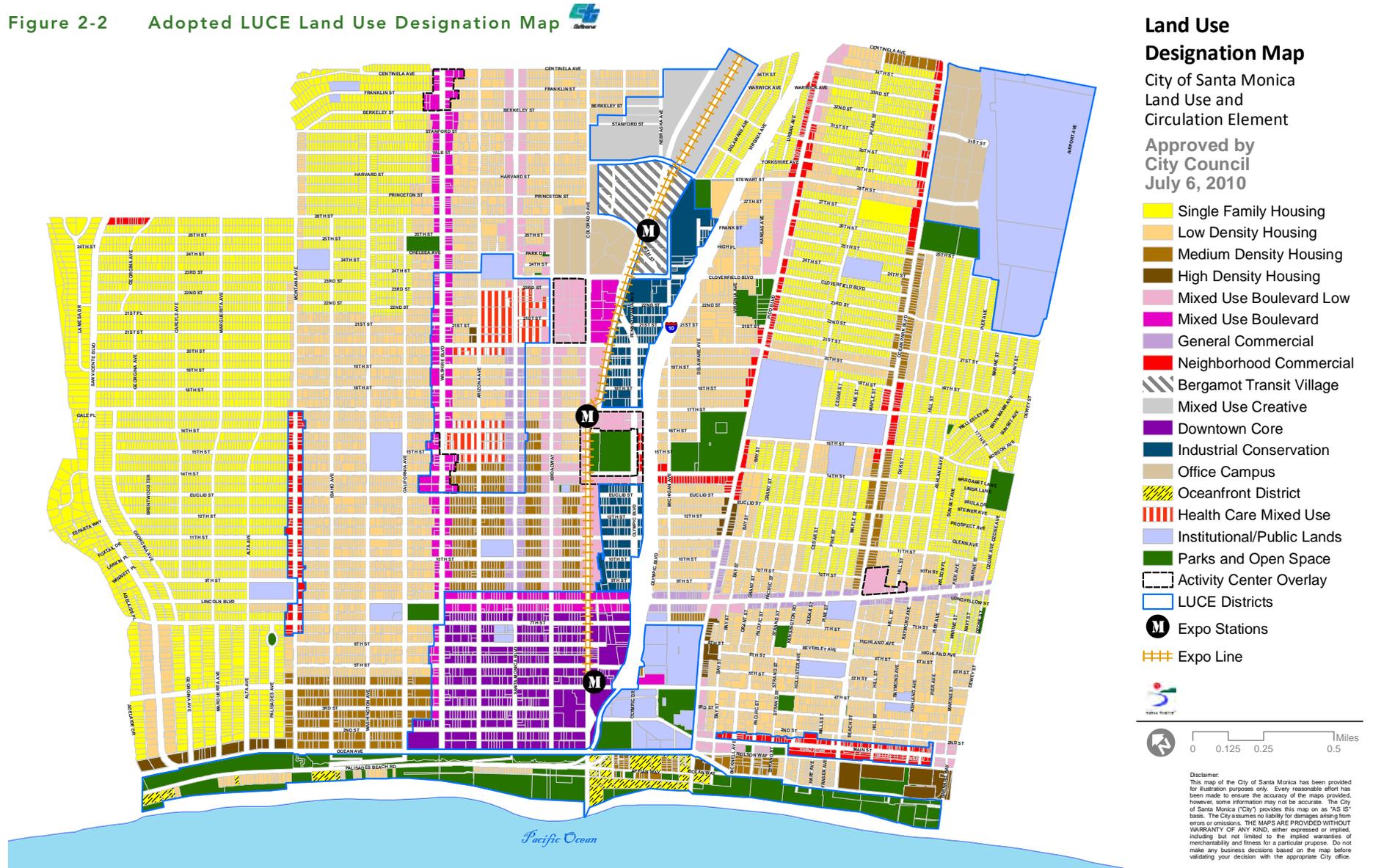
The traffic counts have included counts of bicycle and pedestrian movements at signalized intersections during the weekday morning and evening peak hours and during weekend peak hours. Peak bicycle counts are shown in Figure 2-3.

The most recent data indicate that cyclists were observed traveling through citywide intersections over 3,600 times during the morning commute peak hour and over 4,300 times in the evening commute peak hour.² During a typical summer weekend, cyclists were observed traveling through intersections over 2,100 times.³

² City of Santa Monica 2007 data collection

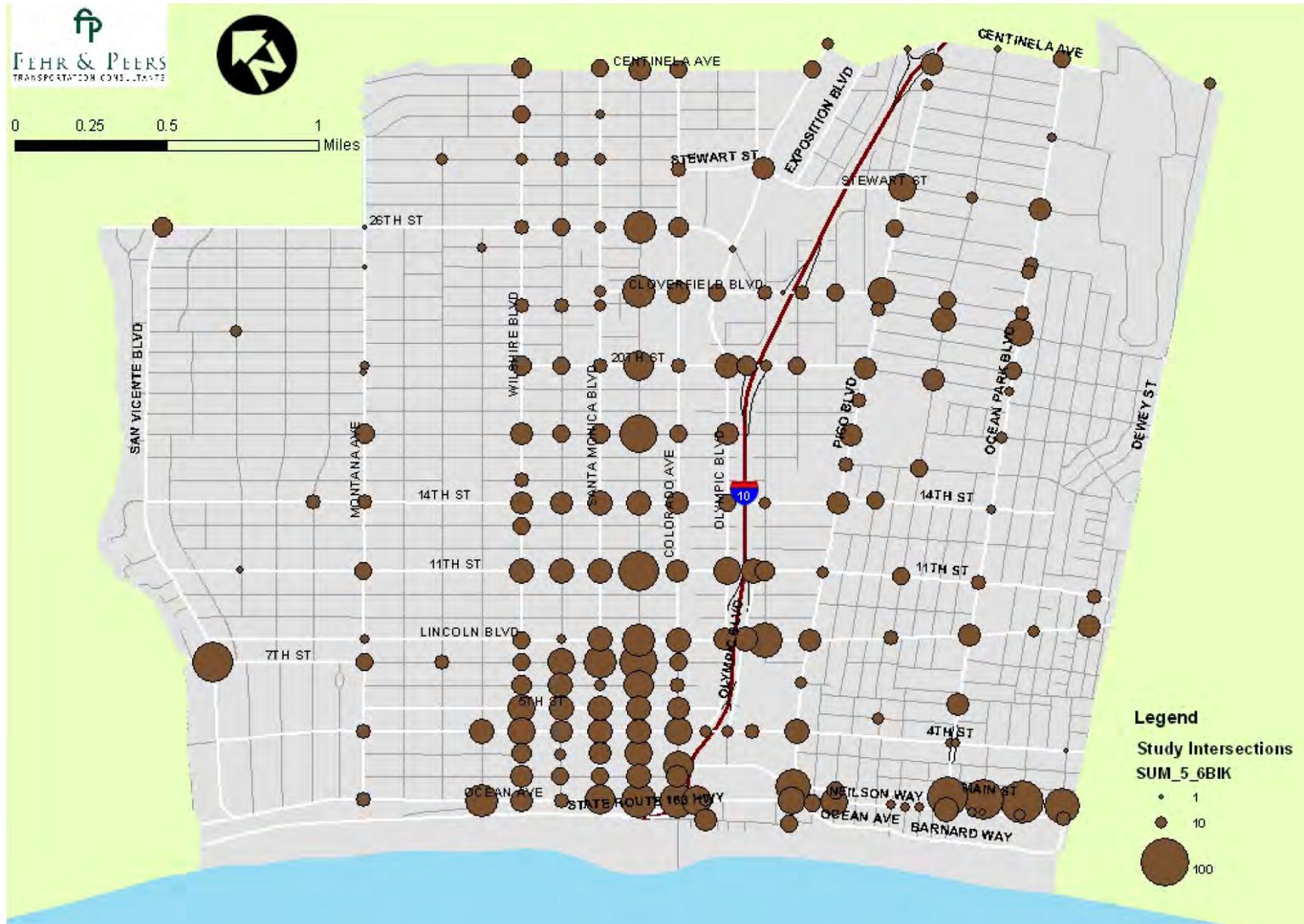
³ City of Santa Monica 2007 data collection

Figure 2-2 Adopted LUCE Land Use Designation Map



The LUCE's 20 distinct land use designations fit into the following five broad categories: Neighborhoods, Boulevards, Mixed Use Centers, Employment and Commerce, and Community and Public Uses.

Figure 2-3 Weekday Peak Bicycle Counts, 2007



Intersections with the heaviest bicycle volumes are located in the City's central area, including downtown, on Broadway, and on Main Street. Source: Santa Monica Traffic Counts

STRIPING OCEAN PARK BOULEVARD

Ocean Park Boulevard is a heavily traveled east-west corridor in the City that leads directly to the beach. A number of destinations are located along this street, including neighborhood serving retail and services, a



local library, and schools. In March 2008, Ocean Park Boulevard was reconfigured on a trial basis to improve safety for vehicles, pedestrians, and cyclists. As part of the reconfiguration, bicycle lanes were striped along nine segments of Ocean Park Boulevard between Lincoln and Cloverfield Boulevards.

The peak hour count data comparing 2007 to 2010 shows an overall increase of 95% in observed bicycling traffic in the study area. The intersections with the largest increase include:

- ▶ 17th Street with a 216% increase from 50 to 158 cyclists
- ▶ 14th Street with a 144% increase from 34 to 83 cyclists
- ▶ Lincoln Boulevard with a 94% increase from 141 to 274 cyclists
- ▶ 20th Street with a 91% increase from 35 to 67 cyclists

Even the intersection of 25th Street which was not striped for bike lanes had an increase in ridership of 185% likely due to cyclists on their way to or from the striped segments to the west. The performance data supports the concept that dedicated on-street bike lanes are likely to substantially boost ridership.

Bicycle Ownership

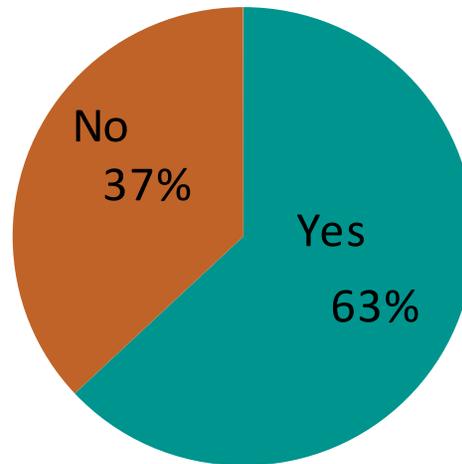
The Citywide resident survey found that among Santa Monica residents owning a bicycle, over half ride at least a few times per month, which indicates that a substantial number of residents have the resources and propensity to bike regularly (Figure 2-4).

Bicycle Safety

The Citywide resident survey also found that 43% of Santa Monica residents feel safe when riding, while 27% feel unsafe (remainder are neutral). Residents who ride their bikes at least a few times a month are more likely to feel safe (48%), than those who do so a few times a year (38%) or never (27%).

Figure 2-4 Bicycle Ownership and Frequency of Bicycle Use

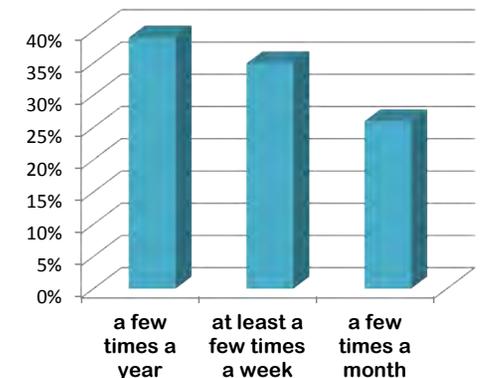
Percentage of Residents Who Own a Bike



Two-thirds of Santa Monicans own a bicycle.

Source: Santa Monica City Survey, Firbank, Maslin, Maullin, Metz & Associates

How Often Santa Monicans Ride



Of those who own, nearly 35% ride at least a few times a week.

The Santa Monica Police Department records the number of vehicular, pedestrian, bicycle, and other crashes, and also maintains the type of accident and the collision type (head-on, sideswipe, etc.). In 2010, 134 bicycle crashes and 126 injuries were recorded (Figure 2-5).

The City's bike lanes and bicycle routes are designed to meet state and federal design and safety standards. The City is currently developing a handbook of design standards to streamline implementation of enhanced and innovative bicycle treatments.



This Plan seeks to improve safety by implementing high quality bicycle facilities and developing bicycle skills courses and other educational tools.

Figure 2-5 Bicycle Crash Data, 2010



LOCAL AND REGIONAL BICYCLE NETWORK

Local Bicycle Connections

Today, Santa Monica has 37 miles of bicycle facilities including 18 miles of primary bikeways consisting of lanes and paths (often referred to as Class I and II facilities), and 19 miles of designated bicycle routes on existing streets (Class III facility):

- ▶ Seven east-west streets with striped bicycle lanes
- ▶ Four north-south streets with striped bicycle lanes
- ▶ Two east-west streets designated as bicycle routes
- ▶ Seven north-south streets designated as bicycle routes

The Marvin Braude Beach Bike Trail is very popular and heavily used by commuters and recreational users. It is a regionally significant bikeway running from Pacific Palisades through the Santa Monica State Beach to Venice, Playa del Rey, Marina del Rey, and the South Bay and offering connections to the east on the Ballona Creek Bicycle Trail. These bikeways and bicycle routes create a base network throughout the city (Figure 2-6). A more detailed text description of the City's current bikeways is found in Appendix A.

Although existing bikeways serve popular destinations, such as the Third Street Promenade, Main Street, the beaches, and Montana Avenue, the network is far from complete.

Considering speed limits, bicycle connections and numbers of cyclists, the level of bicycle travel demand reveals some deficiencies where the network does not provide adequate capacity to meet the needs of a growing cycling community. Downtown Santa Monica has the greatest need for bicycle improvements, especially continuous bicycle corridors and capacity for more bicycles. Community feedback has emphasized the need to address the discontinuities of the bicycle network, particularly the lack of continuous north/south routes and gaps in the network especially 1) from the end of the bike lanes on Ocean Park Boulevard and the eastern City limit, 2) from 17th Street south of Michigan to the main campus of Santa Monica College, 3) through Marine Park and Penmar Golf Course to Rose Avenue, and 4) connections to the Santa Monica State Beach and beach bicycle trail. Metro has also identified gap filling as an important priority and lack of connection to the Santa Monica State Beach as a regionally significant gap.



Figure 2-6 Existing Bicycle Network



Santa Monica's bike network connectivity and major destinations. The bike map is available on the BIKE Santa Monica website.

Figure 2-7 Bike Facilities Comparison to Other California Cities

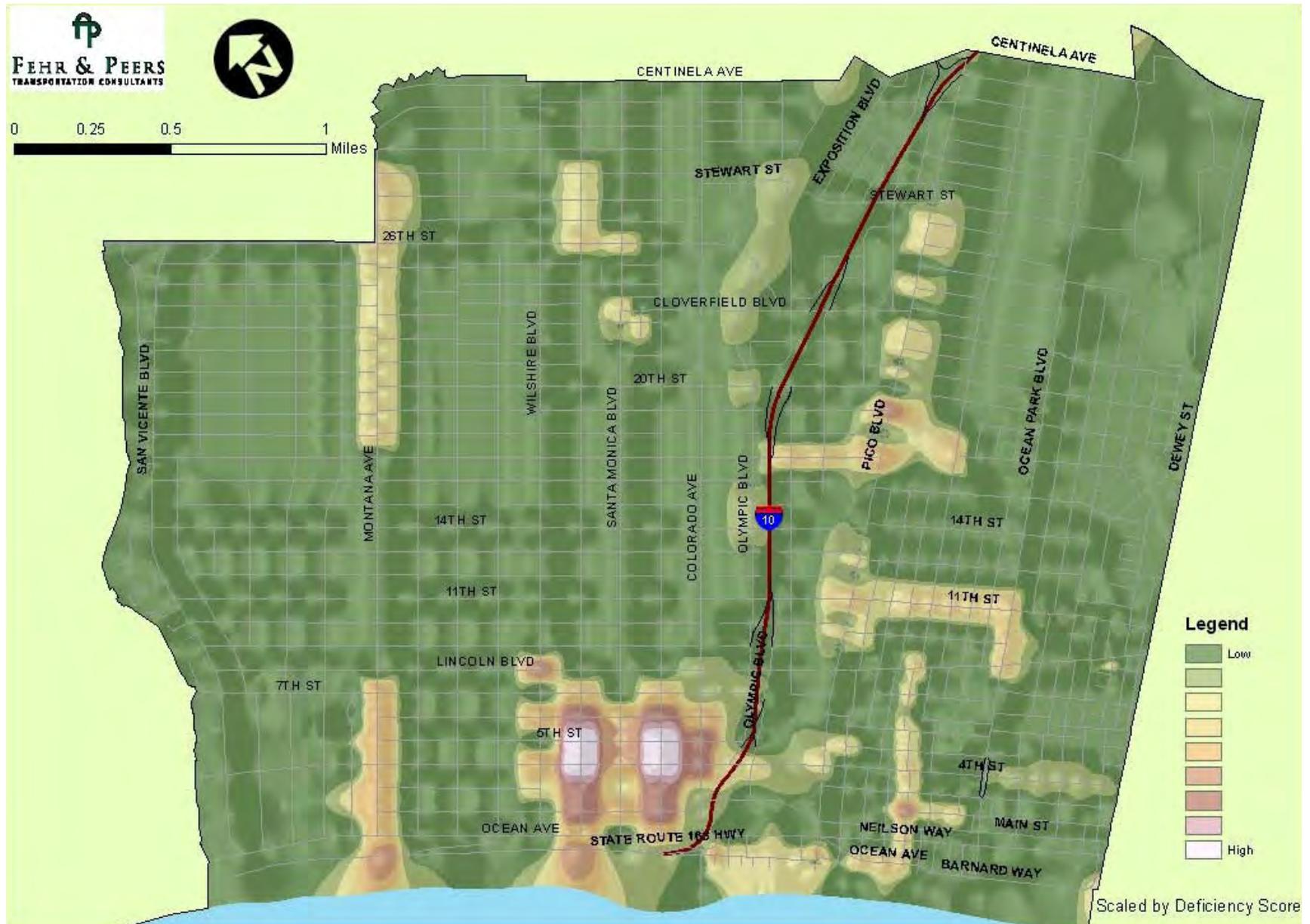
City	Percentage of Bike Commuters*	Miles of Bike Lanes/Paths	Miles of Bike Lane/ Path per Square Mile	Miles of Bike Lane/ Path per 100,000 Residents
Santa Monica	3.40%	37	1.9	33.1
Sacramento	2.10%	314	3.2	67.2
Irvine	1.70%	287	4.3	136.6
Los Angeles	1.00%	198	0.4	5.2
San Jose	0.90%	243	1.4	25.3
San Diego	0.80%	385	1	29.5

*Source: American Community Survey 2009



A signed and striped bike lane on Main Street.

Figure 2-8 Santa Monica Bicycle Deficiencies



The deficiencies map identifies downtown Santa Monica as having the greatest need. Source: Fehr and Peers

Regional Bicycle Connections

Santa Monica is part of the greater metropolitan Los Angeles region. Bikeway connectivity across cities is important in creating a cohesive regional bicycle network. The City of Los Angeles, which shares most of Santa Monica's borders, currently has the following bike facilities that interface with the City of Santa Monica:

- ▶ Path connecting to the beach bike trail path at the north and south ends of Santa Monica (Class I)
- ▶ Lane that connects with San Vicente Blvd (Class II)
- ▶ Route that connects with Arizona Avenue (Class III)

Los Angeles has also proposed an extensive network of bikeways as part of its 2010 Bicycle Master Plan. The proposed City of Los Angeles bikeway network would close a gap on Montana to better link to Westwood, complete the Exposition Pedestrian and Bike Path from the city limits to Downtown Los Angeles, extend the Main Street bike lanes into Venice, and extend the San Vicente and Arizona bike lanes eastward. A system of calmed neighborhood street connections to Santa Monica is also proposed. A map of Los Angeles' proposed bicycle network surrounding Santa Monica is shown in Figure 2-9.

COORDINATING AND IMPLEMENTING REGIONAL AND STATE PLANS AND POLICIES

The Bike Action Plan is a comprehensive plan to support and implement state, regional, and local plans and goals. The Plan is consistent with the California Complete Streets Act of 2008 (AB1358) requiring circulation elements to accommodate the transportation system from a multi-modal perspective, including public transit, walking and biking. It helps implement SB375 (2009), requiring metropolitan regions to adopt transportation plans that reduce vehicle miles travelled. The plan also supports AB 32 (2006) and SB 97 (2007) which require local governments to consider the greenhouse gas emission impacts of land use and transportation policies. These policies also meet the California Air Resource Board (CARB) Regional Target Advisory Committee (RTAC) thresholds for greenhouse gas emission reductions. The Plan also satisfies all of the State of California Bicycle Transportation Account requirements.

This Plan implements and supports regional transportation goals and projects, including those of the Los Angeles County Metropolitan Transportation Authority (Metro)'s Countywide Bicycle Plan and the 2010 Congestion Management Program (CMP). This plan includes local bicycle routes in Santa Monica that will link with those in Metro's Countywide Bicycle Plan. In addition, this plan is consistent with the SCAG's Regional Transportation Plan (RTP), which places an emphasis on bicycling supporting amenities and infrastructure to improve mobility and promote sustainability.

The Bike Action Plan also recommends actions to implement Santa Monica's Sustainable City Plan and the LUCE as necessary to achieve the Citywide goal of No Net New Trips and minimize potential environmental impacts of growth and development.



The Bike Action Plan fits into the broader context of the region and state by improving opportunities for regional transportation. Source: Friends 4 Expo

While most of Los Angeles’ plan is compatible with Santa Monica’s proposed network, Los Angeles proposes to add bicycle lanes to Wilshire, Santa Monica, and Lincoln Boulevards, streets that Santa Monica has prioritized for transit, walkability, and support of new neighborhood retail nodes. Santa Monica has identified parallel streets for high quality bikeways. Coordination has begun with neighboring cities to identify and resolve connections using wayfinding and/or other means.

Transit Connections

The Big Blue Bus and Metro operate numerous routes that connect to the City’s bikeways and bicycle routes. A large concentration of service is within the downtown and along major commercial corridors. Bikeways are distributed around the city to create easy connections generally within a few blocks of a major transit line. Primary crossroads of major transit stops and bicycle facilities occur on Ocean Avenue at Santa Monica Boulevard and at Pico Boulevard as well as at the intersection of Ocean Park and Lincoln Boulevards.

Bicycle connections to the Santa Monica Transit Mall located between Ocean Avenue and 5th Street on Broadway and Santa Monica include nearby bike lanes along 7th Street, Main Street, and direct connections along

Ocean Avenue. Bicyclists can travel on bus-only lanes designated westbound on Broadway and eastbound on Santa Monica within the Transit Mall. Improvements are needed within downtown to connect cyclists directly to the future Expo Light Rail Station on Colorado Avenue at 4th Street and the Bike Center recently opened at the base of Santa Monica Place.

Figure 2-10 shows the existing connections between bicycle facilities and major transit stops.

As the City and the region increase investment in transit, including light rail and community service, bicycle facilities and TDM programs will be necessary to serve the expanded transit network.

Figure 2-9 Local and Regional Bicycle Connections – City of LA Bicycle Plan



BICYCLE PROGRAMS TODAY

Interest in bicycling in Santa Monica is growing steadily. The City currently offers a variety of bicycle programs in the following areas: Events, Awareness, Information, Education, Encouragement, and Supporting Facilities. These programs are often developed in collaboration with community partners, as one-time projects and ongoing programs.

Events

The City hosts bicycle-specific events on its own and with community partners. Bicycling is also highlighted at other events including GLOW, the Santa Monica Festival, and National Night Out. Bike to Work, the City's major annual bicycle event, is conducted collaboratively with Metro and the Big Blue

Bus. Recently, the City expanded the event to include the Convention and Visitors Bureau, more private employer participation and pit stops for cyclists. In addition, the Library hosted an iCycle event, and the Police Department conducted bicycle rodeos and informal education programs.

The City also supports community events including a Santa Monica Museum of Art bike tour, Alt/Build Expo, and rideshare and bicycle events at Santa Monica College, elementary and middle schools, and Santa Monica High School (Samohi). During the development of the LUCE and Bike Action Plan, the City hosted an ongoing series of interactive public workshops and forums on bicycling and the integration of land use and transportation.

Bikelt! Day

Bikelt! Day started as an annual event organized by Santa Monica High students in the Solar Alliance and Bike Coalition as a way to promote biking and combat global warming. At these events, which are now held more frequently, students and parents can pick up bicycle maps, bicycle safety handouts, and prizes. By 2010, participation had grown to include 3,200 District students, over 30% of Districtwide enrollment, in walking, biking, and carpooling. Student leaders from the Santa Monica Solar Alliance have been recognized by the President, the Environmental Protection Agency, and the U.S. Department of Education.



Cyclists enjoy and celebrate the 4th of July at the annual parade.

Bike to Work Month/Week/Day

Each May, the City celebrates Bike Month, Week, and Day in conjunction with other municipalities in LA County and the state. The City works with local bicycle groups and employers to host the series of events, which include sponsored “pit stops” for commuter bicyclists to gather information and resources. Over the past few years, Bike to Work Day has substantially grown to include multiple city-wide morning pit stops and events throughout the day.

iCycle

iCycle was a free festival hosted at multiple library locations that celebrated bicycles and cycling. The festival applauded existing riders and encouraged new riders. Free bicycle valet parking and bicycle registration were available, as well as bike demonstrations, workshops on safety, repairs, and maintenance, and children’s crafts and a bike rodeo.



The number of cyclists that stopped at City-sponsored pit stops increased by 20% in 2010 from the participation in 2009.



In June 2011, President Barack Obama awarded a Presidential Commendation to Samohi leadership of the BikeIt! Day movement. The US Environmental Protection Agency described Samohi’s work as “inspiring” and “motivating others through their example.” Source: Samohi Solar Alliance

Awareness

Awareness efforts use a variety of communications, media outreach, and targeted campaign strategies to raise the profile of bicycling, bicycle facilities, and programs. They also include redesigning ongoing programs to include bicycling; for example, designing bicycle parking into existing parking lots, adding bicycles to the fleet of City pool vehicles, and incorporating “Bike lane closed” signs with other construction advisory signs. In 2010, the City Council funded an initial awareness campaign to bring attention to newly installed or shared lane markings. Other City efforts to raise awareness include incorporating bicycle parking and bike valet at highly visible locations, hosting and attending community meetings on cycling and safety, and supporting workshops on bicycle training and other issues.



Branded BIKE Santa Monica bags help to make bicycling more visible to the community.



An electronic sign on Lincoln alerts people to expect more cyclists out for BikeIt! Day

Electronic Signage

The City uses electronic traffic signboards to display short messages about City bicycling education and outreach events, such as “Bike to Work Day” and “Citywide BikeIt! Day.”

Ads on Big Blue Bus

The Big Blue Bus fleet has posted tailcards tailored to motorists displaying messages that are intended to promote bicycle safety and driver awareness of bicyclists such as, “Bikes may use the full lane. Shared lane markings or *sharrows* are coming to Santa Monica” and “Pass bikes with care. Shared lane markings or *sharrows* are coming to Santa Monica.”



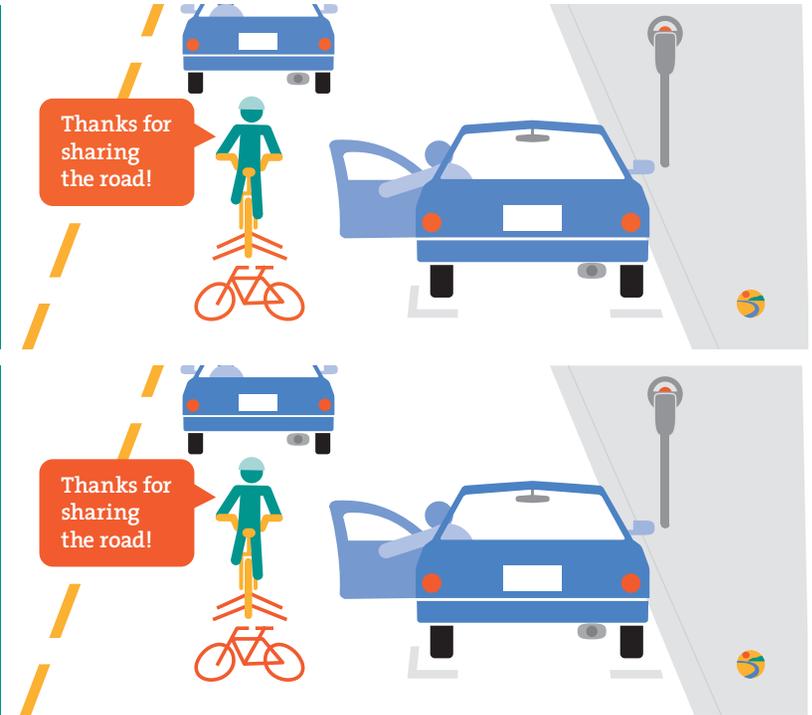
Santa Monica's bus tail card signage that informs motorists that bicyclists have the right to ride in the street.

Buy Local/Bike Local Tour Routes

The City promotes patronizing local merchants, cultural venues, landmarks and other destinations on bicycle by developing tailored and themed bike tour routes.

Information

Information on bicycling is provided on the City website and in the form of printed maps. Available resources include a bicycle map identifying bikeways and supporting facilities and an integrated bike/bus map. The public



can request bicycle services through the City web and telephone request systems.

Bicycle Maps and Information

Free printed “Bike Santa Monica” fold-out maps are available to the public at community events and facilities, including the City’s libraries, the Transit Store, and bike shops. The map shows the bikeways and bicycle routes in the city as well as bicycle parking locations and major destinations. The map also contains destination routing, bike and bus safety tips, and bicycle security.

Welcome Packets

The City of Santa Monica routinely distributes welcome packets to new residents. These packets include bicycle maps and bicycle safety information.

Government on the Go

The City hosts a Government on the Go mobile application and website form for citizens to identify problems like potholes and vandalism. Using a GPS function, residents can alert the City to the exact location of the problem and send a picture with their phone. Residents can put in requests for streets to be striped with lanes or sharrows and request and ask questions about bike racks using the online application at www.smgov.net/sm_go.aspx.

BIKE Santa Monica Website

The City's BIKE Santa Monica website at www.bikesantamonica.org provides on-line information and resources on bicycling rules and regulation, etiquette, safety, recreation and fitness, and bike parking around the city.

Education

The City provides bicycle education at events, including the Santa Monica Festival and school registration periods, and invests in training opportunities. In 2011, the City offered some basic bicycle skills and bicycle instructor training classes with League of American Bicyclists. The City also provides training for employers on how to encourage bicycling within an employee commute reduction program. The City's own Bike@Work program includes training for staff on safe riding, education at several City events, and hosted rides including a Buy Local/Bike Local effort.

School Resource Officers

The Santa Monica Police Department has designated School Resource Officers, who teach bike safety classes at local elementary schools. The class has two target audiences: older children who are beginning to ride to school on their own, and parents who are concerned for the safety and security of their children.

Bicycle Maintenance/Repair

Local bicycle shops, such as REI, offer bicycle maintenance classes. Proper bicycle maintenance contributes to a safe bicycling environment and a more enjoyable ride.

Bike Rodeos

The City hosts bicycle rodeos at community events, such as the Santa Monica Festival and National Night Out, which provide young cyclists an opportunity to practice their bicycle handling skills and learn more about bicycle safety.

Bicycle Skills Training

The City has offered both a Confident City Cycling class and instructor certification training. These classes cover bicycle handling and road skills as well as equipment selection and rules of the road.



Children practice riding safely in a bike learning area.

Encouragement

The City supports efforts by schools, businesses, and visitor-serving groups to incorporate bicycle promotion into their own programming and provides direct support for employee bicycling through employee commute reduction programs. The City has sought and obtained future grant funding to support school pedestrian/bike walkabouts, conduct educational programming at schools, improve facilities, including parking and access at schools, and support and encourage parent groups in their efforts to promote biking and walking to schools.

The City's beach bathroom inspector used to drive a City vehicle from site to site for inspections. Since the inception of the Bike@Work program, he has been using a City bike (with a trailer) instead of his car. He has lost 20 pounds and rides 170-190 miles per month.

Bike@Work

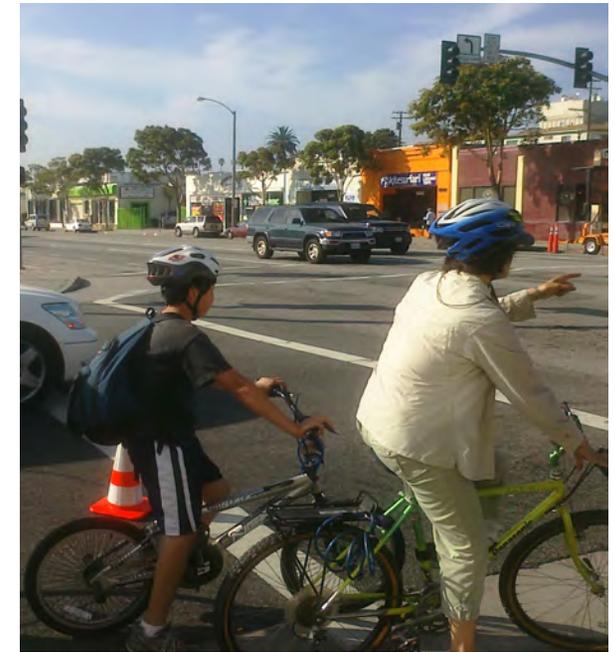
The City operates a Bike@Work program that provides a fleet of 20 bicycles for City employees to use throughout the workday. This program allows the City to reduce greenhouse gas emissions and its carbon footprint, provide a healthy option for employees to travel around the city, and contribute to the bicycle-friendly atmosphere on city streets. Bikes are branded with the City logo for visibility. Currently, 13 City locations are equipped with bikes and over 90 City employees are actively using the fleet. Within the first year of the program, over 3,000 miles were logged on Bike@Work bicycles.



A City of Santa Monica Bike@Work bike displayed on a Big Blue Bus bike rack.

Safe Routes to School

Safe Routes to School is a federal and state funded program seeking to improve conditions for walking and bicycling to school. The Santa Monica High School Solar Alliance initiated the city's first Bike to School Day in 2007. Over the past four years, the program has grown to include three-quarters of all schools within the Santa Monica Malibu Unified School District. The City has provided a wide range of support including traffic services and mapping.



A parent chaffers her child from Samohi.

Enforcement

Promoting bicycle safety is a City priority. The Police Department has conducted alternative penalty programs for bicycle helmet violations and is currently exploring best practices in how police can work with the community to support bicycle safety. The Police Department has hosted and participated in community and bicycle group meetings, conducted targeted campaigns in response to community concerns, and supported school access plans with education and enforcement. The Police Department also investigates accidents and maintains records on safety.

Bicycle Ambassador

The Police Department has designated a Bicycle Ambassador as a special liaison between the bicyclists and the community.

Marvin Braude Beach Bike Trail Signage

The City is designing signs and markings to improve compliance with regulations regarding the use of the beach bicycle trail.

Licensing Requirements

Cyclists are not currently required to register their bicycles in Santa Monica. The City encourages bicycle owners to take advantage of national bike registries that maintain records of bicycle numbers to report to the Police in the event of theft.



Well-utilized, modified inverted-U racks on Main Street.

Theft Prevention

The City promotes use of good locks and locking techniques. The Police Department conducts campaigns to apprehend bicycle thieves and recover stolen bicycles.

Supporting Facilities

End of trip and support facilities are key parts of a complete bicycle trip. To complement programming and bikeways, the City has initiated an ongoing bike rack program and supports a variety of other supportive programming: a bike valet program, bike and transit integration, local bike shops, and shower and changing facilities. In addition, commercial developers are required to provide limited

bicycle parking and amenities for employee commuters.

Supporting facilities are included in the City Bike Map shown in Figure 2-6.

Bike Parking

The City has been actively expanding bicycle parking along commercial streets, at public buildings, at parks, and at the beach. In 2010, bicycle parking was available in over 50 public and private areas around the city, and the installed racks hold a total of 920 bikes (Figure 2-12). A range of short-term bicycle parking types are available including inverted-U, modified inverted-U, bollards, and the less preferred wave racks.

The majority of existing parking is intended for short term use. Over 92% of spaces are not covered and are in very visible and accessible locations. Most spaces are on sidewalks in commercial areas, but additional bike parking can be found at community facilities, including parks and libraries. Santa Monica installed its first and only on-street bike corral on westbound Olympic Boulevard near 5th Street. About 60% of existing parking is adjacent to transit stops for easy access to the bus network.

Bike Valet

Bike Valet encourages people to ride instead of drive to congested locations. At Bike Valet, attendants park, tag, and watch bicycles while the riders enjoy an event or destination. Bicycle valet is available at Santa Monica’s Main Street Farmers’ Market on Sundays, at summer events held at the Santa Monica Pier, and at many special events such as Cirque du Soleil, Glow, and the Los Angeles Marathon finish line. In 2010-11, valets parked 25,577 bikes at 157 events, substantially improving convenience of parking bikes at events. As noted in

Figure 2-11, the bike valet program continues to grow in popularity.

Figure 2-11 Annual Bike Valet Utilization

Fiscal Year	Number of Bikes Valeted
2008-2009	21,000
2009-2010	25,100
2010-2011	25,577

The number of bikes valeted per year have increased substantially.

Bikes on Bus

The Big Blue Bus is also committed to integrating bicycles and transit, as demonstrated by their investment in bicycle racks on buses. Big Blue Buses are equipped with front-mounted bike racks that accommodate two bicycles. Bicycle boardings by bus stop are shown in Figure 2-13. Metro buses are also equipped with racks, and Metro allows bikes on trains. Transit operators have included special bike on bus promotions for Bike to Work Day.



Bikes get checked at the bike valet at the Santa Monica Festival.

“I would ride to work if there was a safe place to lock my bike.”

– Resident

Bike Shops and Rentals

Santa Monica boasts nearly 20 bicycle shops, including those that sell bicycles and bicycle supplies and provide bike repair. The City also has a large number of bicycle rental facilities, many concentrated near the beach to cater to the needs of residents and the large number of annual visitors. These businesses provide hourly, daily, and weekly bicycle rentals and guided bicycle rides. These services work well with local hotels to attract visitors, contribute to the City's pledge to be green, and provide access to popular destinations without driving. The number of bicycle shops and services in the city indicate the high demand for bicycling-focused businesses. Bike shops and rental locations are depicted in Figure 2-6.

Shower, Changing, and Locker Facilities

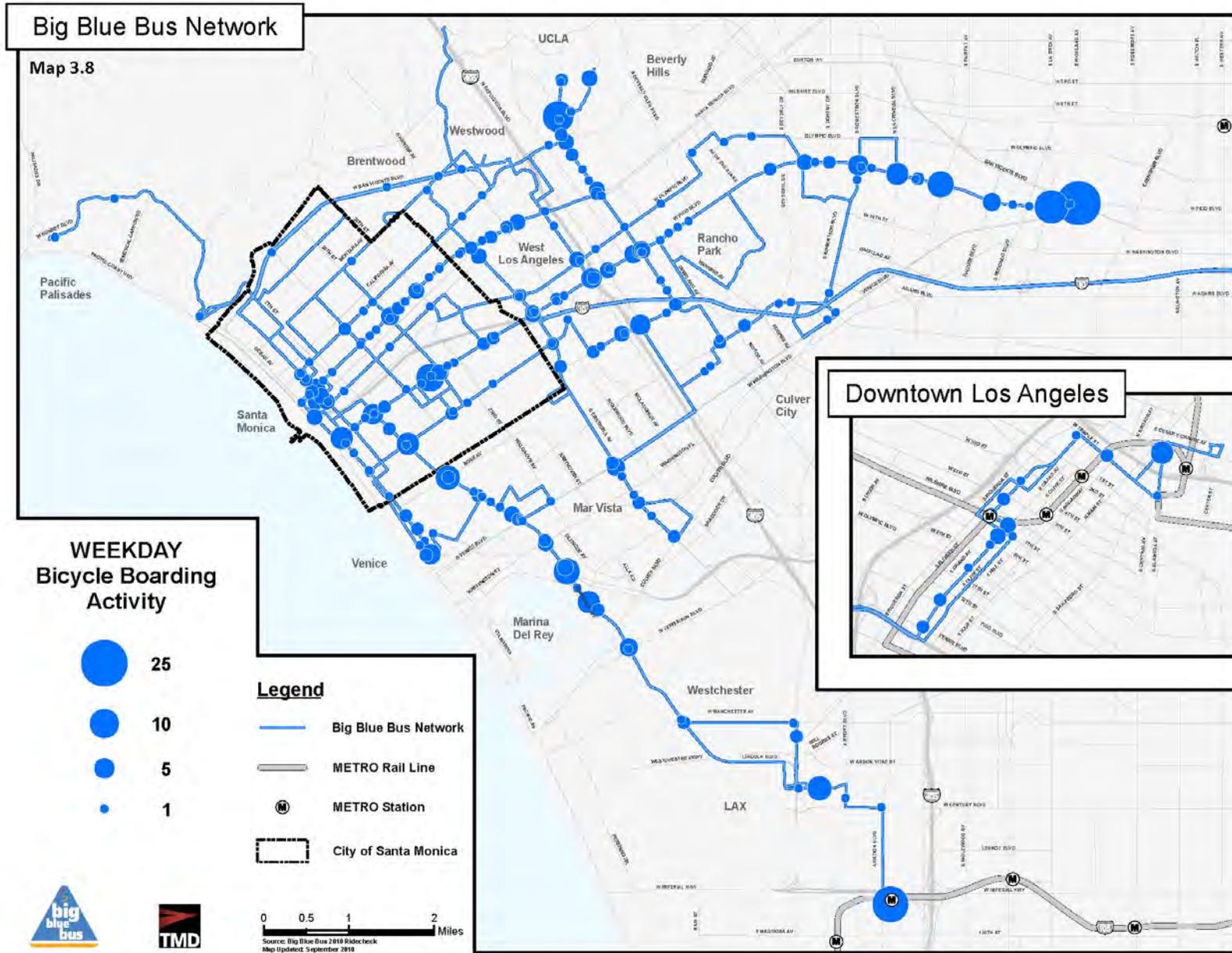
Shower, changing, and locker facilities promote bicycle commuting by providing a convenient place for bicyclists to shower, change, and/or store their clothes if they arrive in sweat, mud, or rain. Although gyms and employers offer private facilities (Figure 2-14), there are currently no public showers, changing, and locker facilities designed specifically for bicycle commuters.

Figure 2-12 Existing Bike Parking Space Map



Bicycle parking provided by the City comes in a variety of types, with each type providing a slightly different way to secure a bike.

Figure 2-13 Bikes on Buses



On an average weekday in 2010, 605 bicycle boardings were recorded throughout the entire Big Blue Bus system. Source: Big Blue Bus Existing Conditions Report 2010

THE FACES OF BICYCLING IN SANTA MONICA

The following community profiles provide a cross-section of those who bicycle in Santa Monica today. Their insight encapsulates some of the many improvements identified by the community that are needed to make Santa Monica a world-renowned bicycling city.



"We ride because we're helping the environment and we're helping ourselves."

COMMUNITY PROFILE: RYAN

Ryan was spotted at the downtown Farmers' Market with his Retrospect fixed gear bike. He accessorizes his bike with various wheel colors and matches his shirt to his wheels and handle bars. He lives in Mar Vista and says that bicycling there could be improved by keeping the streets maintained and educating drivers to be better aware of bicyclists.



"Education, followed up with enforcement, and completed with a diversion program for bicyclists, are the best ways to improve bicycling in Santa Monica."

COMMUNITY PROFILE: RON

Ron, a local bicycle advocate with Sustainable Streets, was interviewed at the Bike Action Plan community meeting. He has three bikes, but typically rides his Xtracycle, a cargo bike that allows him to live without a car (affectionately called his SUB, sport utility bicycle). Ron hasn't had a car for 15 years. He rides his bike everywhere and says that riding is the most efficient and cost effective way to get around, in addition to being good for the environment.



"Santa Monica could be improved by adding more bike lanes, posting signage that encourages road users to share the road, and making certain streets bike-only on some days and nights for certain hours."

COMMUNITY PROFILE: RAYMOND

Raymond and his three daughters, age 4, 7, and 10, were spotted riding their Surly Big Dummy cargo bike at the Santa Monica Festival.



“Santa Monica could improve bicycling by providing more bike lanes.”

COMMUNITY PROFILE: HUGO AND SAYIL

Hugo and Sayil were spotted getting a tune-up at the Bikerowave stand at the Santa Monica Festival. Sayil usually rides her cruiser downtown saying that “it’s a free way to spend time with my best friend (Hugo).” Hugo got his snazzy road bike from Walmart and uses it to commute to work, which takes him down Ocean Park Boulevard.



“Being out in the community on a bike sets a great example for sustainability and a healthy lifestyle; it becomes part of who you are and it’s fun.”

COMMUNITY PROFILE: BRYAN AND CYNTHIA

Bryan, aka “Orange”, and Cynthia, aka “Purple”, were spotted at a recent Bike Action Plan community meeting. As local bicycle advocates, they collectively own nearly 20 bicycles in matching sets. Typically, they ride everywhere they go, saying that riding “promotes an awareness of the community and highlights the importance of being involved.” They are two of the founding members of Santa Monica Spoke (LACBC); Cynthia serves as the groups Director and Spokesperson. They were recently certified as LCIs and will teach Smart Cycling courses here in Santa Monica. They think that Santa Monica is on the right track in making the city better for bicycling by listening to the everyday cyclist, thinking outside the box, and taking forward thinking plans into action. Some of their biggest concerns are adequate and safe bike parking and educating all road users, adding that “the more we all learn, the more we can get done.”



COMMUNITY PROFILE: OFFICER GALLANT

Officer Gallant was spotted at the Downtown Farmers’ Market and patrols her beat (Downtown/3rd Street Promenade) by bicycle.



"Santa Monica needs to provide more secure bike parking."

COMMUNITY PROFILE: JEFF

Jeff stopped by the Planning booth at the Santa Monica Festival and then participated in one of the Bike Action Plan community meetings. He is shown here with his "burning man" bike because his nice city bicycle was recently stolen. Jeff rides all over Santa Monica and Venice and has been a cyclist as long as he can remember. He thinks that Santa Monica could improve bicycling by providing more secure bike parking locations and improving police response to bike thefts.



"We bike for our health, the environment, and because it's fun."

COMMUNITY PROFILE: JOHN AND SARA

John and Sara were spotted retrieving their Ohio bought bikes from the Santa Monica Festival bike valet. They bike everywhere, including the Ballona bike path and the beach bike path. John's favorite ride is through Sullivan Canyon on his mountain bike where he enjoys the ocean breeze as he pedals around town. John and Sara think that Santa Monica could improve bicycling by having racks that accommodate more bikes on buses, providing more bike lanes, implementing bike boxes at traffic signals, offering tax breaks to cyclists, and educating motorists and bus drivers about cyclists' rights.



"Santa Monica needs more bike lanes and bike parking at the (Downtown) Farmer's Market."

COMMUNITY PROFILE: MIKE

Mike was spotted buying flowers and produce at the Downtown Farmers' Market. He has a road bike that he rides in Santa Monica for exercise and his favorite ride is along the ocean. Mike thinks that Santa Monica could improve bicycling by providing more bike lanes and adequate bike parking at the Farmers' Market.



"Bicycling is a cheap workout."

COMMUNITY PROFILE: AINSLEE

Ainslee, a former summer bike messenger in Washington, DC, was spotted at the Downtown Farmers' Market. She participated in the Santa Monica Museum of Art (SMMOA) bike ride and made spoke card art. She rides to run errands and see clients. Ainslee's favorite ride is "wherever her curiosity takes her," but in general, she stays away from Wilshire and Lincoln Boulevards and thinks the City could do more to complete the bike network in that area, especially where 7th Street crosses Wilshire Boulevard.



COMMUNITY PROFILE: GABRIEL

Gabriel is an 8th grader at SMASH and rides his bike three miles to and from school. Gabriel worked with several friends to found the SMASH Bike Club last year, which works to organize Bike It! Day, sell and promote the use of bike helmets, and explore bike workshops for younger SMASH students. He rides to school because it gets him going and wakes him up in the morning! Plus, he enjoys the added benefit of experiencing his neighborhood in person and not from behind a car window. His ride to school has some bike lanes, including Broadway and the hilly portion of Ocean Park, but he also rides on streets that don't have bike lanes and would feel more comfortable on these streets if bike lanes were added.



"Santa Monica needs more detection for bicycles at left turn signals."

COMMUNITY PROFILE: EARL

Earl was spotted at the Santa Monica Farmers' Market on his way to class. He bought his bike to be able to connect with his nephew and cousin in Chino Hills who recently got Fixie bicycles. Earl's favorite ride is from SMC to downtown. Earl thinks Santa Monica would be more bicycle friendly if motorists were more conscious of bicyclists on the road.



COMMUNITY PROFILE: BRUNO FAMILY

Meyer, Philip, Una, and Rachel ride to school as a family daily and are pictured outside of PS1 at Broadway and Euclid St. The reasons they ride are countless: they spend quality time together as a family, they are able to connect with their community in a way that they can't in a car, it's a good workout, and it is FUN. The Bruno's would like to see easy to access North/South and East/West bike corridors throughout town and are particularly interested in bike facilities that provide some buffer and separation from vehicles, such as cycletracks. They would also like to see more enforcement of auto driver behavior (such as cell phone use).



"The City needs to provide more bike parking, crack down on bicycle theft, create one-way streets, and install more bike lanes."

COMMUNITY PROFILE: TODD

Todd, a local firefighter, was spotted packing up a load of fresh flowers and produce on this Redline bike and BOB trailer at the Downtown Farmers' Market. He typically rides in the Santa Monica Mountains and says that he always chooses to walk or bike around town, unless he has to drive.



COMMUNITY PROFILE: ALICE

Alice was spotted at the Santa Monica Main Street Farmers' Market with a sweet black bike and red panniers. As a Holland native, Alice is no stranger to biking. She feels that Holland benefits from good infrastructure and the fact that nearly all car drivers were at one point bicycle drivers making them more understanding and respectful of all road users. She usually rides in Westwood and along the beach bike path (in the morning), and she rides to make a statement. She would like to see more buffered and separated bike facilities and a decrease in the amenities for automobiles.

3. SETTING A COURSE



INTRODUCTION

Given its existing bike enthusiasts and community support, the City of Santa Monica is poised to become a great bicycling city. But in order to resonate with a broader number of Santa Monicans, the City must develop a forward-thinking action plan that fosters connections for current and future cyclists of all skill levels, makes bicycling fun for all, and encourages bicycle travel using a variety of events, campaigns, and amenities.

The Santa Monica Bike Action Plan, backed by the policy framework established in the Land Use and Circulation Element (LUCE), positions bicycling as an integral component of the city’s broader multimodal transportation system. Developing a dense network of low stress and high quality bikeways is one element of creating a world class bicycling city. Another way to effectively improve the bicycling environment and engrain bicycling in Santa Monica’s culture is through education and encouragement initiatives, enforcement procedures, and supporting infrastructure. Santa Monica will attract citizens and visitors to bicycle en masse if it invests in a network that is appropriately complemented by programs and supporting amenities.

The Bike Action Plan focuses on Programs and Bikeways. Included in this chapter is a 20-year bicycle program toolkit, along with phased recommendations for 5-year implementation and a 20-year vision. The recommendations help to realize Santa Monica’s aspirations to increase bicycling numbers, make bicycling fun for all, and make bicycling convenient and comfortable.



Santa Monica Festival Bike Learning Area.

ACTION PLAN STRUCTURE

Bicycling can be a more powerful tool for access and mobility in Santa Monica if it becomes more convenient, comfortable, and fun for all Santa Monicans. This chapter lays out specific recommendations for achieving those goals. The recommendations are based upon community-based prioritization exercises and vetted through technical input. They provide a broad strategy for implementing programs and supporting facilities like parking and signage in addition to bikeway facilities. The recommended 5-year action plan includes both projects that can be implemented with minimal additional process and a few that will require additional community process or detailed environmental review.



Public workshops sparked lively discussion and generated a wealth of ideas.

ESTABLISHING THE ACTION PLAN

Bicycling emerged as a critical issue during the extensive public process that produced the Land Use and Circulation Element (LUCE). Many people spoke of the need to improve access, reduce impacts of auto congestion, and relieve neighborhood streets. In response, the City aims to achieve No Net New PM Peak Auto Trips, embraced the complete streets concept and developed a broad set of goals and policies for a future bicycle network within a multimodal street network.

Building on the LUCE, the first Bike Action Plan Workshop was held on December 13, 2010 to discuss elements of the plan. In addition to advertising the workshop in the local newspaper, City staff, residents, and other e-mail groups developed during the LUCE process were used to get the word out. The workshop included numerous stations that allowed people to break out into groups and discuss some of the major components of the bike plan like encouragement

and education programs, bicycle parking and bicycle facility improvements. To accompany the first workshop, the City released a bicycle plan survey to broaden its outreach approach. This survey included questions on which streets should be prioritized for bicycle travel, how streets should be designed and signed for cyclists, and which programs the City should invest in and promote.

In Spring 2010, the City's Planning Commission heard presentations on the programs and detailed bikeway projects that were emerging from the workshop and public outreach. A second public open house style workshop was held on May 16, 2011. Several stations were set up to capture background information on existing cyclists, roll out programs and proposed bikeway corridor projects as well as how to monitor future progress on the plan. The community participated in a round table activity to help prioritize future projects and programs.

Throughout the winter, spring and summer of 2011, staff attended more than 10 other meetings where feedback and input was gathered at local existing commissions such as the Planning Commission, Recreation and Parks Commission, Task Force on the Environment and other subcommittees focused specifically on bicycle and pedestrian issues. Additionally, staff attended regularly-held Santa Monica Spoke meetings—a sub-chapter of the Los Angeles County Bicycle Coalition.

All comments from these meetings, workshops, and the survey were reviewed and taken into consideration during the next phase of drafting the Bike Action Plan. Refining bikeway alignments, developing cost estimates for route and infrastructure improvements, developing prioritization criteria to be used to rank bike improvement projects, and developing bicycle safety education and promotion programs continued to take place until the Plan was released.

PROGRAMS: GETTING PEOPLE ON BIKES

Great bikeways alone are not enough to get people on bikes. Complementary programs build upon the bicycle network by enticing new riders and supporting a vibrant bicycling culture. This plan includes programs that encourage ridership, provide information, build awareness, celebrate events, provide education and enforcement, and create supporting facilities for people who bicycle in Santa Monica. Programs target everyone: committed cyclists, occasional cyclists, potential cyclists, as well as pedestrians, motorists and transit riders who share the streets with bicyclists. Many of the program ideas come from engaged stakeholders throughout the community and reflect ideas shared at bicycle workshops and the extensive LUCE discussions.

Each program helps achieve the Plan's goals of:

- ▶ Getting more people to bicycle;
- ▶ Bringing out the fun in bicycling; and
- ▶ Improving bicycling's convenience and comfort.

The following principles apply to programs:

- ▶ Collaborate with community partners
- ▶ Engage people of all ages and abilities
- ▶ Respect all road users
- ▶ Support the whole trip



A basic bicycle road skills course can be included in City sponsored events to improve skills and bring out the fun.

Programs stimulate the creativity and awareness that encourage people in Santa Monica to use streets in a new way. They engage community groups and institutions that share an interest in healthy, sustainable transportation. Collaboration with community partners extends the strength and reach of all programs and leverages our community-wide energy and resources. Partners are diverse and numerous and are critical for effective implementation (see list of partners on following page).

This toolbox of bicycle programs addresses the needs of everyone, including people who might be less likely to consider bicycling because of age or ability. By enabling bicycling to compete favorably on convenience and comfort relative to driving, programs promote a culture of bicycling within a complete street system that also serves drivers, transit and pedestrians. The shared complete street system relies upon the respect for all road users that is fostered by these programs. Bicyclists will be aided by supplemental infrastructure programs that support the whole trip from start to finish.

The toolbox of bicycle programs includes seven categories: Events, Awareness, Information, Education, Encouragement, Enforcement, and Supporting Infrastructure. Each provides a range of programs appropriate for Santa Monica, acknowledging that new and creative ideas are always being generated that can be added to the list. Programs highlighted by  indicate programs that are existing, but open to change over time.

PROGRAM PARTNERS

To implement effective programs that appeal to current and future bicyclists, the City must develop partnerships with local organizations, cities, and advocacy groups. Partners help bicycle programs that meet the needs of Santa Monicans. Some key partners include:

- ▶ Arts and cultural organizations
- ▶ Bike Center
- ▶ Buy Local
- ▶ C.I.C.L.E.
- ▶ Cities of Los Angeles, Beverly Hills, Culver City, West Hollywood, Burbank
- ▶ Downtown Santa Monica Inc.
- ▶ Employers
- ▶ Local Bicycle Shops
- ▶ Los Angeles County Bicycle Coalition
- ▶ Main Street Merchants Association
- ▶ Metro
- ▶ Montana Avenue Merchants
- ▶ Pico Improvement Organization
- ▶ Pier Restoration Commission
- ▶ Recreation groups
- ▶ Santa Monica Chamber of Commerce
- ▶ Santa Monica College
- ▶ Santa Monica Convention and Visitors Bureau
- ▶ Santa Monica Farmers' Markets
- ▶ Santa Monica Malibu Unified School District
- ▶ Santa Monica Spoke
- ▶ Sustainable Streets
- ▶ Teacher Associations
- ▶ Transportation Management Associations
- ▶ Westside Cities Council of Governments



Los Angeles County Bicycle Coalition helped staff the bike valet pilot project at Main Street Farmers' Market.

Events

Bicycle-focused events, bicycle elements in other events, and bicycle rides and tours raise the profile of bicycling in Santa Monica. Events bring people together to share in bicycling's camaraderie, fun, and awareness. They can reach a wide range of residents, employees, students, and visitors and engage with Santa Monica's business community, non-profits, and arts and cultural groups. Larger events are effective ways to reach significant numbers of people and raise awareness among people who are not currently bicyclists. They also provide excellent opportunities to showcase advantages of bicycling, and to raise awareness of new bicycle programs and bikeways. Through a combination of bicycle special events and bicycle elements incorporated into other events, Santa Monicans can enjoy events throughout the calendar year with both general and targeted audiences for continuous encouragement of bicycling. Successful events will:

- ▶ Make positive contact with as many people as possible to increase awareness of bicycle programs and facilities;
- ▶ Share meaningful information and resources to encourage bicycling; and
- ▶ Showcase the bicycle as a time-competitive transportation choice.

Some examples of bicycle events may include openings and tours of new bicycle programs and facilities, participation in National Bike-To-Work Month, events for key groups like the Bike It! Day for students, car-free street events similar to Ciclovía, and bicycle rides and tours such as the Santa Monica Museum of Art's bike tour, Tour da Arts.

EVENTS TOOLBOX

Bike to Work Month/Week/Day

Bike Month is a great opportunity to promote bicycling and bicycling safety. Each year the City has celebrated Bike Month with a range of awareness, events and promotions that are continuously expanding, and always feature Bike to Work Day. Expanded programs from other jurisdictions include pancake breakfasts at bike shops, bike ambassador programs, organizing a bike buddy program, and selecting a day each month for highlighting and celebrating bike to work.



Bike to Work Day in Santa Monica.

Bike It! Day

Encourage new ridership among students and young people in order to foster a new generation of bicyclists by designating a specific day to bicycle. Work with PTSAs, students, and schools to expand participation in the event.

