3.12 Transportation and Traffic

This section focuses on the proposed Project's potential to affect both terrestrial and marine circulation and hazards during construction and operation of the Project. Impacts related to disruption to street parking and changes in air traffic patterns were found to not require analysis in this EIR (see the Initial Study in Appendix A). Also, please refer to Section 3.9, *Land Use and Recreation*, for a discussion of impacts related to use of recreational facilities, including designated pedestrian/bicycle routes and Strand beach access.

3.12.1 Environmental Setting

3.12.1.1 Terrestrial Circulation System

Roadways

The local circulation system in the Cities of Hermosa Beach and Manhattan Beach consists primarily of a network of surface streets that provide access to properties and support the movement of people and goods. There are three classification categories for streets in Hermosa Beach: arterial, collector, and local residential streets (City of Hermosa Beach, 1990). The classification system in Manhattan Beach is similar to that of Hermosa Beach, with Project area roadways within Manhattan Beach classified as "major local." Both cities define their roadway categories as follows (City of Hermosa Beach, 1990; City of Manhattan Beach, 2003).

- **Arterial streets** generally function to move vehicles into and through the city and to serve adjacent commercial land uses. They carry the majority of traffic entering or traveling through the City. A major arterial would contain either four or six lanes of through traffic, plus left-turn lanes; while a minor arterial would typically have four lanes of through traffic and possibly separate left-turn lanes.
- **Collector streets** are intended to carry traffic between residential neighborhoods and the arterial street network. They are generally two-lane roadways, which have a mixture of residential and commercial land uses along them.
- **Local residential** streets are designed to serve adjacent residential land uses only. They allow access to residential driveways and often provide parking for the neighborhood. They are not intended to serve through traffic traveling from one street to another, but solely local traffic.
- **Major local** streets provide circulation within and between residential neighborhoods, generally with a maximum of one lane in each direction and space for curbside parking. Major local streets are designed to discourage longer distance through trips and higher speeds.

The terrestrial transportation environmental setting for the Project includes roadways and pedestrian/bicycle access routes along each proposed terrestrial cable route, as well as those roadways that provide construction vehicle access to the Project work areas. The following discussion describes the road, traffic, and parking conditions on key environmental setting streets, which partially comprise the terrestrial transportation study area. The study area consists of roadway segments directly accessing the proposed and alternative landing sites and the terrestrial cable route alignments. These roadways are shown in Figure 2-1.

Pacific Coast Highway

Pacific Coast Highway (PCH) is under the jurisdiction of the California Department of Transportation (Caltrans) and provides access to adjacent cities north and south of Hermosa Beach. Within Hermosa Beach, PCH is classified as an arterial street serving traffic from residents, businesses, and commuters. Curbside parking is available during off-peak morning traffic hours (outside of 7:00 a.m. to 9:00 a.m.), when parking is prohibited on the east side of the highway. Year 2013 average daily traffic (ADT) volumes on PCH at Pier Avenue/14th Street in Hermosa Beach were 52,500 vehicles per day (Caltrans, 2013). These represent the most recently published ADT on PCH nearest the Project. Recent traffic counts on PCH at Artesia Boulevard/Gould Avenue show morning peak-hour traffic as 2,214 vehicles northbound on PCH between 8:00 a.m. and 9:00 a.m.; with afternoon peak-hour traffic as 1,513 vehicles southbound on PCH between 4:30 p.m. and 5:30 p.m. (Hermosa Beach, 2015a).

Gould Avenue (Hermosa Beach)

Gould Avenue begins at PCH directly west of Artesia Boulevard and runs westward to 27th Street in Hermosa Beach. The segment of Gould Avenue near PCH is 80 feet wide curb-to-curb and has two lanes in each direction, plus a raised median. Gould Avenue narrows to 46 feet wide (curb-to-curb) approximately 600 feet west of PCH. This segment has one lane each way plus a two-way left-turn lane and curb parking on the south side of the street. West of Ardmore Avenue, Gould Avenue narrows further to 24 feet, with one lane in each direction. The segment west of PCH has curbed parking on the south side of the street.

Hermosa Avenue (Hermosa Beach)

North of 14th Street, Hermosa Avenue is a collector street. Hermosa Avenue is approximately 87 feet wide with two lanes in each direction divided by a concrete island. Metered parking is available along both outside curbs as well as along both sides of the raised median until 27th Street, where parking is allowed only along the outside curbs.

Longfellow Avenue (Hermosa Beach)

Longfellow Avenue is classified as a local street serving adjacent residential land uses only. The portion of Longfellow Avenue traversed by the proposed Project is approximately 1,600 feet long and has two lanes. Along this segment, the roadway is approximately 30 feet wide, with parking available on both sides of the street.

25th Street (Hermosa Beach)

25th Street is designated as a collector street with one lane in each direction and curbside parking allowed where the street width is sufficient to support both moving traffic and parking lanes. It is approximately 27 feet wide and primarily supports residential transportation.

1st Street (Manhattan Beach)

1st Street is classified as a local street, with one lane in each direction. It runs east–west and has a posted speed limit of 25 miles per hour (mph). Parking is generally allowed on each side of the street.

2nd Street (Manhattan Beach)

2nd Street is classified as a major local street, with one-lane in each direction. It runs east–west and provides circulation within and between residential neighborhoods. The speed limit on 2nd Street is 25 mph and curbside parking is generally allowed on both sides of the street.

Manhattan Avenue (Hermosa Beach and Manhattan Beach)

In Hermosa Beach, Manhattan Avenue is a north–south two-way collector street (27th Street to the northern city limit). In Manhattan Beach, it is classified as a major local street. In each jurisdiction, curbside parking is allowed where the street width is sufficient to support both moving traffic and parking lanes. The speed limit is typically 25 mph, with pedestrian crossings at each block.

Level of Service

Terminology

Level of service (LOS) is a qualitative indicator used for describing the performance of a roadway segment or intersection operating conditions. It is measured from LOS A (excellent conditions) to LOS F (extreme congestion), with LOS A through D considered to be acceptable. The LOS is based on the intersection capacity utilization (ICU) methodology value, which is a comparison of the traffic volume to the overall capacity (V/C). The relationship between the V/C value and the level of service at is shown in Table 3.12-1.

Table 3.12-1. Relationship Between Volume/Capacity Values and Levels of Service

V/C Value	LOS
0.00 to 0.60	A
> 0.60 to 0.70	B
> 0.70 to 0.80	C
> 0.80 to 0.90	D
> 0.90 to 1.00	E
> 1.00	F

Source: FHWA, 2015

Roadway Segment LOS

The existing roadway characteristics for the study area were provided above. Table 3.12-2 provides current operating characteristics and LOS for study area road segments, as available. The data does not include all study area roadway segments because data is currently unavailable. However, the data presented in Table 3.12-2 represents the most currently available traffic counts and is considered representative of current conditions on study area roadways.

