



**Citizens Advisory Committee  
Bicycle/Pedestrian Subcommittee**

**June 21, 2016**

*1:00 p.m. – 2:30 p.m.*

*550 S. Main St., Orange, California, 92868*

*Conference Room 08*

**Agenda**

1. **Welcome/Chairman's Remarks** *Roy Shahbazian, Subcommittee Chair*
  
2. **Interchange Treatments Memo** (20 min) *Roy Shahbazian, Subcommittee Chair*
  
3. **Pacific Coast Highway Corridor Study** (15 min) *Joseph Alcock, Manager, Strategic Planning*
  
4. **Bike Month Results** (10 min) *Marlon Perry, Section Manager, Vanpool & Bike Programs, Marketing*
  
5. **Draft Active Transportation Checklist** (15 min) *Paul Martin, Active Transportation Coordinator*
  
6. **Planning Update/Grant Status** (10 min) *Paul Martin, Active Transportation Coordinator*
  
7. **Draft Safety Video** (10 min) *Marlon Perry, Section Manager, Vanpool & Bike Programs, Marketing*
  
8. **Subcommittee Member Comments** *Roy Shahbazian, Subcommittee Chair*
  
9. **Public Comments** *Roy Shahbazian, Subcommittee Chair*
  
10. **Adjournment / Next Meeting**  
*September 20, 2016*

**Agenda Descriptions/Public Comments on Agenda Items**

The Agenda descriptions are intended to give notice to members of the public of a general summary of items of business to be transacted or discussed. Members from the public wishing to address the Committee will be recognized by the Chairman at the time the Agenda item is to be considered. A speaker's comments shall be limited to three (3) minutes.

Any person with a disability who requires a modification or accommodation in order to participate in this meeting should contact the OCTA at (714) 560-5611, no less than two (2) business days prior to this meeting to enable OCTA to make reasonable arrangements to assure accessibility to this meeting.



**CAC Bicycle/Pedestrian Subcommittee  
Meeting Minutes**

March 15, 2016

1:00 p.m. – 2:30 p.m.

600 South Main Street, Orange, California, 92868

Conference Room 103/4

**1. Welcome/Chairman's Remarks**

*Roy Shahbazian, Chair*, welcomed the committee members.

**2. I-405 South Improvement Project**

*Jeannie Lee, Project Manager, Highway Programs*

Jeannie Lee, Highway Programs Project Manager, gave an overview of the I-405 South Improvement Project, including the project purpose, project limits, preliminary alternatives, additional programmed improvements by Caltrans, existing bikeways in the area, and the project schedule. She said one of the goals of this project is to have no negative impacts on existing bikeways or bicycle/pedestrian safety features.

Potential intersection improvements being studied include improving the Irvine Center Drive (ICD) loop on-ramp entrance with a closer to 90-degree turn and crosswalk configuration; ICD south-bound off-ramp intersection configuration with signalized right-turns; and Culver north-bound loop on-ramp crosswalk configuration.

Roy Shahbazian and Brian Cox both commented that they like the idea of turning the ICD on-ramp into a 90-degree turn and signaling it. Roy also asked that the subcommittee be sent the Project Study Report, which has been finalized and available to the public.

Jeff Thompson said that, with all the great bike trails bear the project area, this could create a marketing opportunity to help promote the use of these bike lanes/trails.

Vince Buck asked if this project could also help improve the bikeways that cross over the freeway via Sand Canyon Avenue. Jeannie said the Sand Canyon Avenue ramps are not being altered at this point because the work in that area will remain within the freeway's right-of-way. Roy agreed that Sand Canyon Avenue could be improved. Paul Martin, Active Transportation Coordinator, suggested that it would help for subcommittee members to reach out to the City of Irvine to talk with them about Sand Canyon Avenue. Marlon Regisford of Caltrans agreed with Paul Martin's suggestion since the street is under the city's jurisdiction.

Jeannie went on to explain that because the ICD ramp needs to be reconfigured as part of the project, bicycle and pedestrian accommodations were also able to be incorporated. Roy asked how the change in ramp shape at ICD affects vehicular throughput and what the cost of reconfiguring the ramp is. Jeannie said that the project team is currently studying both the effects on throughput and cost.

Brian asked if Caltrans could implement flashing HAWK beacons for un-signalized crosswalks at freeway on-ramps and off-ramps. Paul Martin said the Caltrans Highway Design Manual (HDM) does not suggest that be implemented for single-lane ramps. Marlon Regisford added that this has been a point of debate recently at Caltrans, especially since the cities want to avoid queuing. He added that Caltrans is looking into some locations that this could possibly be implemented, in addition to making it Caltrans' goal to make crosswalks more visible and shorter wherever possible.

Barry Duffin said his concern is when a bicyclist/pedestrian cannot be seen by a driver who is behind another car because there is a very prominent blind spot. Marlon Regisford suggested that could possibly be addressed through restriping the area. Leonard Lahtinen asked if it would be feasible to put in a speed bump that cars would have to go over before reaching the crosswalk. Paul Martin said he has heard of raising crosswalks in a few cases, but overall it is an unconventional solution.

Roy asked what signage, striping and other design elements the subcommittee would like to see implemented on more freeway projects across the county. Alice Rogan, CAC Staff Liaison, said that staff can put together a memo with all the ideas discussed. The committee agreed to come up with a list that can be drafted into a memo. The list included using rumble strips, HAWK lights/beacons, "Bicycles May Use Full Lane" signs on both sides of the street, sharrows and defined bike lanes between the through and right-turn lanes; reducing vehicular speed limits; signaling intersections; implementing 90-degree turns and crosswalk configurations (D shape); eliminating the use of multi-lane ramps; and widening existing streets to create full bike lanes.

When Alice asked the subcommittee what the top priorities were, it was suggested that all should be used and be simplified by putting the suggestions into categories. The subcommittee agreed with this. Alice said that staff will work with Roy to create a draft memo and will bring it back to the subcommittee and then eventually to the full CAC.

### **3. Planning Update**

*Paul Martin, Active Transportation Coordinator*

Paul Martin, Active Transportation Coordinator, provided a planning update on a variety of active transportation-related activities, including the countywide Active Transportation Plan (ATP), two grants that OCTA applied for, the Go Human safety campaign by the Southern California Association of Governments (SCAG), Laguna Niguel's ribbon cutting event for the extension of the Oso Creek trail and Camp Pendleton's requirement to pre-register in order to ride through the base.

Roy Shahbazian asked if it would be possible to share the scope of the ATP with the subcommittee. Paul Martin said he will need to look into when they can share that and how to distribute it. Roy asked for a brief synopsis of the type of public engagement that would be incorporated into the ATP. Paul Martin said public engagement will include a web interface, attending community events, distributing information through OCTA's current digital distribution channels and engaging with this subcommittee, Orange County Council of Governments and the OCTA Board.

Roy asked the subcommittee to suggest other ideas of engaging the public. The subcommittee suggested that OCTA engage with bus riders aboard the buses, use bus interior cards, create

bus ads, send notifications in monthly bills like the 91 Express Lanes and local utility bills, partner with the Department of Motor Vehicles (DMV) to use their electronic signs, hold special meetings with stakeholders focused on pedestrian initiatives, partner with local schools at all levels (including community colleges) and use of digital media like viral videos.

#### **4. Active Transportation Funding Update**

*Louis Zhao, Sr. Transportation Funding Analyst*

Louis provided an active transportation funding update, including the status of the Active Transportation Program (ATP) Cycle 2, ATP Cycle 3 and 2016 Bicycle Corridor Improvement Program (BCIP).

Vince Buck suggested that there be another cyclist included on the panel for the 2016 BCIP.

#### **5. Bike Month Activities**

*Marlon Perry, Section Manager, Marketing*

Marlon Perry, Marketing Section Manager, provided an overview on the Brake the Cycle campaign and upcoming Bike Month activities. Bike Month highlights included the “Let’s Roll” theme and branding, the methods being used to promote Bike Month and a variety of upcoming events (Bike Festival in Huntington Beach, OCTA Bike Rally, Blessing of the Bikes, Bike to Work Week, Ride of Silence and Westminster: Experience Hoover Street).

Leonard Lahtinen suggested that we incorporate a cyclovia into Bike Month plans in the future.

#### **6. Subcommittee Member Comments**

*Roy Shahbazian, Chair*

Roy Shahbazian asked how the subcommittee should provide the City of Irvine with comments about the bicycle lanes along Sand Canyon Avenue. Paul Martin suggested that the members specifically contact Mike Davis and said that staff could send them the email address.

#### **7. Public Comments**

*Roy Shahbazian, Chair*

There were no public comments.

#### **8. Adjournment**

*Roy Shahbazian, Chair*

The next meeting is scheduled for June 21, 2016.

**CAC**  
**Bicycle/Pedestrian Subcommittee**  
**Fiscal Year 2015-2016 Attendance Record**

● = Present      ⊙ = Absent      R = Resigned

| Members           | 9/15/15 | 12/09/15 | 3/15/16 | 6/21/16 |
|-------------------|---------|----------|---------|---------|
| Adams, Paul       | ●       | ●        | ●       |         |
| Buck, Vince       | ⊙       | ●        | ●       |         |
| Cox, Brian        | ●       | ●        | ●       |         |
| Duffin, Barry     | ●       | ⊙        | ●       |         |
| Garner, Tom       | ⊙       | ⊙        | ⊙       |         |
| Kalmick, Dan      | ⊙       | ⊙        | ⊙       |         |
| Lahtinen, Leonard | ●       | ●        | ●       |         |
| Reimer, Laurel    | ⊙       | ⊙        | ⊙       |         |
| Shahbazian, Roy   | ●       | ●        | ●       |         |
| Thompson, Jeff    | ●       | ●        | ●       |         |



**DATE**

To: **Caltrans Rep**

From: Roy Shahbazian, Bicycle/Pedestrian Subcommittee Chair and Citizens Advisory Committee Vice-Chair

Subject: **OCTA Citizen Advisory Committee Bicycle/Pedestrian Subcommittee Suggested Bicycle & Pedestrian Design Treatments at Freeway Interchanges**

During the past 18 months, each OCTA Citizen Advisory Committee Bicycle/Pedestrian Subcommittee (BPS) meeting has included a presentation on Measure M2 freeway improvement projects for greater community engagement and understanding. The Citizens Advisory Committee is composed of representatives appointed by the OCTA Board of Directors.

