

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

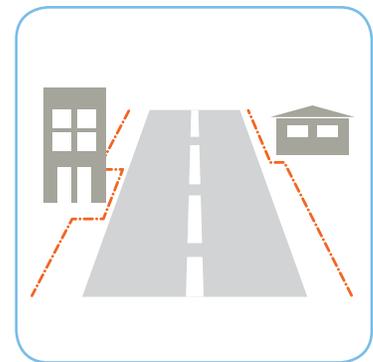
The PCH Corridor Study identified corridor-wide and subarea issues, opportunities, and constraints based on existing and future conditions analysis and input from agency representatives. This formulated the specific Needs and Objectives for the corridor, as well as, for each subarea to be used as the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



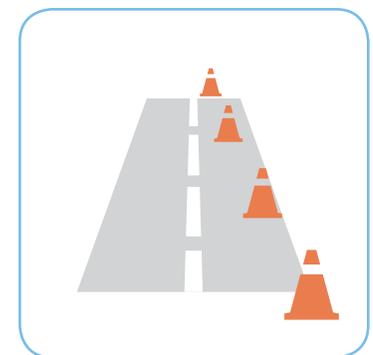
3. Constrained ROW resulting in limited improvement opportunities



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



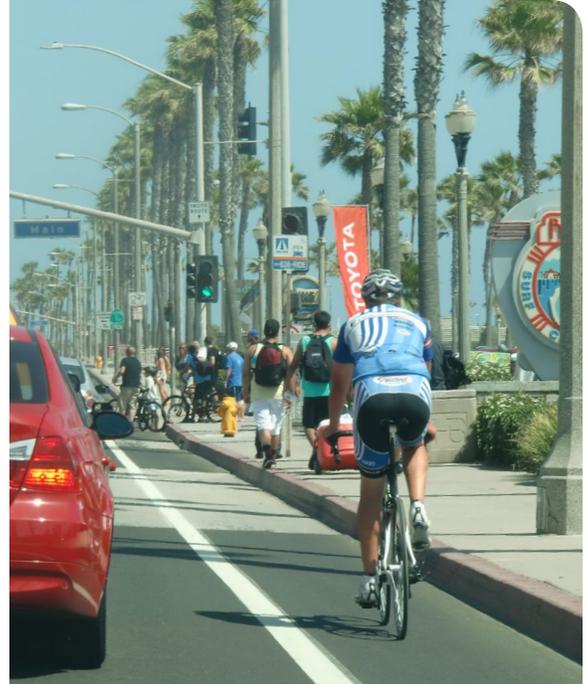
5. Inconsistent aesthetic treatment of improvements compared to the scenic character of the corridor



