

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

| | |
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Figure B-1 5-Year Implementation Plan

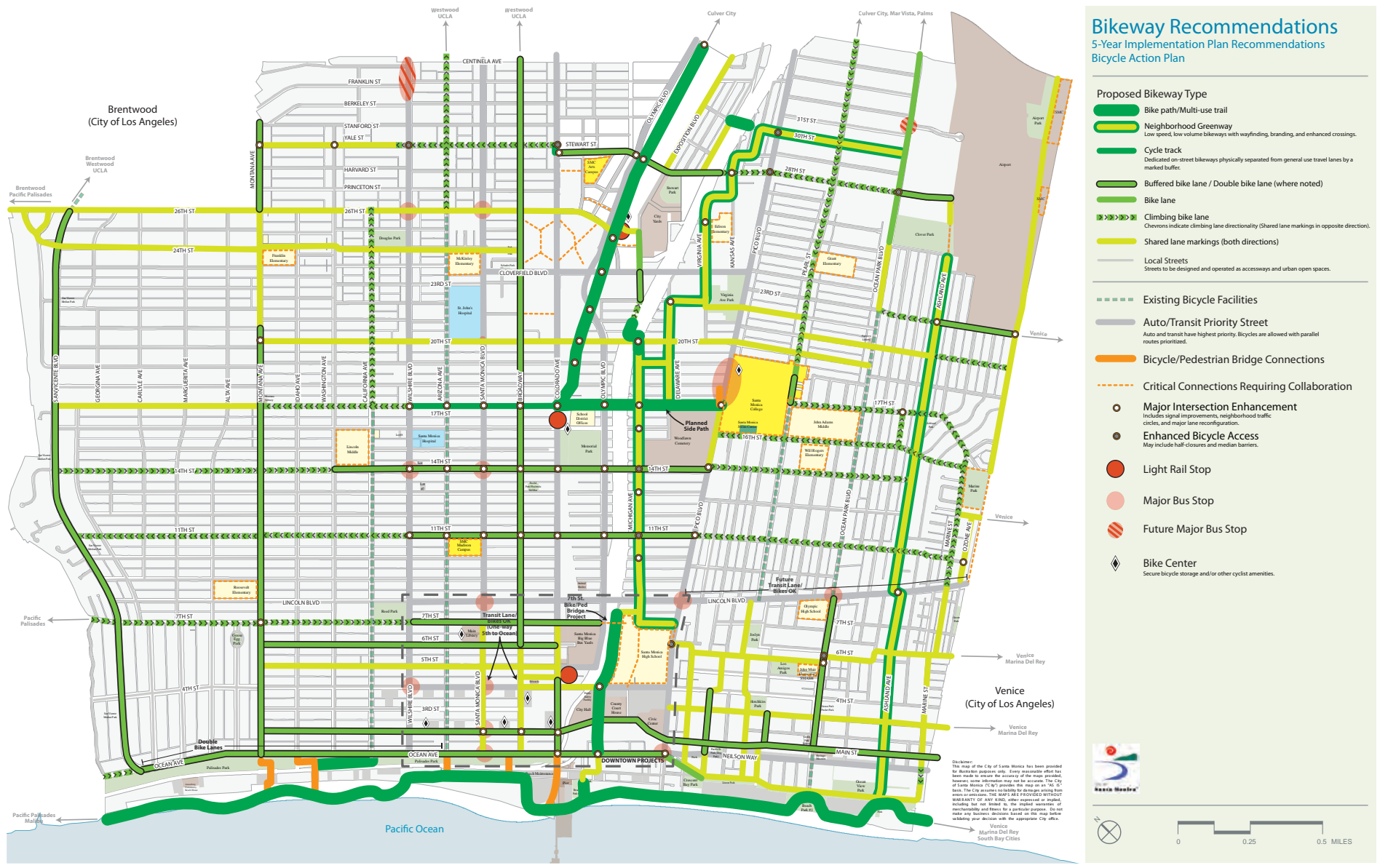


Figure B-2 20-Year Vision Plan



Bikeway Recommendations

20-Year Vision Plan Recommendations

Bicycle Action Plan

Proposed Bikeway Type

- Bike path/Multi-use trail**
- Neighborhood Greenway**
Low speed, low volume bikeways with wayfinding, branding, and enhanced crossings.
- Cycle track**
Dedicated on-street bikeways physically separated from general use travel lanes by a marked buffer.
- Buffered bike lane / Double bike lane (where noted)**
- Bike lane**
- Climbing bike lane**
Chevrons indicate climbing lane directionality (Shared lane markings in opposite direction).
- Shared lane markings (both directions)**
- 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

- Major Intersection Enhancement**
Includes signal improvements, neighborhood traffic circles, and major lane reconfiguration.
- Enhanced Bicycle Access**
May include half-closures and median barriers.
- Light Rail Stop**
- Major Bus Stop**
- Future Major Bus Stop**
- Bike Center**
Secure bicycle storage and/or other cyclist amenities.

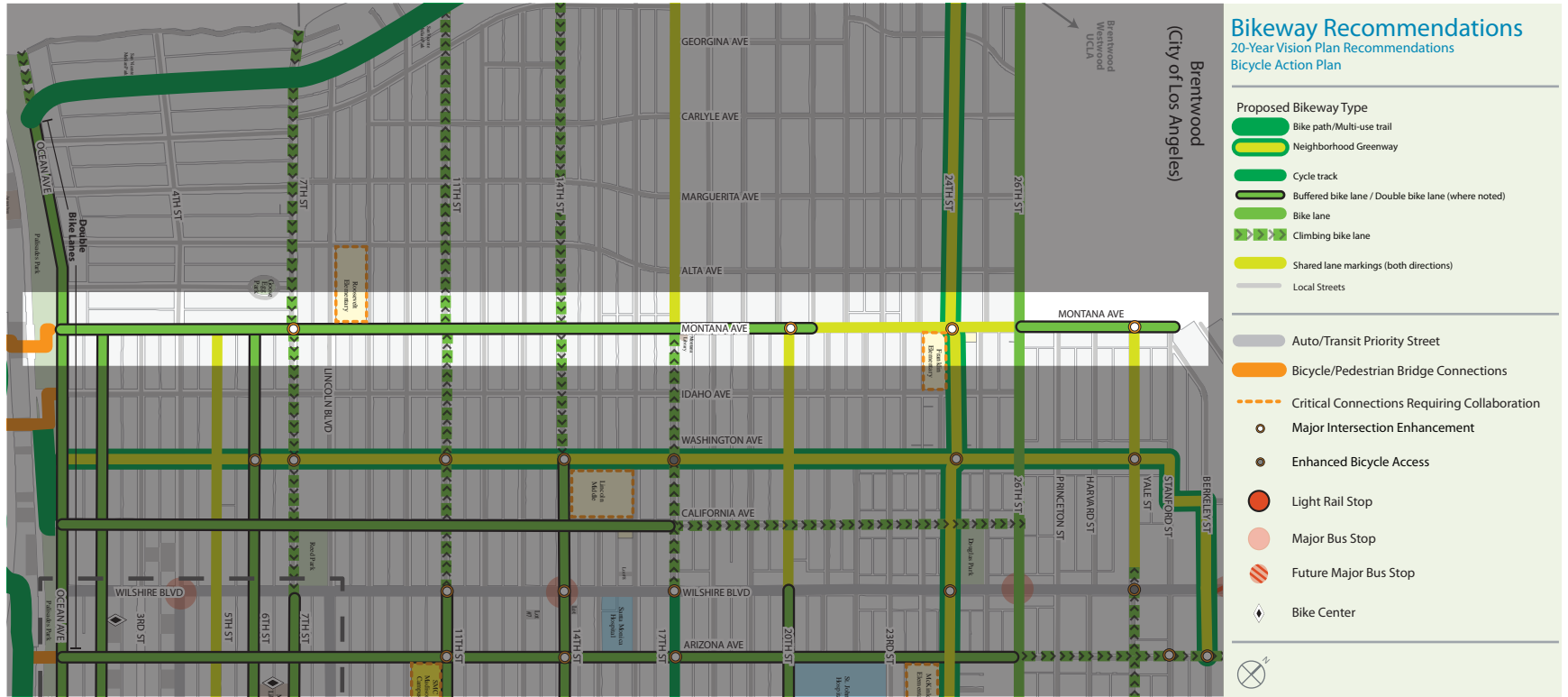
Disclaimer: This map of the City of Santa Monica has been provided for informational purposes only. Every precaution should be taken to ensure the accuracy of the map displayed. However, the City does not warrant the accuracy of the map. The City of Santa Monica is not liable for any damages, including but not limited to, arising from the use of this map. THE CITY OF SANTA MONICA ASSUMES NO LIABILITY FOR ANY DAMAGES, INCLUDING BUT NOT LIMITED TO, ARISING FROM THE USE OF THIS MAP. THE CITY OF SANTA MONICA ASSUMES NO LIABILITY FOR ANY DAMAGES, INCLUDING BUT NOT LIMITED TO, ARISING FROM THE USE OF THIS MAP.

Santa Monica

0 0.25 0.5 MILES

Montana Avenue 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

| 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

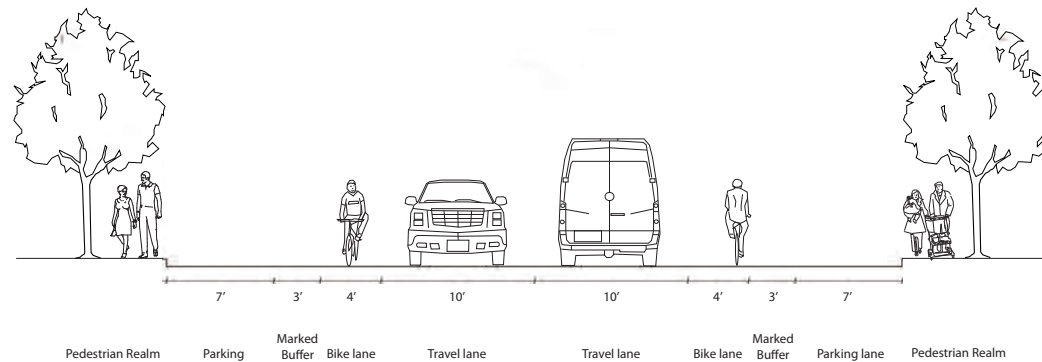
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ 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.

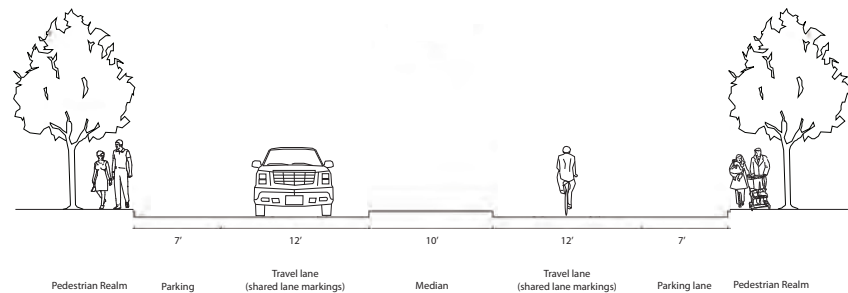
20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

- ▶ No lane stripe removal is needed along the segments 21st between Stanford (except at intersection approaches) and installation can occur immediately.