Given the BPS interest in bicycle and pedestrian travel, the discussion regarding freeway projects has focused on design and engineering treatments that can improve safety and access for people walking and biking through the interchanges.

In an effort to provide direction for enhancements, at its March 15, 2016 meeting, the BPS developed a list of suggested engineering designs and treatments (Attachment A) to provide safety and access for people walking and biking through Caltrans highway interchanges.

The BPS members appreciate consideration of the suggested treatments by designers and staff from Caltrans, local agencies, and OCTA during implementation of transportation projects throughout Orange County. While the transportation system directs motorist traffic to major arterials and freeways via interchanges, opportunities to cross the freeway for bicyclists and pedestrians are often limited. Given the high volume of vehicular traffic, the interchanges are often viewed as a pinchpoint that affects bike and pedestrian travel. Caltrans and local jurisdictions are encouraged to utilize all transportation improvement projects as an opportunity to incorporate the suggested engineering designs and treatments wherever possible to improve travel for people walking and biking through interchanges.

c: Alice Rogan, OCTA CAC Staff Liaison

| Suggested Bicycle & Pedestrian Design Treatments at Freeway Interchanges  | Bicycle | Pedestrian | Crossing Treatments | Motorist Speeds |
|---|---------|------------|---------------------|-----------------|
| 1. Incorporate traffic control devices such as Pedestrian Hybrid Beacon (HAWK), full signal, flashing beacon, Rectangular Rapid Flashing Beacon, etc.   | ✓       | ✓          | ✓                   |                 |
| 2. Where dual-lane on- or off-ramps are provided, signalize the junction  | ✓       | ✓          | ✓                   | ✓               |
| 3. Utilize California Manual on Uniform Traffic Control Devices (CA MUTCD) standardized R4-11 sign (Bicycles May Use Full Lane) and Shared Lane Markings where appropriate.                       | ✓       |            |                     | ✓               |
| 4. Prohibit dual-lane on-ramp entrances.  | ✓       | ✓          |                     | ✓               |
| 5. Prohibit option through/right-turn lane next to right-turn lane.   | ✓       | ✓          |                     | ✓               |
| 6. Stripe bike lanes regardless of status of bike lane on either side of interchange.   | ✓       |            |                     |                 |
| 7. Provide bike lane between through lane and right-turn lane.  | ✓       |            |                     |                 |
| 8. Widen roadway over/undercrossing to provide bike lanes in addition to motorist lanes.  | ✓       |            |                     |                 |
| 9. Change Highway Design Manual standards where appropriate to provide proactive measures to accommodate all modes, support driver awareness and provide visibility of users at the interchanges. | ✓       | ✓          | ✓                   | ✓               |
| 10. Reconfigure interchange to provide full 90-degree turn for motorists as they enter freeway ramp.  | ✓       | ✓          |                     | ✓               |
| 11. Incorporate raised crosswalks and speed humps at crosswalks.  | ✓       | ✓          | ✓                   | ✓               |
| 12. Consider rumble strips or raised crosswalks, accounting for travel routes by bicyclists.  | ✓       | ✓          | ✓                   | ✓               |

Bicycle & Pedestrian: Utilize engineering treatments wherever possible to provide clarity regarding right-of-way and highlight potential conflict points for bicyclists navigating the interchange.

Crossing Treatments: Proactively utilize traffic control devices where off-ramps begin at the arterial crossing to better serve pedestrian activity.

Motorist Speeds: Plan for and incorporate engineering measures for reduced motorist design speeds on the arterials and entering freeway ramps.



COMMITTEE TRANSMITTAL

**April 11, 2016**

**To:** Members of the Board of Directors  
**From:** Laurena Weinert, Clerk of the Board  
**Subject:** Pacific Coast Highway Corridor Study

Regional Planning and Highways Committee Meeting of April 4, 2016

**Present:** Directors Bartlett, Do, Donchak, Lalloway, Miller, Nelson, Spitzer, and Ury  
**Absent:** None

***Committee Vote***

This item was passed by the Members present.

***Committee Recommendations***

- A. Receive and file the Pacific Coast Highway Corridor Study.
- B. Direct staff, upon request, to initiate city council briefings on study findings and recommendations to each of the respective coastal cities that participated in the study.

***Committee Discussion***

At the April 4, 2016, Regional Planning and Highway Committee meeting, Director Lalloway asked about the cost estimates for the project concepts included the various alternatives. Staff was directed to provide updated cost information (Revised Attachment B).





**ORANGE COUNTY TRANSPORTATION AUTHORITY**

## **Pacific Coast Highway Corridor Study**

### **Staff Report**



**April 4, 2016**

**To:** Regional Planning and Highways Committee

**From:** Darrell Johnson, Chief Executive Officer

A handwritten signature in blue ink, appearing to read "Darrell Johnson", is written over the "From:" line.

**Subject:** Pacific Coast Highway Corridor Study

### **Overview**

The Orange County Transportation Authority, in partnership with local agencies and the California Department of Transportation, has completed a corridor study for Pacific Coast Highway. Study findings and recommendations are presented as information for the Board of Directors. Staff is also seeking Board of Directors' authorization to initiate city council briefings.

### **Recommendations**

- A. Receive and file the Pacific Coast Highway Corridor Study.
- B. Direct staff, upon request, to initiate city council briefings on study findings and recommendations to each of the respective coastal cities that participated in the study.

### **Background**

In 2012, the Pacific Coast Highway (PCH) corridor cities (Dana Point, Huntington Beach, Laguna Beach, Newport Beach, San Clemente, and Seal Beach) requested that the Orange County Transportation Authority (OCTA) conduct a PCH Corridor Study (Study) (Attachment A).

Throughout 2013, OCTA worked with the corridor cities to develop consensus and finalize a scope of work. During these discussions, the California Department of Transportation (Caltrans) expressed a desire to partner with OCTA in conducting the Study. In late 2013, Caltrans secured a federal planning grant to fund a significant portion of the Study, and study efforts were initiated by OCTA's technical consultant, HDR Engineering Inc., in mid-2014.

As part of the study process, a stakeholder working group (SWG) was convened, which included technical representatives (city engineers and public works directors) from each corridor city, Caltrans, the City of Long Beach, the County of Orange, and the Southern California Association of Governments. The SWG provided technical input and local perspectives, and assisted in developing consensus-based deliverables and recommendations. These deliverables and recommendations were consolidated into a summary pamphlet (Attachment B), which is being presented to the Board of Directors (Board) for information.

### ***Discussion***

The primary objective of the Study was to develop a set of long-range, multi-modal improvement options for the PCH corridor, extending from the Los Angeles County line in Seal Beach to Avenida Pico in San Clemente, approximately 37 miles.

The first steps in the study focused on assessing existing and future operational issues within the corridor, and working to develop improvement objectives at a corridor-wide and subarea (primarily jurisdictional) level. This resulted in the development of a comprehensive Purpose and Need (P&N) Statement for the corridor and the subareas. In the P&N Statement, key themes that emerged and helped to shape the study's findings and recommendations included the following:

- Safety - reduce potential for conflicts between modes,
- Mobility - reduce traffic congestion and traveler delay, improve continuity of flow, and make it more convenient to travel without an automobile,
- Create a more pleasant corridor experience - encourage aesthetic enhancements as part of improvement projects,
- Better accommodating unique travel characteristics associated with the corridor's coastal location, and
- Develop cost-effective and feasible improvement options.

The P&N Statement was used to develop an extensive list of potential improvement options. At this point, options were not constrained by cost or feasibility, and instead focused solely upon addressing the P&N Statement. They included options from previous studies in the area, as well as improvement suggestions by SWG members, the consultant team, and OCTA staff.

The options were screened to confirm that they were physically and financially feasible. Those that did not meet these criteria were eliminated from further consideration. Options that emerged from the initial screening were then packaged into a set of five alternatives which included the following:

- Alternative 1 - Baseline the existing transportation system plus committed and/or fully funded improvements,
- Alternative 2 - Transportation System Management/Transportation Demand Management (TSM/TDM) - relatively low-cost and easy to implement improvement options,
- Alternative 3 - Operational Improvements - minimal capital investments in the corridor,
- Alternative 4 - Spot Capital Improvements - improvements relatively limited in scope and focused upon small area, and
- Alternative 5 - Major Capital Improvements - capital improvements expected to require significant expenditure of funds.

Metrics were then developed by the SWG and focused upon the potential to improve the corridor experience for all modes, feasibility, and how well they addressed the P&N Statement. The alternatives were then further evaluated utilizing the following:

- Reduced conflicts, congestion, and delay
- Improved traffic flow and alternative modes of travel
- Ability to address special events and incidents along the corridor
- Cost
- Feasibility

Improvement options that did not perform well were removed from further consideration. Remaining improvement options were repackaged into three final alternatives, which cumulatively increase in scope and complexity.

- TSM/TDM alternative
- Low capital alternative
- High capital alternative

The alternatives are presented graphically in Attachment B, and are the basis of the Study's findings and recommendations. Further, they should be viewed as a tool box rather than a preferred strategy.

The alternatives include a limited number of corridor-wide improvement strategies, which are primarily focused upon enhancing throughput. However, the bulk of the Study's recommendations are focused on identifying options for specific needs in each of the sub-areas, based upon the P&N Statement.

Some examples include:

- Sidewalk and bicycle lane gap closures (Dana Point, Laguna Beach, Newport Beach, and San Clemente),
- Safety enhancements - bicycle lane striping at right-hand turn pockets and merge areas (Dana Point, Huntington Beach, Newport Beach, and Seal Beach),
- Relocation of “on-street” parking and implementation of striping for bicycle lanes (Dana Point, Laguna Beach, and Newport Beach), and
- Pedestrian overcrossings (Dana Point and Newport Beach).

More details on recommended improvement options are provided in Attachment B.

### Next Steps

With Board direction, staff will initiate city council briefings on study findings and recommendations. Should substantive changes be requested by city councils, staff will return with an update to the Board. If no substantive changes emerge, the Study will be considered final. Lead agencies will then be encouraged to initiate next steps in the project development process, including project selection, environmental review, design, and implementation, as priorities and funding allow.

