



CITY OF MALIBU

PCH SAFETY

Introduction

The City of Malibu remains committed to prioritizing public safety in response to increasing hazards and reckless driving along Pacific Coast Highway (PCH). This executive summary provides a concise overview of the current public safety situation, recent initiatives, and collaborative efforts with key stakeholders.

The Malibu City Council declared a Local Emergency on November 13, 2023, aimed at addressing the risks to public safety of dangerous, illegal, reckless, and/or distracted driving on Pacific Coast Highway in the City. The action was in response to the increasingly hazardous conditions on PCH in City limits in recent years, which have become a public safety threat for residents, visitors, motorists, pedestrians, and cyclists who use PCH and live, work and recreate on PCH. The PCH safety crisis culminated in the tragic deaths of four Pepperdine students who were struck by a speeding motorist while walking along PCH on October 17.

The City of Malibu is committed to doing everything possible to improve safety on our 21 miles of PCH, which has long been a top priority for the community. While the City does not control PCH, since its incorporation, Malibu has worked closely with Caltrans, the LA County Sheriff's Department and our other partner agencies to find ways to make PCH safer for residents, motorists, pedestrians and cyclists.

Key Points & Initiatives

During the PCH Taskforce Special Meeting on November 14, City Manager McClary raised several key points and initiatives to address the escalating safety concerns on PCH. The initiatives presented during the meeting included a Safety Corridor Designation, Re-Design of PCH, Permanent Increase to Law Enforcement, Investments and Special Legislation for in Speed and Traffic Data Collection, and a Reprioritization of the Caltrans 2015 PCH Safety Plan.

NEXT STEPS



COMMITMENT TO COLLABORATION BETWEEN THE CITY OF MALIBU & CALTRANS.

Safety Corridor Designation

Expedited Approval Process

Strategic Plan on Execution and Funding of Remaining 60 Projects



PERMANENT COMMITMENT FOR EXPANDED LAW ENFORCEMENT IN MALIBU.

Long Term Agreement for Traffic Enforcement with California Highway Patrol in Malibu.

Continued dedication of resources to the Los Angeles County Sheriff's Department.



CONTINUED SUPPORT FROM OUR ELECTED REPRESENTATIVES IN KEEPING THIS ISSUE AT THE FOREFRONT OF OUR POLICY MAKERS.

Initiation of Special Legislation for Speed Cameras in Malibu.

Secure Additional Funding for Infrastructure Along PCH (\$57,232,850)



COMMITMENT TO SHARING OUR MESSAGE WITH MOTORISTS TRAVELING THROUGH MALIBU.

Local and State Officials, Media Partners, Residents and Community Stakeholders share our message to "Slow Down" with Motorists in Malibu.

Commitment from Caltrans: Emphasizing the importance of securing a commitment from Caltrans to actively engage in addressing safety issues on PCH of which they have jurisdictional authority. This involves consideration of a Safety Corridor, Residential or Business District Designations, Re-Prioritization on safety projects, expedited approval processes, and enhanced cooperation.

Increased Law Enforcement Presence: Recognizing the need for immediate action, the City called for an expanded presence of law enforcement in Malibu to address traffic safety issues. This involves increased patrols, stricter enforcement of traffic laws, and targeted efforts to curb reckless driving.

Support from State Representatives: Highlighting the importance of continued support from State representatives, seeking assistance in advocating for special legislation, securing funding, and addressing specific challenges faced by Malibu on PCH.

Public Education Campaign: To change driver behavior and raise awareness about safe practices on PCH, the City proposed the implementation of a public education campaign involving collaboration with local and state, community organizations, and media outlets to disseminate crucial safety information.

Malibu Led Special Projects & Initiatives

California Highway Patrol (CHP) Long Term Agreement

Establishment of a three-officer taskforce dedicated to traffic enforcement in the City of Malibu. CHP Malibu Taskforce is dedicated to promoting public safety, enforcing traffic regulations on PCH. The

partnership underscores the commitment of both agencies to address increasingly dangerous conditions on the State Highway and uphold the well-being of residents and visitors to the City. City will continue to work with CHP and State Officials to dedicate additional officers and expand the taskforce in upcoming budget cycles.

Special Legislation - Speed Cameras

City of Malibu is actively collaborating with State Senator Allen and Assemblymember Irwin to introduce special legislation aimed at implementing speed cameras on Malibu's 21 miles. The legislation aims at amending AB 645 - Speed Safety System Pilot Program- adopted in October of 2023. AB 645 amends California Vehicle Code (CVC) 22425 to authorize the cities of Los Angeles, San Jose, Oakland, Glendale, Long Beach, and the City and County of San Francisco to install a speed safety system until January of 2032; AB 645 reads as follows:

The bill would require a participating city or city and county to adopt a Speed Safety System Use Policy and a Speed Safety System Impact Report before implementing the program and would require the participating city or city and county to engage in a public information campaign at least 30 days before implementation of the program, including information relating to when the systems would begin detecting violations and where the systems would be utilized. The bill would require a participating city or city and county to issue warning notices rather than notices of violations for violations detected within the first 60 calendar days of the program. The bill would also require a participating city or city and county to develop uniform guidelines for, among other things, the processing and storage of confidential information. The bill would designate all photographic or administrative records, not including data about the number of violations issued or the speeds at which they were issued for, made by a system as confidential, and would only authorize public agencies to use and allow access to these records for specified purposes.

This bill would specify that any violation of a speed law recorded by a speed safety system authorized by these provisions would be subject only to the provided civil penalties. The bill would, among other things, provide for the issuance of a notice of violation, an initial review, an administrative hearing, and an appeals process, as specified, for a violation under this program. The bill would require any program created pursuant to these provisions to offer a diversion program for indigent speed safety system violation recipients, as specified. The bill would require a city or city and county participating in the pilot program to submit a report to evaluate the speed safety system to determine the system's impact on street safety and economic impact on the communities where the system is utilized.

Existing law establishes a \$25 filing fee for specified appeals and petitions.

This bill would require a \$25 filing fee for an appeal challenging a notice of violation issued as a result of a speed safety system until January 1, 2032.

Existing constitutional provisions require that a statute that limits the right of access to the meetings of public bodies or the writings of public officials and agencies be adopted with findings demonstrating the interest protected by the limitation and the need for protecting that interest.

[ARTICLE 3. Speed Safety System Pilot Program \[22425 - 22431\]](#)

Malibu's proposed legislation would carve out a provision to place Speed Safety Systems on PCH within Malibu's jurisdiction. City Officials and law enforcement authorities are working with State representatives to identify those areas of critical concern along Malibu's 21 miles. Special Legislation Deadline is February 19, 2024.