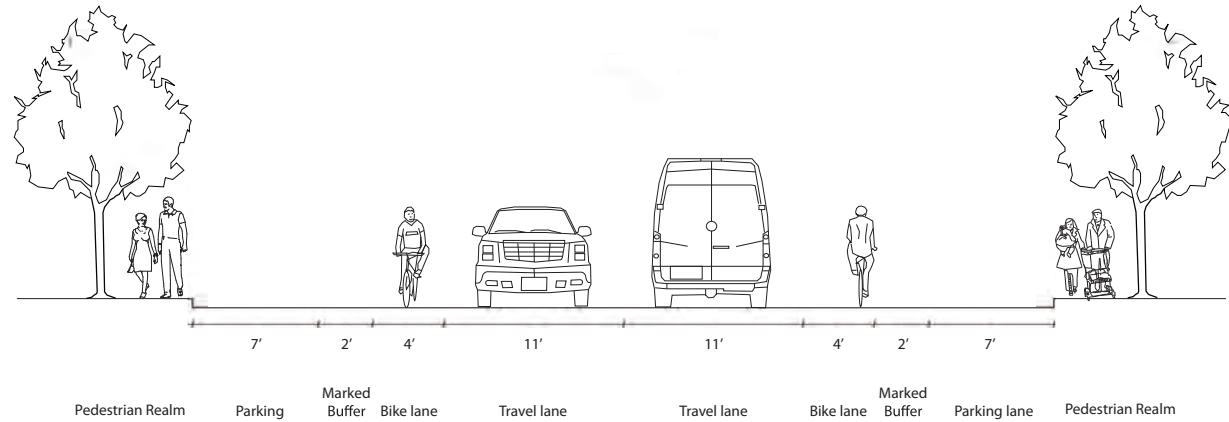


Existing view of Montana between 22nd and 23rd Street



Montana with shared lane markings between 21st Street and 26th Street

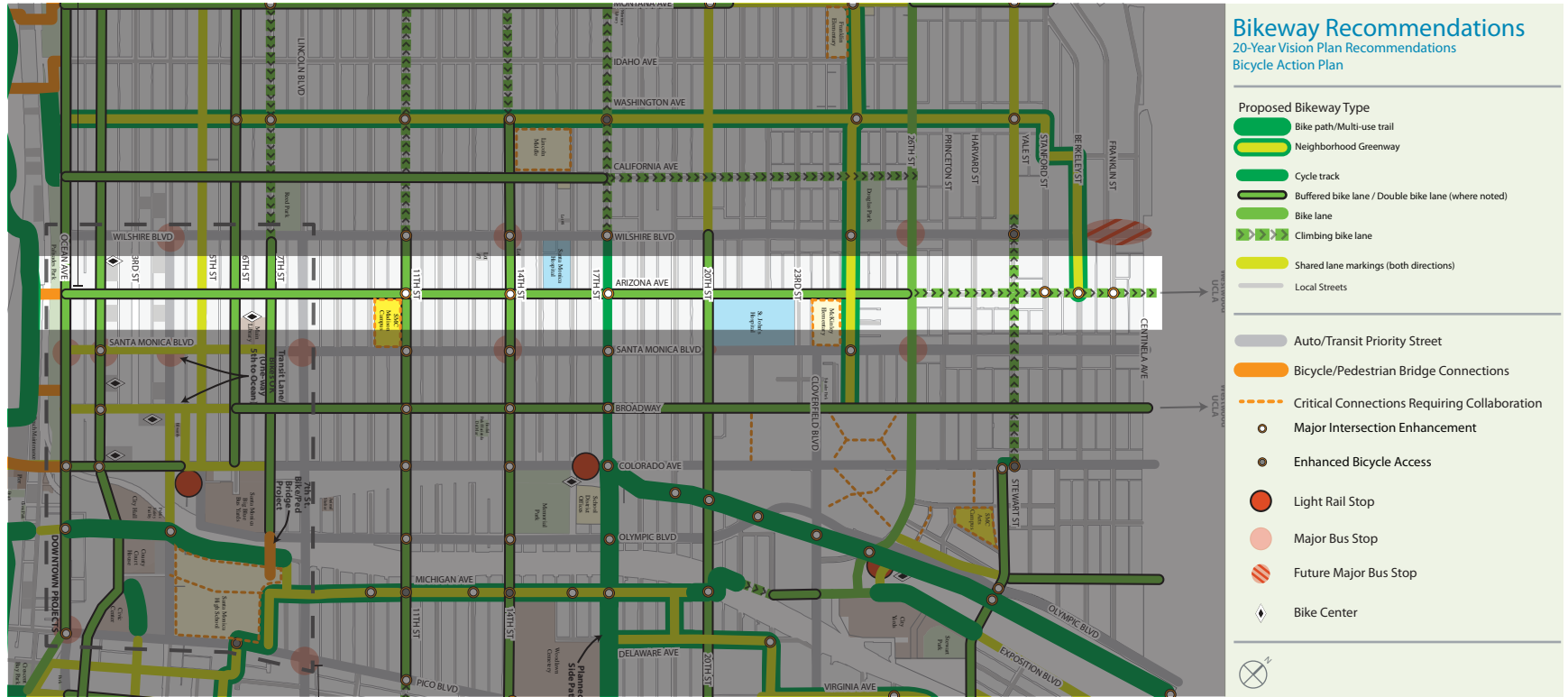
Montana Avenue from 21st Street to Stanford Street (Continued)



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

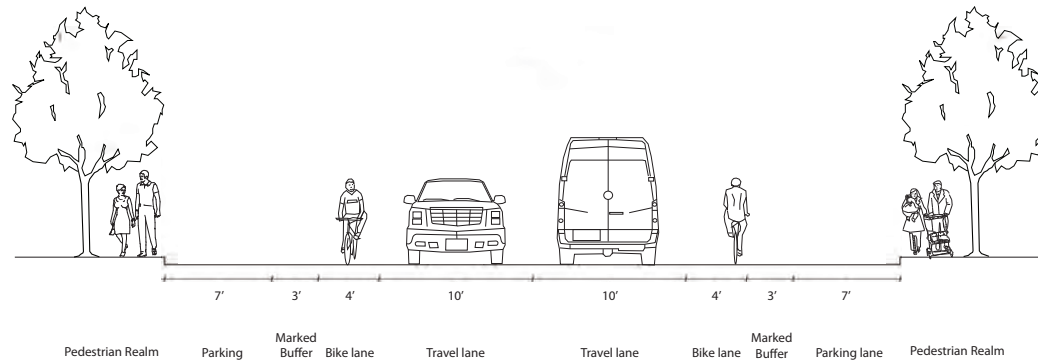
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ **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.

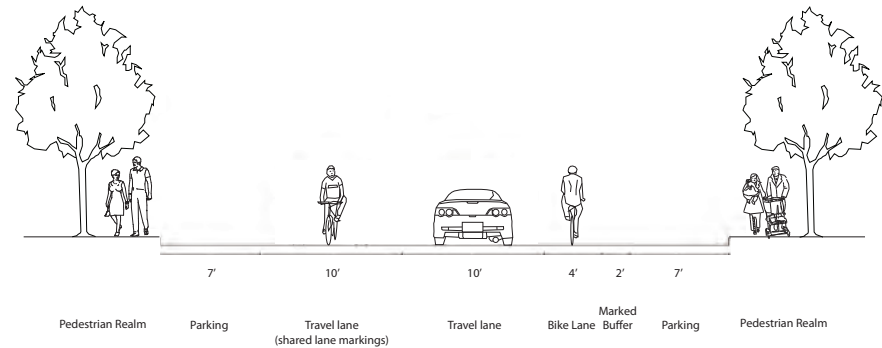
20-Year Project Conceptual Construction Cost Estimate: N/A

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.

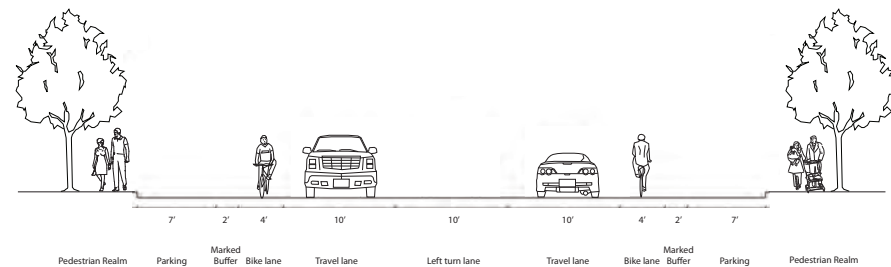
20-Year Project Conceptual Construction Cost Estimate: N/A

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.



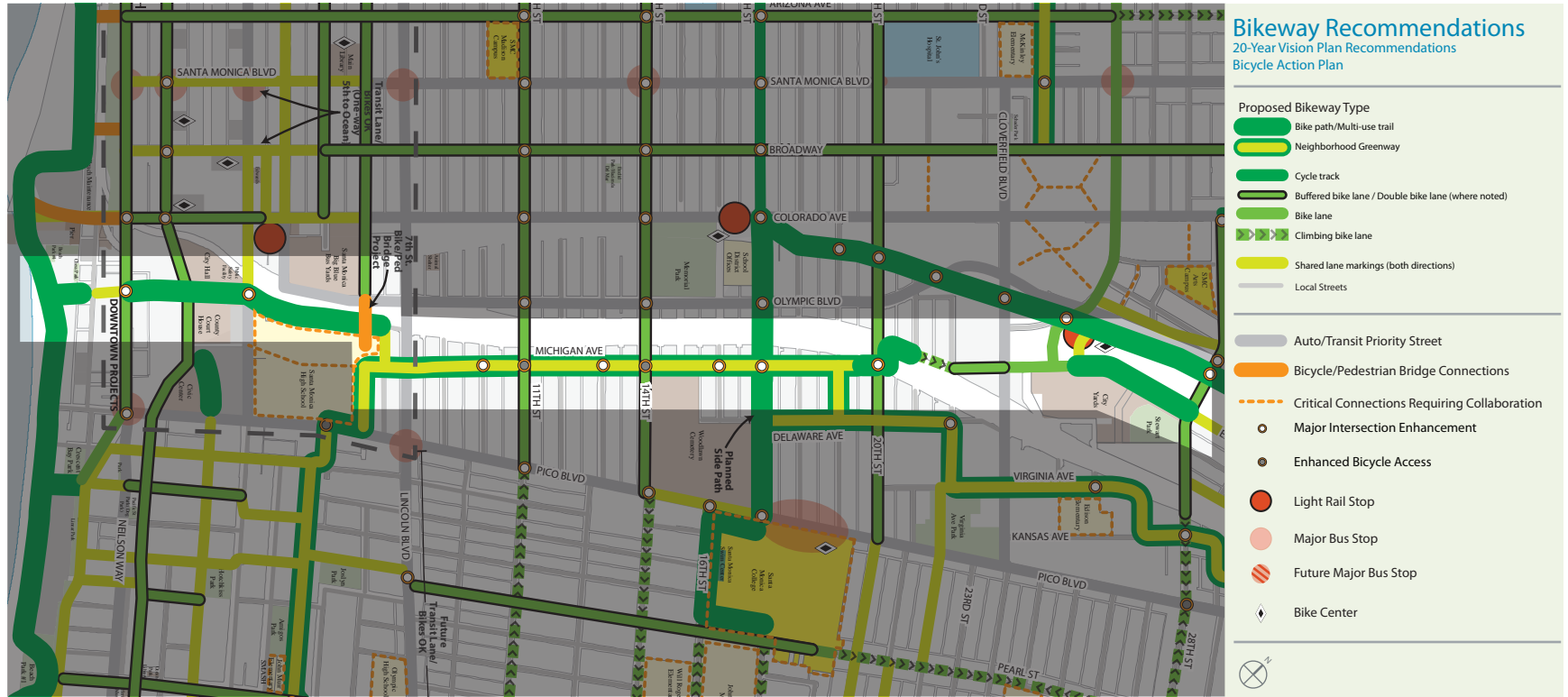
Existing cross-section of Broadway with bike lanes



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.