### **Summary**

In early 2014, OCTA, in association with Caltrans and the PCH corridor cities (Dana Point, Huntington Beach, Laguna Beach, Newport Beach, San Clemente, and Seal Beach), initiated a corridor study for PCH. The Study is now complete and is being presented as information for the Board. After the Board meeting on April 11, 2016, staff will initiate city council briefings on the Study and finalize the report.

***Attachments***

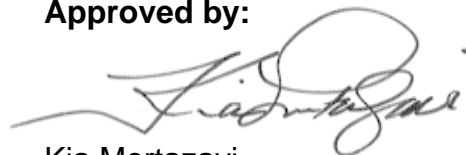
- A. Letter from Pacific Coast Highway Corridor Cities – PCH Corridor Study -  
Dated September 24, 2012
- B. PCH Corridor Study – Keep the Coast Moving

**Prepared by:**



Joseph Alcock  
Section Manager, Corridor Studies  
(714) 560-5372

**Approved by:**



Kia Mortazavi  
Executive Director, Planning  
(714) 560-5741



**ORANGE COUNTY TRANSPORTATION AUTHORITY**

## **Pacific Coast Highway Corridor Study**

### **Attachment A**

September 24, 2012

Mr. Kia Mortazavi  
Executive Director of Planning  
Orange County Transportation Commission  
P.O. 14184  
Orange, CA 92863-1584

SUBJECT: PCH Corridor Study

Dear Mr. Mortazavi:

The coastal cities of Orange County which are served by Pacific Coast Highway (PCH) (SR1) have collectively, met and desire to start planning efforts to improve this significant and scenic transportation corridor. A draft scope of work for the corridor study has been prepared in coordination with the coastal cities. It has also been reviewed and coordinated with OCTA and Caltrans staff. The preliminary improvements the coastal cities have identified include:

- improve traffic flow efficiency
- modernize and coordinate the traffic signal system
- consider relocation of some targeted on-street parking to accommodate improvements
- enhanced safety for pedestrians and bicyclists and provide improved facilities
- enhanced bus movement and amenities
- improve the overall scenic nature of PCH through Orange County

The goal of the PCH Corridor Study is to identify recommended improvements that can be carried forth into the next stage of project development. This will allow affected Cities seek funding to implement identified improvements in an effort to address the above goals. Examples of local and regional funds that could be applied for include: Measure M-2 CTFP; CMAQ; and State and Federal Funds to implement Complete Street components.

The coastal cities are requesting OCTA to have this item on the November 5, 2012 Regional Planning and Highways Committee meeting for discussion and direction to move this corridor study forward. City representative will be available at the meeting to answer any questions that may arise. We look forward to the November 5 meeting and commencing this study.

(continues on Page 2)



Letter to Mr. Mortazavi  
September 23, 2012  
Page 2 of 2

The Cities thank you and OCTA staff for their support and assistance for the PCH Corridor Study.

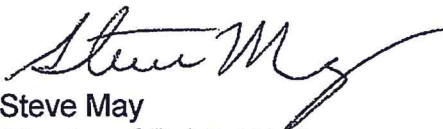
Sincerely,



Bill Cameron  
Director of Public Works  
San Clemente



Brad Fowler  
Director of Public Works  
Dana Point



Steve May  
Director of Public Works  
City of Laguna Beach



David Webb  
Director of Public Works  
City of Newport Beach



Travis Hopkins  
Director of Public Works  
Huntington Beach



Sean Crumby  
Director of Public Works  
City of Seal Beach

Attachment: draft scope of work.



**ORANGE COUNTY TRANSPORTATION AUTHORITY**

**Pacific Coast Highway Corridor Study**

**Attachment B - Revised**

**PCH**  
CORRIDOR STUDY  
*Keep the Coast Moving*





# BACKGROUND

Pacific Coast Highway (PCH) is one of Orange County’s most iconic highways. Directly adjacent to the Pacific Ocean, it traverses beautiful downtowns, open space, as well as, urban centers. PCH is also the corridor that links Orange County’s six coastal cities—Seal Beach, Huntington Beach, Newport Beach, Laguna Beach, Dana Point, and San Clemente.

Corridor residents and visitors frequently use multiple modes (vehicles, transit, walking, and bicycling) to travel to and from their activities in and around the corridor. Non-motorized modes such as walking and bicycling serve greater numbers of travelers in this corridor than in most other areas of Orange County. However, all of these diverse travel interactions occurring in an extremely tight right-of-way (ROW), put daily strain on this aging 37-mile long corridor.

As a result, the six Orange County coastal cities, requested that the Orange County Transportation Authority (OCTA) and the California Department of Transportation (Caltrans) conduct a PCH Corridor Study extending from the Los Angeles County line (in Seal Beach) to Avenida Pico

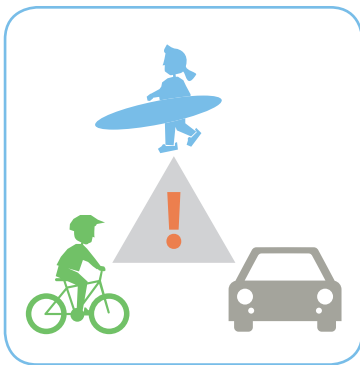




(in San Clemente). The goal of the study was to identify, evaluate, and recommend long-term multi-modal improvement recommendations both on a corridor-wide and subarea-wide (primarily jurisdictional) basis. The Study followed the typical Corridor-Study methodology, which consisted of problem definition (development of a Purpose and Need Statement), identification of alternatives, evaluation of alternatives, modification of alternatives (based upon stakeholder and technical input), and recommendations. The following sections provide an overview of corridor-wide and subarea-wide needs, improvement objectives, the three final alternatives (Transportation System Management, Low Capital and High Capital), and improvement recommendations.

## Corridor-wide Needs

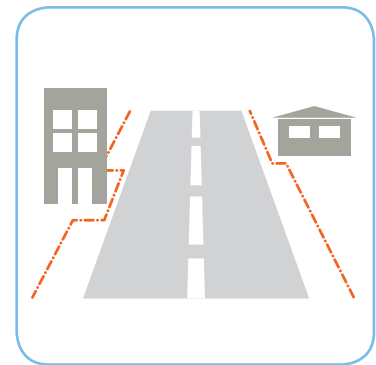
The PCH Corridor Study identified corridor-wide and subarea issues, opportunities, and constraints based on existing and future conditions analysis and input from agency representatives. This formulated the specific Needs and Objectives for the corridor, as well as, for each subarea to be used as the basis for identifying and recommending potential improvements.



1. Safety conflicts between vehicles, bicycles, and pedestrians



2. High travel time and delay due to traffic congestion and heavy volumes of pedestrians crossing the highway



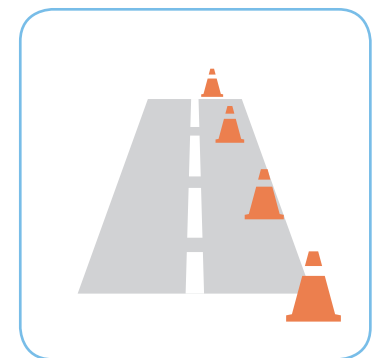
3. Constrained ROW resulting in limited improvement opportunities



4. High volumes of visitors and recreational users leading to unique travel patterns and peaking characteristics



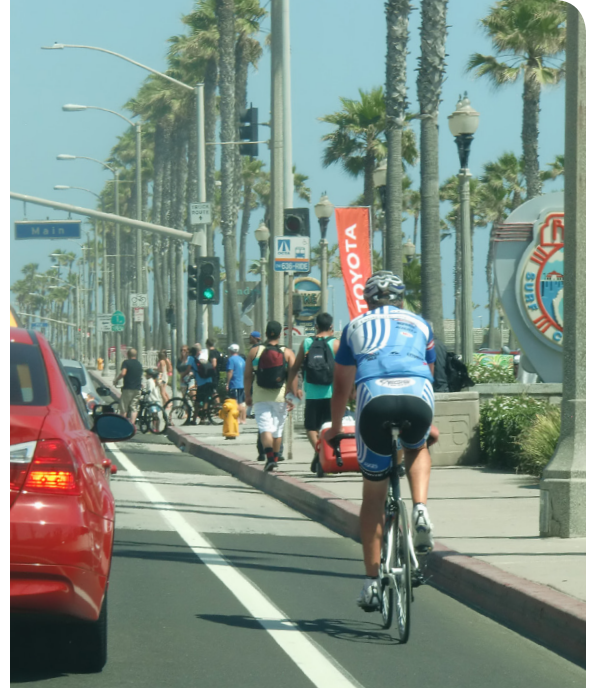
5. Inconsistent aesthetic treatment of improvements compared to the scenic character of the corridor



6. Frequent interruption and closures due to events and incidents resulting in limited parallel options

### Corridor-wide Purpose (Objectives)

- Improve safety by reducing potential for conflicts between modes;
- Improve mobility by reducing traffic congestion and traveler delay, improving the continuity of traffic flow, and making it more convenient for people to travel without needing an automobile;
- Creating a more pleasant corridor experience by encouraging aesthetic enhancements as part of corridor improvement projects;
- Better accommodating the unique travel characteristics associated with the corridor’s coastal location;
- Develop cost-effective and feasible improvement options.