Table 3.12-2. Study Area Roadway Characteristics and Existing LOS Conditions

Roadway	Project Use	Lanes	ADT	Capacity[1]	V/C	LOS
Artesia Blvd (PCH to Prospect Ave)	Truck Route	4	26,400	30,000	0.88	D
Gould Ave (Ardmore Ave to PCH)	Truck Route	4	13,300	30,000	0.44	A
Hermosa Ave (27th St to 16th St)	Truck Route	4	8,400	18,000	0.47	A
Ardmore Ave (16th St to 11th St)	Cable Route	2	4,200	9,000	0.47	A
Ardmore Ave (8th St to 2nd St)	Cable Route	2	3,000	9,000	0.33	A
Valley Dr (Gould Ave to Pier Ave)	Cable Route	2	5,000	9,000	0.56	A
Valley Dr (Pier Ave to 8th St)	Cable Route	2	6,500	9,000	0.72	C
Pier Ave (Hermosa Ave to Valley Dr)	Cable Route	4	13,400	18,000	0.74	C

[1] Assumes capacity of 15,000 for a 2-lane arterial and 9,000 for a 2-lane collector.

Source: City of Hermosa Beach, 2014

Intersection LOS

Table 3.12-3 provides current operating characteristics and LOS for study area intersections, as available. The data does not include all study area intersections because data is currently unavailable. However, the data presented in Table 3.12-2 represents the most currently available and is considered representative of current conditions on study area intersections.

Table 3.12-3. Study Area Intersection Characteristics and Existing LOS Conditions

Intersection	Project Use	Control	A.M. Peak Period		P.M. Peak Period	
			V/C or Delay	LOS	V/C or Delay	LOS
Artesia Blvd & PCH	Truck Route	Signal	1.25	F	0.83	D
Artesia Blvd & Prospect Ave	Truck Route	Signal	0.57	A	0.68	B
Valley Dr & Pier Ave	Cable Route	AWSC	12.3 sec	B	20.1 sec	C
Ardmore Ave & Pier Ave	Cable Route	AWSC	12.2 sec	B	17.1 sec	C
Valley Dr & 11th St	Cable Route	AWSC	7.8 sec	A	9.2 sec	A
Valley Dr & 8th St	Cable Route	AWSC	9.3 sec	A	11.9 sec	B

AWSC: All way stop controlled.
Peak Periods are 7-9 a.m. and 4-6 p.m.
Source: City of Hermosa Beach, 2014

Pedestrian and Bicycle Transportation

Pedestrian and bicycle activity occurs along all study area roadways, with particular emphasis on all study area roadways except PCH that provide direct access and dead-end at beach areas (refer to Chapter 2.0, Project Description, Figure 2-1, which shows study area roads [which consists of roadway segments directly accessing the proposed and alternative landing sites and the terrestrial cable route alignments]). The Strand contains paved designated bicycle and pedestrian paths, which run parallel with the coastline and Hermosa Avenue. Furthermore, designated bicycle and pedestrian paths are located within the recreational greenbelt running between and parallel to Valley Drive and Ardmore Avenue (refer to Figure 2-1).

Public Transportation

Public transit in Hermosa Beach and Manhattan Beach consists of bus routes that function locally and link to light rail stations in Los Angeles. The Beach Cities Transit (BCT) and the Los Angeles County Metropolitan Transit Authority (MTA) operate the bus system. BCT Bus Route 109 and the LA Department of Transportation Commuter Express Route 438 travel north along Hermosa Avenue, Manhattan Avenue, and Highland Avenue to the residential and commercial areas of Hermosa Beach, Manhattan Beach, and El Segundo seven days per week. MTA Route 232 runs along PCH and terminates at the Los Angeles International Airport City Bus Center. The MTA Route 130 runs along Manhattan Avenue, Pier Avenue, PCH, and Artesia Boulevard. The Metro Green Line is a light-rail transit line that runs along the Glenn Anderson Freeway (Interstate 105) and extends south through El Segundo to the north end of Redondo Beach. The last station of the Green Line is located at the intersection of Marine Avenue and Redondo Beach Avenue near the San Diego Freeway (Interstate 405) approximately two miles northeast of Hermosa Beach.

3.12.1.2 Marine Navigation

The following section concerns the marine portion of the Project, specific to the impacts to marine traffic and navigation safety. Specifically this refers to the following:

- SEA–US cable system – Southeast Asia to the United States (Phase 1)
  Marine and terrestrial fiber-optic cable, ground cable, and power cable
  4 x Marine directional bores (beach to 4000 feet offshore)
- China-US cable system – (Phase 2)
  Marine and terrestrial fiber-optic cable, ground cable, and power cable
  (will utilize directional bore installed in Phase 1)
- Unknown – (Phase 3 – 2017-2020)
  Marine and terrestrial fiber-optic cable, ground cable, and power cable
  (will utilize directional bore installed in Phase 1)
- Unknown – (Phase 4 – 2020-2025)
  Marine and terrestrial fiber-optic cable, ground cable, and power cable
  (will utilize directional bore installed in Phase 1)

Marine components of the Project include the fiber-optic cables and the marine portions of the directional bores. The marine portion of the directional bores is defined to be from the mean high water mark (MHWM) to the edge of the Continental Shelf (water depth approximately 5,904 feet (1,800 m). Further details on the tasks to be completed as part of the pre-construction, construction, operational and decommissioning of the marine portions of the Project can be found in Chapter 2 (Project Description).

The marine portion of the Project is described to be from the MHWM seaward to the outer limit of U.S. Territorial Seas, defined to be the 12-nautical mile mark with reference to navigation. The Federal Fisheries and outer limit of the State jurisdiction is defined to be “the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles.”

The U.S. end of the fiber-optic cables and the marine portions of the directional bores will be located in Santa Monica Bay. Santa Monica Bay is a bight in the Pacific Ocean in Southern California. From a marine navigation perspective, it is located northeast of the San Pedro Channel traffic separation scheme. The Bay is characterized by generally shoreline parallel bathymetry out to the approximate -50 feet contour, intersected by two submarine canyons, the Redondo and Santa Monica Canyon, exhibiting depths in excess of 100 feet.

Nearshore area

Los Angeles County code does not allow motorized or non-motorized vessels within 300 yards (274 meters) of the shoreline (defined to be mean high water [MHW]). Los Angeles County lifeguards and the U.S. Coast Guard (USCG) are responsible for enforcing this code. The lifeguard headquarters station is on the beach south of the Hermosa Beach Pier. The USCG is stationed to the north in Marina Del Rey and patrol 300 miles between Morrow Bay and Dana Point. It is expected, given the proximity of King Harbor and Marina Del Ray, that non-reporting motorized and non-motorized pleasure craft are a regular feature immediately outside of the 300-yard limit.

The larger Santa Monica Bay contains a number of navigation features, as tabulated in Table 3.12-4 below.

Marine traffic outside of the immediate nearshore consists of commercial vessels using the anchorage areas. Transit routes are likely to be from the traffic separation scheme to the anchorage and back out again.