Car-Free Street Events

Car-free street events are high-profile happenings that encourage people to reinvent their use of the streets, have fun and feel comfortable riding. Examples include Los Angeles' CicLAvia which creates a network of public space for walking, bicycling and other community events and works with local businesses. Car-Free events can be linked with other street closure events like the Marathon or parades in order to leverage marketing and



CicLAvia has been a major success story with several CicLAvia events being held each year. Source: CicLAvia

management efforts, or be special events that occur in small or large areas. There are opportunities to coordinate these events with other jurisdictions to foster regional bicycle and pedestrian awareness.

Bicycle Presence at City Events

Bicycle elements in other events can reach even more people, at times when congestion and parking challenges highlight the advantages of bicycling. City-sponsored events with a high bicycle profile and preferential access for bicyclists include GLOW, LA Marathon, Cirque du Soleil, Santa Monica Festival, Santa Monica Pier Twilight Dance Series, Santa Monica Pier Drive-In Movie Series, Santa Monica Farmers' Markets, and National Night Out.

Bicycle Rides and Tours

Promote, coordinate, and support bike themed tours like Santa Monica Museum of Art's bike tour, Bike Local Buy Local events, city tours by bicycle, tours highlighting new bike facilities, or others in partnerships with bicycling, businesses, arts, recreation and other organizations.

Success Celebrations

Hold opening events, ribbon cuttings, and rides to celebrate new facilities and programs that support bicycling.

Competitions

Promote bicycle competitions and events sponsored by cycling groups, non-profits, employers and educational institutions.

Awareness

Awareness is the first step towards change. Awareness is built by a combination of visible riders and facilities in the community, conversation, marketing, and promotional programs. In addition to increasing ridership, awareness supports respect among all roadway users and fosters safety. As a first step, visible and well-designed bikeways, racks, signs, and facilities elevate bicycling's presence as a viable option for transportation. Awareness programs help people take notice of bikeways and facilities and reach broadly to engage people who have not considered riding a bicycle themselves but who regularly share the road with cyclists. They help people to appreciate the perspective and needs of cyclists, the bicycle design elements that are necessary for complete streets, and the contributions of bicycling to a balanced and sustainable transportation system.

Awareness programs include collaborative efforts with partners including bicycle advocates, transit agencies, employers, business and tourism groups, and government agencies at the local and regional level. These programs try to reach everyone—children, adults, motorists, recreational and commuter cyclists, educators, students, public agencies, employers, service providers, etc. Awareness

Pass bikes with care.

Shared lane markings or sharrows are coming to Santa Monica.

BIKE santa monica

Thanks for sharing the road!

The City has developed bus awareness campaigns to educate motorists about shared lane markings and to pass bicyclists with care.

AWARENESS TOOLBOX

Reach out to drivers. Awareness targets not just cyclists, but all road users, to encourage respect and safe behavior.

Regularly-Held Cycle Talks
Hold regular, informal public roundtables on bicycling in Santa Monica to share information and use public input to enhance activities. Hosted at local businesses, bike shops, or government offices.

Santa Monica Bike Network Showcase
Design bike tours of varying lengths and skill levels that highlight new and existing bicycle amenities and infrastructure around the City.

Printed Material Campaigns
Printed information such as bus tailcards, banners, brochures, and maps can be used to broadcast a range of messages to cyclists and other road users including safety reminders, announcing new facilities and resources, and promoting events. A unified look

and logo system helps to build consistent awareness.

Promotional Giveaways
Distributing bike aids such as lights and reflective stickers at community events builds awareness to provide necessary support for bicycling and highlights bikability to promote ease of bicycling to tourists, shoppers, and residents.

Rules of the Road for Everyone
Bicycle safety includes looking out for pedestrians, motorists, and bicyclists. Knowledge of rules of the road help people share streets safely.

City Media
Publicize events and campaigns on local city TV and in newspapers like *Seascape*—a City publication produced six times per year to inform residents about City programs.

lets people know that bicycle resources and facilities are available and gives them access to information, education and encouragement resources. Successful awareness programs will:

- ▶ Allow as many people as possible to be aware of bicycle rights, resources, needs, and facilities.

Public roundtables on bicycling, a bicycle network showcase, campaigns, celebrity public

service announcements and promotional give-aways are potential awareness programs. Work is already underway on bicycle awareness campaigns that create a unified Bike Santa Monica identity, promote the understanding of shared lane markings through bus tail cards, and produce a video spot for City TV.

Information

Timely, accurate, and educational information about bicycle news, resources, facilities, events, regulations, and meetings supports all types of bicycling activities. Since bicycling is a time-competitive transportation option in Santa Monica, information may be the catalyst that gets people on bikes, or encourages casual cyclists to ride more often. Information programs are critical in facilitating route planning, accessing educational materials, finding out what is going on, and getting ideas about places to ride. For visitors, information is key to quickly understanding local bike facilities and resources that support car-free travel. The use of web-based tools and social media help provide an easy and convenient two-way conduit for information and can be used for education, awareness and encouragement programs. Partnerships with Metro, Westside Cities Council of Governments and public search engines and mapping resources can also improve the availability of information and ease of its use. A combination of web-based resources, printed materials, and in-person

exchanges can put information in everyone's hands, with a target to:

- ▶ Provide bicycle information to as many people as possible, in a variety of forums and applications.

Bicycle information programs include efforts such as an updated and branded website, a City Request System, printed and on-line bike maps, local and regional trip-planning services, self-guided city bike tours, directions to major destinations via bicycle, the incorporation of bicycle information at events and information outlets, and information about bikes on buses.



The Convention and Visitors Bureau promotes green business and getting around by bicycle. Source: Santa Monica Convention and Visitors Bureau

INFORMATION TOOLBOX

Updated and Branded Website

Improve the BIKE Santa Monica website with regularly updated resources and information such as calendar of events; information about current projects and how to get involved; a comprehensive list of bicycling groups and relevant contact information for pothole repair, parking enforcement, and bike rack installation.

Santa Monica Request System

Enable the City's mobile application and website known as the Go System to accept more details on bike infrastructure and programmatic needs from citizens and the bicycle community. Applications should strive to be integrated with popular webpages like Google Maps to see other reports in the area.



Source: City of Santa Monica

Printed Bicycle Maps

Maintain an up-to-date printed bicycle map that shows designated bicycle paths, lanes, and routes; local bike stores; bicycle rental locations; large bicycle parking facilities; and shower and storage facilities. They can also be available online for home printing, at bicycle shops and rental centers, and at major destinations.

Online Maps: Google Maps and Local and Regional Trip Planning

Provide up-to-date information to internet content providers and promote mapping trips on the City's website not only within the city but also those beyond municipal boundaries. Safe Routes to School and Parks provide information on the best bicycle routes to local schools, libraries, and parks.

Continued on next page...

INFORMATION TOOLBOX (cont'd)

Self-Guided City Tour Routes

Publish a guide of routes of interest that include themed self-guided (or formally guided) journeys such as garden tours, cultural resource sightseeing, historical exploration, art tours, food excursions, and local and green business tours. Tours are targeted to tourists, but are appropriate for residents and students as well.

Directions to Major Destinations

Incorporate bicycle directions into major destinations' websites such as local museums, shopping centers, or other attractions like the Pier, Downtown, the Civic Auditorium, Samohi, Annenberg Community Beach House, etc. Include map or description of where short- and long-term bicycle parking facilities are located.



Most Big Blue Buses have front-loading bicycle racks. Because using these racks are not intuitive, instructional information should be provided.

Bicycle Information at Other Events

Incorporate bicycle information into existing and future popular events such as Farmers' Markets, GLOW, the Los Angeles Marathon, and others to make bicycling resources present at non-bicycling events, integrating cycling with community culture.

Bicycle Information at City Information Outlets

Include bicycle information in existing city information outlets like those found on the Pier, in Downtown and at bus stops. Include brochures and maps on how to get around Santa Monica on a bike, comprehensive information on rules of the road, and information on bicycle parking and other supporting facilities.

Transit Connectivity – Bikes on Buses

Create printed material and videos, plus hands-on training on how bikes and buses work in tandem for bicyclists and transit riders.

Participation

Track and provide information on mode-split, especially at schools, including participation in events including Bike-It Day and Bike to Work Day.

Safety

Provide information on safe riding and how to follow rules of the road and avoid crashes.



Big Blue Bus is integrating bikeways into their maps/schedule signage located at bus stops. Source: Big Blue Bus

Education

Education programs give people the skills, knowledge and understanding to feel comfortable on and along-side a bicycle. Handling skills and knowing how to share the road safely with other road users reduces risk for everyone. With knowledge comes a level of comfort and familiarity that makes bicycling fun. Education also motivates people by explaining the many personal and community benefits of bicycling. Bicycle education training and materials can be developed by qualified

bicycle instructors for the general public as well as for target groups. Different learning styles can be accommodated by providing education materials online, in-person, through signage, and at a dedicated bicycle campus in order to:

- ▶ Provide bicycle education to as many people as possible; and
- ▶ Communicate the responsibilities of all road users and the many benefits of bicycling.

Collaborative partnerships, including with schools, advocacy groups and other community stakeholders, extends the reach of

available bicycle education programs available. Education programming includes bike rodeos, student-led bike education mobile classrooms, all levels of bicycle training, commuting 101 classes, bicycle repair training, and the creation of a Beach Bicycle Campus, which can be used for instructor-led bicycle classes as well as self-guided practice.

EDUCATION TOOLBOX

Bike Rodeo

Work collaboratively with Santa Monica Malibu Unified School District or local professional bicycle instructors to create bike rodeos that teach younger children how to safely ride a bike while simultaneously easing parental concerns.

“B.E.”: Bike Education

Work with student groups to host and teach younger cyclists the rules of the road, how to properly lock a bike, and learning where the best places to ride are located. Create a “mobile classroom” with a fleet of bicycles for students currently without bicycles.

Bicycle Training

Offer League Certified Instructor (LCI) courses through existing organizations and City Bike Centers to encourage more people to be knowledgeable of cycling skills, bike repair and maintenance. Offer tailored classes to varying ages from the elderly to adults and younger cyclists at regular intervals throughout the year.

Employee Training

Teach people who conduct street maintenance or work on street related construction projects about the rules of the road, needs of bicyclists, and how to improve bicycle safety. Use training to inform others who use a bike while working.

Transit Connections

How to bring bikes on buses and trains, get to stops and stations, and find parking.

Commuting 101

Provide a crash course on commuting to work—including etiquette, seeing what it is like to ride on a busy street with traffic, and learning about amenities when you reach the office—either web- or class-based through existing organizations or the City’s Bike Center.



*Sustainable Streets provides bicycle training courses – from the basics to vehicular cycling.
Source: Sustainable Streets*

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EDUCATION TOOLBOX (cont'd)

Bicycle Repair Skills

Encourage development of local non-profit groups like Bikerowave and other similar groups that provide a drop-in location for information on bike maintenance staffed by volunteers that encourage people to maintain their bikes in an affordable way to allow them to rely on their bicycle for transportation. Work with non-profit groups to co-host mobile repair workshops at existing events and schools.

Bicycle Campus

Install a Bicycle Campus to teach bike skills to all riders using the LCI training model. Incorporate bike skills and typical bicycle road treatments. Design the Campus course for group and self-guided instruction incorporating signage descriptions and details that include Quick Response codes that link to videos of how to use the course and its facilities.



Source: Bikerowave.org

Bicycle Curriculum

Create and collect resources that can be used with or tailored to community groups interested in bicycle safety.



The future Bike Campus will feature a skills course and actual pavement markings seen on Santa Monica's streets.



Encouragement

People enjoy bicycling in familiar and social settings and will increase their frequency of riding if they are given the proper incentives. Schools, employers, businesses and various non-profit entities are powerful partners in the effort to get more people to bicycle. Encouragement programs target and support these groups by providing resources, information, education and facilities that are designed specifically for the needs of each group. Encouragement programs use many resources developed for other programs – these programs are called out separately because they include major partnerships with important community stakeholders in order to leverage support for getting more people to ride bicycles. Partnership and collaboration will also advance regional, state, and national bicycling goals, that compete well for grant funding and shape larger bikeway projects. Successful encouragement programs will:

- ▶ Increase the number of people who use bicycles for school, work, shopping, and entertainment trips.
- ▶ Ensure that students, employees, and customers can access schools and employment on good bikeways and know how to find and use them.

School-based encouragement can include organized bike-pooling, Santa Monica College programming, Safe Routes to School efforts to develop classroom curricula, work with parents and administrators to improve bicycle access, create

wayfinding, add parking, provide bicycle training and education, host awards and contests, and sponsor events such as Bike It! Day.

Various Transportation Demand Management (TDM) strategies exist to help employers encourage the use of bicycles by their employees. On the most fundamental level, this includes the provision of physical end-of-trip amenities such as racks, lockers, showers and changing facilities. Employers can go further by providing Bike@Work fleets, sponsoring bicycle training and maintenance seminars, and incentivizing bicycle use through contests and participation in Bike to Work Day or similar events. Policies employers can implement include parking cash-out, flextime, and guaranteed rides home. In combination, these programs can increase the percentage of employees who commute by bicycle.

Business encouragement can include a Bicycle Friendly Business recognition program, local business-oriented bike events and tours, local bicycle craftsmanship, marketing opportunities, and discounts for customers that arrive by bike.

The City can also provide support for other bicycle-related campaigns, such as the Santa Monica Convention and Visitor Bureau's ongoing effort to promote green and eco-tourism or future car-free efforts, and special events like the Green Apple Festival, which celebrates and honors Earth Day.

ENCOURAGEMENT TOOLBOX: BICYCLE-FOCUSED DEMAND MANAGEMENT

Business Partnerships

Bicycle-Friendly Promotion and Businesses Recognition

Encourage businesses and restaurants, for example, to promote cycling by providing discounts to those who arrive by bike. Recognize these businesses that give discounts to riders who arrive on bicycles or provide amenities such as covered parking, lockers, and/or shower and changing facilities through a "Bicycle Friendly Business" program.

Buy Local Bike Local

Encourage employers and groups to create regular rides to local business districts that incorporate a "buy local bike local" aspect. Work with businesses to provide incentives to those participants.

Local Bicycle Craftsmanship

Support bike craftsmen to manufacture specialty bicycle parts and components in Santa Monica to support local business and the bicycling community and promote bicycle culture.

School Partnerships

Safe Routes / Smart Ways to School

Provide technical assistance and maintain a support role for local schools. As funding becomes available formalize the Safe Routes to School Program by integrating more education, encouragement, and enforcement programs. Actively apply for grants and procure consultants to manage programs in partnership with SMMUSD, PTAs, and students. Work with School District to identify and improve good bicycle routes to each school and to provide information about these routes to school communities and neighbors of schools.

Santa Monica College Programming

Collaborate with Santa Monica College's transportation coordinator, Center for Environmental and Urban Studies, and Sustainable Works program staff to host awareness events providing information to new students on bicycle facilities, safety, and resources. Include food and give a ways (e.g. bike lights) and used bike sales.

Bike-Pooling

Support and encourage the formation of bike-pooling where more experienced riders help others feel more comfortable on the road, commuting to work, school or other destinations. Facilitate the program through human resource departments, neighborhood associations, an online ride-sharing program, or free online message boards and social networking sites.



Businesses that support bicycling are an important part of developing a bicycle culture. Source: League of American Bicyclists



Bike-pooling to school or work makes bicycling a fun and social activity. Source: Bike Train PDX

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ENCOURAGEMENT TOOLBOX (cont'd)

Employer Partnerships

TDM Programming

Working with employers to incorporate and provide physical amenities and offer policy incentives such as:

- ▶ Monthly commuter bicycling benefits;
- ▶ Parking cash-out, where employees who do not use an automobile parking space receive a monthly cash pay-out;
- ▶ Information for employees about biking;
- ▶ Coordinated bicycle buddy programs, where employees ride to work together (and assist novice bicyclists);
- ▶ Corporate challenges with prizes, including websites where employees can log their miles and compete with other companies (usually sponsored by large employers);
- ▶ Employee bike share (have full-size or foldable bikes available to check in/out for work and personal use during the day);
- ▶ Organized recreational rides for socializing, exercise, and fresh air;
- ▶ Flextime or alternative work hours for those commuting by bicycle;
- ▶ Hosted bicycle repair clinics and information about bicycle do's and don'ts; and
- ▶ Training on bicycle maintenance and repair.

Recognizing employers that offer incentives to their employees and assist employers to offer these benefits to their employees. Recognition can include:

- ▶ Being featured in the local media;
- ▶ Receiving praise from the Mayor; and
- ▶ Bicycle-Friendly Santa Monica or sustainable business certification.

Assistance can include:

- ▶ Information and best practices on how to determine and implement these benefits;
- ▶ Financial and/or staffing support to implement programs; and
- ▶ Assistance with bike parking.



Council member Kevin McKeown - Santa Monica's Bicycle Friendly Community Award Ceremony.

Non-Profit Partnerships

Los Angeles County Bicycle Coalition (LACBC), Santa Monica Spoke, Sustainable Streets, and others

Continue to work with and acknowledge LACBC, Santa Monica Spoke, and Sustainable Streets as joint partners in various programs. Continue to work with regional partners to help integrate bicycle planning and connections throughout the region. Co-host events with LACBC, Santa Monica Spoke, and Sustainable Streets to target active bicyclists in Santa Monica who are interested in advocacy and organized rides.

Transportation Management Associations

Encourage and support formation of Transportation Management Associations, or TMAs, which are often non-profit, member-controlled organizations that provide a one-stop resource for green commuting materials, coordinate carpools/bike pools, or help employers offer incentives to employees.

Bicycle Ownership

Offer incentives to own a bike in Santa Monica, such as providing refurbished bicycles at a discounted price to schools and employers in the area.

New Resident Outreach

Provide comprehensive information on bicycle commuting, safety, promotional materials, and resources in new resident outreach packets.

Education For All

Provide bicycle education materials, including on-line curriculum for encouragement partners, including schools, students, employees, and visitors.

Enforcement

Enforcement programs encourage bicyclists, motorists and pedestrians to understand and follow basic rules of the road that promote safety for all road users. These programs rely on coordination between law enforcement, transportation agencies, neighboring Cities, the State of California, and bicycling organizations. Enforcement programs reinforce positive behavior, correct behavior that can lead to conflict and crashes, improve understanding of rules of the road, and encourage constructive communication between bicyclists, motorists, and police. Successful enforcement programs will:

- ▶ Increase compliance with traffic regulations and reduce the percentage of bicycle-related accidents;
- ▶ Increase the proportion of bicyclists that use appropriate safety equipment (lights, reflectors, and helmets);
- ▶ Reduce pedestrian and bicycle conflicts by enforcing sidewalk laws and keeping walkways safe and comfortable for pedestrians;
- ▶ Create an urban environment where all road users know how to share the road safely and respectfully;
- ▶ Emphasize speed enforcement as lower speeds make streets safer for all users;
- ▶ Promote respectful behavior on streets and sidewalks through anti-harassment rules; and
- ▶ Increase visibility of enforcement and

ENFORCEMENT TOOLBOX

Bicycle Ambassadors

Establish a Police Department Bicycle Ambassador to facilitate communication on enforcement and safety and develop best practices.

Ticket Deferments

Implement a program in conjunction with the Police Department that permits participation in a bicycle safety course in exchange for a ticket dismissal for bicyclists. Defensive bicycling classes could be taught at other organizations or City Bike Centers.

Agency Coordination on Rules and Rights of the Road

Create and share information on rules and rights of the road. Include all agencies and departments that work with cyclists such as those that repave and restripe the roadways, bus drivers that must share the road, and those that enforce the laws. Incorporate others outside of the city including the Westside Cities Council of Governments and City of Los Angeles.

consider campaigns and enhanced levels of enforcement, especially if grant-funded.

Enforcement programs include options such as a Police Bicycle Ambassador, a ticket deferment program including the creation of the necessary educational content for bicycle-related violations, the review and revision of local regulations that conflict with State or regional regulation, and efforts to address regional cooperation and consistency in the application of rules for bicycling.



Give me 3 Campaign - City of Los Angeles
Source: LA County Bike Coalition

RULES OF THE ROAD

Safety is Everyone’s Responsibility

Santa Monica’s streets are shared, so people who use them all share responsibility for safety. Cyclists must be aware of and respect pedestrians, motorists and other cyclists. Pedestrians and motorists have the same responsibility. Although bike lanes are for cyclists, and sidewalks and crosswalks are for pedestrians, these zones also function as parts of complete streets. Everyone using the street crosses paths and interacts with others. Staying alert, being respectful and following rules of the road create a safe environment for all road users.

Traffic Lanes are for Bicycles and Vehicles

Bicyclists have all the rights and responsibilities of motorists, including the right to ride on the roadway. When travel lanes are too narrow for a vehicle and a bicycle side by side, and there is no appropriate bike lane, a bicyclist may ride in the center of any lane. Sharrows are installed on some streets to indicate that the best place for a bicycle is in the travel lane.

Bike Lanes and Bike Boxes are for Bicycles

Bike lanes and bike boxes are zones on the street reserved primarily for cyclists. Cyclists should use bike lanes when they are available, but they should also leave the lanes, using due caution, to achieve proper positioning at intersections, avoid hazardous conditions or overtake slower traffic. People entering or crossing a path or lane from a sidewalk, parked car, parking lane or travel lane, should look for, and yield to bicyclists already in the lane or path.

Sidewalks and Crosswalks are for People Walking

People with bicycles must respect the comfort of people walking on sidewalks and paths. In busy areas, even children should walk bicycles on sidewalks. When bicyclists need to cross sidewalks or to use crosswalks they should be alert and always yield to people walking. Complete streets need safe, comfortable places for people walking.

Shared Paths and Trails are for Bicyclists and Pedestrians

Shared use paths and trails allow bicyclists and pedestrians to travel exclusive of vehicles. On paths

and trails, people walking and riding should look out for each other, yield when crossing or entering, pass with caution, and move aside so as not to block the way of others when they stop.

Stop Signs, Signals and Roadway Direction Apply to Bicycles as well as Vehicles

Bicycles in the roadway should act as vehicles. Bicyclists should always stop at stop signs, obey signal indications and ride as indicated by roadway signs and markings. Following roadway indications, such as following the direction of the roadway and not riding through any intersection from the right side of a right-turn only lane, helps bicyclists stay safe because they are more visible and predictable to others sharing the street.

Pass only with Care

Drivers and riders may only overtake another vehicle or driver when they can do it safely. If they are in a travel lane, bicyclists have the same rights and responsibilities as slow vehicles. On a two-lane road, slow vehicles must use turnouts or safely pull over when five or more cars are behind. Passing a cyclist safely means passing only with at least three feet between the car and the bicyclist.



Distractions

Everyone can be distracted when traveling, whether by changing the radio station, talking on the phone, or texting while walking. Road users should minimize distractions by eliminating the ones they create themselves and devoting their full attention to safety.

See and Be Seen

Cyclists, pedestrians and motorists all have responsibilities to be visible to others traveling on the streets. Motorists should use their turn signals and turn on headlights at night. Cyclists should use front and rear lights and always have reflectors. Pedestrians should wear light or reflective clothing when it is dark.

Riding side-by-side

In addition to being social and aerodynamically efficient, riding in a pack increases visibility to

drivers—the number one factor in preventing collisions. As we covered above, bicyclists are allowed to ride in the center of a narrow lane at their discretion. Once a bicyclist is in middle of the lane, there is no difference under the law between riding side-by-side and single-file. Either way, a driver will have to change lanes to pass legally and safely.

Source: Adapted from “Bicycles and You on PCH” by Susan Tellem (Malibu Patch)



SUPPORTING FACILITIES: MAKING CYCLING CONVENIENT

Supporting facilities give people access to essential resources such as parking, bicycles, related services, help cyclists find their way on bikeways, and enable easy connections to regional transit. When good supporting services are available, bicycling can be the fastest, cheapest and most convenient option for most trips in Santa Monica. As more people bicycle, additional investment in supporting facilities is needed. The supporting facilities program provides for initial and continuing development of bike parking, wayfinding, bike centers, transit connections, and bike sharing. The main goal for supporting facility investments is to:

- ▶ Get more people on bikes by providing highly attractive, easily accessible, and visible supporting bicycle facilities

Supporting facility investment is coordinated with public and private improvements. New development will be required to incorporate more short-term and long-term bike parking



The convenience of supporting facilities such as bike valet encourages more people to bike to events and popular destinations.

and amenities like showers and lockers. Investments can be targeted towards major destinations and transit centers initially and expanded as demand increases. Figure 3-1 illustrates proposed supporting facility

locations in relation to Exposition Light Rail Stations, schools, future transportation management districts, major destinations, priority bikeways, transit connections, and commercial corridors.

Figure 3-1 Proposed Supporting Facilities



Proposed Supporting Facilities
Bicycle Action Plan

- Priority Short-Term Bicycle Parking Corridor
Add racks on sidewalks and curbs on street to meet needs.
- TDM District
Transportation Demand Management (TDM) districts provide the policy mechanism to develop shower, locker, changing, and long-term bicycle parking facilities.
- Bike Center
Secure bicycle storage and/or other cyclist amenities.
- Wayfinding Destination
Destinations include downtown, commercial districts, bikeways, schools, parks, and the beach.
- Potential Bike Share Location
- Bike Valet Location

- Priority Bikeway Network**
As described in Chapter 3.
- Primary Priority Bikeway
 - Secondary Priority Bikeway
 - Future Priority Bikeway

- Local Streets
Streets to be designed and operated as accessways and urban open spaces.
- Auto/Transit Priority Street
Auto and transit have highest priority. Bicycles are allowed with parallel routes prioritized.
- Bicycle/Pedestrian Bridge Connections
- Critical Connections Requiring Collaboration
- Light Rail Stop
- Major Bus Stop
- Future Major Bus Stop

Santa Monica

0 0.25 0.5 MILES

Disclaimer: This map of the City of Santa Monica has been provided for informational purposes only. Local jurisdictions have been made to ensure the accuracy of the map presented, however, some information may not be accurate. The City of Santa Monica (CSM) provides this map on an "AS IS" BASIS. THE CITY ASSUMES NO LIABILITY FOR DAMAGE ARISING FROM ANY USE OF THIS INFO, either reported or alleged, including but not limited to, the inclusion or omission of information and errors in a particular report. Do not make any business decisions based on this map before consulting your decision with the appropriate city official.

Bike Sharing

Providing publicly accessible bicycles around the city gives more people the opportunity to ride, even for just one trip leg. Publicly available bikes encourages visitors to choose Santa Monica over other destinations, and to feel welcome in Santa Monica without a car. Bike sharing will facilitate connections to Exposition Light Rail or Rapid Bus stops by bicycle. The City recently received grant funds, available in July 2016, to support a bike sharing program. The long-term goal is to create a comprehensive system of bike share stations in visible, on-street and off-street locations dispersed throughout the city. This grant-funded system could include 25 stations and 200 - 250 bicycles. Providing helmets and transit subsidy incentives to new users to incentivize trial use of both bike sharing and transit could be explored. Bike



sharing is a critical program element because it appeals to residents and visitors, raises the level of awareness of cycling, and provides opportunities for everyone to experience the joy and convenience of bicycling in Santa Monica. The City will encourage early adoption and expansion of the bike share program for which grant funding is secured.

Proposed bike sharing locations include:

- ▶ Each Exposition Light Rail station;
- ▶ Major bus stops along Wilshire, Santa Monica, Pico and Lincoln Boulevards (Rapid Bus corridors);
- ▶ Santa Monica College main, Academy of Arts and Technology, and Madison campuses;
- ▶ Santa Monica Downtown core, in public parking structures;
- ▶ Santa Monica Civic Center, possibly in public parking lots or structures;
- ▶ Santa Monica Pier;
- ▶ Montana Avenue commercial district;
- ▶ Brentwood Country Mart commercial area;
- ▶ Main Street commercial area;
- ▶ Pico Boulevard commercial areas;
- ▶ Hospitals;
- ▶ Ocean Park Boulevard commercial areas;
- ▶ Santa Monica Business Park (adjacent to SM Airport and SMC Bundy campus)



Minneapolis' bike share system, Nice Ride, has been a major success with over 100,000 trips in its first 6 months of operation. Of those trips, 19% replaced auto trips. Source: Nelson\Nygaard



Santa Monica's existing wayfinding signs.

Bike@Work 

Bike@Work and similar programs provide pools of bicycles to employees of companies of all sizes. They allow work-related and personal trips to be made by bicycle and support employee commute programs. By making bicycles and supporting services available, these programs can encourage people to take up bicycling again. Bike Center programming and other City initiatives can encourage more groups to create or join bicycle pool programs.

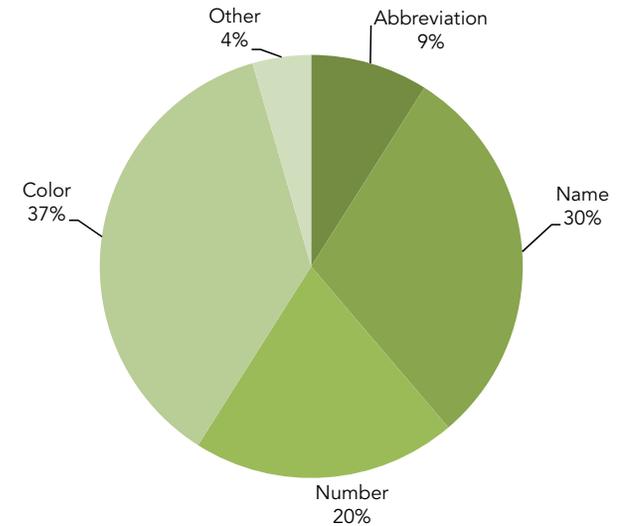
Bike Rentals

Bike rentals are available through local bike shops. Short-term rentals, including one-way bike rentals between the Bike Center (discussed later) and affiliated businesses along the beach bike path will be available during Bike Center operating hours.

Wayfinding

A bicycle wayfinding system identifies key destinations and bikeways, enabling people to navigate the city as they ride. Wayfinding helps cyclists find supporting facilities (parking, bike centers and transit connections) and regional connections to Los Angeles. Where trails and paths are provided off of the street network, wayfinding integrates those bikeways and trails with the on-street bikeway network. Key wayfinding destinations are identified on the map of Proposed Supporting Facilities.

Figure 3-2 Bikeway Wayfinding Elements Valued by the Community



Bikeway signage can be identified by number, name, color, etc. Source: Bike Action Plan Survey

Bicycle Parking

Every bicycle trip begins and ends with parking. It is important to provide easy to use, secure, and convenient parking that is highly visible and close to popular destinations.

Secure parking with commuter amenities (such as shower facilities) are also needed near transit stations and employment centers. The Bike Center, Expo Line stations, and new public parking facilities would be complemented by long-term secure bicycle parking, and where possible, air pumps and repair stands. The number and location of bike parking spaces should be enough to meet observed needs, or to accommodate a shift of 15-25% from current auto parking rates, whichever is greater. The City continues to honor cyclist and merchant requests for rack installations whenever possible.

Bike Corrals

As necessary, the City should retrofit auto parking facilities and provide bike parking corrals in popular commercial areas to meet bicycle parking needs.

Private Property Bike Parking

Private property developers and new City projects will be required to build bicycle parking. Bicycle parking and facility requirements should be revised and enhanced. A proposed expansion of bicycle parking requirements is

detailed in Appendix F of this document. Bicycle rack standards are included in Appendix G. Standards and installation guidelines for parking and amenities may be revised as bicycle parking innovation develops.

Bike Valet

Bicycle valet at regular and special events significantly reduces congestion associated with events and also allows bicyclists to get improved access to event locations. Bicycle valet is an excellent tool for expanding the supply of convenient bicycle parking to meet peak needs. Permanent or ongoing bicycle valet destinations could include areas with high bicycle parking demand, such as the beach, the Pier, the Promenade, and Santa Monica Place.



The City is committed to installing more bike parking in commercial districts like downtown either curb-side or in-street.



Source: BerettaRose Photography

Bike Centers

A Bike Center is a one stop park, shop, and clean-up facility designed to make biking an easy choice. A well designed and located facility can promote and celebrate cycling. Also, Bike Centers promote bicycle-focused transportation demand management efforts by providing information, motivation, and support to people making bicycle trips. Bike Centers provide locker, shower and repair facilities and access-controlled bike parking. Bike Centers can also manage access-controlled bicycle parking at additional locations including reconstructed parking facilities. Efforts to expand the network of access-controlled parking should work with business districts and neighborhoods with the support of transportation management associations, merchant groups and businesses.

Shower, Changing, and Locker Facilities

Shower, changing, and locker facilities will support employee and transit cycling. The City works with employers, Bike Center providers, institutions, employer groups, and transportation management associations to create partnerships to expand the number of facilities and increase the number of employees and students that have access to them.



A rendering of the Bike Center on the corner of Colorado and 2nd.

Transit Connections

Bicycle parking and services located at transit stations serve the transit user and the nearby neighborhood. Bike parking will allow commuters to combine a short bike ride with a trip on transit to get to their final destination. When bicycling is easily combined with rapid bus or light rail for a regional connection, more people, especially commuters, choose bicycling for longer trips. People are much more likely to use transit if they do not have a long walk to or from the station, or a wait for a transfer. The City aims to incorporate Bike Centers at each Expo Light Rail station, and to provide secure long-term parking and amenities for Expo riders and people in the surrounding transit and bike-friendly districts.



BIKEWAYS

Making Bicycling in Santa Monica Appealing

The general theme of the Santa Monica Bicycle Action Plan's bikeway recommendations is to *make bicycling appealing*. The recommendations set forth in the following sections are intended to attract and serve a wide range of Santa Monicans including novice, intermediate, and experienced cyclists as well as the City's youth and senior residents. The proposed bikeway network will provide an attractive transportation option for the area's established creative and professional populations. In order to attract such a wide range of users, the Bike Action Plan's priority bicycle network and facility recommendations aspire to develop the following features:

- ▶ **A legible and uninterrupted bicycle backbone and regional spine.** The backbone of this plan is the network of high quality bicycle facilities including the regional spine (east-west and north-south bike paths), and internal connectors (enhanced bicycle corridors and neighborhood greenways). The Plan calls for the development of at least two new separated bikeways - one east-west and one north-south.
- ▶ **A density of connections.** As a cyclist travels east-west and/or north-south throughout the city, the proposed network offers myriad perpendicular connections and parallel route alternatives suitable for all skill levels.

- ▶ **A diversity of facility types for a diversity of users.** The City of Santa Monica recognizes the need to accommodate different types of cyclists in order to fulfill its trip reduction and climate change goals. Commensurate with this need, the Bike Action Plan incorporates facility recommendations suitable for a diverse cycling population taking into account age, skill level, and trip type.
- ▶ **Direct, low stress and comfortable bicycle connections.** This plan strongly emphasizes effortless and worry-free cycling that gets people to destinations as quickly as possible. This ideal state of travel will be accomplished via the network of bike paths, side path connections, bikeways with additional buffers from parking, low volume streets, and neighborhood greenways.
- ▶ **Few barriers to bicycling and reduced conflicts at key junctures.** The geography of Santa Monica currently presents cyclists with a variety of considerable barriers to widespread bicycle travel. These include limited access points across the I-10 freeway, grid interruptions spanning east-west throughout the heart of the city, and difficult or uncomfortable arterial crossings at Wilshire, Santa Monica, Olympic, Pico, and Lincoln. This short-list of barriers is largely addressed in this plan through a variety of proposed crossing enhancements, connectivity improvements, and wayfinding to facilitate paths of least resistance.



One of the many cyclists who use Main Street during their commute. Main Street will serve as a key north-south connection to several proposed bikeway corridors. Source: Nelson\Nygaard

The recommended bikeways are prioritized into 5-year and 20-year implementation phases that build in flexibility. The 5-year recommendations are ambitious yet attainable and represent a broad range of bikeway types that require varying levels of effort and investment. The 20-Year Vision represents longer term corridor development that may be high cost or take more time for implementation and design. If funding becomes available or if a reconstruction or repaving project comes forward for one of the 20-year bikeways, these projects may come to fruition sooner than expected.

Bikeway Selection Process

This Plan represents six years of planning and coordination. The process allowed for the development of a plan that closely aligns with the goals and principles outlined by the Land Use and Circulation Element (LUCE). These goals and principles ensure that bicycling seamlessly integrates into the broader multimodal transportation system and reflects the needs of the current and potential cycling population. The bikeway recommendations contained in this Plan were carefully developed using the iterative LUCE process of gathering critical information about the existing bicycle environment, introducing that information in public meetings and evaluating feedback, and applying technical inputs. This layered approach to corridor and bikeway selection is summarized by the following three sections.



First bike workshop in March 2005.

Bicycle Network Development

The initial step to develop the Bike Action Plan’s recommended bikeway network was established during the LUCE planning process. The LUCE identifies a preliminary bicycle network and designates general bikeway classifications including paths, lanes, and bicycle boulevards. Slow streets, shared streets, and auto/transit priority streets are also designated.

Figure 3-3 displays the LUCE bicycle network, including bikeway designations, activity centers, bike transit centers, key connections, and priority investment zones for non-motorized transportation. The bicycle network and its designations were refined through an extensive public involvement process that allowed members of the community, including many bicycle enthusiasts and key cycling organizations, to submit their suggestions and concerns for the future system.



Public outreach at the 2005 Santa Monica Festival - “A pedestrian and bike friendly place” was one of the themes to receive a high number of dots.

Figure 3-3 LUCE Bicycle Network



Priority Bikeway Development

Informed by two extensive public workshops, Planning Commission meetings, and a public survey, a clear set of priorities for the bike network emerged. These priorities include:

- ▶ Building upon and expanding the current bike network;
- ▶ Providing excellent connections to the existing Marvin Braude Bike Trail and planned Expo Bike Path;
- ▶ Providing at least one very high quality east-west and north-south separated bikeway;
- ▶ Enhancing existing heavily used bicycle corridors;
- ▶ Connecting all of Santa Monica's neighborhoods to schools, each other, Downtown and Expo stations;
- ▶ Providing excellent bike connections in areas where change is concentrated, particularly around the three new Expo stations;
- ▶ Ensuring that the bike network feels inviting to a broad array of existing and potential cyclists;
- ▶ Connecting to existing and planned bikeways in surrounding communities; and
- ▶ Providing new recreational trails where feasible.



Santa Monicans voiced their priorities for bikeway development at community meetings.

Taking these priorities and considering characteristics such as street widths, other modal priorities, and motor vehicle traffic volumes, the City developed the bikeway priority map shown in Figure 3-4. Corridors include three levels of priority:

- ▶ **Primary Priority Bikeways** – Major connectivity improvements to the existing bicycle network
- ▶ **Secondary Priority Bikeways** – Enhancements to increase the number of bikeways and provide better connections to key destinations including schools
- ▶ **Future Priority Bikeways** – Bikeways that need long-term planning or connections that will fill gaps

Figure 3-4 Priority Bikeway Network



Selection and Phasing of Bikeway Recommendation

Once the priority bikeways were identified, extensive field work was conducted to develop a range of potential recommendations for each corridor (see the sidebar for technical inputs that informed bikeway facility choice). The field work produced a better understanding of:

- ▶ The bicycle environment relative to current infrastructure and potential improvements;
- ▶ Physical challenges; and
- ▶ Potential alternatives for recommended facilities.

The recommendations that emerged through preliminary field work were introduced to the community at the first Bike Action Plan workshop on December 13, 2010. The community’s input was incorporated and the recommendations were modified and organized into two phases: a 5-Year Implementation Plan and a 20-Year Vision.

As a result of the field work and phasing process, the Santa Monica Bike Action Plan identifies 33 priority corridors encompassing a broad diversity of facility recommendations.

These corridors are further broken down into 65 segmented projects. Projects are disaggregated from their corresponding corridors using repaving timelines, conceptual construction cost estimates, and implementation challenges. This is explained in further detail in Chapter 4.

The bikeway recommendations set forth in this Plan offer significant improvements to the bicycling environment with innovative treatments and more extensive facilities. This expansion both serves and promotes the rise in bicycle ridership anticipated and desired. As this plan is implemented, the City expects to rival bicycle mode share seen in some of North America’s elite bicycling cities. Over the next 20 years, implementation of the proposed bikeway network and programs aspires to achieve a bicycle mode share of 14-35%. Figure 3-5 displays the anticipated increase in bikeway mileage relative to expected mode share increase.

TECHNICAL INPUT FOR PROPOSED FACILITY SELECTION

- ▶ Network connectivity
- ▶ Regional connectivity
- ▶ Current and anticipated changes to bicycle trip patterns
- ▶ Curb-to-curb width
- ▶ Physical constraints
- ▶ Posted vehicle speeds
- ▶ Traffic volumes
- ▶ Existing traffic calming features
- ▶ Designated freight and transit routing
- ▶ Number of driveway, alley, and intersection interfaces
- ▶ Topography
- ▶ Corridor trip types (regional, local, recreational)
- ▶ Sightline quality
- ▶ Land uses and destinations
- ▶ Availability of funding
- ▶ Annual street repaving programs
- ▶ Location of future transit facilities (including Phase II Expo light rail and future major bus transit centers)

Figure 3-5 Anticipated Shift in Bikeway Mileage and Mode Share, 2010–2030

	Baseline (2010)	5- Year Implementation Plan (2015)	20-Year Vision (2030)
Bikeway lane mileage	37.0 miles	69.0 miles	88.7 miles
Commute mode share	3.4%	12%	25%

Bikeway Recommendations

The credo “if you build it, they will come” is continually validated in the world’s great bicycling cities. Cities like Portland, Davis, Minneapolis, and Copenhagen all demonstrate that growth in bicycle trips corresponds to bicycle network expansion, higher densities of connections, and reducing barriers to bicycling. Locally, the restriping of Ocean Park Boulevard east of Lincoln with bike lanes demonstrated a 95% increase in cyclists using the street. The following sections develop a roadmap to achieving a substantial increase in bicycle travel for all trip types over the next 20 years. Projects in this plan include those located within *and* outside of the existing curb-to-curb right-of-way, those that merely restripe travel lanes, those that rededicate street space, and those that considerably re-structure the lane configuration. Very low volume streets (particularly the residential streets north of Montana Avenue) are not designated as bikeways, in general, because bicyclists can safely and comfortably make connections without a dedicated bicycle facility. The Bicycle Facility Toolbox, located immediately after the bikeway recommendations, is intended to be used as a companion piece to better conceptualize bicycle facility applications as they are drawn on the maps. The toolbox

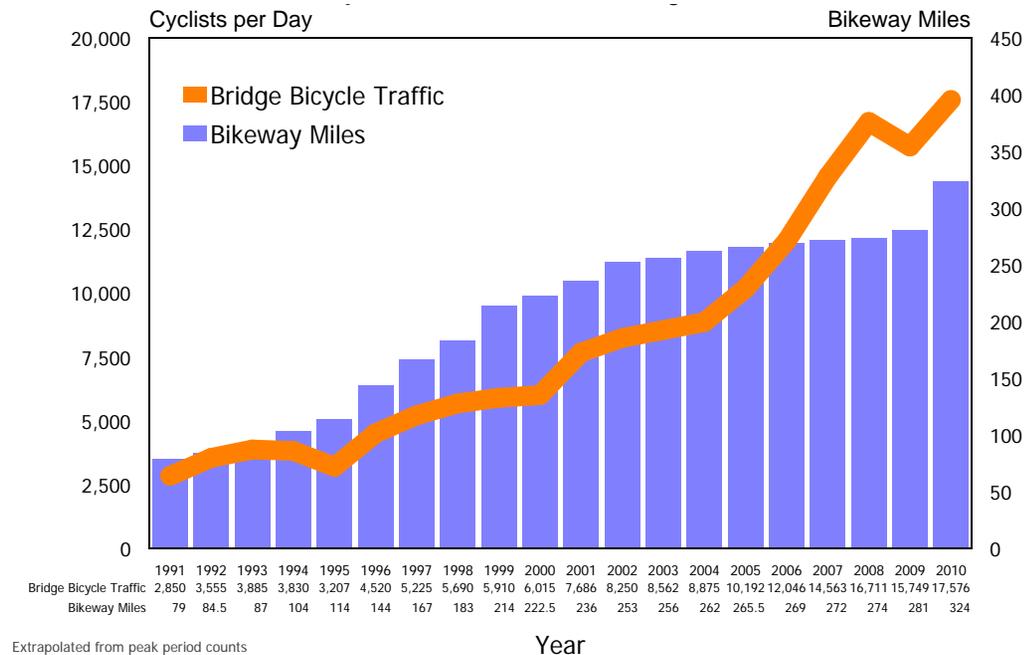
provides detail on a variety of facilities including design considerations.

The plan’s bikeway recommendations are organized into two phases: the 5-Year Implementation Plan and the 20-Year Vision. Projects are prioritized into these phases respecting various known implementation considerations such as funding, cost, publicly-endorsed priorities, and gaps in the existing bicycle network. Although the 20-Year Vision consists of some projects that

require significant public processes, planning, design, environmental review, and engineering study, several high quality, high cost marquee projects have been selected by City staff for near-term implementation. These can be pilot or demonstration projects.

Bikeway recommendations in the 5-Year Implementation Plan and the 20-Year Vision are organized from north to south and then from west to east.

Figure 3-6 Bicycle Traffic across Four Main Portland Bicycle Bridges Juxtaposed with Bikeway Miles



*Portland’s bicycle traffic increased proportionately to its increase in bikeway development.
Source: City of Portland, 2010 Bicycle Count Report*

5-YEAR IMPLEMENTATION PLAN

Bikeway Descriptions

The bikeways shown in Figure 3-7 are described below. The descriptions first indicate **what** types of facilities are recommended on the various segments that make up each corridor, and then describe **why** the bikeway is important within the bicycle network of Santa Monica. Less detail is provided for existing bikeways. Facility types are explained in the Bicycle Facility Toolbox later in this chapter and more detail on each bikeway can be found in Appendix B.

SAN VICENTE BIKEWAY (OCEAN AVENUE TO 26TH STREET)

San Vicente Blvd



San Vicente Boulevard between 21st and 22nd

WHAT:

- ▶ Ocean Avenue to 26th Street: Restripe to provide a buffered bike lane.

WHY:

- ▶ Enhances existing bike lanes to provide more space for cyclists and reduce the likelihood of collisions between bicyclists and car doors.
- ▶ Offers an enhanced connection between Brentwood and Ocean Avenue with connections to several planned north-south bikeways.
- ▶ San Vicente is an important east-west cross-town commute and recreational bike route and is currently the best connected route in the northern part of the city.
- ▶ Los Angeles plans to extend bike lanes along San Vicente through Brentwood toward Westwood.

5-YEAR IMPLEMENTATION PLAN

MONTANA AVENUE BIKEWAY (OCEAN AVENUE TO STANFORD STREET)

Montana Ave



Montana Avenue between 22nd and 23rd

WHAT:

- ▶ Ocean Avenue to 7th Street: Restripe with buffered bike lanes; requires reconfiguration of turn lanes and/or parking at intersection of 7th Street.
- ▶ 7th Street to 21st Street: Convert existing bike lanes to buffered bike lanes by narrowing travel lanes and parking lanes; requires reconfiguration of turn lanes at 20th Street.
- ▶ 21st Street to 26th Street: Install shared lane markings.
- ▶ 26th Street to Stanford Street: Install buffered bike lanes.

WHY:

- ▶ Fills key gaps along the existing Montana bikeway by providing bike lanes eastward to Stanford Street and westward to Ocean Avenue.
- ▶ Enhances existing bike lanes to provide more space for cyclists and reduce the likelihood of collisions between bicyclists and car doors.
- ▶ Connects Brentwood and Ocean Avenue to Montana Avenue commercial district and ties into network enhancements on virtually all of the north-south bikeways in the city.

CALIFORNIA AVENUE BIKEWAY (OCEAN AVENUE TO 26TH STREET)

California Ave



California Avenue between 22nd and 23rd

WHAT:

- ▶ Construct path to serve cyclists along the California Incline from the pedestrian bridge to Ocean Avenue.
- ▶ 17th Street to 26th Street: Restripe to place a buffered climbing bike lane in the uphill (eastbound) direction and shared lane markings in the downhill (westbound) direction.

WHY:

- ▶ Provides a facility with a manageable grade from the beach to the core of the city.
- ▶ Continues existing bikeway further east into additional neighborhoods.
- ▶ Narrower vehicle lanes will encourage slower vehicle speeds.
- ▶ The reconstruction of the California Incline, slated for 2013, provides an ideal opportunity to develop a high-quality bicycle connection to the beach.

ARIZONA AVENUE BIKEWAY (26TH STREET TO CENTINELA AVENUE)

Arizona Ave



Arizona Avenue between Stanford and Berkeley

WHAT:

- ▶ 26th Street to Centinela Avenue: Restripe to place a buffered climbing bike lane in the uphill direction (eastbound) and shared lane markings in the downhill direction (westbound).

WHY:

- ▶ Provides a continuous bikeway on Arizona Avenue to connect Downtown Santa Monica with West Los Angeles; also provides connections to McKinley Elementary School and the St. John's and Santa Monica UCLA Health Centers. Includes several design features that encourage safe auto speeds.

5-YEAR IMPLEMENTATION PLAN

BROADWAY BIKEWAY (OCEAN AVENUE TO CENTINELA AVENUE)

Broadway

Santa Monica Blvd



*Broadway's character is very different at its west and east ends.
Source: City of Santa Monica*

WHAT:

- ▶ Broadway from Ocean Avenue to 6th Street: Install shared lane markings in the existing westbound transit-only lane to clarify that bicyclists are allowed to share the bus lane as permitted by state law. Install shared lane markings in the eastbound through travel lane – consider “super-sharrow” design with green pavement in combination with shared lane markings.
- ▶ Santa Monica Boulevard from Ocean Avenue to 7th Street (couplet with Broadway bus lane): Install shared lane markings in the existing eastbound transit-only lane to clarify that bicyclists are allowed to share the bus lane as allowed by state law. Install shared lane markings in the westbound through travel lane – consider “super-sharrow” design with green pavement in combination with shared lane markings.
- ▶ Broadway from 6th Street to Centinela Avenue: Restripe existing bike lanes to green buffered bike lanes by narrowing travel lanes and parking lanes.

WHY:

- ▶ Provides bikeway continuity all the way to Ocean Avenue for Santa Monica's most heavily traveled on-road bicycle corridor with connections to every existing and future north-south bikeway corridor in the city.
- ▶ Enhances existing bike lanes to provide more space for cyclists and reduce the likelihood of collisions between bicyclists and car doors.
- ▶ Provides connection to Downtown, the Bike Center, the 17th Street/Memorial Park Expo Light Rail Station, the Expo Bike Path, and Culver City via the Expo Path at 17th Street.

SANTA MONICA PIER IMPROVEMENTS



*Looking down from the Santa Monica Pier Bridge.
Source: City of Santa Monica*

WHAT:

- ▶ Include bicycle facilities in the reconstruction of the bridge connecting Downtown with the Santa Monica Pier which is anticipated within the next several years.
- ▶ Provide a ramp from the Pier to the Beach Bike Trail.

WHY:

- ▶ Provides more room for bicyclists and potentially reduces the steep grade to access the pier and the Beach Bike Trail. Access to the path at this location is important since it is intuitive to cyclists that they should be able to access the path at the pier.
- ▶ Provides access from the Beach Bike Trail to the Downtown Expo Light Rail Station.

5-YEAR IMPLEMENTATION PLAN

COLORADO ESPLANADE AND SHARED LANE MARKINGS (OCEAN AVENUE TO 7TH STREET)

Colorado Ave



Colorado Avenue's future Esplanade just west of 4th

WHAT:

- ▶ Ocean Avenue to 4th Street: The Colorado Esplanade will convert the western portion of Colorado Avenue to increase space for pedestrians and bicyclists, including green buffered bike lanes or other high-quality bicycle facilities.
- ▶ 4th Street to 7th Street: Install shared lane markings, or lanes where feasible pending Expo final design.

WHY:

- ▶ The Esplanade provides a connection from the Downtown Expo Light Rail Station to the bicycle transit center, 2nd Street, Ocean Avenue, the Santa Monica Pier, and the Beach Bike Trail.
- ▶ Provide a connection from the Downtown Expo Light Rail Station to bike lanes on 6th Street and 7th Street, which provide connectivity to other bikeways for access to all parts of the City.

EXPOSITION BIKE AND PEDESTRIAN PATH (17TH STREET TO CENTINELA)

WHAT:

- ▶ 17th Street to Centinela Avenue: Separated bike and pedestrian paths will be built adjacent to the Exposition Light Rail line. The project includes signalized at-grade crossings at 17th Street, 19th Street, 20th Street, Olympic Boulevard, 26th Street, Stewart Street, and Centinela Avenue.

WHY:

- ▶ Provides a high-quality facility that will be comfortable for cyclists who prefer paths and quiet streets.
- ▶ The Santa Monica segment is the final link of this path that connects downtown Los Angeles to the ocean. Although the path ends at 17th Street, connectivity to the ocean is provided via the Broadway Bikeway (one block north at the path terminus), and the Michigan Avenue Neighborhood Greenway (two blocks south) connects to the Expo Path at Bergamot Station.
- ▶ Provides connections to the Exposition Light Rail stations at Bergamot and 17th Street as well as Memorial Park, and high quality bike corridors such as Yale, Stewart, 28th, and 17th Streets and the Michigan Avenue Neighborhood Greenway.



Expo bikeway rendering. Source: Friends4Expo

VIRGINIA AVENUE SHARED LANE MARKINGS (STEWART STREET TO DORCHESTER TUNNEL)

Virginia Ave

WHAT:

- ▶ Stewart Street to Dorchester Tunnel: Install shared lane markings and wayfinding signs.

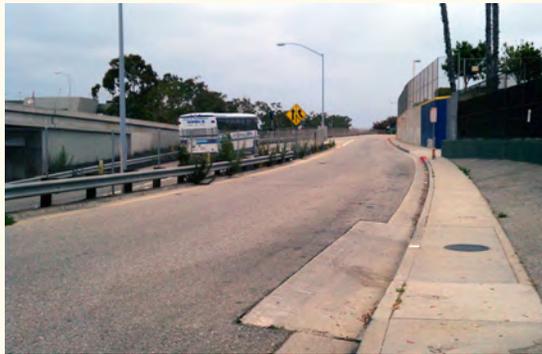
WHY:

- ▶ Creates a legible connection to an otherwise hidden inter-neighborhood linkage across the I-10 freeway footprint.
- ▶ Wayfinding would inform cyclists of the connection to the Michigan Neighborhood Greenway.

5-YEAR IMPLEMENTATION PLAN

MICHIGAN NEIGHBORHOOD GREENWAY (BEACH BIKE PATH TO CENTINELA)

Michigan Ave	Olympic Dr
Arcadia Ter	7th Ct
Appian Way	20th St
Pacific Ter	



Eastbound Olympic Boulevard between 4th and 7th Court



Michigan Avenue between 21st and 22nd

WHAT:

- ▶ Arcadia Terrace, Appian Way, and Pacific Terrace from Ocean Front Walk to Ocean Avenue: Install shared lane markings.
- ▶ Olympic Drive at Ocean Avenue: Construct new intersection to include separate signalization and other facilities to connect bicyclists from Pacific Terrace across Ocean Avenue.
- ▶ Olympic Drive from Ocean Avenue to Avenida Mazatlan: Construct shared use path on the north side.
- ▶ Olympic Drive at 4th Street: Revise signalization to enable bicycle connection from the west.
- ▶ Eastbound Olympic Boulevard from 4th Street to 7th Court: Construct two-way shared use path on the south side.
- ▶ 7th Court from Eastbound Olympic Boulevard to Michigan Avenue: Install shared lane markings.
- ▶ Michigan Avenue from 7th Court to 19th Court:
 - Install shared lane markings;
 - Construct neighborhood traffic circles at the intersections of Michigan Avenue with 10th Street, Euclid Street, 16th Street, and 17th Street;
 - Install intersection of enhancement measures at the intersections Michigan Avenue with 11th Street and 14th Street; install other measures on Michigan as needed.
 - These revisions will require a significant public involvement process in the neighborhood.
- ▶ Michigan Avenue from 19th Court to 20th Street: Construct pathway connection.
- ▶ Intersection of 20th Street with I-10 eastbound off-ramp: Add pedestrian and bicycle signal on the south side of the intersection.
- ▶ 20th Street from the I-10 eastbound off-ramp to the I-10 Westbound on-ramp: Construct shared use path on the east side of the freeway overcrossing structure.

- ▶ I-10 right-of-way from 20th Street to 21st Street: Construct shared use path.
- ▶ Michigan Avenue from 21st Street to 22nd Street: Convert Michigan Avenue to one-way westbound and 21st Street to one-way northbound, and install contra-flow climbing bike lane eastbound.
- ▶ Michigan Avenue from 22nd Street to Cloverfield Boulevard: Install buffered bike lanes.
- ▶ Michigan Avenue from Cloverfield Boulevard to Bergamot Station: Install bike lanes.
- ▶ Bergamot Station parking lot: Install shared lane markings in parking lot from Michigan Avenue to the Exposition Line light rail station.
- ▶ Exposition Boulevard from Stewart Street to Centinela Avenue: Install shared lane markings.
- ▶ Wayfinding signs and neighborhood greenway branding will be included throughout the corridor.

WHY:

- ▶ Formalizes, enhances, and extends a popular low traffic volume east-west route; provides connectivity across I-10 and through the 20th Street interchange.
- ▶ Includes several design features that encourage reduced motor vehicle speeds and volumes, to create a true neighborhood greenway to encourage bicycle use by residents who prefer paths and quiet low-volume streets.
- ▶ Provides street enhancements that benefit the neighborhood.
- ▶ Critical east-west connection to major destinations including the Marvin Braude Beach Trail, Civic Center, Downtown (via Main Street), Santa Monica High School, Santa Monica College (SMC), Bergamot Station, the Bergamot Exposition Line station. Critical links to north-south bikeways include Beach Bike Path, Ocean Ave., Main/2nd, 6th/7th, 11th St., 14th St., 17th St., and Yale/Stewart/28th.

5-YEAR IMPLEMENTATION PLAN

MICHIGAN WIGGLE NEIGHBORHOOD GREENWAY (MICHIGAN AVENUE TO OCEAN PARK BOULEVARD)

19th St	Yorkshire Ave
Delaware Ave	Urban Ave
22nd St	Dorchester Ave
Virginia Ave	30th St
Kansas Ave	



30th Street between Pico and Pearl

WHAT:

- ▶ This is an additional leg of the Michigan Avenue Neighborhood Greenway following a route that “wiggles” southeasterly from Michigan at 19th Street to Pearl Avenue and Ocean Park Boulevard.
- ▶ Install shared lane markings, wayfinding signs, and neighborhood greenway branding on:
 - 19th Street from Michigan Avenue to Delaware Avenue;
 - Delaware Avenue from 17th Street to 22nd Street;
 - 22nd Street from Delaware Avenue to Virginia Avenue;
 - Virginia Avenue from 22nd Street to 27th Street and only 27th Street to Kansas Avenue;
 - Kansas Avenue from 27th Street to Yorkshire Avenue;

- Yorkshire Avenue from Kansas Avenue to Urban Avenue;
- Urban Avenue from Yorkshire Avenue to Dorchester Avenue;
- Dorchester Avenue/30th Street from Urban Avenue to Ocean Park Boulevard.
- ▶ Construct neighborhood traffic circles or other intersection improvements at the following intersections:
 - Delaware at 22nd Street;
 - Virginia Avenue at Frank Street;
 - Kansas Avenue at 28th Street;
 - 30th Street at Pearl Street
- ▶ 30th Street at Pico Boulevard: Install median diverter with bike refuges in the center of Pico Boulevard.