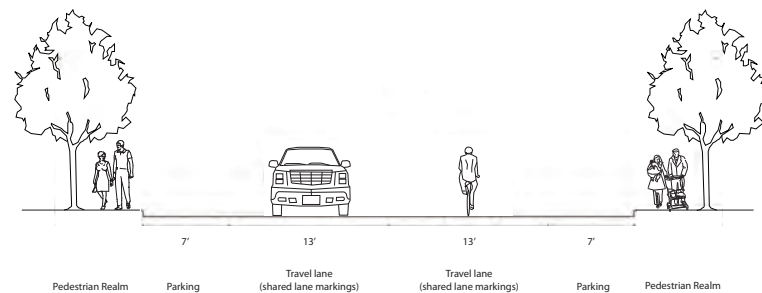
20-Year Project Conceptual Construction Cost Estimate: N/A

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.

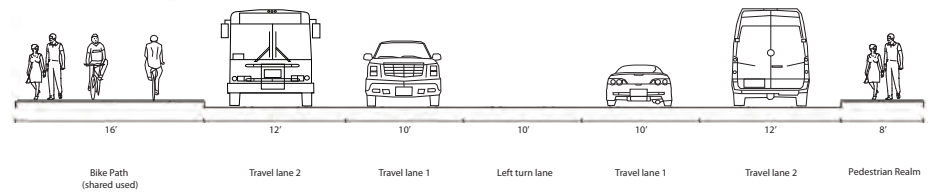
20-Year Project Conceptual Construction Cost Estimate: N/A

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

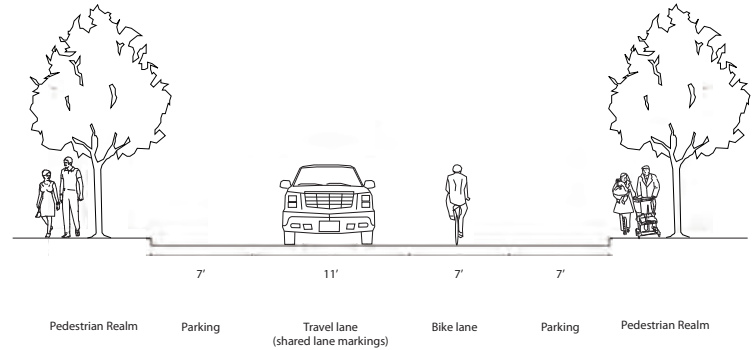
IMPLEMENTATION:

- ▶ 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)



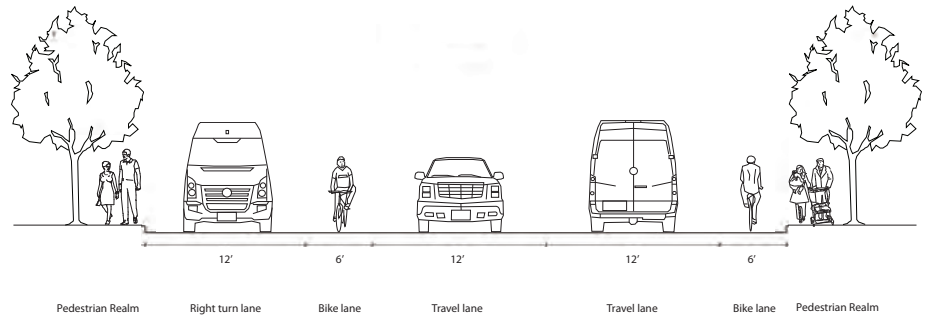
Existing Michigan between 21st and 22nd



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.

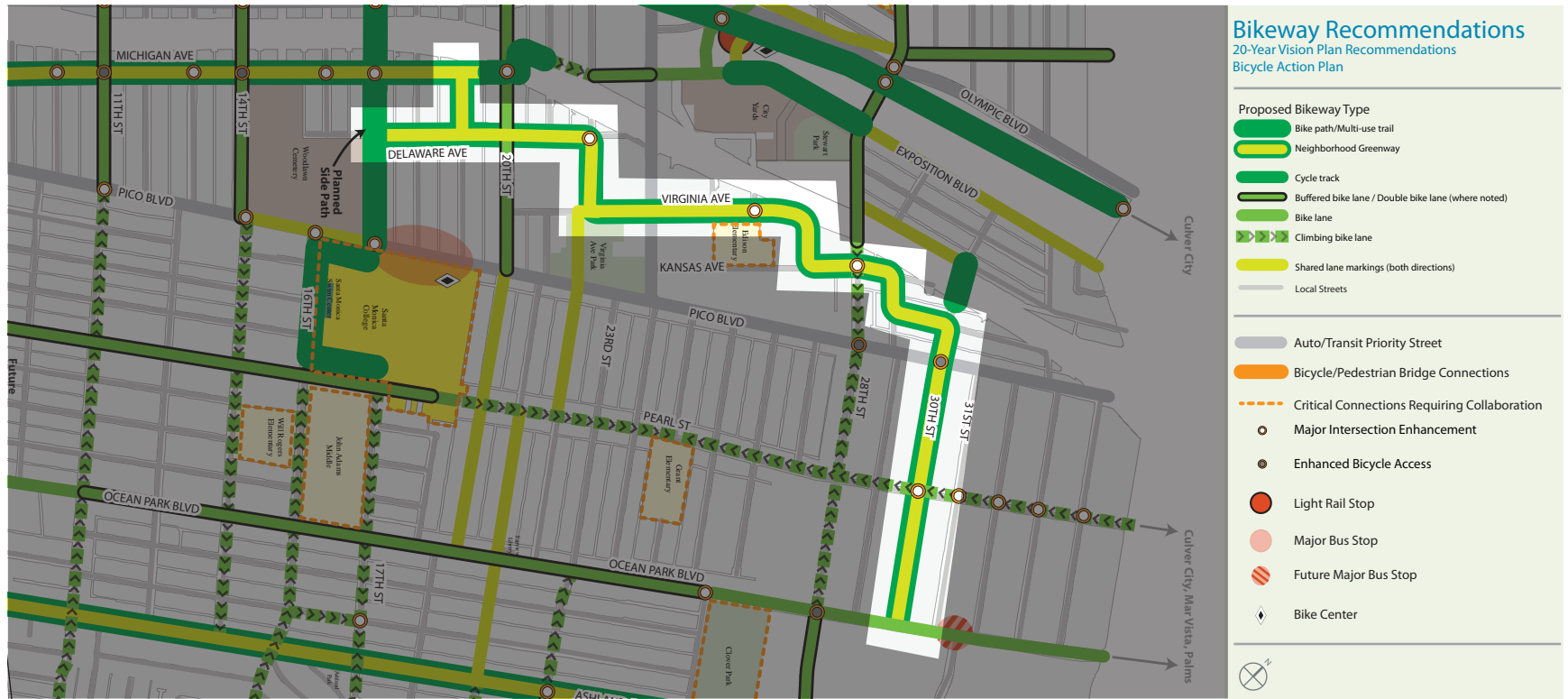
20-Year Project Conceptual Construction Cost Estimate: \$250,000

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

20-Year Corridor Build Out



| 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

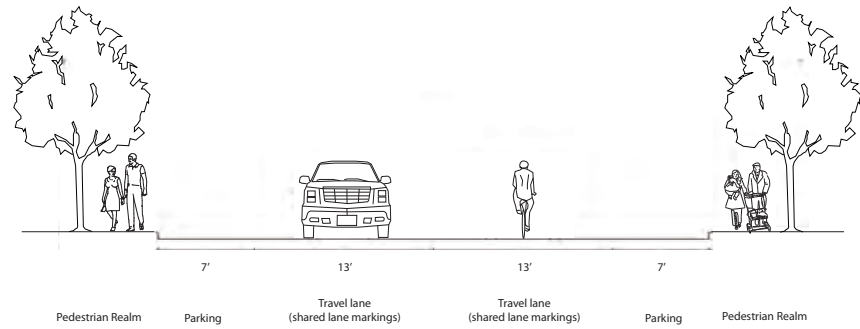
IMPLEMENTATION:

- ▶ 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)



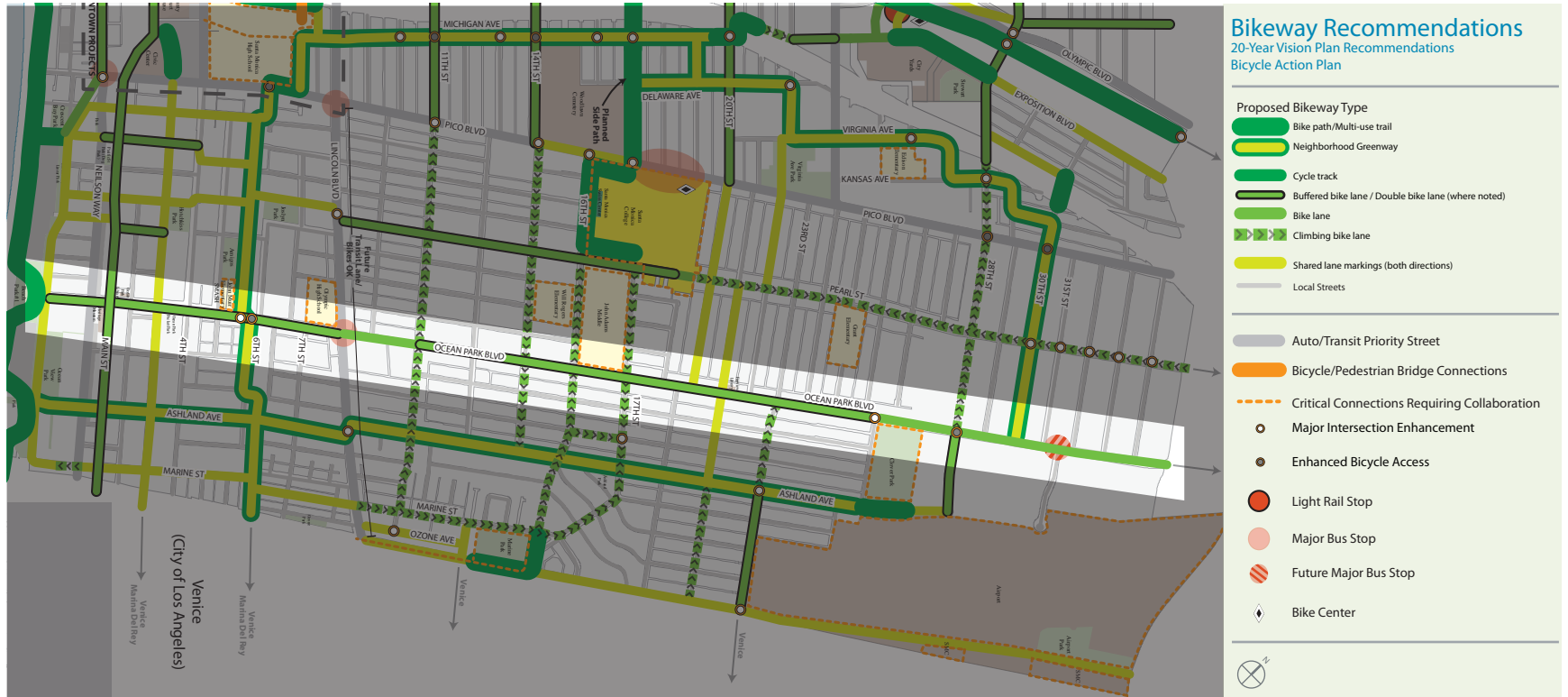
View of existing Virginia Avenue displays the low volume nature of the proposed Michigan Wiggle Neighborhood Greenway



Shared lane markings (both directions) on 40' curb-to-curb width streets like 22nd, Yorkshire, Dorchester, and 30th

Ocean Park Boulevard Bikeway

20-Year Corridor Build Out



| 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:

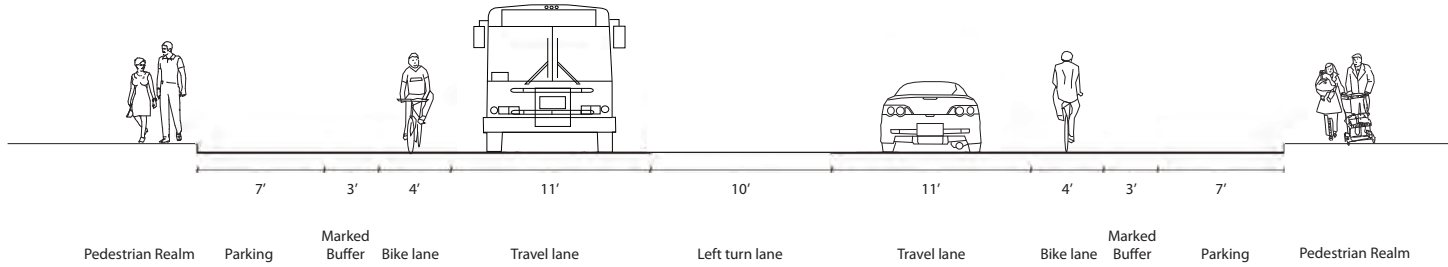
- ▶ **Cloverfield Boulevard to 25th Street:** Restripe to create buffered bike lanes by removing one of the westbound travel lanes.