## Recommended Alternatives

### Transportation System Management/ Transportation Demand Management Alternative

- Develop a consistent signage program to demarcate Class III bike routes and to guide recreational bikes to parallel bike facilities. Locations of bike facilities would be included in educational Traffic Management Programs. **\$**
- Develop a PCH Educational Bicycle and Pedestrian program **\$**
- Adopt Context Sensitive Design improvements in the corridor. Appropriate techniques or components to provide comfortable and safe accommodations of vehicles, pedestrians, transit, and bicycles. **Cost to be determined once projects are defined.**
- Recommend improvements that avoid significant ROW acquisition. **\$**
- Traffic Management Program - Beach Travel APP to provide updates on events, alternate routes, parking/transit options, and schedules. Tailored to have information for all modes (vehicles, bicycle pedestrian, transit). **\$\$**
- Pursue joint agency projects and submit multi-agency grant applications. **\$**

### Low Capital Alternative

- Bus turnouts for layover areas at heavy boarding/alighting stops to remove buses from travel lanes at locations with longer dwell times. **\$\$\$**
- Modernize traffic signal systems:
  - Synchronization and optimization
  - Upgrade equipment and provide fiber interconnect
  - Install CCTV
  - Connect to Caltrans and City Traffic Management Centers
  - Develop corridor emergency response and re-route strategies**\$\$\$**
- Develop Context Sensitive Solutions to building out the MPAH. **Cost to be determined once projects are defined.**
- Build on Basic Transportation Management Program, including sharing communication systems, incorporate parking management, and signs. **\$\$**
- Incorporate aesthetic enhancements in future corridor projects and programs. **Aesthetic costs are part of project cost.**

### High Capital Alternative

- Work with Coastal Commission on parking replacement to accommodate a corridor-wide Class II bike program or sidewalks. **\$\$\$**
- Develop transit hubs and signal priority potential. **\$\$\$**
- Using a Shared Fiber Optic system, incorporate Connected Vehicles and other technical features to help overall safety of the corridor. **\$\$**

**\$** Cost of Improvement up to \$250,000  
**\$\$** Cost of Improvement \$250,000 - \$5,000,000  
**\$\$\$** Cost of Improvement greater than \$5,000,000



# SEAL BEACH

## SUBAREA 1

Seal Beach encompasses the northernmost portion of the corridor and serves as a gateway between Los Angeles and Orange counties. Located between the cities of Long Beach and Huntington Beach, Seal Beach consists of smaller residential neighborhoods amongst popular surfing destinations and commercial areas in the southern portion. This portion of the PCH corridor is primarily a 4-lane travel-through corridor with existing and future recurring congestion, as well as limited designated bicycle facilities.



### Subarea Needs

Needs were determined based on the existing and future conditions analysis of the Seal Beach subarea.

- Recurring peak hour traffic congestion delays – limited mobility
- Conflicts between bicyclists/pedestrians and high-speed moving vehicles in areas with no designated bicycle facilities/sidewalks
- Conflicts between bicyclists and parked cars/bus stops and moving vehicles
- Conflicts for bicyclists between fast-moving cars and right-turn movements

### Subarea Objectives

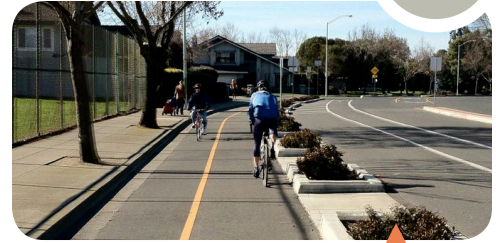
Objectives for the subarea were then defined to be used as the basis for identifying and recommending potential future improvements.

- Reduce recurring congestion and delays
- Reduce potential for conflict between bicycles and moving vehicles
- Reduce potential for conflict between bicycles and parked vehicles
- Improve continuity of traffic flow



# Subarea Alternatives

- █ High Capital Alternative
  - █ Low Capital Alternative
  - █ Transportation System Management/ Transportation Demand Management Alternative
- \$\$\$ Cost of Improvement greater than \$5,000,000  
\$\$ Cost of Improvement \$250,000 - \$5,000,000  
\$ Cost of Improvement up to \$250,000



Provide a two-way Class IV Cycle-Track with buffer on the southwest side of PCH and supplement with a northbound bike lane (OC Loop Gap L proposed alignment) \$\$

Reduce or combine access points where feasible, especially in areas north of Piedmont Circle, as part of redevelopment. *Implemented through future development*

Add sidewalks in developed areas where they are currently missing (about 1,000 ft on the inland side of PCH, and about 2,000 ft. on the ocean side of PCH). \$\$

Remove/relocate on-street parking and install bike lanes. \$\$\$

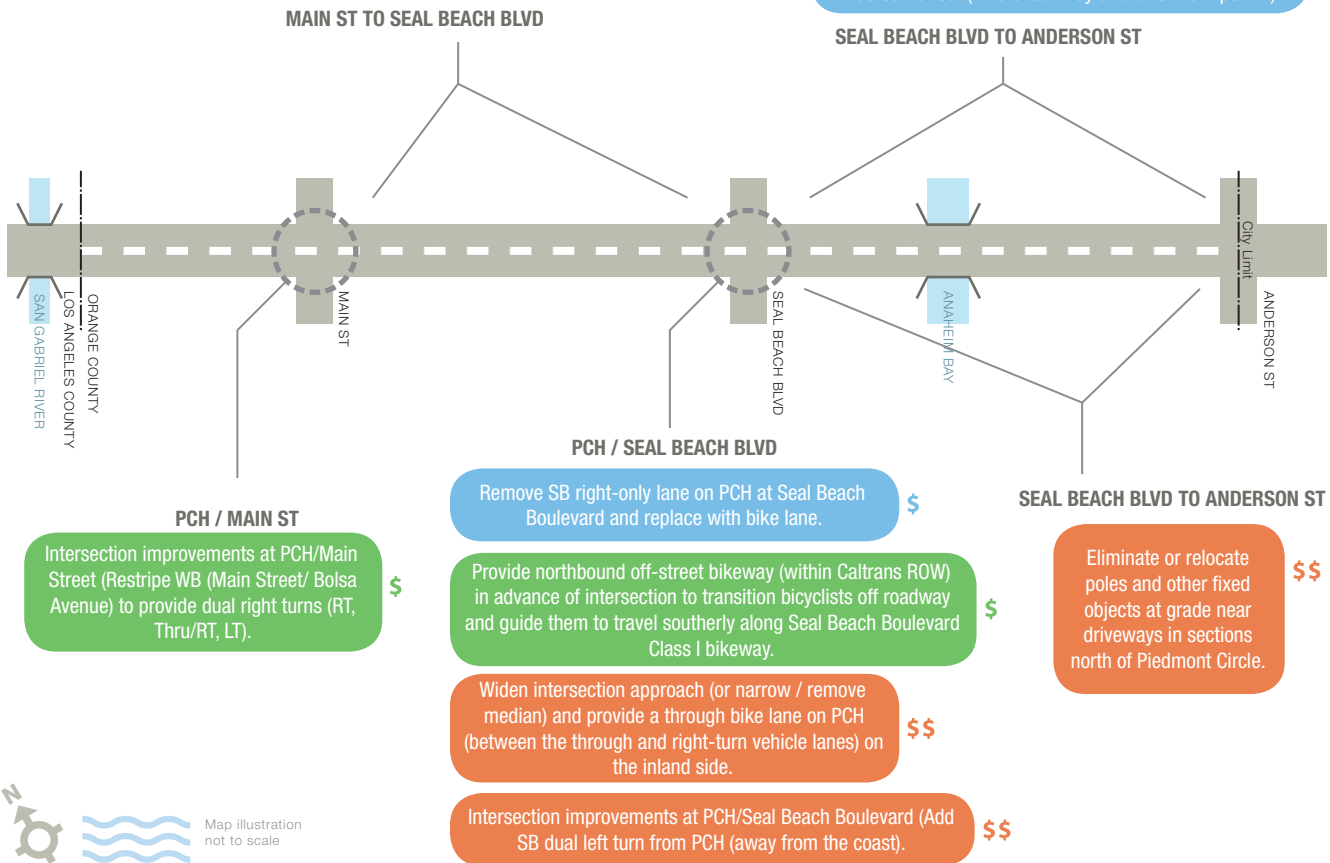
Minor street widening and travel lane width reduction to accommodate Class II bike lanes between on-street parking and travel lanes on PCH. \$\$\$

Provide wayfinding signs to guide bicyclists to parallel bike facility (proposed Class II bike lanes and existing multi-use path in median) on Electric Avenue between Main Street and Ocean Avenue. \$

Remove NB right-turn only lane at driveway north of PCH/ Mariner Dr. and replace with bike lanes. \$

Remove SB right-turn only lane at PCH/Phillips Street and replace with bike lanes. \$

Provide on-street painted buffer between bike lane and traffic lane on PCH between Seal Beach Boulevard and Anderson Street (where roadway and lane width permit). \$



Map illustration not to scale



# HUNTINGTON BEACH

## SUBAREA 2



Huntington Beach is recognized as one of the largest seaside communities in Orange County, often referred to as Surf City and attracts high volumes of visitors to its beaches and multiple outdoor events annually. Its downtown includes multi-modal uses with varying activities between bicyclists, pedestrians, and moving and parked vehicles. This subarea consists of commercial and recreational uses, with pockets of residential. It is primarily a 4-6 lane corridor with Class I (beach path) and Class II bike lanes.



### Subarea Needs

Needs were determined based on the existing and future conditions analysis of the Huntington Beach subarea.

- Vehicle conflict points for moving traffic due to non-standard design of local streets and parking
- Recurring peak hour traffic congestion delays – limited mobility
- Conflicts between bicyclists and high-speed moving vehicles in areas with no designated bicycle facilities
- Traffic back-up due to full city parking lots – conflict hazard for moving traffic
- Conflicts between bicyclists and parked cars and moving vehicles
- Pedestrian crossings of PCH at 6th St. reduce traffic capacity and limit mobility
- Heavy pedestrian crossing volumes reduce capacity and limit mobility
- Midblock pedestrian crossing volumes pose conflict with traffic
- Signal timing is not optimized for continuous traffic flow

### Subarea Objectives

Objectives for the subarea were then defined to be used as the basis for identifying and recommending potential future improvements.