Table 3.12-4. Navigation Features in Santa Monica Bay

Feature	Description	Reference
Existing submarine cables	TyCom – perpendicular to beach. Assumed to be partially buried, landfall at Hermosa Beach	Nautical Charts 18748, 17840 & 18744
	Global West – perpendicular to the beach diverging north and south, landfall at Manhattan Beach	
Hermosa Beach Municipal Pier	750 feet from MHW	
Manhattan Beach Pier	650 feet from MHW	
Pilot Boarding Area	Commercial vessels and pilot boats transiting to/from the Pilot Boarding Area	
Commercial anchorages (ES-1 & ES-2)	Commercial vessels transiting to/from the anchorages [1] vessels under anchor swinging with tide	
Safety Zone	Submerged sewers extending seaward from El Segundo	
Exploratory survey & drilling operations in the vicinity of the Southern California Traffic Separation Scheme	Chart notes	
Uncharted submarine pipelines and cables in the vicinity of oil well structures	Chart notes	
Fishing vessels between King Harbor and Marina Del Ray	Chart notes	
Pleasure craft transiting from Marina del Ray & King Harbor along the coast	Chart notes	

Santa Monica Basin and San Pedro Channel

Commercial marine traffic movements outside of Santa Monica Bay are largely dictated by the Traffic Separation Scheme indicated on nautical charts – northbound running southeast to northwest and southbound running northwest to southeast, divided by a separation zone. The intention of traffic separation zones is to aid in the prevention of collisions at the approaches to major harbors and/or heavily transited coastal waters. The separation zone between the lanes should be free of marine traffic and used only for crossing purposes. The Traffic Separation Scheme in this area runs from Santa Barbara inshore of the Channel Islands and Catalina Island, terminating at the regulated navigation area immediately offshore of the Ports of Los Angeles and Long Beach (POLA/POLB). Traffic Separation Schemes are enforced by the USCG.

Both the POLA and POLB have cruise terminals, scheduled ferries running to and from Catalina Island, and seasonal whale-watching cruises. The large cruise ships are required to use the traffic separation scheme when traversing Santa Monica Bay. The ferries have designated routes and are not expected to deviate far from them. The whale-watching tours are not typically focused in Santa Monica Bay and run on a schedule.

Smaller fishing and pleasure craft are expected to avoid the traffic separation scheme crossing only on dedicated voyages.

3.12.2 Regulatory Setting

3.12.2.1 Federal

Terrestrial Transportation

No applicable federal regulations were found applicable to the proposed Project with respect to terrestrial transportation.

Marine Transportation

The Code of Federal Regulations (CFR) consists of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government. Federal regulations governing marine navigation and navigable waters are covered by 33 CFR Volumes 1 through 3, otherwise referred to as Parts 1-399, (Parts 400-499 concern the Great Lakes region of the Saint Lawrence Seaway and are, therefore, not applicable for this Project). 33 CFR 1-399 are implemented and enforced by the USCG and the US Army Corps of Engineers. The regulations contained in 33 CFR 1-399 include vessel operating regulations, use of anchorages, marine pollution, and activities in the outer continental shelf area. Federal regulations governing shipping are covered by 46 CFR Parts 1-399, implemented and enforced by the USCG and Department of Transport, Maritime Administration. Specifically, CFR Title 33, Chapter I, Subchapter P, Part 161 defines the purposes and intent of the Vessel Traffic Services (VTS). VTS in Los Angeles/Long Beach are jointly operated by the USCG and the Marine Exchange of Southern California.

The marine transportation limits of this assessment, defined to be from the mean high water mark seaward to the outer limit of U.S. Territorial Seas, 12 nautical miles, are within the jurisdiction of the Eleventh Coast Guard District, Sector Los Angeles-Long Beach Marine Inspection Zone. The USCG is responsible for maritime safety. Broadcast Notice to Mariners are made by the USCG containing important navigational warnings such as reports of deficiencies and changes to aids to navigation, the positions of derelict vessels, and other important hydrographic information. Local Notice to Mariners (LNM) are published weekly and are used to report changes and discrepancies to aids to navigation, channel depths, naval operations, regattas, etc., which may affect vessels and waterways. Reports of channel conditions, obstructions, menaces to navigation, danger areas, new chart editions, etc., are also included in the LNM.

The USCG publishes a Navigation Rules and Regulations Handbook. This document is a compendium of international and U.S. applicable regulations pertinent for waterway users. All U.S. flag vessels are ratified to the rules contained in this handbook, including the provisions of the International Navigational Rules Act of 1977 (Public Law 95-75, 91 Stat. 308, or 33 USC 1601–1608). The Rules define a “vessel engaged in laying, servicing or picking up a navigation mark, submarine cable or pipeline,” as being “restricted in her ability to maneuver.” To this extent, a cable-laying vessel is given special compensation such as exemption from complying with certain rules to the extent necessary to carry out the operation she is engaged in. She is also required by the Navigation Rules to display the appropriate lights and shapes (defined by Rule 27), or sound signals in the case of restricted visibility. Other power-driven (or sailing) vessels are required by the Rules to “keep out of the way of” a vessel restricted in her ability to maneuver. The Rules stipulate the steering and sailing use of Traffic Separation Schemes for all vessels and exemption from the Rules. Further information of the applicable Traffic Separation Scheme in the vicinity of the Project is provided in Section 3.12.1.2.

All vessels engaged in the Transpacific Fiber-Optic Cable Project must comply with the requirements described above.

Section 24 of Title 47, Telecommunications, states under clause "Vessels laying cables; signals; avoidance of buoys," if the master of any vessel does not withdraw to or keep at a distance of at least one nautical mile; or the master of any vessel that seeing or being able to see buoys intended to mark the position of a cable when being laid or when out of order or broken, does not keep at a distance of at least a quarter of a nautical mile, he or she will be guilty of a misdemeanor. Upon conviction, he or she may be liable to imprisonment for a term not exceeding one month, or to a fine of not exceeding $500. Section 25 further prohibits fishing vessels from deploying nets or other implements at the same distances stated above.

3.12.2.2 State

Terrestrial Transportation

California Vehicle Code, division 2, chapter 2.5; div. 6, chap. 7; div. 13, chap. 5; div. 14.1, chap. 1 & 2; div. 14.8; div. 15 (DMV, 2015) includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials (including fuels).

Caltrans Guide for the Preparation of Traffic Impact Studies (TIS)

The following criterion are a starting point in determining when a TIS is needed (Caltrans 2002):

1. Generates over 100 peak-hour trips assigned to a State highway facility.
2. Generates 50 to 100 peak-hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. Generates 1 to 49 peak-hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F").

The only applicable Caltrans roadway is PCH. As discussed below in Section 3.12.3.3, the proposed Project would not exceed these peak-hour trip generation thresholds on PCH. The Project is expected to generate a maximum of 80 daily trips (50 trucks and 30 passenger vehicles) during peak construction. These daily traffic volumes would not exceed any of the thresholds identified above. Once operational, the Project would generate negligible daily trips. Therefore, a separate full TIS analysis was not warranted or prepared for the Project. However, the Project would include temporary disruption to PCH. The analysis provided in Section 3.12.3.1 addresses impacts from temporary travel lane disruptions.

Marine Transportation

Within California, the Harbors and Navigation Code governs "Navigable waters" defined to be waters that come under the jurisdiction of the U.S. Army Corps of Engineers. Specifically, this refers to the State's three nautical miles (from MHW) jurisdictional limit.

As mentioned under Federal regulations, the VTS are provided by a joint venture between the USCG and the Marine Exchange of Southern California. The USCG Marine Exchange provide traffic monitoring and reporting through three sectors, the San Pedro Channel/Santa Monica Bay and the

POLA/POLB. The Transpacific Fiber-Optic Cables Project lies within the San Pedro Traffic sector (25 nm from Pt. Fermin to the Federal Breakwater), referred to as San Pedro Traffic. Any vessel associated with the Project must report through San Pedro Traffic.