WHY:

- ▶ Includes several design features that encourage reduced motor vehicle speeds and volumes, to create a true neighborhood greenway to encourage bicycle use by residents who prefer paths and quiet low-volume streets.
- ▶ Critical connections to north-south bike corridors at 20th Street and 28th Street and east-west corridors at Pearl Street and Ocean Park Boulevard.
- ▶ Creates a low stress, low volume, and low speed bicycle facility that (along with the Michigan Avenue Neighborhood Greenway) provides a connection between Downtown and the Ocean Park neighborhood in southeast Santa Monica.

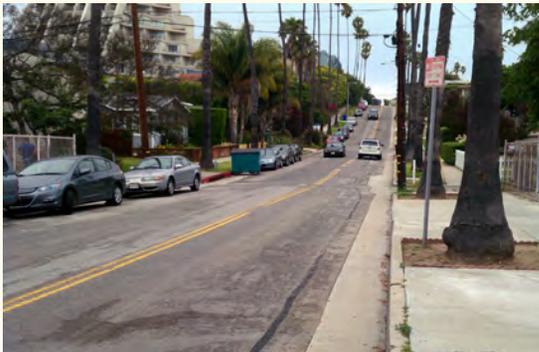
5-YEAR IMPLEMENTATION PLAN

PEARL STREET AND SOUTH BEACH ACCESS BIKEWAY (BARNARD WAY TO CENTINELA AVENUE)

Pearl St	Pacific St
Bay St	Strand St
Bicknell Ave	Hollister Ave



Pearl between 32nd and 33rd



Bay Street between 4th and 5th

WHAT:

- ▶ Install shared lane markings on the following Ocean Park Neighborhood east-west streets that connect Ocean Avenue and Barnard Way to 6th Street and Pearl Street:
 - Bay Street from Ocean Avenue to 6th Street;
 - Bicknell Avenue from Barnard Way to 6th Street;
 - Pacific Street from 4th Street to 6th Street;
 - Strand Street from Ocean Avenue to Lincoln Boulevard; also consider placing “Except Bicycles” signs on the ONE WAY and DO NOT ENTER signs to allow two-way bike traffic on the following portions of this quiet street:
 - » Strand Street from Ocean Avenue to Neilson Way, currently one way westbound.
 - » Strand Street from Main Street to 3rd Street, currently one way eastbound.
 - Hollister Avenue from Ocean Avenue to 3rd Street
- ▶ Pearl Street from 17th Street to crosswalk for parking lot: Restripe to create buffered bike lanes.
- ▶ Pearl Street from crosswalk for parking lot to 19th Court: Restripe to create bike lanes.
- ▶ Pearl Street from 19th Court to Centinela Avenue: Restripe to place a buffered climbing bike lane in the uphill direction and shared lane markings in the downhill direction. The slope varies along this street so the buffered bike lane should be placed in both directions depending on the specific grade of each block.

WHY:

- ▶ Shared lane markings on streets in the Ocean Park Neighborhood provide multiple route choices on quiet streets for bicyclists to get from the beach to Pearl Street to access neighborhoods to the east.
- ▶ Enhances access to Grant Elementary School, Will Rogers Elementary School, John Adams Middle School, and Santa Monica College.
- ▶ Climbing lane design encourages slower motor vehicle speeds.

5-YEAR IMPLEMENTATION PLAN

OCEAN PARK BOULEVARD BIKEWAY (BEACH BIKE TRAIL TO CENTINELA AVENUE)

Ocean Park Blvd



Ocean Park between 6th and 7th



Ocean Park between 29th and 30th

WHAT:

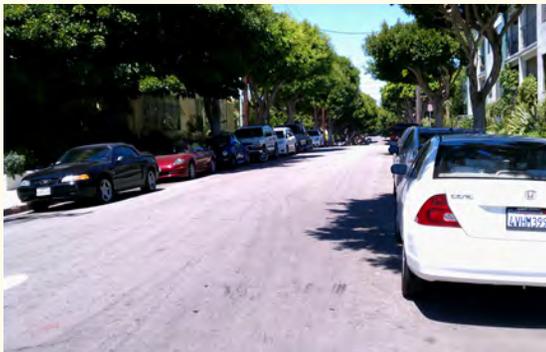
- ▶ Main Street to Lincoln Boulevard: Restripe the existing bike lanes to create green buffered bike lanes.
- ▶ Cloverfield Boulevard to 25th Street: Install shared lane markings.
- ▶ 25th Street to Centinela Avenue: Restripe for bike lanes. Interim lanes eastbound and shared lane markings westbound.

WHY:

- ▶ Provides bikeway continuity on the majority of Ocean Park Boulevard and connects cyclists between Santa Monica and the Mar Vista neighborhood.
- ▶ Provides a connection to Santa Monica Business Park, Clover Park, and commercial retail on Ocean Park Boulevard.

ASHLAND AVENUE NEIGHBORHOOD GREENWAY (BARNARD WAY TO 28TH STREET)

Ashland Ave 28th St



Ashland Avenue between 4th and 5th

WHAT:

- ▶ Ashland Avenue from Barnard Way to 25th Street: Install shared lane markings, wayfinding signs, and neighborhood greenway branding.
- ▶ 28th Street from Clover Park to 28th Street/ Donald Douglas Loop: Install shared lane markings, wayfinding signs, and neighborhood greenway branding.
- ▶ Intersection of Ashland Avenue and Lincoln Boulevard: Develop an intersection enhancement at this off-set intersection to facilitate through bicycle movements on Ashland Avenue. This can be accomplished in several ways, including constructing a two-way median bike-only turn pocket or providing short segments of cycle tracks or sidepaths.

- ▶ Intersection of Ashland Avenue and 23rd Street: Construct intersection improvements with advisory signage.

WHY:

- ▶ Provides a direct low speed and low volume east-west connection between the Marvin Braude Bike Trail and Santa Monica Business Park, Clover Park, and commercial retail on Ocean Park Blvd.
- ▶ Connects into several planned north-south bikeways.

5-YEAR IMPLEMENTATION PLAN

MARINE/NAVY/OZONE/FREDERICK/DEWEY/AIRPORT BIKEWAY (BARNARD WAY TO BUNDY)

Marine St

Navy St

Ozone Ave

Frederick St

Dewey St

Airport Ave



Marine Street between Main and 3rd



Marine Street between 11th and Frederick

WHAT:

- ▶ Marine Street from Barnard Way to 6th Street: Install wayfinding signs and shared lane markings with a short segment of climbing lane.
- ▶ Navy Street from 6th Street to Lincoln Boulevard: Install wayfinding signs and shared lane markings.
- ▶ Marine Street from Lincoln Boulevard to 17th Street: Restripe to create a buffered climbing bike lane in the uphill direction (eastbound) and shared lane markings in the downhill direction (westbound).
- ▶ Ozone Avenue from Lincoln Boulevard to Frederick Street: Install wayfinding signs and shared lane markings. This will require

construction of curb ramps and signage allowing bicycles to connect through the existing cul-de-sacs.

- ▶ Frederick Street from Marine Street to Dewey Alley: Install shared lane markings.
- ▶ Dewey Street from street closure at Marine Park to 23rd Street: Install wayfinding signs and shared lane markings.
- ▶ Airport Avenue from 23rd Street/Dewey Street to Bundy Drive: Install wayfinding signs and shared lane markings.

WHY:

- ▶ Creates internal neighborhood connections between the City of Los Angeles and the Main Street commercial corridor and Marvin Braude Bike Trail.
- ▶ Connects cyclists to several north-south bikeways including Main Street, 6th Street, 11th Street, 14th Street, and 17th Street.
- ▶ Routes are on quiet neighborhood streets, as preferred by some bicyclists.

5-YEAR IMPLEMENTATION PLAN

MARVIN BRAUDE BIKE TRAIL (NORTH CITY LIMIT TO SOUTH CITY LIMIT)



Pedestrian bridge and stairs at the California Incline

WHAT:

- ▶ Regulatory signs and markings to clarify which types of users should use separated paths and portions of paths.
- ▶ Wayfinding signs to direct users to various destinations.
- ▶ Modifications to the PCH overcrossings at the Montana Avenue, California Incline, Arizona Avenue, and Broadway to provide a trough for pushing bicycles and otherwise improve access for bicyclists.

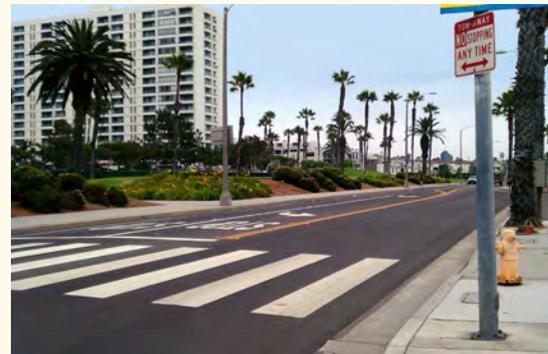
WHY:

- ▶ Reduces the potential for user conflicts.
- ▶ Provides guidance to trail users to assist in wayfinding and reduce confusion.
- ▶ Improve access to the Beach Bike Trail for cyclists.

OCEAN/BARNARD WAY BIKEWAY (NORTH CITY LIMIT TO NIELSON WAY/MARINE STREET)



Ocean Avenue at Idaho



Barnard Way between Ocean Park and Ashland

WHAT:

- ▶ Ocean Avenue from North City Limit to San Vicente Boulevard: Restripe to create a buffered climbing bike lane southbound.

- ▶ Ocean Avenue from San Vicente Boulevard to California Avenue: Restripe existing bike lanes to create double bike lanes by narrowing travel lanes.
- ▶ Ocean Avenue from California Avenue to Pico Boulevard: Restripe existing bike lanes to create buffered bike lanes by narrowing travel lanes and parking lanes.
- ▶ Ocean Avenue from Pico Boulevard to Bicknell Avenue: Restripe to create a southbound bike lane; Install shared lane markings northbound between Bay Street and Bicknell Avenue.
- ▶ Ocean Avenue and Barnard Way between Bicknell Avenue and Neilson Way: Install shared lane markings; install westbound climbing bike lane immediately east of the median approaching Neilson Way (approximately the last 220 feet).

WHY:

- ▶ Provides a bicycle passing lane on a portion of one of the streets most heavily used by recreational "road" cyclists, allowing these and other cyclists to overtake slower cyclists without entering adjacent general use travel lanes.
- ▶ Enhances existing bike lanes to provide more space for cyclists and reduce the likelihood of collisions between bicyclists and car doors.
- ▶ Provides improved access from Downtown to the beach, the beach bike path, and Venice. Improving beach access is a key priority of the Santa Monica Bicycle Action Plan. Guidelines for beach access improvements are summarized in the following call out box.

5-YEAR IMPLEMENTATION PLAN

BEACH ACCESS



Beach access routes, such as Hollister Avenue and Strand Street, should provide easy connections to the local and regional bicycle network. Source: Nelson\Nygaard



Stair troughs will greatly facilitate access to the beach at various bridge connections. Source: Nelson\Nygaard



Separated walkway north of the city could reduce the potential for conflicts between people walking and bicycling.

A key priority identified in public workshops and commission hearings is improved bicycle access to the beach. This could be accomplished in several capacities, including:

- ▶ **Signage.** Wayfinding signage should be strategically located at beach portals and direct cyclists from everywhere in the city to the beach, from the beach to adjacent commercial districts like Main Street and the 3rd Street Promenade, as well as to the Expo light rail station at 4th Street and Colorado. In addition, advisory and warning signage directed towards motorists should signal the presence of cyclists and indicate their requirement to share the road.
- ▶ **Bicycle accommodations at stairways.** Installing bicycle stair troughs, or wheel gutters, are a commonly utilized strategy to improve bicycle connections where stairs are required to directly access a destination. Stair troughs will enable users to roll their bicycles up and down steps easily. These stairway enhancements will be installed at each of the four stair connections between Montana Avenue and Broadway where beach access is disconnected by the Pacific Coast Highway and steep cliffs.
- ▶ **Bridge improvements.** The City should retrofit all non-motorized bridges crossing the Pacific Coast Highway to accommodate pedestrians and bicycles. Part of this strategy is enhancing connections to bridges—especially at the California Incline—and retrofitting staircases for bicycles (as noted above). Once each of the bridge connections are retrofitted, cyclists should be allowed to ride their bicycles across bridges guided by the appropriate pavement markings and warning signage.
- ▶ **Separated walkway.** Marvin Braude Bike Trail north of the city should include a separated walkway to reduce the potential for conflicts between people walking and bicycling and to create additional bicycle capacity.
- ▶ **Beach access and destination facilities.** Beach bikeway connections should be developed to connect to the Marvin Braude Bike Trail. Several potential connections are identified on the Action Plan maps. All bicycle connections that provide perpendicular linkages to the Marvin Braude Bike Trail should integrate seamlessly into the broader bicycle network supplemented by wayfinding signage. Moreover, beach access is only as effective as the presence of high quality bicycle parking. Bicycle parking at the beach should provide security and coverage in areas where ocean views will not be restricted. Bicycle parking should offer peace-of-mind to beach-goers that seek rest and relaxation.

5-YEAR IMPLEMENTATION PLAN

2ND/MAIN BIKEWAY (MONTANA AVENUE TO SOUTH CITY LIMIT)



2nd Street between Santa Monica and Broadway

WHAT:

- ▶ Montana Avenue to Wilshire Boulevard and Colorado Avenue to South City Limit: Create new and restripe existing lanes with green buffered bike lanes by narrowing travel lanes and parking lanes.
- ▶ Wilshire Boulevard to Colorado Street: Create green buffered bike lanes by implementing a road diet:
 - Most of this road diet would be a 3-lane cross section with one through lane and each direction, and left turn lanes serving the intersections (or a two-way left turn lane).
 - The block between Santa Monica Boulevard and Broadway is too narrow for a 3-lane cross section, so northbound left turns at Santa Monica Boulevard and southbound left turns at Broadway could be handled in one of 3 ways:
 - » Allow left turns, knowing that this will block some through-movements;
 - » Ban the left turn movement, at least during some times of day;
 - » Offset the centerline to widen the approach lane to about 18 feet, providing a de facto left turn lane.

- ▶ Intersection of Colorado Street with Main Street and 2nd Street: As part of the Colorado Esplanade project, reconfigure this intersection to enhance through bicycle movements on Main Street and 2nd Street. This can be accomplished in several ways, including using a curvilinear street to create a single intersection, reconfiguring the lane configuration on Colorado, or providing short segments of cycle tracks or sidepaths.

WHY:

- ▶ 2nd Street and Main Street are an extremely important bicycling connection in Downtown Santa Monica, connecting to Santa Monica Place, the 3rd Street Promenade, other downtown destinations, the Bike Transit Center at 2nd/Colorado, City Hall, County Courthouse, Civic Center, and Main Street businesses.
- ▶ Although there are bike lanes a block away on Ocean Avenue, Ocean is a comparatively high-volume, high-speed road that can be discouraging to many cyclists. 2nd Street and Main Street provide a more comfortable ride for many cyclists.

3RD STREET BIKEWAY (PICO BOULEVARD TO SOUTH CITY LIMIT)



3rd Street, south of Pico

WHAT:

- ▶ Between Pico Boulevard and South City Limit: Install shared lane markings.

WHY:

- ▶ Connects downtown and the Civic Center to Ocean Park neighborhood, Main Street business, the Ocean Park Bikeway, and Venice.
- ▶ Route is on a quiet neighborhood street, as preferred by some bicyclists.

5-YEAR IMPLEMENTATION PLAN

4TH STREET AND 5TH STREET SHARED LANE MARKINGS (DOWNTOWN AREA)



4th Street between Broadway and Colorado

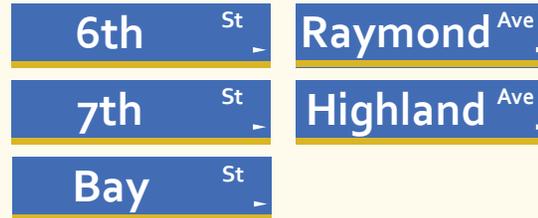
WHAT:

- ▶ 4th Street from Broadway to Olympic Boulevard: Install shared lane markings.
- ▶ 5th Street from Montana Avenue to Colorado Avenue: Install shared lane markings.
- ▶ 4th Court between Broadway and Colorado Avenue: Install wayfinding signs and shared lane markings.

WHY:

- ▶ 4th Street and 5th Street provide direct connectivity to the downtown Exposition Light Rail station. Providing shared lane markings will help indicate to motorists that bicyclists will be using these high-volume streets.
- ▶ 4th Court will provide a direct connection from the Downtown Expo station and the Colorado Esplanade to Broadway on a low-volume alley, which may be preferred by some cyclists. Broadway then provides connectivity to much of the rest of the city and the City of Los Angeles.

6TH STREET / 7TH STREET BIKEWAY (NORTH CITY LIMIT TO SOUTH CITY LIMIT)



7th Street between Broadway and Colorado



6th Street between Strand and Hollister



Highland Avenue Street between Pier and Marine

WHAT:

- ▶ 7th Street from North City Limit to Wilshire Boulevard: Restripe to place a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).
- ▶ 6th Street from Montana Avenue to Colorado Avenue: Restripe to create buffered bike lanes by narrowing travel and parking lanes and eliminating the two-way center turn lane.
- ▶ 7th Street from Wilshire Boulevard to Olympic Boulevard: Restripe to create buffered bike lanes that are continuous to intersections, by reducing travel and parking lane widths as well as eliminating left turn lanes at intersections.
- ▶ 7th Street from Michigan Avenue to Pico Boulevard: Install shared lane markings.
- ▶ Intersection of Pico Boulevard and 6th Street: Provide new bicycle signalization to serve both northbound and southbound cyclists; may include diversion to eliminate left or right turn movements for motor vehicles from 6th Street to Pico.

5-YEAR IMPLEMENTATION PLAN

6TH STREET / 7TH STREET BIKEWAY (CONT'D)

- ▶ Between Pico Boulevard and South City Limit: Install shared lane markings on the following street segments:
 - 6th Street from Pico Boulevard to Bay Street;
 - Bay Street between two legs of 6th Street;
 - 6th Street between Bay Street and Raymond Avenue;
 - Raymond Avenue between 6th Street and Highland Avenue;
 - Highland Avenue between Raymond Avenue and South City Limit.
- ▶ Intersection of 6th Street and Ocean Park Boulevard: Intersection improvement to allow northbound cyclists on 6th Street to make a left turn onto Ocean Park Boulevard and a right turn onto 6th Street, likely through the use of a raised median; may also include diversion to eliminate some turning movements between Ocean Park Boulevard and 6th Street.

WHY:

- ▶ North of I-10 creates a bikeway with ample space for cyclists away from car doors, that connects from downtown to neighborhoods north of downtown, San Vicente bike lanes, and City of Los Angeles.
- ▶ 7th Street is one of a few streets that create a connection north of San Vicente to the City of Los Angeles.
- ▶ South of I-10, creates a low volume, low speed north-south bikeway between the Borderline neighborhood and Santa Monica HS, avoiding more high-volume streets such as 4th Street and Lincoln Boulevard. Includes several design features that encourage safe auto speeds and volume management.

11TH STREET BIKEWAY (SAN VICENTE BOULEVARD TO MARINE STREET)



11th Street between Michigan and Pico

WHAT:

- ▶ San Vicente Boulevard to Wilshire Boulevard: Restripe to create a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).
- ▶ Wilshire Boulevard to Pico Boulevard: Restripe to create green buffered bike lanes by narrowing travel and parking lanes. This will require reconfiguring turn lanes and/or parking lanes on 11th Street at Wilshire Boulevard, Arizona Avenue, Santa Monica Boulevard, Broadway, Colorado, Olympic Boulevard, and Pico Boulevard to allow for merge lane treatments and through bike lanes.
- ▶ Pico Boulevard to Marine Street: Restripe to create a buffered bike lane northbound and shared lane markings southbound. Except for the last few blocks between Ashland Avenue and Marine Street, this street is relatively flat – the bike lane placed in the northbound direction here is the opposite of the bike lane southbound on 14th Street two blocks away.

- ▶ Buffered bike lanes should be extended to the intersection at all intersection approaches using merge lane treatments where appropriate.

WHY:

- ▶ Develops high quality bike connection between south and north Santa Monica.
- ▶ Major linkages include the Montana commercial district, downtown adjacent retail, and various priority bikeways.
- ▶ Chosen because of its direct routing and connections to east-west bikeways that feed into Downtown.

5-YEAR IMPLEMENTATION PLAN

14TH STREET BIKEWAY (SAN VICENTE BOULEVARD TO ASHLAND AVENUE)

14th St



14th Street between Cedar and Pine



14th Street, south of Ocean Park

WHAT:

- ▶ San Vicente Boulevard to Washington Avenue: Restripe to create a buffered climbing bike lane in the uphill direction (southbound) and shared lane markings in the downhill direction (northbound).
- ▶ Washington Avenue to Pico Boulevard: Restripe to create green buffered bike lanes by narrowing travel and parking lanes. This will require reconfiguring turn lanes and/or parking lanes on 14th Street at Wilshire Boulevard, Arizona Avenue, Santa Monica Boulevard, Broadway, Colorado, Olympic Boulevard, and Pico Boulevard.
- ▶ Pico Boulevard to Ashland Avenue: Restripe to create a buffered bike lane southbound and shared lane markings northbound. This street is relatively flat – the bike lane placed in the southbound direction here is the opposite of the bike lanes northbound on 11th Street two blocks away and 16th Street one block away.

WHY:

- ▶ Develops high-quality bike connection between south and north Santa Monica on 14th between Ashland and the existing shared lane markings at Washington.
- ▶ Chosen because of its direct routing and connections to east-west bikeways that feed into Downtown.
- ▶ Major linkages include the Montana commercial district, Santa Monica College, Lincoln Middle School, Will Rogers Elementary School, Memorial Park, Santa Monica Hospital, and various priority bikeways. This corridor is considered a primary school access route and great care should be taken to encourage student bicycle travel. Guidelines for school access improvements are summarized in the following call out box.

5-YEAR IMPLEMENTATION PLAN

SCHOOL ACCESS



The City should enhance school access for bicycles. The City provides protected lanes during BikeIt! Day events to prevent right hooks. Other engineering and educational strategies could be employed as well.

Improving school access for a range of ages will require more than bicycle network improvements and facility design. In order to encourage bicycle travel by Santa Monica's youth, the City will need to embark on a range of planning, engineering, and programmatic efforts that work with the school district to improve good bicycle routes to each school and ensure that students and their families know where they are and how to use them. These include:

- ▶ **Education.** As discussed earlier, education and encouragement are critical components of improving access to school campuses. Education and encouragement programs should encompass a host of incentives, route planning services, "bike pooling" and bike buddy matching, as well as providing bicycle skills training and in-class courses on the rights and responsibilities of bicycling. For more information, see the Programs section of Chapter 3.
- ▶ **Safe Routes to School (SRTS) planning.** This includes a range of strategies, but should specifically focus on detailed facility and crossing improvements with emphasis on specific treatments at identified conflict zones. Dignified bicycle parking that is covered, visible, and secure should signal to other students that bicycling to school is acceptable and even preferred. SRTS plans should provide procedures and baselines to evaluate program and network improvement effectiveness in increasing the bicycle mode share of school children and elimination of traffic incidents.
- ▶ **Bike parking.** Bike parking at schools provides safe and convenient parking for everyone who bicycles to school.
- ▶ **Signage and wayfinding.** Wayfinding signage should be directed at schoolchildren, including listing schools as key destinations.
- ▶ **Enforcement.** Increase sting operations in the vicinity of schools to reduce reckless driving behavior (speed hump avoidance, speeding, rolling stops, proper yield compliance to pedestrians and bicyclists).
- ▶ **Drop-off/Pick-up procedures.** Coordinate with each school's respective Parent Teacher Association to develop drop-off and pick-up procedures that reduce parking search, door zone, and double parking conflicts in the immediate vicinity of school sites. These procedures should focus pick-ups and drop-offs along one street segment in order to eliminate conflicts along three-quarters of the school boundaries.

5-YEAR IMPLEMENTATION PLAN

17TH STREET / 16TH STREET BIKEWAY (SAN VICENTE BOULEVARD TO MARINE STREET)

17th St	Pico Blvd
16th St	Hill St

WHAT:

- ▶ 17th Street from San Vicente Boulevard to Montana Avenue: Install shared lane markings.
- ▶ 17th Street from Montana Avenue to Wilshire Boulevard: Restripe to create a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).
- ▶ 17th Street from Wilshire Boulevard to Colorado Avenue: Reconstruct roadway to install cycle tracks between the parking lane and the curb. This will require reconfiguring turn lanes and/or removing a few parking spaces on 17th Street at Wilshire Boulevard, Arizona Avenue, Santa Monica Boulevard, Broadway, and Colorado Avenue.
- ▶ 17th Street from Colorado Avenue to Pico Boulevard: Construct two-way sidepath on the west side of the street. This will require reconfiguring the intersections of 17th Street at Olympic Boulevard, Michigan Avenue, and Pico Boulevard.
- ▶ Pico Boulevard from 14th Street to 17th Street: Install shared lane markings.
- ▶ 16th Street from Pico Boulevard to Marine Street: Restripe to create a climbing buffered bike lane northbound and shared lane markings southbound. The bike lane on this segment travels in the opposite direction from the bike lanes on 14th Street and 17th Street, each one block away.
- ▶ 17th Street from Pearl Street to Ashland Avenue: Restripe to create a climbing buffered bike lane southbound and shared



*16th Street between
Arizona and
Santa Monica*

lane markings northbound. This segment is relatively flat – the bike lane placed in the southbound direction here is the opposite of the bike lane northbound on 16th Street one block away.

- ▶ 17th Street from Ashland Avenue to Marine Street: Restripe to create a climbing buffered bike lane northbound and shared lane markings southbound.
- ▶ Hill Street from 16th Street to 17th Street: Restripe to create a climbing buffered bike lane eastbound and shared lane markings westbound.

WHY:

- ▶ Creates a high quality North/South priority bike corridor along the 17th Street corridor with occasional alternate routing on 16th Street and other connecting streets. Most of the corridor includes facilities that have more

separation from motor vehicle traffic, or are located on quiet streets.

- ▶ Provides connections to major destinations like Santa Monica College, John Adams Middle School, Will Rogers Elementary School, Marine Park, Memorial Park Expo station, and Downtown via the Michigan, Broadway, or Arizona Bikeways.
- ▶ Improves inter-neighborhood and regional bicycle connectivity by linking to the Expo Bike Path. High-quality facilities would attract greater demand for bicycle travel.
- ▶ 16th Street and Hill Street provide a less steep alternative for cyclists to access 17th Street and Santa Monica College from Marine Street.

5-YEAR IMPLEMENTATION PLAN

20TH STREET BIKEWAY (MONTANA AVENUE TO OCEAN PARK BOULEVARD)

20th St



20th Street between Arizona and Santa Monica

WHAT:

- ▶ Montana Avenue to Ocean Park Boulevard: Install shared lane markings.

WHY:

- ▶ Creates a shared use facility where bike lanes are not feasible in the near term.
- ▶ Provides connections between Santa Monica College and major facilities such as the Broadway Bikeway and the Expo Bike Path which connects to the light rail stations at 17th Street and Bergamot Station.
- ▶ Helps with wayfinding and better recognition of cyclists' presence on the road.

22ND STREET AND 21ST STREET SHARED LANE MARKINGS (VIRGINIA AVENUE TO DEWEY STREET)

21st St

22nd St



21st Street between Marine and Navy

WHAT:

- ▶ 22nd Street from Virginia Avenue to Pearl Street: Install shared lane markings.
- ▶ 21st Street from Pearl Street to Ashland Avenue: Install shared lane markings.
- ▶ 21st Street from Ashland Avenue to Dewey Street: Stripe a climbing buffered bike lane northbound and shared lane markings southbound.

WHY:

- ▶ Provides an alternate route to busier 23rd Street.
- ▶ Connects the Michigan Wiggle Neighborhood Greenway with Virginia Avenue Park to neighborhoods on the south side of town and bikeways on Ocean Park Boulevard and Ashland Avenue.
- ▶ Climbing buffered bike lanes between Ashland Avenue and Dewey Street offer a more convenient bicycle facility on a street segment exhibiting up to a 10% grade.

23RD STREET BIKEWAY (OCEAN PARK BOULEVARD TO DEWEY STREET)

23rd St



23rd Street between Marine and Navy

WHAT:

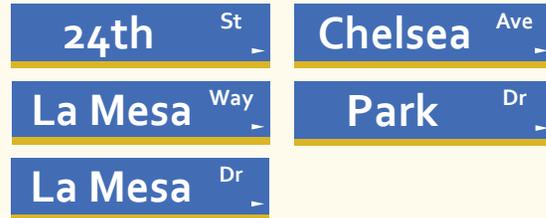
- ▶ 23rd Street from Ocean Park Boulevard to Ashland Avenue: Restripe to create a climbing buffered bike lane northbound and shared lane markings southbound.
- ▶ 23rd Street from Ashland Avenue to Dewey Street: Stripe buffered bike lanes. No restriping is necessary.
- ▶ Intersection of 23rd Street and Dewey Street: Construct an intersection improvement to improve sightlines and enhance bicycle and pedestrian crossings between Dewey Street and Airport Avenue.

WHY:

- ▶ Provides more comfort on a steep section of 23rd Street where none currently exists.
- ▶ Buffered climbing bike lanes provide a connection to the Ocean Park Bikeway and offers perceived safety and comfort.
- ▶ Identified by students and residents as a key connection to Santa Monica College.

5-YEAR IMPLEMENTATION PLAN

24TH STREET SHARED LANE MARKINGS (26TH STREET TO BROADWAY)



24th Street between Carlyle and Marguerita

WHAT:

- ▶ La Mesa Drive/Way from 26th Street to 24th Street: Install shared lane markings and wayfinding signs.
- ▶ 24th Street from La Mesa Drive to Montana: Install shared lane markings and wayfinding signs.
- ▶ 24th Street Alley from Montana Avenue to Washington Avenue: Install shared lane markings and wayfinding signs.
- ▶ Chelsea Avenue/Park Drive from Washington Avenue to Broadway: Install shared lane markings and wayfinding signs.
- ▶ Opening the 24th Street alleyway connection will require collaboration with the Santa Monica-Malibu School District, and will require re-establishing 2-way traffic operation, potentially for bicycles only.

WHY:

- ▶ Provides a low stress alternative route to 26th Street.
- ▶ Creates clear bicycle connections to Franklin Elementary, McKinley Elementary, Douglas Park, and a large concentration of employment sites south of Broadway.

26TH STREET SHARED LANE MARKINGS (NORTH CITY LIMIT TO EXPOSITION BIKE PATH)



26th Street between Marguerita and Alta

WHAT:

- ▶ 26th Street from the North City Limit to the Exposition Bike Path/Olympic: Install shared lane markings and wayfinding signs.

WHY:

- ▶ 26th Street provides one of only three direct on-street bicycle connections to the Pacific Palisades.
- ▶ Shared lane markings will provide greater bicycle visibility along this high volume street and direct cyclists out of the door zone especially near the commercial centers at San Vicente Boulevard.

5-YEAR IMPLEMENTATION PLAN

YALE/STEWART/28TH BIKEWAY (MONTANA AVENUE TO SANTA MONICA AIRPORT)



Stewart Street between Pennsylvania and Nebraska



Yale Street between Arizona and Santa Monica

WHAT:

- ▶ Yale Street from Montana Avenue to just north of Wilshire Boulevard: Install shared lane markings; install intersection improvement at Montana Avenue; install neighborhood traffic circle at intersection with Washington Avenue.
- ▶ Yale Street from just north of Wilshire Boulevard to Colorado Avenue: Restripe to create a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound); Develop plan for traffic diversion at Wilshire Boulevard.
- ▶ Intersections of Colorado Avenue with Yale Street and Stewart Street: Construct intersection improvement that provides bike lanes and cycle tracks to accommodate through movements on Yale Street and Stewart Street across Colorado Avenue; will likely include a turn restriction from eastbound Colorado Avenue to northbound Yale Street.
- ▶ Stewart Street from Colorado Avenue to Kansas Avenue: Implement a road diet to reduce the number of travel lanes and create buffered bike lanes.
- ▶ Stewart Street from Kansas Avenue to Pico Boulevard: Restripe to create a buffered climbing bike lane in the uphill direction (southbound) and shared lane markings in the downhill direction (northbound).
- ▶ Intersection of Stewart Street, Pico Boulevard, 28th Street: Construct a median diverter or otherwise implement turn restrictions.
- ▶ 28th Street from Pico Boulevard to Ocean Park Boulevard: Restripe to create a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).
- ▶ 28th Street at Ocean Park Boulevard: Maintain existing through travel restriction for northbound motor vehicle traffic at this intersection, but design to allow through bicycle travel by placing a bike lane northbound between the left turn lane and the right turn lanes (develop right turn lanes to the right of the bike lane on the approach).
- ▶ 28th Street between Ocean Park Boulevard and Santa Monica Airport: Restripe to create buffered bike lanes.

WHY:

- ▶ Fills north-south network gap in the eastern portion of the city.
- ▶ Provides connections to Montana business district, Bergamot Station, the Expo Bike Path, Pico Blvd. business district, Santa Monica Business Park, eastern Ocean Park Blvd. retail, and Clover Park.
- ▶ Links into various priority bikeways (e.g. Montana, Arizona, Broadway, Michigan Wiggle, and Ocean Park).
- ▶ Includes several design features that discourage high-speed through motor vehicle traffic.

5-YEAR IMPLEMENTATION PLAN

DORCHESTER TUNNEL IMPROVEMENTS (STEWART STREET TO URBAN AVENUE)



Dorchester Street tunnel under I-10 freeway

WHAT:

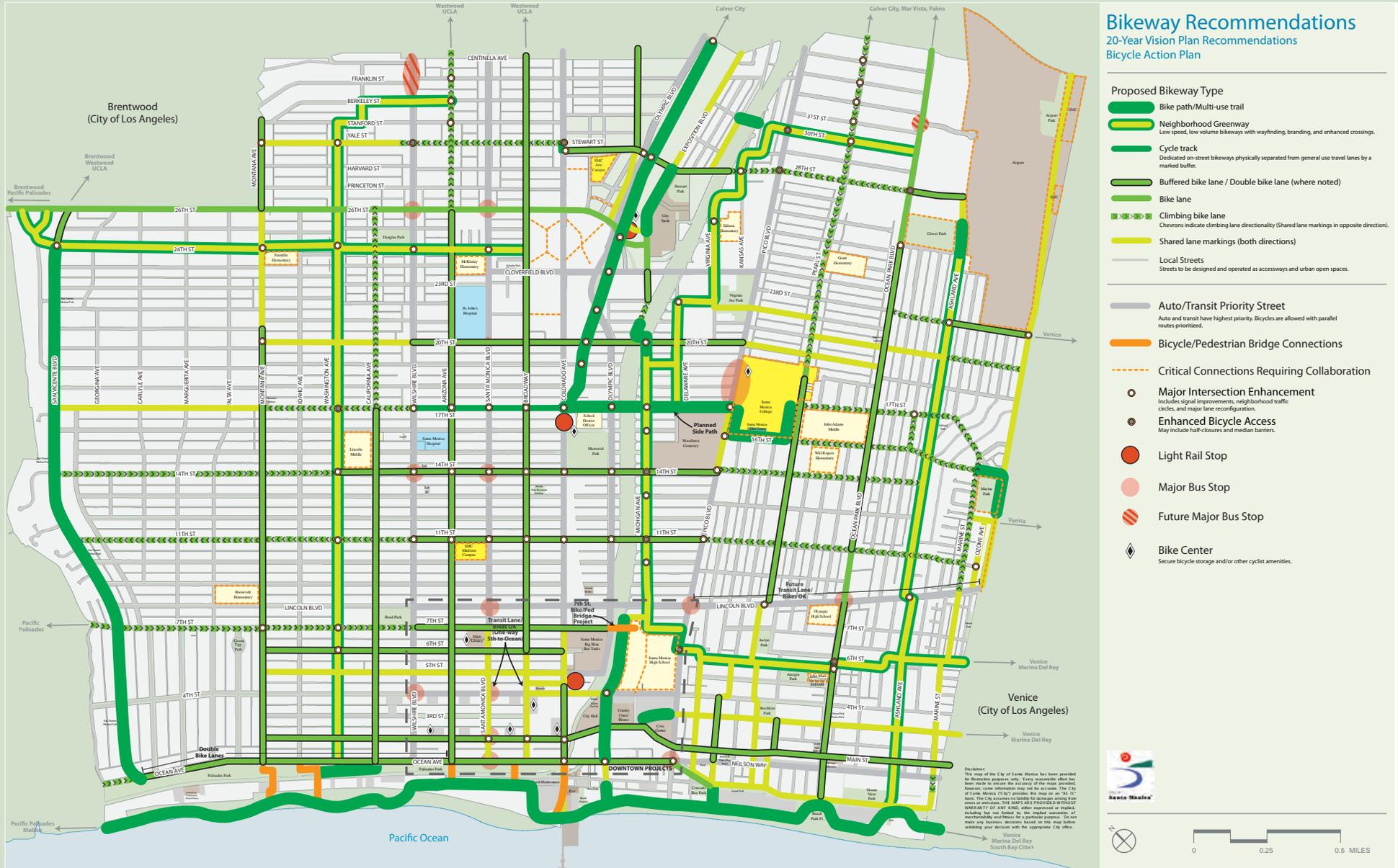
- ▶ Enhance the existing tunnel under I-10 at Dorchester Street: Add curb ramps to provide access to and from the streets, move garbage cans and bollards that hamper access, and provide better lighting.

WHY:

- ▶ Enhances the existing pedestrian tunnel to provide a better connection for bicyclists between the neighborhoods north (along Yale and Stewart) and south (the Pico and Ocean Park neighborhoods) of Interstate 10. Also connects to the Yale/Stewart/28th Bikeway and the Michigan Wiggle Neighborhood Greenway.

20-YEAR VISION

Figure 3-8 20-Year Vision Plan



Bikeway Corridor Descriptions

The bikeway corridors for the 20-Year Vision shown in Figure 3-8 are described below. The descriptions first indicate what types of bikeways are recommended on the various segments that make up each corridor, and then describe why the corridor is important within the bikeway network of Santa Monica. Facility types are explained in the Bicycle Facility Toolbox in the next section.

SAN VICENTE BIKEWAY (OCEAN AVENUE TO 26TH STREET)

San Vicente^{Blvd}



San Vicente, south of 4th Street

WHAT:

- ▶ Ocean Avenue to 24th Street: Construct two paths in the median (one-for bicycles, one for pedestrians) by taking the following actions:
 - Widen the existing raised median on both sides into the available roadway space by eliminating each median curb lane;
 - Place a two-way bike path on one side of the median, with the normal minimum 5-foot separation from the roadway;
 - Place a soft surface jogging/walking path on the other side of the median;
 - At intersections, bring the two paths together to cross in the middle of the median area; the intersections should be reconfigured to have small corner radii and/or a median refuge to improve the safety and usability of these crossings; and
 - Maintain enough roadway space to preserve the buffered bike lanes proposed in the 5-year plan.

WHY:

- ▶ Provides a separated bike facility, which is preferred by many users.
- ▶ The bike path will serve slower cyclists on this corridor, while faster cyclists will continue to use the bike lanes.
- ▶ The jogging/walking path will serve the existing joggers on this corridor.
- ▶ Crossings will be far enough from either roadway to function much like mid-block crossings, thereby mitigating many of the typical problems associated with median paths.
- ▶ Except at 26th Street, there are no signalized or stop controlled intersections that currently have multiple through travel lanes, making this a likely candidate for a successful road diet. A road diet could be implemented here without a significant reduction in capacity.
- ▶ Current travel volumes suggest that four lanes are not needed on San Vicente, and that the excess lanes contribute to speeding along the road.
- ▶ San Vicente is an important cross-town commute and recreational bike route and is currently the best connected route in the northern part of the City.
- ▶ Los Angeles plans to extend bike lanes along San Vicente through Brentwood toward Westwood.

20-YEAR VISION

WASHINGTON AVENUE NEIGHBORHOOD GREENWAY (OCEAN AVENUE TO ARIZONA AVENUE)

Washington Ave

Stanford St

Lipton Ave

Berkeley St



Washington between 22nd and 23rd

WHAT:

- ▶ Install shared lane markings, wayfinding signs, and neighborhood greenway branding on:
 - Washington Avenue from Ocean Avenue to Stanford Street;
 - Stanford Street from Washington Avenue to Lipton Avenue;
 - Lipton Avenue from Stanford Street to Berkeley Street; and
 - Berkeley Street from Lipton Avenue to Arizona Avenue.

WHY:

- ▶ Formalizes a neighborhood bike corridor on a street that is already heavily used by bicyclists to connect from Downtown Santa Monica to the Northeast neighborhood in Santa Monica and West L.A.
- ▶ Provides numerous connections to north/south bikeways providing connectivity across the city.
- ▶ Route jogs south to connect to the Wilshire/Centinel business district and the Arizona Avenue bikeway that provides a direct connection into Los Angeles.

CALIFORNIA AVENUE BIKEWAY (OCEAN AVENUE TO 26TH STREET)

California Ave



California between 12th and Euclid

WHAT:

- ▶ Ocean Avenue to 17th Street: Restripe existing bike lanes to buffered bike lanes by narrowing travel lanes and parking lanes.

WHY:

- ▶ Enhances existing bike lanes to provide more space for cyclists and reduce the likelihood of collisions between bicyclists and car doors.

20-YEAR VISION

ARIZONA AVENUE BIKEWAY (OCEAN AVENUE TO CENTINELA AVENUE)

Arizona Ave



Arizona between Stanford and Berkeley

WHAT:

- ▶ Ocean Avenue to 26th Street: Convert existing bike lanes to buffered bike lanes by narrowing travel lanes and parking lanes.
- ▶ 26th Street to Centinela Avenue: Improvements from 5-year priorities remain in place.
- ▶ Construct neighborhood traffic circles at the intersections of Arizona Avenue with Stanford Street, Berkeley Street, and Franklin Street.

WHY:

- ▶ Improves a heavily traveled existing bicycle corridor that recently was striped with bike lanes in downtown.
- ▶ Connects to new priority north-south bikeways in downtown and throughout the city.

NEBRASKA AVENUE BIKEWAY (26TH STREET TO CENTINELA AVENUE)

Nebraska Ave



Nebraska between Berkeley and Franklin

WHAT:

- ▶ 26th Street to Stewart Street: Install shared lane markings.
- ▶ Stewart Street to Centinela Avenue: Stripe buffered bike lanes by narrowing travel lanes and parking lanes, or other bicycle improvements in coordination with roadway treatments in Bergamot Plan.

WHY:

- ▶ Buffered bike lanes provide safer bicycle operation in an area with potentially high parking turnover.
- ▶ Creates new bicycle connection between the City of Los Angeles, employment sites, and the Bergamot Expo Light Rail Station.
- ▶ Any improvements will require collaboration with adjacent property owners.

MICHIGAN AVENUE NEIGHBORHOOD GREENWAY

Michigan Ave

Pacific Ter

WHAT:

- ▶ Construct new dedicated bike path from the beach path to the intersection of Pacific Terrace and Appian Way. This will require reconfiguration of the existing parking lot at this location.
- ▶ Edge of City yard from Bergamot Station parking lot to Stewart Street: Construct shared use path.

WHY:

- ▶ The new bike path connection from Pacific Terrace would create a more direct connection to the beach and the Marvin Braude Bike Trail. Policy must be developed that allows bicyclists to cross the pedestrian path without dismounting off of their bicycles.
- ▶ A new shared use path would create better station area access for cyclists originating from the east. Construction is contingent on collaboration with adjacent property owners.

20-YEAR VISION

PEARL STREET BIKEWAY (BARNARD WAY TO CENTINELA AVENUE)

Pearl St



Pearl between 32nd and 33rd

WHAT:

- ▶ Lincoln Boulevard at Pearl Street and Strand Street: Construct intersection improvement at this double intersection to provide a refuge area and/or special left turn lanes to make it easier for bicyclists to cross Lincoln Boulevard.
- ▶ Pearl Street from Lincoln Boulevard to 17th Street: Restripe existing bike lanes to create buffered bike lanes by narrowing travel lanes and parking lanes.
- ▶ Construct neighborhood traffic circles at the intersections of Pearl Street with 30th Street, 31st Street, 32nd Street, 33rd Street, and 34th Street.

WHY:

- ▶ Enhances existing bike lanes to provide more space for cyclists and reduce the likelihood of collisions between bicyclists and car doors.
- ▶ Additional markings associated with buffered bike lanes may reduce the use of the existing bike lane for double parking adjacent to Santa Monica College.
- ▶ Neighborhood traffic circles encourage slower motor vehicle speeds.
- ▶ Intersection improvement at Pearl/Strand will facilitate safe and comfortable crossings for bicyclists and pedestrians.

OCEAN PARK BOULEVARD BIKEWAY (BEACH BIKE TRAIL TO CENTINELA AVENUE)

Ocean Park Blvd



Ocean Park between 14th and 15th

WHAT:

- ▶ Barnard Way to Main Street: Restripe existing bike lanes to create buffered bike lanes by narrowing travel lanes and parking lanes.
- ▶ Lincoln Boulevard to 14th Street: Restripe existing bike lanes to create wider bike lanes.
- ▶ 14th Street to Cloverfield Boulevard: Restripe existing bike lanes to create buffered bike lanes.
- ▶ Cloverfield Boulevard to 25th Street: Restripe to create buffered bike lanes by removing one of the westbound travel lanes. This will require reconfiguring the intersection of Ocean Park Boulevard and 25th Street to extend the existing raised median to the intersection and restripe the left-most westbound through lane on Ocean Park Blvd. so that it becomes the new left turn lane.

WHY:

- ▶ Provides a continuous bikeway for the entire length of Ocean Park Boulevard.
- ▶ Enhances existing bike lanes to provide more space for cyclists and reduce the likelihood of collisions between bicyclists and car doors.

20-YEAR VISION

ASHLAND AVENUE NEIGHBORHOOD GREENWAY (BARNARD WAY TO 28TH STREET)

Ashland Ave



North end of the existing Clover Park path

WHAT:

- ▶ Clover Park Pedestrian Path from 28th Street to the south most Clover Park parking lot adjacent to the airport: Realign existing pedestrian path to create a direct pathway through Clover Park; Construct a new curb ramp for bicycles at 25th Street; Stripe multi-use trail markings to allow for bicycle use; Install wayfinding signs.

WHY:

- ▶ Wayfinding signs, a new curb ramp at 28th Street, and pavement markings formalize the Clover Park Path as a bicycle connection.

MARINE/NAVY/OZONE/ FREDERICK/DEWEY/AIRPORT BIKEWAY (BARNARD WAY TO BUNDY)

Dewey St



The Dewey Street alley

WHAT:

- ▶ Dewey Street alley from Lincoln Boulevard to Frederick Street: Re-pave the existing Dewey alley and install shared lane markings and wayfinding signs.
- ▶ Dewey Street alley from Frederick Street to Marine Street: Construct a shared use path along the south- and east-side of Marine Park.
- ▶ Improvements along the Dewey Street alley require collaboration with the City of Los Angeles as it is partially located within its city limits.

WHY:

- ▶ Provides an off-street connection to Marine Park, Airport Park, and the City of Los Angeles via Dewey Street and Airport Avenue.
- ▶ Establishes a strong inter-jurisdictional relationship with the City of Los Angeles for future regional bikeway projects.
- ▶ Any improvements will require collaboration with adjacent property owners.

MARVIN BRAUDE BIKE TRAIL (NORTH CITY LIMIT TO SOUTH CITY LIMIT)



Marvin Braude Bike Trail. Source: Art Cueto

WHAT:

- ▶ North City Limit to 1200 Ocean Front Walk: Construct an additional path adjacent to existing path to allow for a separation between pedestrians and bicyclists as well as other users traveling at higher speeds.

WHY:

- ▶ Improves the highly traveled recreation and commuter trail to reduce the potential for user conflicts.

20-YEAR VISION

3RD STREET BIKEWAY (MAIN STREET TO SOUTH CITY LIMIT)

3rd St



This section of the existing Civic Center parking lot is proposed to develop into a bike path connection between 3rd and Main

WHAT:

- ▶ Main Street to Pico Boulevard: Construct bike path along the east edge of the Civic Center building. If Civic Center Plan implementation is fast-tracked within the next five years, then construction of the bike path will occur in the Bicycle Action Plan's 5-Year Implementation phase.

WHY:

- ▶ Provides a more legible linkage into the Civic Center and a safer connection to and from Main Street.
- ▶ Creates a physical and civic symbol that the City of Santa Monica is a true bicycle city.

6TH STREET / 7TH STREET BIKEWAY (SAN VICENTE BOULEVARD TO SOUTH CITY LIMIT)

6th St

Raymond Ave

Bay St

Highland Ave



6th Street between Strand and Hollister

WHAT:

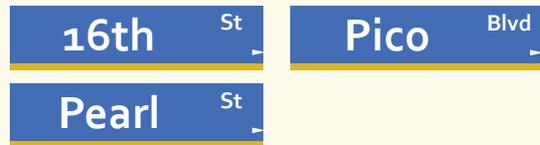
- ▶ 7th Street at I-10 Freeway: Construct bike and pedestrian overpass of I-10 and Olympic Boulevard eastbound.
- ▶ 6th Street from Michigan Avenue to South City Limit: Provide wayfinding signs and neighborhood greenway branding on the streets identified for shared lane markings in the 5-year priorities.
- ▶ Pico Boulevard from 7th Street to 6th Street: Construct a protected median running cycle track/bike path with continental crosswalk markings and yield signs on the east end. This requires redesign of the existing raised median and narrowing of the travel lanes.

WHY:

- ▶ The 7th Street bridge project will complete north-south connectivity in this corridor, providing a critical bicycle connection between areas north and south of the City, downtown, Santa Monica High School, and many neighborhoods within the City.

20-YEAR VISION

17TH STREET / 16TH STREET BIKEWAY



Pearl between 16th and 17th

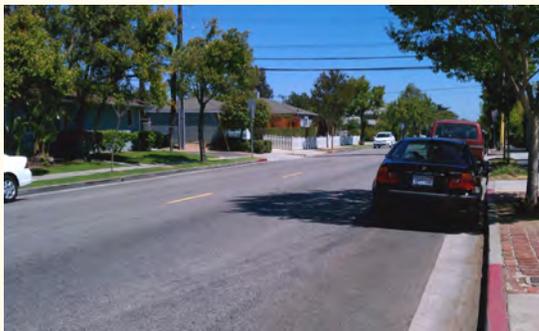
WHAT:

- ▶ Install a side path along the following streets adjacent to Santa Monica College:
 - South side of Pico Boulevard from 17th Street to 16th Street.
 - East side of 16th Street from Pico Boulevard to Pearl Street.
 - North side of Pearl Street from 16th Street to 17th Street.
- ▶ As an alternative to the above path, future collaboration with Santa Monica College may allow for a bike path to be built through Santa Monica College roughly along the 17th Street alignment, from Pico Boulevard to Pearl Street.

WHY:

- ▶ Closes the last gap in the corridor by providing high-quality facilities that are comfortable for cyclists who prefer more separation from motor vehicle traffic.

20TH STREET BIKEWAY (WILSHIRE BOULEVARD TO PICO BOULEVARD)



20th Street between Pico and Pearl

WHAT:

- ▶ Wilshire Boulevard to Pico Boulevard: Implement a road diet in order to stripe buffered bike lanes.

WHY:

- ▶ Improves upon the shared use facility in the 5-Year Implementation Plan by reallocating road space to allow for dedicated bicycle lanes.
- ▶ Enhances the connections between Santa Monica College and major facilities such as the Broadway Bikeway and the Expo Bike Path, which connects to the light rail stations at 17th Street and Bergamot Station.
- ▶ Provides more space for cyclists and reduces the likelihood of conflicts between bicyclists and car doors.

20-YEAR VISION

24TH STREET NEIGHBORHOOD GREENWAY (26TH STREET TO BROADWAY)

- 24th Ct
- La Mesa Way
- La Mesa Dr
- Chelsea Ave
- Park Dr



24th Street between Alta and Montana

WHAT:

- ▶ La Mesa Drive/Way, 24th Street and alley, Chelsea Avenue, and Park Drive: Install neighborhood greenway branding, and wayfinding signs.
- ▶ Intersection of 24th Street at San Vicente Boulevard: Construct a bicycle and pedestrian only crossing with new curb ramps, continental crosswalks, and yield signage. Any improvements should be designed to accommodate any future changes to the San Vicente Median Park.
- ▶ Install intersection treatments that facilitate bicycle and pedestrian crossings at Montana Avenue, Wilshire Boulevard and Santa Monica Boulevard.
- ▶ Redesign intersection of 26th Street and La Mesa Drive to allow for two-way bicycle traffic.

- ▶ Redesign geometry of 24th Street and La Mesa Drive intersection to provide additional landscaping and slow traffic.

WHY:

- ▶ New intersection enhancements, branding, and signage transform the 5-year corridor improvements (shared lane markings) into a neighborhood greenway.
- ▶ Wayfinding will direct bicycles to nearby schools, parks, major activity centers, and connections to other bikeways.

26TH STREET BIKEWAY (NORTH CITY LIMIT TO OLYMPIC BOULEVARD)

- 26th St



26th Street between Marguerita and Alta

WHAT:

- ▶ 26th Street from North City Limits to Olympic Boulevard/Expo Bike Path: Redesign 26th Street to provide green buffered bike lanes. This would require reconstruction/removal of the raised medians on the north end of 26th Street and potential parking removal and/or turn lane removal between Wilshire Boulevard and Olympic Boulevard. Any redesign will require further study and a substantial public process.

WHY:

- ▶ A high quality bikeway would create an enhanced connection to the Pacific Palisades and offer a north-south connection to the Bergamot Expo Light Rail Station.
- ▶ A redesign of 26th could incorporate design features that manage vehicle speeds along the corridor.

Bicycle Facility Toolbox

The bikeway recommendations provide a big picture view of the bicycle network, but what do the bikeway recommendations look like on the ground? The following section addresses this question by describing the facility types that are recommended for application in the Bike Plan. This toolbox is intended to guide City staff through implementation considerations while informing Santa Monicaans of the benefits and operating details of specific bicycle investments. Several innovative treatments are highlighted in this toolbox including neighborhood greenways, cycle tracks, double bike lanes, contra-flow lanes, and the use of colored pavement. This section is a detailed reference guide for facility types cited in the next chapter. Figure 3-9 connects these potential bikeway facilities with the Caltrans bikeway designations.

Figure 3-9 Connecting Caltrans Bikeway Designations to the Proposed Facility Types

Caltrans Designation	Facilities Proposed in the Bicycle Action Plan
Class I	Bike paths, side paths
Class II	Bike lanes, Buffered bike lanes, Climbing bike lanes, Cycle tracks
Class III	Neighborhood greenways, streets with bi-directional shared lane markings

Bicycle Lanes

Bike lanes are the most visible means of encouraging cycling on-street, and they are relatively easy and inexpensive to implement. Marking bicycle lanes on roadways defines visible space for bicyclists separate from motor vehicles and allows users of either mode to make more predictable movements with respect to each other. Bike lanes should generally be considered for streets with over 5,000 average daily traffic (ADT) and average travel speeds of 30 mph or higher. Some streets with wide curb lanes that do not meet these thresholds should be considered for bike lane striping as wide lanes encourage higher speeds and can decrease safety. Bike lanes should be a minimum of five feet wide. Bike lanes may also need additional width as a buffer from raised medians, curbs, or poor roadway conditions. Where space is available, a buffer should be placed between bike lanes and on-street parking in order to mitigate conflicts with car doors as discussed below. When striping bike lanes, the City should consider the wheel path of buses and trucks, which may impact lane marking life span and create pavement drift in the path of cyclists. Outside of conventional bike lanes, four types of enhanced bike lanes are proposed in this plan—Buffered, Climbing, Contra-Flow, and Double Bike Lanes.



Bike lane with buffer from parked vehicles. Source: Cyndi Marshall/Steve Tracy

Buffered Bike Lanes

Buffered bike lanes operate as standard bike lanes but are enhanced with buffers of various widths. The benefit of adding a buffer zone to a bike lane is to provide additional separation from the “door zone” of parked vehicles and, in some cases, travel lanes or edge conditions. Buffered bike lanes are proposed along numerous street segments, including many that experience high parking turnover and/or possess excess general purpose travel lane width. The minimum dimensions for this type of design should be a 4-foot bike lane, 2-foot buffer, and 7-foot parking lane (as shown above). Where feasible, the buffer and bike lane width should be increased. The above photo shows a buffered lane similar to short segments of existing lanes on Broadway. This treatment is proposed to be extended for a

larger part of Broadway and on a variety of other streets such as Ocean Park Boulevard, Main Street, and Montana Avenue. The City of Santa Monica is proposing to adopt a new bike lane striping standard for buffered bike lanes including filling in a 3' to 4' strip of green paint within a bike lane that may be 5' to 7' wide creating an unpainted 2' to 3' wide buffer defined by the inner strip of green pavement.



Climbing bike lanes: In Santa Monica, these would be enhanced with shared lane markings in the opposite direction. Source: Michael Ronkin

Climbing Lanes

The bulk of Santa Monica's neighborhood streets have 40' curb-to-curb widths. This is not sufficient width to stripe bike lanes in both directions while retaining parking on both sides of the street. Climbing bike lanes are proposed in these cases and where hills are present. Climbing bike lanes consist of a bike lane marked in the uphill direction and shared lane markings in the downhill direction. This

provides bicyclists riding uphill room to travel at slower speeds, and encourages downhill bicyclists to use proper positioning in the travel lane away from the door zone. In most cases these treatments are supplemented with a 2-foot marked buffer and Santa Monica's green pavement standard for bike lanes applies. Wherever climbing lanes are proposed in the Bike Action Plan, it is assumed that shared lane markings will be installed in the opposite direction of the climbing lane. The Bike Action Plan recommends this treatment in several areas such as on Yale, 11th Street and California east of 17th Street.

Any proposed climbing lane application in the 5-Year Implementation Plan should be upgraded to buffered bike lanes in the 20-Year Vision. Where climbing bike lanes are proposed on streets with 40' curb-to-curb widths, public outreach and parking occupancy studies can be conducted to determine feasibility of further enhancing these streets with conventional or buffered bicycle lanes in both directions.



Contra-flow bike lane. Source: Michael Ronkin

Contra-flow Bike Lanes

Contra-flow bike lanes allow bicycles to travel in the opposite direction of motor vehicle traffic. Contra-flow lanes operate the same way as conventional bike lanes except that there is no adjacent vehicular lane in the same direction. Markings should include a yellow centerline along with standard bike lane symbol markings to indicate to motorists that bicycles operate in the opposite direction and to eliminate wrong-way riding. Contra-flow lanes could be installed with green pavement treatments. In Santa Monica contra-flow lanes are proposed for the portion of Michigan Avenue between 21st and 22nd Streets which is anticipated to be converted to a one-way street.

Double Bike Lanes

Double bike lanes, also known as passing lanes, should be striped along corridors that have excess width or that currently have or are anticipated to have high volumes of bicyclists such as Ocean Avenue (especially on the weekends). Double bike lanes are typically striped as a minimum 8-foot bike lane with standard striping and bicycle symbol pavement marking conventions, but are bisected by a 4-inch dashed lane marking (as displayed above) to create two 4-foot bike lanes.

There are several benefits of using this type of bike lane application including increasing comfort for novice cyclists (especially along higher speed and higher volume streets), providing additional buffer distance from the travel lane, creating a de facto speed management measure, and focusing additional capacity along popular utilitarian and recreational cycling corridors to allow for safer passing maneuvers. Double bike lanes are proposed along portions of San Vicente Boulevard and Ocean Avenue—two popular active recreation and transportation corridors.