- Reduce potential for conflict between bicycles and moving vehicles
- Reduce potential for conflict between bicycles and parked vehicles
- Reduce potential for conflict between vehicles and pedestrians crossing PCH
- Reduce recurring congestion and delays
- Improve continuity of traffic flow
- Reduce likelihood of traffic backups onto PCH from city parking lots



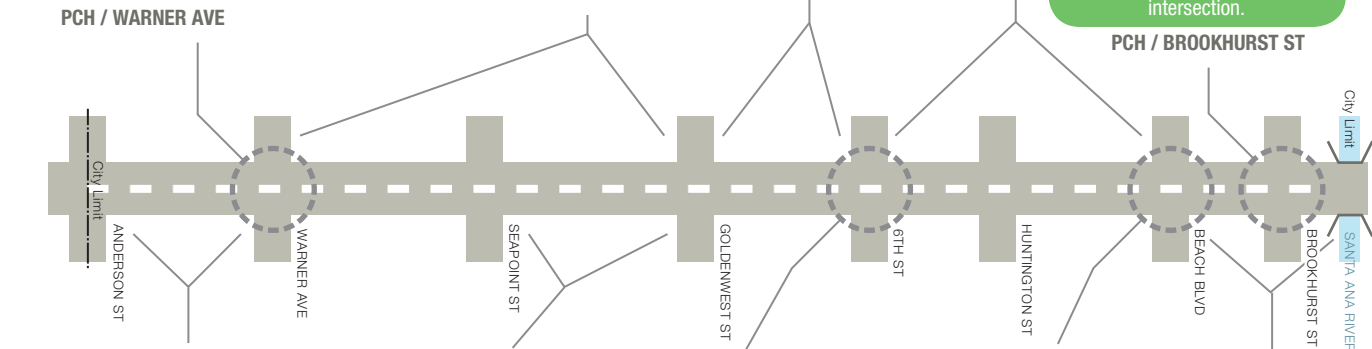
# Subarea Alternatives

- █ High Capital Alternative
  - █ Low Capital Alternative
  - █ Transportation System Management/Transportation Demand Management Alternative
- \$\$\$ Cost of Improvement greater than \$5,000,000  
\$\$ Cost of Improvement \$250,000 - \$5,000,000  
\$ Cost of Improvement up to \$250,000

- Develop parallel Class III bike route along Walnut Avenue or Olive Avenue between Goldenwest Street and 1st Street. \$
- Remove/relocate parking and install Class II bike lanes. \$\$\$
- Install sharrows on PCH in traffic lane next to on-street parking where no on-street bike lane is provided. \$
- Add median barrier or fence (Huntington Street to Beach Boulevard). \$
- Restripe Pacific View Avenue to provide one travel lane and one Class II bike lane each way between 1st Street and Beach Boulevard. \$
- Develop Class III bike route on Pacific View Ave and Class II on Atlanta Ave. \$

- Intersection capacity improvement at PCH/Warner Avenue with design to avoid impact on adjacent sensitive area. \$\$\$
- Landscape existing median or construct a raised center median to visually narrow and provide aesthetic enhancements. \$\$\$
- Install through bike lanes on PCH at Warner by narrowing median. \$\$
- Stripe through bike lanes at right-turn pockets and install green conflict striping in merge areas prior to and at beach access driveways (if bike lanes are developed on this segment of PCH). \$
- Provide treatments to reduce bike/vehicular conflicts at intersection (e.g. two stage left turn boxes, turn box protected by physical buffer or parking lane etc.) for bicyclists on PCH at Warner Avenue. \$
- Install Class II bike lanes (on both sides of PCH) and add a 2-foot buffer on PCH through Bolsa Chica – adjust vehicular lane widths/median as needed. \$\$

- Paint shared lane markings (sharrows) in lane adjacent to parking and incorporate speed reduction mechanism. \$
- Stripe Class II bicycle lanes on PCH from 1st Street to Beach Boulevard between parking and adjacent travel lane, where Class II bike lanes are missing and where roadway and lane width permit. \$



- PCH / WARNER AVE**
- WARNER AVE TO GOLDENWEST ST**
- GOLDENWEST ST TO 6TH ST**
- 6TH ST TO BEACH BLVD**
- PCH / BROOKHURST ST**
- SUNSET BEACH**
- SEAPOINT ST TO GOLDENWEST ST**
- PCH / 6TH ST**
- PCH / BEACH BLVD**
- BEACH BLVD TO SANTA ANA RIVER**
- Intersection improvement at PCH/Brookhurst Street in order to carry bike lanes through the intersection. \$\$
- Provide enhanced signage highlighting for bicyclists the availability of low stress route along Pacific Avenue from Anderson Street to Warner Avenue. \$
- Modify access to driveways and circulation within parking lots to provide multiple entry (access redesign). \$\$
- Eliminate one pedestrian crosswalk at PCH/6th Street and prohibit pedestrian crossing across that leg of intersection in order to eliminate auto/pedestrian conflicts on one leg of the intersection and increase available green time for turning vehicles (improvement will include traffic signal modification, signing/striping, removal of crosswalk etc.). \$\$
- Provide treatments to reduce bike/vehicular conflicts at intersection (e.g., two stage left turn boxes, turn box protected by physical buffer or parking lane etc.) for bicyclists at PCH/Beach Boulevard. \$
- Provide treatments to reduce bike/vehicular conflicts at intersections (e.g., two stage left turn boxes, turn box protected by physical buffer or parking lane etc.) for bicyclists at Beach Boulevard, Newland Street, Magnolia Street, and Brookhurst Street. \$
- Convert existing shoulder to Class II bike lanes with a 2 foot buffer (between Beach Boulevard and the Santa Ana River). This improvement may also include reduction of lane-width to accommodate Class II bike lanes within existing pavement. \$
- Widen exit driveway from beach side parking lot to allow for separate turn movements (may entail relocation of parking). \$\$
- Add sidewalks on both sides of PCH (Beach to Newland). \$\$





# NEWPORT BEACH

## SUBAREA 3

Located in the coastal center of Orange County, the City of Newport Beach includes residential “villages,” growing commercial areas, and various aquatic sport activities along the beach and bay area. It consists of varying landscape and activity between bicyclists, pedestrians, and moving and parked vehicles. Heavy traffic travels along the 4-8 lane corridors, with some Class I, II, and III bike lanes.



### Subarea Needs

Needs were determined based on the existing and future conditions analysis of the Newport Beach subarea.

- Conflicts between bicyclists using northbound PCH and parked cars and moving vehicles
- Heavy volumes of pedestrians, bicycles, and traffic aggravate conflict potential in west Newport
- Recurring peak hour traffic congestion delays – limited mobility
- Heavy traffic volumes and high pedestrian crossing activity delays through Mariners Mile area
- Conflicts between bicyclists and parked cars and moving vehicles
- Heavy volumes of pedestrian crossings in Mariners Mile conflicts with traffic
- Limited mobility through Corona del Mar area due to significant traffic volumes, constrained capacity, substantial pedestrian activity, substantial bicycle activity, and on-street parking friction
- Heavy pedestrian crossing volumes pose conflict with traffic

- Conflicts for bicyclists traveling in shared traffic lane adjacent to parked cars
- Signal timing is not optimized from Santa Ana River to Jamboree Rd.

### Subarea Objectives

Objectives for the subarea were then defined to be used as the basis for identifying and recommending potential future improvements.

- Reduce potential for conflict between bicycles and moving vehicles
- Reduce potential for conflict between bicycles and parked vehicles
- Reduce potential for conflict between vehicles and pedestrians crossing PCH
- Reduce recurring congestion and delays
- Improve continuity of traffic flow
- Improve aesthetics
- Reduce or eliminate conflicts between bicycles and right-turning vehicles

# Subarea Alternatives

- █ High Capital Alternative
  - █ Low Capital Alternative
  - █ Transportation System Management/ Transportation Demand Management Alternative
- \$\$\$ Cost of Improvement greater than \$5,000,000  
\$\$ Cost of Improvement \$250,000 - \$5,000,000  
\$ Cost of Improvement up to \$250,000

Develop pedestrian overcrossing in core area of Mariners Mile (near Riverside Ave or Tustin Ave). \$\$

Install median refuge island to shorten crossing distance and pedestrian signal timing. \$\$

Enhance signing/stripping/lighting to better alert motorists to pedestrian crossing at intersections (SR-55 to Dover). \$

**SR-55 TO DOVER DR, PCH/RIVERSIDE AVE**

Extend east bank Class I bikeway on Santa Ana River Trail under Coast Highway and link to Seashore Drive. \$

Provide new Class I trail near Sunset Ridge Park linking to future Banning Ranch development for parallel routing between Superior and Santa Ana River Trail. \$

Remove/relocate on street parking and install Class II bike lanes. \$\$\$

Relocation/reduction of on-street parking on PCH between Santa Ana River and Superior Avenue to benefit operations and reduce disruption of traffic flow. \$\$

*Implemented through future development* Reduce conflict points through access management strategies including consolidating access points and radius driveways, as redevelopment occurs. \$

Stripe class II bike lane along northbound PCH between Highland Street and 61st Street, wherever road and lane width permit. \$

**SANTA ANA RIVER TO SUPERIOR AVE**

PCH between Santa Ana River and Newport Boulevard: maintain existing southbound Class II bike lanes and restripe sections with shoulder to provide Class II bike lanes with a 2 foot buffer, where ROW permits. \$

**SANTA ANA RIVER TO NEWPORT BLVD**

Widen/restripe to provide three travel lanes in each direction with a center two way left turn median and Class II bike lanes with removal of on-street parking between Newport Boulevard and Dover Drive. \$\$\$

Construct new Class I bike trail at end of Avon Street linking to Old Newport Boulevard and directing bicyclists to the loop leading to southbound Newport Boulevard to access Balboa Peninsula. \$

Improve bicycle/pedestrian access to beach from Riverside Avenue using sidewalk on ocean side of Coast Highway to access Balboa Peninsula (SR-55 to Dover). \$

**SR-55 TO DOVER DR**

Eliminate/relocate traffic signal at Tustin Ave. \$\$

Add second southbound left turn lane on PCH at Riverside. \$\$

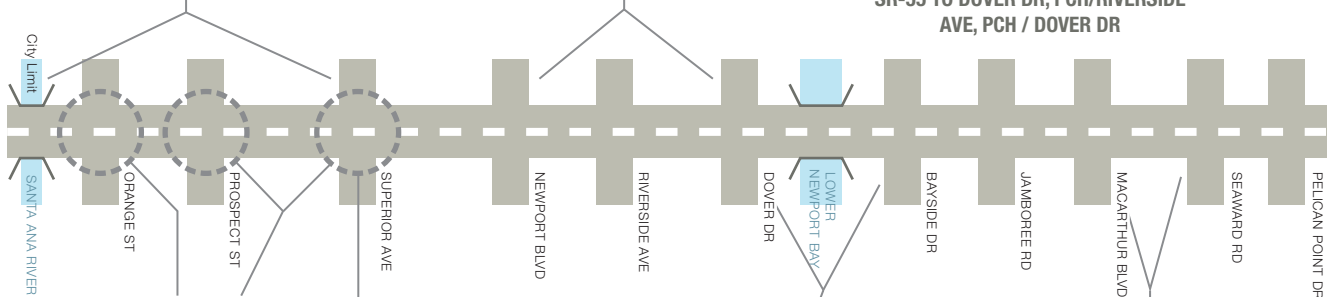
Widen/restripe and add Class II bike lanes by removing on-street parking. \$\$\$