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. \$\$\$

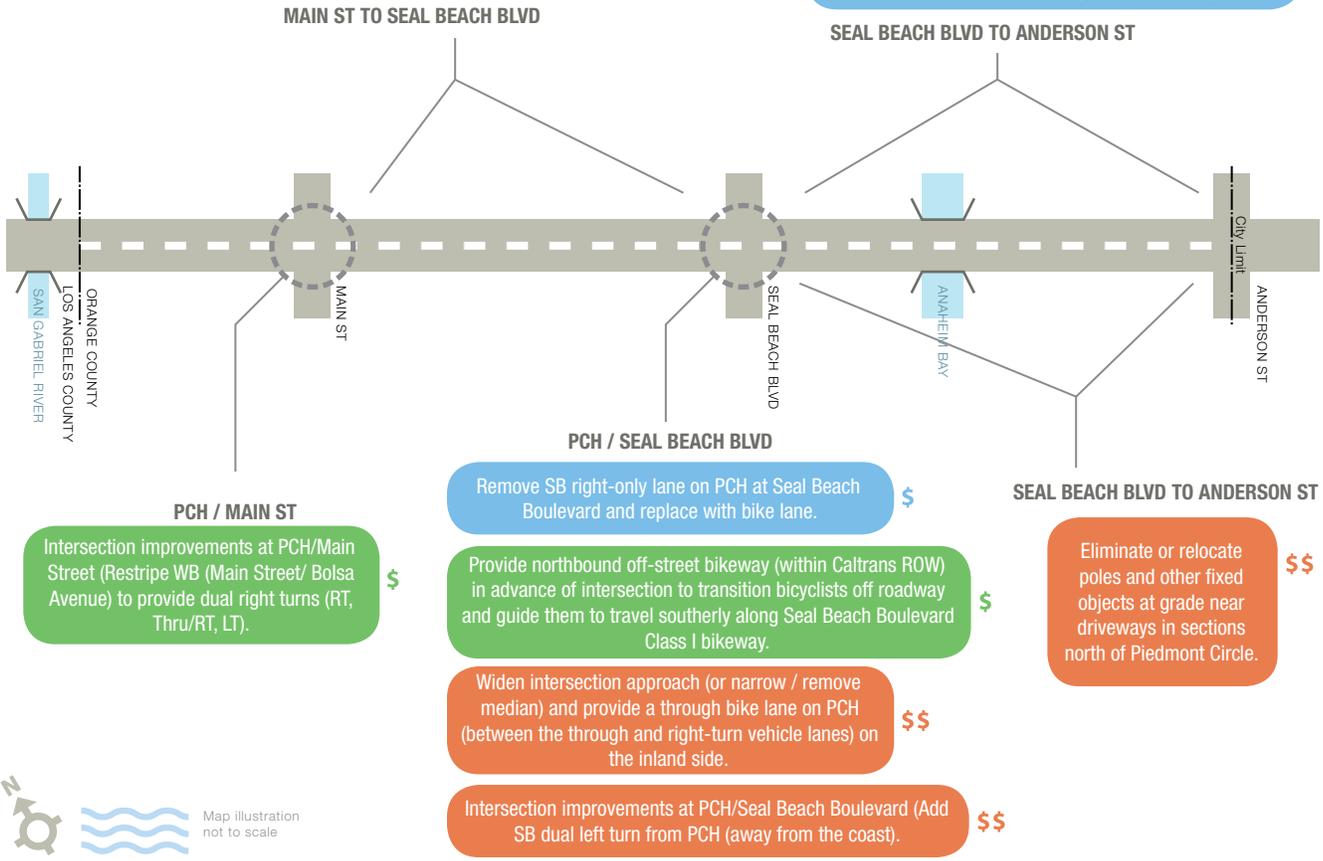
Minor street widening and travel lane width reduction to accommodate Class II bike lanes between on-street parking and travel lanes on PCH. \$\$\$

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. \$

GOLDENWEST ST TO 6TH ST

- 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. \$\$

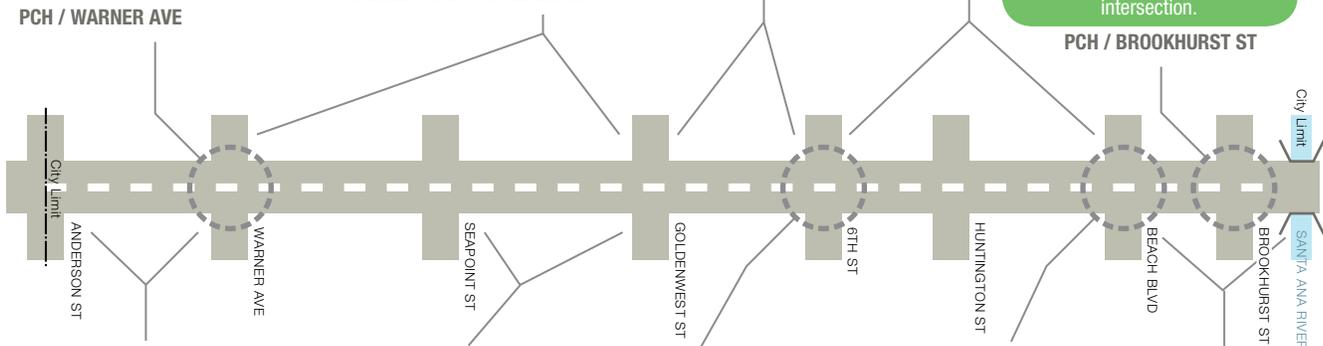
WARNER AVE TO GOLDENWEST ST

- 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. \$

6TH ST TO BEACH BLVD

- Intersection improvement at PCH/Brookhurst Street in order to carry bike lanes through the intersection. \$\$

PCH / BROOKHURST ST



SUNSET BEACH

- Provide enhanced signage highlighting for bicyclists the availability of low stress route along Pacific Avenue from Anderson Street to Warner Avenue. \$
- Stripe Class III sharrows on Anderson Street between PCH and Pacific Avenue. \$
- Redesign minor road accesses, road geometrics, remove on-street parking to improve visibility and sight angles as redevelopment occurs. \$\$\$