Neighborhood Greenways

Neighborhood greenways, commonly known as bicycle boulevards, are low stress bike routes geared toward riders of all ages and skill levels. The neighborhood greenway concept



Double bike lanes provide additional capacity for cyclists, specifically where bicycle demand is high and pavement is underutilized. Source: Flickr user Jason McHuff, Creative Commons License 2.0 (left) and Nelson\Nygaard (right).

is a livable street environment for pedestrians, bicyclists, and vehicles as well as for active and passive recreation for people of all ages.

Range of Features

Neighborhood greenways utilize a range of treatments in order to establish bicycle priority and manage vehicle speeds and volumes. These treatments can include: signage, bicycle priority and pavement markings, intersection treatments to assist with crossing major streets, speed and volume management and traffic diversion. Shared lane markings, the most common pavement marking used along neighborhood greenways, and intersection treatments, will be explained further in later sections.

Neighborhood greenways typically feature physical improvements that effectively reduce vehicle speeds and sometimes reduce unwarranted traffic volumes. The types and cost of design features vary, and can range from simply painting lines, colors, and patterns on street surfaces to more prominent strategies such as installing speed humps, traffic circles, and curb extensions. Examples of successful calming strategies applied in Santa Monica include the bulb outs installed on the eastern end of Pearl Street and traffic circles located on 26th and 4th Streets. In addition to providing opportunities for neighborhood beautification, neighborhood traffic circles have proven to improve traffic movement and pedestrian safety, while reducing vehicle speeds on average by 11 percent.



Traffic circles help to reduce neighborhood speeding. Source: Nelson\Nygaard

Curb extensions minimize crossing distances for pedestrians and visually reduce the road width, encouraging motorists to slow down. These extensions allow pedestrians and approaching drivers to see each other when vehicles parked in a parking lane would otherwise block visibility. Curb extensions should extend no further into the roadway than the width of the parking lane.

Evaluating Trade-offs

Difficult trade-offs are often evaluated before implementation including on-street parking removal and increased maintenance costs, especially if facilities are landscaped. Although these types of measures are commonly used on neighborhood greenway environments, they should be considered for widespread application throughout Santa Monica’s bicycle network.

Intersection improvements should be considered where neighborhood greenways intersect boulevards or major avenue intersections or neighborhood streets. Typical bicycle access enhancements include median treatments (see image below) which prohibit entry of cars from the major avenues or force cars to turn left or right, but allow bicycles to pass through the intersection. These features effectively reduce cut-through traffic to destinations outside of the neighborhood, while providing additional entry points for local access.

Santa Monica’s densely interconnected street network generally helps distribute traffic evenly throughout the City, so no street is overburdened with traffic in order to benefit another street. There are cases in the City

where high volumes of vehicle cut-through traffic could be reduced to make the street welcoming to other modes of travel. Whenever these measures are used, care should be taken to make certain the problem is not just pushed somewhere else. Measures for one street may warrant evaluation and complementing measures for adjacent streets.

Crossing Treatments

Neighborhood greenways are often on neighborhood streets that don’t have priority over major avenues. Therefore, specific intersection treatments should be considered to assist bicyclists when crossing major and secondary avenues. The median closure shown in the picture is one of the most common types of intersection treatment for neighborhood greenways. The median provides the dual



Traffic diversion (median barrier, shown above) is a common feature of neighborhood greenways. Source: Nelson\Nygaard

benefit of reducing motor vehicle volume and providing a refuge for bicyclists and pedestrians, making it easier and safer to cross major avenues. Raised medians provide dedicated channels that allow for two-stage bicycle crossing—both for through movements and left turns.

Other methods used to improve neighborhood greenway crossings of major avenues are curb extensions and signalized intersections with dedicated bicycle phases, sometimes with turn restrictions for motorists.

Branding

Branding is an effective way to facilitate visual identification of neighborhood greenways. Neighborhood greenways are often branded with unique naming (such as the Michigan



Bicycle wayfinding with destinations, distances, and approximate travel times. Source: Flickr user Richard Durdl, Creative Commons 2.0

Wiggle), applying specific colors and patterns to wayfinding or street signs. Some cities integrate bicycle art into neighborhood greenways to communicate that those streets are prioritized for bicycles.

Wayfinding

Neighborhood greenways typically include wayfinding to identify and help cyclists navigate connections, routes, and destinations. Recently some cities have begun installing bicycle-scaled signage to supplement and identify their networks of bicycle facilities. Since cyclists travel at lower speeds, smaller and more detailed signs can be used avoiding visual clutter. While these signs can warn of an upcoming intersection or similar changes, they are particularly useful for wayfinding. These signs typically include elements of bikeway identification, direction (arrows), destination (place names), and distance (miles or time to destination). Building on standard sign designs in the Manual on Uniform Traffic Control Devices (MUTCD), many communities have developed custom wayfinding branding strategies that allow them to enhance aesthetics and celebrate sense of place as they provide spatial orientation and guidance to visitors.



Cycle tracks offer cyclists protection from traffic with marked buffers and on-street parking. Source: Nelson\Nygaard

Cycle Tracks

Cycle tracks are exclusive bicycle facilities located parallel to the roadway but physically separated from motor vehicle traffic. Cycle tracks can be bi-directional or one-way facilities and can be located on either one or both sides of a street. The preferred application in Santa Monica is in the form of dedicated on-street bikeways that are separated from general use travel lanes by a marked buffer, raised median, or traffic separator. Cycle tracks



Marvin Braude Bike Trail.

are typically configured between the parking lane and the sidewalk. The parking lane acts as a buffer from vehicular traffic, while the cycle track itself offers increased perceived safety and comfort. A key concern with cycle tracks is how to mitigate turn conflicts at intersections and driveways. Two common intersection treatments include dedicated bicycle signals and removal of parking prior to the intersection to improve bicycle visibility. Left-turn box facilities provide opportunities for “Copenhagen-style” left turns out of the cycle track and on to connecting perpendicular streets (see photo on page 3-66). Left-turn box facilities are explained in greater detail later.

Bike Paths

Not all cyclists are comfortable using on-street facilities for bicycle trips. Bike paths, also known as shared-use paths or side paths if located parallel to a roadway, allow cyclists to enjoy an off-street cycling experience. Santa Monica’s Marvin Braude Bike Trail is a high quality and well-used bike path that serves as a critical north-south transportation and recreation corridor for bicyclists and pedestrians. The future Expo Bike Path will travel along the Expo Light Rail alignment and will provide an important inter-neighborhood and regional transportation function. Future nonshared bike paths should be developed in accordance with Federal Highway

Administration guidelines. The City must strive for 14 foot width in order to maximize user comfort and reduce bicycle-pedestrian conflict. Width of shared use paths depend on their proximity to the vehicle travel lane. Key elements such as well-designed intersection crossings and adequate wayfinding signage are integral to the success of off-street facilities and help connect users to on-street facilities or other bicycle connections. These considerations are critical in achieving a successful biking network.

Intersection Treatments

Several intersection treatments are proposed in this Plan in order to reduce conflicts with motor vehicles and improve user convenience. Typical treatments for cyclists at intersections include through bike lanes, merge lane treatments, bike boxes, and left turn box facilities (also known as two-stage left-turn queue boxes).

Through Bike Lanes and Merge Treatments

Bicycle and motor vehicle interactions are most complex at intersections. In many cases, Santa Monica’s bike lane striping does not completely extend to the intersection. The lane instead drops in advance of the intersection in order to accommodate on-street parking and/or a turn lane. As shown in the Manual on Uniform Traffic Control Devices (MUTCD), where right-turn lanes are present at intersections

with bike lanes, a through bike lane should be placed to the left of the right turn lane, and a merge treatment should be used so that dashed bike lane striping continues across the area where the right turn traffic merges into the right turn lane. The photo on this page shows this application on Main Street where it intersects with Colorado Avenue. This treatment should be supplemented with the “Begin Right Turn Lane - Yield to Bikes” sign (R4-4). Green colored paving in the conflict area is an optional treatment for intersections with high right turn volumes. A recent study found that motorists are 12 percent more likely to yield to bicyclists in conflict if the green pavement marking is applied (87% versus 99% yield rate).¹ The images at right display the proper signing and marking standards for a through bike lane between a general use lane and a right-turn lane. This treatment has the following advantages:

- ▶ The crossing conflict occurs away from other conflicts at the intersection;
- ▶ The difference in speeds enables a motor vehicle driver to pass a bicyclist rather than ride side-by-side; and

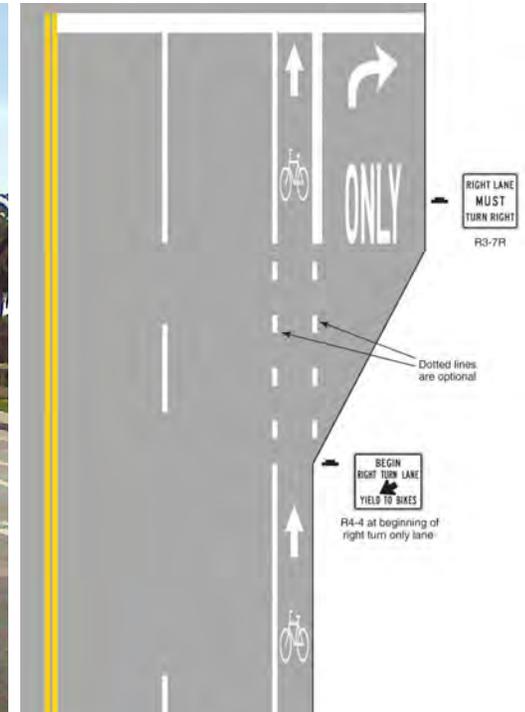
- ▶ All users are directed to follow the rules of the road—through bicyclists proceed to the left of right-turning vehicles, and right turning vehicles yield when moving laterally to cross the bike lane.

At intersections without right turn lanes, bike lanes should continue to the intersection with a dashed treatment to allow for right turning motor vehicles to merge before turning. Proposed improvements in the Bike Action Plan

include accommodations to carry bike lanes all the way to the intersection.

Bicycle Detection

Signalized intersections recognize when bicyclists are waiting and provide sufficient time for them to cross. The City will provide pavement markings and signs to alert bicyclists where to wait for a green light or an extended signal phase when needed.

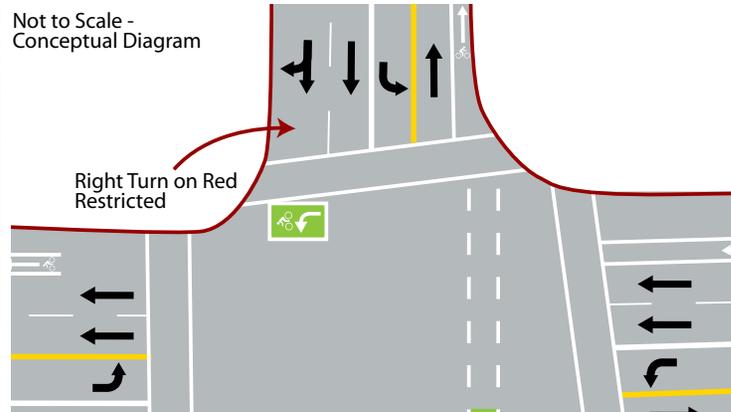


Left image: Right turn merge lane treatment where Main Street intersects with Colorado Avenue. The conflict zone between the dashes can be colored green for additional visibility. Right image: The MUTCD provides guidance on bike lane design at right turn lanes. Source: City of Santa Monica (left), MUTCD Figure 9-C4 (right)

¹ Hunter, William W., Raghavan Srinivasan, and Carol A. Martell (2008). Evaluation of a Green Bike Lane Weaving Area in St. Petersburg, Florida. FDOT Contract BA784, Final Report, University of North Carolina Highway Safety Research Center.



Bike boxes and colored bike lanes through intersections should be focused at high turn volume intersections. Source: Nelson\Nygaard (left) and Flickr user Cheryl & Rich, Creative Commons License 2.0 (right)



Left-turns off of cycle tracks can be facilitated by box turn facilities. Right turns off of connecting streets should be limited to the green phase only. Source: Nelson\Nygaard

Bike Boxes

Bike boxes are experimental intersection facilities that are intended to reduce conflicts with right-turning vehicles and offer bicycle priority at intersections. Cyclists using a bike box first pass queued motor vehicles on the right using a bike lane, then enter the bike box directly in front of waiting cars. Because bike boxes span the width of the entire travel lane, these facilities are also useful at intersections where significant bicycle queuing occurs. Bike boxes should be combined with right turn on red (RTOR) restrictions to reduce vehicle encroachment into the facility.

Left-Turn Box Facilities

Left-turn box facilities, also known as two-stage left-turn queue boxes or box turn facilities, facilitate left turns off of a cycle track facility at signalized intersections where merging to a left turn pocket is difficult. Because right-side cycle tracks disallow merging to left turn pockets (due to their physical separation), left-turn box facilities are used to assist two-stage left turns. These facilities can be applied with conventional bike lanes when making left turns at multi-lane signalized intersections. When left-turn box facilities are applied at a four-way intersection, right turn on red restrictions should be instituted for traffic on the perpendicular intersection leg. Although these are experimental treatments in California,



Bicycle signal head. Source: Nelson\Nygaard

the City hopes to explore them to facilitate left turns for cyclists.

Leading Bicycle Intervals and Dedicated Bike Signals

Signal timing for bicycles is an important component of improving crossing safety and convenience at major intersections. Leading bicycle intervals (LBI) offer cyclists a 2 to 6 second head start at crossings with high turn volumes. These are typically used at freeway ramps as well as in downtowns and commercial districts. The preferred application is to install a separate bicycle signal head that clearly identifies signal priority. LBI could potentially be installed at cycle track intersections.

Dedicated bicycle signals (see photo above) should be considered at intersections with high right turn volumes, high bicycle

through volumes, or at bike path termini or path connections. Portland, Oregon has recently installed bicycle signals at high risk intersections where bicycle facilities cross freeway on-ramps.

Green Wave

A simple yet effective strategy to improve the bicycling environment is to develop integrated signalization that ensures consistent and predictable signal phases for cyclists, while managing vehicle speeds. This is done by calibrating all lights in phase to create a propagating “green wave” of signals along several blocks. Variables that need to be considered include block lengths, velocity, and timing for approaching vehicles. For example, Downtown Santa Monica’s east-west blocks are roughly 320 feet long, which is more suitable for “green wave” application than the 650-foot north-south block faces. Signal progression could be varied by time of day as well. The intended benefits of improving signal phasing is that cyclists are offered a “green wave” if traveling at or around 15 to 17 miles per hour and traffic flow is made more efficient, while requiring cars to drive at slower and more livable speeds. This practice has been implemented in San Francisco, Portland, Copenhagen, and Amsterdam.

Shared Lane Markings

Shared lane markings, often referred to as “sharrows,” direct cyclists out of the “door zone” and inform motorists to share the road. The chevron design also provides a wayfinding and directional function that identifies connections and proper travel direction. Streets that use these pavement markings may also be supplemented by “Bicycles May Use Full Lane” signage (sign R4-11 in the MUTCD). Shared lane markings are permitted on local low-volume Neighborhood Streets, Avenues, Boulevards, Highways and roadways with up to a 35 mph speed limit. Shared lane markings can be useful to fill short gaps



Shared lane markings installed on 14th Street in Santa Monica.

between sections of bicycle lanes along a roadway—a valuable approach to filling gaps in Santa Monica’s bike network. Bicycle lanes are generally preferred but may not always be feasible on all streets due to street dimensions and character. In these cases, shared lane markings are the most feasible treatment and complement the on-street bicycle lane network. While a useful motorist education tool, shared lane markings on high motor vehicle volume or high speed streets are unlikely to attract significant numbers of cyclists. Consideration should be given to use a “Super Sharrow” which includes a wide strip of green paint forming a lane between the sharrows.

Local Streets

The Santa Monica Bike Action Plan aims to allocate experiential investments such as street trees, lighting, and stormwater design toward streets designated as Local Streets. Local Streets are low speed neighborhood streets to be designed and operated for the dual purpose of access and as urban open space. This designation primarily uses the neighborhood streets identified in the LUCE and other streets that are comfortable for walking and bicycling without specific, dedicated facilities. To reinforce the comfort and perceived safety of non-motorized users, the City should enhance these neighborhood assets by focusing investments in pedestrian-

scale lighting, green infrastructure and landscaping, and shade tree planting. Examples of Local Streets include Marguerita Avenue and Oak Street.

General Conventions for Striping and Pavement Marking Application

Constructing a bikeway is not as simple as casually striping bike lanes. Roadway conditions should be thoroughly investigated prior to installing pavement markings or striping lane markings. The City should generally consider the following design issues for bikeway construction and installation in order to ensure facilities operate as intended and cyclists can ride worry-free.

- ▶ **Lane striping and gutter pans.** Bike lane widths should be adjusted according to the presence of the gutter pan. Cyclists tend to ride outside of the gutter to avoid debris and maintain control without riding directly on top of the gutter’s lip. If additional space is not provided through the use of a wider bike lane or a limited buffer, cyclists may perceive the facility to be uncomfortable.
- ▶ **Lane striping and bus pads.** Any bicycle facility, whether it is a shared lane marking or bike lane, should be applied so that bicyclists are directed away from bus pad seams. Because the weight of bus transit vehicles cause asphalt to drift, bicycle wheels can become lodged into the seam between the concrete bus pad and the street’s asphalt. Striping location and



Local streets such as Ozone Avenue could be further enhanced with additional trees, lighting, and landscaping. Source: Nelson\Nygaard

pavement maintenance can alleviate this issue.

- ▶ **Buffered bike lane design options.** There are several alternatives to striping buffered bike lanes; however, the preferred application in Santa Monica depends on several variables. When on-street parking is present, the buffer is applied to the right of the bike lane to reduce conflicts with the door zone. The buffer effect will be achieved by marking the 7-foot parking bays, leaving a 2- to 3-foot unmarked buffer and adding a 4-inch inner-lane marking to the right of the bike lane. If no parking is present, the buffer will be applied between the bike lane

and the travel lane with a 2- to 3-foot buffer delineated by hatch markings.

- ▶ **Colored bike lane.** As a supplement to the standard buffered bike lane design options, any buffered bike lane application using green colored pavement treatment will shape a de facto buffer without striping the inner 4" bike lane stripe. For example, the most typical buffered bike lane configuration provides a 4-foot bike lane with a 2-foot buffer. The City of Santa Monica is adopting a new buffered bike lane striping standard that includes a conventional 6-inch bike lane stripe, a green bike lane (roughly 3-foot 6-inch) and an unmarked buffer with no inner stripe. Seven-foot on-street parking bays will



be marked to reinforce the buffer and signal to cyclists to avoid the door zone.

- ▶ **Bike lane striping at intersections.** The majority of bike lanes in Santa Monica currently drop as they approach the intersection. As new bike lanes are installed, they should be striped to the intersection. This will require the use of merge lane treatments and through bike lanes when the bike lane approaches an intersection with a right turn lane.

In addition to these striping considerations, pavement preservation, restriping, routine cleaning, and debris removal are essential tasks needed to ensure bikeways maintain their quality and appeal. Additional bikeway maintenance guidance is provided in Chapter 4.

Applying lane striping (left) closer to the gutter seam effectively reduces the bicycle lane to 3-feet. The weight of buses at bus pads (right) can cause asphalt to drift creating obstacles for bicycles. Sources: City of Santa Monica (left) and Flickr user Steve Vance, Creative Commons 2.0 (right)



4. ROLLING IT OUT

INTRODUCTION

The LUCE envisions a transformation in Santa Monica and, propelled by the community's energy and enthusiasm for bicycling, the Bike Action Plan shows exactly how to make it happen. This chapter identifies an immediate implementation strategy for programs and bicycle facilities that reflect community input, staff and consultant analysis, funding opportunities, and feasibility. The strategy is both innovative and practical. It accounts for



existing conditions, looking at ways to enhance bikeways with complementary programs and better facilities. Together these programs and facility improvements form a bridgeway to get more people to bicycle over the next five years. This approach will inform investment and funding decisions, guide grant applications, and coordinate bicycle-related efforts over the next five years.

Bike Action Plan implementation will invest in education, encouragement, awareness, facility development, parking, wayfinding, bike sharing, and bikeway network development. Proposed programs comprise a comprehensive and aggressive campaign to encourage and support new and current bicyclists. Proposed bikeways provide fundamental improvements on most streets, advance a core network, showcase key projects, and elevate the profile of bicycling in Santa Monica. All recommendations are informed by the City's coordinated land use and transportation planning efforts and the opportunities to capitalize on investment in the three Expo Light Rail stations in Santa Monica.



HIGH VISIBILITY BIKEWAYS

As part of the 5-Year Implementation Plan, the City of Santa Monica will begin striping high visibility bikeways enhanced with green color pavement treatments. Corridors that will be enhanced with these highly visible treatments are those that experience high bicycle demand and connect into major transit hubs or future Expo Light Rail stations. The City is adopting a bike lane striping standard that includes green colored bike lanes for some buffered bike lanes. The corridors that are prioritized for initial investment include:

- ▶ 2nd/Main Bikeway
- ▶ Broadway Bikeway
- ▶ Ocean Park Bikeway west of Lincoln Boulevard

The Bike Action Plan includes both a 5-Year Implementation Plan and a 20-Year Vision. The 5-Year Implementation Plan consists of critical projects and programs that should be completed first to provide a strong and balanced initial program of improvements. This includes installation of shared lane markings and buffered bike lanes on streets with adequate space for striping and bikeway development that will involve more significant changes to curbs, parking, or roadway configuration. The 20-Year Vision includes facility and program development that will require larger investments in staff resources, study, design, and public processes and

provide additional network breadth or capacity to meet future needs.

Bike Action Plan implementation envisions ongoing outreach, collaboration, monitoring, and dialogue with bicycle groups, bicyclists, and the community at large. Partnerships are an essential tool in the implementation of the Plan. The Plan must reflect and respond to community needs to keep programs and bikeways appealing and current.

Recommendations will be enabled by current and anticipated resource availability. Existing grant awards are summarized in Figure 4-5.

Some flexibility in project and program selection enables for adjustments based on funding opportunities and community priorities at any given point in time. In this way, the Bike Action Plan offers a roadmap that sets a course—guided by community participation—for making Santa Monica a bicycle-friendly community for all.

The following outlines the 5-year Implementation Plan and procedures for measuring and monitoring implementation and effectiveness.



Source: Los Angeles County Bicycle Coalition

5-YEAR IMPLEMENTATION PLAN: PROGRAMS REFLECTING COMMUNITY PRIORITIES

Chapter 3 provides a broad menu of options and a toolkit for programs. The following implementation strategy outlines more specific investments in programming over the next five years.

The programs that are prioritized highest in the 5-Year Implementation Plan strongly reflect what the public signaled as important. During the community outreach process, citizens identified education, awareness, encouragement, and supporting facilities such as wayfinding and bike parking as critical needs. Therefore, the plan calls for moderate

to aggressive funding levels for these program categories, and to deploy programs that may require a higher level of investment and effort in these areas.

The level and type of program implementation will be guided using the following actions:

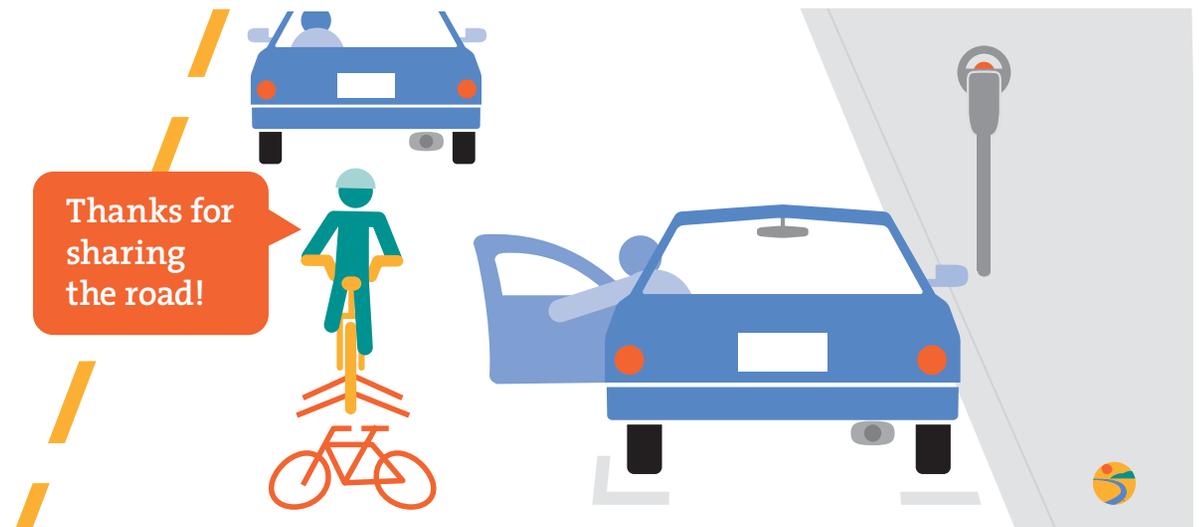
- ▶ Prioritize education, awareness, and encouragement as a complement to bikeway network development.
- ▶ Deliver programs concurrent with bikeway projects that require education, awareness, and promotion (e.g. shared lane markings may not be understood by the general public immediately after installation).
- ▶ Maintain flexibility and responsiveness to changing community needs and adjust the types or intensity of programs.



Bikes may use full lane.

 Shared lane markings or *sharrows* are coming to Santa Monica.

bikesantamonica.org 



When shared lane markings were installed on 14th Street, the City of Santa Monica initiated a bus advertisement education campaign.

PROGRAM IMPLEMENTATION

Figure 4-1 identifies specific projects within program category priorities identified through community outreach. These programs will complement and support ongoing bicycle network development. The **bold** print indicates that some funding has been secured for that item.



Figure 4-1 Program Implementation Strategy

Program Category	Base	Medium	High
Education	Bicycle Campus Planning, Develop a City TV episode highlighting benefits of biking, safety, etc., Bike Education at events, Bike Rodeos, One time bike training for city workers	Educational videos, Bicycle Campus Opening, Classes offered through City Bike Center, Additional City TV Episodes, Bike Training for adults and additional training for youth and targeted groups like Seniors	Develop Core Educational Programming, Ongoing Bicycle Training, Bicycle Repair Skills
Events	Bike to Work Day, Bike It! Day, Bike to Park Day, Presence at special events (Glow, Marathon), Technical support for events with bike element (i.e. Tour da Arts)	Bike cross promotion at events, Success celebrations for programs and facilities, Revise event requirements regarding bicycles, Bike Center Tours, Car Free Street Elements at existing events such as Glow, Santa Monica Festival	Cyclovia, Major car free street events, Upgrade bike-friendly status of Santa Monica events
Awareness	Attend public forums and existing group and or commissions meetings, Create Bike Program Identity, One targeted campaign including bus tailcards	Continued collaboration with Advocacy Groups, Regular Cycle Talks, Awareness Campaigns, Bicycle Showcase Tours, Giveaways with targeted campaigns	Ongoing targeted campaigns, Legislative advocacy, Promotion of high profile facilities including green paint, bike boxes, and signalization
Information	Request System (City Go App and Web Page), Bike info. at City Events, Self-guided bike tour maps, bike on bus web information and on maps	Electronic map information on City website and others, Updated Bike Map, Directions to major destinations, Encourage others to include cycling in promos, New resident packet, Info incorporated into event process, Web Improvements, Web based multi-modal trip planning	Real-time bike parking availability information
Encouragement	Offer technical assistance to schools for access, Support Bikelt! Day, Employer TDM web services, Provide information to employers regarding Bike@Work and Bike Parking, Work with bicycle advocacy groups, New resident outreach	Safe Routes to School (Samohi, Middle School bicycle training, Middle and Elementary encouragement), Mobile School Bike Training, Bike Friendly Business Recognition, Support Buy Local, Encourage Bike Local bike to business discounts, Car-Free Tourism support, TMA Formation Planning, Bike Pooling, Partner with SMC on programming	TMA Outreach, Santa Monica High School access and parking improvements, No Net New Trips Toolkit that provide help and incentives for employers, Bicycle ownership programs, Mobile bike assistance, Bike-friendly districts, Work with School District to identify and improve good bicycle routes to each school and to provide information about these routes to school communities and neighbors of schools

Figure 4-1 Program Implementation Strategy 

Program Category	Base	Medium	High
Enforcement	PD Bicycle Ambassador, Establish Ticket Diversion Program, Encourage bike registration	Prioritize enforcement based on safety, Agency coordination on rules and rights of the Road	Consider anti-harassment rules
Supporting Infrastructure			
Bicycle Parking (Valet, Bike Centers, and public racks)	Bike Valet at Sunday Farmers' Market, Bike Parking at Santa Monica High School, 800 New public bike parking spaces	Increased bike parking requirements and amenities, Bike Valet at additional Farmers' Markets, 2,500 new bike parking spaces for public, provide on site bike racks for schools and businesses as part of TDM toolkit, Create four bike corrals	Complete and Operate Bike Centers – full and self service at Parking Structures 7 and 8, additional Bike Centers at two rail stations
Bike Share	Planning efforts for local and citywide Bike Share	Pilot Bike Share Program in Downtown or another area	Citywide Public Bike Share Program – 25 locations with 10 bikes each, Develop and pursue opportunities to accelerate the implementation of bike share in Santa Monica, Expand the scope of the initial bike share program as needed to provide good coverage throughout the city, Encourage and support the development of a bike share program at the regional level
Wayfinding	Planning Beach Bike Trail signage improvements, Initial wayfinding to downtown Santa Monica Bike Center	Install Beach Trail signage and striping plans, Citywide wayfinding to major destinations and on primary bikeways	Design and phased implementation of comprehensive wayfinding system



Figure 4-2 expands upon the types of programs that Santa Monica plans for near- and long-term deployment and the level of funding required. Potential program partners include a wide range of community-based and business groups including advocacy groups that will be engaged early in the planning process. The action steps will also help programs operate as effectively as possible and will facilitate progress towards implementation.

Figure 4-2 5-Year Program Implementation Recommendations

Program	Description	Effort/ Funding Needs	Partners	Action Items
EDUCATION >>				
Bike Rodeos	Hands-on bike training and providing awareness and skill building for youth	Low	City, Schools	<ul style="list-style-type: none"> ▶ Bring in other partners ▶ Schedule rodeos
Bicycle Training	Support the provision of a range of bicycle education and training courses such as Confident City Cycling, “B.E.” Bike Education, Beginning Bicycling, League Certified Instructor (LCI) Certification, Use of bikes on transit	Med	City, Bike Center, Santa Monica College, Advocacy Groups, Schools, Transit Agencies	<ul style="list-style-type: none"> ▶ Identify target audiences ▶ Coordinate with training groups such as TMA, Bike Center, Sustainable Streets ▶ Work with schools to target particular grades/classrooms ▶ Develop suggested core curriculum ▶ Aid in outreach/marketing
Bicycle Repair Skills	Support the provision of bike repair training and assistance	Low – Med	Bicycle Advocacy Groups, Major Employers, Bike Shops, Santa Monica College, School and Youth Organizations	<ul style="list-style-type: none"> ▶ Collaborate with community bicycle organizations, such as Bikerowave ▶ Coordinate programming and marketing ▶ Co-host repair skills workshops in Santa Monica
Bicycle Campus	Provides a protected environment for beginning cyclists to learn how to ride on the streets. Includes a skills handling course and street demonstration course.	Low	City, Advocacy Groups, Bicycle Instructors, Bike Center, Bike Shops	<ul style="list-style-type: none"> ▶ Complete installation of the bicycle campus and signage ▶ Market the Bicycle Campus at schools, libraries, beach, etc. ▶ Encourage local employers to send interested employees to Bicycle Campus classes ▶ Expand upon existing curriculum
Bike Education Materials	Create a bicycle curriculum to teach safe riding, bike handling, increase bike awareness, and increase respect among all road users. Materials will support bike campus, ticket diversion programs, outreach, and encouragement with schools, employers, and residents. Materials will also be tailored to important groups: children, commuters, seniors, employees.	Med	City, Bike Center, Advocacy Groups	<ul style="list-style-type: none"> ▶ Identify core issues ▶ Develop educational materials ▶ Tailor messages to the needs of key groups ▶ Adapt content for different media and purposes

Figure 4-2 5-Year Program Implementation Recommendations

Program	Description	Effort/ Funding Needs	Partners	Action Items
AWARENESS >>				
Cycle Talks	Regularly hosted discussion to explore bicycle issues	Low	City, Public, Advocacy Groups	<ul style="list-style-type: none"> ▶ Schedule regular dates and times ▶ Identify discussion themes and potential speakers (local and state leaders / practitioners in bicycle planning, research, and advocacy) ▶ Promote Cycle Talks at schools and colleges (including SMC, UCLA, USC, etc.), libraries, businesses, community centers
Collaboration with Advocacy Groups	Collaborate with established bicycle advocacy and support groups to create synergy	Low	LACBC, Santa Monica Spoke, City, C.I.C.L.E., Sustainable Streets	<ul style="list-style-type: none"> ▶ Meet with support and advocacy groups and maintain ongoing communications ▶ Explore joint program and mutual support opportunities ▶ Attend public forums and existing group and commissions' meetings
Santa Monica's Bike Network Showcase	Self-guided or guided tours highlighting Santa Monica bike programs and facilities	Low – Med	City, Bike Shops, Public	<ul style="list-style-type: none"> ▶ Create and schedule a tour of new and current bicycle programs and facilities ▶ Promote on website and through other means
Bike Program Identity	Development of a new visual identity that has the ability to encompass the entire suite of current and future bicycle programs and facilities	Low	City, Design Consultant	<ul style="list-style-type: none"> ▶ Hire a graphic designer to create consistent branding and eye-catching design work ▶ Develop tailored logos
Targeted Campaigns	Educate all road users about the rules of the road, benefits of cycling, etc. in a fun and catchy way such as Celebrity PSAs, television spots, giveaways and more	Med	City, Advocacy Groups, Local Celebrities and Bike Champions, City TV, Neighboring Jurisdictions	<ul style="list-style-type: none"> ▶ Develop messaging ideas ▶ Establish outlets for a list of places to have signage ▶ Roll out a campaign at a strategic time of year (i.e. start of the school year) ▶ Regularly review key messages for current bicycle topics
Promote New Designs and Technologies	Develop and support experimentation	Med	City, Neighboring Jurisdictions, Advocacy Groups	<ul style="list-style-type: none"> ▶ Develop experimental design features such as expanded use of green paint, bike boxes, and signalization
Legislative Advocacy	Develop and lobby for improved bicycle regulations at the State and National level	Med	City, Neighboring Jurisdictions, Advocacy Groups	<ul style="list-style-type: none"> ▶ Consider changes to vehicle code, licensing requirements, enforcement programs

Figure 4-2 5-Year Program Implementation Recommendations

Program	Description	Effort/ Funding Needs	Partners	Action Items
EVENTS >>				
Bike to Work Month/ Week/Day	Celebratory events during the month of May including “pit stops” providing food, giveaways, information and specials to encourage bicycling.	Low	Advocacy groups, Bike Shops, Major Employers, City, Schools, Convention and Visitors Bureau	<ul style="list-style-type: none"> ▶ Appoint a Bike to Work leader to coordinate and expand the program ▶ Develop employer-based competition with prizes and recognition
BikeIt! Day	Student-led event to encourage biking, walking, and taking a bus to school.	Low	Advocacy Groups, Schools, City	<ul style="list-style-type: none"> ▶ Outreach to all schools ▶ Invite more partners (such as businesses) ▶ Create incentives for participation like free bicycle gear ▶ Promote the success of recent BikeIt! Days
Car-Free Street Events	In conjunctions with other events, close streets to automobiles and open them to bicycles, pedestrians, etc.	High	City, Event Organizers, Advocacy Groups	<ul style="list-style-type: none"> ▶ Identify existing street closure events that could incorporate bicycle use before or after the event ▶ Identify ideal streets ▶ Work with Police Department on traffic re-routing options ▶ Consider adding car free street element to Santa Monica Festival ▶ Approach Los Angeles regarding participation in potential westside extension of CicLAvia
Bike Cross-Promotion at Events	Integrate bicycling into Santa Monica events such as the Farmers’ Markets, GLOW, Twilight Dance Series, Pier Drive-In, etc.	Low – Med	City, Special Events Organizers	<ul style="list-style-type: none"> ▶ Assist in promoting bike access and information for distribution ▶ Identify strategies for incorporating unique bike efforts ▶ Coordinate with event organizers ▶ Revise event requirements regarding bikes
Bike Center Tours	Occasional tours of the City by bike that may be focused on a special theme.	Low – Med	Volunteers, City, Advocacy Groups, Bicycle and Tourism-based Businesses	<ul style="list-style-type: none"> ▶ Develop schedule of community bicycle rides and resources ▶ Provide logistical support ▶ Offer rides through Bike Center
Bicycle Event Support	Technical support to encourage others to host successful bicycle events (i.e. Tour da Arts and Bike to Park Day)	Low	Businesses, Artists, City, Advocacy Groups	<ul style="list-style-type: none"> ▶ Coordinate with local event sponsors ▶ Include events on upcoming event calendars
Success Celebrations	Host ribbon cuttings, openings, and provide award recognition	Low	City, Community Leaders, Advocacy Groups	<ul style="list-style-type: none"> ▶ Plan and organize press releases and opening ceremonies

Figure 4-2 5-Year Program Implementation Recommendations

Program	Description	Effort/ Funding Needs	Partners	Action Items
INFORMATION >>				
Updated Website	Create a more comprehensive and robust online bicycle-information source	Med	City	<ul style="list-style-type: none"> ▶ Launch and promote website domain name ▶ Develop a list of website content ▶ Work with a web developer to create site ▶ Provide new resident information
Request System Santa Monica GO App and Website	Online and mobile applications which enable the public to connect to the City to report needs and issues	Low	City	<ul style="list-style-type: none"> ▶ Better advertise this service ▶ Monitor customer service requests and responses regularly
Bicycle Maps and Trip Planning	Printed, reusable bicycle maps and online bicycle maps which support local and regional bicycle and multi-modal trip planning and tour routes	Med – High	City, Advocacy Groups, Convention and Visitors Bureau, Bike Centers, Metro, Neighboring Jurisdictions	<ul style="list-style-type: none"> ▶ Update existing map as needed ▶ Print and distribute maps as available and needed ▶ Determine feasibility of coordinating with other trip planning resources such as Google maps ▶ Maintain integration with Big Blue Bus multi-modal maps ▶ Coordinate data to develop resources for regional trip planning ▶ Create self-guided tour map ▶ Provide information on bicycle requirements for developers and events
Directions to Major Destinations	Encourage destinations to provide directions and parking information for cyclists to easily arrive by bike	Med	Convention And Visitors Bureau, Chamber of Commerce, Major Destinations, Advocacy Groups	<ul style="list-style-type: none"> ▶ Reach out to businesses on the importance of supporting cyclists ▶ Provide major destinations resources on how to map bicycle routes ▶ Encourage others to include cycling in promos
Bike Information at City Events and Info Outlets	Provide information about bicycles at Santa Monica events, such as the Santa Monica Festival, and information outlets such as the Visitor's Center	Low	City, Advocacy Groups, Bike Shops, Bike Center, Event Organizers	<ul style="list-style-type: none"> ▶ Create a bicycle awareness materials for distribution ▶ Identify distribution locations and outlets ▶ Coordinate distribution of bicycle information and materials
Transit Connectivity	Provide information about how and where to make connections to transit via bicycle	Low – Med	Metro, City, Bicycle Advocacy Groups, Santa Monica College, Neighboring Jurisdictions	<ul style="list-style-type: none"> ▶ Identify major transit locations ▶ Develop materials on making connections ▶ Coordinate distribution and upkeep of materials

Figure 4-2 5-Year Program Implementation Recommendations

Program	Description	Effort/ Funding Needs	Partners	Action Items
ENCOURAGEMENT >>>				
Biking to School	Encourage biking to school through access planning, facility improvements, training for students, outreach to parents, mobile school bike training, Bikelt! Day, etc.	Med – High	City, Schools, Santa Monica-Malibu Education Foundation, Private Schools	<ul style="list-style-type: none"> ▶ Continue to apply for Safe Routes to School grants ▶ Identify volunteers that have a passion for bicycling to help deploy programs and monitor success ▶ Develop access plans for schools within the city ▶ Place more emphasis on safe routes to transit as light rail service commences and future bus transfer centers are created ▶ Continually monitor (before and after) indicators of success like mode share, bicycle counts, event participation, parking utilization, and attitudinal surveys
Bike-Pooling	Organized routes for biking to/from school and work that provide safety, comfort, and encouragement	Low	City, Major Employers, Schools, PTA, Advocacy Groups	<ul style="list-style-type: none"> ▶ Determine best mechanisms to coordinate bike-pooling (e.g. basic database, online form) ▶ Advertise bike-pooling ▶ Track success
Santa Monica College Programming	Collaborate with SMC on ways to encourage biking to campus	Low – Med	SMC, City, Advocacy Groups, Major Employers	<ul style="list-style-type: none"> ▶ Meet with SMC staff, students, and student groups ▶ Coordinate pilot events ▶ Assist in the identification of routes to campus ▶ Explore the possibility of SMC as a bike share location ▶ Identify and piggyback on existing SMC events ▶ Share Bike Santa Monica marketing and promotional material for distribution and/or advertising campaigns
Bicycle Friendly Business Promotion	Recognize businesses that exceptionally promote bicycling for employees and customers. Promote and support car-free tourism and Bike Friendly districts	Med	City, SMC, Chamber, Bike Shops, Advocacy Groups	<ul style="list-style-type: none"> ▶ Develop program in conjunction with the Green Business Certification Program or Sustainable Quality Awards ▶ Identify criteria for recognition and inclusion ▶ Advertise programs to businesses and customers ▶ Create packages of supporting materials and services
Buy Local Bike Local	Integrate bicycling into Buy Local efforts	Low	Buy Local, City, Local Businesses, Advocacy Groups, BIDS and Merchant Associations, SMC	<ul style="list-style-type: none"> ▶ Encourage development of bicycle-focused tie-ins for Buy Local ▶ Provide technical support ▶ Coordinate local businesses directly with cyclists
Bike to Business Special Offers	Encourage special offer promotions for bicycle customers to support vehicle trip reduction	Med – High	Buy Local, Convention And Visitors Bureau, Local Businesses, Advocacy Groups, City, Chamber of Commerce	<ul style="list-style-type: none"> ▶ Research other model programs ▶ Determine feasibility for Santa Monica ▶ Develop toolbox of strategies

Figure 4-2 5-Year Program Implementation Recommendations

Program	Description	Effort/ Funding Needs	Partners	Action Items
Mobile Bike Assistance	Provide access to mobile bike repairs and emergency bike repair services	Low – Med	Bike Center, Bike Shops, City, TMO's	<ul style="list-style-type: none"> ▶ Provide information about available repair resources ▶ Provide access to repair stands and air program ▶ Develop 24-hour mobile assistance
Employee Incentives	Prioritize bicycling in employer TDM packages and provide incentives including bike parking, training and web-based trip planning	High	Major Employers, Bike Shops, City	<ul style="list-style-type: none"> ▶ Identify specific companies and incentives that have potential to be models for others ▶ Connect curious employers with successful examples ▶ Develop material to support employer bike promotions ▶ Distribute materials annually through the TMA ▶ Target smaller employers that aren't covered under existing ordinance
Bike@Work	Use City Bike@Work as an example to promote the establishment of employee bike sharing programs	Med	City, Major Employers	<ul style="list-style-type: none"> ▶ Identify potential employee participants ▶ Create regular events using Bike@Work bicycles ▶ Encourage, track and advertise usage internally as a way to recognize enthusiastic participants ▶ Promote Bike Center program as Bike@Work option for downtown employees
Transportation Management Association	Integrate bicycling into TMA formation	Med	City, Major Employers, future TMA	<ul style="list-style-type: none"> ▶ Incorporate bicycling into initial TMA programming
Bicycle Ownership	Makes it easier to obtain and own a bike	Med – High	City, BBB, Schools, student centers such as Pico Youth and Family Center, Chrysalis, Bikerowave	<ul style="list-style-type: none"> ▶ Research other model programs ▶ Define opportunities for bike ownership program ▶ Explore collaboration with local job training
New Resident Outreach	Communicating that bicycles are part of the culture from when residents arrive	Med	City, realtors, Chamber of Commerce	<ul style="list-style-type: none"> ▶ Identify resources to be included in packet ▶ Include information prior to information packet mailings
ENFORCEMENT >				
Police Bicycle Ambassadors	Facilitate communication on enforcement and safety and develop best practices	Low	SMPD, City, Advocacy Groups	<ul style="list-style-type: none"> ▶ Coordinate with Police Department ▶ Identify avid utilitarian and recreational cyclists within Police Department ▶ Develop training and procedures ▶ Host training events, including on-the-ground training
Ticket Diversion Program	Provision of bicycle safety courses in exchange for a ticket dismissal for bicyclists	High	City, Advocacy Groups, LCI Instructors	<ul style="list-style-type: none"> ▶ Research other programs ▶ Work with partners and develop curriculum ▶ Implement program
Agency Coordination on the Rules and Rights of the Road	Shared information on the rules and rights of the road to provide a more coordinated message	Low	City, Westside COG, Neighboring Jurisdictions	<ul style="list-style-type: none"> ▶ Consolidate all relevant rules and regulations ▶ Host a training event with multiple agencies ▶ Monitor and evaluate through GO app

Figure 4-2 5-Year Program Implementation Recommendations

Program	Description	Effort/ Funding Needs	Partners	Action Items
Bicycle Registration	Encourage bicycle owners to use national bicycle registries and retain identifying numbers	Low – Med	Advocacy Groups, Westside COG	<ul style="list-style-type: none"> ▶ Post registration information on web ▶ Provide links to registration information on bike racks ▶ Encourage people to register bikes and report theft
SUPPORTING FACILITIES >>>				
Bike Sharing >>>				
Bike Sharing	Comprehensive system of publicly accessible bicycles strategically placed at popular destinations such as the City's business districts, transit stations, hospitals, and schools. Bike sharing provides convenient access to a bicycle for one-way trips, supports car-free tourism, and provides last-mile connections to and from transit. It also invites people to bicycle by making bicycling easy for anyone.	High	City, Independent bike sharing agency, Bike Advocacy Groups, Major Employers, Educational Institutions	<ul style="list-style-type: none"> ▶ Identify strategies to prepare for Metro grant coming in July 2016 ▶ Conduct a feasibility study to determine station locations, phasing, and a business plan ▶ Host bike sharing focus groups geared towards corporate sponsorship opportunities (should include major employers, hotels, and potential maintenance contractors) ▶ Pursue amending the City's Municipal Code to allow for advertising and sponsor identification at bike share stations and on individual bicycle units ▶ Partner with local businesses and the Chamber of Commerce to identify bike share "champions" ▶ Schedule public workshops to educate about and incorporate public input in bike share deployment
Bike Centers >>				
Bike Centers	Parking facilities geared towards providing secure short- and long-term bike parking with high quality amenities like showers, lockers, and repair stations. Some centers may be full service with an attendant who can offer repair, sales, tours, and training.	High	City, Major Employers, Educational Institutions	<ul style="list-style-type: none"> ▶ Identify locations and develop plans for Bike Centers at each Expo light rail station ▶ Considering amending the zoning code to require shower, changing, and locker facilities in new developments and major renovations (depends on land use type and intensity) ▶ Develop guidelines for developments to include secure bike parking areas ▶ Develop survey tools for employers to ascertain employees' current and potential needs ▶ Educate the business community, particularly major employers, of the costs and benefits of developing these facilities

Figure 4-2 5-Year Program Implementation Recommendations

Program	Description	Effort/ Funding Needs	Partners	Action Items
Bike Parking>>>				
Bicycle Parking	Bike parking to serve short- and long-term parking needs. Parking can include racks on public property—curbside and in-street corrals—or on private property. New developments will be required to provide additional bike parking. Existing vehicle parking may be recycled into bicycle parking as bicycle numbers increase.	High	City, Employers and Merchants, Big Blue Bus	<ul style="list-style-type: none"> ▶ Track and respond to business and employer requests for bicycle parking ▶ Continually apply for grants to expand upon existing parking supply ▶ Systematically replace undesirable parking types (such as wave racks, coat-hanger racks, and “wheel-bender” racks ▶ Identify locations of on-street bike corrals (may require advertising pilot application opportunities to interested businesses) ▶ Monitor utilization seasonally to evaluate need for more bicycle parking at key destinations ▶ Provide enough parking at schools to meet student needs ▶ Develop new private property parking standards ▶ Add more bike parking to City facilities ▶ Install bike corrals
Bike Valet >>>				
Bike Valet	An attendant service that provides a secure and convenient place to leave a bicycle at popular destinations	Med – High	City, Major Employers	<ul style="list-style-type: none"> ▶ Explore permanent siting opportunities such as at the Farmers’ Market, Third Street Promenade, Santa Monica Place, and major employment centers ▶ Expand on special events
Wayfinding >>>				
Wayfinding and Advisory Signage	Signage that identifies key destinations and bikeways enabling people to easily navigate the City. Used in conjunction with bike parking, Bike Center, bike sharing stations, and at major transit stops/station.	High	City	<ul style="list-style-type: none"> ▶ Design wayfinding signing system ▶ Formalize the Bike Santa Monica program by incorporating its logo into wayfinding sign designs ▶ Initially focus wayfinding along neighborhood greenways and dedicated bikeways; then expand to other bicycle corridors ▶ Create unique and eye-catching branded wayfinding for neighborhood greenways ▶ Develop a phased wayfinding plan that coordinates with bicycle network and Expo light rail implementation ▶ Ensure that wayfinding is maintained and visible by removing graffiti and trimming trees and landscaping

AGGRESSIVELY IMPLEMENTING THE BIKEWAY NETWORK

The Bike Action Plan consists of an ambitious implementation strategy for the bikeway network that balances high quality demonstration projects with projects that could be installed without major changes to the streetscape. Project sequencing and implementation are guided using the following actions:

- ▶ First and foremost, prioritize bikeway projects that foster connections to downtown and future light rail stations, enhance school access, and improve upon existing heavily used bicycle corridors
- ▶ Prioritize projects that are easy to implement, fill gaps in the network, and feature innovative treatments that ensure safe and convenient bicycling
- ▶ Prioritize major bikeway projects that provide some physical separation between motor vehicles and bicycles
- ▶ Group corridor segments into reasonable and implementable projects considering variations in facility type, curb-to-curb street widths, cost, and level of effort and planning
- ▶ Leverage funding opportunities including future Exposition light rail station connections and LUCE’s policy implementation
- ▶ Make a commitment to creating beautiful neighborhood greenways that provide low stress connections for bicycles

- ▶ Coordinate with the cities of Los Angeles, Culver City, West Hollywood, and Beverly Hills to develop bikeway connections
- ▶ In addition to the bikeways listed on the 20-year Vision Plan, explore the creation of a recreational bicycle trail around the Santa Monica Airport and consider development of additional bicycle trails as opportunities arise through private and public lands and development projects

The following two charts list projects in disaggregated street segments for specific bikeways. Stand-alone projects are shown with the 5-year Implementation Plan (Figure 4-3) and the 20-year Vision Plan (Figure 4-4). In some cases, all segment improvements within a corridor are recommended for implementation at one time to ensure full corridor connections. The high priority corridors found in the 5-year Implementation Plan are detailed even further in corridor sheets located in Appendix B.

 Using conceptual-level preliminary cost estimation, the 5-year bikeway network would cost roughly \$5.8 million, while 20-year build-out would cost an additional \$23.6 million. Planning, project development procurement, public outreach, and environmental review costs are not incorporated in these estimates.

Recommendations may be easily implemented with City repaving projects or may require further public outreach to determine the specifics of the project that best meet

the community’s needs. Some projects require technical and feasibility analysis and coordination with other governmental agencies.

The highest priority corridors for development include (in alphabetical order):

- ▶ 2nd/Main Bikeway
- ▶ 11th Street Bikeway
- ▶ 14th Street Bikeway
- ▶ 17th Street Bikeway
- ▶ Broadway Bikeway
- ▶ Colorado Esplanade
- ▶ Expo Bike Path
- ▶ Michigan Avenue/Michigan Wiggle Neighborhood Greenway
- ▶ Yale/Stewart/28th Bikeway



City crew installs bike symbols and arrows.

Figure 4-3 5-Year Implementation Plan Conceptual Construction Cost Estimates 

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)	Conceptual Construction Cost Estimate*
San Vicente Bikeway ▶ San Vicente	Ocean Avenue	26th Street	2.02	Buffered bike lanes	\$20,000
Montana Avenue Bikeway ▶ Montana	Ocean Avenue	21st Street	1.51	Buffered bike lanes	\$15,000
Montana Avenue Bikeway ▶ Montana	21st Street	Stanford Avenue	0.68	Buffered bike lanes, Shared lane markings, Raised median crossing	\$25,000
California Avenue Bikeway ▶ California Incline	Pedestrian Bridge	Ocean Avenue	0.2	Bike path (determined by design process)	N/A
California Avenue Bikeway ▶ California	17th Street	26th Street	0.68	Climbing bike lanes, Shared lane markings	\$5,000
Arizona Avenue Bikeway ▶ Arizona	26th Street	Centinela Avenue	0.52	Climbing bike lane, Shared lane markings	\$5,000
Broadway Bikeway ▶ Broadway ▶ Santa Monica Boulevard	Ocean Avenue	7th Street / 6th Street	0.83	Shared lane markings (Green "Super-sharrow"), Bus-bike lane	\$150,000
Broadway Bikeway ▶ Broadway	6th Street	Centinela Avenue	2.04	Buffered bike lanes (green)	\$400,000
Santa Monica Pier Improvements ▶ N/A - Off-Street	Ocean Avenue	SM Pier	N/A	Determined by design process, Short-term shared lane markings	N/A
Colorado Esplanade ▶ Colorado	Ocean Avenue	7th Street	0.45	Buffered bike lanes (green), Shared lane markings	N/A
2nd/Main Bikeway ▶ Main	Colorado Avenue	South City Limit	1.27	Buffered bike lanes (green)	\$300,000
Exposition Bike and Pedestrian Path	17th Street	Centinela Avenue	1.36	Bike path (determined by design process)	N/A
Virginia Avenue Shared Lane Markings ▶ Virginia	Stewart Street	Dorchester Tunnel	0.2	Shared lane markings	\$5,000

N/A incorporated in other City projects

* This is a preliminary estimate of construction costs based on 2011 unit prices and is only intended to provide a projection of future funding needs. Actual design may require additional improvements that may change the estimate. All estimates should be reviewed and updated periodically to reflect the most current cost information. Some corridors will require additional planning, design, environmental or technical analysis by City departments and other governmental agencies to determine the potential cost and feasibility. The costs of these analyses have not been included in the estimates shown herein.

Figure 4-3 5-Year Implementation Plan Conceptual Construction Cost Estimates 

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)	Conceptual Construction Cost Estimate*
Michigan Avenue Neighborhood Greenway ▶ Arcadia Terrace ▶ Appian Way ▶ Pacific Terrace ▶ Olympic Drive ▶ East Olympic Boulevard	Ocean Front Walk	7th Court	0.6	Neighborhood greenway, Bike path, Shared lane markings, New intersection, Bicycle signal	\$1,200,000
Michigan Avenue Neighborhood Greenway ▶ Michigan ▶ 7th Court	East Olympic	19th Court	0.98	Neighborhood greenway, Shared lane markings, Neighborhood traffic circles, Bicycle access enhancement	\$250,000
Michigan Avenue Neighborhood Greenway ▶ Michigan ▶ 20th Street ▶ I-10 right-of-way	19th Court	21st Street	0.17	Shared use path, Bicycle Signal	\$500,000
Michigan Avenue Neighborhood Greenway ▶ Michigan	21st Street	Bergamot Station	1.85	Contraflow bike lane, Buffered bike lanes, Bike lanes, Shared lane markings, Bike path	\$15,000
Michigan Wiggle Neighborhood Greenway ▶ 19th ▶ Delaware ▶ 22nd ▶ Virginia ▶ Kansas ▶ Yorkshire ▶ Urban ▶ Dorchester ▶ 30th	Michigan Avenue	Ocean Park Blvd	1.69	Neighborhood greenway, Shared lane markings, Neighborhood traffic circles, Median diverter with refuges	\$350,000
Pearl Street Bikeway ▶ Pearl ▶ Bay ▶ Bicknell ▶ Pacific ▶ Hollister	Barnard Way	Centinela Avenue	4.14	Buffered bike lanes, Bike lanes, Climbing bike lanes, Shared lane markings	\$20,000
Ocean Park Boulevard Bikeway ▶ Ocean Park	Main Street	Lincoln Boulevard	0.52	Buffered bike lanes (green)	N/A
Ocean Park Boulevard Bikeway ▶ Ocean Park	Cloverfield Boulevard	Centinela Avenue	0.83	Bike lanes, Shared lane markings	\$5,000

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Figure 4-3 5-Year Implementation Plan Conceptual Construction Cost Estimates 

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)	Conceptual Construction Cost Estimate*
Ashland Avenue Neighborhood Greenway ▶ Ashland ▶ 28th Street	Barnard Way	28th Street	1.91	Neighborhood greenway, Shared lane markings	\$60,000
Marine/Navy/Ozone/Dewey/Airport Bikeway ▶ Marine ▶ Navy ▶ Ozone ▶ Dewey ▶ Airport Way	Barnard Way	Bundy	4.85	Climbing bike lane, Shared lane markings, Full closure retrofit	\$30,000
Marvin Braude Bike Trail	North City Limit	South City Limit	3.07	Bike path, wheel troughs	\$75,000
Ocean/Barnard Way Bikeway ▶ Ocean	North City Limit	Pico Boulevard	1.89	Climbing bike lane, Double bike lanes, Buffered bike lanes (green)	\$325,000
Ocean/Barnard Way Bikeway ▶ East Ocean ▶ Barnard Way	Pico Boulevard	Neilson Way	1.11	Bike lanes, Climbing bike lane, Shared lane markings	\$5,000
2nd/Main Bikeway ▶ 2nd Street	Montana Avenue	South Colorado	1.02	Buffered bike lanes (green), Intersection redesign	\$250,000
3rd Street Bikeway ▶ 3rd Street	Main Street	South City Limit	0.88	Shared lane markings	\$5,000
4th Street and 5th Street Shared Lane Markings ▶ 4th Street ▶ 4th Court ▶ 5th Street	California Avenue	Olympic Boulevard	1.42	Shared lane markings	\$10,000
6th Street / 7th Street Bikeway ▶ 6th Street ▶ 7th Street	North City Limit	Olympic Boulevard	1.76	Buffered bike lanes, Climbing bike lane, Shared lane markings	\$20,000
6th Street / 7th Street Bikeway ▶ 6th Street ▶ 7th Street ▶ Pico ▶ Bay ▶ Raymond ▶ Highland	Michigan Avenue	South City Limit	1.17	Shared lane markings, Bicycle Signal, Bicycle access enhancement	\$100,000

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Figure 4-3 5-Year Implementation Plan Conceptual Construction Cost Estimates 

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)	Conceptual Construction Cost Estimate*
11th Street Bikeway ▶ 11th Street	San Vicente Boulevard	Wilshire Boulevard	1.14	Climbing bike lane, Shared lane markings	\$10,000
11th Street Bikeway ▶ 11th Street	Wilshire Boulevard	Marine Street	1.86	Buffered bike lanes (green), Climbing bike lane, Shared lane markings	\$375,000
14th Street Bikeway ▶ 14th Street	San Vicente Boulevard	Ashland Avenue	1.58	Climbing bike lane, Shared lane markings	\$10,000
14th Street Bikeway ▶ 14th Street	Wilshire Boulevard	Pico Boulevard	1.29	Buffered bike lanes (green)	\$300,000
17th Street / 16th Street Bikeway ▶ 17th Street	San Vicente Boulevard	Wilshire Boulevard	1.20	Climbing bike lane, Shared lane markings	\$10,000
17th Street / 16th Street Bikeway ▶ 17th Street ▶ Pico	Wilshire Boulevard	Pico Boulevard	1.25	Side path, Cycle track	\$1,000,000
17th Street / 16th Street Bikeway ▶ 17th Street ▶ 16th Street ▶ Hill	Pico Boulevard	Marine Street	1.66	Climbing bike lanes, Shared lane markings	\$10,000
20th Street Bikeway ▶ 20th Street	Montana Avenue	Ocean Park Blvd	2.12	Shared lane markings	\$10,000
22nd Street and 21st Street Shared Lane Markings ▶ 21st Street ▶ 22nd Street	Virginia Avenue	Dewey Street	1.02	Climbing bike lane, Shared lane markings	\$5,000
23rd Street Bikeway ▶ 23rd Street	Ocean Park Boulevard	Dewey Street	0.19	Buffered bike lane, Climbing bike lane, Shared lane markings	\$3,000
24th Street Shared Lane Markings ▶ 24th Street ▶ La Mesa Way/Drive ▶ Chelsea ▶ Park	26th Street	Broadway	1.91	Shared Lane Markings	\$10,000

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Figure 4-3 5-Year Implementation Plan Conceptual Construction Cost Estimates 

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)	Conceptual Construction Cost Estimate*
26th Street Shared Lane Markings 26th Street	North City Limit	Exposition Bike Path	1.88	Shared Lane Markings	\$10,000
Yale/Stewart/28th Bikeway ▶ Yale	Montana Avenue	Colorado Avenue	1.03	Climbing bike lane, Shared lane marking, Neighborhood traffic circle	\$85,000
Yale/Stewart/28th Bikeway ▶ Stewart ▶ Colorado	Colorado Avenue	Kansas Avenue	0.34	Cycle Track, Buffered bike lanes, Median Bicycle Only Turn Pocket	\$100,000
Yale/Stewart/28th Bikeway ▶ Stewart ▶ 28th Street	Kansas Avenue	Santa Monica Airport	0.75	Buffered bike lane, Climbing bike lanes, Shared lane markings, Half closure	\$125,000
Dorchester Tunnel Improvements ▶ N/A - Off-Street	Virginia Avenue	Urban Avenue	N/A	Tunnel enhancements	\$25,000
TOTAL 5-Year Conceptual Construction Cost Estimate					\$6,233,000



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The 20-Year Vision Plan includes all projects outside of the 5-year Implementation Plan. The 20-year Vision Plan is flexible in that the City can implement 20-year projects if funding is available.