Implement access management strategies including consolidating access points and radius driveways. *Implemented through future development*

Improve NB PCH through interchange with SR-55 by including additional through lane, turning pocket, and Class II bike lane. \$

Park and ride lot between SR-55 and Old Newport Boulevard (vacant paved lot on the northwest quadrant of the intersection of Old Newport Boulevard and PCH). \$\$\$

**SR-55 TO DOVER DR, PCH/RIVERSIDE AVE, PCH / DOVER DR**



**PCH / ORANGE ST / PROSPECT ST / SUPERIOR AVE**

Provide bicycle/pedestrian trail linking to Santa Ana River Trail east bank to provide access to community of homes and businesses north of Coast Highway. \$

Develop mobility hub with Park and Ride parking spaces, transit center, bike and pedestrian amenities near PCH/Superior (at the northeast corner of Coast Highway at Superior) integrated with ITS and parking management signs. \$\$\$

Grade separated pedestrian and bicycle crossing bridge and remove at-grade pedestrian crosswalks and re-time signal accordingly. \$\$\$

**DOVER DR TO BAYSIDE DR**

Stripe Class II bike lanes across the Back Bay Bridge between Dover and Bayside. \$

Widen or add to bridge over Back Bay to provide Class I bikeway between Bayside Drive and Dover Drive. \$\$

**PCH / SUPERIOR AVE**

Widen intersection of PCH/Superior Avenue to reduce peak period congestion and delay, possibly by adding a second turn lane on the westbound (Coast Highway) approach. \$\$

Extend sharrows on PCH south of Poppy Ave. \$

Install curb extension (only on parking lanes) to shorten pedestrian crossing times (MacArthur Boulevard to Seaward Road). TBD

Implement strategies to encourage drivers to use Newport Coast Drive, to remove traffic from PCH in Corona del Mar. TBD

**MACARTHUR BLVD TO PELICAN POINT DR**

Provide intersection treatments to reduce bike/vehicular conflicts at intersections. \$

**MACARTHUR BLVD TO SEAWARD RD**

Implement two bike boulevards in Corona Del Mar Northern and Southern area. \$

Remove/relocate street parking and stripe Class II bike lanes. \$\$\$

Implement two bike boulevards in Corona Del Mar; northerly (Fifth to Orchid), and southerly (Avocado to Second to Goldenrod to Seaview to Poppy or Bayside to Marguerite to Poppy). *Implemented through future development*



# NEWPORT COAST

## SUBAREA 4



Newport Coast is characterized by newer homes, upscale hotels, and a popular golf course. The 4-8 lane roads along its hillsides with ocean views contain high amounts of bicycle activity and traffic volumes with some Class I, II, and III bike lanes.



### Subarea Needs

Needs were determined based on the existing and future conditions analysis of the Newport Coast subarea.

- Conflict between bicycles and traffic using right turn lanes on Newport Coast Drive

### Subarea Objectives

Objectives for the subarea were then defined to be used as the basis for identifying and recommending potential future improvements.

- Reduce potential for conflict between bicycles and moving vehicles

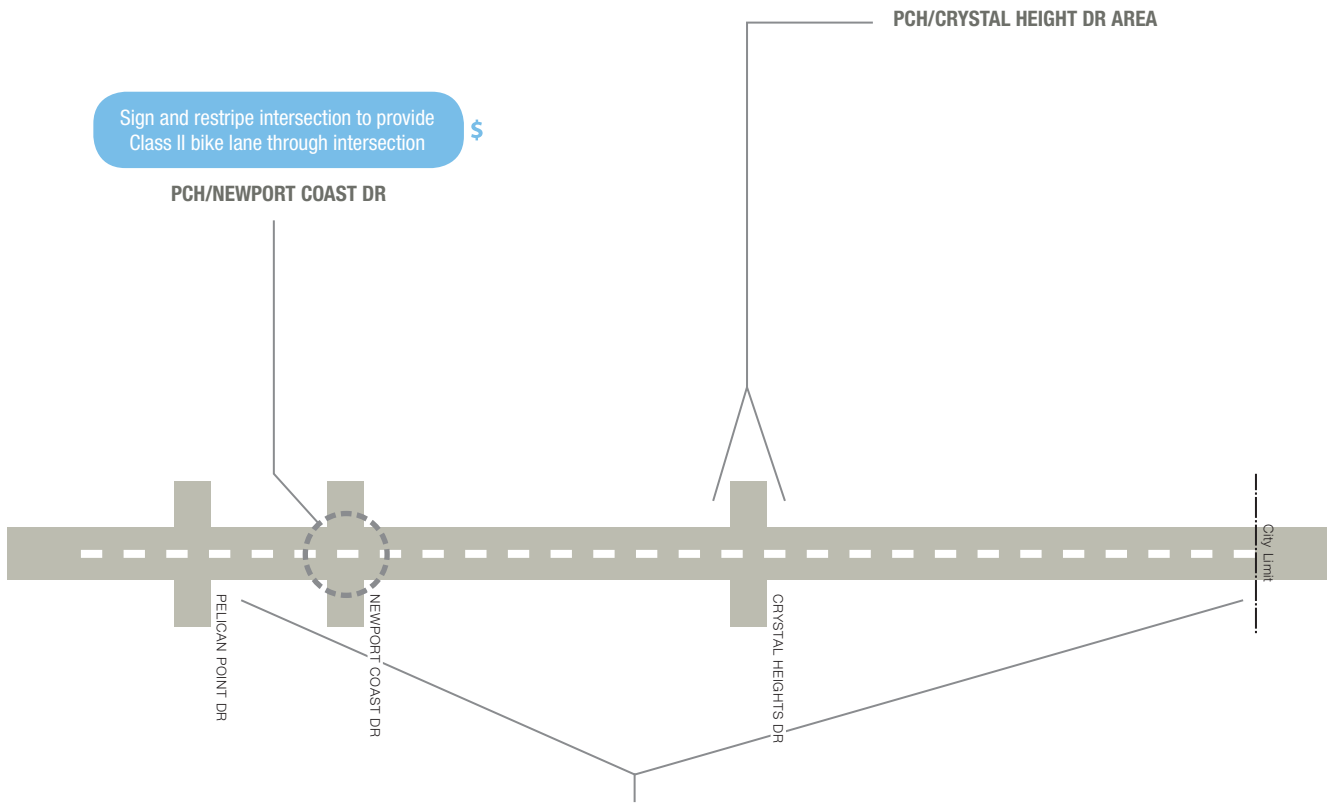


# Subarea Alternatives

- High Capital Alternative
  - Low Capital Alternative
  - Transportation System Management/ Transportation Demand Management Alternative
- \$\$\$ Cost of Improvement greater than \$5,000,000  
\$\$ Cost of Improvement \$250,000 - \$5,000,000  
\$ Cost of Improvement up to \$250,000



Construct a raised median at the shopping center entrance near Crystal Heights Drive to preclude illegal turns across the striped median \$\$



**PELICAN POINT DRIVE TO NORTH LAGUNA BEACH CITY LIMIT**

PCH (Seaward Road – Newport Beach City Limit): maintain existing Class II bike lanes and restripe sections with 8 foot shoulder to provide Class II lanes with a 2 foot buffer Add/designate on-street Class II bike lanes where gaps in system within identified limits. \$

Extend Class I bikeway through Crystal Cove Park to El Moro State Park signal \$

Develop Class I path or Class IV cycle track to provide a low stress bike facility for bicyclists from Newport Coast to Laguna Beach \$\$



The City of Laguna Beach is another popular recreational destination for residents and visitors alike, with a close-knit beach community, characterized by upscale homes and shops. Downtown Laguna Beach along Pacific Coast Highway specifically has high pedestrian and bicycle activity and a narrow roadway. The subarea consists of a mostly 4-lane corridor with on-street parking, narrow sidewalks, and no marked/designated bike lanes.



## Subarea Needs

Needs were determined based on the existing and future conditions analysis of the Laguna Beach subarea.

- Limited mobility due to significant traffic volumes, constrained capacity, pedestrian activity, and on-street parking friction
- Heavy pedestrian crossing volumes pose conflict with traffic
- Bicyclists traveling in close proximity to moving and parked cars due to constrained width of PCH and presence of on-street parking
- Narrow or missing sidewalks

## Subarea Objectives

Objectives for the subarea were then defined to be used as the basis for identifying and recommending potential future improvements.

- Reduce recurring congestion and delays
- Reduce potential for conflict between bicycles and moving vehicles
- Reduce potential for conflict between bicycles and parked vehicles
- Reduce potential for conflict between vehicles and pedestrians crossing PCH
- Reduce potential for conflict between vehicles and pedestrians walking along PCH



# Subarea Alternatives

- █ High Capital Alternative
  - █ Low Capital Alternative
  - █ Transportation System Management/ Transportation Demand Management Alternative
- \$\$\$ Cost of Improvement greater than \$5,000,000  
\$\$ Cost of Improvement \$250,000 - \$5,000,000  
\$ Cost of Improvement up to \$250,000

- Install painted shared lane markings (sharrows) along with corresponding "Bicycles May Use Full Lane" signs. \$\$
- Stripe through bike lanes at right turn pockets and install green conflict striping in merge areas prior to and at access driveways. \$