SEAPOINT ST TO GOLDENWEST ST

- Modify access to driveways and circulation within parking lots to provide multiple entry (access redesign). \$\$
- Install intelligent parking management system to direct visitors away from full lots to available parking. \$

PCH / 6TH ST

- 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.). \$\$

PCH / BEACH BLVD

- 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. \$

BEACH BLVD TO SANTA ANA RIVER

- 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). \$\$\$

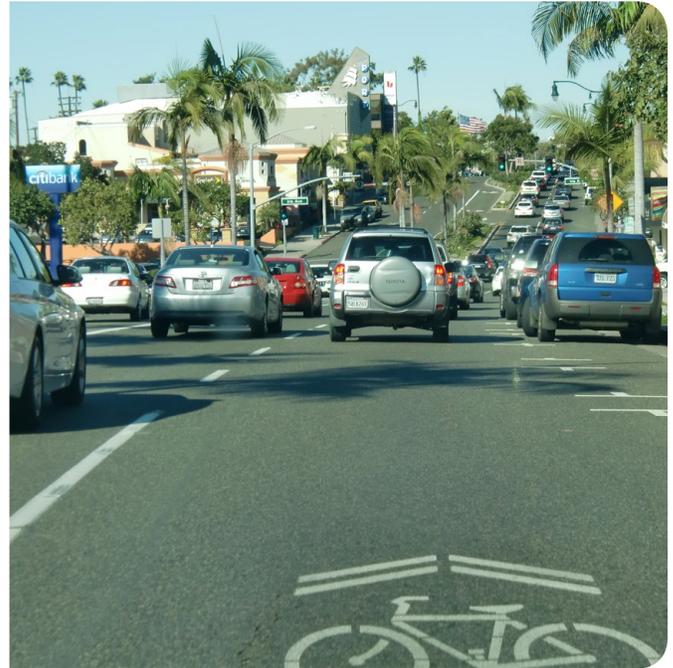




NEWPORT BEACH

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. \$\$

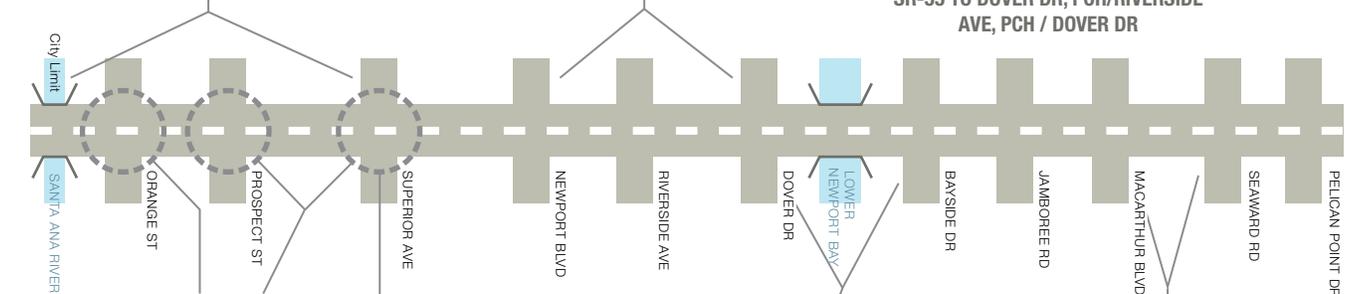
Widen/restripe and add Class II bike lanes by removing on-street parking. \$\$\$

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). \$

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

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 Seaview to Poppy, or Bayside to Marguarite to Seaview to Poppy). \$