Figure 4-4 20-Year Bikeway Vision Plan Conceptual Construction Cost Estimates

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)	Conceptual Construction Cost Estimate*
San Vicente Bikeway ▶ San Vicente	Ocean Avenue	26th Street	2.02	Bike path, Buffered bike lanes	\$6,000,000
Washington Avenue Neighborhood Greenway ▶ Washington ▶ Stanford ▶ Lipton ▶ Berkeley	Ocean Avenue	Arizona Avenue	2.65	Neighborhood greenway, Shared lane markings, Neighborhood traffic circles, Bicycle access enhancement	\$500,000
California Avenue Bikeway ▶ California	Ocean Avenue	17th Street	1.20	Buffered bike lanes	\$10,000
Arizona Avenue Bikeway ▶ Arizona	Ocean Avenue	26th Street	2.41	Buffered bike lanes, Neighborhood traffic circles	\$250,000
Nebraska Avenue Bikeway ▶ Nebraska	26th Street	Centinela Avenue	0.68	Buffered bike lanes, Shared lane markings	\$5,000
Michigan Avenue Neighborhood Greenway ▶ N/A – Off-street	Marvin Braude Bike Trail	Appian Way	0.08	Bike Path	\$150,000
Michigan Avenue Neighborhood Greenway ▶ N/A – Off-street	Bergamot Station parking lot	Stewart Street	0.16	Shared use path	\$250,000
Pearl Street Bikeway ▶ Pearl	Barnard Way	Centinela Avenue	0.67	Buffered bike lanes, Neighborhood traffic circles, Intersection refuge	\$350,000
Ocean Park Boulevard Bikeway ▶ Ocean Park	Barnard Way	Main Street	0.13	Buffered bike lanes	\$3,000
Ocean Park Boulevard Bikeway ▶ Ocean Park	Lincoln Boulevard	Cloverfield Boulevard	1.22	Buffered bike lanes, Bike lanes	\$30,000
Ocean Park Boulevard Bikeway ▶ Ocean Park	Cloverfield Boulevard	Centinela Avenue	0.67	Buffered bike lanes, Raised median extension	\$100,000
Ashland Avenue Neighborhood Greenway ▶ N/A – Off-street at Clover Park	Barnard Way	Douglas Loop	0.03	Shared use path, Shared lane markings	\$65,000

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Figure 4-4 20-Year Bikeway Vision Plan Conceptual Construction Cost Estimates

Bikeway Name (Streets)	From	To	Length (mi)	Facility Type(s)	Conceptual Construction Cost Estimate*
Marine/Navy/Ozone/Dewey/Airport Bikeway ▶ Dewey Street alley	Lincoln Boulevard	Dewey Street closure	0.48	Shared use path, Shared lane markings	\$750,000
Virginia Avenue Shared Lane Markings ▶ Virginia	Stewart Street	Dorchester Tunnel	0.19	Shared lane markings	\$2,000
Marvin Braude Bike Trail	North City Limit	South City Limit	3.06	Bike path, Stair troughs (partnering with LA County/City of LA)	\$4,800,000
3rd Street Bikeway ▶ 3rd Street	Pico Boulevard	South City Limit	0.13	Bike path	\$200,000
6th Street / 7th Street Bikeway ▶ 6th Street	Michigan Avenue	South City Limit	0.06	Bike/pedestrian bridge, Neighborhood greenway, Bike path/Cycle track	\$8,000,000
17th Street Bikeway ▶ Pearl ▶ 16th Street ▶ Pico	Pico Boulevard	Pearl Street	0.43	Side path/Bike path	\$750,000
20th Street Bikeway ▶ 20th Street	Wilshire Avenue	Pico Boulevard	1.12	Buffered bike lanes	\$275,000
24th Street Neighborhood Greenway ▶ La Mesa Drive ▶ La Mesa Way ▶ 24th Street ▶ Chelsea ▶ Park	26th Street	Broadway	N/A	Neighborhood greenway, Curb ramps, Intersection enhancements, Crossing treatments	\$150,000
26th Street Bikeway ▶ 26th Street	North City Limit	Exposition Bike Path	1.88	Buffered bike lanes (green)	\$700,000
Airport Loop (Bikeway)	Recreational loop roughly circumnavigating Santa Monica Airport site, Airport Park, and Clover Park		3.00	Shared use path	\$5,000,000
				TOTAL 20-Year Vision Conceptual Construction Cost Estimate	\$28,340,000

* This is a preliminary estimate of construction costs based on 2011 unit prices and is only intended to provide a projection of future funding needs. Actual design may require additional or different improvements that may change the estimate. All estimates should be reviewed and updated periodically to reflect the most current cost information. Some corridors will require additional technical and feasibility analysis by City departments and other governmental agencies to determine the potential impact to transportation and public safety response. The costs of these analyses have not been included in the estimates shown herein.

The City has aggressively pursued funding for programs and bikeways.

Figure 4-5 Existing Grant Funding for Bicycle Facilities and Programs

Project Type	Description	Status	Outside Grant Funding
Bikeway Improvements	Bike network enhancements to support Exposition line. Increased safety and convenience with signal detection, highly visible lane markings and new bike racks.	Funding Secured Available 2013	\$2,057,489
Bikeway Improvements	Design, installation and evaluation of several bicycle technologies in Santa Monica and development of toolkit by use of Westside Cities.	Funding Secured	\$279,000
Bikeway Improvements	Michigan Avenue Neighborhood Greenway (planning)	Funding Secured	\$138,600
		FACILITY TOTAL	\$2,475,089
Program – Bike Sharing	System of shared public bicycles supporting major destinations such as transit stops, commercial districts, large employers, and educational institutions.	Funding Secured Available 2016	\$1,542,925
Program – Encouragement	No Net New Trips’ Rideshare Toolkit	Funding Secured	\$541,206*
Program – Education	Confident City Cycling Training	Funding Secured	\$33,000
Program – Education	Safe Routes to School – Bicycle infrastructure improvements at and around Santa Monica High School such as improved intersection configurations, crosswalks, and pavements markings. Also includes student educational component, signage and bicycle storage.	Funding Secured	\$880,000
Program – Education	Safe Routes to School – Consultant services to coordinate education, outreach, evaluation and documentation of pedestrian and bicycle programs at the two middle schools and two elementary schools.	Funding Secured	\$197,000
Program – Education	Save Routes to School – School-based bicycle training program (Curriculum developments, educational activities, hands-on training, outreach, evaluation and documentation) for middle school students.	Funding Secured	\$85,000
Program – Supporting Facilities	Bike Parking is provided for schools, employers and at transit stations as a component of several grants listed above.	Funding Secured	
Program – Supporting Facilities	Santa Monica Bike Center – Create green transportation hub in downtown with 350 secure bike parking spaces, lockers, showers, and supporting services and programs.	Funding Secured	**
		PROGAMS TOTAL	\$2,737,925
		TOTAL GRANT FUNDING	\$5,213,014

* Not exclusively bike funding.

** Included in current expenditures

MEASURING AND MONITORING

Evaluating progress and performance creates transparency and accountability over time and can provide the impetus for new approaches or refined strategies to continue build out of the Plan's vision. Since 2005, the City of Santa Monica has published a *Sustainable City Report Card*, summarizing the City's progress toward meeting the 2003 Sustainable City Plan goals. The Report Card is based upon a detailed analysis of indicator data found in the Sustainable City Progress Report. Building upon this precedent, the Bike Action Plan calls for monitoring and evaluation of the implementation of the Land Use and Circulation Element (LUCE) bicycle goals, as well as its own objectives. The evaluation will be designed to:

- ▶ Use measures that relate clearly to the Bike Action Plan and LUCE goals.
- ▶ Minimize data collection costs, focusing on data that is already being collected or that can be regularly collected with minimal effort.
- ▶ Continue monitoring simple and understandable data, and use the fewest possible measures that still capture all of the city's aspirations.

The Bike Action Plan's performance measures have been categorized into the following areas: Mode Share, Safety, Infrastructure and

Services, and Connectivity. The indicators for the Bike Action Plan relate to the Plan's core components and quantify elements of progress of bicycling in the Santa Monica community. While trends and targets are identified, they are not intended to generate additional goals but are to create a means by which the City can measure the performance of the Plan. In addition to monitoring based on these indicators, the City will track progression and participation in 5-Year Plan programs and facilities and seek grant funding, if available, for supplemental monitoring measures. The City will report annually on the progress of plan implementation and the status of performance measures for Mode Share, Safety, Infrastructure and Services, and Connectivity listed in Figure 4-6. The annual report will be available to inform decisions on investments and resource allocation.



SUSTAINABLE CITY REPORT CARD

SEPTEMBER 21, 2010

The Sustainable City Plan was created to enhance our resources, prevent harm to the natural environment and human health, and benefit the social and economic well-being of the community for the sake of current and future generations.

Figure 4-6 Santa Monica Bicycle Action Plan Performance Indicators 

Indicator	Trend	Data Source	Frequency	Baseline	Costs/Time Consumption to Monitor*
Mode Share 					
Journey to Work – Bicycle Usage	Increase over time (to 15%)	US Census American Community Survey 3- and 5-year estimates	Annual	3.4% (2009 Estimate)	Low
Bicycle Ownership	Increase over time	Resident survey	2 years	62% own a bicycle (2011)	Low
Frequency of Bicycle Riding	Increase over time	Resident survey	2 years	5% daily riders; 16% a few times a week (2011)	Low
Bike Mode Share	Increase over time	Employer Emission Reduction survey	Annual	66% drove alone; 3.3% bicycle (FY09-10)	Low
Walk/Bike Trips by Children	Increase over time	Bikelt! Day participation; student surveys	Bi-Annual (Bike It! Day); every 2-3 years (surveys)	Bikelt! Day: 270 participants (Santa Monica High School and Lincoln MS, Oct .2010) No baseline for surveys	Low; High
Safety					
Perception of Safety when Riding	Increase over time (to 50% in FY2012-13)**	Resident survey	2 years	19% very safe; 24% somewhat safe; 39% neutral (2011)	Low
Bicyclist Crash Rate	Decrease over time	City of Santa Monica, Police Department	Annual	Baseline for crash, injury, or, fatality rates: 134 total crashes (2010), 126 total injuries (2010), 0 total fatalities(2010)	Low
Infrastructure and Services					
Bicycle Network Completeness "Connectivity"	Increase over time (5 new miles per year in FY2011-12 and FY2012-13)**	Bikeway Recommendations map	Annual	37 miles of bikeways	Low
Bicycle Deficiencies	Decrease over time	Walking and Bicycling Demand GIS model	2 years	Travel Demand Model -map in Chapter 3 (2010)	Med
Bicycle Parking	Increase over time (150 new spaces in both FY2011-12 and FY2012-13 plus 4 new bike corrals in FY2011-12)**	Work orders and purchase records	Annual	920 spaces (December 2010)	Med
Bicycle Valet	Increase over time	Transportation staff	Annual	25,100 bikes valeted and 157 bike valet events (FY10-11)	Low

* Low – already being done, Medium – can be implemented easily; High – will be costly and/or time consuming

** City of Santa Monica, Planning and Community Development Budget Goal

LOOKING AHEAD

Keep It Current

The Bike Action Plan is a 5-Year Bicycle Implementation Plan, meeting all of the requirements of the State of California's Bicycle Transportation Account. It is also a forward-looking strategy that implements the bold vision of the City's Land Use and Circulation Element, including its commitment to sustainability, land-use and transportation integration, livability, and a complete-street transportation system that embraces and encourages bicycling as an important component of mobility. The 5-year plan provides priorities emphasizing Awareness, Education, Encouragement, investments in parking, wayfinding, bike stations, bike sharing and transit integration. The bikeway network provides a backbone of high quality bikeways that is woven with strong connections and expanded coverage into Santa Monica's street network, transit network, and community life.

To keep the Bike Action Plan current, the City will review progress using specific measures identified in the plan, and revisit the recommendations in this chapter, based on progress, opportunities, future needs, and resources. To keep it strong, the Bike Action Plan expresses the City's policy commitment to bicycling, partnerships and collaboration, bold action, and requests for grant funding.

The 5-year update cycle for the Bike Action Plan provides the City with opportunities to improve based on lessons learned, incorporate new innovative approaches, reinforce the most effective programs and eliminate those that are no longer useful. Successful bicycling facilities can be extended or supplemented with connecting facilities, while corridors that are unpleasant for bicyclists can be given more attention.

Make It Happen

The Bike Action Plan is a strategy document, setting out priorities for investment in programs and bikeways and recommending specific actions in these areas. Strong support by the City, its collaborators and partners will result in visible progress over the next five years including:

Education, Awareness, and Encouragement: Safe Bicycling on Complete Streets

Bicycles will be visible all over Santa Monica on streets which provide more room for them and more cues about where bicycles belong and how bicyclists, vehicles, and pedestrians can use and share Santa Monica streets safely. More people will be familiar with and follow rules of the road that guide safe and respectful interaction on streets, sidewalks, and bikeways. More people, including students, employees,



City crews install bicycle lane symbols and directional arrows.

visitors, and seniors will feel safe and confident riding in Santa Monica. Bicycle classes will be available and the City of Santa Monica will have a Bike Campus, showcasing new roadway design elements as well as providing a skill development course. The bicycling community and the public will have access to resources and programs at the City's Bike Center, which will serve as a "hub" for the bicycling community and the City's green transportation network.

Bike Sharing

A strong public bike share system will be rolling out or already on the street. The City has secured grant funding for capital investment in the system and will be actively exploring with community partners ways to provide a revenue stream for operations and to accelerate implementation as feasible. With 25 stations or hubs operating in partnership with surrounding

businesses and destinations, the bike share system will extend mobility for people without cars and ensure that bikes and regional transit provide an attractive alternative to driving for most people. The City will pursue opportunities to advance and expand the bike share program within Santa Monica and also to encourage the development of complementary compatible programs in the region.

Public Bike Parking: Racks, Corrals, and Secure Facilities

The number of dedicated public bike parking spaces and bike corrals will increase by 2,500 spaces. This parking will be enhanced with safety and locking information, good design standards, and in some places, amenities including air pumps or repair stands. The parking locations will be available to bicyclists on a web-based map and bicyclists, merchants, and residents will be able to request more racks in locations where they are needed. The City will begin to deploy secure long-term parking facilities, including 400 spaces in the downtown area for regular bicycle commuters. The City will explore policy changes necessary to allow needed bike parking to replace some vehicle parking and serve more people.

Wayfinding

With community partners, including Downtown Santa Monica Inc. and leaders of other popular

destinations, the City will develop and begin to deploy a wayfinding system that will allow cyclists to find appropriate bikeways to popular destinations, bike parking, supporting retail and services, as well as connections to the bikeway network of surrounding Los Angeles and the westside cities.

Transit Support and Integration

With its emphasis on connecting the City to new Expo stations and to existing and planned transit stops, the Bike Action Plan promotes the key partnership between bikes and transit. Transit stations will have nearby secure bike parking and bikesharing stations, supported by wayfinding and improved, high-quality bikeways. The regionally significant Expo bikepath is being developed in tandem with the Expo light rail and ongoing efforts are underway to make it easier for bicycles to share transit priority streets including “bus-only” lanes, and opportunities to bring bikes on transit vehicles. There will be a continuing effort to create and share coordinated outreach and support materials and services including mobility information on the City’s Bike/Bus map and website.

Bikeways

The City’s bicycle network will be expanded and enhanced by key projects including improvements on 75 percent of the LUCE bike



network including green bike lanes, cycletracks, buffered bike lanes, climbing bike lanes, sharrows, neighborhood greenways, and bike paths/trails. The improved bikeway network will include both high-quality demonstration projects and some projects that can be easily installed without restriping or major changes to the streetscape. Priority projects include:

- ▶ New high-quality improvements
 - ▶ 17th Street: Link to Memorial Park Expo line Station and Santa Monica College
 - ▶ Michigan Avenue/20th Street crossing: Link between beach, Civic Center, High School, Expo stations
- ▶ Buffered Green Bike Lane cross
 - ▶ Main Street/Second Street: Improve visibility and comfort on popular north/south bikeway
 - ▶ Broadway: Improve visibility and comfort on popular east/west bikeway

- ▶ North/South Improvements on
 - ▶ 6th Street: Emerging neighborhood greenway south of Pico
 - ▶ 7th Street: Better crosstown connection from Olympic to north City limit
 - ▶ 11th Street: Better crosstown connection with additional lanes
 - ▶ 14th Street: Better crosstown connection with new lanes
- ▶ Better Beach Connections on California Incline and Pier Bridge/Ramp
- ▶ Enhanced School Access
- ▶ Potential bicycle connections (requiring collaboration) through and around:
 - ▶ Santa Monica High School
 - ▶ Santa Monica College
 - ▶ Major office complexes
 - ▶ Marine Park/Penmar Park
 - ▶ Clover Park
 - ▶ Bikeway Development

Zoning Ordinance Standards and Development Agreement Guidelines

The development process can be a useful tool for integrating bicycle accommodations in large developments. Development agreements are contracts between the City and a developer whereby the developer is allowed vested rights typically coupled with offers of public benefits that are negotiated with the City, including measures to mitigate specified impacts from

the development. In exercising development agreements, the City should:

- ▶ Consider requiring all new development agreements to incorporate high quality facilities in accordance with this Bike Action Plan;
- ▶ Require or incentivize the inclusion of high-quality short- and long-term bicycle parking facilities in all development agreements;
- ▶ Require or incentivize showering and changing facilities for bicycle commuters for commercial components of developments; and
- ▶ Require bicycle accommodations on new proposed roadways.

Transportation Demand Management and Transportation Management Associations

The establishment of Transportation Demand Management (TDM) programs and Transportation Management Associations (TMAs) are key to ongoing implementation and enforcement of bicycle supporting programs. The City should continually work with employers to incorporate bicycle elements into their TDM package. TMAs will play a vital role in educating employers and employees of their transportation options and obligations, and in working with property owners and developers to integrate support facilities from the start to ensure their success.

Pavement Resurfacing & Bicycle Network Maintenance Guidelines

Each year Santa Monica repaves miles and miles of roads, making pavement resurfacing a seamless way to implement Bike Action Plan elements and build out the on-street bicycle network in Santa Monica. To supplement stand-alone bicycle infrastructure projects that may take longer to come to fruition, cycling facilities will be incorporated into pavement resurfacing and road maintenance projects that the City undertakes. By tapping into economies of scale, this approach offers the easiest and most cost-effective way to build up Santa Monica's bikeway network.

Moving forward, to integrate the Bike Action Plan into pavement resurfacing decisions, the City will incorporate the following procedures when setting its work plan for repaving and resurfacing projects:

- ▶ In initiating the work plan or any changes thereto, the Bike Action Plan will be consulted as a primary source of information for decision-making.
- ▶ Streets that are designated in this plan to include pavement markings such as shared lane markings or the various types of bicycle lanes will be given priority in the work plan.
- ▶ Where feasible, on-street bicycle facilities will be included in ongoing pavement resurfacing and reconstruction projects.

While resurfacing will vastly improve bicycling conditions, equally important will be the City's attention to sweeping and maintenance activities to help the bikeway network function effectively and ensure bicycles operate safely. Debris and clutter along the bikeways are hazardous to bicyclists and may lead to compromising conditions as cyclists weave around obstructions. To ensure a robust maintenance program, the City should:

- ▶ Identify the entities responsible for maintaining bicycle facilities;
- ▶ Determine a city-wide maintenance and sweeping schedule that specifically considers bikeway cleanliness;
- ▶ Focus maintenance and sweeping resources on the city's most heavily traveled bicycle corridors;
- ▶ Regularly inspect bicycle facilities for irregularities, pavement drift, and cracks in asphalt and concrete; and
- ▶ Better market the City's GO Santa Monica reporting mechanism for the public to report bikeway maintenance concerns and for the City to address reported maintenance needs.

Grants

With adoption of the Bike Action Plan, the City will be more competitive when applying for grant funds from numerous sources. The clarity of programs, bikeways and supporting facilities, along with the Plan's community-based vision to increase cycling numbers will stand out

among grant applicants. Key funding agencies include Metro, the State of California, including Caltrans, and many others (see Appendix E). The City should continually seek outside grant funds to leverage local funding.

Capacity Building

Partnerships among City departments as well as with and among community members are critical components of plan implementation. The Plan seeks to build on the energy and enthusiasm of all bicycle advocates to expand programming and to facilitate and support bikeway network completion. An ongoing dialogue will be fostered to share information and drive implementation.

As the City's bicycle network evolves and as new land uses develop based on the LUCE, demand for bicycling and, in turn, bicycle facilities is expected to increase. These changing conditions will be factored into each 5-year update and may result in re-distribution of infrastructure improvement priorities across the City to address underserved areas. The Bike Action Plan will remain a living document, and the City's investments will make bicycling appealing in Santa Monica; the momentum will keep on building.

Program and Project Development

The City will engage community partners and the public as it develops programs and

projects to implement this Plan. City staff will outline a rolling bicycle workplan based on the Bike Action Plan and available resources. This will allow public involvement in shaping and monitoring the work effort as well as progress toward Bike Action Plan goals and objectives.

Leadership for a More Bike-Friendly World

The Bike Action Plan reflects a desire for Santa Monica to upgrade its Bicycle Friendly City bronze designation and begin to lead in the area of bicycling. It includes innovative bikeway treatments and complementary program improvements to get more people on bikes. With the adoption and implementation of this Plan, coupled with ongoing implementation of the LUCE and the forthcoming arrival of Expo Light Rail, the City will further its efforts to provide a model of how to create a livable community based on bikes, walking, and transit.



A. EXISTING BIKEWAY NETWORK DESCRIPTIONS

Santa Monica's existing bikeway network provides a general backbone for expanding the network as guided by the 2011 Santa Monica Bike Action Plan. Using the LUCE classification terminology, the City currently contains a total of 37 aggregate miles of Primary Bikeways (Lanes/Paths) and 38 miles of Bicycle Routes.

Figure A-1 depicts the bikeway network today. Also shown are existing bicycle shops, rental facilities, and repair facilities, along with key destinations throughout the city.

Figure A-1 Existing Bicycle Network



Existing Bikeways Running North and South

MARVIN BRAUDE BIKE TRAIL

Current Conditions

- ▶ Classification: Bike Path
- ▶ From: Santa Monica's northern border
- ▶ To: Santa Monica's southern border

The Marvin K. Braude Bike Trail, known locally as the beach bike path, is popular among recreational bicyclists as well as utilitarian cyclists making regional trips. The portion of this route that runs through Santa Monica is fully separated from auto traffic and allows users to view the ocean, the Pier, the city and the Santa Monica Mountains as they ride. To the north, the path connects into Pacific Palisades. To the south, the path makes connections to Venice and Marina del Rey.

The beach path is also part of the greater "Pacific Coast Bicycle Route" running from the Canadian border to the Mexican border along the Pacific Coast developed as part of the Bicentennial celebration in 1976.

The existing beach path is well-used, but often experiences conflicts between cyclists and pedestrians. Many pedestrians, joggers, roller skaters, and other non-bicycle users travel along the entire length of the path, including in sections where dedicated pedestrian walkways

are provided and signage indicates the path is reserved for bicycles only. The path was constructed by the County of Los Angeles on the Santa Monica State Beach. The County of Los Angeles assumes primary responsibility for maintenance.

The topography of the surrounding area presents challenges for connecting the beach path to other primary bikeways, as most of the western edge of the city is situated on a high blufftop that overlooks the beach, particularly in the Downtown area. The high traffic volumes and speeds along Pacific Coast Highway to the north of the pier complicate this problem. Also challenging are the crossing under the Pier and pedestrian flow to the main Pier parking lot.

One option for reaching the Downtown area from the beach path is to cross through a parking lot, carry one's bike up a stairway and walk across a bridge at the pier, Broadway, Arizona, Idaho or Montana. Another option is to cross PCH and climb a difficult grade on the California Incline, which sees heavy automobile use. Yet another option is to ride south of the pier, climb a slightly easier grade at either Seaside Terrace or Bay Street, and double back toward downtown along Main or Ocean. All of these routes require improvements in order to make the beach path more accessible from the rest of the city.

OCEAN AVENUE + BARNARD WAY BIKEWAY

Current Conditions: Ocean Avenue Segment

- ▶ Classification: Bike Lane
- ▶ From: San Vicente Boulevard
- ▶ To: Pico Boulevard NB/Bicknell SB

Current Conditions: Barnard Way Segment

- ▶ Classification: Bike Route
- ▶ From: Bicknell Avenue
- ▶ To: Ashland Avenue

This bikeway comprises Ocean Avenue and Barnard Way and connects with the bikeway on San Vicente Boulevard that serves northern Santa Monica and Brentwood. The Ocean Avenue segment also provides connections to Downtown Santa Monica and the beach.

Ocean Avenue carries many buses, taxicabs, delivery vehicles, and private cars, and provides valet and driveway access to popular restaurants and hotels along its length in the Downtown and Civic Center area. Local cyclists complain about the frequency of automobiles and buses turning onto other streets, frequent vehicle valets and placement of the bike lane adjacent to parking lane as it places riders in the way of opening car doors.

Finally, the southern end of the southbound Ocean Avenue bike lane ends at Neilson Way (which has no bike facilities) and Barnard Way splits off southwesterly all while crossing busy Pico Boulevard. Making this transition even more challenging, the southbound bike lane ends abruptly a full block before Pico at Vicente Terrace, leaving bike and auto traffic to mix awkwardly just before a busy and complex intersection. The lane picks up again for two blocks only in the southbound direction.

The intersection of Ocean Avenue and Seaside Terrace is an important connection to Downtown and the Civic Center from the beach bike path. This connection is currently unsignalized and is complicated by nearby on- and off-ramps for Pacific Coast Highway access.

MAIN STREET BIKEWAY

Current Conditions

- ▶ Classification: Bike Lane
- ▶ From: Colorado Avenue
- ▶ To: Santa Monica's southern border

This bikeway follows Main Street from its start at Colorado, through the Civic Center, and along the Main Street retail corridor to the city's southern border. Main Street includes one travel lane and one bike lane in each direction with left turn lanes at the intersections.

The Main Street bikeway connects to Ocean Avenue via a bicycle route on Colorado Avenue. This segment of Colorado also serves vehicle traffic into and away from the Santa Monica Pier and Downtown parking garages from the Interstate 10 on/off-ramps at 4th Street. The current striping on northbound Main at Colorado is configured to facilitate left turns onto Colorado, with the bike lane continuing all the way to the limit line and splitting the left and right turning lanes.

As with the Ocean Avenue bike lanes, cyclists note that the Main Street bike lanes can conflict with frequent opening car doors and entering and exiting passengers.

4TH STREET BIKEWAY

Current Conditions

- ▶ Classification: Bike Route
- ▶ From: Pico Blvd
- ▶ To: Ocean Park Blvd

This bikeway runs along 4th Street from Ocean Park Boulevard to Pico Boulevard and through the Civic Center Specific Plan area as a bicycle route. The route provides access to the Civic Center, Santa Monica High School, and Hotchkiss Park. The existing roadway presents several traffic-calming measures including bulbouts, a raised median, and a roundabout at Strand Street.

The bike route ends at Pico and 4th Street just before it crosses through the Civic Center and Downtown, making connections to surrounding destinations challenging.

6TH/7TH STREET BIKEWAY

Current conditions: Northern Segment

- ▶ Classification: Bike Route
- ▶ From: Northern city limit
- ▶ To: Wilshire Boulevard

Current Conditions: Central Segment

- ▶ Classification: Bike Lane
- ▶ From: Wilshire Boulevard
- ▶ To: Olympic Boulevard

Current Conditions: South 7th + Michigan + 6th Street Segment

- ▶ Classification: Bike Route
- ▶ From: Lincoln Boulevard/Michigan Avenue
- ▶ To: 6th Street/Hollister Avenue

This bikeway travels primarily along 7th Street and provides a link from central Santa Monica to the northern and southern beaches, Saint Monica's High School, Reed Park, the Main Library, Santa Monica High School, and Los Amigos Park. Northern beaches may be accessed by continuing north on 7th across the city line into Los Angeles, where it becomes

Entrada Drive and descends to Pacific Coast Highway.

The bikeway consists of three distinct segments. The northern segment runs as a signed bicycle route from the northern city limit just north of San Vicente Boulevard to Wilshire Boulevard. From Wilshire, the central segment runs to Olympic Boulevard as a striped bike lane. The southern segment is physically separated from the northern and central segments by Interstate 10 and Santa Monica High School. It follows a “wiggle” route from the intersection of Michigan Avenue and Lincoln Boulevard to the intersection of 6th Street and Hollister Avenue, via Michigan, 7th Street, Pico Boulevard, Bay Street, and 6th Street.

The bike lane on the central segment generally is striped only in the middle portion of each block, with auto and bike traffic placed in mixed flow shortly before and after intersections in order to accommodate left turn pockets in the center of the roadway. The remaining travel lane is an optional through traffic/right turn lane, and contains no bike lane markings, per recommended practices contained in the California Manual of Uniform Traffic Control Devices (MUTCD). The southern segment is also broken up by Pico Boulevard that contains a median between 7th and 6th

Street. There is no direct connection, requiring one to walk their bike along Pico and use the signalized crossing at 6th and Pico.

LINCOLN BOULEVARD BIKEWAY

Current Conditions

- ▶ Classification: Bike Route
- ▶ From: Arizona Avenue
- ▶ To: Southern city limit

This bikeway travels along the busy Lincoln commercial corridor, sharing space with heavy automobile traffic from Arizona Avenue to the southern city limit. Previously, Lincoln Boulevard was maintained as Caltrans right-of-way as part of California State Route 1. This right-of-way is in the process of being relinquished to the City.

11TH STREET BIKEWAY

Current Conditions: North 11th Street Segment

- ▶ Classification: Bike Route
- ▶ From: San Vicente Boulevard
- ▶ To: Wilshire Boulevard

Current Conditions: Central 11th Street Segment

- ▶ Classification: Bike Lane
- ▶ From: Wilshire Boulevard
- ▶ To: Pico Boulevard

Current Conditions: South 11th Street Segment

- ▶ Classification: Bike Route
- ▶ From: Pico Boulevard
- ▶ To: Ashland Avenue

This bikeway is the longest north-south bicycle corridor that crosses the Santa Monica Freeway without crossing entrance and exit ramps. It extends from San Vicente Boulevard to Ashland Avenue consisting of three distinct segments. The northern segment extends as a bike route from San Vicente Boulevard to Wilshire Boulevard, crossing the popular Montana Avenue commercial corridor. The central segment includes a bike lane from Wilshire to Pico Boulevard, passing commercial destinations on intersecting streets, as well as the Santa Monica College Performing Arts Center at Arizona Avenue. The southern segment reverts to a bike route, running from Pico to Ashland.

The existing bike lane segment on 11th Street contains bike lane gaps prior to intersection approaches at Arizona Avenue, Santa Monica Boulevard, Broadway, Olympic Boulevard, Michigan Avenue and Pico Boulevard. The bike lane is replaced with mixed-flow lanes just before and after the intersection to create room for left and/or right turn pockets. These treatments are technically consistent with the

California Manual of Uniform Traffic Control Devices, but improvements would add to cyclist comfort.

Additionally, there is limited signage or markings indicating the presence of a bike lane to motorists along the central segment.

17TH STREET BIKEWAY

Current Conditions: Northern Segment

- ▶ Classification: Bike Route
- ▶ From: San Vicente Boulevard
- ▶ To: Arizona Boulevard

Current Conditions: Central Segment

- ▶ Classification: Bike Lane
- ▶ From: Wilshire Boulevard
- ▶ To: Michigan Avenue

Current Conditions: Southern Segment

- ▶ Classification: Bike Route
- ▶ From: Pearl Street
- ▶ To: Marine Park

The 17th Street bikeway connects residential areas at the city's northern edge with commercial corridors and the main campus of Santa Monica College (SMC) to the south. It is composed of three distinct segments. The northern segment runs from San Vicente Boulevard to Arizona Avenue as a bike route, passing the Montana Branch Library and

crossing Wilshire Boulevard. The central segment is striped with bike lanes from Wilshire to Michigan Avenue, stopping a few blocks to the north of SMC. The southern segment resumes as a bike route at Pearl and continues to the city's southern border, descending a steep grade toward Marine Park.

There is approximately a half-mile gap in the bikeway near the SMC campus. Seventeenth Street is interrupted by the campus itself, which occupies a large block between Pico Boulevard, 20th Street, Pearl Street and 16th Street. Due to the high number of students, faculty and staff commuting to and from SMC, there is demand for an improved bicycle connection through or around the campus between the central and southern segments of 17th Street.

YALE STREET/STEWART STREET/ 28TH STREET BIKEWAY

Current Conditions

- ▶ Classification: Bike Route
- ▶ From: Montana Avenue
- ▶ To: Clover Park

This bikeway connects locations on the east end of Santa Monica, serving office and retail uses along Ocean Park Boulevard, the large office district around Santa Monica Airport, the future Bergamot Station transit-oriented

district along the Expo Line, and residential neighborhoods to the north. The bikeway starts on Yale Street, takes a slight jog onto Colorado Avenue, then continues on Stewart Street until it follows 28th Street. It terminates at the parking area at the south end of Twenty-Eighth Street, adjacent to Clover Park and the Santa Monica Airport property. The bikeway also provides access to Lighthouse Church and High School, Santa Monica College's Arts Campus, the Stewart Street municipal facilities, and Stewart Street Park.

The brief jog onto Colorado to get between Yale and Stewart involves one left turn off of Colorado, which could deter less experienced or less confident cyclists. It is preferable to provide guidance for making these turns via pavement markings or some other method. South of Ocean Park, there are angled parking spaces on either side of the roadway.

Existing Bikeways Running West and East

SAN VICENTE BOULEVARD BIKEWAY

Current Conditions

- ▶ Classification: Bike Lane
- ▶ From: Ocean Avenue
- ▶ To: 26th Street/eastern city limit

San Vicente Boulevard serves recreational cyclists, as well as commuters to downtown Santa Monica, Brentwood, Westwood, and UCLA through the city's northern neighborhoods. This bike lane runs along a two-lane roadway separated by a broad parkway with a landscaped median and few traffic signals, making it ideal for fast riding.

The existing bike lane is in overall good condition. The current connection to the Ocean Avenue bikeway could be improved for cyclists traveling westbound on San Vicente. Through the public outreach process cyclists indicated a desire to widen the current bike lanes.

MONTANA AVENUE BIKEWAY

Current Conditions

- ▶ Classification: Bike Lane
- ▶ From: 7th Street
- ▶ To: 20th Street

The Montana Avenue bikeway provides connections to sites such as Roosevelt Elementary, the Montana Branch Library, and various destinations along the Montana commercial corridor.

From 7th Street to 20th Street, Montana has one auto through lane and one bike lane in each direction, along with a center turn lane. As with other popular commercial areas, Montana Avenue exhibits frequent turnover of on-street parking spaces requiring cars to pull toward and away from the curb across the bike lane. The lane stops several blocks short of the Ocean Avenue bike lanes on its western end, with bikes running in mixed-flow traffic from 7th to Ocean.

WASHINGTON AVENUE BIKEWAY

Current Conditions

- ▶ Classification: Bike Route
- ▶ From: Ocean Avenue
- ▶ To: Stanford Avenue

The Washington Avenue Bikeway was established to provide service along an east-west residential corridor north of Wilshire Boulevard and south of Montana Avenue. Washington Avenue provides access to Palisades Park on its western end and connects with the Yale Street/Stewart Street/28th Street

Bikeway for travel to the Ocean Park Boulevard business district.

The Washington Avenue Bikeway provides a quiet and low-stress corridor for travel to and from Downtown, St. Monica's Elementary and Catholic High School, First United Methodist Church, and Lincoln Middle School. As with many residential streets, frequent stop signs on the western end of the route can make Washington inconvenient for longer-distance travel.

CALIFORNIA AVENUE BIKEWAY

Current Conditions

- ▶ Classification: Bike Lane
- ▶ From: Ocean Avenue
- ▶ To: 17th Street

The California Avenue bikeway serves centrally located destinations in Santa Monica, providing connections to Reed Park and Lincoln Junior High School. Its western terminus at Ocean Avenue provides a key point of access to Palisades Park, while the California Incline offers a connection to the Beach Bike Path and Pacific Coast Highway. West of 7th Street, California has one auto through lane, one bike lane and curbside parking in each direction, with a narrow median in the center of the roadway. The median is replaced by a double-yellow centerline east of 7th Street.

Frequent stop signs on California can make longer-distance bicycle trips inconvenient. In addition, the incline is a difficult ascent from PCH and carries heavy auto traffic in both directions.

ARIZONA AVENUE BIKEWAY

Current Conditions: West Arizona Segment

- ▶ Classification: Bike Lane
- ▶ From: Ocean Avenue
- ▶ To: 26th Street

Current Conditions: East Arizona Segment

- ▶ Classification: Bike Route
- ▶ From: 26th Street
- ▶ To: Centinela Avenue, continuing into Los Angeles

This bikeway includes two segments that link the center of Santa Monica with neighborhoods and destinations to the east, continuing as a bike route across the Los Angeles city limit toward West Los Angeles, Westwood and UCLA. Key Santa Monica destinations include McKinley Elementary, St. John's Health Center, Santa Monica UCLA Medical Center, and the Santa Monica College Madison Campus, as well as Downtown-area destinations such as the Third Street Promenade and Palisades Park. A stairway and bridge from Arizona Avenue to the beach bicycle trail and Pacific Coast Highway provide a challenging connection.

The Downtown portion of the bikeway sees high on-street parking turnover and demand for vehicle access. Outside of Downtown the bikeway connects into Los Angeles; however, frequent stop signs slow the pace of riding.

The bikeway currently consists of the following two segments: West Arizona, with striped bike lanes between Ocean and 26th Street; and East Arizona, a bike route running from 26th Street to the city's eastern border at Centinela Avenue.

BROADWAY BIKEWAY

Current Conditions

- ▶ Classification: Bike Lane
- ▶ From: 5th Street EB/7th Street WB
- ▶ To: Centinela Avenue

The Broadway Bikeway is the primary east-west bicycling corridor in the central part of the city. This bikeway provides access to offices in the eastern part of the City and to Downtown destinations, as well as West Los Angeles. From 7th Street to 26th Street, Broadway consists of one auto through lane, one bike lane and curbside parking in each direction, with a two-way left turn lane in the center (a bike lane is also striped from 5th Street to 7th, but only in the eastbound direction). East of 26th Street, the center turn lane is replaced by a median,

and Broadway becomes a residential street environment.

The bike lane stops several blocks short of key Downtown destinations such as the 3rd Street Promenade and Santa Monica Place. Additionally, the western portions of the bikeway see high parking turnover, with popular on street parking adjacent to the bike lane. Finally, the western end of the existing bikeway from 5th Street to 7th Street contains a bike lane only in the eastbound direction, with westbound bikes and autos running in mixed-flow traffic from 7th Street to 5th Street.

SANTA MONICA HIGH SCHOOL BIKEWAY

Current conditions

- ▶ Classification: Bike Route
- ▶ From: 4th Street
- ▶ To: Lincoln Boulevard

This one-way bikeway follows the northern edge of Santa Monica high school as a bike route, stretching from 4th Street to Lincoln Boulevard along Olympic Drive. This stretch of Olympic serves as a frontage road for the high school and parallels Interstate 10.

PEARL STREET + JOSLYN PARK NEIGHBORHOOD + BICKNELL AVENUE BIKEWAYS

Current Conditions: East Pearl Street Segment

- ▶ Classification: Bike Route
- ▶ From: 17th Street
- ▶ To: Centinela Boulevard

Current Conditions: West Pearl Street Segment

- ▶ Classification: Bike Lane
- ▶ From: Lincoln Boulevard
- ▶ To: 17th Street

Current Conditions: Strand Street + Kensington Road + Beverly Avenue + Hollister Avenue + 6th Street Segment

- ▶ Classification: Bike Route
- ▶ From: 4th Street
- ▶ To: Lincoln Boulevard

Current Conditions: Bicknell Avenue Segment

- ▶ Classification: Bike Route
- ▶ From: 4th Street
- ▶ To: Barnard Way

The segments combining to form this collection of bikeways serve as the southernmost link between the City's Main Street retail corridor and neighborhoods and destinations to the east. Connections along this bikeway serve

Grant Elementary, Santa Monica College, John Adams Middle School, New Roads Elementary School, Will Rogers Elementary School, Joslyn Park, Los Amigos Park, Hotchkiss Park, Crescent Bay Park, and the beach.

Two segments run along Pearl Street from the city limit at Centinela Avenue to Lincoln Boulevard; with a signed bike route to the east of 17th and striped bike lanes to the west. The next segment continues with a jog north or south on Lincoln to two parallel bike routes that connect to 4th Street. The northern segment runs along Strand Avenue, while the southern segment travels via Kensington Road, Beverly and Hollister Avenues, joining up with the Strand segment via the 6th Street north-south bike route. The north-south bike route on 4th Street provides a connection to Bicknell Avenue, which continues as a bike route from 4th to Barnard Way and the beach.

Topography presents a challenge, as the western segments ascend and/or descend steep grades between Lincoln and Main, and the eastbound bike lane on Pearl makes a brief yet steep climb just east of 11th Street. Additional challenges occur to get across Lincoln, which requires at least one non-signalized turn onto or off of Lincoln, which carries heavy auto traffic.

OCEAN PARK BOULEVARD BIKEWAY

Current Conditions

- ▶ Classification: Bike Lane
- ▶ From: Barnard Way
- ▶ To: Cloverfield Boulevard

The Ocean Park Boulevard Bikeway provides local connections to Fairview Library, the Main Street retail corridor, Olympic High School, John Muir Elementary School, Ocean Park Library, and Dorothy Green Park. From Barnard Way to Cloverfield Boulevard, Ocean Park contains one bike lane in each direction in addition to one auto through lane and on-street parking, with a two-way left turn lane in the center of the roadway.

The topography on Ocean Park is difficult, as the street traverses an area of rolling hills between Main and 14th Streets and makes multiple moderately steep ascents in each direction.

ASHLAND AVENUE BIKEWAY

The Ashland Avenue Bikeway consists of two segments running the length of Ashland Avenue, broken only by a slight jog at Lincoln Boulevard. It runs from Barnard Way through a residential neighborhood to its terminus at Clover Park and 25th Street. The bike-way crosses the Main Street and Lincoln Boulevard commercial corridors along the way.

The jog at Lincoln requires an unsignalized left turn when traveling eastbound, which can be an intimidating obstacle for even the most experienced cyclists. Though inconvenient, cyclists can dismount and walk to the light. The other challenge for this bikeway is the steep terrain changes throughout its course.

Current Conditions: Western Segment

- ▶ Classification: Bike Route
- ▶ From: Barnard Way
- ▶ To: 25th Street

B. PRIORITY BIKEWAY SHEETS

This appendix provides detailed bikeway sheets for each of the highest priority bikeways identified in the Santa Monica Bike Action Plan. The corridor sheets identify specific bikeway corridor and spot improvements that are proposed for implementation over and beyond the initial 5-year implementation period. Each bikeway sheet is disaggregated by individual projects that, once implemented, will combine to develop a bikeway corridor. The factors used to logically delineate natural project boundaries include:

- ▶ Proposed facility type
- ▶ Implementation barriers such as parking and travel lane removal
- ▶ Gap in the bikeway network
- ▶ Presence of an existing bike facility that needs improvement
- ▶ Cost
- ▶ Funding status

Each corridor provides the general characteristics of the corridor (traffic environment, corridor length, major connections, etc.), a “fly-through” description

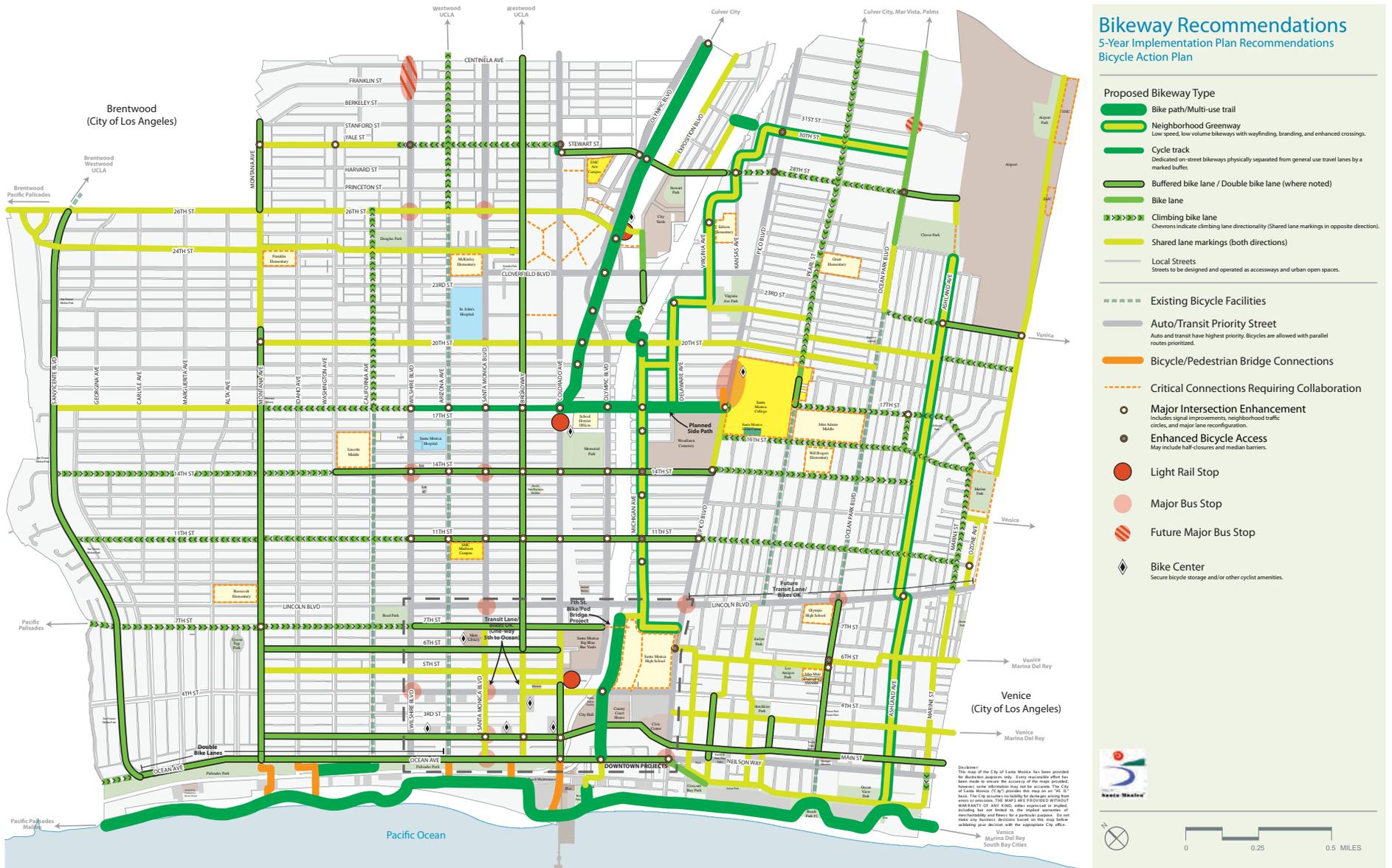
of the route, and cross sections of some key segments in each project. Cross-sections are displayed relative to the existing condition to conceptualize how a street segment will look in the future. Bikeways are organized first by east-west (traveling from north to south), and then by north-south (traveling from west to east). Figures B-1 and B-2 display the 5-Year Implementation Plan and 20-Year Vision Plan recommendations.

Note: Preliminary construction cost estimates provided in each bikeway sheet are based on 2011 unit prices and are only intended to provide a projection of future funding needs. Actual design may require modified or additional improvements that may change the estimate. All estimates should be reviewed and updated periodically to reflect the most current cost information. Some corridors will require additional planning, design, environmental or technical analysis by City departments and other governmental agencies to determine the potential cost and feasibility. The costs of these analyses have not been included in the estimates shown herein.

BIKEWAY SHEETS

Montana Avenue Bikeway	B-5
Arizona Avenue Bikeway	B-11
Broadway Bikeway.....	B-15
Michigan Avenue Neighborhood Greenway.....	B-19
Michigan Wiggle Neighborhood Greenway	B-27
Ocean Park Boulevard Bikeway.....	B-31
Ocean/Barnard Way Bikeway	B-39
2nd/Main Bikeway	B-43
Downtown Projects	B-47
6th Street Neighborhood Greenway.....	B-53
11th Street Bikeway.....	B-57
14th Street Bikeway.....	B-63
17th Street/16th Street Bikeway	B-69
20th Street Bikeway.....	B-75
Yale/Stewart/28th Bikeway	B-79

Figure B-1 5-Year Implementation Plan



Montana Avenue Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes, shared lane markings ▶ From: Ocean Avenue ▶ To: Stanford Street ▶ Length: 2.2 miles ▶ Physical Characteristics: 48' curb-to-curb width with raised medians between 21st and 23rd; Gradual eastbound incline (less than 1% grade); direct east-west connection ▶ Major Connections: Montana Avenue commercial district; Ocean Avenue bike lanes; Other priority bikeways (e.g., Yale, 17th) ▶ Traffic Conditions: Relatively high peak direction volumes; Moderate number of driveway cuts; Commercial neighborhood and secondary avenue; Secondary truck route; Well-established bus corridor; 30 mph posted speed limit 	<ul style="list-style-type: none"> A. Ocean Avenue to 21st Street B. 21st Street to Stanford Avenue
<p>Route Description</p>	
<p>The Montana Avenue Bikeway project consists of two project segments on the east and west ends of the corridor—from Ocean Avenue to 21st Street (west segment) and 21st Street to 26th Street (east segment). The Ocean Avenue to 7th Avenue segment is characterized by 48' curb-to-curb widths, which offer enough space to stripe buffered bike lanes and through bike lanes at major intersections (Ocean Avenue, 7th Street, and 14th Street). Buffered bike lanes are the preferred application in this case due to Montana's relatively high traffic volumes and parking turnover. There are 10' raised medians situated at various locations between 21st and 23rd, which limits the opportunity to adjust lane configuration and stripe bike lanes. Preserving the raised medians would retain the streetscape's appeal and speed management function; therefore, the 21st to 26th segment would be facilitated by shared lane markings. The connection to Brentwood would be completed by buffered bike lanes that would carry cyclists from 26th Street to Stanford Street.</p> <p>All segments along the Montana Avenue Bikeway would be supplemented with wayfinding signage that identify the bikeway and indicate destinations and distances to destinations.</p>	

Montana Avenue from Ocean Avenue to 21st Street

5-YEAR PROPOSED FACILITIES:

- ▶ **Ocean Avenue to 7th Street:** Restripe with buffered bike lanes; requires reconfiguration of turn lanes and/or parking at intersection of 7th Street.
- ▶ **7th Street to 21st Street:** Convert existing bike lanes to buffered bike lanes by narrowing travel lanes and parking lanes; requires reconfiguration of turn lanes at 20th Street.

5-Year Project Conceptual Construction Cost Estimate: \$15,000

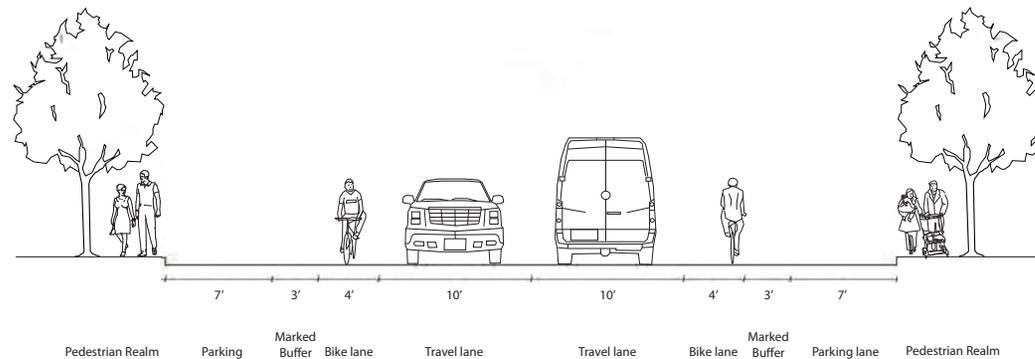
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Bike lane striping between Ocean and 7th would require grinding up the existing centerline and the re-allocating the turn lane configuration at Ocean Avenue.
- ▶ Bike lanes that approach the intersection would be dashed where no right turn lane is present (at 7th Street).
- ▶ In order to provide buffered bike lanes to the intersection of Montana/7th, the City would need to evaluate the potential removal of the left turn lane. Removal of the left turn lane at 7th and instituting time-restricted left turns during peak hours would require a public process and traffic analysis.



Montana with buffered bike lanes between Ocean Avenue and 7th Street

Montana Avenue from 21st Street to Stanford Street

5-YEAR PROPOSED FACILITIES:

- ▶ **21st Street to 26th Street:** Install shared lane markings.
- ▶ **26th Street to Stanford Street:** Install buffered bike lanes.
- ▶ **Construct a raised median crossing at Yale Street to facilitate a connection from the Yale/Stewart/28th Bikeway.**

5-Year Project Conceptual Construction Cost Estimate: \$25,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

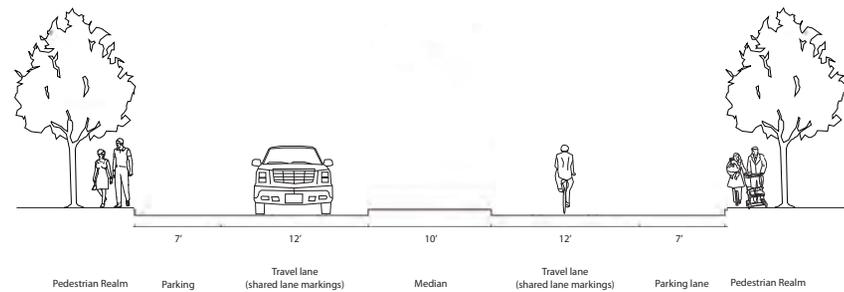
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ No lane stripe removal is needed along the segments 21st between Stanford (except at intersection approaches) and installation can occur immediately.