3.12.2.3 Local

Terrestrial Transportation

Los Angeles County Metropolitan Transportation Authority (Metro)

As the Congestion Management Agency for Los Angeles County, Metro is responsible for implementing the Congestion Management Program (CMP) for the County. The CMP addresses the impact of local growth on the regional transportation system. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program and local conformance for all the County's jurisdictions (Metro, 2010). A review found no specific goals or policies applicable to the proposed Project.

City of Hermosa General Plan Circulation Transportation and Parking Element

The City of Hermosa Beach Circulation Element contains goals and policies that encourage the use of alternative modes of transportation. The Element's policies also guide and promote the provision of adequate parking and transportation improvements. A review found no specific goals or policies applicable to the proposed Project.

City of Manhattan Beach General Plan Infrastructure Element

The City of Manhattan Beach Infrastructure Element was updated in 2003 and includes goals and policies for a balanced transportation system; increasing level of service; supporting alternative mobility options such as transit, walking, and bicycling; enhancing transit service; and maintaining truck routes. The goals and policies outlined are typically implemented with planned capital improvement projects and project development fees. A review found no specific goals or policies applicable to the proposed Project.

City of Hermosa Beach Municipal Code

Traffic along the beach and The Strand is also regulated. Chapter 12.20 of the City of Hermosa Beach's Municipal Code prohibits motorized traffic on both. The ordinance states the following (Hermosa Beach, 2015b):

- **12.20.220 Motorized Bicycles and Motor Vehicles.** No pedal-powered motorized bicycle, or motorized vehicle of any kind other than those used for the purpose of protecting life or property, shall be ridden, pedaled, walked, carried onto or otherwise enter any portion of The Strand walkway or beach at any time. A violation of this section shall be an infraction.

Marine Transportation

Los Angeles Country Code prohibits boating within 300 yards of the shore. The only exception to Chapter 17.12 applicable to the Project is Clause B: "when necessary due to an emergency aboard the vessel." Any vessel associated with the Project is subject to the Beaches section of the Los Angeles County Code.

3.12.3 Impact Analysis

3.12.3.1 Methodology/Approach

Terrestrial Transportation

This section evaluates impacts associated with the addition of temporary and permanent vehicle trips to the local circulation network, temporary disruptions to lanes and pathways during construction, access restrictions, disruption to emergency vehicle access flow, disruptions to public transportation generated by the proposed Project and hazards to motorists and pedestrians/bicyclists.

Existing transportation conditions were used as a baseline to identify impacts associated with Project implementation. The significance thresholds identified below are evaluated based on their potential to be triggered during construction and operation/maintenance of the proposed Project. The analysis considered accessibility for emergency operations, private residences, and public spaces, as well as traffic flow disturbances or obstructions in the vicinity that would result from the proposed Project.

Marine Navigation

Existing marine transportation routes and practices were used as a baseline against which potential impacts associated with Project implementation were evaluated. The assessment considered marine traffic flow disruption, navigational safety and potential obstructions, permanent or temporary that could occur as a result of the proposed Project.

General information on traffic flow, including local navigation features and restrictions, was considered. Detailed information on marine traffic including Automatic Identification Systems (AIS) data and VTS records was not used in the impact analysis. AIS electronically identifies a ship using data transmitted to shore stations by VHF radio. International Maritime Organization (IMO) made adoption of the AIS requirements for ships over 300 gross tons mandatory by the year 2003. San Pedro Traffic records marine traffic movements at specific points within their jurisdiction and provides advice to marine traffic on speed, destination, navigable areas, and other marine traffic in the area.

Given the volume of commercial and recreational marine traffic present in the jurisdictional boundaries of the Marine Exchange of Southern California, a numeric marine traffic survey is not deemed necessary. With over 8,000 commercial vessel transits (refers to a ship call either inbound or outbound) per annum to the POLA and POLB, the percentage increase in marine traffic as a result of the proposed Project would be negligible. Similarly, the number of recreational marinas and pleasure craft close to the Project site limits the effectiveness of a numerical assessment.

The assessment of impacts focuses on safety and disruption.

3.12.3.2 Significance Thresholds

Terrestrial Transportation

An impact related to traffic or transportation would be considered significant if the Project would:

- Cause a temporary increase in vehicle trips resulting in an unacceptable reduction in the performance (Level of Service) of roadways or intersections affected by the Project.

- Temporarily restrict access to or from adjacent land uses during construction such that there would be no suitable alternative access.
- Restrict the movements of emergency vehicles such that there would be no reasonable alternative access routes available.
- Disrupt bus transit service such that there would be no suitable alternative routes or stops.
- Impede pedestrian/bicycle movements such that there would be no suitable alternative pedestrian/bicycle access routes.
- Increase hazards due to a design feature or incompatible uses or otherwise result in unsafe conditions on public roads.

Marine Navigation

An impact related to marine transportation would be considered significant if the Project would:

- Restrict the movements of coastguard or lifeguard vessels such that there would be no reasonable alternative access routes available.
- Create a navigational hazard to marine traffic due to project vessels in the marine area.
- Require a change in regional VTS, existing navigation aids, or other established marine traffic systems in the Los Angeles/Long Beach area during cable installation.
- Result in a condition that presents a long-term impediment to marine traffic post-construction.
- Cause an increase in the risk of vessels in the study area running aground or striking floating or submerged debris resulting from either the construction or permanent works.

3.12.3.3 Impacts and Mitigation Measures

The impact discussions below address each of the significance thresholds listed above in Section 3.12.3.2.

Vehicle Trip Increases and Reduction in Performance of the Circulation System

Impact TT-1: Project traffic volumes or temporary road or travel lane closures would affect traffic flow and create congestion.

Some construction activities would be adjacent to the City of Manhattan Beach boundary. Additionally, construction truck traffic would likely occur along Manhattan Avenue, which is part of the circulation system in Manhattan Beach. Any traffic delays or congestion may affect roadways in Manhattan Beach. Therefore, mitigation to reduce impacts to the performance of the circulation system include both the Cities of Hermosa Beach and Manhattan Beach.

Trip Generation

Construction activities are anticipated to occur intermittently over a period of several years between 2016 and 2025, and would generate short-term temporary increases in construction-related traffic volumes. Daily passenger vehicle trips would be generated by worker commutes and construction would include truck trips during the workday for the delivery of equipment and materials, movement of cut-and-fill material, watering for dust control, concrete delivery, disposal of waste, and other various construction needs.

During peak construction, a maximum of 15 daily route-trips (30 total trips) would be expected to occur from construction worker commutes. As discussed in Section 2.4.2.11 within the Project Description, construction workers would be shuttled from a location away from the beach or central City of Hermosa Beach areas. Therefore, because these are temporary passenger vehicle trips that would not occur along main arterials within the City, these trips are not expected to temporarily increase ADT volumes and are not analyzed further.

During peak construction, maximum construction overlap occurs for two days during Phase 1 with the following work tasks all overlapping: terrestrial construction, subsurface boring, manhole installation, marine HDD, and PFE facility site preparation. During this two-day period, trucks delivering materials and equipment to the work sites are expected to generate a maximum of 20 daily route-trips (40 total trips). Therefore, 40 trips per day represents the maximum (worst-case) daily truck traffic volumes for analysis. It should be noted, this construction overlap scenario would only occur tor two-days, with normal daily truck traffic volumes being much less.