Traffic and DUI Enforcement Initiative with Los Angeles County Sheriff's Department - Office of Traffic Safety Grant

The City, in collaboration with the Los Angeles County Sheriff's Department (LASD), is set to apply for California Office of Traffic Safety (OTS) funds totaling \$425,000 to support a comprehensive Traffic and DUI Enforcement Initiative. The proposed project encompasses overtime assignments for dedicated traffic and DUI enforcement officers, aiming to bolster law enforcement efforts on PCH. Furthermore, a portion of the funds will be allocated towards a driver safety and awareness education campaign specifically designed for the Pacific Coast Highway (PCH). This campaign seeks to raise awareness about safe driving practices, educate the public on the dangers of DUI, and promote responsible behavior on the road. Staff is working with grant consultant to submit the project by January 31, 2024, to be considered for FY 25 (oct of 2024) award cycle.

Budget Allocation: The requested grant amount is \$425,000, allocated as follows:

Overtime Assignments (Lost Hills Malibu Sheriff's Department): Two dedicated overtime assignments to reinforce traffic and DUI enforcement efforts.

Equipment and Supplies for DUI Operations and Enforcement: Procurement of essential equipment and supplies to support effective DUI operations, including breathalyzers, testing kits, and enforcement tools.

Public Relations Campaign: Development and execution of a Public Relations (PR) campaign aimed at promoting driver awareness and road safety.

Expected Outcomes:

Reduction in Traffic Violations and DUI Incidents: Increased law enforcement presence and targeted operations are expected to result in a measurable reduction in traffic violations and DUI incidents.

Improved Driver Awareness: The PR campaign aims to educate and raise awareness among drivers, leading to improved adherence to traffic laws and safer driving practices.

Enhanced Community Engagement: Community events and outreach programs will foster positive interactions between law enforcement and residents, strengthening community ties.

RE-Design of PCH

The City of Malibu is embarking on a transformative project focused on the comprehensive redesign of the Pacific Coast Highway (PCH) within its jurisdiction. The vision for this initiative is to transition PCH into a Boulevard concept, prioritizing pedestrian and driver safety. Recognizing the regional significance of

PCH, the City is taking a proactive step towards a multi-jurisdictional collaboration. By engaging neighboring municipalities and relevant stakeholders, the project seeks to ensure a cohesive approach to the redesign that extends beyond city boundaries.

Designation of Safety Corridor, (and/or) Business District, (and/or) Business Activity District, (and/or) Residence District by the CA Department of Transportation

The City of Malibu is embarking on a transformative project focused on the comprehensive redesign of the Pacific Coast Highway (PCH) within its jurisdiction. The vision for this initiative is to transition PCH into a Boulevard concept, prioritizing pedestrian and driver safety. Recognizing the regional significance of PCH, the City is taking a proactive step towards a multi-jurisdictional collaboration. By engaging neighboring municipalities and relevant stakeholders, the project seeks to ensure a cohesive approach to the redesign that extends beyond city boundaries.

Safety Corridor

A safety corridor shall be defined as a roadway segment within an overall roadway network where the highest number of serious injury and fatality crashes occur. One or more of the required crash weighting factors listed in the Table 2B-105(CA) (pg. 13) shall be used to prioritize the locations of fatal and serious injury crashes in developing the “Safety Corridor”.

Option:

Data used to determine a safety corridor may be from the most recent Engineering and Traffic Survey (E&TS) performed. The crash data source may include, but is not limited to, California Highway Patrol’s (CHP) Statewide Integrated Traffic Records System (SWITRS).

Standard:

The prioritized subset of safety corridors shall:

1. Identify specific locations with high crash occurrences.
2. Identify corridor-level segments with a pattern of crash reoccurrence.
3. Be able to be stratified by mode.

Table 2B-105(CA). Safety Corridor Definition Requirements

Category	Factors
<p>Crash Weighting Factors to Develop One Serious/Fatal Injury Safety Corridor</p>	<p>Crash weighting can be developed using fatal and serious injury crash data and other factors to prioritize safety corridors. Suggested weighting factors are as follows:</p> <ul style="list-style-type: none"> ▪ Crash severity: Fatal Crashes, Serious Injury Crashes ▪ Mode: Pedestrian-bicycle related crashes, vehicle/other ▪ Disadvantaged Community Status: MPO/RTPA or locally defined disadvantaged community status based on most current version of CalEnviroScreen ▪ Vulnerable Populations: Seniors (age 65 and older) and Youth (under age 15) based on the American Community Survey ▪ School proximity (within 0.25 miles) based on the California School Campus Database
<p>Crash Density</p>	<p>Each roadway segment block can be converted into ~ 0.25 mile overlapping “corridor” segments to create a consistent unit of measurement and assess the concentration of linear patterns of injuries within a define distance. The highest scoring (i.e. most fatal and serious injury crashes per mile) “corridor” segments within a street needs to be identified and an appropriate threshold set to determine safety corridor eligibility.</p>
<p>Maintenance</p>	<p>The jurisdiction can establish a review and re-evaluation frequency for safety corridors. However, such frequency need not exceed seven years.</p>

[CVC 22358.7 \(a\)\(1\)](#)

[Summary of Changes for 2014 CA MUTCD Revision 7](#)

Business Activity District

[CVC 22358.9 \(b\)\(1-4\)](#) a “business activity district” is that portion of a highway and the property contiguous thereto that includes central or neighborhood downtowns, urban villages, or zoning designations that prioritize commercial land uses at the downtown or neighborhood scale and meets at least three of the following requirements in paragraphs (1) to (4), inclusive: (1) No less than 50 percent of the contiguous property fronting the highway consists of retail or dining commercial uses, including outdoor dining, that open directly onto sidewalks adjacent to the highway.(2) Parking, including parallel, diagonal, or perpendicular spaces located alongside the highway.(3) Traffic control signals or stop signs regulating traffic flow on the highway, located at intervals of no more than 600 feet.(4) Marked crosswalks not controlled by a traffic control device.

Business District

[CVC 235](#) A “business district” is that portion of a highway and the property contiguous thereto (a) upon one side of which highway, for a distance of 600 feet, 50 percent or more of the contiguous property fronting thereon is occupied by buildings in use for business, or (b) upon both sides of which highway, collectively, for a distance of 300 feet, 50 percent or more of the contiguous property fronting thereon is so occupied. A business district may be longer than the distances specified in this section if the above ratio of buildings in use for business to the length of the highway exists.