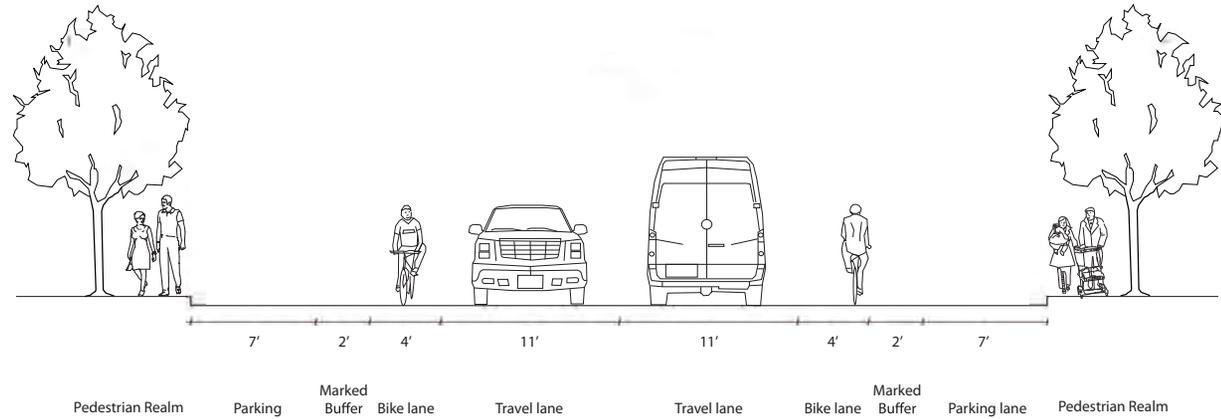


Existing view of Montana between 22nd and 23rd Street



Montana with shared lane markings between 21st Street and 26th Street

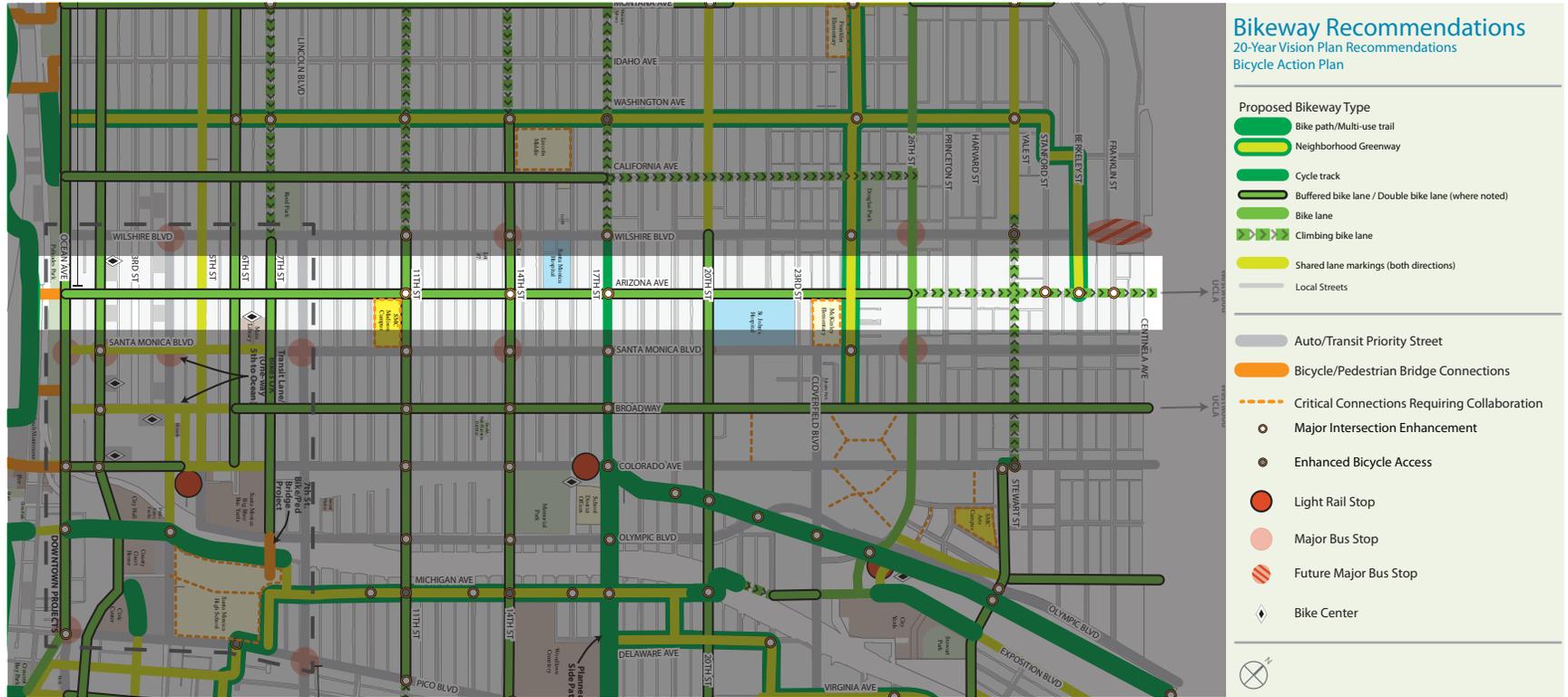
Montana Avenue from 21st Street to Stanford Street (Continued)



Montana with buffered bike lanes between 26th Street and Stanford Street

Arizona Avenue Bikeway

20-Year Corridor Build Out



Arizona Avenue Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes, climbing lanes, shared lane markings ▶ From: Ocean Avenue ▶ To: Centinela Avenue ▶ Length: 2.9 miles ▶ Physical Characteristics: 40' curb-to-curb width; Relatively steep eastbound grade; direct connection ▶ Major Connections: UCLA / St. John's Health Center, Downtown, Direct connection to West LA ▶ Traffic Conditions: Moderate to high peaked traffic volumes (1,000+ AM EB); primarily automobile traffic; 25 mph posted speed limit 	<ul style="list-style-type: none"> A. Ocean Avenue to 26th Street B. 26th Street to Centinela Avenue
Route Description	
<p>The Arizona Avenue Bikeway project signifies an east-west key linkage in Santa Monica's bicycle network. Cyclists can use a buffered bike lane from Ocean Avenue to 26th Avenue. On the east end, given Arizona's current volumes and 40' curb-to-curb width, the most suitable facility choice along this corridor will be a climbing bike lane and shared lane markings. Bicyclists heading eastbound on the incline from 26th Street to Centinela Avenue will have a 5' climbing bike lane. The westbound travel lane would provide shared lane markings.</p> <p>All segments along the Arizona Avenue Bikeway would be supplemented with wayfinding signage that identify the bikeway and indicate destinations and distances to destinations.</p>	

Arizona Avenue from Ocean Avenue to 26th Street

5-YEAR PROPOSED FACILITIES:

- ▶ No 5-year improvements.

5-Year Project Conceptual Construction Cost Estimate: N/A

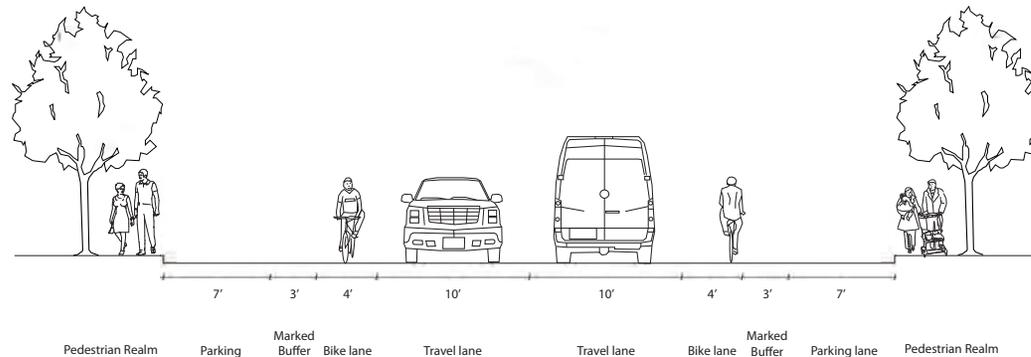
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ **Ocean Avenue to 26th Street:** Convert existing bike lanes to buffered bike lanes by narrowing travel lanes and parking lanes.
- ▶ Construct neighborhood traffic circles at the intersections of Arizona Avenue with Stanford Street, Berkeley Street, and Franklin Street.

20-Year Project Conceptual Construction Cost Estimate: \$250,000

IMPLEMENTATION:

- ▶ In order to provide buffered bike lanes to each of the intersections, the City would need to evaluate the potential removal of parking that may require a public process.



Arizona with buffered bike lanes between Ocean Avenue and 26th Street

Arizona Avenue from 26th Street to Centinela Avenue

5-YEAR PROPOSED FACILITIES:

- ▶ Restripe to place a buffered climbing bike lane in the uphill direction (eastbound) and shared lane markings in the downhill direction (westbound).

5-Year Project Conceptual Construction Cost Estimate: \$5,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

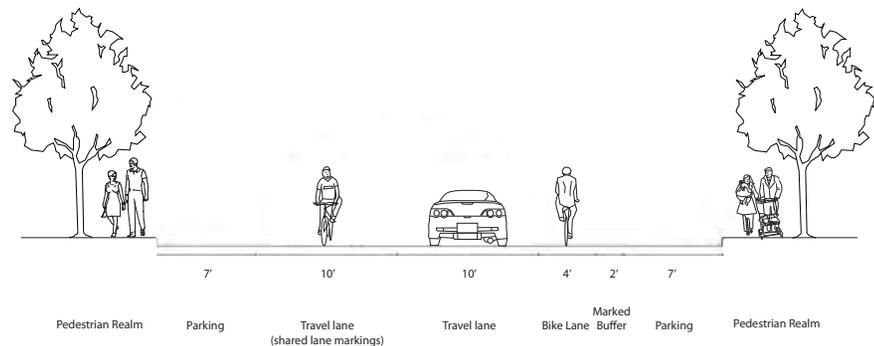
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ No lane stripe removal is needed, thus implementation should occur immediately or as funding becomes available.



Existing Arizona Avenue between Stanford and Berkeley



Arizona eastbound climbing bike lane between 26th Street and Centinela Avenue

Broadway Bikeway

20-Year Corridor Build out



Broadway Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes (green), Shared lane markings (Green “Super-sharrow”), Bus-bike lane ▶ From: Ocean Avenue ▶ To: Centinela Avenue ▶ Length: 2.9 miles ▶ Physical Characteristics: 56’ curb-to-curb width; Slight uphill grade eastbound; direct east-west connection ▶ Major Connections: Downtown, Expo Bike Path, 17th/Colorado Expo light rail station, UCLA / St. John’s Health Center ▶ Traffic Conditions: Moderate to high traffic volumes; primarily automobile traffic but serves as a secondary truck route; 25 mph posted speed limit 	<ul style="list-style-type: none"> A. Broadway (Ocean Avenue to 6th Street)/Santa Monica Boulevard (Ocean Avenue to 7th Street) B. Broadway (6th Street to Centinela Avenue)
<p>Route Description</p>	
<p>The Broadway Bikeway closes the existing gap between Ocean Avenue and 6th Street by installing shared lane markings. This gap closure project is part of a bus-bike lane couplet with Santa Monica Boulevard. Along this couplet, super-sharrows would enhance awareness of bicycles in a high traffic corridor. The Broadway Bikeway also provides an enhanced connection on Broadway between 6th Street and Centinela Avenue by narrowing the parking lane and marking buffers between the parking and the bike lane. The Broadway Bikeway project is critical to provide a better connection from downtown to the Expo Bike Path terminus and the planned Bike Center at the intersection of 17th Street and Colorado Avenue. This link to the Expo Path, combined with clear signage, would provide a vital east-west regional bicycle connection between Downtown Culver City and Santa Monica.</p> <p>All segments along the Broadway Bikeway would be supplemented with wayfinding signs that identify the bikeway and indicate destinations and distances to destinations.</p>	

Broadway from Ocean Avenue to 6th Street/Santa Monica Boulevard from Ocean Avenue to 7th Street

5-YEAR PROPOSED FACILITIES:

- ▶ **Santa Monica Boulevard from Ocean Avenue to 7th Street:** Install shared lane markings in the existing eastbound transit-only lane to clarify that bicyclists are allowed to share the bus lane as allowed by state law.
- ▶ **Santa Monica Boulevard from Ocean Avenue to 7th Street:** Install shared lane markings in the westbound through travel lane – consider “super-sharrow” design with green pavement in combination with shared lane markings.
- ▶ **Broadway from Ocean Avenue to 6th Street:** Install shared lane markings in the existing westbound transit-only lane to clarify that bicyclists are allowed to share the bus lane as allowed by state law.
- ▶ **Broadway from Ocean Avenue to 6th Street:** Install shared lane markings in the eastbound through travel lane – consider “super-sharrow” design with green pavement in combination with shared lane markings.

5-Year Project Conceptual Construction Cost Estimate: \$150,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ The City could consider applying shared lane markings in both eastbound travel lanes along the block parallel to Santa Monica Place.

Broadway from 6th Street to Centinela Avenue

5-YEAR PROPOSED FACILITIES:

- ▶ Restripe existing bike lanes as green buffered bike lanes by narrowing travel lanes and parking lanes.

5-Year Project Conceptual Construction Cost Estimate: \$400,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

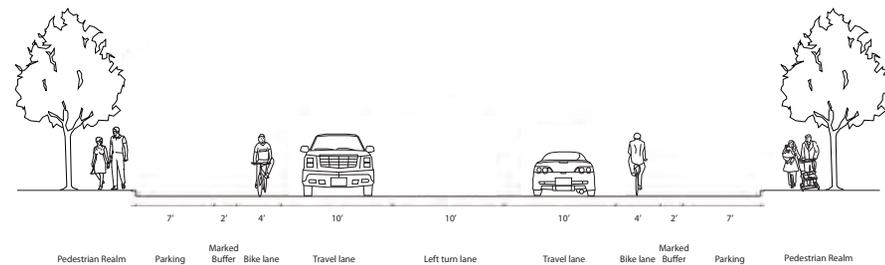
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ In order to provide space for marked buffers, parking bay widths will need to be reduced, and in some areas left turn lane widths would need to be reduced.
- ▶ Wayfinding sign installation needs to be coordinated with the completion of the Expo light rail line and the Expo Bike Path.



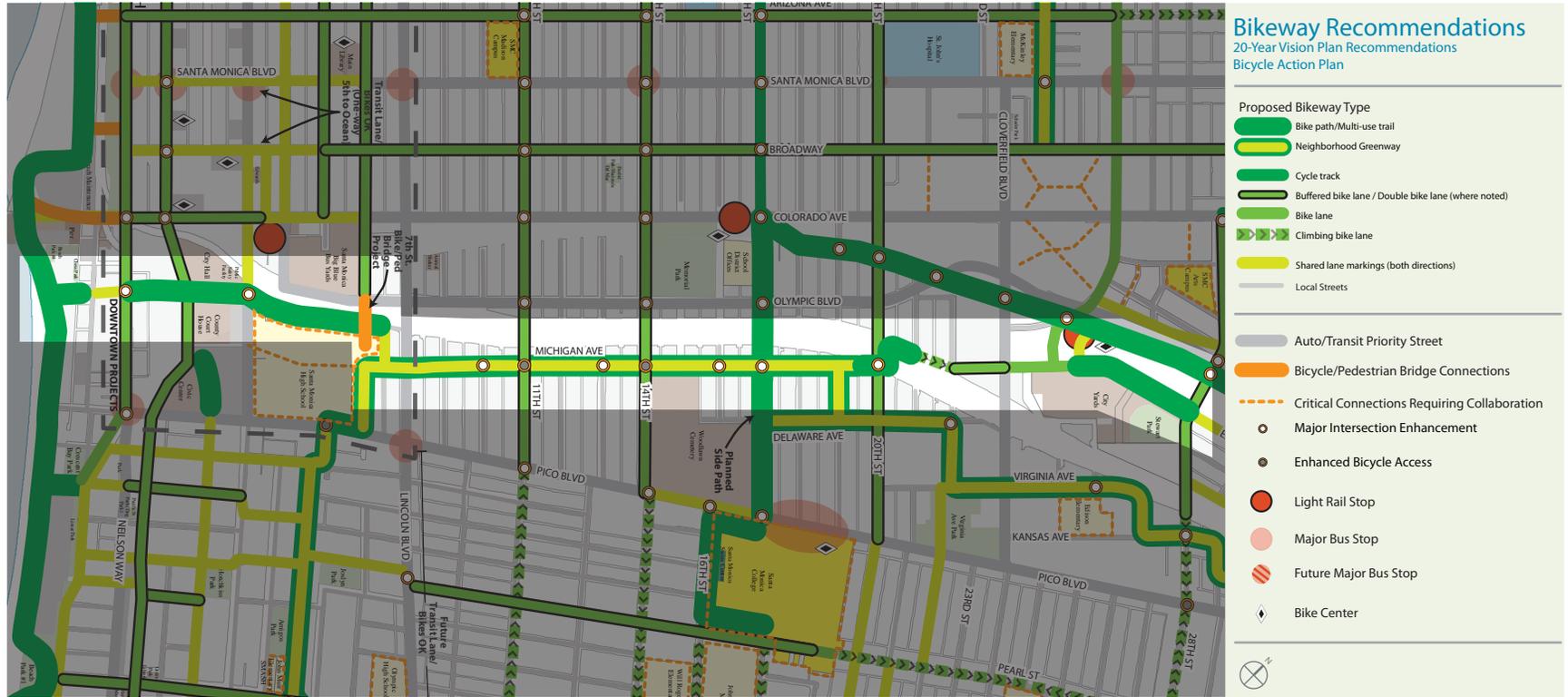
Existing cross-section of Broadway with bike lanes



Broadway with buffered bike lane enhancements between Lincoln Boulevard and 26th Street

Michigan Avenue Neighborhood Greenway

20-Year Corridor Build Out



Michigan Avenue Neighborhood Greenway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Neighborhood greenway, bike path, shared use path, buffered bike lanes, bike lanes, climbing lanes, shared lane markings ▶ From: Marvin Braude Beach Bike Trail ▶ To: Stewart Street ▶ Length: 3.5 miles ▶ Physical Characteristics: Curb-to-curb widths of 40' mostly (Some segments are 32' and 48'); Relatively flat throughout; Steeper grades E of 20th ▶ Major Connections: Marvin Braude Beach Bike Trail, Civic Center, Civic Center Parks, Santa Monica High School, Michigan Wiggle Neighborhood Greenway, Santa Monica College, Memorial Park, Expo Bike Path, Expo light rail station at Bergamot Station ▶ Traffic Conditions: Moderate level of cut-through traffic west of 14th to Lincoln toward the I-10 on-ramps; Low volume east of 14th; High truck volumes east of Cloverfield; 25 mph posted speed limit 	<ul style="list-style-type: none"> A. Ocean Front Walk to 7th Court B. East Olympic Blvd to 19th Court C. 19th Court to 21st Street D. 21st Street to Bergamot Station E. Bergamot Station to Stewart Street
Route Description	
<p>The Michigan Avenue Neighborhood Greenway project generally runs along Michigan Avenue with a beach connection on its west end and various separated bike path or shared use path connections on its east end. The bikeway would carry cyclists between the beach and the Civic Center on Arcadia Terrace or Pacific Terrace, and crossing Ocean Avenue to a new street connection with a two-way side path on the north side of Olympic Drive to Avenida Mazatlan. The two-way side path continues eastbound on the south side of EB Olympic Boulevard to 7th Court. Shared lane markings facilitate bicycle travel along 7th Court and eastbound on Michigan Avenue to the cul-de-sac at 19th Court, connecting to an improved and widened bicycle and pedestrian accessway to 20th Street.</p> <p>A new two-way path along the east side of 20th Street and the north side of I-10 will close the existing gap on Michigan Avenue (created when I-10 was constructed) from 20th Street to 21st Street. An eastbound bicycle climbing lane (potentially operating as a contraflow lane) between 21st and 22nd connects to buffered bike lanes between 22nd Street and Cloverfield. East of Cloverfield Boulevard, bike lanes complete the connection along Michigan Avenue to Bergamot Station. If traveling to the Expo Light Rail Station at Bergamot Station, cyclists would be guided across the existing parking lot with shared lane markings. If continuing eastbound, cyclists would travel along a new bicycle and pedestrian shared use path connection along the City Yards property line to Stewart Street.</p> <p>The segments along Michigan Avenue between 7th Court and 19th Court will be supplemented by neighborhood greenway treatments such as neighborhood traffic circles, bicycle access enhancements, and branded wayfinding indicating destinations and distances to destinations.</p>	

Between Ocean Front Walk and 7th Court (via Arcadia Terrace, Appian Way, Pacific Terrace, Olympic Drive, and East Olympic Boulevard)

5-YEAR PROPOSED FACILITIES:

- ▶ **Arcadia Terrace, Appian Way, and Pacific Terrace from Ocean Front Walk to Ocean Avenue:** Install shared lane markings.
- ▶ **Olympic Drive at Ocean Avenue:** Construct new intersection to include separate signalization and other facilities to connect bicyclists from Pacific Terrace across Ocean Avenue.
- ▶ **Olympic Drive from Ocean Avenue to Avenida Mazatlan:** Construct shared use path on the north side and design transition to the south side of Olympic Drive, east of 4th Street.
- ▶ **Olympic Drive at 4th Street:** Revise signalization and configuration to enable bicycle connection from the west.
- ▶ **Eastbound Olympic Boulevard from 4th Street to 7th Court:** Construct shared use path on the south side.

5-Year Project Conceptual Construction Cost Estimate: \$1,200,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ Construct new dedicated bike path from the Marvin Braude Bike Trail to the intersection of Pacific Terrace and Appian Way. This will require reconfiguration of the existing parking lot at this location.

20-Year Project Conceptual Construction Cost Estimate: \$150,000

IMPLEMENTATION:

- ▶ A path facility along E Olympic Blvd would require extension of the existing sidewalk by roughly 10' and relocation of the existing high school pick-up and drop-off parking zone, which will require a public process and coordination with the high school. Constructing such a path would necessitate collaboration with Caltrans regarding any right-of-way issues.
- ▶ Being located on part of the Santa Monica State Beach, a new Beach Bike Trail connection at Pacific Terrace will require collaboration with the State of California and the County of Los Angeles.

Between Olympic Drive and 19th Court (via 7th Court and Michigan Avenue)

5-YEAR PROPOSED FACILITIES:

- ▶ **7th Court from Olympic Drive to Michigan Avenue:** Install shared lane markings.
- ▶ **Michigan Avenue from 7th Court to 19th Court:** Install shared lane markings; Construct neighborhood traffic circles at the intersections of Michigan Avenue with 10th Street, Euclid Street, 16th Street, and 17th Street; Install bicycle access enhancement measures at the intersections of Michigan Avenue with 11th Street and 14th Street; install other traffic calming measures on Michigan as needed.

5-Year Project Conceptual Construction Cost Estimate: \$250,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

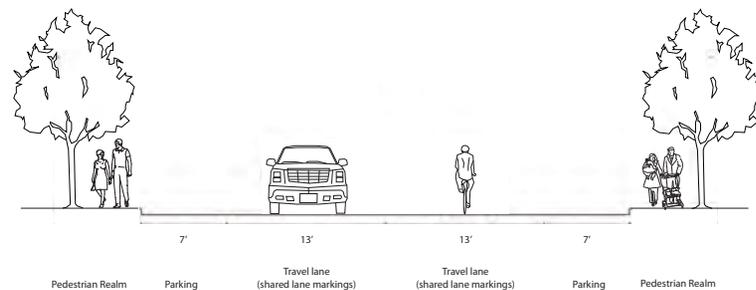
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ No stripe removal is needed and installation can occur immediately.
- ▶ Bicycle access enhancement and neighborhood traffic circles will require a significant public involvement process in the neighborhood.



Existing Michigan cross-section at 17th Street



Shared lane markings between 17th Street and the 19th Court

19th Court to 21st Street (via 20th Street and Interstate 10 right-of-way)

5-YEAR PROPOSED FACILITIES:

- ▶ **Michigan Avenue from 19th Court to 20th Street:** Construct pathway connection.
- ▶ **Intersection of 20th Street with I-10 eastbound off-ramp:** Add pedestrian and bicycle signal on the south side of the intersection.
- ▶ **20th Street from the I-10 eastbound off-ramp to the I-10 Westbound on-ramp:** Construct shared use path on the east side of the freeway overcrossing structure.
- ▶ **I-10 right-of-way from 20th Street to 21st Street:** Construct shared use path.

5-Year Project Conceptual Construction Cost Estimate: \$500,000

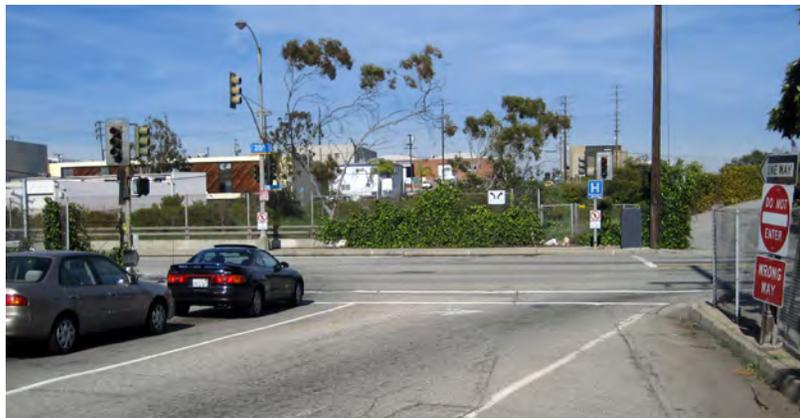
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

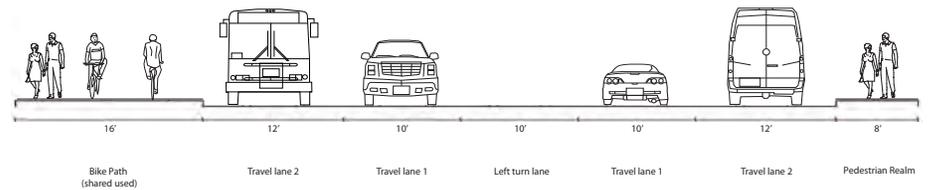
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Transforming the existing pedestrian accessway that connects Michigan Avenue to 20th Street into a viable bicycle connection would require significant collaboration and investment. This could potentially include widening of the path, straightening of the current bend in the path, reclaiming the right-of-way currently being occupied by a private entity, and moving the Caltrans fence 3' to the north. Any potential issue with utility guide wires at the east-most end of the Michigan-20th Accessway would need to be rectified with other agencies.



20th Street at I-10 eastbound off-ramp



Looking south - proposed 16' Bike path along east side of the 20th Street overpass

Michigan Avenue from 21st Street to Bergamot Station**5-YEAR PROPOSED FACILITIES:**

- ▶ **Michigan Avenue from 21st Street to 22nd Street:** Convert Michigan Avenue to one-way westbound and 21st Street to one-way northbound, and install contra-flow climbing bike lane eastbound.
- ▶ **Michigan Avenue from 22nd Street to Cloverfield Boulevard:** Install buffered bike lanes.
- ▶ **Michigan Avenue from Cloverfield Boulevard to Bergamot Station:** Install bike lanes.
- ▶ **Bergamot Station parking lot:** Install shared lane markings in parking lot from Michigan Avenue to the east end of the Exposition Line light rail station.
- ▶ **Exposition Boulevard from Stewart Street to Centinela Avenue:** Install shared lane markings.

5-Year Project Conceptual Construction Cost Estimate: \$15,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

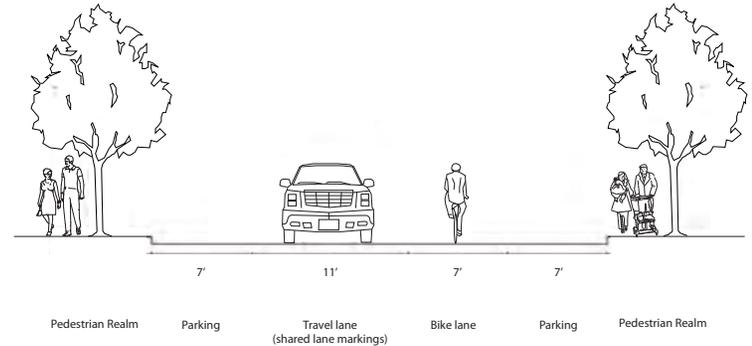
IMPLEMENTATION:

- ▶ In order to provide a dedicated space for bicycles on Michigan between 21st and 22nd, 21st between Pennsylvania and Michigan and Michigan between 21st and 22nd would be converted to one-way operations. 21st would be one-way northbound and Michigan would be one way westbound (except for bicyclists). This shift would preserve parking, simplify traffic operation, improve school traffic flow, and enhance school crossings. Changing the Michigan and 21st Street segments to one-way streets would require a public process and focused engagement with Crossroads School and area businesses.
- ▶ Further study will be needed to evaluate any potential parking removal necessary to stripe bike lanes along Michigan from 24th to Bergamot Station. This will require a public process.

Michigan Avenue from 21st Street to Bergamot Station (Continued)



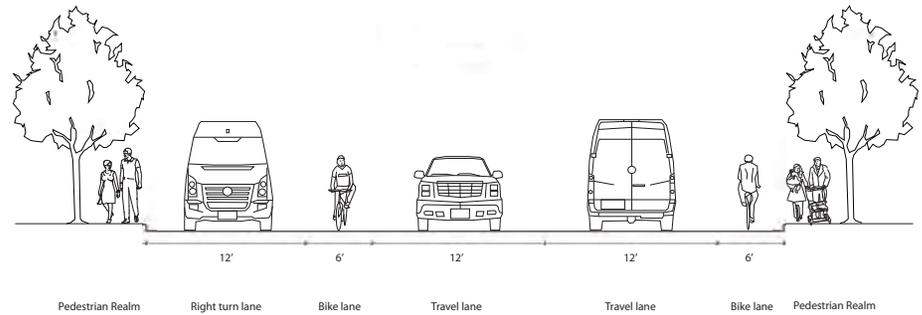
Existing Michigan between 21st and 22nd



Eastbound contraflow climbing lane with proposed westbound one-way travel lane with shared lane markings



View of Michigan looking towards Bergamot Station



Eastbound contraflow climbing lane with proposed westbound one-way travel lane with shared lane markings

Bergamot Station to Stewart Street (along the north edge of the City Yards property)

5-YEAR PROPOSED FACILITIES:

- ▶ No improvement made.

5-Year Project Conceptual Construction Cost Estimate: N/A

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ Construct a shared use path.

20-Year Project Conceptual Construction Cost Estimate: \$250,000

IMPLEMENTATION:

- ▶ In order to provide a shared use path, the City must work with adjacent property owners.
- ▶ Shared use path construction should incorporate pedestrian-scale lighting and wayfinding signage. The side use path should remain open at all times.

Michigan Wiggle Neighborhood Greenway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Neighborhood greenway, shared lane markings ▶ From: Michigan Avenue ▶ To: Ocean Park Boulevard ▶ Length: 1.7 miles ▶ Physical Characteristics: Curb-to-curb widths ranging between 30' and 50'; Limited grade (except where Virginia Avenue turns into 27th Street); Route meanders through several jogs between Michigan Avenue and Ocean Park Boulevard ▶ Major Connections: Edison Language School, Pico Commercial, Virginia Ave Park, Clover Park, Santa Monica Business Park, Michigan Avenue Neighborhood Greenway ▶ Traffic Conditions: Traffic volumes are very low; Higher volumes occur during school pick-up/drop-off times along Virginia Avenue; 25 mph posted speed limit 	<p>A. Michigan Avenue to Ocean Park Boulevard</p>
<p>Route Description</p>	
<p>The aptly named Michigan “Wiggle” Neighborhood Greenway, named for its meandering route, is a low stress, low volume and low speed bicycle facility that provides a connection between Downtown via the Michigan Bikeway and the Ocean Park neighborhood in southeast Santa Monica. This neighborhood greenway would be designed for safety and network legibility. The Wiggle never continues on one street for more than a half-mile segment. Running from west to east, the neighborhood greenway is routed along 19th Street between Michigan and Delaware Avenues, Delaware Avenue between 17th Street and 22nd Street, 22nd Street between Delaware Avenue and Virginia Avenue, and where Virginia Avenue terminates into 27th Street. From there, the route heads east up Kansas Avenue to Yorkshire, meanders through Urban Avenue, Dorchester Avenue, and 30th Street until it connects with Ocean Park Boulevard. The entire route is enhanced with shared lane markings due to its low volume character.</p> <p>All segments along the Michigan Wiggle Neighborhood Greenway would be supplemented with wayfinding signage that identify the bikeway and indicate destinations and distances to destinations. In addition, vehicle speeds along several segments should be managed with design features such as speed humps and neighborhood traffic circles. No striping or parking removal is needed and installation can occur immediately.</p>	

Between Michigan Avenue and Ocean Park Boulevard (via 19th Street, Delaware Avenue, 22nd Street, Virginia Avenue, Kansas Avenue, Yorkshire Avenue, Urban Avenue, and Dorchester Avenue)

5-YEAR PROPOSED FACILITIES:

- ▶ **Install shared lane markings, wayfinding signs, and neighborhood greenway branding on:** 19th Street from Michigan Avenue to Delaware Avenue; Delaware Avenue from 17th Street to 22nd Street; 22nd Street from Delaware Avenue to Virginia Avenue; Virginia Avenue and 27th Street from 22nd Street to Kansas Avenue; Kansas Avenue from 27th Street to Yorkshire Avenue; Yorkshire Avenue from Kansas Avenue to Urban Avenue; Urban Avenue from Yorkshire Avenue to Dorchester Avenue; and Dorchester Avenue/30th Street from Urban Avenue to Ocean Park Boulevard.
- ▶ **Construct neighborhood traffic circles or other intersection improvements at the following intersections:** Delaware at 22nd Street; Virginia Avenue at Frank Street; Kansas Avenue at 28th Street; and 30th Street at Pearl Street.
- ▶ **30th Street at Pico Boulevard:** Install median diverter with bike refuges in the center of Pico Boulevard.

5-Year Project Conceptual Construction Cost Estimate: \$350,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

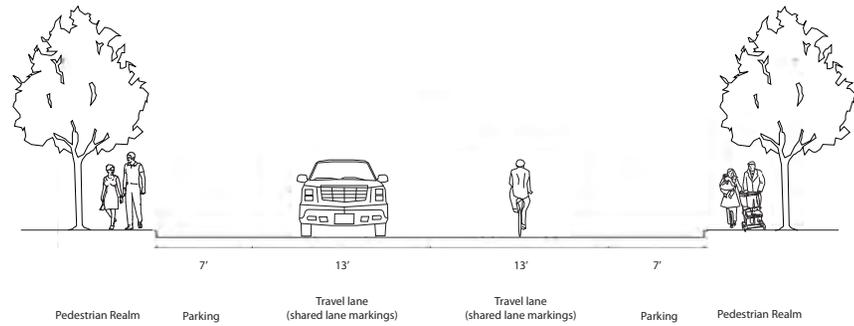
IMPLEMENTATION:

- ▶ On streets with 30' curb-to-curb widths, shared lane markings would be placed in the middle of the street, which is the best practice on streets of this width – education programs will include how to ride on streets with shared lane markings, to encourage proper lane placement by cyclists.
- ▶ The simplicity of this facility means that implementation could occur immediately without parking removal or lane reconfiguration.
- ▶ A public process would need to be initiated for both the neighborhood traffic circle and raised crosswalk/raised crossing island (requires focused outreach to Edison Elementary School and parents). Removing stop control at the school may be perceived by concerned parents as unsafe, which will require education and discussion before final plans are developed.
- ▶ The existing 6-foot wide raised median width at Pico Boulevard provides the absolute minimum width for a bicycle and pedestrian refuge. Consideration should be given to widening the raised median to 8 feet at the intersection. This widening can be accomplished by either narrowing the inside travel lanes from 11 feet to 10 feet, or by shifting the travel lanes over one foot and narrowing the parking lane at the intersection – this shift can likely take place within the area where parking is already prohibited near the intersection. Increasing the median width to 8 feet at Pico/30th may require input and support from Big Blue Bus, Metro, and the Pico Neighborhood Association.
- ▶ Constructing any design features would require evaluation of travel speeds and involve public outreach and approval.

Between Michigan Avenue and Ocean Park Boulevard (via 19th Street, Delaware Avenue, 22nd Street, Virginia Avenue, Kansas Avenue, Yorkshire Avenue, Urban Avenue, and Dorchester Avenue) (Continued)



View of existing Virginia Avenue displays the low volume nature of the proposed Michigan Wiggle Neighborhood Greenway



Shared lane markings (both directions) on 40' curb-to-curb width streets like 22nd, Yorkshire, Dorchester, and 30th

Ocean Park Boulevard Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes (green), bike lanes, climbing lanes, and shared lane markings ▶ From: Barnard Way ▶ To: Centinela Avenue ▶ Length: 2.7 miles ▶ Physical Characteristics: 60' curb-to-curb width west of 25th, 72' curb-to-curb width east of 25th; Includes 14' raised/landscaped median between 25th and Centinela; Relative flat topography; direct east-west connection ▶ Major Connections: Beach; Main Street; Future priority bikeway connections at 3rd, 6th Street Neighborhood Greenway, 11th, 14th, 17th, and 28th; Clover Park; Santa Monica Business Park ▶ Traffic Conditions: High volumes; Limited number of driveway cuts (mostly concentrated on east end); Secondary avenue and commercial street; Secondary truck route; Major bus corridor; Higher speed corridor (35 mph posted speed limit) 	<ul style="list-style-type: none"> A. Barnard Way to Lincoln Boulevard B. Lincoln Boulevard to Cloverfield Boulevard C. Cloverfield Boulevard to Centinela Avenue
<h3>Route Description</h3>	
<p>This project consists of three major components: enhanced beach access on Ocean Park between Barnard Way and Main Street; enhancing the existing bike lanes on Ocean Park; and gap closure on Ocean Park between Cloverfield and Centinela at the city's eastern border. Although it provides a direct east-west connection from the beach to the City of Los Angeles, Ocean Park east of Cloverfield Boulevard is largely viewed as an undesirable bicycle route. The Ocean Park Bikeway is a connectivity project seeking to 1) provide enhanced access to the beach and 2) link the high volume, high speed segments of Ocean Park Boulevard (east of 25th) to its road dieted portions west of Cloverfield with bike lanes. From Barnard Way to Main Street, the existing bike lanes would be re-striped as buffered bike lanes that extend to both the intersection at Neilson Way and at Main Street. Traveling toward the City of Los Angeles, buffered bike lanes would be striped between Main Street and 25th Street (with green pavement treatment between Main Street and Lincoln Boulevard), while conventional bike lanes would be striped between 25th and Centinela.</p> <p>All segments along the Ocean Park would be supplemented with wayfinding signage that identify the bikeway and indicate destinations and distances to destinations. Major features to call out on the wayfinding signs are the beach amenities, the Ocean/Barnard Way Bikeway, and the 28th/Stewart/Yale Bikeway.</p>	

Ocean Park Boulevard from Barnard Way to Lincoln Boulevard

5-YEAR PROPOSED FACILITIES:

- ▶ **Main Street to Lincoln Boulevard:** Restripe the existing bike lanes to create green buffered bike lanes.

5-Year Project Conceptual Construction Cost Estimate: No estimate provided; design process underway

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ **Barnard Way to Main Street:** Restripe existing bike lanes to create buffered bike lanes by narrowing travel lanes and parking lanes.

20-Year Project Conceptual Construction Cost Estimate: \$3,000

IMPLEMENTATION:

- ▶ Because of poor sightlines along this segment stemming from the hill between 3rd Street and 7th Street, the City should install green colored merge lane treatments at each potential turn conflict.
- ▶ In order to reduce speeding, the City should ensure that travel lanes are no more than 12 feet.

Ocean Park Boulevard from Lincoln Boulevard to Cloverfield Boulevard

5-YEAR PROPOSED FACILITIES:

- ▶ No improvements made.

5-Year Project Conceptual Construction Cost Estimate: N/A

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ **Lincoln Boulevard to 14th Street:** Restripe existing bike lanes to create wider bike lanes.
- ▶ **11th Street to Cloverfield Boulevard:** Restripe existing bike lanes to create buffered bike lanes.

20-Year Project Conceptual Construction Cost Estimate: \$30,000

IMPLEMENTATION:

- ▶ Providing wider bike lanes with buffers will not require much reconfiguration; however, it will better utilize the roadway and create marked buffers in the existing wide bike lanes from 14th Street.

Ocean Park Boulevard from Cloverfield Boulevard to Centinela Avenue

5-YEAR PROPOSED FACILITIES:

- ▶ **Cloverfield Boulevard to 25th Street:** Install shared lane markings.
- ▶ **25th Street to Centinela Avenue:** Restripe for bike lanes.

5-Year Project Conceptual Construction Cost Estimate: \$5,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

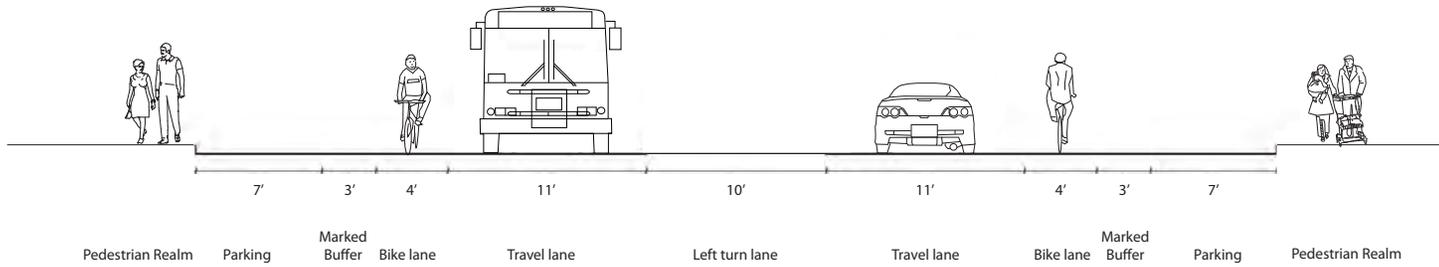
- ▶ **Cloverfield Boulevard to 25th Street:** Restripe to create buffered bike lanes by removing one of the westbound travel lanes.

20-Year Project Conceptual Construction Cost Estimate: \$100,000

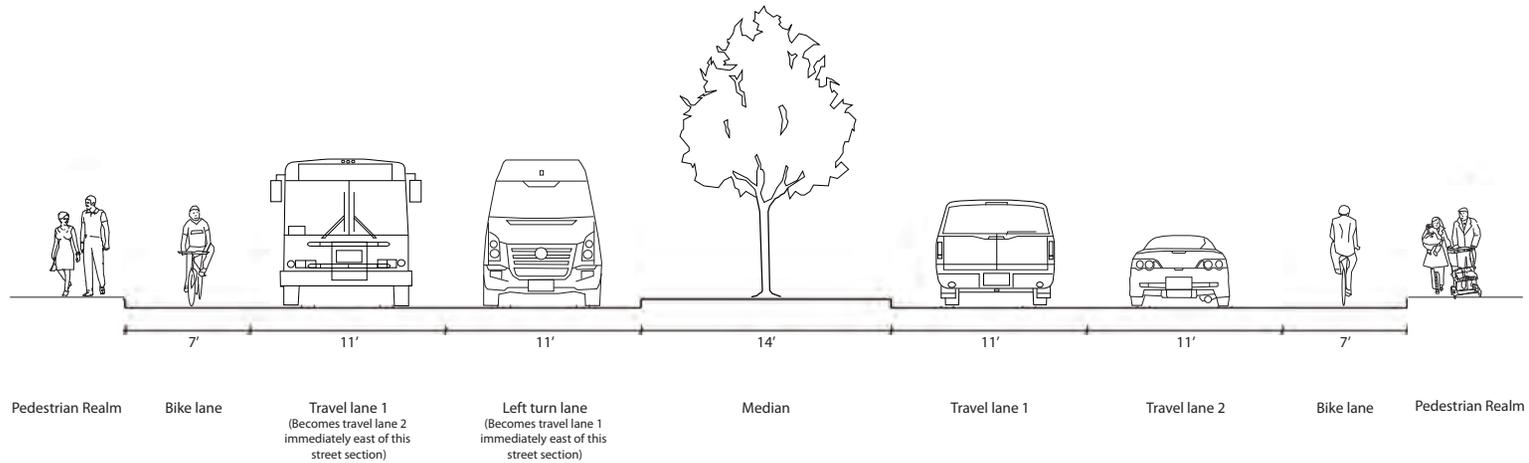
IMPLEMENTATION:

- ▶ Bike lanes become dashed at all approaching intersections for right turn movements.
- ▶ Rearranging the 25th Street intersection and constructing a raised median extension would require some traffic analysis.
- ▶ Bike lane design should consider the wheel path of buses/trucks which may impact lane marking longevity and create pavement drift that is commonly seen on major bus routes. Making these changes would also require engaging Big Blue Bus to identify any potential design issues.
- ▶ Providing continuous bike lanes through intersections and where Ocean Park tapers to a two-lane configuration (west of 25th) would require a streetscape and intersection redesign. Further study will be needed to evaluate the impacts of lane width reduction, lane conversions and elimination (i.e. through lane to left turn lane), and/or extension of the existing raised median toward the 25th Street intersection. Because Ocean Park is a truck and transit thoroughfare lane widths must remain at least 11' to preserve comfortable operation for larger vehicle operators. Consider interim plan of bike lane in the eastbound direction and sharrows westbound.

Ocean Park Boulevard from Cloverfield Boulevard to Centinela Avenue (Continued)



Ocean Park Boulevard with buffered bike lanes between Cloverfield Boulevard and 25th Street

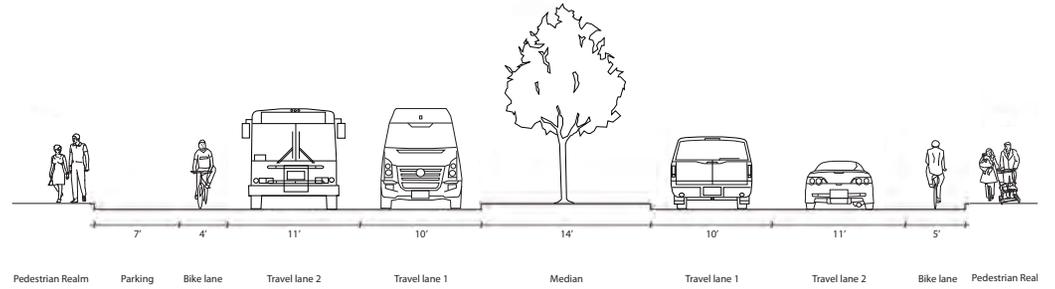


Ocean Park Boulevard with bike lanes and extended median at east leg of 25th Street intersection (extends for roughly 300' east of 25th Street)

Ocean Park Boulevard from Cloverfield Boulevard to Centinela Avenue (Continued)



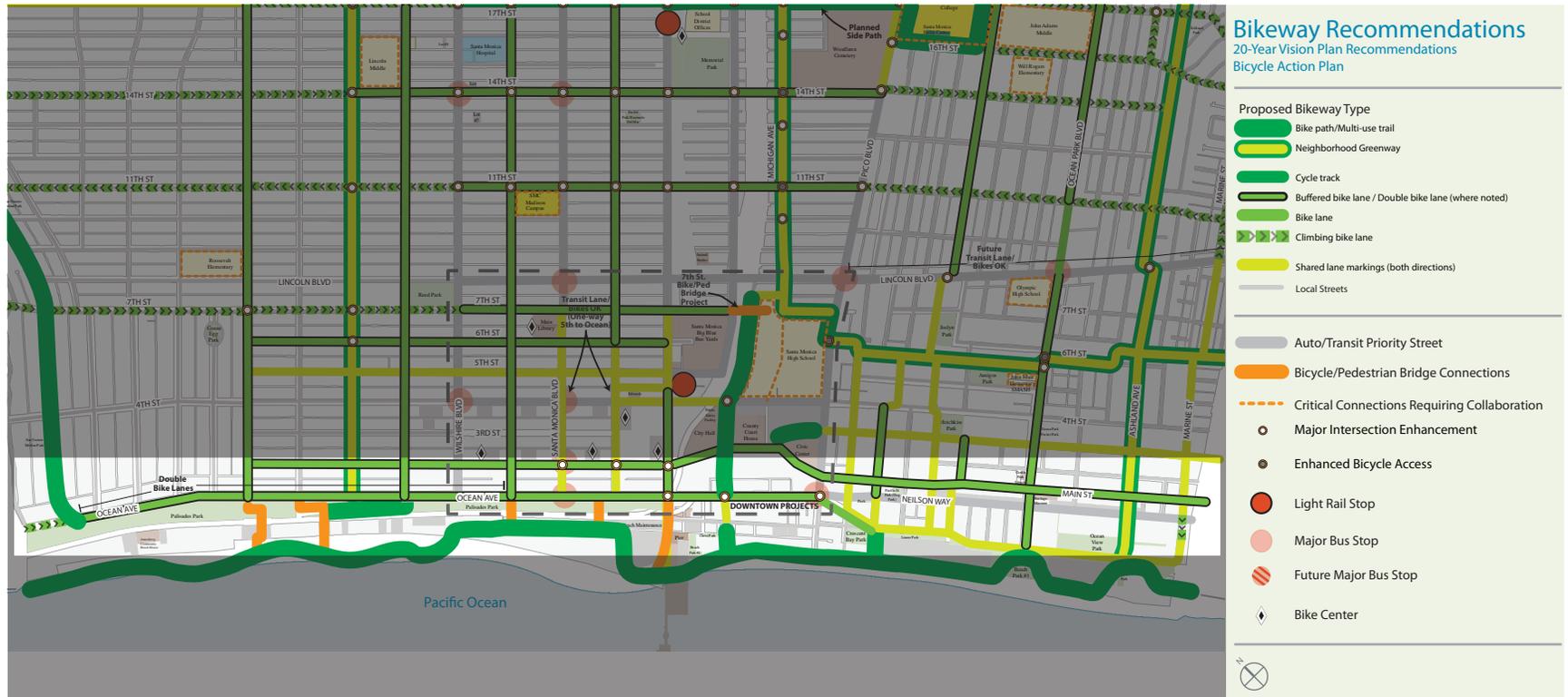
Ocean Park Boulevard's existing raised median between 29th and 30th Street



Ocean Park Boulevard with bike lanes between 25th Street and Centinela Avenue

Ocean/Barnard Way Bikeway

20-Year Corridor Build Out



Ocean/Barnard Way Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Double bike lanes, buffered bike lanes (green), climbing lanes, shared lane markings ▶ From: North City Limit ▶ To: Neilson Way ▶ Length: 3.0 miles ▶ Physical Characteristics: Curb-to-curb width ranges between 50’ and 84’ on Ocean Avenue and 30’ and 44’ on Barnard Way (One brief section is 48’); No change in topography ▶ Major Connections: Santa Monica Pier, Beach, Marvin Braude Beach Bike Trail, Ocean Park Bikeway, Venice Beach (southern city limits) ▶ Traffic Conditions: High pedestrian demand during the weekend and throughout the summer months; Primarily local / beach parking access especially on Barnard Way; Medians and crossing islands effectively calm traffic speeds; Speed limits range between 25 and 30 mph 	<ul style="list-style-type: none"> A. North City Limit to Pico Boulevard B. Pico Boulevard to Neilson Way
<h3>Route Description</h3>	
<p>The Ocean/Barnard Way Bikeway project would provide enhanced beach access and wayfinding signage along Ocean Avenue and Barnard Way. Cyclists entering into Santa Monica from Adelaide Drive will be supported up the slight incline using a southbound climbing lane (shared lane markings in the opposite direction). Because of the relatively high volume of cyclists—utilitarian and recreation—and significant street width along Ocean Boulevard, cyclists will be provided with double bike lanes between San Vicente Boulevard and California Avenue to allow for comfortable passing for faster cyclists while maintaining a stress-free inner bike lane. Between California Avenue and Pico Boulevard, cyclists will travel along buffered bike lanes, an enhancement upon the existing conventional bike lanes.</p> <p>Along the Ocean Avenue northbound-southbound couplet between Neilson Way and Bicknell, a southbound bike lane would be striped (connects into existing bike lane between Bay and Bicknell), while northbound shared lane markings would be installed to connect back to Pico Boulevard. Shared lane markings would be installed in both directions from Bicknell to the intersection approach at Neilson Way and Marine Street, which will improve beachgoers’ awareness of bicycling. Shared lane markings would be used at all intersection approach through lanes, where right- and left-turn lanes are present. The intersection at Neilson Way and Marine Street would have a westbound 4’ bike lane and eastbound shared lane markings. A formal right turn pocket would be striped to better organize queuing during the red light signal phase.</p> <p>All segments along the Ocean/Barnard Way Bikeway would be supplemented with wayfinding signage that identify the bikeway and indicate destinations and distances to destinations. A key destination to highlight are beach access portals and bicycle/pedestrian bridge connections over Pacific Coast Highway to the beach.</p>	

Ocean Avenue from North City Limit to Pico Boulevard

5-YEAR PROPOSED FACILITIES:

- ▶ **Ocean Avenue from North City Limit to San Vicente Boulevard:** Restripe to create a buffered climbing bike lane southbound.
- ▶ **Ocean Avenue from San Vicente Boulevard to California Avenue:** Restripe existing bike lanes to create double bike lanes by narrowing travel lanes.
- ▶ **Ocean Avenue from California Avenue to Pico Boulevard:** Restripe existing bike lanes to create green buffered bike lanes by narrowing travel lanes and parking lanes.

5-Year Project Conceptual Construction Cost Estimate: \$250,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

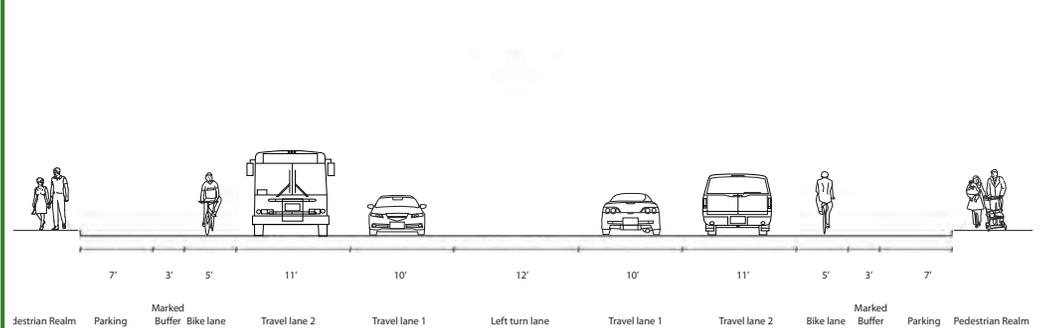
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ To ensure bicyclists operate correctly within the double bike lanes, signage and pavement markings should indicate proper direction of travel.
- ▶ The City should collaborate with Big Blue Bus to incorporate bus operations into the design of the bikeway. The City should also coordinate with hotels located along Ocean Avenue to ensure valets do not encroach into any part of the buffered bike lane.



Existing Ocean Avenue between Broadway and Colorado



Buffered bike lanes on Ocean Avenue between Broadway and Colorado Avenue

Between Pico Boulevard and Neilson Way (via East Ocean and Barnard Way)

5-YEAR PROPOSED FACILITIES:

- ▶ **Ocean Avenue from Pico Boulevard to Bicknell Avenue:** Restripe to create a southbound bike lane; Install shared lane markings northbound between Bay Street and Bicknell Avenue.
- ▶ **Ocean Avenue and Barnard Way between Bicknell Avenue and Neilson Way:** Install shared lane markings; install westbound climbing lane immediately east of the median approaching Neilson Way (approximately last 220 feet).

5-Year Project Conceptual Construction Cost Estimate: \$5,000

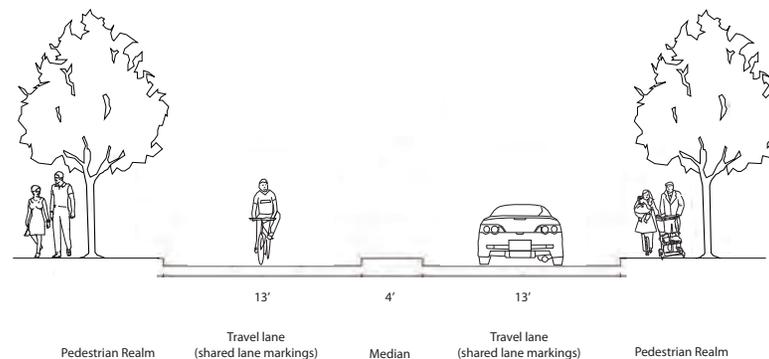
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

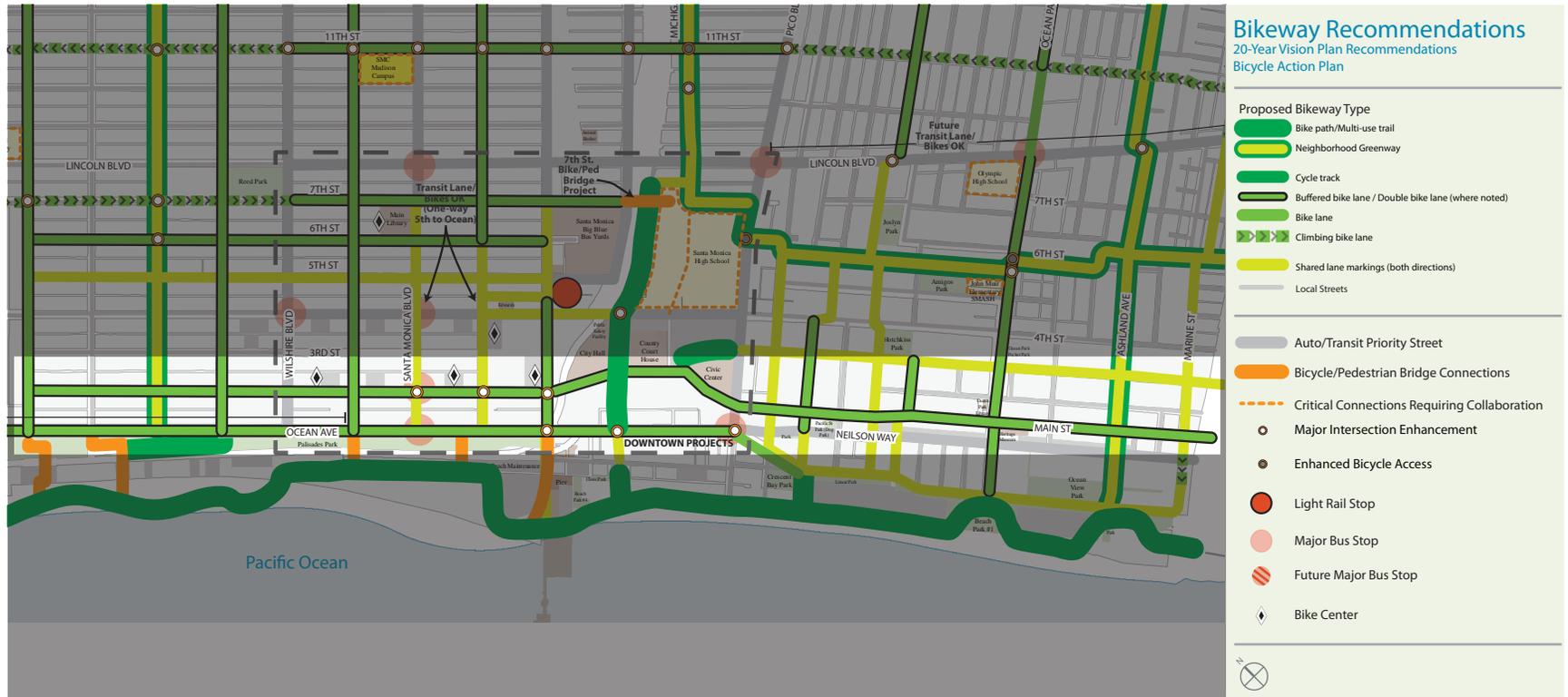
- ▶ The City should install advisory signs where the northbound climbing bike lane ends and the shared lane markings begin at the existing raised median. Advisory signage should indicate to motorists that bicyclists may use the full lane.
- ▶ The City should also consider constructing a more pronounced curb extension to slow speeds for vehicles entering onto Ocean Avenue at Pico Boulevard. Constructing the curb extension would likely require redesigning the pedestrian crossing and re-stripping the yield pavement markings (“shark tooth” design).



Northbound and Southbound shared lane markings on Barnard Way between Hollister Avenue and Fraser Avenue

2nd/Main Bikeway

20-Year Corridor Build Out



2nd/Main Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes (green) ▶ From: Montana Avenue ▶ To: South City Limit ▶ Length: 2.3 miles ▶ Physical Characteristics: Curb-to-curb widths between 52’ and 60’; Relatively flat throughout except at the Main Street overpass bridge structure just south of Colorado Avenue ▶ Major Connections: Montana Avenue, Downtown, Civic Center, Civic Center Parks, Santa Monica High School via Michigan Avenue Neighborhood Greenway, Expo light rail station at 4th/5th Street, Ocean Park neighborhood, Main Street commercial district, and Venice ▶ Traffic Conditions: Moderate volumes on 2nd Street in downtown and on Main Street in the commercial district; High northbound turn volumes on Main Street at Colorado; Low volume north of Wilshire; Posted speed limit ranges between 25 and 30 mph 	<ul style="list-style-type: none"> A. Montana Avenue to Colorado Avenue B. Colorado Avenue to South City Limits
<p>Route Description</p>	
<p>The 2nd/Main Bikeway project fills a gap in the downtown bicycle network and enhances the existing bike lanes along Main Street to reduce conflicts and provide additional comfort. Cyclists traveling from north Santa Monica can travel along 2nd Street using buffered bike lanes up to Colorado Avenue. Once at Colorado Avenue, lane configuration and integrated signalization improvements will facilitate crossing this complex intersection. All segments between Colorado Avenue and the South City Limits will be retrofitted with buffered bike lanes providing a more comfortable bicycle connection to the Ocean Park neighborhood and the Main Street commercial district.</p>	

2nd Street from Montana Avenue to Colorado Avenue (via 2nd Street)

5-YEAR PROPOSED FACILITIES:

- ▶ **2nd Street from Montana Avenue to Wilshire Boulevard:** Create green buffered bike lanes by narrowing travel lanes and parking lanes.
- ▶ **2nd Street from Wilshire Boulevard to Colorado Street:** Create green buffered bike lanes by implementing a road diet.
- ▶ **Intersection of Colorado Street with Main Street and 2nd Street:** As part of the Colorado Esplanade project, reconfigure this intersection to enhance through bicycle movements on Main Street and 2nd Street. This can be accomplished in several ways, including using a curvilinear street to create a single intersection, reconfiguring the lane configuration on Colorado, or providing short segments of cycle tracks or sidepaths.