Roadway Segment and Intersection Level of Service

To analyze potential capacity impacts, the maximum addition of 40 daily truck trips was added to the roadway segments and intersections along the truck haul route shown in Figure 3.12-3. Table 3.12-5 provides the LOS with maximum daily truck traffic added to affected haul route roadway segments where existing ADT volumes were available (refer to Table 3.12-2). As show, the addition of 40 daily truck trips would not diminish roadway LOS over existing conditions.

Table 3.12-5. With Project - Study Area Roadway LOS Conditions

	Existing Conditions		With Project Maximum Daily Construction Truck Trips[1]			
Roadway	V/C	LOS	ADT	Capacity	V/C	LOS
Artesia Blvd (PCH to Prospect Ave.)	0.880	D	26,460	30,000	0.882	D
Gould Ave (Ardmore Ave to PCH)	0.443	A	13,360	30,000	0.445	A

[1] A passenger car equivalent (PCE) of 1.5 was used for truck trips.

Table 3.12-6 provides the LOS with maximum daily truck traffic added to affected haul route intersections where existing LOS was available (refer to Table 3.12-3). With respect to peak-hour truck traffic, it is assumed that a worst-case of 15 truck trips would occur during the morning and afternoon peak periods, with the remaining 10 daily truck trips occurring between the peak periods. As show, the addition of 15 daily truck trips during each peak period would not diminish intersection LOS over existing conditions.

Table 3.12-6. With Project - Study Area Intersection LOS Conditions

	Existing Conditions				With Project Maximum Daily Construction Truck Trips[1]			
	A.M. Peak Period		P.M. Peak Period		A.M. Peak Period		P.M. Peak Period	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
Artesia Blvd & PCH	1.25	F	0.83	D	1.25	F	0.83	D
Artesia Blvd & Prospect Ave.	0.57	A	0.68	B	0.57	A	0.68	B

[1] A passenger car equivalent (PCE) of 1.5 was used for truck trips.

Because the roadway segment (Artesia Boulevard between Pacific Coast Highway and Prospect Avenue) operates at LOS D and one intersection (Artesia Boulevard and Pacific Coast Highway) operates at LOS or below during the peak periods and would be utilized by Project-related trucks, Mitigation Measure TT-1a (*Construction Traffic Control Plan*) requires the preparation of a specific Construction Traffic Control Plan for the Project, which would be reviewed and approved by the City of Hermosa Beach, City of Manhattan Beach, Caltrans, and all other affected jurisdictions. This plan requires the project applicant to provide feasible ways to reduce construction-related trips during peak traffic periods (6:00 to 9:00 a.m. and 3:30 to 6:30 p.m. Monday through Friday). With the incorporation of this mitigation, impacts from temporary construction-related vehicle trips to the performance of Project area roads would not be significant (Class II).

Once operational, no routine maintenance is planned for the terrestrial segments of the cable network. These cables typically operate for 25 years without maintenance. Therefore, operation of the Project would require no truck trips and a negligible number of daily passenger vehicle trips (less than 2) for PFE inspection. Therefore, daily vehicle trip volumes from operation and maintenance of the Project would have a less-than-significant effect on the performance of the circulation system (Class III).

Congestion Management Plan

Both Interstate 405 and Pacific Coast Highway, which provides regional access to the Project area, are part of the Los Angeles County Congestion Management Program. The highest volumes of traffic associated with the Project are during construction. As discussed above, during the peak periods, construction would generate a worst-case scenario of 45 total vehicle trips, which is comprised of 15 employee commute trips and 20 truck trips. As this peak-hour traffic volume is less than the threshold of 50 trips per peak period specified in the Los Angeles County Congestion Management Program for requiring a traffic impact study, the impacts of Project generated traffic would not be significant and no mitigation would be required (Class III).

Temporary Road or Travel Lane Disruption

In the event beach locations are selected for marine directional bores, no road closures would be necessary. However, the optional directional bore and beach manhole placement sites at Longfellow Avenue and 25th Street would be constructed in street right-of-way (ROW) and would require the closure of approximately one city block at the optional locations shown in Figure 2-1. Construction of landing manholes at these locations would also require temporary roadway disruptions.

Along the cable routes shown in Figure 2-1, intermediate manholes would be constructed at intervals of approximately 1,200 feet to 2,500 feet. While the specific location of intermediate manholes is not known, cable conduit installation, trenching, and manhole construction at each location would temporarily disrupt traffic in Hermosa Beach. Activities around each manhole site, such as the laydown of equipment and material, would encompass approximately 1,000 square feet (RAM, 2014). Cable pulling activities would require occupation of one lane of traffic for approximately 40 feet (RAM, 2014). Although temporary, construction activities within public ROW along the cable routes would require travel lane closures and traffic delays would occur. The impacts to traffic and parking would be similar to the impacts that routinely occur during street maintenance activities or utility repair projects.

While no additional traffic volumes would be added to roadway segments that could diminish the existing LOS (refer to Table 3.12-2), temporary roadway disruptions during terrestrial cable

installation may temporarily increase study area intersection delay times over existing conditions (refer to Table 3.12-3). To reduce impacts to the performance of the circulation system from temporary travel lane or road closures during construction, Mitigation Measure TT-1a is proposed and requires the preparation of a detailed Construction Traffic Control Plan for the Project. The plan would address all means to minimize temporary impacts to traffic flow from roadway disruptions. With the incorporation of this mitigation, impacts from temporary disruptions to the affected circulation system would be reduced to a less-than-significant level (Class II).

Once operational, no routine maintenance is planned for the terrestrial segments of the cable network. These cables typically operate for 25 years without maintenance. Therefore, operation of the Project would have no impacts related to roadway disruptions.

Mitigation Measures

TT-1a **Construction Traffic Control Plan**. Prior to the start of construction, the project applicant shall submit a Construction Traffic Control Plan for review and approval by the City of Hermosa Beach, the City of Manhattan Beach (for affected roadways only), Caltrans (for Pacific Coast Highway only), and all agencies with jurisdiction over public roads and transportation facilities that would be directly affected by the construction activities and/or would require permits and approvals. The Construction Traffic Control Plan shall include, but not be limited to:

- The locations and use of flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc. according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Joint Utility Traffic Control Manual.
- The locations of all road or traffic lane segments that would need to be temporarily closed or disrupted due to construction activities.
- Methods to reduce temporary traffic delays to the maximum extent feasible and prohibit delivery of construction materials during peak traffic periods (6:00 to 9:00 a.m. and 3:30 to 6:30 p.m. Monday through Friday, or as directed in writing by the affected public agency in encroachment or other permits). This should also include feasible ways to avoid construction-related trips during peak traffic periods.
- Methods to comply with all specified requirements within necessary surface transportation permits or agreements, including but not limited to encroachment permit(s) from all affected jurisdictions.
- Plans to provide written notification to property owners and tenants at properties affected by access restrictions to inform them about the timing and duration of obstructions and to arrange for alternative access if necessary. The coordination shall occur at least one week prior to any blockages.
- Plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Police departments and fire departments shall be notified in advance by the project applicant of the proposed locations, nature, timing, and duration of any roadway disruptions, and shall be advised of any access restrictions that could impact their effectiveness. At locations where roads will be blocked, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies. Documentation of the coordination with

police and fire departments shall be provided to the City of Hermosa Beach and/or City of Manhattan Beach prior to the start of construction.