Residence District

[CVC 515](#) The City is urging Caltrans to collaborate in efforts to enhance safety on Pacific Coast Highway (PCH). Key requests include establishing a Safety Corridor, potentially spanning Residential and Business Districts, or a combination thereof. The City is also seeking an expedited review process for public safety infrastructure projects and the reprioritization of the 130 projects identified in the 2015 PCH Safety Study for more effective safety improvements.

Safety Enhancement Zone Designation

In addition to pursuing various designations for specific districts, the City of Malibu is actively seeking a Safety Enhancement Zone designation for targeted areas along the Pacific Coast Highway (PCH). This designation is intended for areas where the city has identified the highest occurrences of traffic violations and accidents.

[Streets and Highways Code \(SHC\) 97](#)

(a) A state highway segment shall be designated by the department as a Safety Enhancement-Double Fine Zone if all of the following conditions have been satisfied:

- (1) The highway segment is eligible for designation pursuant to subdivision (b).
- (2) The Director of Transportation, in consultation with the Commissioner of the California Highway Patrol, certifies that the segment identified in subdivision (b) meets all of the following criteria:
 - (A) The highway segment is a conventional highway or expressway and is part of the state highway system.
 - (B) The rate of total collisions per mile per year on the segment under consideration has been at least 1.5 times the statewide average for similar roadway types during the most recent three-year period for which data are available.
 - (C) The rate of head-on collisions per mile per year on the segment under consideration has been at least 1.5 times the statewide average for similar roadway types during the most recent three-year period for which data are available.
- (3) The Department of the California Highway Patrol or local agency having traffic enforcement jurisdiction, as the case may be, has concurred with the designation.
- (4) The governing board of each city, or county with respect to an unincorporated area, in which the segment is located has by resolution indicated that it supports the designation.

(5) An active public awareness effort to change driving behavior is ongoing either by the local agency with jurisdiction over the segment or by another state or local entity.

(6) Other traffic safety enhancements, including, but not limited to, increased enforcement and other roadway safety measures, are in place or are being implemented concurrent with the designation of the Safety Enhancement-Double Fine Zone.

Red Light Camera Safety Enhancement - PCH Signal Synchronization Change Order

City has initiated a change order for the PCH Traffic Signal Synchronization Project to include Red Light Traffic Camera Technology. The inclusion of these cameras is intended to improve intersection safety by capturing violations related to red light running. This enhancement aligns with the City's commitment to implementing cutting-edge traffic management solutions for the benefit of both drivers and pedestrians along PCH.

Priority Project Funding Initiative

The City has proactively identified and is pursuing several grant funding opportunities to support priority projects crucial for safety improvements on PCH. These include applications for the Active Transportation Program, aimed at enhancing pedestrian and bicycle infrastructure, and the US Department of Transportation (USDOT) Safe Streets and Roads for All program, focusing on creating safer road environments. Additionally, the City is seeking funding through the Highway Safety Improvement Program to address specific safety challenges on roadways. Additionally, the City will submit an appropriations request under Community Project Funding Opportunities for FY 25 Award.

Community Project Funding Opportunities for FY 25

Each year, the United States Congress considers and enacts annual appropriations bills that provide the federal government with the funding it needs to operate. These appropriations bills fund numerous activities, including general government operations, medical research, and national defense. The Fiscal Year 2024 appropriations process will permit the House of Representatives to fund specific projects in the form of Community Project Funding, sometimes known as "earmarks". This process will allow Members of Congress to submit a limited number of local projects to the Committee for funding consideration.

Under current rules, the entity must be a state or local unit of government or certain eligible nonprofit organizations, as allowed under federal law and Committee guidance. Each submission must meet statutory requirements for the federal program through which it is funded, along with additional House Appropriations Committee requirements outlined below. Please note that, under the new House Republican leadership, many of these requirements have significantly changed from prior years.

The City of Malibu will be submitting a Community Project Funding Request FY 25 under Appropriations Account -*Transportation, Housing and Urban Development, and Related Agencies (aka THUD)*

- Department of Transportation (DOT) Highway Infrastructure Projects: Funds capital projects or certain project-specific design eligible under DOT's Surface Transportation programs, including construction, repair, and

replacement of roads and bridges. These funds may be subject to a cost-share requirement.

- Department of Transportation (DOT) Transit Infrastructure Projects: Funds a wide variety of capital projects or certain project-specific planning and design relating to public transit

Active Transportation Program

The Active Transportation Program consolidated various transportation programs into a single program and was originally funded at about \$123 million a year from a combination of state and federal funds. The goals of the ATP include, but are not limited to, increasing the proportion of trips accomplished by walking and biking, increasing the safety and mobility of non-motorized users, advancing efforts of regional agencies to achieve greenhouse gas reduction goals, enhancing public health, and providing a broad spectrum of projects to benefit many types of users including disadvantaged communities.

US Department of Transportation Safe Streets and Roads for All program

Safe Streets and Roads for All (SS4A) Program was established through the Bipartisan Infrastructure Law to fund regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. Awards generally support planning and demonstration activities, as well as projects and strategies to prevent said death and serious injury on roads and streets involving all roadway users, including pedestrians; bicyclists; public transportation, personal conveyance, and micro-mobility users; motorists; and commercial vehicle operators.

Highway Safety Improvement Program

The Highway Safety Improvement Program (HSIP), codified as Section 148 of Title 23, United States Code (23 U.S.C §148), is a core federal-aid program to States for the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. The Division of Local Assistance (DLA) manages California's local agency share of HSIP funds. California's Local HSIP focuses on infrastructure projects with nationally recognized crash reduction factors (CRFs). Local HSIP projects must be identified on the basis of crash experience, crash potential, crash rate, or other data-supported means.

Public Safety Education Campaigns

The initiatives within the Public Education Campaigns include targeted awareness programs, informative materials, and community engagement efforts. These campaigns will focus on educating drivers about speed limits, the presence of pedestrians, and the importance of adhering to traffic regulations. Simultaneously, pedestrians will be informed about safe crossing practices, designated walkways, and the significance of staying vigilant near roadways.

Project	Description	Status
Creation of PCH Safety Webpage	The City of Malibu PCH Safety Webpage is a community hub where residents, visitors and stakeholders can stay up to date on the latest information related to the City’s public safety efforts on PCH.	Completed/Launched
Communication Toolkit	<p>To connect with community through interactive forums, each PCH Safety Development deploys a communication toolkit that consists of:</p> <ul style="list-style-type: none"> Press Release News Flash Video PSA to be displayed on social and peg channel. Graphic creation for social media distribution. 	Ongoing: Average posting is two to three times per week with messaging. Additional content is shared and/or posted by law enforcement partners, and with “breaking news” content. ng

Caltrans Director’s Order - \$4.25 Million

From western terminus of I-10 to Los Angeles/Ventura County Line, the project includes optical speed bars at 10 locations, 13 speed feedback signs at 10 locations, enhanced striping at curves, speed limit placed on roadway pavement (white pavement) markings, restriping crosswalks at 22 locations, replace or add new warning and regulatory signs at approximately 30 locations, install delineators along curves north of Pepperdine University entrance, and updates to traffic signals (loop detector relocation) as needed. A full copy of the Director’s Order identifying locations of the work is incorporated herein as Exhibit A to this report.