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

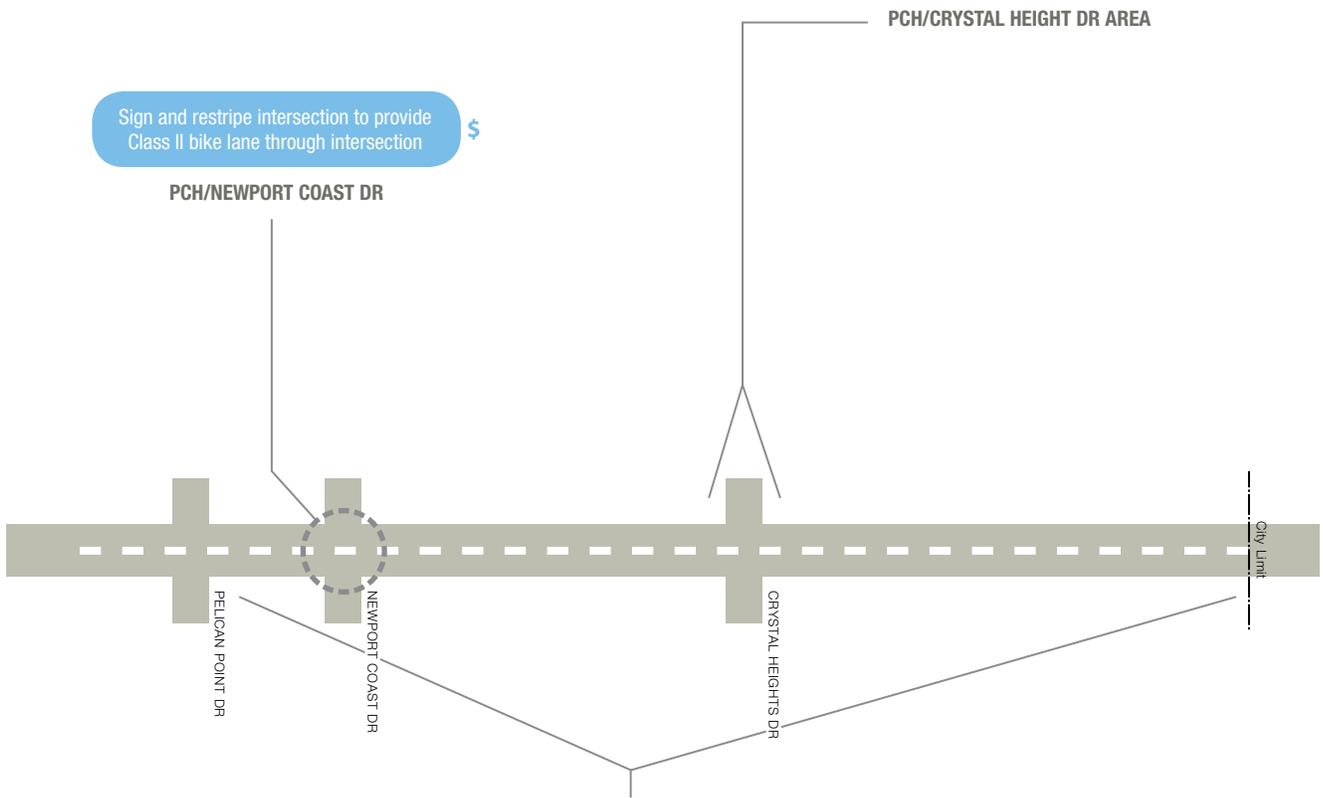


Subarea Alternatives

- 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. \$

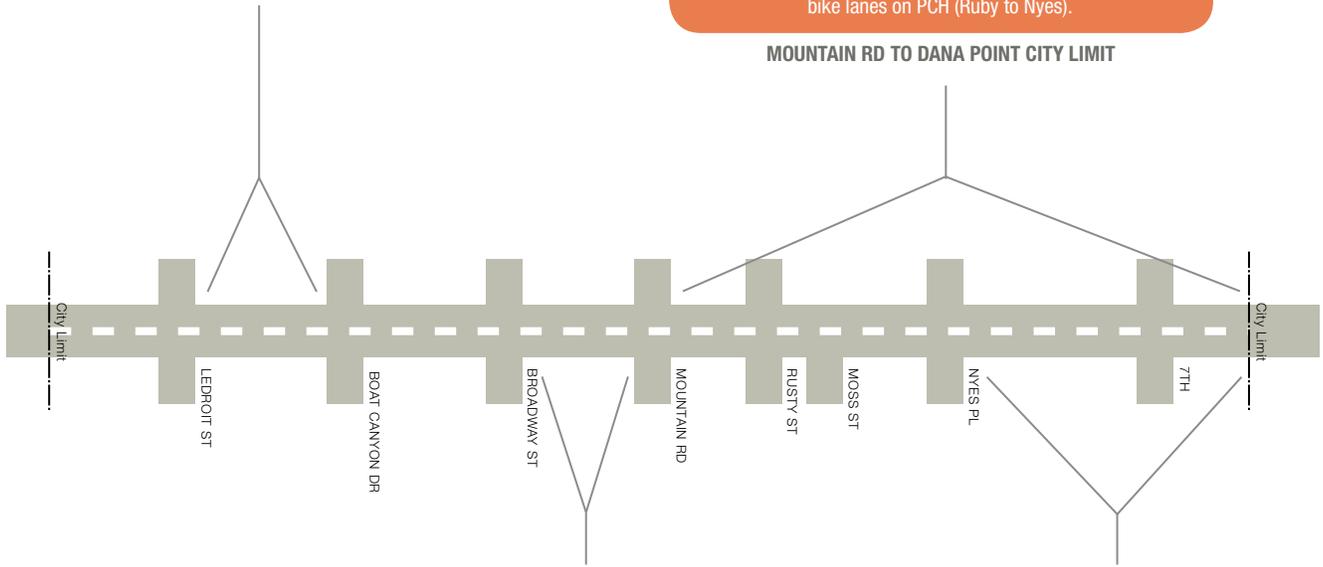
NORTH LAGUNA BEACH CITY LIMIT TO DANA POINT CITY LIMIT

- 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. \$\$

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.

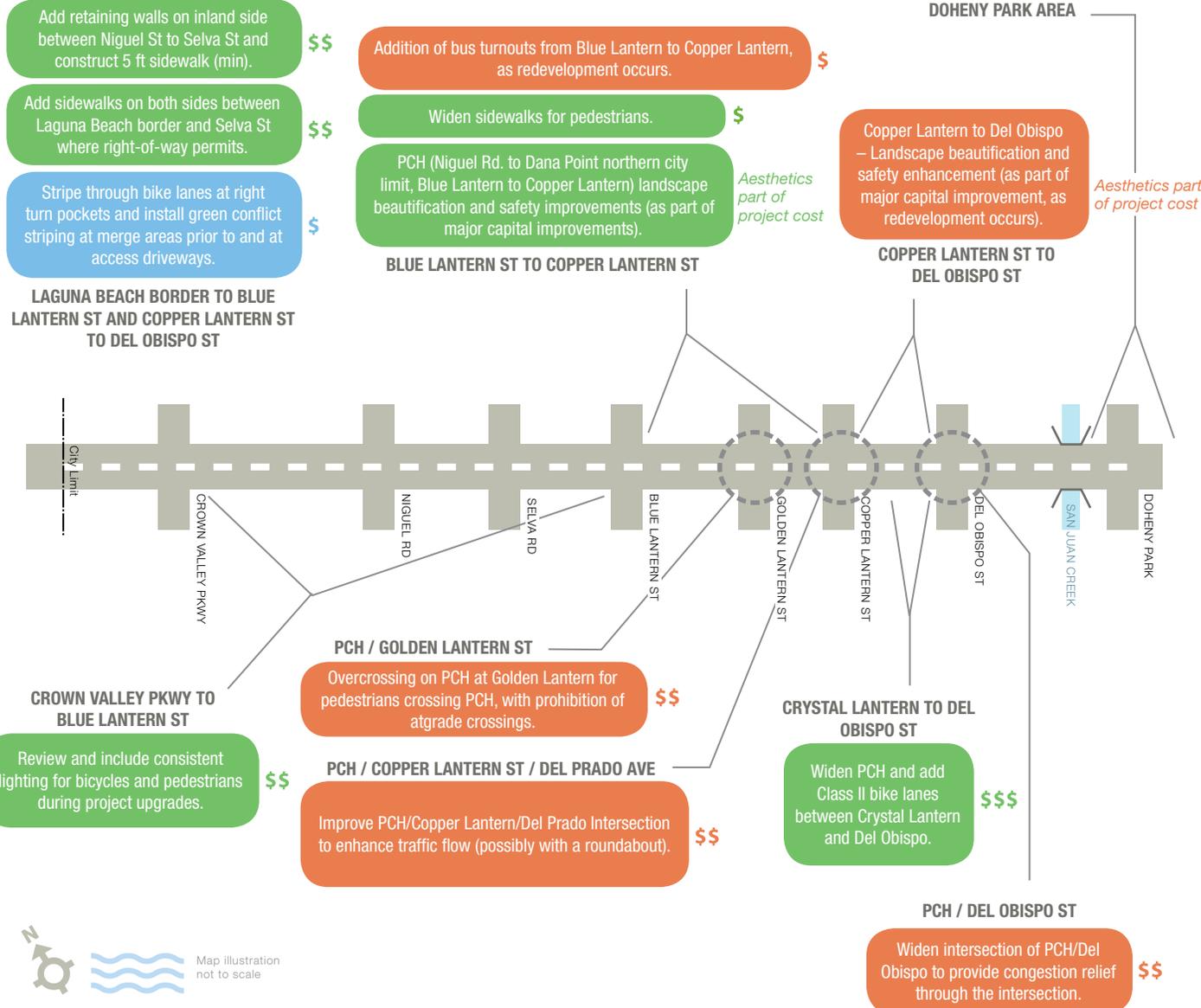
- Reduce recurring congestion and delays
- Reduce potential for conflict between bicycles and moving/parked vehicles
- Reduce potential for conflict between vehicles and pedestrians walking along/crossing PCH
- Maintain operation during interruptions and closures
- Increase opportunities for other modes 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. \$
- 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). \$