- Provisions for ensuring detours or safe movement of pedestrians and bicycles through all affected facilities.
- Plans to coordinate with Beach Cities Transit (BCT) and the Los Angeles County Metropolitan Transit Authority (MTA) at least one month prior to construction and present ways to minimize potential impacts to bus transit service on PCH, Longfellow Avenue, and any other affected route. Documentation of the coordination with bus transit companies shall be provided to the City of Hermosa Beach and/or City of Manhattan Beach prior to the start of construction. Should the ongoing maintenance activities at manholes affect active bus stops, coordination with the affected bus transit agencies shall address means to reduce disruptions to bus services.
- Define the method for maintaining close coordination, prior to and during construction, with all agencies responsible for encroachment permits on each affected roadway, to minimize cumulative impacts of multiple simultaneous construction projects affecting shared portions of the circulation system.

Access Restriction during Construction

Impact TT-2: Project activities requiring temporary road or travel lane closures would affect beach access and access to adjacent residential and business properties.

During construction, temporary disruptions to beach and property access could occur during daylight hours, 7 days per week. Specific work hours for the public streets will need to approved by the City and reflected in the Construction Traffic Control Plan (Mitigation Measure TT-1a). In the event beach locations are selected for marine directional bores, beach access at both landing locations would be affected. The optional directional bore and beach manhole placement sites at Longfellow Avenue and 25th Street would require the closure of approximately one city block at the optional locations shown in Figure 2-1. Beach access for vehicles along these roadways from east of Hermosa Avenue would be temporarily disrupted, although pedestrian access would still be available. Access to residences at these optional bore locations would not be blocked during construction, but local traffic movements would be affected by the temporary street closures.

Use of the Longfellow Avenue and 25th Street landing sites (i.e. the street sites) would temporarily block traffic from entering or exiting Palm Drive (the alley between Hermosa Avenue and Manhattan Avenue) at those locations, thereby placing a restriction on local traffic movement. Because Palm Drive access would be blocked at Longfellow Avenue and 25th Street, property owners with garage access on Palm Drive would need to temporarily enter and exit Palm Drive from the opposite end of that street. Due to the temporary closure of Longfellow Avenue between Manhattan Avenue and Hermosa Avenue, local traffic that would normally use this segment of Longfellow Avenue would likely utilize 31st Street or 33rd Street instead. Similarly, due to the temporary closure of 25th Street, local traffic that would normally use this segment of 25th Street would likely utilize 24st Street or 26th Street instead. Figures 3.12-1 and 3.12-2 provide diagrams of the temporary traffic changes at the proposed Longfellow Avenue and 25th Street cable landing sites. The anticipated routes that trucks will use to deliver equipment and materials to the cable landing sites are shown in Figure 3.12-3.

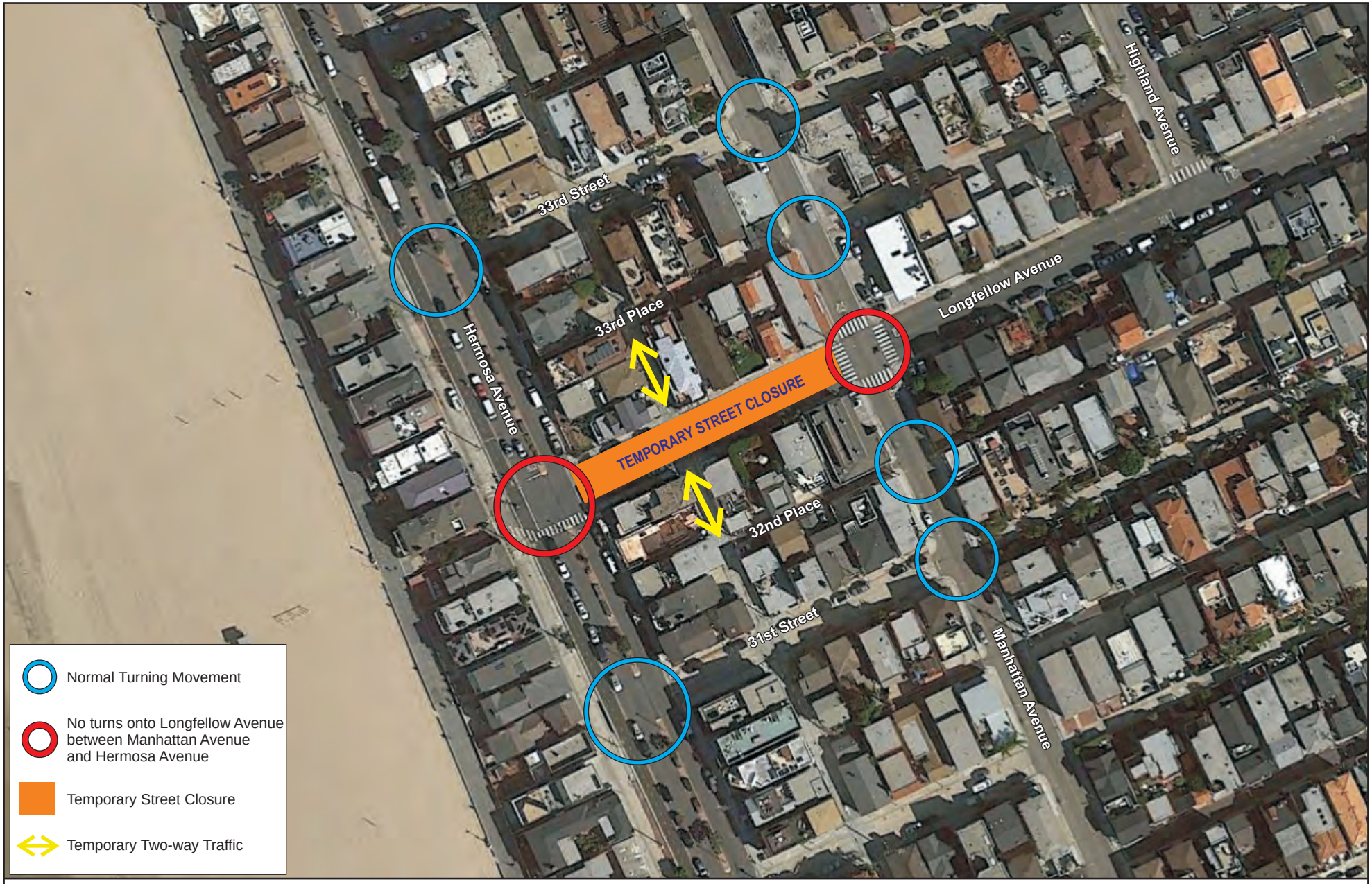
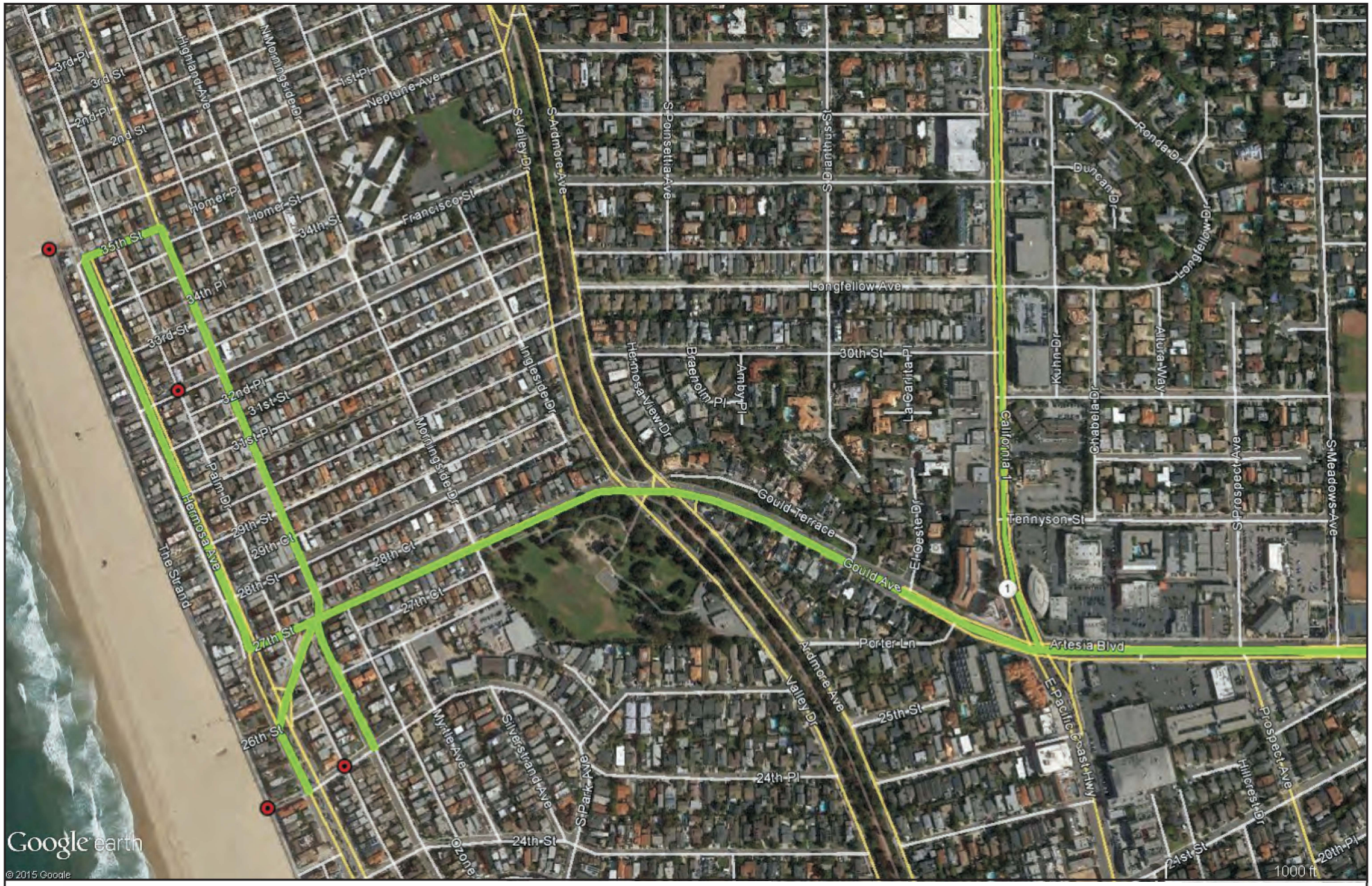