[Caltran’s PCH Director’s Order - Fact Sheet](#)

2015 PCH Safety Study - Project List

Within the City of Malibu, State Route 1 (SR-1), also known as Pacific Coast Highway and as PCH, travels for approximately 21 miles and contains 19 signalized intersections. As a State Highway, PCH is controlled, maintained, and operated by the California Department of Transportation (Caltrans). Because of the various land-uses, activity areas, and corridor traffic demands, PCH is congested during peak hours and for peak seasonal uses of the coastline. Vehicle speeds appear to be higher than desirable for safety and resident experience, and traffic collisions have become all too frequent.

Due to high traffic volumes and other factors, the roadway experiences a high number of traffic collisions, approximately one per day. The incidents can result in injuries or death and also can cause the roadway to be frequently closed or congested around collision sites. In response to these concerns, the Southern California Association of Governments (SCAG) implemented a contract for safety studies along the corridor to identify remedies to reduce the frequency and severity of collisions. This study was conducted in two phases by two different study teams.

This final report summarizes, and highlights activities completed under this study which are largely presented in a more comprehensive manner in a series of appendices that are described in this final report. Reviewers more interested in details of these studies are directed to these appendices.

Since the publication of this report, the City of Malibu has initiated 53 of the 130 identified projects. These projects are within the following stages:

Summary of City Project Status	
Planning Stage	6
Design Stage	25
In Construction	15
Completed	7
Total	53

In addition to the City initiated projects, 18 are either in the design stage or completed by Caltrans or Developer projects.

Caltrans Projects	6
Development Projects	12
Total	18

The City is actively working with Caltrans to prioritize the remaining 59 projects and ensure they meet the current and projected public safety infrastructure needs.

City of Malibu Projects	\$ 52,139,719	Current City projects that are in construction, design or in planning stage
Current Funding	\$ 28,049,719	
Additional Funding	\$ 24,090,000	This is an estimate of current funding needs for City design project and projects in the planning stage.

Estimates for Uncategorized Projects		
	\$ 26,142,850	This estimate is for those projects that have yet to be identified.
Total Funding Needed to Complete	\$50,232,850	City is working with State and Federal Agencies to identify additional funding sources.

The 2015 PCH Safety Study is incorporated herein as Exhibit B to this report.

[2015 PCH Safety Study](#)

Contact Us



For questions or more information, please contact the City Manager's Office at the information listed below.

www.malibucity.org/pchsafety

pchsafety@malibucity.org

Phone: 310-456-2489

Exhibit A

Caltrans Director's Order



SAFETY IMPROVEMENTS ON PCH In Malibu, Los Angeles and Santa Monica

To help reach the State of California’s goal of eliminating all traffic-related deaths and serious injuries by 2050, Caltrans is working with state and local partners to increase pedestrian, bicyclist and motorist safety on Pacific Coast Highway (PCH). This multi-faceted approach by state and local government agencies includes roadway improvements and design changes, increased enforcement, and safety education for the traveling public.

While Caltrans works with partners on long-term solutions, the Department has several projects already in the works to address key locations on PCH that see high amounts of traffic from all types of road users.

Speed reduction enhancements and crosswalk upgrades

Location: Between McClure Tunnel (I-10 terminus) and the Ventura County line

(Timing: Anticipated to begin in January and end in April 2024)



One way to encourage slower speeds is with specialized striping and signage that provides visual feedback to motorists. For instance, this project will install 13 electronic speed feedback signs, which flash a warning message in real-time when drivers are going over the speed limit, reminding them to slow down.

In addition, the project will install optical speed bars at 10 locations. These pavement markings are placed along travel lanes in areas where motorists need to prepare to slow or stop, such as when the roadway curves or approaching an intersection. These markings can enhance a driver’s perception of their own speed, causing them to reduce speed.

Other improvements include enhanced lane and crosswalk striping to improve visibility, adding striping to display the speed limit on the roadway’s surface at various locations, adding or replacing regulatory signage and speed limit signs, adding curve warning signs, placing road delineators along certain roadway curves, and updating detectors at intersection signals.

Optical speed bar locations include:

- Northbound (NB) approaching McClure Tunnel
- NB and southbound (SB) approaching Coastline Drive along the curved section by the Getty Villa
- NB and SB along curved sections approaching Topanga Canyon Boulevard
- NB and SB approaching all pedestrian signal crossings between Carbon Canyon and Malibu Pier (5 Pedestrian crosswalks)
- NB and SB approaching Malibu Canyon Road
- NB and SB approaching John Tyler Road
- NB and SB approaching Malibu Seafood Restaurant (Corral Canyon)
- From Winding Way to Via Escondido, at straight and flat segments
- Trancas Canyon Road/Broad Beach Road, where the speed limit changes from 50 mph to 55 mph
- NB & SB at Mulholland Highway

Speed feedback sign locations include (13 total signs at 10 locations):

- SB approaching Bel Air Bay Club (replacing a damaged speed feedback sign)
- SB just south of Carbon Canyon
- SB at Malibu Beach RV Park
- NB & SB approaching Latigo Canyon Road due to slope
- North of Paradise Cove Road, facing NB, before the S-curve
- North of Paradise Cove Road, facing SB after the S-curves
- Approaching the Kanan Dume Road signalized Intersection, prior to the S-curves
- South of Morning View, facing SB, before the S-curve
- NB & SB Decker Canyon Road
- NB & SB at Mulholland Highway

Locations for enhanced lane striping at curves:

- Includes locations where the roadway is scraped by maintenance to clear debris flows at times
At locations where maintenance does not clear roadway with a blade or scraper, striping and retroreflective markers will be installed on the pavement surface
- Some specific locations are:
 - NB & SB approaching Coastline along the curved section by the Getty Villa
 - NB & SB along curved sections approaching Topanga Canyon Boulevard
 - NB & SB south of Carbon Canyon Road
 - Approaching Kanan Dume signalized intersection, prior to the S-curves

Locations and intersections where crosswalks will be restriped or striping will be modified include:

- Big Rock
- Las Flores Canyon Road
- Rambla Pacifico
- La Costa Pedestrian Hybrid Beacon (near La Costa Beach Club)
- Carbon Canyon Road
- Pedestrian signal at postmile 45.56 (between Carbon Canyon and Malibu Pier)
- Pedestrian signal at postmile 45.80 (between Carbon Canyon and Malibu Pier)
- Pedestrian signal at postmile 46.08 (between Carbon Canyon and Malibu Pier, near McDonalds/Nobu)
- Pedestrian signal at Malibu Inn (postmile 46.40, between Carbon Canyon and Malibu Pier)
- Pedestrian signal at Malibu Pier (postmile 46.54)
- Cross Creek Road
- Webb Way
- Malibu Canyon Road
- John Tyler Road
- Corral Canyon Road
- Paradise Cove
- Zumeriz Drive
- Kanan Dume
- Heathercliff
- Busch Drive
- Morning View
- Trancas Canyon Road

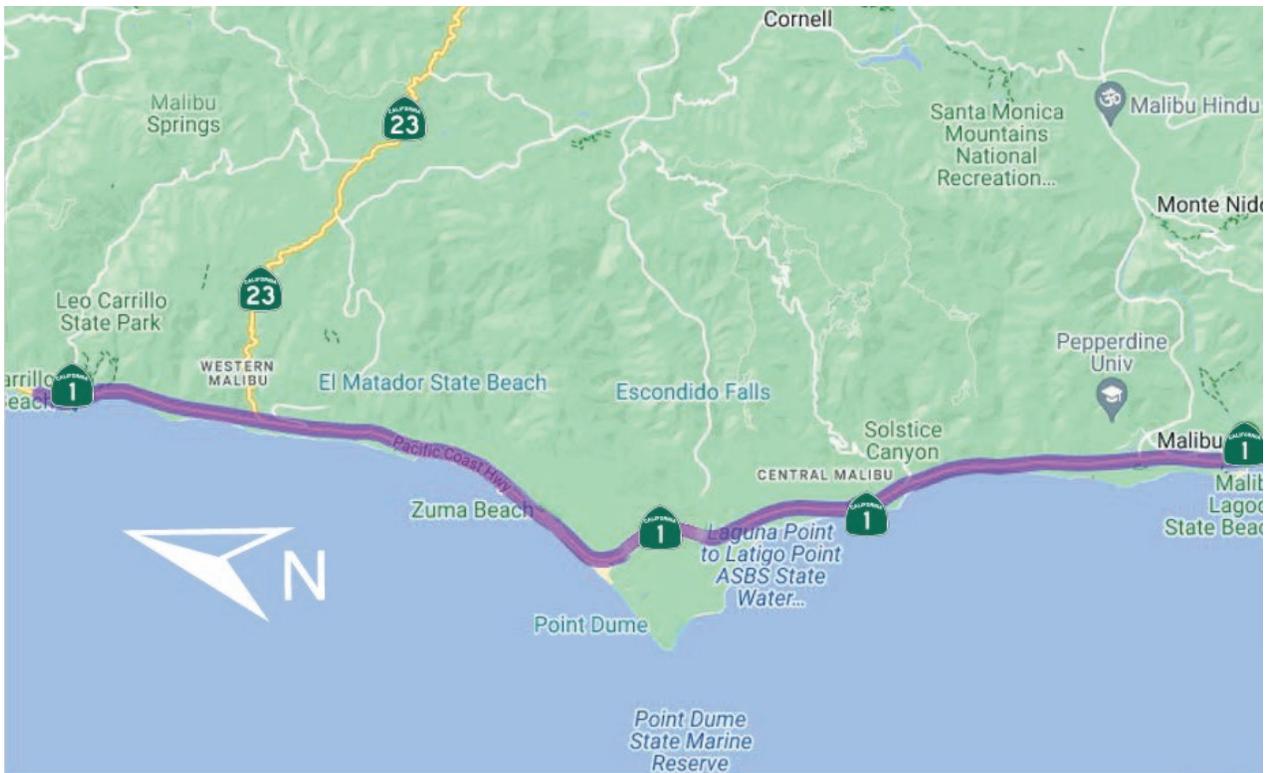
Sign upgrades include:

- 18 new regulatory and bike signs
- 3 new street signs
- Removing 6 roadside signs
- Relocating one roadside sign
- Installing new panels on two signs for lane configuration
- Replacing speed limit signs with new signs to enhance visibility at night, including at locations north of John Tyler Drive (Pepperdine University entrance)
 - Delineators will also be placed at road curves north of John Tyler Drive
- Placement of curve warning signs at approximately four curves

Pavement upgrades, bike lanes and pedestrian access improvements

Location: From Cross Creek Road/Malibu Lagoon to the Ventura County line

Timing: Safety audit to be completed in early 2024 before project moves to design phase



This project proposes to resurface 63.4 lane miles on PCH, extending the service life of the roadway. In addition, the project will upgrade curb ramps to meet Americans with Disabilities Act (ADA) standards and provide pedestrian access enhancements to the bus stop at PCH and Heathercliff Road.

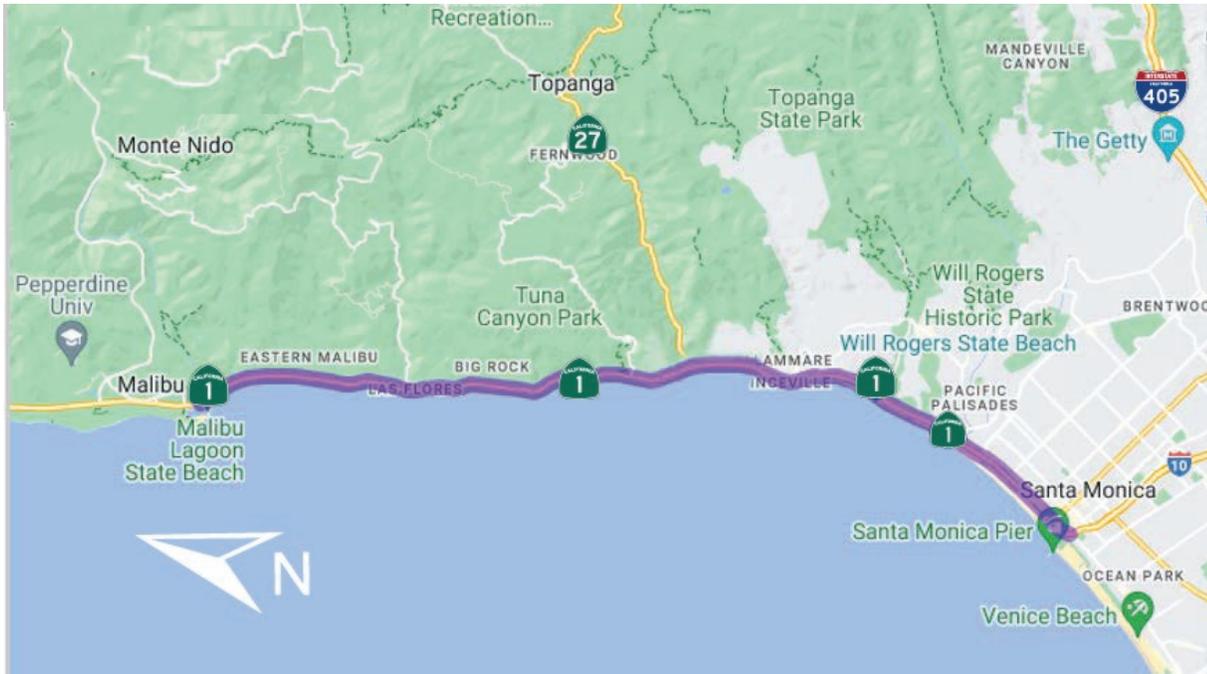
Additional proposed changes include adding bike lanes from near Via Escondido Drive to Busch Drive and from near Malibu RV Park Road to Via Escondido Drive.