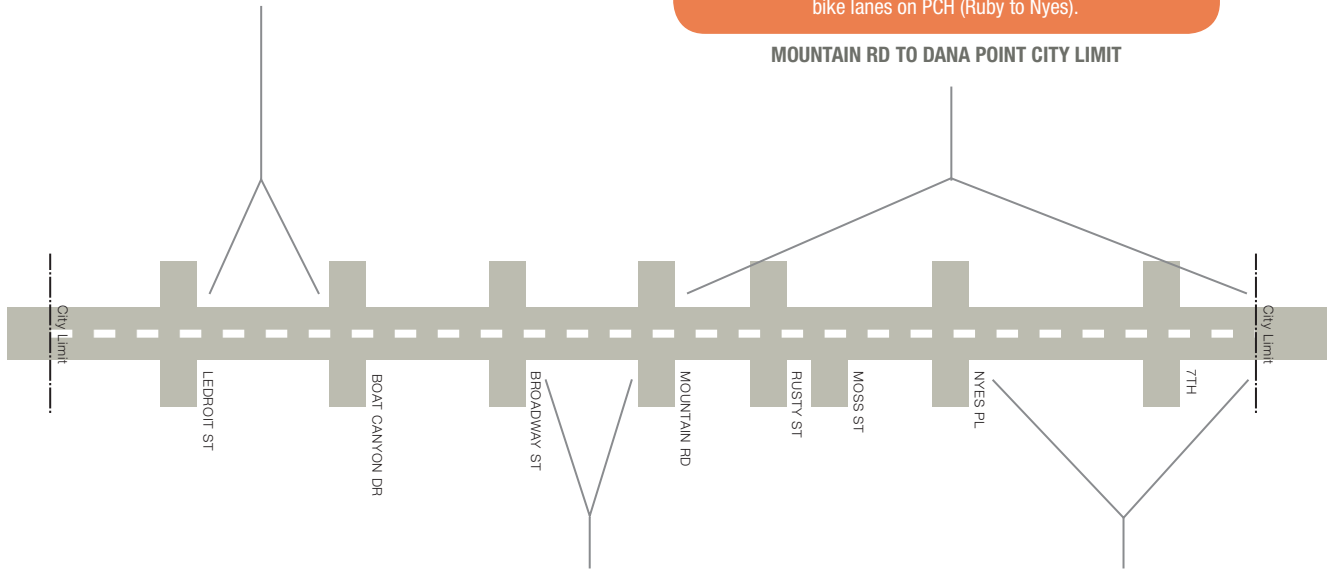
**NORTH LAGUNA BEACH CITY LIMIT TO DANA POINT CITY LIMIT**

- Add sidewalks where there is sufficient room to accommodate - includes acquisition of ROW. \$\$\$
- Remove/relocate on-street parking and stripe Class II bike lane. \$\$\$
- Remove center two-way left turn lane where appropriate, manage/consolidate turning movements to accommodate Class II bike lanes on PCH (Ruby to Nyes). \$

**MOUNTAIN RD TO DANA POINT CITY LIMIT**

Upgrade sidewalk and pedestrian facilities to ADA standards \$\$

**LEDROIT ST TO BOAT CANYON DR**



**BROADWAY ST TO MOUNTAIN RD**

- Striping and ADA improvements near Mountain Rd \$
- Implement pedestrian "scramble" crossing at locations identified through coordination with City Council and community. \$\$
- Reconfigure Glenneyre (Calioppe to Mermaid) from 4 to 2 travel lanes to accommodate Class II bike lanes with wayfinding signs. \$
- Install illuminated pedestrian crossings with advanced warning systems at additional locations. Locations for this strategy can be obtained through detailed pedestrian activity study \$

**SOUTH LAGUNA BEACH**

On PCH from 7th Avenue to Moss Street update existing ADA curb ramps, widen sections of existing sidewalk to meet minimum clear width standards and add APS systems. \$\$



# DANA POINT

## SUBAREA 6



Halfway between San Diego and Los Angeles, Dana Point is known for its coastal bluffs, beaches, and rolling hills along the coast. With increasing pedestrian activity along its corridor, there is a need for the accommodation and encouragement of multimodal uses throughout the subarea. Roads consist of a combination of 2-6 lanes, including Class II and III bike lanes, with a stretch of Class I facility between Doheny Park Road and Camino Capistrano.



### Subarea Needs

Needs were determined based on the existing and future conditions analysis of the Dana Point subarea.

- Recurring delays and limited mobility due to anticipated increases in pedestrian activity and concentration of higher traffic volumes
- Conflicts for bicyclists traveling adjacent to moving vehicles
- Conflicts for bicyclists traveling in a shared lane with moving and parked vehicles
- Recurring peak hour traffic congestion delays
- Lack of pedestrian facilities
- No northbound bicycle route on Coast Highway from Doheny Park Rd. to Del Obispo St.
- Height of Coast Highway/Park Lantern bridge inadequate to withstand flood waters
- Limited travel modes to connect to destinations within the community core areas
- Inconsistent aesthetic treatments
- Conflicts between bicyclists and moving vehicles

### Subarea Objectives

Objectives for the subarea were then defined to be used as the basis for identifying and recommending potential future improvements.

- Reduce recurring congestion and delays
- Reduce potential for conflict between bicycles and moving/parked vehicles
- Reduce potential for conflict between vehicles and pedestrians walking along/crossing PCH
- Maintain operation during interruptions and closures
- Increase opportunities for other modes of transport
- Improve nighttime lighting
- Accommodate and encourage transportation enhancements



# Subarea Alternatives

- █ High Capital Alternative
- █ Low Capital Alternative
- █ Transportation System Management/ Transportation Demand Management Alternative

- \$\$\$ Cost of Improvement greater than \$5,000,000
- \$\$ Cost of Improvement \$250,000 - \$5,000,000
- \$ Cost of Improvement up to \$250,000

Provide Class I bike trail on the ocean side of PCH (Laguna Beach to Blue Lantern). \$

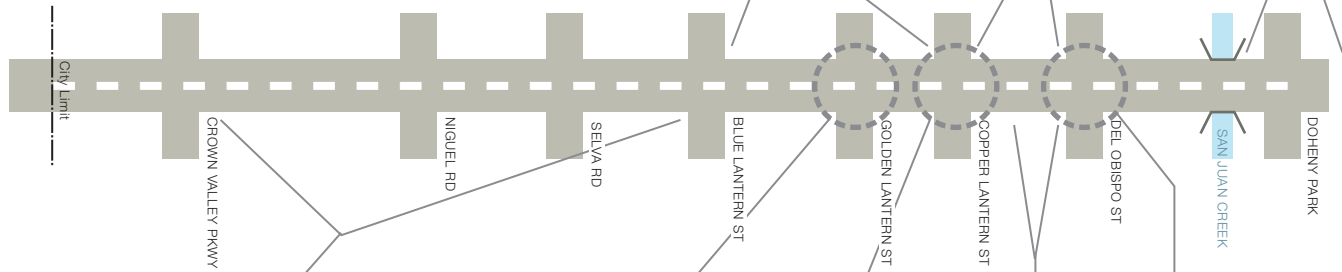
Install one way Class I Bike/Ped Trail on both sides of PCH between Laguna Beach City Limit and Blue Lantern. \$

Add retaining walls on inland side between Niguel St to Selva St and construct 5 ft sidewalk (min). \$\$

Add sidewalks on both sides between Laguna Beach border and Selva St where right-of-way permits. \$\$

Stripe through bike lanes at right turn pockets and install green conflict striping at merge areas prior to and at access driveways. \$

## LAGUNA BEACH BORDER TO BLUE LANTERN ST AND COPPER LANTERN ST TO DEL OBISPO ST



Install cycle track to encourage bicycling and walking under railroad. \$\$\$

Construct Class I bike and pedestrian trail between Doheny Park Road and Del Obispo through Doheny State Park, using Park Lantern. \$\$

Construct new wider/taller bridge and incorporate stress free bicycling and walking facility for north/south active transportation travel over San Juan Creek - includes widening of bridge sidewalk. \$\$\$

Widen existing sidewalk under railroad to improve bicycle/pedestrian crossing under LOSSAN Railroad tracks near Coast Highway/Doheny Park Road. \$\$

Provide bike/vehicle conflict zone treatment leading to intersections (Coast Highway at Park Lantern). \$

Addition of bus turnouts from Blue Lantern to Copper Lantern, as redevelopment occurs. \$

Widen sidewalks for pedestrians. \$

PCH (Niguel Rd. to Dana Point northern city limit, Blue Lantern to Copper Lantern) landscape beautification and safety improvements (as part of major capital improvements). Aesthetics part of project cost

Copper Lantern to Del Obispo - Landscape beautification and safety enhancement (as part of major capital improvement, as redevelopment occurs). Aesthetics part of project cost

## BLUE LANTERN ST TO COPPER LANTERN ST

## COPPER LANTERN ST TO DEL OBISPO ST

## CROWN VALLEY PKWY TO BLUE LANTERN ST

Review and include consistent lighting for bicycles and pedestrians during project upgrades. \$\$

## PCH / GOLDEN LANTERN ST

Overcrossing on PCH at Golden Lantern for pedestrians crossing PCH, with prohibition of atgrade crossings. \$\$

## PCH / COPPER LANTERN ST / DEL PRADO AVE

Improve PCH/Copper Lantern/Del Prado Intersection to enhance traffic flow (possibly with a roundabout). \$\$

## CRYSTAL LANTERN TO DEL OBISPO ST

Widen PCH and add Class II bike lanes between Crystal Lantern and Del Obispo. \$\$\$

## PCH / DEL OBISPO ST

Widen intersection of PCH/Del Obispo to provide congestion relief through the intersection. \$\$





# SAN CLEMENTE (INCLUDES SOUTH DANA POINT) SUBAREA 7



The City of San Clemente encompasses the southernmost portion of the PCH Corridor study area, just north of San Diego County. Recognized as a resort beach town with Spanish-influenced architecture, its commercial downtown and beaches are popular destinations for residents and visitors. Its roads consist mostly of 2-4 lanes widths. Although some Class II and Class IV bike lanes are present, facilities for bicyclists and pedestrians are generally inadequate.



## Subarea Needs

Needs were determined based on the existing and future conditions analysis of the San Clemente subarea.

- Conflicts between bicyclists and parked cars and moving vehicles.
- Missing pedestrian facilities
- Conflicts between bicyclists and pedestrians due to constrained width of the separated path
- Conflicts between northbound bicyclists and vehicles when crossing from the bike lane south of Camino Capistrano
- Conflicts between pedestrians and bicyclists at several intersections

## Subarea Objectives

Objectives for the subarea were then defined to be used as the basis for identifying and recommending potential future improvements.