Figure 3.12-1
Temporary Traffic Changes at the Proposed Longfellow Avenue Cable Landing Site

Figure 3.12-2
Temporary Traffic Changes at the Proposed 25th Street Cable Landing Site



0 250 500 1000
Scale in Feet

Cable Landing Sites

Anticipated Truck Routes

Figure 3.12-3
Anticipated Truck Routes to Cable Landing Sites

If the Longfellow Avenue and 25th Street landing sites are used rather than the beach landing sites, existing on-street parking at those street landing sites would not be available for use during the 4-week boring process at each site. The construction zones for the street landing sites would occupy the entire street width from curb to curb, including curbside parking spaces. This would result in the temporary loss of 17 parking spaces on Longfellow Avenue and 13 spaces on 25th Street.

Along the cable routes shown in Figure 2-1, intermediate manholes would be constructed at intervals of approximately 1,200 feet to 2,500 feet. Activities around each manhole site would result in temporary access disruptions to properties immediately adjacent to the work area. Temporary access disruptions would also occur at manhole sites along the cable routes during routine maintenance activities. Short-term and temporary disruptions to property access during maintenance would occur during daylight hours, Monday through Friday. The impacts would be similar to the impacts that routinely occur during street maintenance activities or utility repair projects.

To reduce access impacts from temporary travel lane or road closures, Mitigation Measure TT-1a is proposed and requires the preparation of a detailed Construction Traffic Control Plan for the Project. The plan would include provisions for ensuring detours or safe movement of pedestrians and bicycles through all affected facilities. The plan would also require written notification to property owners and tenants at properties affected by access restrictions to inform them about the timing and duration of obstructions and to arrange for alternative access, if necessary. With the incorporation of this mitigation, access impacts during temporary disruptions to the affected circulation system would be reduced to a less-than-significant level (Class II).

Mitigation Measures

TT-1a **Construction Traffic Control Plan.** See above for the full text of this measure.

Restriction of Movement of Emergency Vehicles during Construction

Impact TT-3: Project activities requiring temporary road or travel lane closures would affect emergency vehicle response.

As discussed in Impacts TT-1 and TT-2, construction and maintenance of the Project would require temporary road or travel lane closures and may temporarily restrict access. Temporary increases in traffic congestion, roadway closures, and disruptions to property access demonstrable to the Project would affect emergency vehicle response times near the work areas. To reduce these impacts, Mitigation Measure TT-1a is proposed and requires the preparation of a detailed Construction Traffic Control Plan for the Project. The plan would require the Project applicant to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles and identify provisions that would be ready at all times to accommodate the movement of emergency vehicles. With the incorporation of this mitigation, impacts to emergency service vehicle flow and access during temporary disruptions to the affected circulation system would be reduced to a less-than-significant level (Class II).

Mitigation Measures

TT-1a **Construction Traffic Control Plan.** See above for the full text of this measure.

Disruption of Bus Transit Service

Impact TT-4: Project activities requiring temporary road or travel lane closures would affect bus transit service.

As discussed in Impact TT-1, construction and maintenance of the Project would require temporary road or travel lane closures. In the event these closures occur at locations with bus stops, the Project would temporary affect bus service near the work areas. To reduce this impact, Mitigation Measure TT-1a is proposed and requires the preparation of a detailed Construction Traffic Control Plan for the Project. The plan would require the Project applicant to coordinate with affected bus transit agencies and present ways to avoid or reduce the interruption of bus transit service. Possible means to avoid or minimize impacts would be to coordinate temporary roadway disruptions at locations with no bus stops, limit disruptions to non -peak ridership times, or to provide advanced signage at bus stops of delays or temporary stop changes. Such determinations would be best determined by the affected bus agencies (BTA and MTA), as coordinated with through the implementation of Mitigation Measure TT-1a. With the incorporation of this mitigation, impacts to bus transit service during temporary disruptions to the affected circulation system would be reduced to a less-than-significant level (Class II).