Design has not yet been completed, and additional improvements are anticipated to be added to the project.

Pavement rehabilitation, bus pad upgrades

Location: From McClure Tunnel to Cross Creek Road/Malibu Lagoon

Timing: Safety audit to be completed in spring 2024 before project moves to design phase



This pavement rehabilitation project includes upgrading and replacing guardrails, repairing drainage systems, upgrading curb ramps to meet Americans with Disabilities Act (ADA) standards and installing bus pad enhancements.

Design has not yet been completed, and additional improvements are anticipated to be added to the project.

Other minor projects:

Safety Project at Las Flores

The scope of work is as follows: Install protected left-turn signal phasing for southbound PCH to Las Flores Canyon Road, upgrade signal poles and other traffic signal hardware, upgrade advance flashing beacon warning system, and install a speed feedback device.

- **Target completion spring 2024**

Pedestrian signal upgrade north of Carbon Canyon

This project proposes to replace the existing flashing yellow pedestrian beacon with a full pedestrian signal. The scope of the project will include installing signal poles, countdown pedestrian signal heads, restriping the crosswalk, replacing the existing yield lines with limit lines, and replacing all road signs in the vicinity.

- **Target construction start in summer 2024**

Exhibit B

**2015 PCH Safety Study Project
List**

**Pacific Coast Highway Safety
Study: Final Report**

City of Malibu



Prepared for:
City of Malibu
and
Southern California Association
of Governments

May 15, 2015

*This Final Report was accepted by the
Malibu City Council on June 22, 2015*

Sign-off Sheet

This document entitled Pacific Coast Highway Safety Study: Final Report was prepared by Stantec Consulting Ltd. ("Stantec") for the account of the City of Malibu and Southern California Association of Governments (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Reviewed by



(Signature)

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Table of Contents

1.0	INTRODUCTION	1
2.0	EXISTING CONDITIONS	2
3.0	PUBLIC OUTREACH	2
4.0	SAFETY ASSESSMENT	3
5.0	ALTERNATIVES ANALYSIS	5
6.0	PROJECTS PRIORITY AND GROUPING	6
7.0	FUNDING PLAN	7
8.0	CONCLUSION	7

APPENDIX 1 –EXISTING CONDITION REPORT (COMPLETED IN PHASE I BY LSA ASSOCIATES INC)

APPENDIX 2 – CORRIDORWIDE SAFETY ASSESSMENT REPORT (COMPLETED IN PHASE I BY LSA ASSOCIATES INC)

APPENDIX 3 – PUBLIC OUTREACH MATERIALS

APPENDIX 4 – ALTERNATIVES ANALYSIS REPORT

- APPENDIX A – COLLISIONS BY LOCATION
- APPENDIX B – PUBLIC COMMENT SUMMARY
- APPENDIX C – RECOMMENDED PROJECTS LISTINGS
- APPENDIX D – RECOMMENDED INTERSECTION-FOCUSED PROJECT FIGURES AND CORRIDORWIDE RECOMMENDED PROJECTS WITH AERIAL MAPPING
- APPENDIX E – RECOMMENDED MAINTENANCE PROJECTS
- APPENDIX F – RECOMMENDED GROUPINGS OF PROJECTS
- APPENDIX G – PRIORITIZED, RECOMMENDED GROUPINGS OF PROJECTS
- APPENDIX H – FINAL RECOMMENDED PROJECT PRIORITIZATION LIST

APPENDIX 5 – FUNDING PLAN

May 15, 2015

1.0 INTRODUCTION

Within the City of Malibu, State Route 1 (SR-1), also known as Pacific Coast Highway and as PCH, travels for approximately 21 miles and contains 19 signalized intersections. As a State Highway, PCH is controlled, maintained, and operated by the California Department of Transportation (Caltrans).

Because of the various land-uses, activity areas, and corridor traffic demands, PCH is congested during peak hours and for peak seasonal uses of the coastline. Vehicle speeds appear to be higher than desirable for safety and resident experience, and traffic collisions have become all too frequent. Due to high traffic volumes and other factors, the roadway experiences a high number of traffic collisions, approximately one per day. The incidents can result in injuries or death and also can cause the roadway to be frequently closed or congested around collision sites.

In response to these concerns, the Southern California Association of Governments (SCAG) implemented a contract for safety studies along the corridor to identify remedies to reduce the frequency and severity of collisions. This study was conducted in two phases by two different study teams. This final report summarizes and highlights activities completed under this study which are largely presented in a more comprehensive manner in a series of appendices that are described in this final report. Reviewers more interested in details of these studies are directed to these appendices.

Study Background

Starting in 2012, a previous firm, LSA Associates Inc., contracted with SCAG to produce a series of reports quantifying and analyzing the PCH corridor for potential safety improvements. These reports provide comprehensive documentation about existing traffic and safety conditions and provided a series of high level and programmatic recommendations for addressing safety issues in the corridor. These analyses comprise Phase I of the full and complete study process.

At the conclusion of the Phase I of the PCH Safety Study, the City of Malibu reviewed the reports and determined that greater analysis was desirable to closely and precisely identify specific actions that could be undertaken at this time to improve safety and reduce the frequency of collisions. Such actions would include precise and constructible or implementable plans or programs that could be initiated in the near future. These actions would potentially allow for engineering studies to design and construct physical improvements or target measures that do not involve construction.