- Reduce potential for conflict between bicycles and moving vehicles
- Reduce potential for conflict between bicycles and parked vehicles
- Reduce potential for conflict between bicycles and pedestrians using the separated path
- Reduce the potential for conflicts between bicycles, pedestrians, and vehicles at intersections

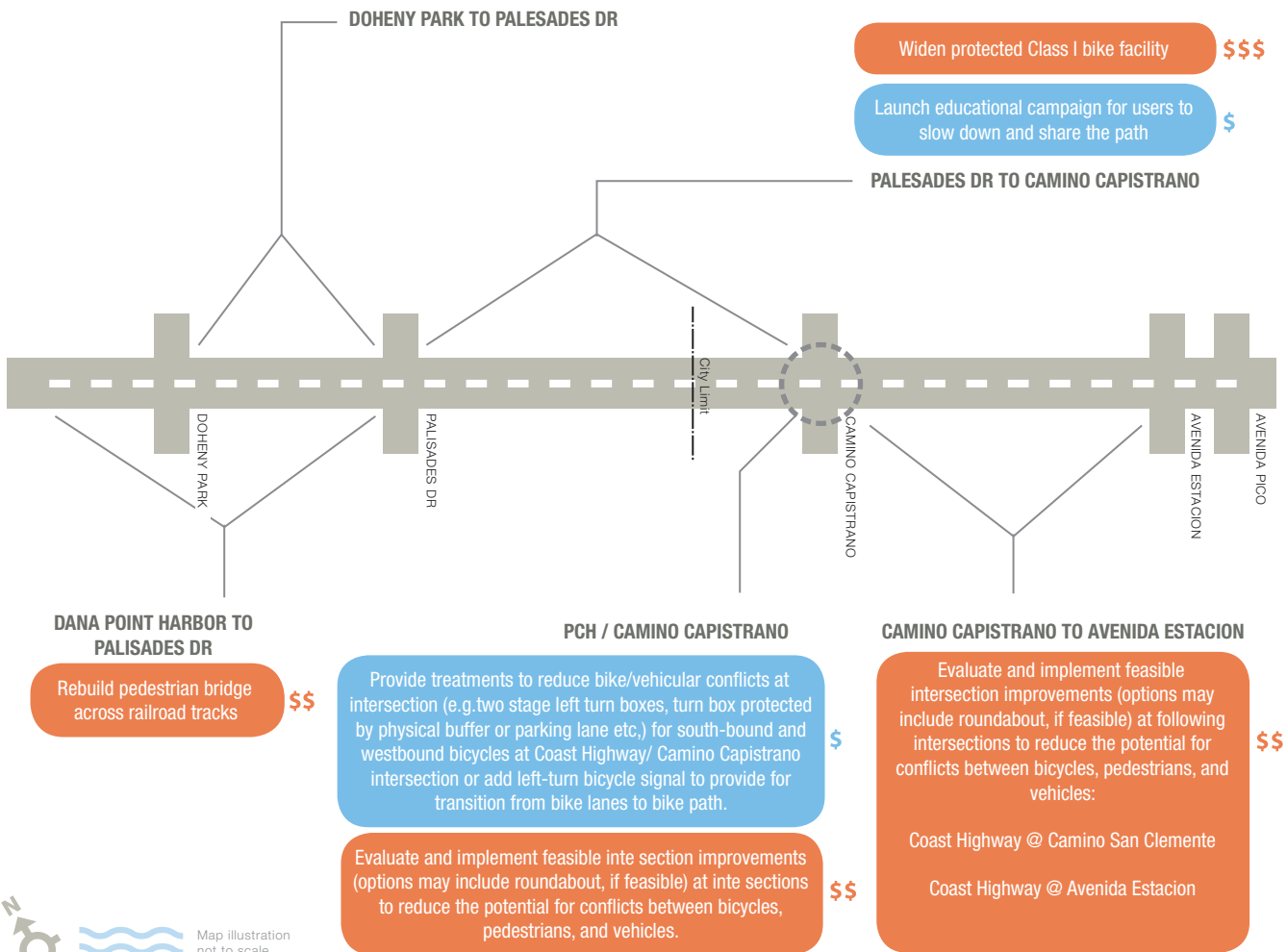


# Subarea Alternatives

- High Capital Alternative
  - Low Capital Alternative
  - Transportation System Management/ Transportation Demand Management Alternative
- \$\$\$ Cost of Improvement greater than \$5,000,000  
\$\$ Cost of Improvement \$250,000 - \$5,000,000  
\$ Cost of Improvement up to \$250,000



- \$ Complete sidewalk on inland side of street
- \$\$ Widen existing sidewalk and create multi-use path on the ocean side (provide two-way Class I bike/ ped facility (Doheny Park to Palisades Drive).
- \$ New Class III bike route along Coast Highway between Doheny Park Road and Palisades Drive, on both sides of Coast Highway.
- \$\$ Remove/relocate on-street parking and install Class IV bike track with buffer between vehicles and pedestrians/bicycles
- \$\$\$ Remove/relocate on-street parking and install Class II bike lanes
- \$ Restripe the street segment to provide for 2 vehicular lanes (one in each direction) and Class II bicycle lanes and maintain 2 northbound through lanes at intersection at Doheny Park and Coast Highway. Improvement would require MPAH amendment.





## IMPLEMENTATION & NEXT STEPS



### Roles and Responsibilities

The three recommended alternatives include plausible improvement strategies to help address corridor needs, whether corridor-wide, or in particular subareas: *Transportation System Management/Transportation Demand Management Alternative, Low Capital Alternative, High Capital Alternative*. The array of recommended improvements intend to provide choices for implementing agencies for actions they can take to address specific needs, as they see fit, and as funding becomes available. Responsibility for making physical improvements, operating and maintaining PCH belongs to the jurisdiction in possession of the ROW.

- Corridor-wide programs, as well as, cross jurisdictional improvements would require multi-agency cooperation efforts.
- State owned segments would require a local agency to enter into a Co-op Agreement with Caltrans, and require the local agency to adhere to Caltrans' specified design standards and project development processes.
- For city-owned segments of PCH, the local agency would be responsible for the entire project development process and providing ongoing operations and maintenance once the improvements are in place and complete.

### Key Issues Affecting Implementation

- **Context Sensitive Design:** The PCH corridor ROW is highly constrained along many parts of the corridor and acquisition of additional ROW for major improvements affect adjacent businesses, homes, or coastal recreation areas. Many of the study's recommended improvements could be implemented with little or no ROW acquisition, with exceptions to Caltrans' full-standard design criteria. Local agencies can work with Caltrans during project development processes to review and approve design exception proposals. Community goals and user needs as stated in Caltrans' policy document "Main Street, California" should also be considered during this process.
- **Coastal Access and On-Street Parking:** The California Coastal Commission (CCC) has determined the removal of on-street public parking in the coastal zone constitutes a reduction of public access to the coast. Because the study recommends developing bike lanes in place of existing on-street parking, the CCC would require the replacement of public parking nearby. Since adjacent areas are either fully developed or public beaches, collaboration between the coastal cities, Caltrans, OCTA, and the CCC is needed to develop innovative approaches for on-street parking relocation that result in improved overall coastal access for users of all modes.





## Funding

The following matrix presents potential sources of funding for the various project improvements identified through the corridor study. Given the noted eligibility conditions, project sponsors are encouraged to take an integrated, holistic approach to defining the projects, to incorporate multiple improvements and qualify for the broadest possible range of funding programs.

|   |   | Project Types |           |                    |         |     |                    |                       |                                 |                 |
|---|---|---------------|-----------|--------------------|---------|-----|--------------------|-----------------------|---------------------------------|-----------------|
|   |   | Eligibility   | Arterials | Bicycle Facilities | Bridges | ITS | Parking Facilities | Pedestrian Facilities | Programs (Safety/Encouragement) | Transit Capital |
| Federal                                   | Recreational Trails Program (RTP)                                   | N, R          |           | •                  | •       |     | •                  | •                     |                                 |                 |
|   | TIGER Discretionary Grant   | N, R          | •         | •                  | •       | •   |                    | •                     |                                 | •               |
|   | Highway Safety Improvement Program (HSIP)                           | N, R          | •         | •                  | •       |     |                    | •                     | •                               |                 |
| State                                     | Active Transportation Program                                       | N             |           | •                  | •       | •   |                    | •                     | •                               |                 |
|   | Cap and Trade: Affordable Housing & Sustainable Communities Program | N             |           | •                  | •       |     |                    | •                     | •                               | •               |
|   | Cap and Trade: Low Carbon Transit Operations Program                | N             |           | •                  | •       |     |                    | •                     | •                               | •               |
|   | Regional Improvement Program (STIP)                                 | N             |           | •                  | •       |     | •                  | •                     |                                 |                 |
|   | State Highway Operations Protection Program (SHOPP)                 | R             | •         |                    |         | •   |                    |                       |                                 |                 |
| Regional & Local                          | Bicycle Improvement Program Call for Projects (Source CMAQ)         | N             |           | •                  | •       | •   |                    | •                     | •                               |                 |
|   | Measure M2 - Local Fair Share Program                               | N, R          | •         | •                  | •       |     | •                  |                       | •                               | •               |
|   | Measure M2 - Regional Capacity Program (Project O)                  | N             | •         | •                  | •       | •   |                    | •                     |                                 |                 |
|   | Measure M2 - Community Based Transit/Circulators (Project V)        | N             |           |                    |         | •   | •                  | •                     |                                 | •               |
|   | Measure M2 - Signal Synchronization (Project P)                     | N, R          | •         | •                  | •       | •   | •                  | •                     | •                               | •               |
|   | Parking Revenue District  | N             | •         | •                  | •       | •   | •                  | •                     |                                 | •               |
|   | Development Impact Fees   | N, R          | •         | •                  | •       |     |                    | •                     |                                 | •               |
|   | Local Gas Tax Subvention  | N             | •         | •                  | •       | •   | •                  | •                     |                                 | •               |
|   | Enhanced Infrastructure Financing District                          | •             |           | •                  | •       | •   |                    | •                     | •                               |                 |
| City General or Other Discretionary Funds | N, R  | •             | •         | •                  | •       | •   | •                  | •                     | •                               |                 |

\* Please note that this list is not exhaustive and each funding source has its own unique set of requirements and/or approvals in order for projects to qualify and potentially compete for funding. Furthermore, final FAST Act distributions have yet to be determined.

N = new facilities  
R = reconstruction of existing facilities



### Next Steps

Next steps for the PCH corridor improvement process will involve further development of individual projects and/or project components identified in the three final alternatives for the corridor and subareas. Agencies are encouraged to initiate these next steps in the project development process which include – project selection, environmental review, design, and implementation as priorities and funding allow.









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