5-Year Project Conceptual Construction Cost Estimate: \$250,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

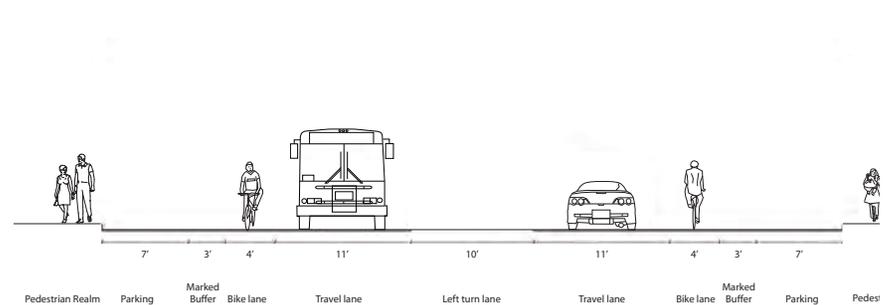
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Most of the proposed road diet on 2nd Street between Wilshire Boulevard to Colorado Street would be a 3-lane cross section with one through lane in each direction, and left turn lanes serving the intersections (or a two-way left turn lane). The block between Santa Monica Boulevard and Broadway is too narrow (52 feet) for a 3-lane cross section. Northbound left turns at Santa Monica could be eliminated using several strategies.



Existing 2nd Street between Santa Monica and Broadway



2nd Street between Broadway and Colorado Avenue

Main Street from Colorado Avenue to South City Limit

5-YEAR PROPOSED FACILITIES:

- ▶ No 5-year improvements.

5-Year Project Conceptual Construction Cost Estimate: N/A

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ **Main Street from Colorado Avenue to South City Limit:** Restripe existing bike lanes to create green buffered bike lanes by narrowing travel lanes and parking lanes.

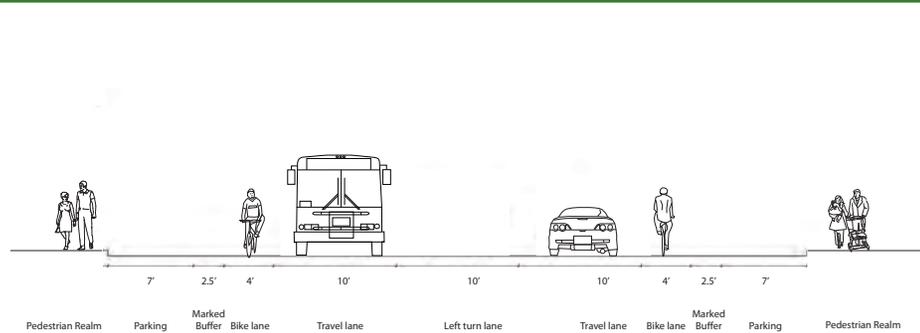
20-Year Project Conceptual Construction Cost Estimate: \$300,000

IMPLEMENTATION:

- ▶ Southbound buffered bike lane and travel lane configuration must consider the poor sightlines as the street bends toward Pico Boulevard (at the RAND Corporation Headquarters).



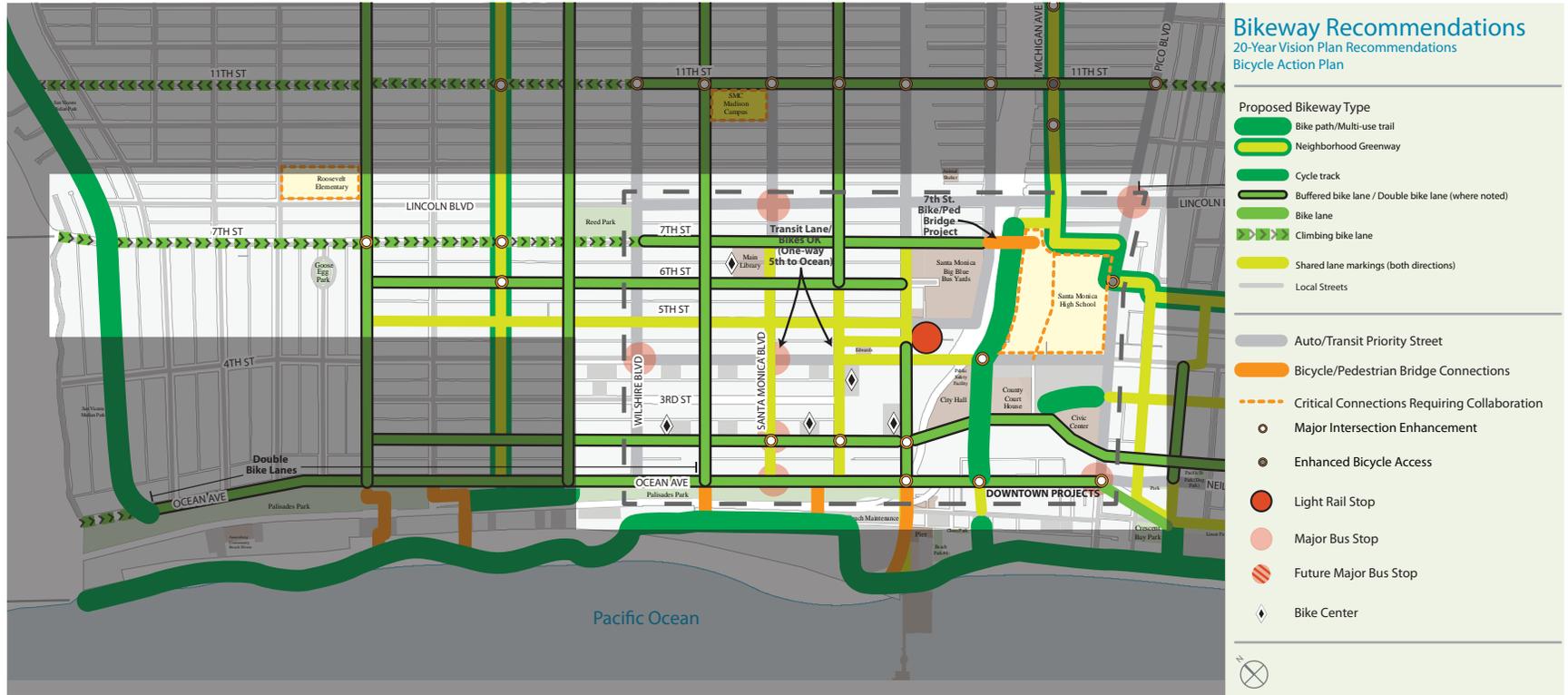
Existing Main Street between Hill and Ashland



Main Street between Hill Street and Ashland Avenue

Downtown Projects

20-Year Corridor Build Out



Downtown Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes, climbing lanes, shared lane markings ▶ Streets: 4th Street, 4th Court, 5th Street, 6th Street, 7th Street ▶ Total Length: 3.2 miles ▶ Physical Characteristics: Curb-to-curb widths of range between 40' to the north and 56' within downtown; Relatively flat throughout ▶ Major Connections: Downtown commercial and employment destinations, Expo light rail station at 4th/5th Street, Transit mall and other major local and regional bus connections ▶ Traffic Conditions: Conditions range from relatively low volume to high volume depending on time of day; high on-street parking turnover and several parking structure entrances along 2nd and 4th Street; posted speed limits range between 25 and 30 mph 	<ul style="list-style-type: none"> A. 4th Street, 4th Court, and 5th Street B. 6th Street and 7th Street
<p>Route Description</p>	
<p>Depending on their access point into Downtown, cyclists will enjoy a diversity of facility types that will vastly improve bicycle access into this major activity center.</p>	

Between Montana Avenue and Olympic Boulevard (via 4th Street, 4th Court, and 5th Street)

5-YEAR PROPOSED FACILITIES:

- ▶ **4th Street from Broadway to Olympic Boulevard:** Install shared lane markings.
- ▶ **5th Street from Montana Avenue to Colorado Avenue:** Install shared lane markings.
- ▶ **4th Court between Broadway and Colorado Avenue:** Install wayfinding signs and shared lane markings.

5-Year Project Conceptual Construction Cost Estimate: \$10,000

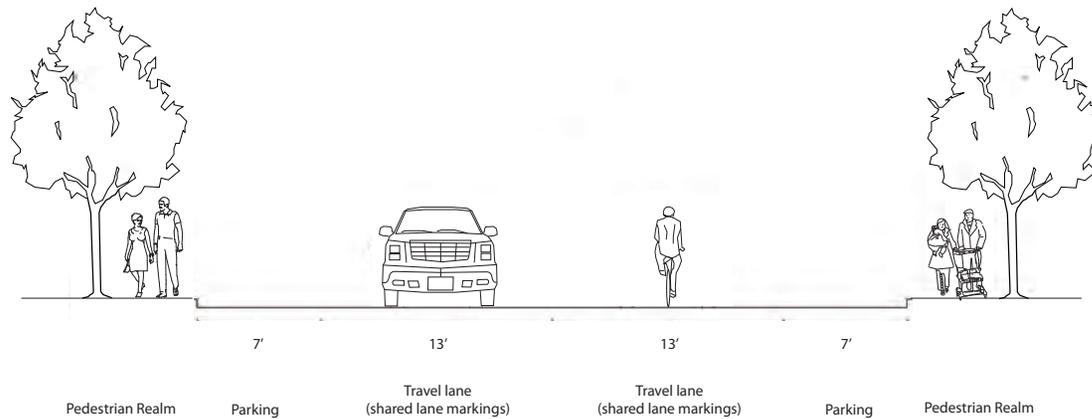
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Installing shared lane markings requires no lane reconfiguration. Implementation should occur immediately.



5th Street between California Avenue and Wilshire Boulevard

Between San Vicente Boulevard and Olympic Boulevard (via 6th Street and 7th Street)

5-YEAR PROPOSED FACILITIES:

- ▶ **7th Street from North City Limit to Wilshire Boulevard:** Restripe to place a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).
- ▶ **6th Street from Montana Avenue to Colorado Avenue:** Restripe to create buffered bike lanes by narrowing travel and parking lanes and eliminating the two-way center turn lane.
- ▶ **7th Street from Wilshire Boulevard to Olympic Boulevard:** Restripe to create buffered bike lanes that are continuous to intersections, by reducing travel and parking lane widths as well as eliminating left turn lanes at intersections.

5-Year Project Conceptual Construction Cost Estimate: \$20,000

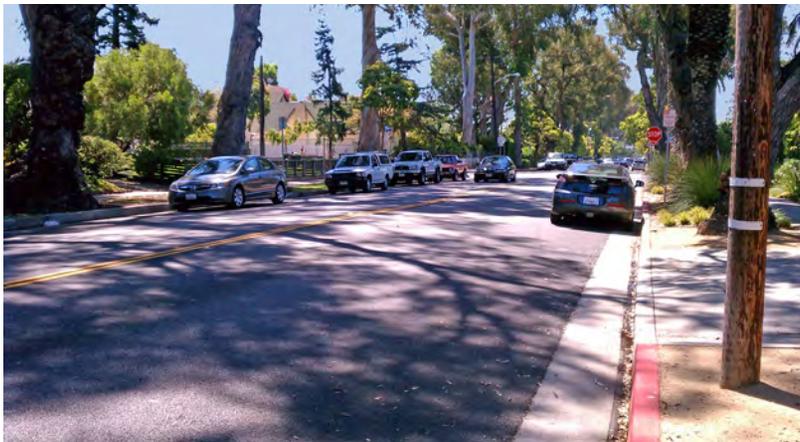
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

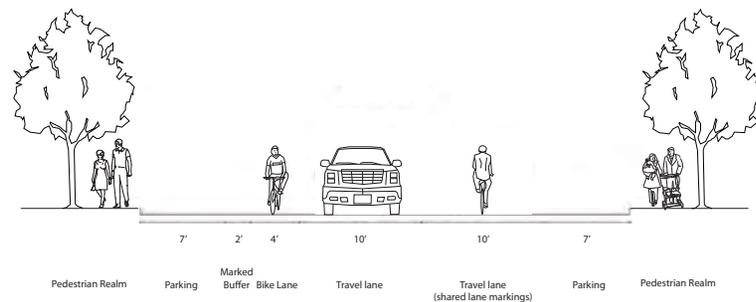
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Eliminating left turn lanes to allow for buffered bike lanes along 7th Street in downtown will require traffic analysis. In addition to traffic analysis, further study will be needed to evaluate the impacts of lane width reduction.



Existing 7th Street between Marguerita and Alta

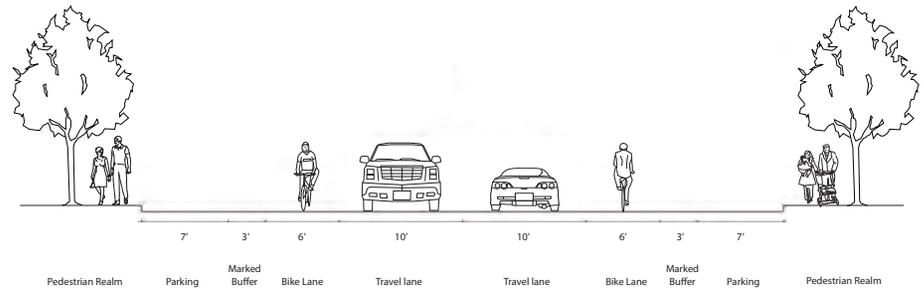


7th Street between Marguerita Avenue and Alta Avenue

Between San Vicente Boulevard and Olympic Boulevard (via 6th Street and 7th Street—Continued)



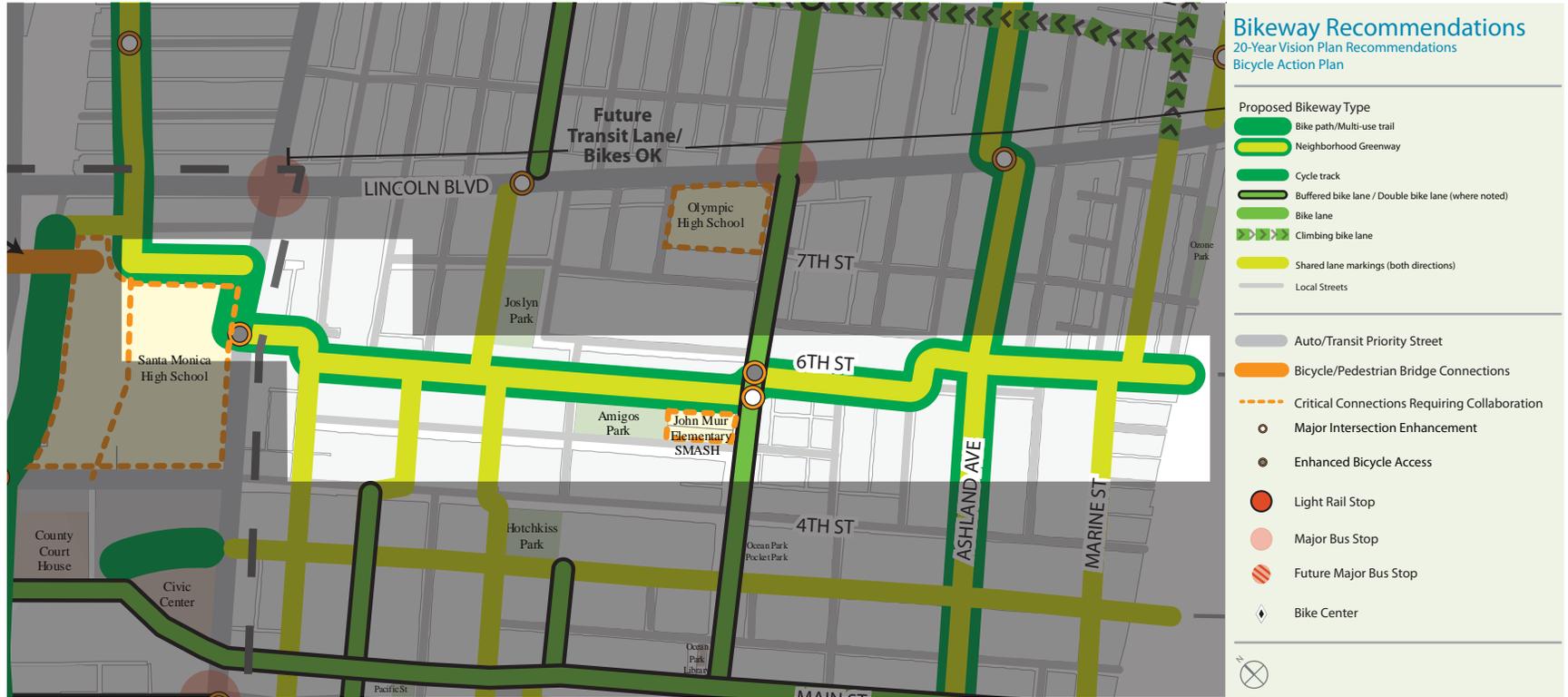
Existing 6th Street between Arizona and Santa Monica



6th Street between Arizona Avenue and Santa Monica Boulevard

6th Street Neighborhood Greenway

20-Year Corridor Build Out



6th Street Neighborhood Greenway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Varies (Bike lanes, climbing lanes, shared lane markings, bike boulevard, bike path) ▶ From: Michigan Avenue ▶ To: South City Limit ▶ Length: 1.2 miles ▶ Physical Characteristics: Curb-to-curb widths between 30' and 40'; Relatively flat on the north end; Steep grades on Highland ▶ Major Connections: Santa Monica High School, Michigan Avenue Neighborhood Greenway, Ocean Park Boulevard Bikeway, Venice ▶ Traffic Conditions: Very low traffic volumes and low speeds throughout (except right turn volumes off of 7th Street onto Pico during school pick-up/drop-off hours); 25 mph posted speed limit 	<p>A. Michigan Avenue to South City Limit</p>
Route Description	
<p>The 6th Street Neighborhood Greenway project will formalize this low traffic and low speed bicycle connection. Traveling from north to south, cyclists can connect from the Michigan Avenue Neighborhood Greenway/Santa Monica High School to Pico Boulevard using shared lane markings. Pico Boulevard currently acts as a barrier. Bicyclists will now connect to 6th Street using a fully separated median running bicycle facility, likely a bike path or cycle track. Bicycles will use a variety of streets to connect between Pico Boulevard and the Ocean Park neighborhood and Venice, including 6th Street, Bay Street, 6th Street again with a intersection enhancement at Ocean Park Boulevard (likely including traffic diversion), Raymond Avenue, and Highland Avenue. This corridor will transform into a neighborhood greenway only after bicycle access enhancements, intersection enhancements, and bikeway branding is developed.</p>	

Between Michigan Avenue and South City Limit (via 7th Street, 6th Street, Pico Boulevard, Bay Street, Raymond Avenue, and Highland Avenue)

5-YEAR PROPOSED FACILITIES:

- ▶ **7th Street from Michigan Avenue to Pico Boulevard:** Install shared lane markings.
- ▶ **Intersection of Pico Boulevard and 6th Street:** Provide new bicycle signalization to serve both northbound and southbound cyclists; may include treatments to eliminate left or right turn movements for motor vehicles from 6th Street to Pico.
- ▶ **Between Pico Boulevard and South City Limit:** Install shared lane markings on the following street segments: 6th Street from Pico Boulevard to Bay Street; Bay Street between two legs of 6th Street; 6th Street between Bay Street and Raymond Avenue; Raymond Avenue between 6th Street and Highland Avenue; and Highland Avenue between Raymond Avenue and South City Limit.
- ▶ **Intersection of 6th Street and Ocean Park Boulevard:** Intersection improvement to allow northbound cyclists on 6th Street to make a left turn onto Ocean Park Boulevard and a right turn onto 6th Street, likely through the use of a raised median; may also include an intersection enhancement to eliminate some turning movements between Ocean Park Boulevard and 6th Street.

5-Year Project Conceptual Construction Cost Estimate: \$100,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ **7th Street (or nearby) at I-10 Freeway:** Construct bike and pedestrian overpass of I-10 and Olympic Boulevard eastbound.
- ▶ **6th Street from Michigan Avenue to South City Limit:** Provide wayfinding signs and neighborhood greenway branding on the streets identified for shared lane markings in the 5-year priorities.
- ▶ **Pico Boulevard from 7th Street to 6th Street:** Construct a protected median running cycle track/bike path with continental crosswalk markings and yield signs on the east end.

20-Year Project Conceptual Construction Cost Estimate: \$8,000,000

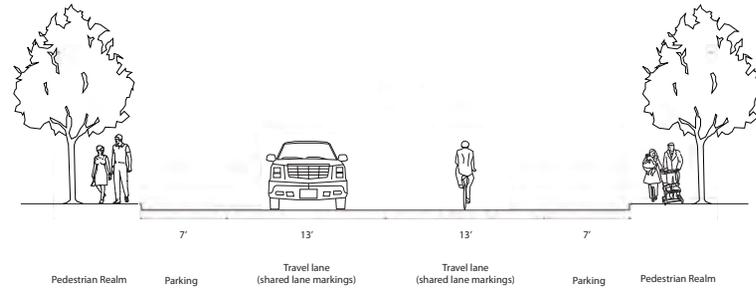
IMPLEMENTATION:

- ▶ Because shared lane marking installation requires no analysis or parking removal, these facilities should be implemented first.
- ▶ Any intersection enhancement along the neighborhood greenway will require extensive public process and traffic analysis.
- ▶ The planned 7th Street bicycle and pedestrian bridge project should ensure the connections at each bridge approach are direct and seamlessly integrate into the school and street network. The bridge should use pavement markings and signage to separate bicycle and pedestrian traffic. The City must collaborate with Santa Monica HS and Caltrans on any design and safety issues associated with the bridge.
- ▶ Any potential separated median running bicycle facility on Pico Boulevard will require redesign of the existing raised median and narrowing of the travel lanes. The City should collaborate with SMMUSD, the parent teacher association, Santa Monica HS student groups, and Big Blue Bus to ensure the facility's design reflects the needs and concerns of each stakeholder and user. Great consideration must be made to ensure the crossing at 7th Street and Pico is highly visible, potentially using high visibility countermeasures such as rapid flashing beacons.

Between Michigan Avenue and South City Limit (via 7th Street, 6th Street, Pico Boulevard, Bay Street, Raymond Avenue, and Highland Avenue)



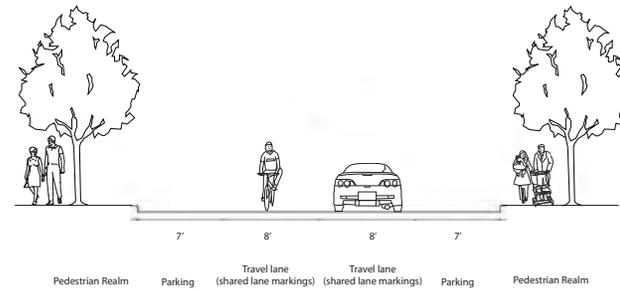
Existing 6th Street between Strand and Hollister



6th Street shared lane markings between Bay Street and Ocean Park Boulevard



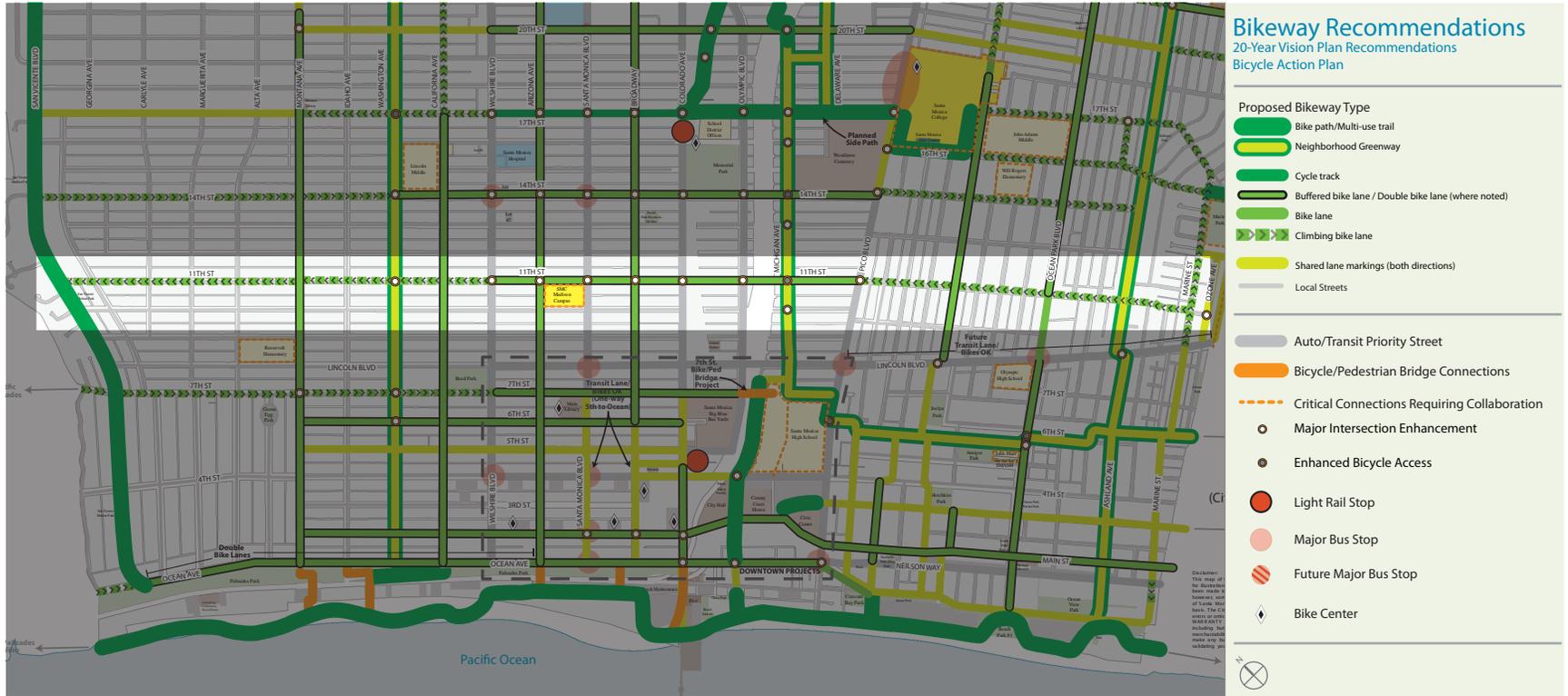
Existing 6th Street between Strand and Hollister



6th Street shared lane markings between Bay Street and Ocean Park Boulevard

11th Street Bikeway

20-Year Corridor Build Out



11th Street Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes (green), Climbing bike lane, Shared lane markings ▶ From: San Vicente Boulevard ▶ To: Marine Street ▶ Length: 3.0 miles ▶ Physical Characteristics: Curb-to-curb widths ranging between 40' and 60' (central segments are 52'); Relatively flat throughout ▶ Major Connections: SMC Madison Campus, Roosevelt Elementary, various east-west bikeway connections like Michigan Avenue Neighborhood Greenway, San Vicente Bikeway, and Montana Avenue Bikeway ▶ Traffic Conditions: Moderate traffic volumes with very low volumes north of Montana and west of Ocean Park; Designated truck route between Santa Monica and Pico Boulevard; 30 mph posted speed limit throughout 	<ul style="list-style-type: none"> A. San Vicente Boulevard to Wilshire Boulevard B. Wilshire Boulevard to Marine Street
<p>Route Description</p>	
<p>The 11th Street Bikeway project will complete the existing north-south connection, essentially spanning from the North City Limit to the South City Limit. On the 40-foot streets north of Wilshire Boulevard, cyclists will travel on a climbing bike lane. Continuing southbound from Wilshire Boulevard to Pico Boulevard, cyclists will enjoy an enhanced bikeway equipped with buffered bike lanes. Along this segment cyclists may connect to high quality bikeways like the Michigan Avenue Neighborhood Greenway which links to the Expo Bike Path and Expo Light Rail Station at Bergamot Station to the east and Santa Monica High School to the west. From Pico Boulevard to Marine Street, the bicycling environment is oriented toward local traffic, so cyclists will travel on a climbing bike lane. The climbing bike lane's direction (northbound) creates a climbing bike lane couplet with the climbing lanes planned for the 14th Street Bikeway.</p>	

11th Street from San Vicente Boulevard to Wilshire Boulevard

5-YEAR PROPOSED FACILITIES:

- ▶ Restripe to create a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).

5-Year Project Conceptual Construction Cost Estimate: \$10,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

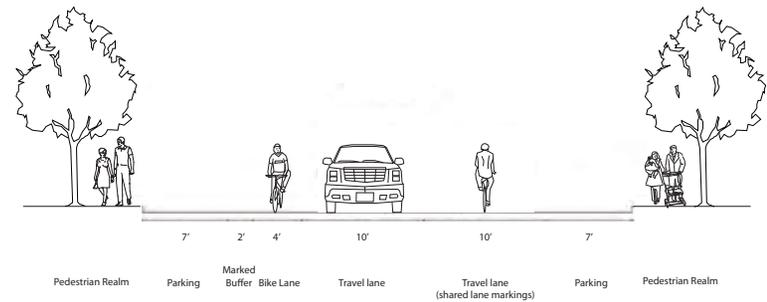
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Segments north of Wilshire Boulevard and south of Pico Boulevard do not require centerline reconfiguration and some major intersection design is needed before implementation.



Existing 11th Street between Marguerita and Alta



Northbound climbing bike lane on 11th Street between Marguerita and Alta

11th Street from Wilshire Boulevard to Marine Street

5-YEAR PROPOSED FACILITIES:

- ▶ **Wilshire Boulevard to Pico Boulevard:** Restripe to create green buffered bike lanes by narrowing travel and parking lanes.
- ▶ **Pico Boulevard to Marine Street:** Restripe to create a buffered climbing bike lane northbound and shared lane markings southbound. Except for the last few blocks between Ashland Avenue and Marine Street, this street is relatively flat – the climbing bike lane placed in the northbound direction here is the opposite of the climbing bike lane southbound on 14th Street two blocks away.

5-Year Project Conceptual Construction Cost Estimate: \$375,000

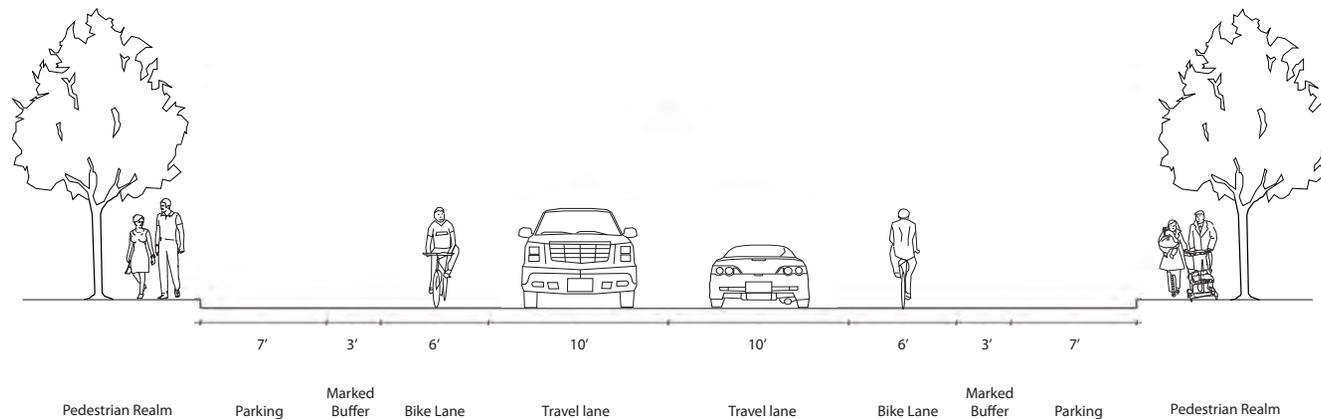
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Striping buffered bike lanes between Wilshire Boulevard and Pico Boulevard will require reconfiguring turn lanes and/or parking lanes on 11th Street at Wilshire Boulevard, Arizona Avenue, Santa Monica Boulevard, Broadway, Colorado, Olympic Boulevard, and Pico Boulevard to allow for merge lane treatments and through bike lanes.

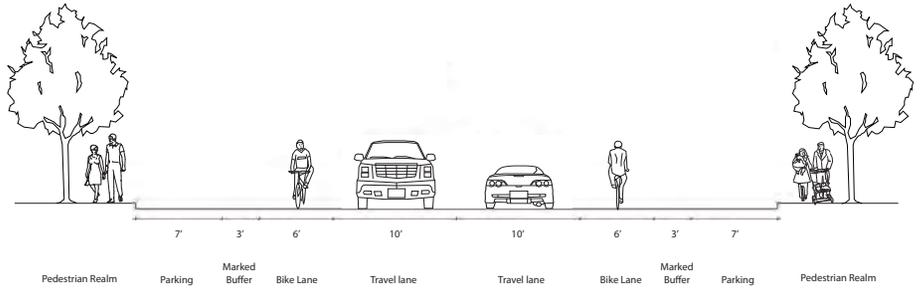


Buffered bike lanes on 11th Street between Santa Monica and Broadway

11th Street from Wilshire Boulevard to Marine Street (Continued)



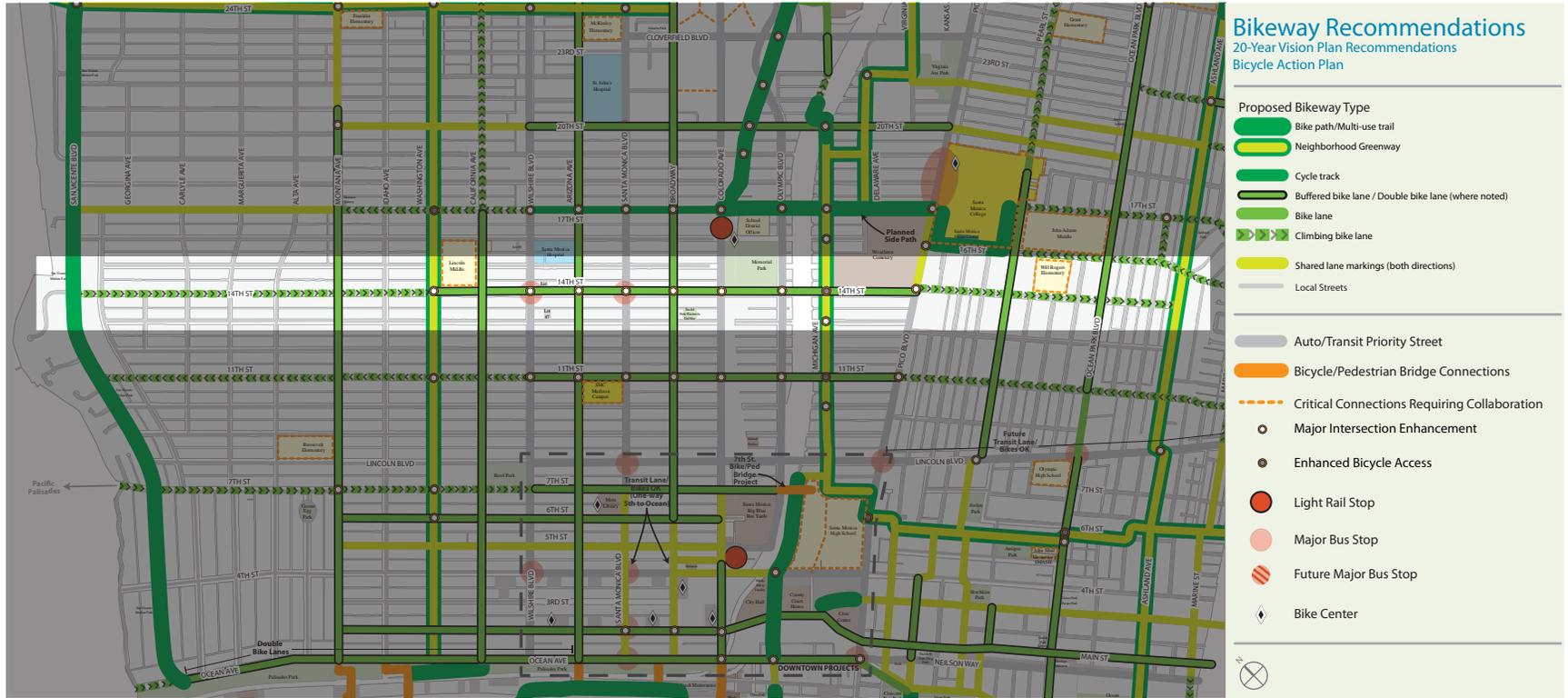
Existing 11th Street between Michigan and Pico



Buffered bike lanes on 11th Street between Michigan and Pico

14th Street Bikeway

20-Year Corridor Build Out



14th Street Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes (green), climbing lanes, and shared lane markings ▶ From: San Vicente Boulevard ▶ To: Ashland Avenue ▶ Length: 2.9 miles ▶ Physical Characteristics: Curb-to-curb widths between 40' and 60' (with several segments at 52'); Relatively flat and direct route; Large hill on 16th and 17th near Marine Park ▶ Major Connections: Santa Monica College (via Pearl), several east-west bikeways, John Adams Middle School, Lincoln Middle School, and Will Rogers Elementary School ▶ Traffic Conditions: Moderate traffic volumes (lower volume at the northern and southern ends), Secondary truck route between Montana Avenue and Ocean Park Boulevard; Bus route along John Adams MS; one Big Blue Bus transit route ; 30 mph posted speed limit throughout 	<ul style="list-style-type: none"> A. San Vicente Boulevard to Ashland Avenue B. Wilshire Boulevard to Pico Boulevard
<p>Route Description</p>	
<p>The 14th Street Bikeway project is a critical north-south bicycle connection providing a better linkage to access to several grade schools and Santa Monica College. Projects are broken into two types of segments: the city periphery segments and the central segment. Cyclists will travel along a climbing bike lane from San Vicente Boulevard to Washington Avenue. Traveling along the central segment of the corridor, cyclists would use buffered bike lanes between Wilshire Boulevard and Pico Boulevard. From Pico Boulevard to Ashland Avenue, bicyclists will be able to use a climbing bike lane connecting to the planned Ashland Avenue Neighborhood Greenway. The climbing bike lane's direction (southbound) creates a climbing bike lane couplet with the climbing lanes planned for the 11th Street Bikeway.</p>	

14th Street from San Vicente Boulevard to Ashland Avenue

5-YEAR PROPOSED FACILITIES:

- ▶ **San Vicente Boulevard to Washington Avenue:** Restripe to create a buffered climbing bike lane in the uphill direction (southbound) and shared lane markings in the downhill direction (northbound).
- ▶ **Pico Boulevard to Ashland Avenue:** Restripe to create a buffered bike lane southbound and shared lane markings northbound. This street is relatively flat – the bike lane placed in the southbound direction here is the opposite of the bike lanes northbound on 11th Street two blocks away and 16th Street 1 block away.

5-Year Project Conceptual Construction Cost Estimate: \$10,000

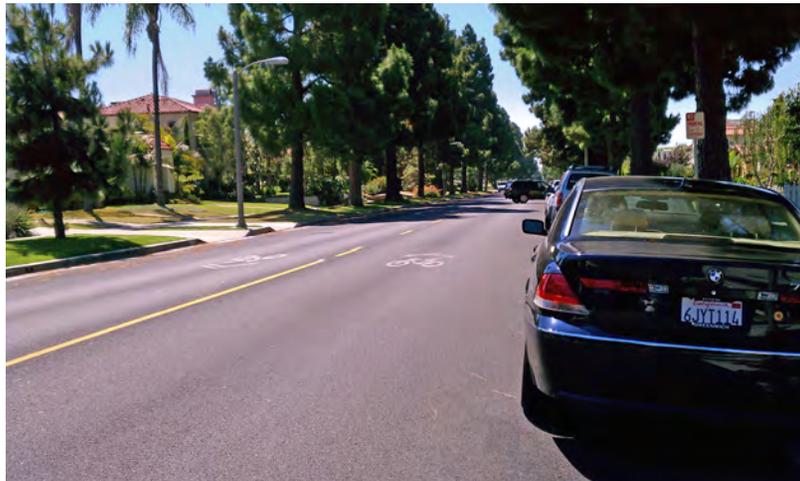
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

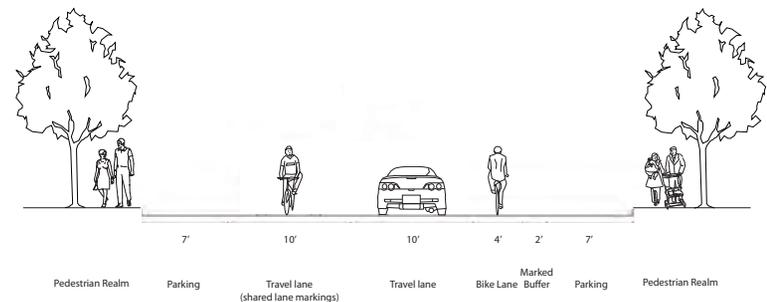
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Segments north of Washington Avenue and south of Ocean Park Boulevard do not require centerline reconfiguration, and thus could be implemented immediately.



Existing 14th Street between Marguerita and Alta



Southbound climbing bike lane on 14th Street between Marguerita and Alta

14th Street from Washington Avenue to Pico Boulevard

5-YEAR PROPOSED FACILITIES:

- ▶ **Washington Avenue to Pico Boulevard:** Restripe to create green buffered bike lanes by narrowing travel and parking lanes.

5-Year Project Conceptual Construction Cost Estimate: \$300,000

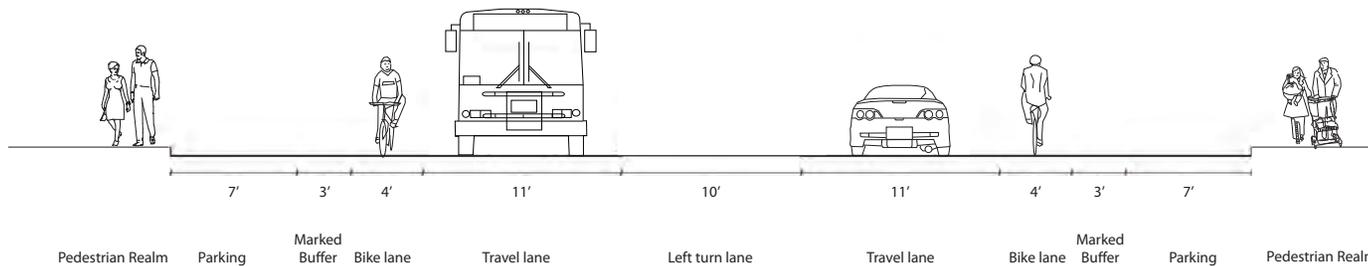
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Striping buffered bike lanes will require reconfiguring turn lanes and/or parking lanes on 14th Street at Wilshire Boulevard, Arizona Avenue, Santa Monica Boulevard, Broadway, Colorado, Olympic Boulevard, and Pico Boulevard.
- ▶ Where there is not enough room to accommodate a bike lane to the intersection and a right turn lane, the right turn lanes should be marked as a de facto right-turn lane, where bicyclists may use the turn lane as a through bike lane.

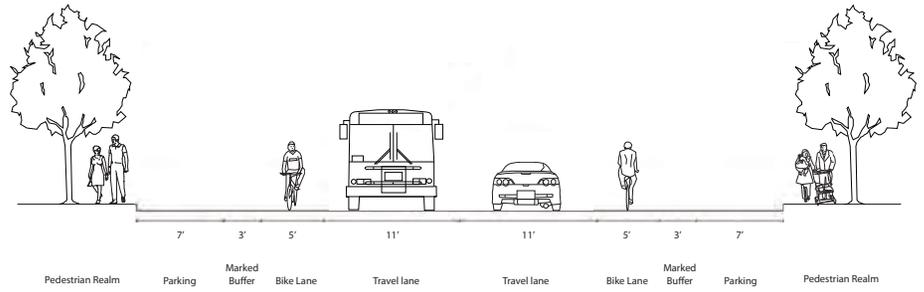


Buffered bike lanes on 14th Street between California and Wilshire

14th Street from Washington Avenue to Pico Boulevard (Continued)



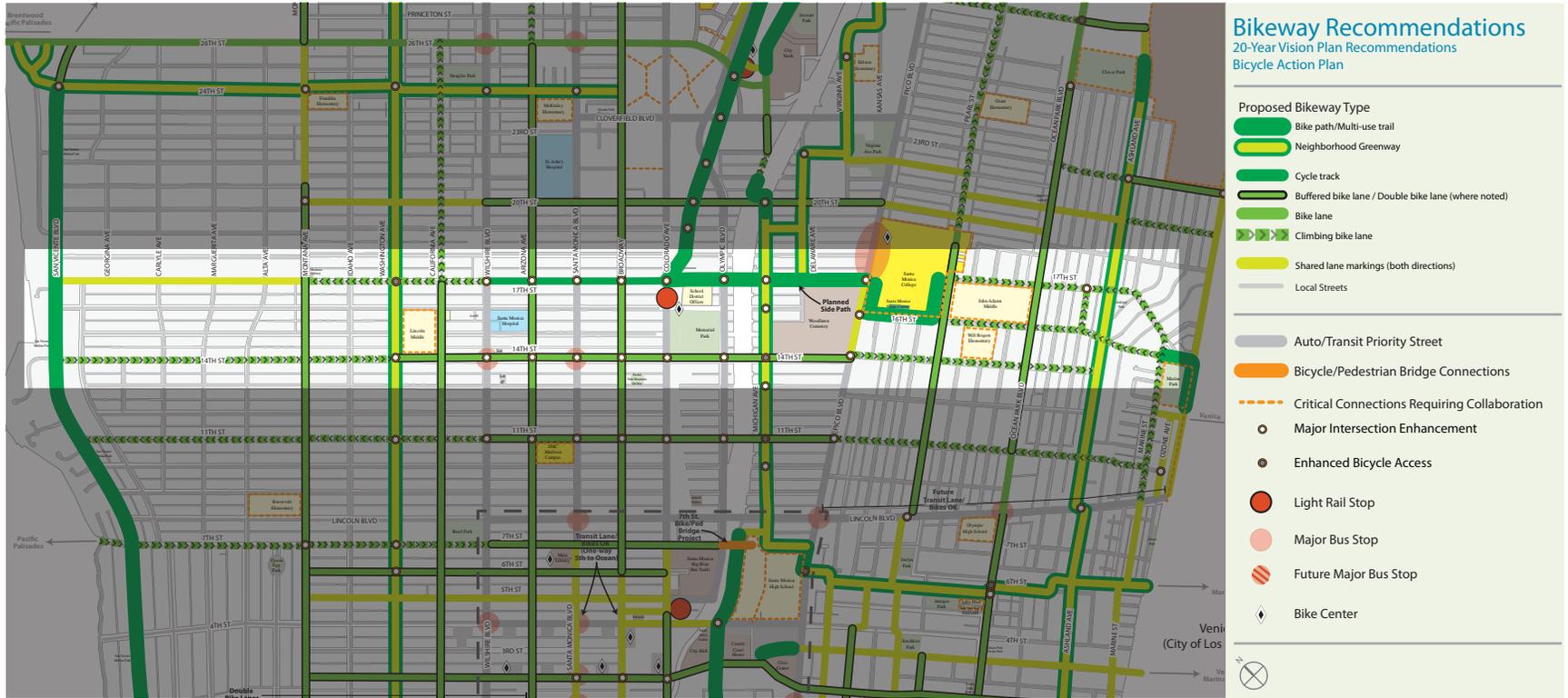
Existing 14th Street between Arizona and Santa Monica



Buffered bike lanes on 14th Street between Arizona and Santa Monica

17th Street/16th Street Bikeway

20-Year Corridor Build Out



17th Street/16th Street Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Bike Path, side path, cycle tracks, buffered bike lanes, climbing lanes, shared lane markings ▶ From: San Vicente Boulevard ▶ To: Marine Street ▶ Length: 4.1 miles ▶ Physical Characteristics: Curb-to-curb widths mostly between 40' and 52'; Route bisects the city from east to west; Relatively flat and direct route; Large hill on 16th and 17th near Marine Park ▶ Major Connections: 17th Street Expo Light Rail station, Santa Monica College, several east-west bikeways, Expo Bike Path, John Adams Middle School, Lincoln Middle School, and Will Rogers Elementary School ▶ Traffic Conditions: Moderate traffic volumes (lower volume at the northern and southern ends), Secondary truck route between Pico and Santa Monica Boulevard; Bus route along John Adams MS; auto volumes center around SMC; 25 mph posted speed limit 	<ul style="list-style-type: none"> A. San Vicente Boulevard to Wilshire Boulevard B. Wilshire Boulevard to Pico Boulevard C. Pico Boulevard to Marine Street
<h3>Route Description</h3>	
<p>The 17th Street bikeway generally follows 17th Street from San Vicente to Marine with several off-shoots including 16th Street and Pico Boulevard. Given 17th Street's existing volumes north of Wilshire and its 40' curb-to-curb ROW, shared lane markings would be installed between San Vicente and Montana and climbing lanes would be striped between Montana and Wilshire. Between Wilshire and Colorado, a north- and southbound curb-separated cycle will provide a high-quality, comfortable north-south connection. The cycle track would include intersection approaches where the cycle track becomes a dashed green bike lane before every intersection. This intersection transition zone will provide better sight lines for right-turning vehicles. To facilitate left turns off of the proposed cycle track onto perpendicular streets (i.e. Broadway, Santa Monica, Arizona), left-turn box facilities would be provided. From Colorado to Pico, cyclists will be able to use an off-street facility—a new two-way side path along the west side of 17th Street.</p> <p>A proposed two-way bike path will carry cyclists along the north, west, and south perimeter of SMC. A bike path running through SMC poses challenges and will require collaboration with the college. 16th Street climbing lanes between Pico and Marine (and shared lane markings on Pico between 14th and 17th) would provide an alternative to the SMC perimeter bike path. Once on 17th Street at Pearl, the street would be striped with northbound climbing lanes and southbound shared lane markings to Hill. A climbing lane couplet on 16th and 17th between Hill and Marine would provide north-south facilities up and down the steep grade.</p>	

17th Street from San Vicente Boulevard to Wilshire Boulevard

5-YEAR PROPOSED FACILITIES:

- ▶ **17th Street from San Vicente Boulevard to Montana Avenue:** Install shared lane markings.
- ▶ **17th Street from Montana Avenue to Wilshire Boulevard:** Restripe to create a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).

5-Year Project Conceptual Construction Cost Estimate: \$10,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

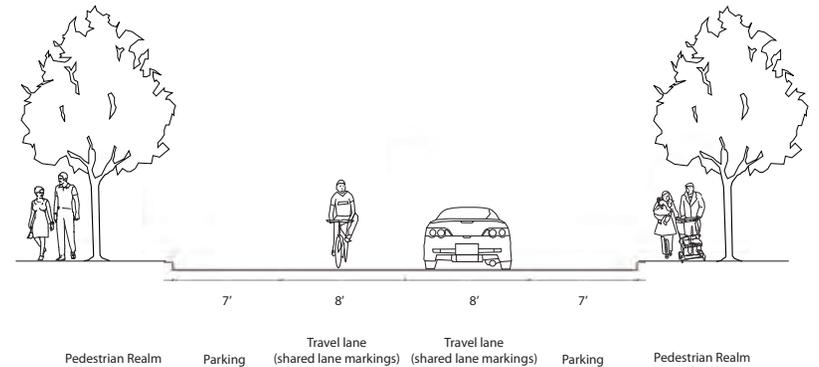
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ No significant impacts or centerline removal will occur, thus implementation could occur immediately.



Proposed cycle tracks would swap the current configuration of parking and the bike lane on 17th and add a marked buffer



17th Street with shared lane markings between San Vicente Boulevard and Carlyle Avenue

17th Street from Wilshire Boulevard to Pico Boulevard

5-YEAR PROPOSED FACILITIES:

- ▶ **17th Street from Wilshire Boulevard to Colorado Avenue:** Reconstruct roadway to install cycle tracks between the parking lane and the curb.
- ▶ **17th Street from Colorado Avenue to Pico Boulevard:** Construct two-way sidepath on the west side of the street. This will require reconfiguring the intersections of 17th Street at Olympic Boulevard, Michigan Avenue, and Pico Boulevard.
- ▶ **Pico Boulevard from 14th Street to 17th Street:** Install shared lane markings.
- ▶ **Install left-turn box turn facilities on the west and east legs of the following intersections:** Arizona Avenue, Santa Monica Boulevard, and Broadway.

5-Year Project Conceptual Construction Cost Estimate: \$1,000,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

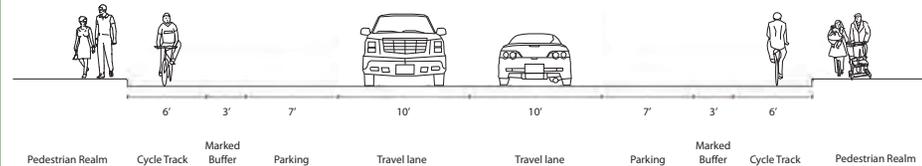
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Developing cycle tracks will require reconfiguring turn lanes and/or removing a few parking spaces on 17th Street at Wilshire Boulevard, Arizona Avenue, Santa Monica Boulevard, Broadway, and Colorado Avenue.
- ▶ Further study will be needed to evaluate the impacts of removing parking in order to create a dashed colored bike lane where cycle tracks approach each intersection. This design recommendation would improve sight lines between bicyclists and right turning motorists approaching an intersection. It may be possible to add parking to adjacent or parallel streets.



Proposed cycle tracks would swap the current configuration of parking and the bike lane on 17th and add a marked buffer



Northbound and Southbound cycle track on 17th Street

Between Pico Boulevard and Marine Street (via 17th Street, 16th Street, and Hill Street)

5-YEAR PROPOSED FACILITIES:

- ▶ **16th Street from Pico Boulevard to Marine Street:** Restripe to create a climbing buffered bike lane northbound and shared lane markings southbound.
- ▶ **17th Street from Pearl Street to Ashland Avenue:** Restripe to create a climbing buffered bike lane southbound and shared lane markings northbound. This segment is relatively flat – the bike lane placed in the southbound direction here is the opposite of the bike lane northbound on 16th Street one block away.
- ▶ **17th Street from Ashland Avenue to Marine Street:** Restripe to create a climbing buffered bike lane northbound and shared lane markings southbound.
- ▶ **Hill Street from 16th Street to 17th Street:** Restripe to create a climbing buffered bike lane eastbound and shared lane markings westbound.

5-Year Project Conceptual Construction Cost Estimate: \$10,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ **Install a side path along the following streets adjacent to Santa Monica College:** South side of Pico Boulevard from 17th Street to 16th Street; East side of 16th Street from Pico Boulevard to Pearl Street; and North side of Pearl Street from 16th Street to 17th Street.

20-Year Project Conceptual Construction Cost Estimate: \$750,000

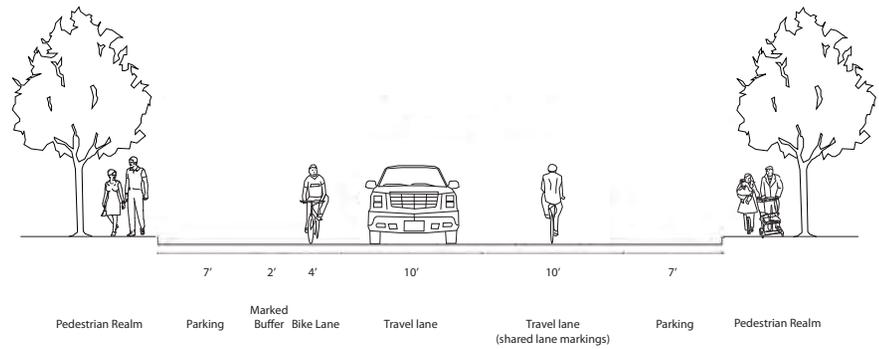
IMPLEMENTATION:

- ▶ Constructing a bike path along the perimeter of SMC's main campus would require a public process involving students, staff, and the adjoining neighborhoods. The path would include colored pavement, edge lines, wayfinding signage, speed restrictions, and require enforcement; The northern end of the path would likely require a leading pedestrian and bicycle interval phase or a separate bicycle and pedestrian scramble phase at 17th Street/Pico Boulevard to mitigate turn conflicts from students entering and exiting the SMC parking structures.
- ▶ South of Pearl Street, no significant impacts or centerline removal will occur, and thus implementation could occur immediately.

Between Pico Boulevard and Marine Street (via 17th Street, 16th Street, and Hill Street—Continued)



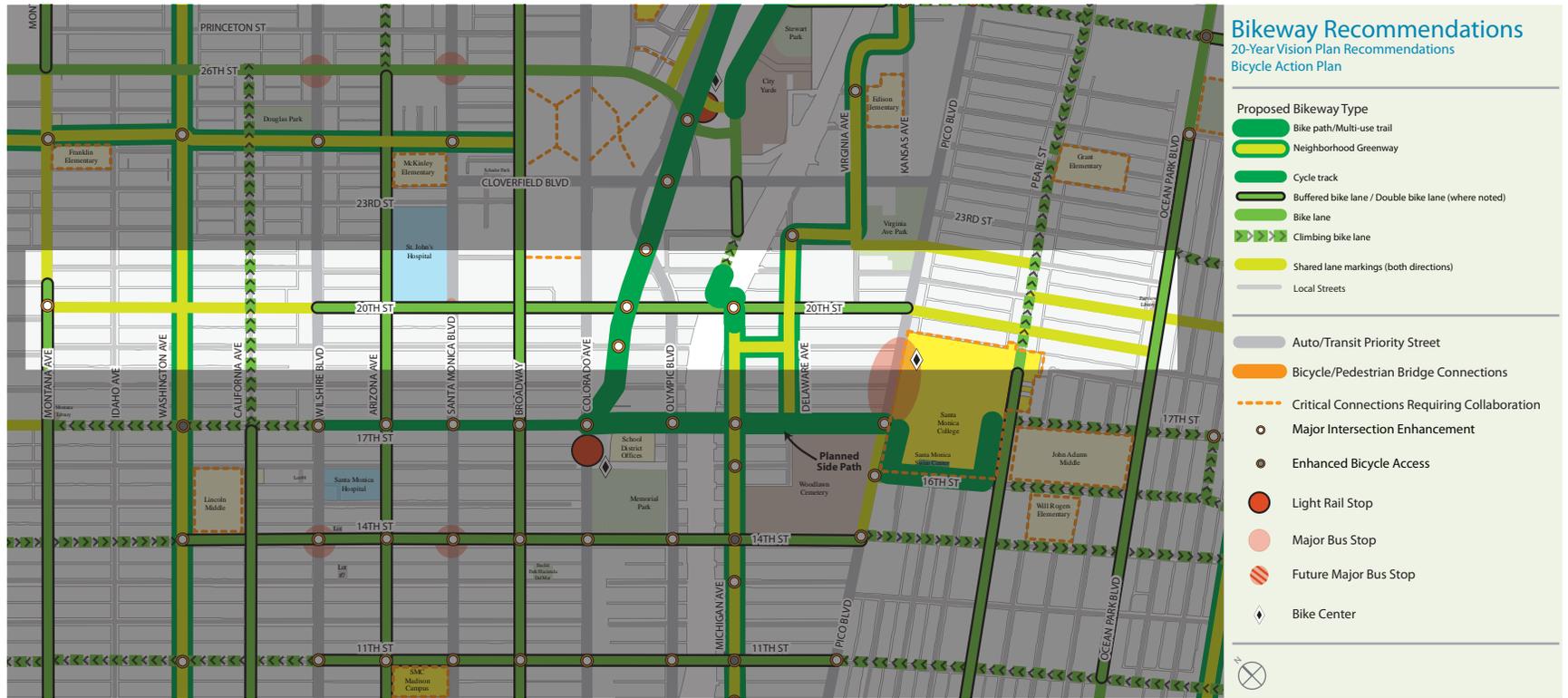
Existing cross-section of 17th at Bryn Mawr



17th Street northbound climbing lane with southbound shared lane markings between Bryn Mawr and Marine Street

20th Street Bikeway

20-Year Corridor Build Out



20th Street Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lanes and shared lane markings ▶ From: Montana Avenue ▶ To: Ocean Park Boulevard ▶ Length: 2.1 miles ▶ Physical Characteristics: Curb-to-curb widths range between 40' and 60' (wider cross sections occur in central Santa Monica); Relatively flat throughout ▶ Major Connections: UCLA / St. John's Health Center, Virginia Avenue Park, connects to Michigan Avenue and Michigan Wiggle Neighborhood Greenways, Expo Bike Path, Connections to Expo light rail station at Bergamot Station ▶ Traffic Conditions: High volume traffic corridor; Lower volumes north of Wilshire; moderate bus volumes; designated as a secondary truck route; posted speed limit range between 25 and 30 mph 	<p>A. Montana Avenue to Ocean Park Boulevard</p>
<p>Route Description</p>	
<p>20th Street is currently viewed as a difficult bicycle connection. However, as this corridor integrates into the bikeway network with facilities and potentially dedicated space for bicycles, 20th Street will develop into a critical north-south connection due to the current lack of facilities in the center of the City. In the 5-year period, cyclists will be guided by shared lane markings between Montana Boulevard and the higher volume sections north of Wilshire Boulevard and on to Ocean Park Boulevard. In the future, traffic volumes will be evaluated to see if improvements are feasible to accommodate cyclists with buffered bike lanes between Wilshire Boulevard and Pico Boulevard.</p>	

20th Street from Montana Avenue to Ocean Park Boulevard

5-YEAR PROPOSED FACILITIES:

- ▶ **Montana Avenue to Ocean Park Boulevard:** Install shared lane markings.