20-Year Project Conceptual Construction Cost Estimate: \$100,000

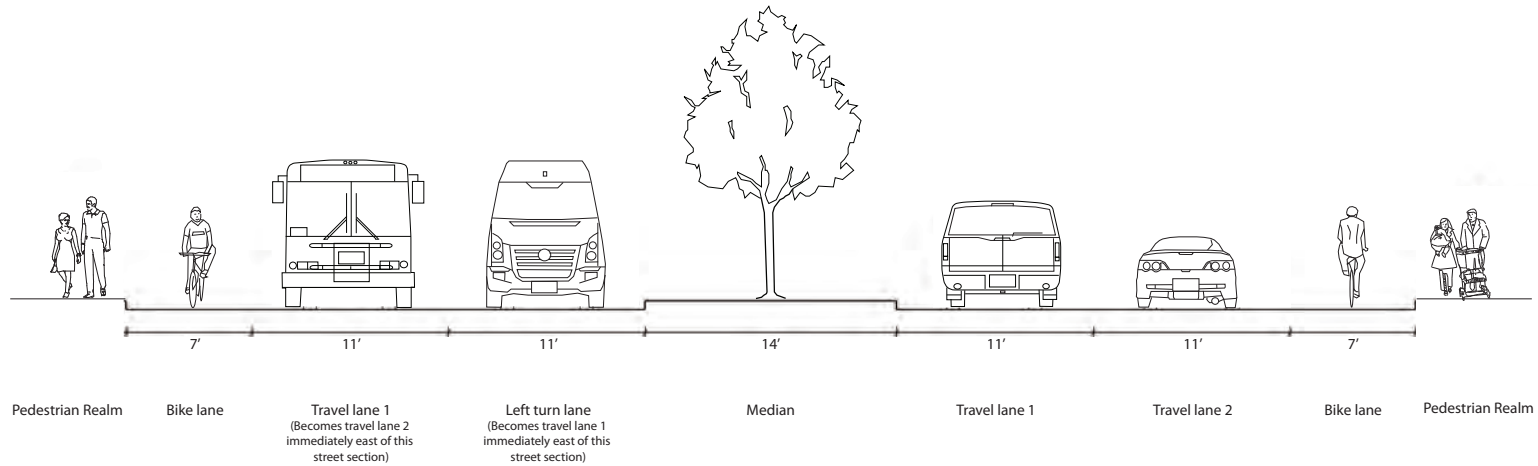
IMPLEMENTATION:

- ▶ 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

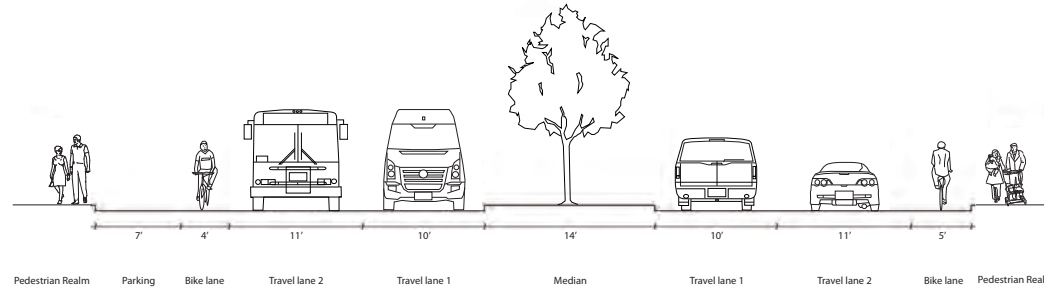


Ocean Park Boulevard with bike lanes and extended median at east leg of 25th Street intersection (extends for roughly 300' east of 25th Street)

Ocean Park Boulevard from Cloverfield Boulevard to Centinela Avenue (Continued)



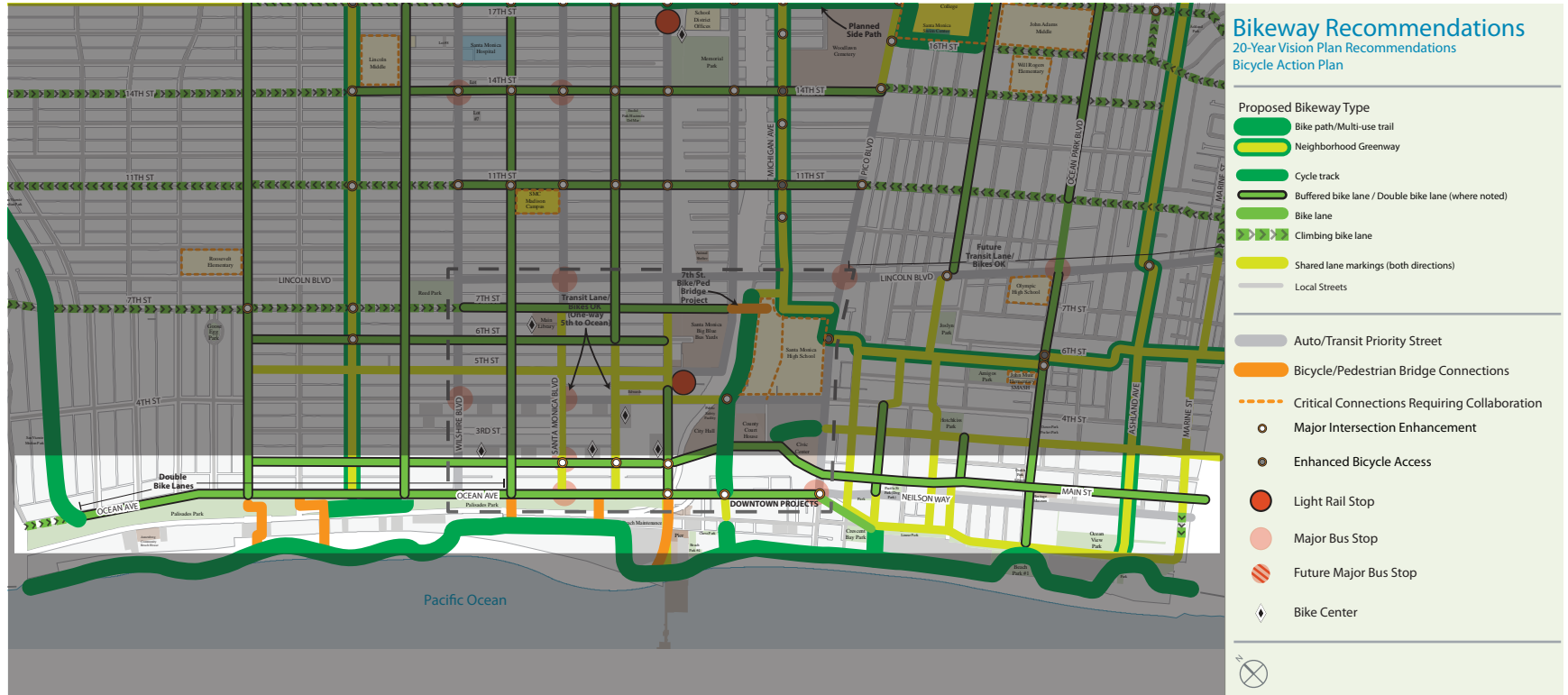
Ocean Park Boulevard's existing raised median between 29th and 30th Street



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 |
| <p>Route Description</p> | |
| <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.

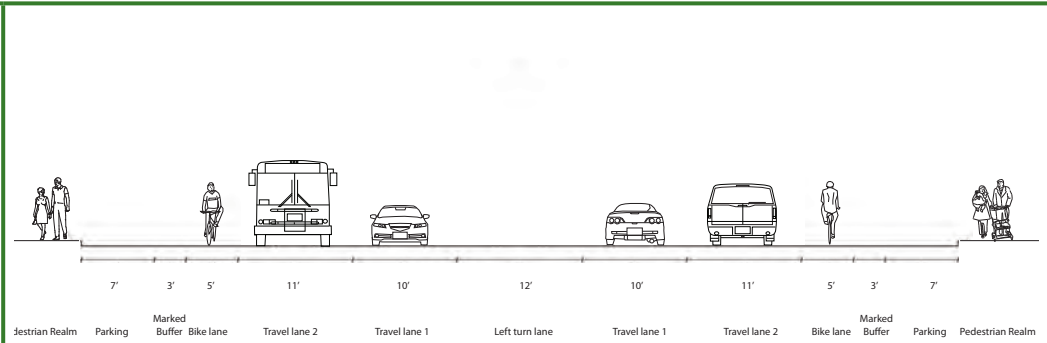
20-Year Project Conceptual Construction Cost Estimate: N/A

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

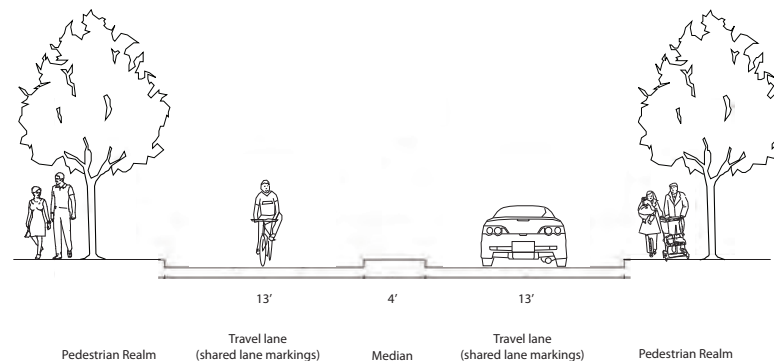
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

20-Year Project Conceptual Construction Cost Estimate: N/A

IMPLEMENTATION:

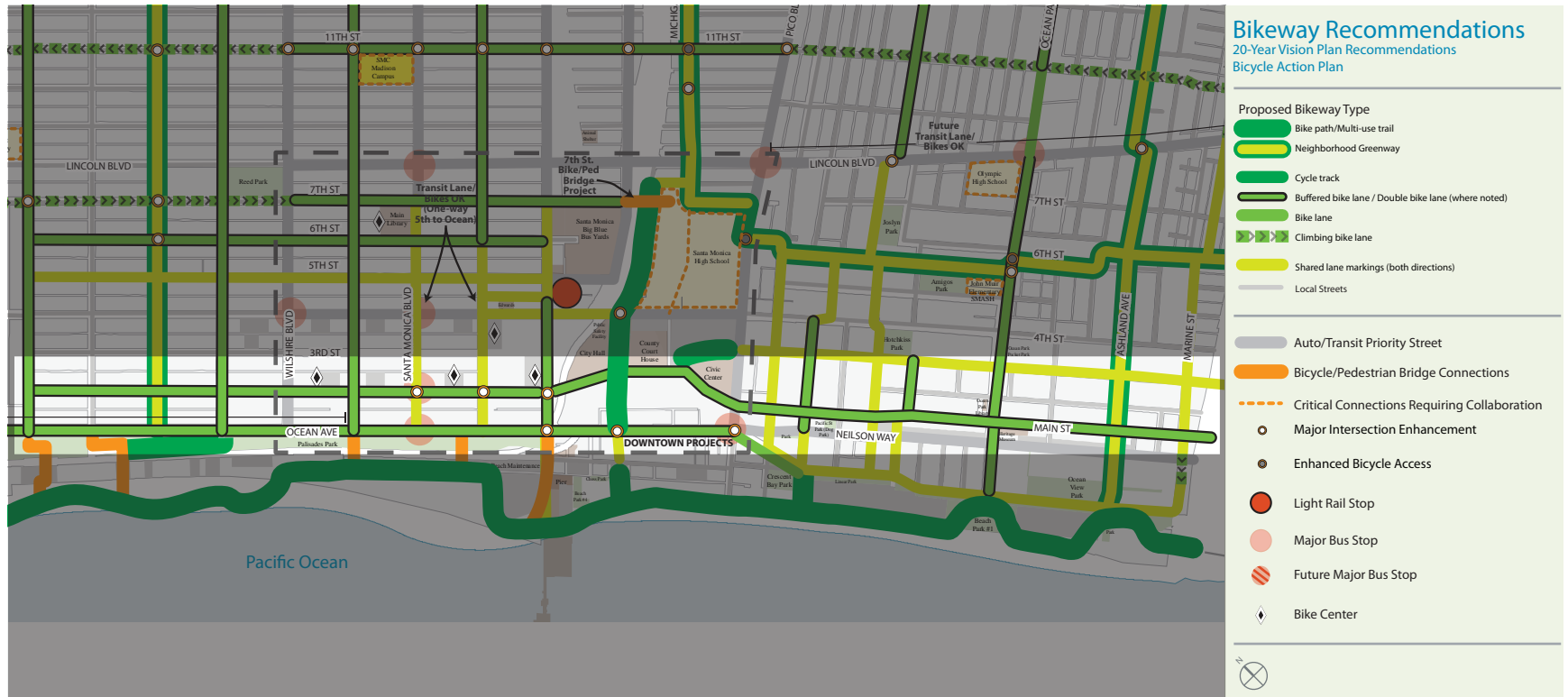
- ▶ The City should install advisory signs where the northbound climbing bike lane ends and the shared lane markings begin at the existing raised median. Advisory signage should indicate to motorists that bicyclists may use the full lane.
- ▶ The City should also consider constructing a more pronounced 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

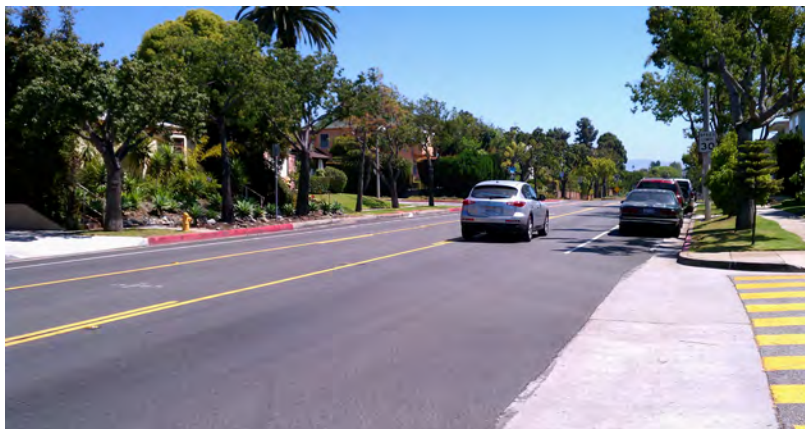
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ No change from 5-Year.

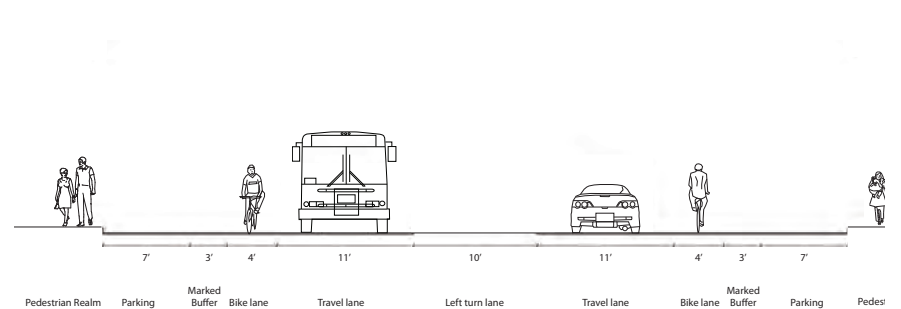
20-Year Project Conceptual Construction Cost Estimate: N/A

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.

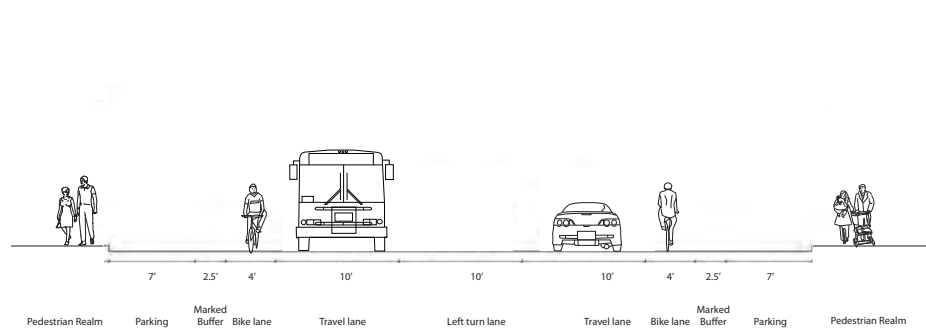
20-Year Project Conceptual Construction Cost Estimate: \$300,000

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).

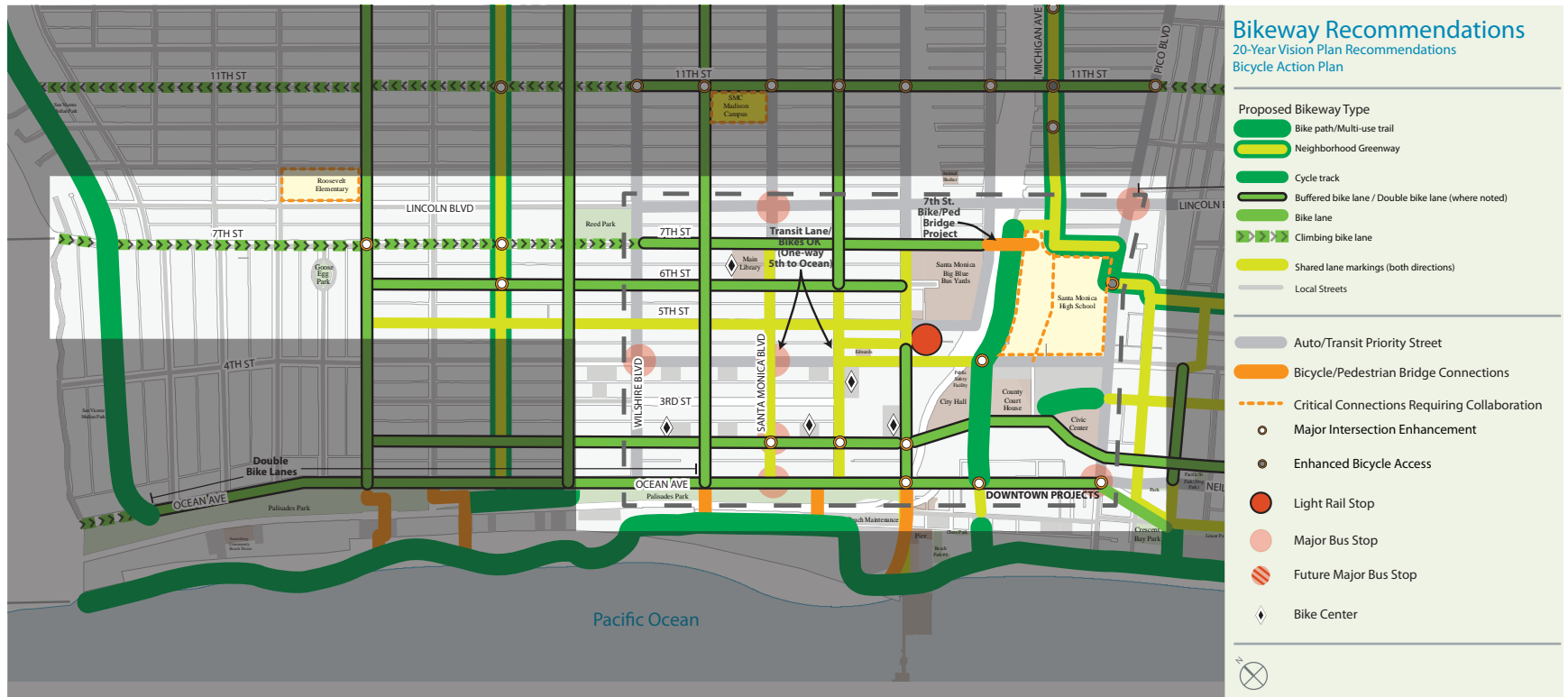


Existing Main Street between Hill and Ashland



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

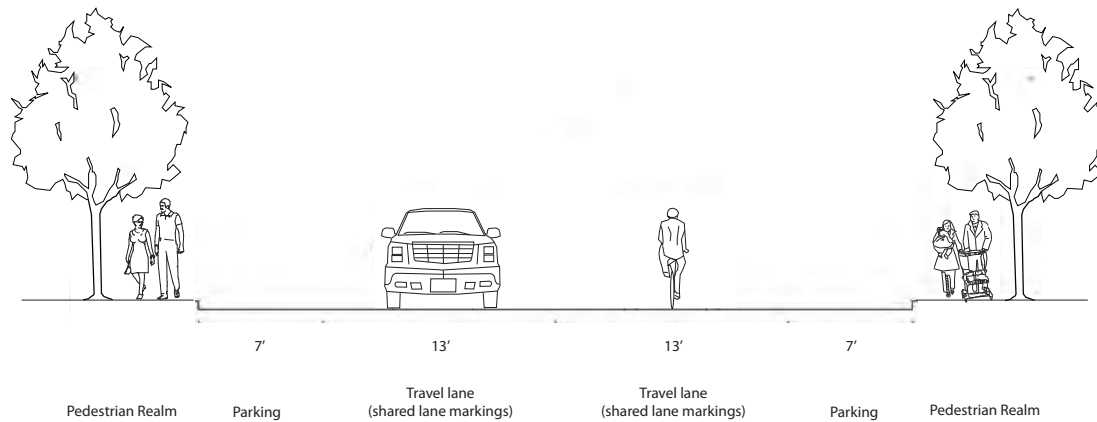
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ 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.