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

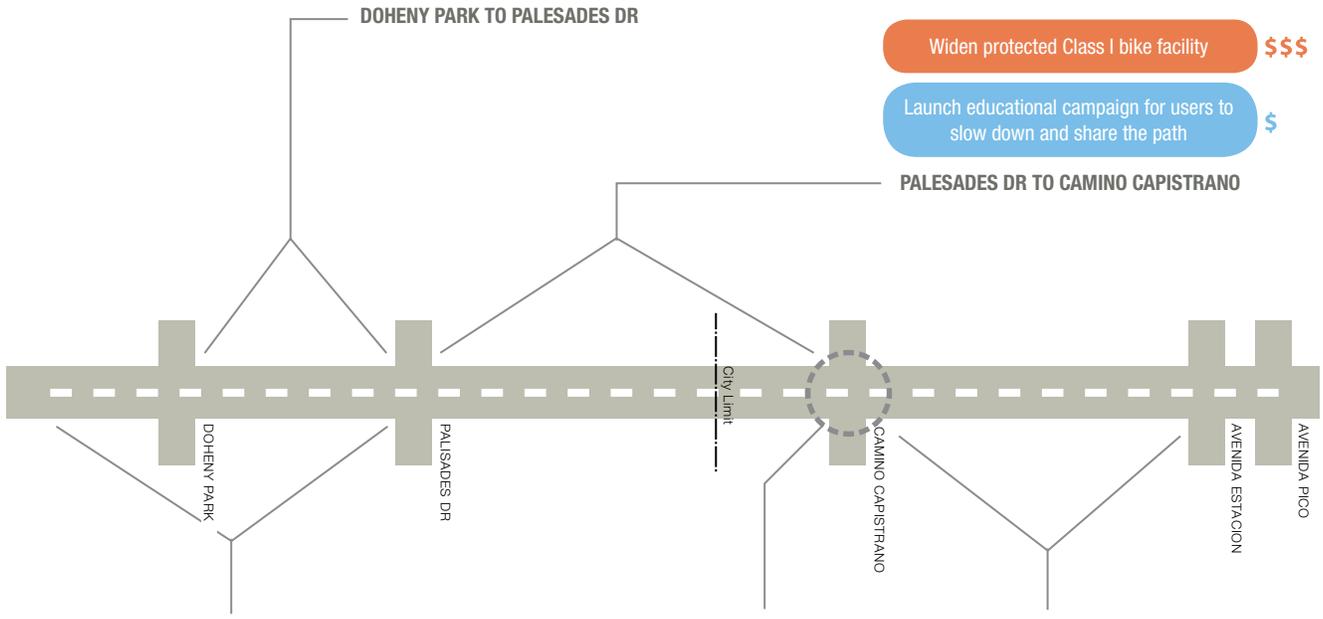


Subarea Alternatives

- █ 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.



- DOHENY PARK TO PALESADES DR**
 - \$\$\$ Widen protected Class I bike facility
 - \$ Launch educational campaign for users to slow down and share the path
- PALESADES DR TO CAMINO CAPISTRANO**
- DANA POINT HARBOR TO PALISADES DR**
 - \$\$ Rebuild pedestrian bridge across railroad tracks
- PCH / CAMINO CAPISTRANO**
 - \$ 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 south-bound and westbound bicycles at Coast Highway/ Camino Capistrano intersection or add left-turn bicycle signal to provide for transition from bike lanes to bike path.
 - \$\$\$ Evaluate and implement feasible intersection improvements (options may include roundabout, if feasible) at intersections to reduce the potential for conflicts between bicycles, pedestrians, and vehicles.
- CAMINO CAPISTRANO TO AVENIDA ESTACION**
 - \$\$ Evaluate and implement feasible intersection improvements (options may include roundabout, if feasible) at following intersections to reduce the potential for conflicts between bicycles, pedestrians, and vehicles:
 - Coast Highway @ Camino San Clemente
 - Coast Highway @ Avenida Estacion





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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