5-Year Project Conceptual Construction Cost Estimate: \$10,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ **Wilshire Boulevard to Pico Boulevard:** Implement a road diet in order to stripe buffered bike lanes.

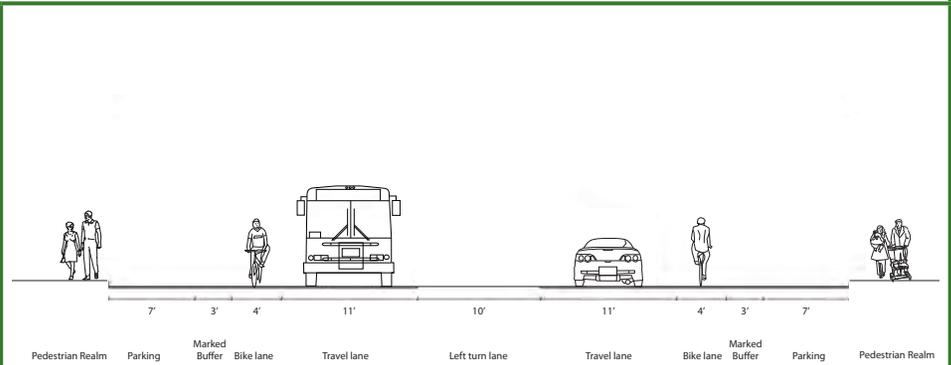
20-Year Project Conceptual Construction Cost Estimate: \$275,000

IMPLEMENTATION:

- ▶ Installing shared lane markings requires no lane reconfiguration, thus implementation could occur immediately.
- ▶ A 4-3 lane road diet along higher trafficked portions of 20th Street will require traffic analysis, extensive public process, and City Council approval. Because 20th Street is an access route for several hospitals, the City must engage emergency response operators and the Fire Department to ensure EMT vehicles can safely navigate during emergency situations.
- ▶ Parking removal would need to be considered along the northern sections of the corridor in order to stripe buffered bike lanes in both directions.
- ▶ Any installation of bicycle facilities must consider the ongoing design process for the 20th Street Redesign project.



Existing cross-section of 20th just north of Pico



Buffered bike lanes on 20th Street between Delaware Avenue and Pico Boulevard

Yale/Stewart/28th Bikeway

20-Year Corridor Build Out



Bikeway Recommendations

20-Year Vision Plan Recommendations
Bicycle Action Plan

- Proposed Bikeway Type**
- Bike path/Multi-use trail
 - Neighborhood Greenway
 - Cycle track
 - Buffered bike lane / Double bike lane (where noted)
 - Bike lane
 - Climbing bike lane
 - Shared lane markings (both directions)
 - Local Streets
-
- Auto/Transit Priority Street
 - Bicycle/Pedestrian Bridge Connections
 - Critical Connections Requiring Collaboration
 - Major Intersection Enhancement
 - Enhanced Bicycle Access
 - Light Rail Stop
 - Major Bus Stop
 - Future Major Bus Stop
 - Bike Center

Yale/Stewart/28th Bikeway Corridor Conditions	Key Project Segments
<ul style="list-style-type: none"> ▶ Bicycle Facility Type(s): Buffered bike lane, climbing bike lanes, shared lane markings, cycle track ▶ From: Montana Avenue ▶ To: Santa Monica Airport ▶ Length: 2.1 miles ▶ Physical Characteristics: Curb-to-curb widths generally vary between 40' and 64' (Some segments are 32' and 50'); Relatively flat route (exceptions along 23rd Street and at the I-10 underpass); Route is indirect only its southern end ▶ Major Connections: Expo Bike Path, Clover Park, Santa Monica Business Park, access to retail along Pico and Montana, various priority bikeways ▶ Traffic Conditions: Traffic volumes are relatively high near the freeway and along 23rd (key southern access point to the city) and relatively low on the northern end; Traffic ranges from automobiles to buses and trucks (mainly along Stewart); 25 – 30 mph posted traffic speeds 	<ul style="list-style-type: none"> A. Montana Avenue to Colorado Avenue B. Colorado Avenue to Kansas Avenue C. Kansas Avenue to Santa Monica Airport
<h3>Route Description</h3>	
<p>The Yale/Stewart/28th Bikeway offers a relatively direct connection between the northern and southern neighborhoods roughly parallel to the city's eastern border. This bikeway runs along three primary streets—Yale Street, Stewart Street, and 28th Street—with a jog at Colorado Avenue and an off-shoot using Ashland Avenue and 23rd Street. Given the fluctuations in curb-to-curb widths, this bikeway uses a variety of facilities.</p> <p>Cyclists would use shared lane markings on Yale between Montana and just north of the intersection at Wilshire. Prior to this intersection a climbing bike lane (northbound) and shared lane marking (southbound) would connect cyclists to and from the busy intersection. From Wilshire to Arizona, there would be shared lane markings (southbound) and a climbing bike lane (northbound). Shared lane markings would be installed from Arizona to Colorado. Access between Yale Street and Stewart Street along Colorado would include a westbound one-way cycle track and left turn box facility at Stewart, and a median protected left-turn facility that allows turns for bikes only.</p> <p>A key segment along the Yale/Stewart/28th Bikeway is on Stewart between Colorado and Olympic. Buffered bike lanes would be striped, through a 4-3 lane road diet between Colorado and just north of Kansas. From there, northbound climbing bike lanes and southbound shared lane markings would be striped until Ocean Park. Buffered bike lanes would be used from Ocean Park to Donald Douglas Loop at the Santa Monica Airport.</p> <p>All segments along the Yale/Stewart/28th Bikeway would be supplemented with wayfinding signage that identify the bikeway and indicate destinations and distances to destinations, and the name of the bikeway.</p>	

Yale Street from Montana Avenue to Colorado Avenue

5-YEAR PROPOSED FACILITIES:

- ▶ **Yale Street from Montana Avenue to just north of Wilshire Boulevard:** Install shared lane markings; install intersection improvement at Montana Avenue; install neighborhood traffic circle at intersection with Washington Avenue.
- ▶ **Yale Street from just north of Wilshire Boulevard to Colorado Avenue:** Restripe to create a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).

5-Year Project Conceptual Construction Cost Estimate: \$85,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

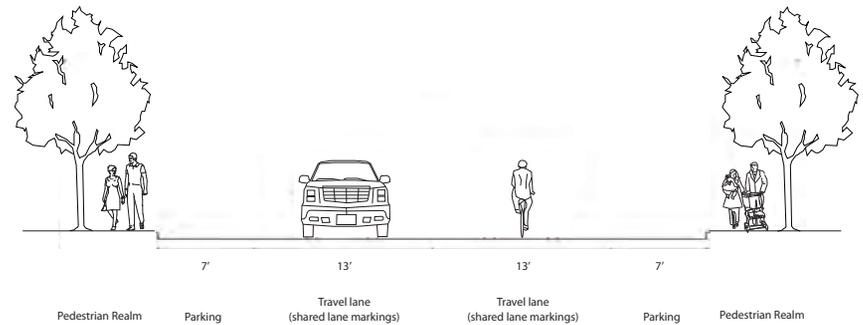
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ The City should develop a plan for intersection enhancements at Wilshire Boulevard to reduce cut through traffic to Montana. In addition, because of the curb extension at Wilshire, signage should be installed informing motorists to share the road and be aware for merging cyclists.



Existing cross-section of Yale between Arizona and Santa Monica



Yale Street with shared lane markings between Wilshire Boulevard and Colorado Avenue

Stewart Street from Colorado Avenue to Kansas Avenue

5-YEAR PROPOSED FACILITIES:

- ▶ **Intersections of Colorado Avenue with Yale Street and Stewart Street:** Construct intersection improvement that provides bike lanes and cycle tracks to accommodate through movements on Yale Street and Stewart Street across Colorado Avenue; will likely include a turn restriction from eastbound Colorado Avenue to northbound Yale Street.
- ▶ **Stewart Street from Colorado Avenue to Kansas Avenue:** Implement a road diet to reduce the number of travel lanes and create buffered bike lanes.

5-Year Project Conceptual Construction Cost Estimate: \$100,000

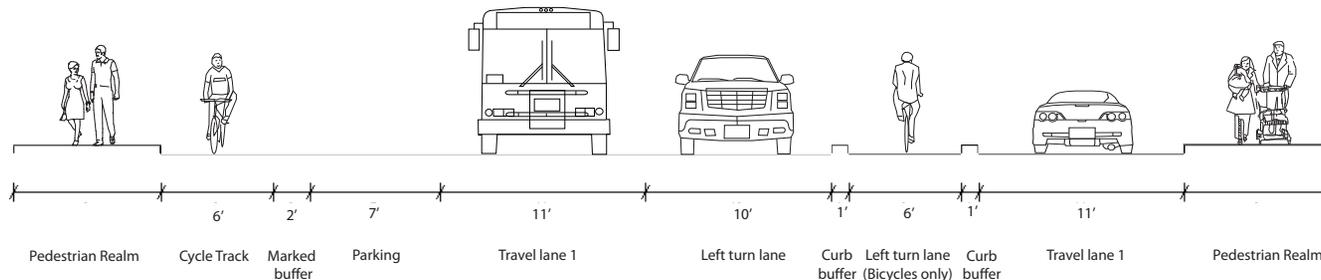
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ Any neighborhood turn restriction on Yale Street will require traffic analysis and a public involvement process. The proposed bike only turn pocket could be mountable and include inlets to address street sweeping and stormwater runoff issues.
- ▶ In order to develop a 4-3 road diet, the northbound and southbound travel lane 2 at both the Olympic and Colorado intersections would merge into one lane where the parking bays begin. Travel lane 2 would re-emerge where parking ends at Colorado and Olympic; NB bike lane would turn into a merge lane treatment.
- ▶ To stripe bike lanes from Olympic Boulevard to the I-10 underpass, the centerline must be shifted southwesterly.

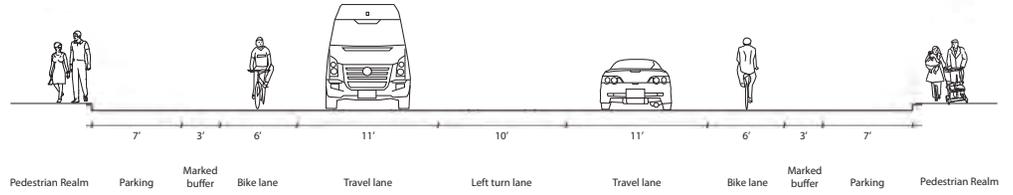


Proposed left turn facilities on Colorado Avenue between Stewart Street and Yale Street

Stewart Street from Colorado Avenue to Kansas Avenue (Continued)



Stewart Street facing south toward Olympic Boulevard



Road dieted Stewart Street with buffered bike lanes between Colorado Avenue and Olympic Boulevard

Between Kansas Avenue and Santa Monica Airport (via Stewart Street and 28th Street)**5-YEAR PROPOSED FACILITIES:**

- ▶ **Stewart Street from Kansas Avenue to Pico Boulevard:** Restripe to create a buffered climbing bike lane in the uphill direction (southbound) and shared lane markings in the downhill direction (northbound).
- ▶ **Intersection of Stewart Street, Pico Boulevard, 28th Street:** Construct a median diverter or otherwise implement turn restrictions.
- ▶ **28th Street from Pico Boulevard to Ocean Park Boulevard:** Restripe to create a buffered climbing bike lane in the uphill direction (northbound) and shared lane markings in the downhill direction (southbound).
- ▶ **28th Street at Ocean Park Boulevard:** Maintain existing through travel restriction for northbound motor vehicle traffic at this intersection, but design to allow through bicycle travel by placing a bike lane northbound between the left turn lane and the right turn lanes (develop right turn lanes to the right of the bike lane on the approach).
- ▶ **28th Street between Ocean Park Boulevard and Santa Monica Airport:** Restripe to create buffered bike lanes.

5-Year Project Conceptual Construction Cost Estimate: \$125,000

20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

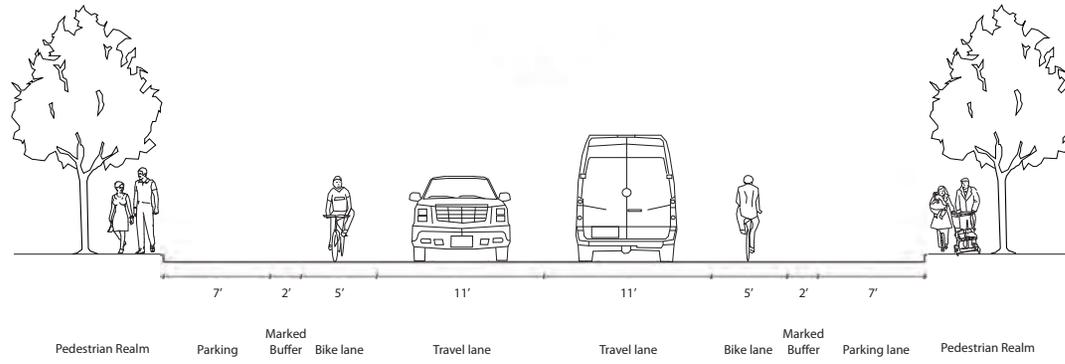
- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ A half-closure at Pico would require the City to identify an alternative secondary truck route so not to hinder goods movement.
- ▶ Current intersection treatment at 28th and Ocean Park should permit bicycles to access 28th north of Ocean Park.
- ▶ Parking along 28th at Santa Monica Business Park should be re-configured as angle-in parking stalls. This would make cyclists more visible to departing and arriving vehicles.

Between Kansas Avenue and Santa Monica Airport (via Stewart Street and 28th Street—Continued)



Stewart Street with buffered bike lanes between Exposition Boulevard and Virginia Avenue

C. GLOSSARY OF COMMON BICYCLE TERMS AND ACRONYMS

ACRONYMS

BTA	Bicycle Transportation Account	DOT	Department of Transportation
APBP	Association of Pedestrian and Bicycle Professionals	DP-22	Director's Policy #22
CalPed	California Pedestrian Advisory Committee	DSA	Division of the State Architect
Caltrans	California Department of Transportation	DSMP	District System Management Plan
CBAC	California Bicycle Advisory Committee	FHWA	Federal Highway Administration
CBC	California Bicycle Coalition	GHG	Greenhouse Gases
CBTP	Community Based Transportation Plan	HCM	Highway Capacity Manual
CDC	Centers for Disease Control	HDM	Highway Design Manual
CHP	California Highway Patrol	HES	Hazard Elimination Safety Program
CMAQ	Congestion Mitigation and Air Quality	ISTEA	Intermodal Surface Transportation Efficiency Act
COG	Council of Governments	ITE	Institute of Transportation Engineers
CTC	California Transportation Commission	LACBC	Los Angeles County Bicycle Coalition
CSS	Context Sensitive Solutions	LCI	League Certified Instructor
CTCDC	California Traffic Control Devices Committee	LOS	Level of Service
CVC	California Vehicle Code	LTF	Local Transportation Fund
DD-64	Deputy Directive 64	LUCE	Land Use and Circulation Element
DHS	Department of Health Services	MPO	Metropolitan Planning Organization

MTA	Metropolitan Transportation Authority (Los Angeles County's RTPA)	SAFETEA-LU	Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (2005)
MTC	Metropolitan Transportation Commission (SF Bay Area's MPO & RTPA)	SANDAG	San Diego County Council of Governments (MPO & RTPA)
MUTCD	Manual on Uniform Traffic Control Devices	SB	Senate Bill
NAAQS	National Ambient Area Air Quality Standards	SCAG	Southern California Association of Governments (6-county MPO)
NCHRP	National Cooperative Highway Research Program	SIB	State Infrastructure Bank
NCSA	National Center for Statistics and Analysis	SM	Santa Monica
NHANES	National Health and Nutrition Examination Survey	SR2S	Safe Routes to School
NHTS	National Household Travel Survey	STIP	State Transportation Improvement Program
NHTSA	National Highway Traffic Safety Administration	STP	Surface Transportation Program
NPTS	National Personal Transportation Survey	STPP	Surface Transportation Policy Project
OCTA	Orange County Transportation Authority (Orange County's RTPA)	SWITRS	Statewide Integrated Traffic Records System
OTS	Office of Traffic Safety	TASAS	Traffic Accident Surveillance and Analysis System
PACE	Pedestrian and Cyclist Equity Act of 2003	TCR	Transportation Concept Report
PBCAT	Pedestrian and Bicycle Crash Analysis Tool	TDA	Transportation Development Act
PID	Project Initiation Document	TDM	Transportation Demand Management
PSR	Project Study Report	TEA	Transportation Enhancement Activities
PSSR	Project Scope Summary Report	TEA-21	Transportation Equity Act for the 21st Century
PSTF	Pedestrian Safety Task Force	TMP	Transportation Management Plan
RCR	Route Concept Report	TRB	Transportation Research Board
RSTP	Regional Surface Transportation Program	TSDP	Transportation System Development Program
RTP	Regional Transportation Plan	USDOT	United States Department of Transportation
RTPA	Regional Transportation Planning Agency	VMT	Vehicle Miles Traveled
SACOG	Sacramento Area Council of Governments (MPA & RTPA)	VTPI	Victoria Transportation Policy Institute

GLOSSARY

TERM	DESCRIPTION
Bicycle Campus	A Bicycle Campus is dedicated space used to teach bike skills to all riders using the League of American Bicyclists training model. The Santa Monica Bicycle campus has physical courses that include an avoidance weave, rock dodge, quick turn, and slalom course for agility, while the other side, includes a model Santa Monica street that incorporates bike treatments (bike lanes, bike detection, sharrows, climbing lane, etc.) for practicing.
Bicycle Network	A system of bikeways designated by the jurisdiction having authority. This system may include bike lanes, bicycle routes, shared use paths, and other identifiable bicycle facilities.
Bicycle Path (Class I)	A pathway that is exclusively used by bicyclists and pedestrians, and is separated from any roadway.
Bicycle Lane (Class II)	A portion of roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.
Bicycle Route (Class III)	A roadway that is signed as an on-street route for bicycles. The types of facilities on bike routes vary and may include shared lane markings and neighborhood greenway features.
Bike Boxes	Bike boxes are experimental intersection facilities that are intended to reduce conflicts with right-turning vehicles and offer bicycle priority at intersections. Cyclists using a bike box first pass queued motor vehicles on the right using a bike lane, then enter the bike box directly in front of waiting cars.
Bike Center	Bike Centers provide bicyclist amenities such as showers, changing, and locker facilities, repair and maintenance facilities, and secure bicycle storage. Bike Centers will be located proximate to transit centers, Expo light rail stations, and major employment centers.
Bike Detection	Allows bicycles to be detected by traffic signal controllers to activate a green indication. Detection of bicyclists at signalized intersections can improve efficiency and decrease delay to bicyclists without causing inordinate delays to motorists. Bicycle detection at intersections can be accomplished using several technologies; the most widely used are loop detectors and video detectors.
Bike Share	A program in which public bicycles are made available for shared use by individuals who do not own them. Publicly shared bicycles are a mobility service, mainly useful in urban environment for short trips. Bike sharing removes some of the major concerns with owning and operating a bicycle including loss from theft or vandalism, lack of parking or storage, and maintenance requirements.
Bike Signal Timing	Due to the unique characteristics of bicycles, bicycle specific signal timing is required to better accommodate bicycles at signalized intersections. Bicycle signal timing is specific timing to ensure that bicyclists get enough green indication time to cross an intersection or make a left-turn, when starting from a complete stop.
Bike Valet	Guarded bicycle areas that work like a coat check, but for bikes. Bikes are handed over to attendants, tagged with a ticket that matches a ticket given to the cyclist, and watched by attendants throughout the event.
Bikeway	A generic term for any road, street, path or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.
Buffered Bike Lane	A buffered bicycle lane is designed so that it provides a more protected and comfortable space for cyclists than a conventional bike lane. Buffers can be striped to provide added shy distance from parking spaces or the travel lane.

TERM	DESCRIPTION
Ciclovia	A Spanish term, meaning "bike path," used in Latin America to mean either a permanent designated bicycle route or a temporary event closing of the street to automobiles to allow dominance by other users. Permanent designated bicycle lanes are also known as ciclo-rutas, while streets temporarily closed for that purpose are always called ciclovías.
Climbing (Bike) Lane	A lane dedicated to cyclists installed in areas where the incline of the roadway could result in slower speeds and side-to-side movement by cyclists. Climbing bike lanes reduce conflicts for bicycles operating on streets with noticeable grades.
Contra-flow Bike Lanes	Contra-flow bike lanes allow bicycles to travel in the opposite direction of motor vehicle traffic. Contra-flow lanes operate the same way as conventional bike lanes except that there is no adjacent vehicular lane in the same direction.
Cycle Track	Cycle tracks are exclusive bicycle facilities located parallel to the roadway but physically separated from motor vehicle traffic. Cycle tracks can be bi-directional facilities on one-side of the street or one-way separated bikeways placed on both sides of the street. The preferred application in Santa Monica is in the form of dedicated on-street bikeways that are separated from general use travel lanes by a marked buffer, raised median, or traffic separator. Cycle tracks are typically configured between the parking lane and the sidewalk.
Double Bike Lanes	Double bike lanes, also known as passing lanes, provide two bike lanes separated by a dashed passing lane marking. Double bike lanes provide additional comfort for cyclists on high volume roadways, while facilitating bicycle passing.
Exposition Light Rail Project	Currently under construction, the 15.2 mile Expo Line will bring light rail to the Exposition Corridor, with 19 stations serving popular destinations like USC, Exposition Park, the Mid-City Communities, the Crenshaw District, Culver City, and West Los Angeles. Phase 1 of the line will travel from Downtown Los Angeles to Culver City, and Phase 2 will extend the line out to Santa Monica. Service on Phase 1 is expected to begin in 2011, with service to the Venice/Robertson station in 2012, and the complete line to Santa Monica opening in 2015.
Greenway	A Greenway is an open space corridor in largely natural condition which may include paths for bicycles and pedestrians.
The Leadership in Energy and Environmental Design (LEED)	LEED is a Green Building Rating System developed by the U.S. Green Building Council (USGBC) that provides a suite of standards for environmentally sound and sustainable building development.
League Certified Instructor (LCI)	An LCI is certified by the League of American Bicyclists to teach bicycle education classes to children as well as adults, which include bicycle safety education.
Local Street	Local Streets are low speed neighborhood streets to be designed and operated for the dual purpose of access and urban open space. This designation in the Bike Action Plan primarily uses the neighborhood streets identified in the LUCE (see below) and other streets that are comfortable for walking and bicycling without specific, dedicated facilities. The Santa Monica Bike Action Plan aims to funnel experiential investments toward public streets designated as Local Streets.
LUCE	The Land Use and Circulation Element (LUCE) is an integral component of Santa Monica's General Plan. The LUCE lays out a bold vision for Santa Monica's future seeking to better integrate land use and transportation, while protecting the city's beautiful neighborhoods and managing traffic congestion through a "No Net New Vehicle Trips" policy.
Manual on Uniform Traffic Control Devices (MUTCD)	A document issued by the Federal Highway Administration (FHWA) to specify the standards by which traffic signs, pavement markings, and signals are designed, installed, and used. The California MUTCD is a state-specific supplement that provides specific standards for bikeway and bicycle traffic control device development.

TERM	DESCRIPTION
Neighborhood Greenway	Neighborhood greenways, commonly known as bicycle boulevards, are low stress bike routes geared toward riders of all ages and skill levels. The neighborhood greenway concept is to create a livable street environment for pedestrians, bicyclists, and vehicles as well as for active and passive recreation for people of all ages. Neighborhood greenways utilize a range of treatments in order to establish bicycle priority by managing vehicle speeds and volumes.
Non-Vehicular Cycling	When cyclists behave more like pedestrians than motorists. Non-vehicular cycling is accommodated in paths, cycle tracks and other facilities not shared by high speed or high volume motor vehicles. When non-vehicular cyclists use bike lanes, rather than merging to turn left, they tend to make a "box turn," using the crosswalks to cross first one street, then the other.
Shared Lane Markings (also known as "Sharrows")	A pavement marking consisting of a directional arrow or "chevron," and a bicycle symbol similar to those seen in bicycle lanes. Sharrows demonstrate that bicyclists should "take the lane" by directing them into safe, shared-lane positioning.
Shared Use Path	A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users.
Shared Streets	Constitute the majority of bikeways. They are typically low-speed, low-volume inter- and intra-neighborhood streets. They can also be more vibrant mixed-use commercial streets because the low level of activity allows bicyclists to safely share the road with slow-moving vehicular traffic.
Side Path	A shared use path for use by bicycle, pedestrians, and other non-motorized vehicles located immediately adjacent and parallel to a roadway.
Safe Routes to School (SRTS)	SRTS programs examine conditions around schools and conduct projects and activities that work to improve safety and accessibility, and reduce traffic and air pollution in the vicinity of schools. As a result, these programs help make bicycling and walking to school safer and more appealing transportation choices thus encouraging a healthy and active lifestyle from an early age.
Transportation Demand Management (TDM)	The application of strategies and policies to reduce automobile travel demand (specifically that of single-occupancy private vehicles), or to redistribute this demand in space or in time. Strategies encompass ridesharing benefits, transit trip planning and bicycling improvements. Santa Monica focuses on TDM districts in high activity centers and highly concentrated employment destinations.
Transportation Management Association (TMA)	One-stop resource for all transportation needs; producing materials, coordinating carpools/bike pools, or helping employers offer incentives to employees. TMAs are often non-profit, member-controlled organizations that help to coordinate people getting to and from where they need to go.
Vehicular Cycling	When cyclists ride in the roadway with vehicles and follow the same patterns that cars do, such as merging into a left turn lane to turn left. Vehicular cycling is accommodated on all roadways, and in such on-road facilities as bike lanes.
Wide Shoulders	Wide shoulders are often used by opportunistic bicyclists as a way to claim space, and therefore a sense of safety and comfort. Typically 4' or more, wide shoulders most often exist on those thoroughfares which pass through a more rural context, or along scenic urban thoroughfares, such as a waterside drive. However, some residential and commercial urban thoroughfares without parallel or head-in parking are wide enough to accommodate bicyclists riding along the shoulder. Regardless, striping bicycle lanes, or narrowing and calming traffic along such streets is preferred.

D. BICYCLE TRANSPORTATION ACCOUNT MATRIX

Although developing a Bike Action Plan, or any variation of a bicycle transportation plan, is not legally required by a jurisdiction, such an effort must be completed if Santa Monica intends to secure funding from the California Department of Transportation's Bicycle Transportation Account. The bicycle plan must include an estimate of the following:

- ▶ The number of existing bicycle commuters in the plan area, and
- ▶ The potential increase in the number of bicycle commuters resulting from the implementation of the plan.

The bicycle plan must include the following maps and descriptions:

- ▶ A map and description of existing and proposed land use and settlement patterns, bikeways bicycle transportation and parking facilities, and facilities for changing and storing clothing and equipment.
- ▶ A description of bicycle safety and educational programs.
- ▶ A description of the extent of citizen and community involvement in the development of the plan.
- ▶ A description of how the plan has been coordinated and is consistent with other local or regional plans.
- ▶ A description of the proposed projects and their relative priority.

- ▶ A description of past expenditures for bicycle facilities.
- ▶ A description of future financial needs for bicycle projects.

Figure D-1 compiles all of the BTA requirements—located in Section 891.2 of the California Streets and Highways Code (SCH)—and identifies where in the Santa Monica Bike Action Plan each requirement is satisfied.

Figure D-1 Caltrans Bicycle Transportation Account Requirements

SHC 891.2 section	Requirement	Location in Bike Action Plan
A	Existing and future bicycle commuters	Page 2-2, Figure 2-7 & Figure 4-6
B	Description of existing and proposed land use patterns	Page 2-2
B	Land use planning map	Figure 2-2
C	Map of existing bikeways	Figure 2-6 & Appendix A
C	Maps of proposed bikeways	Figure 3-4, Figure 3-6, Figure 3-7 & Appendix B
C	Description of existing bikeways	Page 2-8, Page 3-20, Page 4-25 & Appendix A
C	Description of proposed bikeways	Page 3-26 & Appendix B
D	Maps of existing and proposed bicycle parking facilities	Figure 2-12 & Figure 3-1
D	Description of existing and proposed bicycle parking facilities	Page 2-20, Page 3-14 & Page 4-25
E	Description of existing and proposed multi-modal connections	Page 2-13, Page 3-19 & Page 4-25
F	Maps of existing and proposed changing and storage facilities	Figure 2-14 & Figure 3-15
F	Description of existing and proposed changing and storage facilities	Page 2-22 & Page 3-19
G	Bicycle safety education and enforcement programs	Page 2-15, Page 2-18 & Page 4-24
H	Citizen participation	Page 1-2
I	Consistency with transportation, air quality and energy plans	Page 2-12, Page 3-21, Page 3-23 & Page 4-3
J	Project descriptions and priority listings	Figure 4-2, Figure 4-3, Figure 4-4 & Appendix B
K	Past expenditures and future financial needs	Page 2-1, Page 4-13 & Figure 4-13

E. FUNDING STRATEGIES

Santa Monica may call upon a variety of potential funding sources including local, regional, State, and Federal funding programs that can be used to implement bikeway and intersection improvements and programming needs detailed in the Santa Monica Bike Action Plan. Most of the Federal, State, and regional programs detailed in this Appendix are competitive, and require the completion of extensive applications with clear documentation of the project need, costs, and benefits. Local funding for bicycle projects typically comes from Transportation Development Act (TDA), which is prorated and distributed to each community based on return of gasoline taxes. Funding for many of the programs would require either TDA funds, general funds (staff time), or possibly private grants.

FEDERAL FUNDING SOURCES

Safe, Accountable, Flexible, Efficient, Transportation Equity Act – A Legacy for Users (SAFETEA-LU)

Several categories of federal transportation funding may be expended for bicycle and pedestrian projects. This section summarizes the federal funding sources available for non-motorized transportation projects and estimates the fiscal impact of these sources.

Transportation Enhancement Activities (TEA) Program

The Transportation Enhancement Activities (TEA) Program receives 10% annually from each state's Surface Transportation Program (STP). Three of the twelve categories defined within the TEA are related to bicycle and pedestrian projects, including:

- ▶ Provision of Facilities for Bicyclists and Pedestrians;
- ▶ Provision of Safety and Educational Activities for Pedestrians and Bicyclists; and
- ▶ Preservation of Abandoned Railway Corridors.

Bicycle transportation facilities, pedestrian-walkways and non-construction projects including wayfinding, training, and brochures related to safe bicycle use are eligible uses of TEA funds.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

CMAQ funds transportation projects to reduce ozone and carbon monoxide pollution and meet national ambient area air quality standards (NAAQS) in Clean Air Act non-attainment areas. The construction of bicycle and pedestrian facilities using CMAQ funding must explicitly provide a transportation function. CMAQ funds projects that bring sidewalks into compliance with the Americans with Disabilities Act (ADA). Non-construction projects such as printed materials related to safe bicycle use are eligible for CMAQ funds as well. These projects must be geared towards bicycle use primarily for transportation rather than recreation and must be included in a plan developed by the State

and each Metropolitan Planning Organization.

Regional Surface Transportation Program (RSTP)

The RSTP is a block grant program that provides funding for a variety of transportation improvements including bicycle and pedestrian projects. Annually, approximately \$320 million is available through this program—62.5% of which is distributed on a regional per capita basis. The remaining funds are distributed per the discretion of the State of California. MPOs can transfer money from other federal sources to increase allocation flexibility, but if funds are not obligated within three years of federal eligibility, the California Transportation Commission may reprogram the funds. A variety of entities including MPOs, transit agencies, cities, counties, non-profit organizations, special districts and Caltrans may access these funds either directly or indirectly through an eligible sponsor or project administrator.

Safe Routes to School (SRTS) Program

The federal Safe Routes to School (SRTS) program, authorized under Section 1404 of SAFETEA-LU, provides funding for projects to improve bicycle and pedestrian access to school through the elimination of physical

and cultural barriers. Annually, \$18 million is allocated to this program and a 10% local match is required for proposed projects. Each year, a minimum of 70% of the apportionment is available for infrastructure projects with the remaining reserved for non-infrastructure projects. Infrastructure and non-infrastructure projects are explained below.

Infrastructure Projects

Infrastructure projects are those which improve bicycle and pedestrian safety and accessibility to a school through the planning, design, and construction of facilities within a two-mile radius of a grade or middle school. There is a \$1 million funding cap for infrastructure projects under SRTS, but no minimum spending amount is required. Indirect and direct costs may both be eligible costs reimbursed through this program. All infrastructure improvements should emphasize the improvement of accessibility and safety of children of all physical abilities walking and bicycling to school.

Non-Infrastructure Projects

Non-construction activities intending to increase the rate of bicycling and walking to school through education/encouragement/enforcement activities are eligible non-infrastructure projects under the SRTS program. To qualify for funding, tangible deliverables

must be part of the application and samples of proposed materials must be provided with the final invoice or Progress Report. There is a \$500,000 funding cap for non-infrastructure projects and multi-year funding allows a four-year period for project development.

Non-infrastructure projects must fall into one or more of the following categories¹:

- ▶ **Education** – Teaching children about the broad range of transportation choices, instructing them in important lifelong bicycling and walking safety skills, and launching driver safety campaigns in the vicinity of schools.
- ▶ **Enforcement** – Partnering with local law enforcement to ensure traffic laws are obeyed in the vicinity of schools (this includes enforcement of speeds, yielding to pedestrians in crossings, and proper walking and bicycling behaviors), and initiating community enforcement such as crossing guard programs or pedestrian right of way stinging programs.
- ▶ **Encouragement** – Using events and activities to promote walking and bicycling.
- ▶ **Evaluation** – Monitoring and documenting outcomes and trends through the collection of data, including the collection of data before and after the intervention(s).
- ▶ **Engineering** – Creating operational and physical improvements to the infrastructure surrounding schools that reduce speeds and potential conflicts with motor vehicle traffic,

¹ From the SRTS website: <http://www.dot.state.ga.us/local/government/FundingPrograms/srts/Pages/default.aspx>

and establish safer and fully accessible crossings, walkways, trails and bikeways.

Transportation, Community, and System Preservation Program (TCSP)

The TCSP program provides grants to States, MPOs, local governments and tribal governments to complete projects that improve transportation efficiency while maintaining community preservation and environmental goals. The goal of these projects is to improve the efficiency and reduce the environmental impact of the transportation system while increasing access to jobs and services in addition to reducing the need for costly future public infrastructure investment. The examination of community development patterns and identification of strategies to encourage private sector development patterns to support these goals are also eligible activities.

Land & Water Conservation Fund (LWCF)

The creation and maintenance of high quality recreation resources through the acquisition and development of public outdoor recreation areas and facilities is the goal of the Land & Water Conservation Fund. Trails for recreational purposes are a priority project type under this fund, and Santa Monica's recreational corridors such as San Vicente may be eligible for funding

through this source.

Petroleum Violation Escrow Account (PVEA)

PVEA funds are from fines collected from oil companies for violating price caps set by the federal government in the 1970's. State level grants distributed by the Department of Energy's State Energy and Weatherization Assistance Program are intended for public transportation, bridge construction, and maintenance projects with an emphasis on saving energy. Transportation projects that improve traffic flow are eligible for these funds.

STATE FUNDING SOURCES

Proposition 116: Clean Air and Transportation Improvement Act

Proposition 116 provided approximately \$50 million for bicycle and pedestrian projects. The bicycle and pedestrian elements of the program are essentially complete.

Bicycle Transportation Account (BTA)

The State of California Bicycle Transportation Account (BTA), available through the Caltrans Bicycle Facilities Unit, provides funding for bicycle projects through grants to local jurisdictions. Bicycling for commuting purposes is the priority for projects funded through this source. Projects are selected for funding

by a committee consisting of representatives from Caltrans, advocacy groups and other State agencies.

General Information

Funding

- ▶ Caltrans anticipates an annual appropriation of \$7.2 million for the Bicycle Transportation Account (BTA).
- ▶ No applicant shall receive more than 25% of the total amount transferred to the BTA in a single fiscal year; therefore, the maximum amount an applicant may receive is \$1,800,000.
- ▶ There is a minimum 10% local match.

Eligible Project Sponsors

- ▶ City or county agencies are eligible, or a city or county may apply on behalf of another local agency. The city or county assumes responsibility for the BTA application and the proper use and expenditure of BTA funds.
- ▶ For more information on the BTA and eligible projects, visit: <http://www.dot.ca.gov/hq/LocalPrograms/bta/btawebPage.htm>
- ▶ Cities and counties with current BTA projects subject to the provisions of a Cooperative Work Agreement (CWA) will not be eligible to compete for BTA funds until the CWA project is complete and closed out.

Eligibility Requirements

- ▶ To be eligible for BTA funds, local agencies must prepare and adopt a Bicycle

Transportation Plan (BTP) that complies with Streets and Highways Code (SHC) section 891.2(a) through (k).

- ▶ Projects not identified in the local agency's BTP will not be eligible for BTA funds.
- ▶ The BTP must be reviewed and approved by the local agency's regional transportation planning agency (RTPA) or appropriate Metropolitan Planning Organization to ensure compliance with SHC section 891.2 and the Regional Transportation Plan (RTP).
- ▶ Following regional approval, the city or county must submit the resolution adopting the BTP, and the letter of approval from the MPO/RTPA to the Caltrans Bicycle Facilities Unit (BFU).
- ▶ Local agencies submitting a new or updated BTP with an application must include the following: (1) a resolution adopting the BTP and (2) a letter approving the plan from the local agency's RTPA.

Highway Safety Improvement Program (HSIP)

SAFETEA-LU established the Highway Safety Improvement Program in 2005, which funds projects to reduce serious injuries and fatalities on all public roads through infrastructure improvements. In 2010, Caltrans announced a call for projects to be funded through the HSIP "Cycle 4," which provided funding for 179 projects totaling nearly \$75 million in federal funds. It is not clear that there will be another call for projects for this program.

Environmental Enhancement and Mitigation Program (EEMP)

The EEMP provides \$10 million annually to fund projects to mitigate the environmental impact of new or modified public transportation facilities. The EEMP is funded by State gasoline tax monies and was made permanent in 1999 by Senate Bill 117. Projects are recommended by the State Resources Agency to the California Transportation Commission for funding and grants are awarded in three categories: Highway Landscape and Urban Forestry, Resource Lands, and Roadside Recreational.

Office of Traffic Safety (OTS) Grant Program

The Office of Traffic Safety's mission is to obtain and effectively administer traffic safety grant funds to reduce deaths, injuries and economic losses resulting from traffic related collisions. Each October through November, OTS mails Requests for Concept Papers to more than 3,000 eligible agencies outlining the opportunity to participate in the program and the requirements to compete for available funds. Pedestrian and bicycle safety is one of eight earmarked priority areas for funding. Enforcement and education programs, distribution of bicycle helmets, and the development and distribution of

materials to improve safety are all eligible under this program.

Recreational Trails Program (RTP)

The Recreational Trails Program provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. RTP funds come from the Federal Highway Trust Fund and are distributed to States by legislative formula. Recreational Trails Program funds may be used for the construction and maintenance of existing trails, the purchase of land or equipment to further the program's goals, administrative costs to administer the program, and operation of educational programs to promote safety and use of the trails.

Safe Routes to School (SR2S) Program

Established in 1999, the State-legislated Safe Routes to School (SR2S) program was extended indefinitely by AB 57 in 2007. The goal of the program is to make it safer and more accessible for school children to commute to school by walking and bicycling. Physical infrastructure improvements including bicycle facilities, traffic control devices, traffic calming measures and other pedestrian infrastructure elements are the primary recipients of program funds which

total approximately \$25 million annually. There is a 10% minimum local match required for proposed projects and the maximum amount of SR2S funds that will be allocated to a single project is \$900,000. Outreach, education, encouragement, and/or enforcement activities within a single project may not exceed 10% of total cost.

Transportation Development Act Article III (SB 821)

The Transportation Development Act Article III (SB 821) uses monies collected from the state gasoline tax to provide grants through Regional Transportation Planning agencies to fund transportation improvements. The Los Angeles County Metropolitan Transportation Authority (Metro) is responsible for allocating this money on a per capita basis to cities within Los Angeles. These cities have the option to either draw down the funds or to place them on reserve.

The supportive activities of bicycle and pedestrian projects that are eligible for these funds are:²

- ▶ Engineering expenses leading to construction;
- ▶ Right-of-way acquisition;
- ▶ Construction and reconstruction;
- ▶ Retrofitting existing bicycle and pedestrian

facilities, including installation of signage, to comply with the Americans with Disabilities Act (ADA);

- ▶ Route improvements such as signal controls for bicyclists, bicycle loop detectors, rubberized rail crossings and bicycle-friendly drainage grates; and
- ▶ Purchase and installation of bicycle facilities such as secure bicycle parking, benches, drinking fountains, changing rooms, rest rooms and showers which are adjacent to bicycle trails, employment centers, park-and-ride lots, and/or transit terminals that are accessible to the general public.

Environmental Justice (EJ) & Community-Based Transportation Planning (CBTP) Grants

The EJ and CBTP grant programs are used to bring together transportation and land use activities to help foster sustainable communities. Up to 90% of project funding for these primarily planning-based programs provided by Caltrans. Public and stakeholder participation are emphasized with these grants and projects should conform to smart-growth practices. MPOs, RTPAs, cities, counties, transit agencies and tribal governments are eligible to apply for the grant programs directly or as a sub-recipient. Plans and studies, including safe, innovative and complete pedestrian/bicycle/transit linkage studies, are eligible projects through these grants.

REGIONAL FUNDING SOURCES

Los Angeles County Metropolitan Transportation Authority (Metro) Call for Projects (CFP)

Metro is responsible for preparing the LA County TIP, which allocates discretionary funds to improve all modes of surface transportation. The Call for Projects program is a competitive process that distributes discretionary capital transportation funds to regionally significant projects every other year depending on funding availability. Metro's staff, Technical Advisory Committee (TAC) and Board of Directors all have input on the selection of projects for the TIP. There are a number of modal categories relevant to the implementation of Bike Action Plan projects and programs which are identified in Figure E-1. Some intersection improvements or grade-separated crossing projects in this Bike Action Plan may provide an equal or greater benefit to pedestrians. In these cases the City should consider applying for funding within the Pedestrian Improvements modal category. Wherever possible, Bike Action Plan projects should be included as part of larger arterial improvement projects and submitted under the Regional Surface Transportation Improvements category.

² From the Los Angeles Metro website

Figure E-1 Metro Call for Projects -Modal Categories Relevant to Bike Plan Projects and Programs¹

Modal Category	Share of Funding*	Eligible Projects**
Bikeway Improvements	8%	Regionally significant projects that provide access and mobility through bike-to-transit improvements, gap closures in the inter-jurisdictional bikeway network, bicycle parking, and first-time implementation of bicycle racks on buses.
Regional Surface Transportation Improvements	40%	These funds may potentially be available to construct on-street bicycle lanes, grade-separated bikeway projects and other bicycle infrastructure projects if they are part of a larger project improving arterial traffic operations.
Transportation Enhancement Activities	2%	Funds a variety of activities including safety and educational activities for pedestrians and bicyclists. Initiatives to improve bicycle facilities may also be eligible if in conjunction with other eligible projects.
Transportation Demand Management	7%	These funds are intended to implement programs that encourage a decrease in VMT. Bicycle Commuter Centers, modern bicycle sharing infrastructure, and other bicycle programs that are deemed technological or innovative may be eligible for these funds. Bicycle components of larger TDM plans may also be eligible.
Pedestrian Improvements	8%	Pedestrian improvements that promote walking as a viable form of utilitarian travel, pedestrian safety, and an integral link within the overall transportation program.

* Funding estimate is bi-annual (every other year) based on the approved funding from the 2007 CFP.

**The discussion of eligible projects is based on 2009 CFP requirements and assumes all eligibility requirements are met and the questions in the CFP application are adequately addressed. These requirements are subject to change in future cycles. City staff should refer to the latest CFP Application package for detailed eligibility requirements.

Notes: (1) Project descriptions derived from Metro’s website. http://www.metro.net/projects/call_projects/

Proposition C

Proposition C is a voter enacted (1990) one-half cent sales tax for public transit purposes and is administered by Metro. These funds can be leveraged by bonding for capital projects. Twenty percent of the revenue generated is allocated for the Local Return Fund which is distributed to cities on a per capita basis exclusively for public transit purposes. These funds:

- ▶ Require annual project descriptions;
- ▶ Establish the need for Metro to conduct fiscal and compliance audits upon project completion;

- ▶ Can establish capital reserves with Metro Board approval; and
- ▶ May not be traded to other jurisdictions.

These funds are intended to exclusively benefit public transit including Congestion Management Programs, commuter bikeways and bike lanes, street improvements supporting public transit service, and Pavement Management System projects. Bikeway projects include bikeway construction and maintenance, signage, information/safety programs, and bicycle parking and must meet the following conditions:

- ▶ Shall be linked to employment or educational sites.
- ▶ Shall be used for commuting or utilitarian trips.
- ▶ Jurisdictions must have submitted a PMS Self Certification.
- ▶ See the Proposition C funding guidelines on [Metro’s website](#) for more details.

Measure R

Measure R, approved by Los Angeles County voters in November 2008, provides funding for a variety of transportation improvements through a local sales tax. For fiscal years 2010-2039, fifteen percent of this 30-year one half-cent sales

tax will be allocated to Local Return through which local governments may fund projects at their discretion. The Local Return can be used to fund improvements such as bikeways, pedestrian infrastructure, and streetscape enhancements.

AB2766 Air Quality Management District (AQMD)

Since 1991, the AB2766 Subvention Program has provided a funding source for cities and counties to meet requirements of Federal and State Clean Air Acts and for implementation of motor vehicle measures in the AQMD Air Quality Management Plan (AQMP). These funds may be used for bicycle and pedestrian projects. The bicycle expenditures deemed most effective are those that link to other bike-friendly projects creating a comfortable environment for those traveling by bicycle, and to increase the use of this mode and reduce mobile source emissions. Reducing single occupancy vehicle trips by encouraging the use of the bicycle for transportation is the priority goal of these funds. Bicycle lanes, trails, bridges, parking facilities, loan and purchase programs, and research and development practices are all examples of appropriate uses of these funds.

LOCAL FUNDING SOURCES

Developer Impact Fees

The City of Santa Monica could require

developer impact fees to offset the traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on and off-site bikeway improvements that will encourage all residents and/or employees to bicycle rather than drive. Establishing a clear nexus between the impact fee and the project's impacts is critical in avoiding legal action for ineligible use.

Mello-Roos Community Facilities Act

The Mello-Roos Community Facilities Act allows for special assessment or benefit districts to be created and special taxes assigned to fund infrastructure and other improvements in an area. These improvements can include bicycle and pedestrian facilities, and other infrastructure such as that required for utilities. These special taxes must be approved by two-thirds of the voters in a proposed district.

Special Taxing Authorities

Seventeen counties have approved local ballot measures that permit the collecting of additional local sales taxes for transportation purposes. The City of Santa Monica could develop a Transportation Demand Management (TDM) tax or special assessment that may fund improvements and programs for non-motorized transportation.

PRIVATE & NON PROFIT FUNDING SOURCES

Bikes Belong

Bikes Belong awards grants of up to \$10,000 for facility and advocacy projects, for up to 50% of the total project cost. Bikes Belong has also administered SRTS mini-grants which could be a simple way to provide bike parking to satisfy the school district's growing bike storage needs.

Robert Wood Johnson Foundation (RWJF)

RWJF provides grants for programs that promote active and healthy living through its Call for Proposals process. Public agencies may apply for these funds and many bicycle and pedestrian improvement programs may be eligible.

F. CITY OF SANTA MONICA BICYCLE PARKING ORDINANCE

This appendix presents the recommended number of bicycle parking spaces and amenities to be considered for adoption into the City's Comprehensive Zoning Ordinance.

A. DEFINITIONS

- 1. Bicycle Parking Space.** A volume of space that can accommodate locked storage of one bicycle. Typical design should consider average length of 6', width of 2' and vertical clearance of 7'.
- 2. Short-term bicycle parking.** Bicycle parking that is designed for parking needs of less than 3 hours, and consists of bicycle racks to which the bicycle frame and at least one wheel can be securely locked to the rack. Racks are securely anchored to the ground.
- 3. Long-term bicycle parking.** Bicycle parking that is designed for parking needs over 3 hours, and enclosed on all sides to protect bicycles from weather. Acceptable examples include bike lockers, bicycle rooms, bike cages and attended bicycle facilities. Except in the case of lockers and attended bicycle facilities, all long-term parking provides a means of securing the bicycle frame

and at least one wheel to a securely anchored rack.

- 4. If bicycles can be locked to each side of the rack without conflict, each side shall be counted toward a required space.**

B. REQUIREMENTS

All new buildings or structures, substantial remodels, and tenant improvements shall provide parking per the following table.

- 1. Commercial Buildings.** All commercial buildings, hospitals and institutions, hotels, office buildings and industrial buildings shall provide short-term and long-term bicycle parking per the table.
 - 2. Residential.** In instances where a building may contain both dwelling units and guest rooms, the sum of dwelling units and guest rooms shall be used to determine the amount of long and short term parking. In these cases any combination that results in more than 3 combined dwelling units and guest rooms will require bicycle parking per the table below.
 - 3. Mixed-Use Buildings.** In instances where a building contains
- components of more than one of the aforementioned categories, the requirements will be based on the sum of the individual uses as described above.
 - 4. Fractions.** In cases where the number of bicycle parking spaces required results in a fraction, values greater than one half shall be rounded up.
 - 5. Any change of use.** In cases where the Planning and Community Development Department determines there is a change of use to an existing building the development must comply with bicycle parking per the table below.
 - 6. Required Bicycle Parking Table.** See Figure F-1.



Bike Room. Source: BerettaRose Photography

Figure F-1 Bicycle Parking Requirements

Land Use	Short-term Parking	Long-term Parking
Residential		
Multiple Family Dwellings (with 3 or more units)	.1 spaces per bedroom, minimum 2 spaces	1 space per bedroom (includes studios); If private garages provided for a unit, 0
Senior Housing	.1 spaces per bedroom, minimum 2 spaces	.5 spaces per bedroom, minimum 2 spaces
Commercial		
Office	1 per 8,000 s.f. of floor area, minimum 4 spaces	1 per 5,000 s.f. of floor area, minimum 4 spaces
Restaurant	1 per 3,000 s.f. of floor area, minimum 4 spaces	1.5 per 2,000 s.f. of floor area, minimum 4 spaces
Hospitals and Health Care Institutions	1 per 4,000 s.f. of floor area, minimum 4 spaces	1 per 10,000 s.f. of floor area, minimum 4 spaces
Retail – General Food and Groceries	1 per 4,000 s.f. of floor area, minimum 4 spaces	1 per 3,000 s.f. of floor area, minimum 4 spaces
Retail – General	1 per 1,000 s.f. of floor area, minimum 4 spaces	1 per 10,000 s.f. of floor area, minimum 4 spaces
Off-Street parking lots and garages	1 per 10 auto spaces; minimum 6 spaces	1 per 20 auto spaces, minimum 4 spaces
Hotels	8 short-term	.20 per hotel room
Education and Institutions		
Colleges and University	1.5 for every 10 students of planned capacity	.5 per classroom
High School and Middle School	1.5 for every 20 students of planned capacity	.5 per classroom
Elementary	1.5 for every 20 students	.5 per classroom
Assembly (Churches, Theaters, etc.)	1 space for each 15 seats provided	.25 space for each 15 seats provided
Non-Assembly Cultural (Library, Government Buildings, etc.)	1 per 8,000 s.f. of floor area, minimum 4 spaces	1.5 spaces for every 10 employees, minimum 2 spaces
Industrial	1 per 12,000 s.f. of floor area, minimum 4 spaces	Minimum 2 spaces at the main entrance

C. BICYCLE PARKING DESIGN

1. All bicycle parking space shall be conveniently located and designed for easy access.
2. Except in the case of individual locking bicycle lockers and attended bicycle parking, all bicycle parking spaces shall provide a means of securing the bicycle frame and at least one wheel to a securely anchored rack.
3. Bicycle parking areas shall have adequate lighting that provides high visibility of the rack or locker area for safety and easy access.
4. Stairs are discouraged along the path of travel to any bicycle parking space. Should stairs be necessary, they shall be designed to incorporate a ramp or channel so that bikes can be taken up or down the stairs without being carried.
5. Bicycle parking spaces shall be separated from automobile parking spaces by a wall, fence, curb, protective bollards or by at least five feet of open space free of parking. While bicycle parking is adjacent to accessible automobile parking, aisles or loading areas provided for accessible spaces may count towards the open space requirement for bicycle parking so long as they are immediately adjacent to the bicycle parking.
6. All short-term bicycle parking shall be located so as to be no further than 25' of travel distance from the main entrance of the building and provide directional signage at the main entrance if parking is not visible.
7. Showers with adequate room for changing shall be provided for all new commercial buildings and any tenant improvements determined by the Planning and Community Development Department to be a substantial remodel, based on the following:
 - a. One unisex shower for all buildings less than 40,000 square feet of floor area. Two unisex showers for all buildings over 40,000 square feet.
 - b. Location of facilities must be adjacent to or incorporated into the building the shower facility is serving.
8. All long-term bicycle parking shall provide directional signage and access to the parking spaces 24 hours a day and provide a convenient path of travel that does not require the exclusive use of any subterranean vehicular ramp. Parking should be located on the ground floor, but in certain circumstances may be located on the 1st floor of the subterranean parking level, if approved by the Strategic and Transportation Planning Manager.
9. Bicycle lockers shall be designed to accommodate bicycles with a length of 6' and a minimum width of 2' and be able to accommodate a bicycle as determined by Strategic and Transportation Planning.
10. Bicycle lockers shall provide doors that open to a 90-degree angle and that are clearly labeled with instructions.

11. Additional design requirements will be established and periodically updated by the Planning and Community Development Department.

D. IN LIEU FEES

1. If the Zoning Administrator and Strategic and Transportation Planning Manager determine during City's plan review process that there is no room available on site in lieu fees may be paid toward future bicycle improvements (Bike Center, in-street corrals). Fees will be determined per bike parking space required and adopted annually with the City's fee process.

E. REDUCTION IN AUTO PARKING

Except for new buildings, automobile parking spaces required under established requirements in the Municipal Code may be replaced at a ratio of one automobile parking space for every 8 short or 5 long-term bicycle parking spaces for each automobile parking space. A combination of the two may be discretionarily reviewed and approved by the Strategic and Transportation Planning Manager or designee. No more than 10% of the required automobile parking spaces may be replaced in this manner. For buildings with less than 10 automobile parking spaces, no more than one automobile parking space may be replaced.

G. PUBLIC BICYCLE PARKING GUIDELINES

This appendix highlights the City of Santa Monica’s design and installation guidelines for public bicycle parking types located within the public right-of-way. The City is guided by the following rack placement principles in all new installations or retrofits, while addressing unique site conditions:

- ▶ Locate rack to minimize obtrusions and reduction of open space
- ▶ Orient rack to ensure bicycles are parked parallel to the curb face and parked vehicles
- ▶ Evaluate placement and footprint of parked bicycles based on parking dimension of 2’ wide x 6’ long
- ▶ Ensure clearances from walls, trees, tree wells, news racks, doorway exits/entrances, and parked cars

Figure G-1 examines the four public bicycle parking types that are currently accepted by the City. These include the Inverted U, Bollards, Modified Inverted U, and Bike Corrals. If all of the above requirements are met, the Strategic and Transportation Planning Manager or designee may approve artistic-style racks or racks not shown in Figure G-1.

Figure G-1 Recommended Bicycle Parking Types

Inverted U

of Spaces: 2 bikes

Location: Parks, SM Pier, within auto parking spaces, and open spaces like the Promenade

Placement: Generally 4’ from obstructions and 3’ from curb face; if enough open space on sidewalk (4’ minimum path of travel, not near doorways) can be placed perpendicular to curb to maximize use of rack for 2 bikes

Orientation: Curb side (parkway), parallel to curb, varies in open areas

Installation: Drill/bolts (8)



Sunshine Hitch Lok.

Bollard

of Spaces: 2 bikes

Location: Downtown and commercial districts; within auto parking spaces

Placement: Generally 4’ from of meter (back end of parking space) and center of rack 3’ from curb face

Orientation: Loops perpendicular to curb or turned slightly if on an extra wide sidewalk

Installation: First priority concrete footings; second priority drill/bolts (4)



Cascade Bollard.

Modified Inverted U

of Spaces: 2 bikes

Location: Commercial districts outside of downtown where small footprint is ideal

Placement: Generally curbside, 4’ from meter (back end of parking space) and 28” in from curb face (should align with meters)

Orientation: Parallel with curb

Installation: First priority concrete footings; second priority drill/bolts (4)



Sunshine Trak Lok.

Figure G-1 Recommended Bicycle Parking Types (continued)

Bike Parking Corral	# of Spaces: Varies
<p>Location: Parks, large open spaces, and/or in vehicle parking spaces on private or public property. For public property, may be located within a public parking lot or on-street parking space.</p>	 <p><i>Bike Corral installed within a parking space.</i></p>
<p>Placement: Maintain all access paths and provide area adjacent to the corral for dismounting or mounting when in-street. Follow Association of Bicycle Parking Guidelines for corral dimensions.</p>	
<p>Orientation: Will vary depending on location; should clearly be a designated area that provides racks spaced 3' apart and may not use part of the travel lane or bike lane for parked bikes.</p>	
<p>Installation: First priority concrete footings; second priority drill/bolts (4).</p>	