At the end of 2014, SCAG, in association with the City of Malibu, contracted with Stantec Consulting Services Inc. to complete Phase II of the study. The previous studies done for Phase I are incorporated by reference here. Specific elements of the previous studies, including existing



PACIFIC COAST HIGHWAY SAFETY STUDY: FINAL REPORT

May 15, 2015

traffic information and stakeholder comments and concerns are specifically included as appendices to the Phase II study.

A Project Steering Committee was assembled and led by the City of Malibu for the study. This steering committee consists of key stakeholders representing government engineering and enforcement agencies, organized interest groups, and other appropriate organizations. The Project Steering Committee included representatives from the City of Malibu, the offices of Senator Fran Pavley, Assemblymember Richard Bloom, and County Supervisor Sheila Kuehl, Caltrans, SCAG, Metro, L.A. County Department of Public Works, L.A. County Sheriff's Department, California Highway Patrol, L.A. County Department of Beaches & Harbors, L.A. County Fire Department, Malibu Public Works Commission, Malibu Public Safety Commission, Santa Monica-Malibu Unified School District, Pepperdine University, A Safer PCH, L.A. County Bike Coalition, and the Malibu Chamber of Commerce. A total of five Project Steering Committee Meetings were held over the course of the project. The steering committee met during the course of both study phases to review work products and provide direction.

2.0 EXISTING CONDITIONS

A variety of locations, conditions, and deficiencies were identified in the Draft Existing Condition Report prepared for the Phase I study. This report is defined as **Appendix 1**. The report, completed in February 2013, described PCH's existing mobility and safety setting, based on information obtained from several sources. The City's land use, roadway infrastructure, traffic volumes, collisions, transit, bicycle use, and pedestrian issues were summarized and evaluated. This work included extensive public participation, in which multiple public meetings were held.

All traffic volume data for the analysis was obtained from the February 2013 Existing Conditions Report, including intersection turning movement volumes, pedestrian and bicycle volumes. The 2013 report also contained collision information primarily derived from the UC Berkeley Traffic Injury Mapping System (TIMS). While this data was used to inform the Phase II study, the collision information compiled for the 2013 study was deemed to require update and was more deeply refined to develop project recommendations and alternatives.

3.0 PUBLIC OUTREACH

The public and project stakeholders provided critical feedback in the completion of the previous PCH Safety Study. During Phase I, public meetings were held in September and October 2012 during the initial evaluation phase of the study (**Appendix 1**), in May 2013 during the safety assessment phase (**Appendix 2**), and in August 2013 during the alternatives analysis phase. A total of eight public meetings were held. In addition, the public was given the opportunity to provide comments through an online system.

A public workshop was conducted on February 19, 2015 for the Phase II Safety Study to solicit additional public input and begin to consider suggestions and alternatives based upon the



May 15, 2015

Stantec team's analysis and assessment of conditions. Approximately 50 public participants attended the workshop and provided comments to the Study Team. The comments covered subjects such as bicycle travel, safety of bus stops, Caltrans involvement, collision statistics, engineering measures, enforcement, lighting, cut-through traffic, parking, pedestrians, shoulder improvements, seasonal traffic, and vehicle speeds.

The meeting minutes for the February 19, 2015 public workshop are provided in **Appendix 3**. All public comments received from Phase I and Phase II are summarized for the entire corridor by geographic location. In addition, aerial maps with the comments from Phase I along with field observation notes that were presented at the February 2015 workshop are also provided.

During Phase I, Project Steering Committee Meetings were held in September and November 2012 and in April and July 2013. During Phase II, a Project Steering Committee Meeting was held on April 14, 2015. Comments and questions by the committee covered many of the subjects raised at the public workshop. Additional comments and questions included consideration of residents, funding, maintenance, medians, pedestrian tunnel passageways, the content and timing for the final report document, project priorities, and project specific locations.

A common theme of the public comments was concern that if accommodation for one group of roadway users (motorists, bicyclists, pedestrians) is improved or increased it would negatively impact the usage by other user groups. Another common theme expressed in the comments was that PCH is generally not safe, and that vehicle speeds are excessive. The public's and steering committee's input was utilized in finalizing the analysis and development of a list of recommended projects and policy recommendations for both phase I and II of the study.

4.0 SAFETY ASSESSMENT

During Phase I, LSA Associates Inc. assessed the safety along the project corridor based on the existing conditions. The Corridorwide Safety Assessment Report (**Appendix 2**) defines safety concerns and identifies potential safety issues. A list of potential problems was identified to form the base for subsequent components of the PCH Safety Study.

Safety assessment is strongly dependent upon complete and accurate information on the location and relevant information from reported collisions. Traffic collision data is available in different formats. Reproductions of individual collision reports can be analyzed on both a qualitative and quantitative basis. These reports ultimately are the best source for unique information about each collision, but they do not lend well to assessment of recurring problems or issues unless aggregated into a database that summarizes collisions by location, date, and time, plus categories of collision factors, such as injuries, collision factors, and movements prior to collision. This information allows for greater ability to identify common problems that can point toward effective solutions.



PACIFIC COAST HIGHWAY SAFETY STUDY: FINAL REPORT

May 15, 2015

Collision data for the past three years (2012 through 2014) was obtained from Statewide Integrated Traffic Records System (SWITRS) and the LA County Sheriff Department for the current Safety Study. The data provided from these sources provides much greater information about collision locations and characteristics, but some unique factors about PCH through Malibu pose challenges, especially regarding the precise location of collisions. Collisions are normally located based upon the distance and direction from the nearest intersection. The use of compass distance poses challenges because Caltrans considers PCH to be a north/south route, while it travels almost due east/west through Malibu. The same location can be mapped by some as 1000 feet west of an intersection or by others as 1000 feet north of the same intersection.

Additional challenges can arise from the distance between intersections and the presence of collision hotspots (such as mid-block crosswalks and crossing signals) that are not clearly defined by a single intersection. For these reasons, the Stantec team placed great emphasis upon preparing a clean database for collisions that included information from the SWITRS reports but located all collisions more precisely by a post mile system that is also used by Caltrans for locating improvements and defining points along the route.

Safety concerns were defined and potential safety issues were identified. A total of about 1,000 collisions were reported during the three-year period, with collisions reported along the entire length of PCH through the City. These included 376 injury collisions and 9 fatal collisions. The most common type of collisions were rear end collisions approaching signalized intersections. Collisions involving hitting parked cars and involving left or U-turns were also frequent categories.