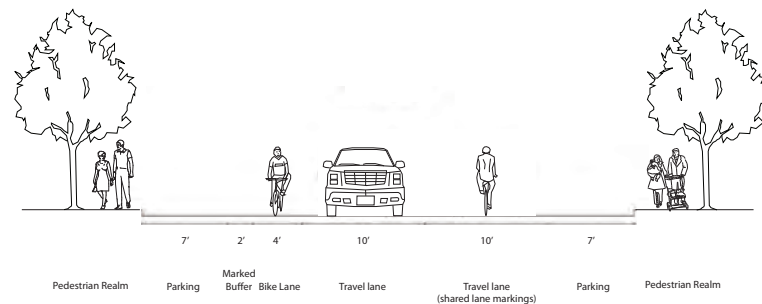
20-Year Project Conceptual Construction Cost Estimate: N/A

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

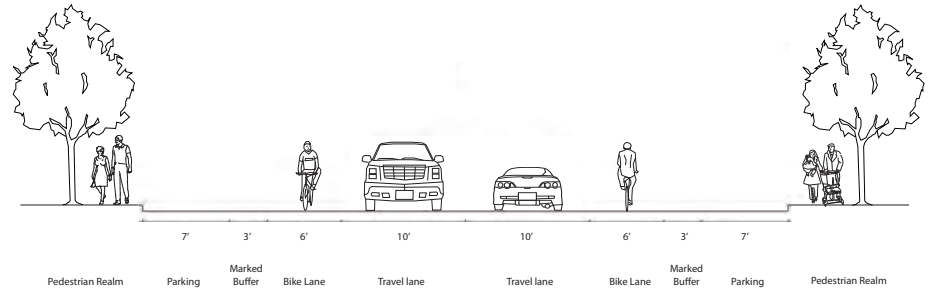


7th Street between Marguerita Avenue and Alta Avenue

Between San Vicente Boulevard and Olympic Boulevard (via 6th Street and 7th Street—Continued)



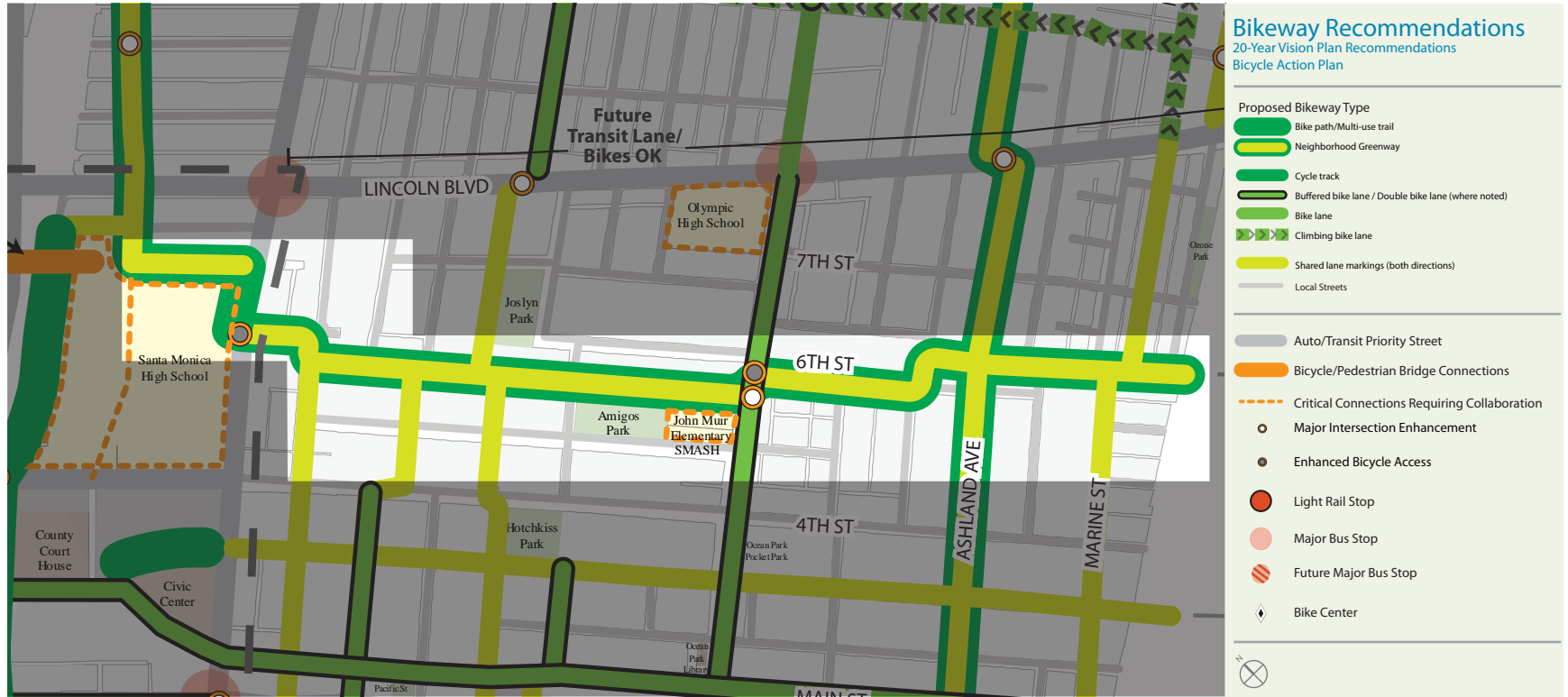
Existing 6th Street between Arizona and Santa Monica



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> |
| <p>Route Description</p> | |
| <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

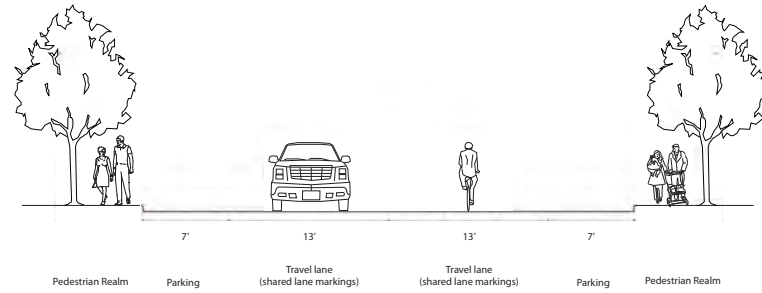
IMPLEMENTATION:

- ▶ 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)



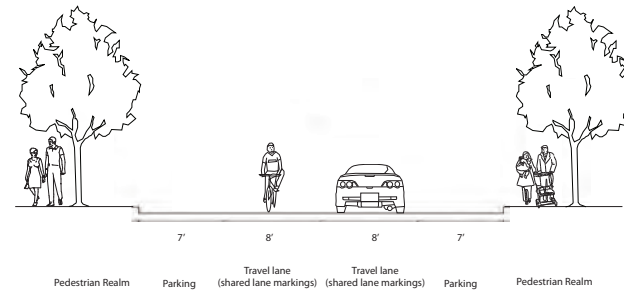
Existing 6th Street between Strand and Hollister



6th Street shared lane markings between Bay Street and Ocean Park Boulevard



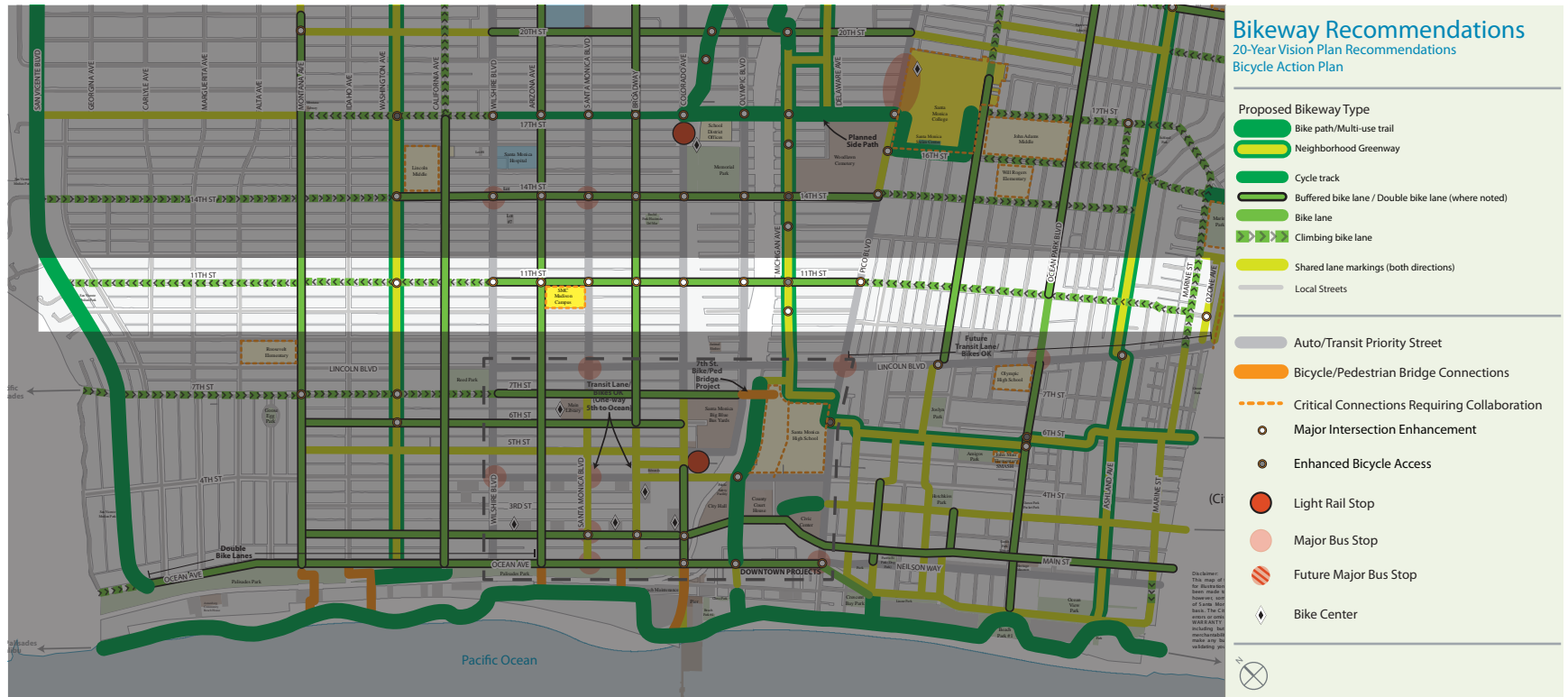
Existing 6th Street between Strand and Hollister



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.

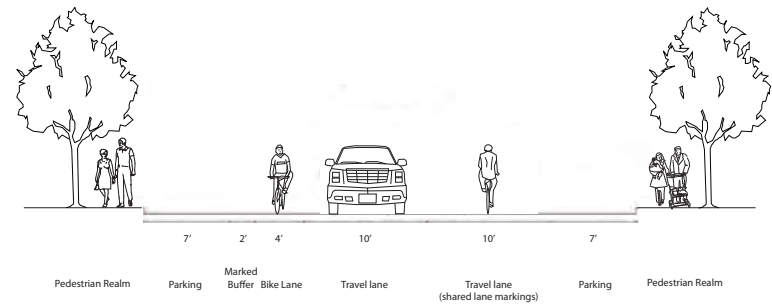
20-Year Project Conceptual Construction Cost Estimate: N/A

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

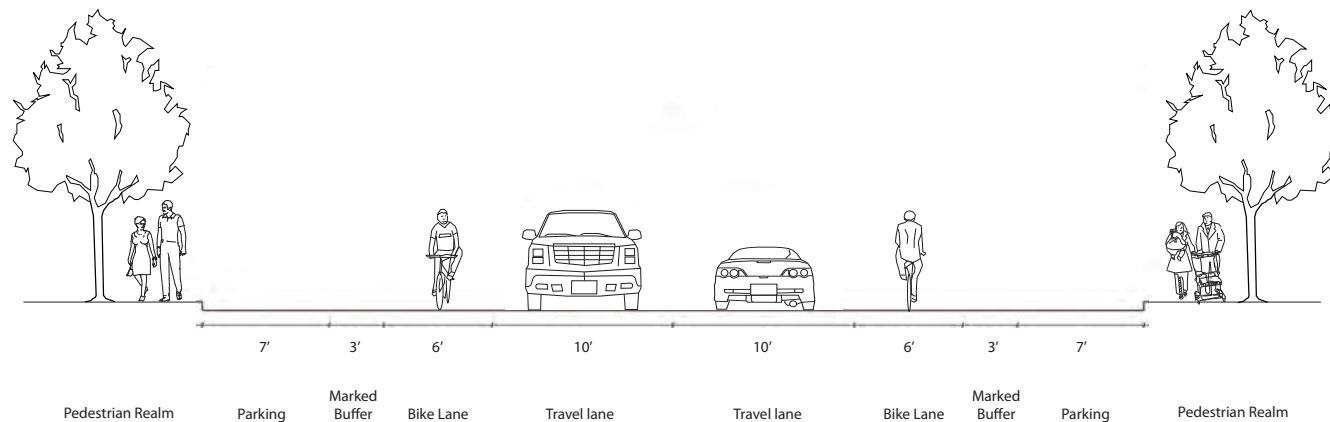
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ 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.