Pedestrian collisions were much fewer in number and tended to involve pedestrians crossing PCH away from intersections or crosswalks. Pedestrian collisions almost always result in injuries and pedestrians were involved in a majority of the fatal collisions.

The majority of collisions involving bicycles consisted of the bicycle travelling straight and the vehicle turning across the cyclist's path. There are various places along PCH where there is not satisfactory room for bicyclists to travel on the shoulder due to narrowness or parked vehicles, but this condition did not appear regularly in collisions involving bicycles. These narrow conditions can contribute to collisions that did not directly involve bicyclists, such as lane changes or sudden slowing behind bicyclists that result in rear end collisions between vehicles.

A summary of the collisions and collision factors is contained in **Appendix 4**. This information is contained within a spreadsheet furnished to the City that can be sorted or filtered to do refined analysis by location or collision type.



May 15, 2015

5.0 ALTERNATIVES ANALYSIS

The Alternatives Analysis presents potential solutions and recommendations to improve safety along the PCH corridor. The alternatives analysis is based upon information derived from the collision summaries, information from specific collisions, and strategies that are widely known to be effective for reducing collisions of the type being experienced. For example, when rear end collisions were found to be about 1/3 of all collisions, strategies that are effective for reducing rear end collisions become promising.

Collisions involving fatalities, pedestrians, or bicycles do not tend to reveal concentrations. Measures to reduce the potential for these types of collisions that are more systematic and can be applied at multiple locations are often suggested. An example might be to improve street lighting at a dark uncontrolled intersection where pedestrian crossings may occur, because collisions involving pedestrians occur at this type of location.

Some recommendations are made to bring conditions up to accepted standards to meet legal standards or reduce liability. Improvements for disabled pedestrians are generally required legally when improvements are made for other purposes. These improvements can also improve safety for fully able pedestrians.

The Alternatives Analysis Report (**Appendix 4**) includes recommended alternative improvements that consist of generally buildable projects that would be effective in reducing collisions and injuries or that bring the roadway up to current standards. The corridor is, however, currently in compliance with legal standards. This appendix also includes analysis of the most frequently occurring collision types and an explanation for why the suggested improvements can be effective in addressing the problems noted.

The projects can be separated into four categories:

- Corridor-wide projects
- Projects that can be constructed readily at specific locations
- Complex projects that require further evaluation
- Projects that are primarily maintenance projects.

Over 130 measures are specifically suggested in the Alternatives Analysis report. All except for the more complex projects can potentially be implemented with assistance from Caltrans, but will require design, permitting, and construction. Projects that can be constructed readily must still go through a project-by-project evaluation to insure that they are in compliance with accepted practices and regulations, but their costs can be estimated reliably for budgeting purposes at this time. It should be noted that even the simplest of projects may require 12-24



May 15, 2015

months or more for completion, where procurement of services, design, bidding, and construction is required.

Complex projects generally require further feasibility study because of high and uncertain costs, involvement of multiple parties, the potential for effective alternative improvements to be identified through the analysis process, or feasibility questions. The cost to initiate and complete feasibility studies is suggested. Final construction costs will rely upon the results of the feasibility studies, and alternatives may arise from this process.

Approximately 25% of the recommended projects are classified as maintenance projects. These can be implemented readily and would normally be done by state maintenance forces. These mostly involve restoring sites to their intended condition and can involve replacement of faded signs, trimming of vegetation, or repair of damaged existing facilities. These can also include installation of new traffic signs, where justified.

While complete implementation of the alternatives is expected to improve safety for PCH, the safety improvement process will evolve continuously. Potential improvements that are not listed may emerge in the future or be suggested by stakeholders. The process should continue to be open to future suggestions or to the results of future studies.

6.0 PROJECTS PRIORITY AND GROUPING

Recommended improvements were generally rated to identify a point-based project merit score to allow for ranking by effectiveness, which may be used to guide implementation strategy. The point system placed an emphasis on alleviating existing safety issues (up to 5 points), with additional points for level of community support (up to 5 points), and benefits from congestion relief (up to 3 points). Negative points were assigned to projects based on complexity issues or institutional challenges, such as deviating from normal practices or requiring special permissions. Projects with no negative points are generally considered ready for implementation most readily while projects with negative points have greater uncertainty.

The Alternatives Analysis Report contains a list of recommended projects ordered by total merit score minus constraints. The highest ranked projects generally can be constructed readily and have potential to alleviate conditions contributing to greater numbers of collisions. These projects should potentially be undertaken first based upon funding available and expectation of minimal difficulty of implementation.

The project team generally recommends consideration of implementation or further evaluation of as many of the projects as possible. Some projects may be contingent upon other projects, but most projects have “independent utility” and can be done in isolation or in combination with others.

May 15, 2015

As a result of the ranking process, a prioritized list of recommended projects was developed. These individual projects were then grouped together to produce larger-scale project combinations which will make funding easier to obtain and implement. The projects were grouped based on their locations, scale, and similarities. For example, all projects involving modification of traffic signals located near each other should be grouped together for maximum effectiveness.

Conceptual design and construction costs were assigned to the grouped projects and are presented in **Appendix 4**. Additionally, a list of recommended project groupings sorted by priority is shown in **Appendix 4**.

7.0 FUNDING PLAN

Following approval of the study and recommendations by the City of Malibu, the City anticipates pursuing study recommendations for funding and implementation based largely upon the priority and logical grouping of individual alternatives. The City has already secured funding commitments for many projects. Some of these funding commitments are non-specific and can likely be applied to the project alternatives presented in this report.

Local, county, state, and federal funding sources are summarized in **Appendix 5**. Safety improvements that address existing safety issues often compete well for a variety of funding sources. To the extent that project features are directly connected to safety, project funding should not be difficult to find. Project features that are not as directly tied to safety can be more challenging for funding. These would include projects elements intended for aesthetics, new traffic capacity, or projects where high costs are not in proportion to existing safety issues.

8.0 CONCLUSION

The improvements recommended here are deemed by the Study Team to be the most effective measures for early action to address safety issues and the public's concerns along PCH in the City of Malibu. Other measures not specifically recommended by this study but identified by previous or future studies may also be feasible and effective.

A Public Safety/Public Works Commission Meeting will be held on May 21, 2015 to present and receive comment on the improvements recommended by the Study Team. After that meeting, the list of recommended improvements will be finalized based on input received, and this Draft Final Report will be updated.

The project team has appreciated the opportunity to work with the City of Malibu, SCAG, and Caltrans on this project. We are very confident that the implementation of project measures will produce a measurable decline in the number of collisions and their severity for Pacific Coast Highway and the City of Malibu.