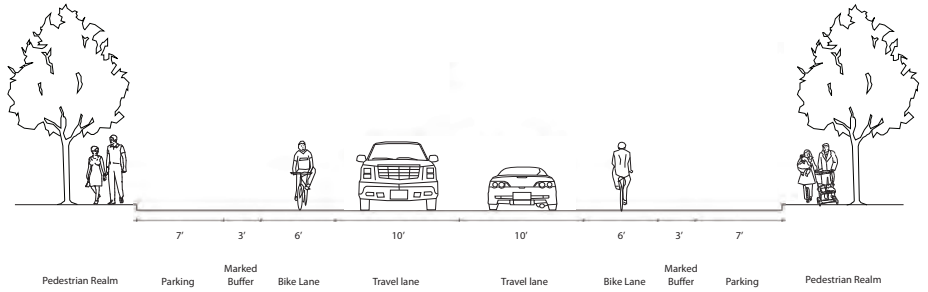


Buffered bike lanes on 11th Street between Santa Monica and Broadway

11th Street from Wilshire Boulevard to Marine Street (Continued)



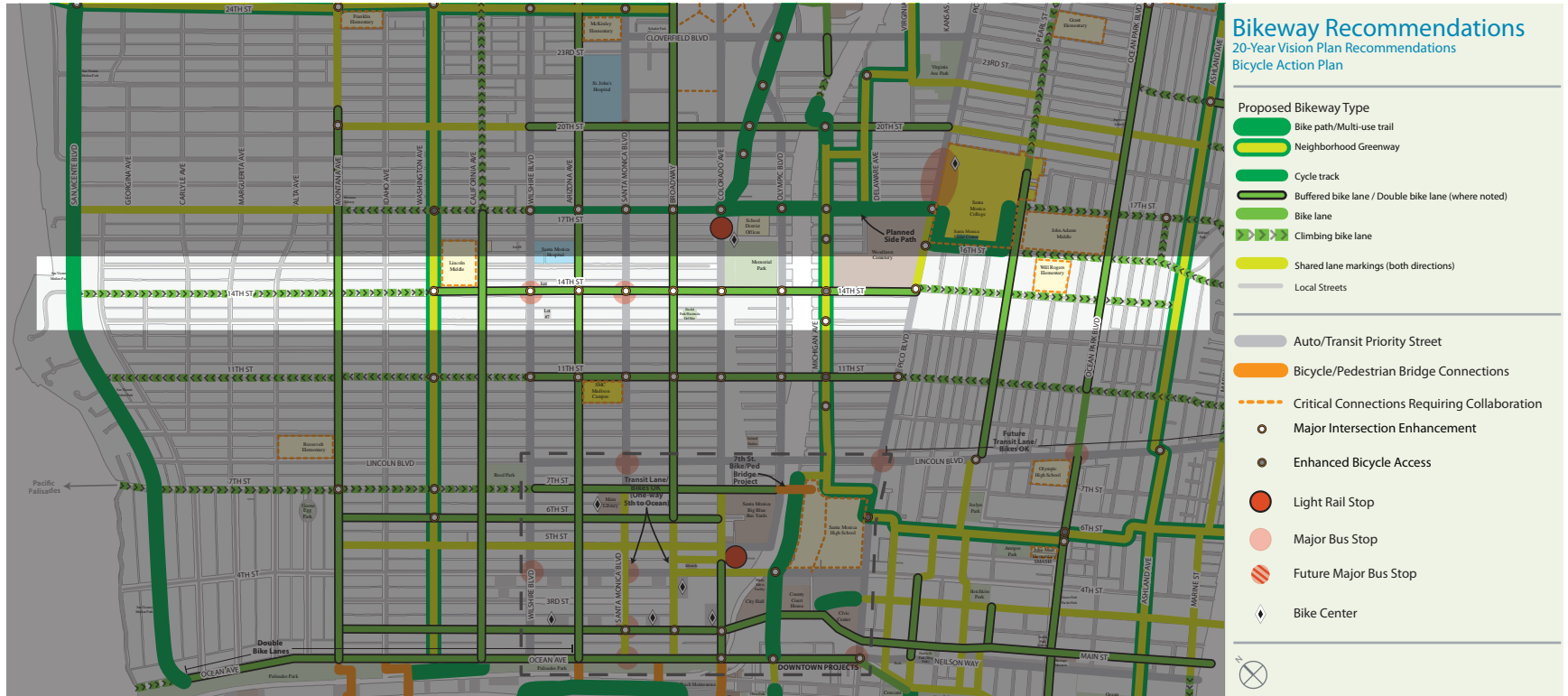
Existing 11th Street between Michigan and Pico



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.

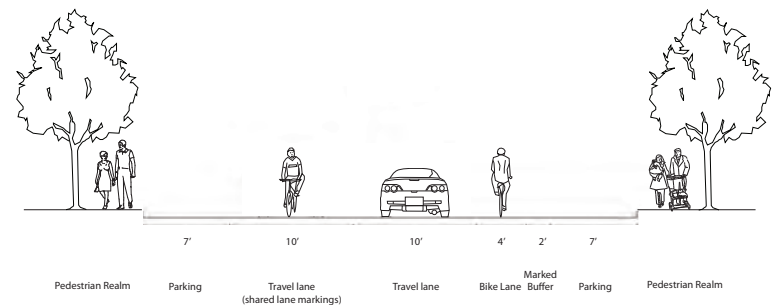
20-Year Project Conceptual Construction Cost Estimate: N/A

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

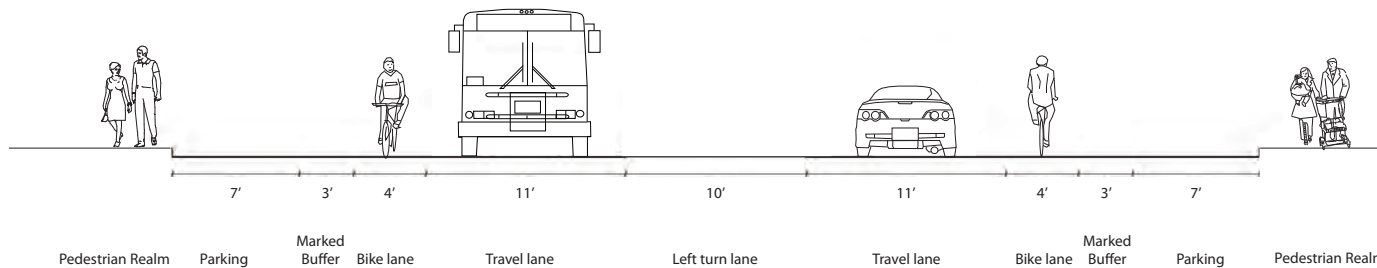
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ 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.

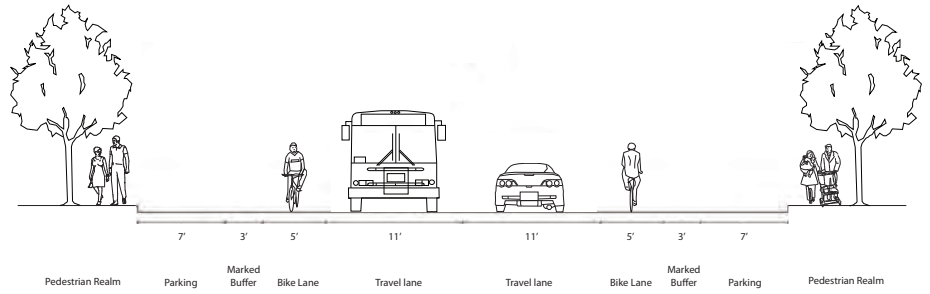


Buffered bike lanes on 14th Street between California and Wilshire

14th Street from Washington Avenue to Pico Boulevard (Continued)



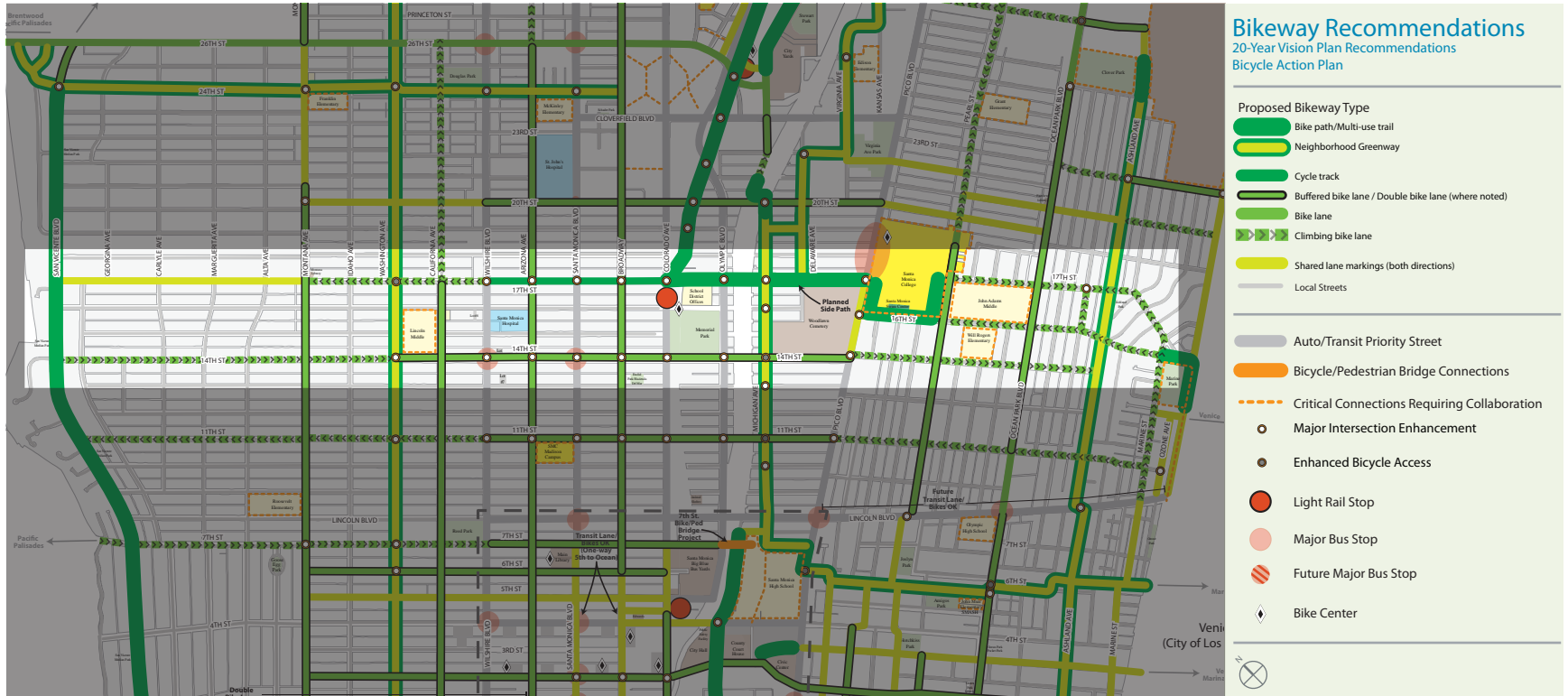
Existing 14th Street between Arizona and Santa Monica



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 |
| Route Description | |
| <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.

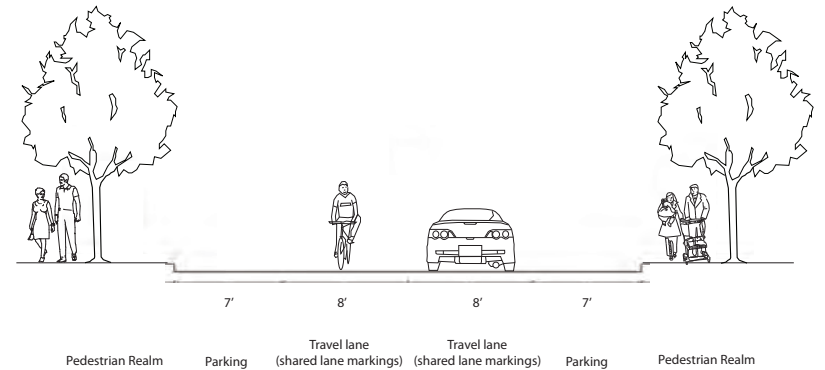
20-Year Project Conceptual Construction Cost Estimate: N/A

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.

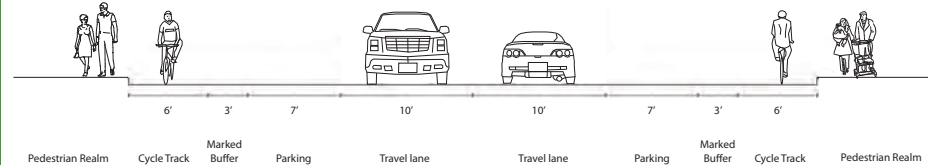
20-Year Project Conceptual Construction Cost Estimate: N/A

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

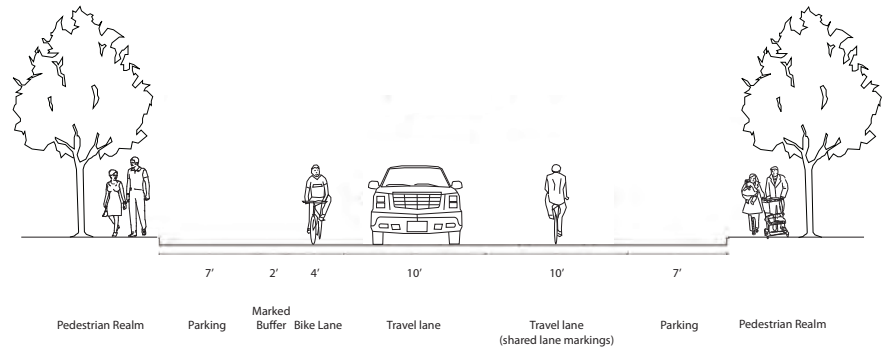
IMPLEMENTATION:

- ▶ 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)



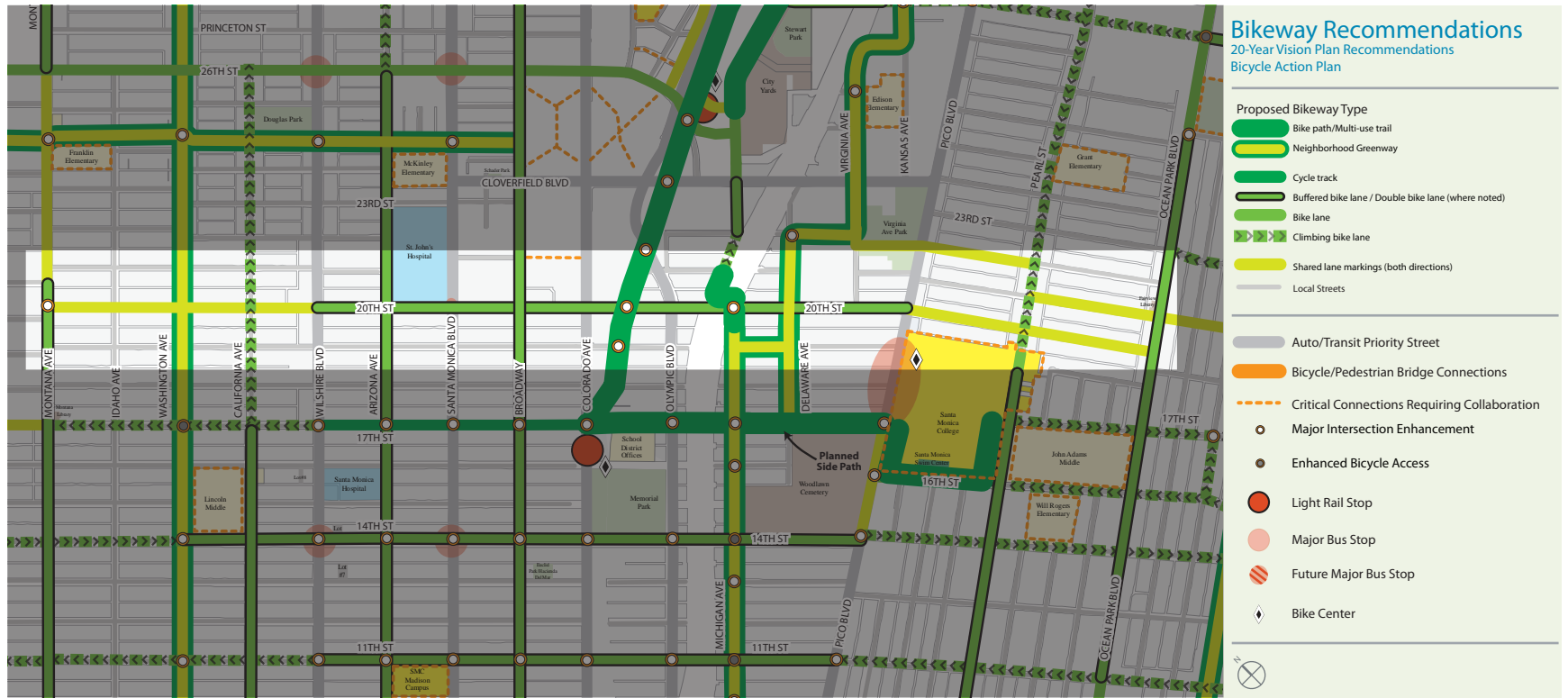
Existing cross-section of 17th at Bryn Mawr



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.

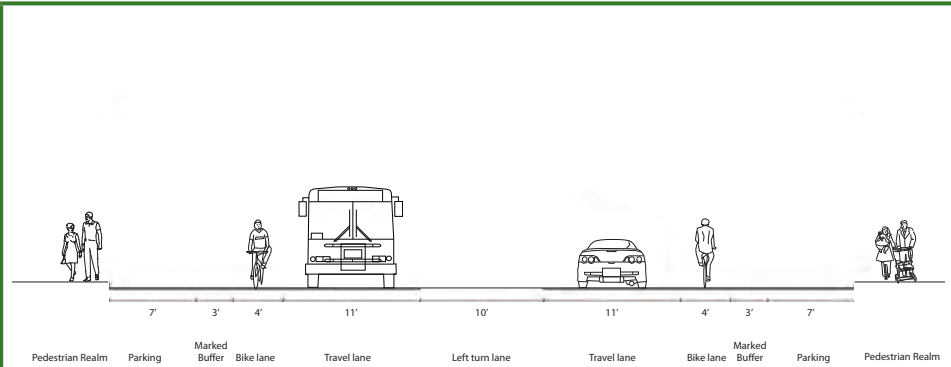
20-Year Project Conceptual Construction Cost Estimate: \$275,000

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.

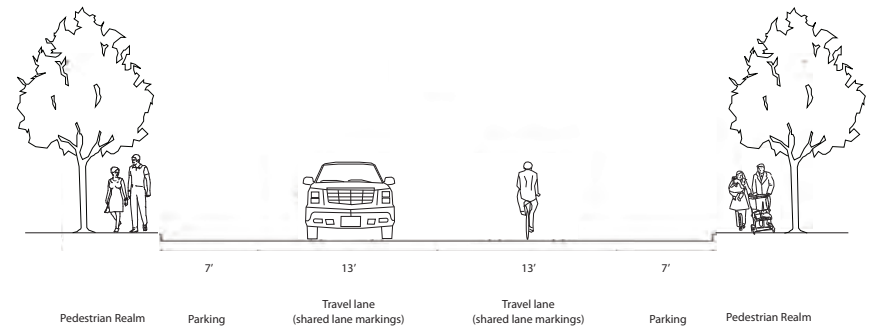
20-Year Project Conceptual Construction Cost Estimate: N/A

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

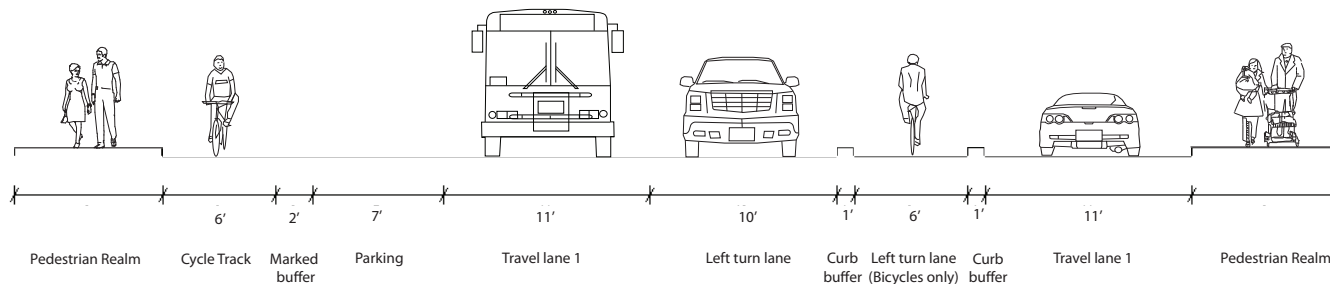
20-YEAR PROPOSED FACILITIES/ENHANCEMENTS:

- ▶ 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.

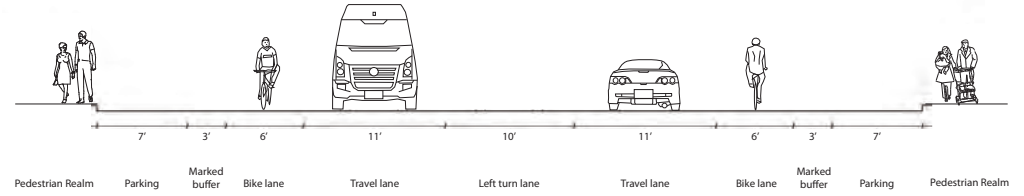


Proposed left turn facilities on Colorado Avenue between Stewart Street and Yale Street

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:

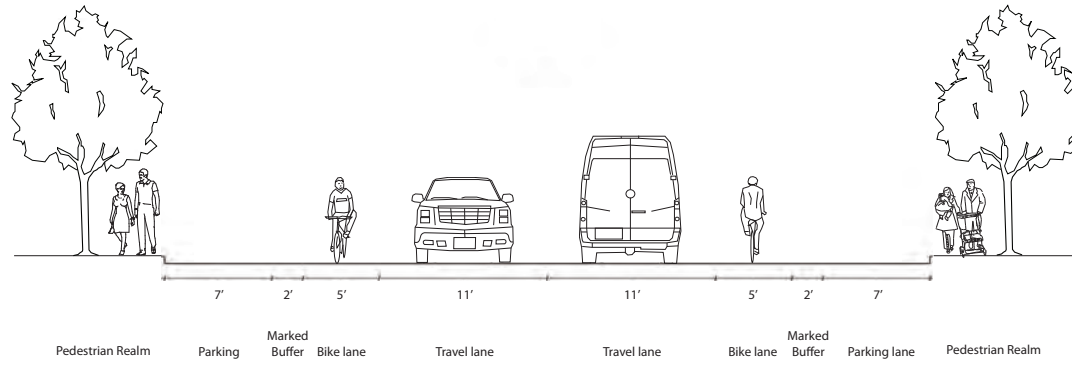
- ▶ No change from 5-Year.

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