Mitigation Measures

TT-1a **Construction Traffic Control Plan.** See above for the full text of this measure.

Disruption of Pedestrian and/or Bicycle Movements

Impact TT-5: Project activities requiring temporary road or travel lane closures would affect pedestrian/bicycle routes.

As discussed in Impact TT-1, construction and maintenance of the Project would require temporary road or travel lane closures. These closures would temporary affect pedestrian and bicycle movements near the work areas. To reduce this impact, Mitigation Measure TT-1a is proposed and requires the preparation of a detailed Construction Traffic Control Plan for the Project. The plan would require the Project applicant ensure detours or safe movement of pedestrians and bicycles through all affected facilities. With the incorporation of this mitigation, impacts to pedestrian and bicycle movements during temporary disruptions to the affected circulation system would be reduced to a less-than-than significant level (Class II).

Mitigation Measures

TT-1a **Construction Traffic Control Plan.** See above for the full text of this measure.

Hazards Resulting in Unsafe Conditions on Public Roads

Impact TT-6: Construction activities and temporary road or travel lane closures would create hazards to motorists, pedestrians, and bicyclists.

As discussed in Impact TT-1, construction and maintenance of the Project would require temporary road or travel lane closures. These disruptions and the presence of construction equipment could temporary increase roadway hazards. Mitigation Measure TT-1a is proposed and requires the preparation of a detailed Construction Traffic Control Plan for the Project. As part of this Plan, the Project applicant would provide methods to reduce temporary transportation hazards in a variety of ways, including the use of flaggers, warning signs, lights, barricades, delineators, cones, arrow

boards, etc. on affected roadways. The Plan also requires ways for ensuring the safe movement of pedestrians and bicycles through work areas.

Under applicable laws and ordinances, heavy truckloads are required to not exceed legal weight limits applicable to roads and bridges in the Project area. A Caltrans permit would be required for the movement of vehicles/loads exceeding statutory weight and dimension limits on PCH. Compliance with such permits, if applicable, is included within Mitigation Measure TT-1a and would reduce any hazard impacts from oversize vehicle trips, which would only occur during Project construction.

The Project includes construction within public roads. Furthermore, the movement of heavy trucks and equipment accessing construction sites and material yards could potentially result in damage to transportation facilities. If not repaired, damage could create hazards to motorists, pedestrians, and bicyclists. Mitigation Measure TT-6a (*Repair Roadways and Transportation Facilities Damaged by Construction Activities*) is proposed to ensure any damage attributed to the Project would be repaired.

With the incorporation of Mitigation Measures TT-1a and TT-6a, potential surface transportation hazard impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measures

TT-1a **Construction Traffic Control Plan.** See above for the full text of this measure.

TT-6a **Repair Roadways Damaged by Construction Activities.** If roadways, sidewalks, walkways, bike lanes, medians, curbs, shoulders, or other such transportation features are damaged by project activities, as determined by the affected public agency, such damage shall be repaired and restored to their pre-project condition by the applicant. Prior to construction, the applicant shall confer with agencies having jurisdiction over the roads where construction activities will occur within and those anticipated to be used by heavy delivery vehicles and equipment. At least 30 days prior to construction, the project applicant shall photograph or video record the segments of all transportation facilities to be affected by Project construction and shall provide the respective jurisdictions with a copy of these images.

At the end of major construction at each disturbance area, the applicant shall coordinate with each affected jurisdiction to confirm what repairs are required. Any damage is to be repaired to the pre-construction condition on a schedule mutually agreed to by the applicant and the affected jurisdiction. The applicant shall provide the affected jurisdiction proof when all necessary repairs have been completed.

Restriction of Movements of Coast Guard or Lifeguard Vessels

Impact TT-7: Cable-laying activities could inadvertently restrict the movements of Coast Guard or lifeguard vessels such that there would be no reasonable alternative access routes available.

The USCG air station is location at Los Angeles International Airport (LAX). Station Los Angeles-Long Beach is located within the POLA. The LA County Lifeguards is a division of the LA County Fire Department. Apart from the beach-based lifesavers, rescue boat services deploy from LA Harbor, King Harbor (Redondo), Marina del Rey, and Malibu.

The marine portions of the proposed Project would not block or inhibit the passage or movement of either Baywatch Redondo or Baywatch Del Rey. Movements between these groups and the cable-laying vessel would be coordinated using radio, GPS, and other locating and communication devices. However, there is the possibility that conflicts in movement could occur, even with close coordination.

Effects on Coast Guard or lifeguard vessel movement are expected to be minor and would be minimized through normal communications and coordination. Therefore, this impact is considered adverse but not significant (Class III).

Creation of Navigational Hazards

Impact TT-8: The marine boring operation would create a temporary hazard for marine traffic.

A hazard to navigation is defined to be an object or action that could cause other marine users, such as commercial or recreational vessels, to act dangerously or enter a dangerous situation as a direct result of the Project. The presence of any vessel or construction activity would, in some part, create a navigation hazard, as it would represent a change from the status quo.

The support of the marine bores would involve the use of a primary work boat (approximately 100-200 feet length overall [LOA]) moored approximately 50 feet from the bore exit points. The work boat would utilize a four-point anchor mooring with a spread of approximately 328 feet. The primary work boat would be supported by a secondary smaller vessel, used to set and retrieve anchors, plus a shuttle crew to and from King Harbor, as needed.

Once the marine bore has exited, a marine support crew would be dispatched to dive the location. It is assumed that the dive crew would use surface supply and would be working with hydraulic or pneumatic equipment. A pipe pig would be hydraulically pushed through the drill pipe and a check valve and bell mouth installed on the seaward end with a locator ball. It is assumed that all of the dive work would occur in the immediate vicinity of the moored work boat, within the spread of the anchors.

The cable ship (approximately 500 feet LOA) would position herself approximately 328 feet (100 m) from the seaward end of the bore pipe into which the cable would be pulled. It is assumed the cable vessel does not require tug support and can be assisted by the secondary work boat if needed. The cable ship would drop anchor until she is ready to proceed. The work boat would then assist with the wire rope feed and cable attachment. Once the cable is hydraulically winched back to the beach manhole and anchored, it is assumed the dive crew would no longer be needed in the water. Once the water is clear, the cable vessel is ready to move away on course.

For the above activities, the marine navigation hazards are identified as follows:

- Presence of a moored work boat and spread anchors,
- Regular transits of a secondary work boat to and from King Harbor to the work site,
- Movements of secondary work boat in the vicinity of the moored work boat,
- Divers in the water, and
- Cable vessel transiting to and moored 300 feet from the marine bore exit.

When the Project is taken out of service and retired, the applicant proposes to abandon the marine cable in place. However, it is possible that the Coastal Commission would require removal of the

marine cable from State waters at the end of the Project's life. That would involve marine vessel operations on a scale similar to cable installation, resulting in potential hazards to marine navigation similar those described above for cable installation.

Based on the information presented above, potential impacts to marine navigation are considered significant. Implementation of Mitigation Measures TT-8a through TT-8c below would reduce this impact to a less-than-significant level (Class II).

Mitigation Measures

TT-8a **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores.** The applicant will ensure that sufficient information is provided to the USCG in order for a Local Notice to Mariners (LNM) to be issued. Location of the moored vessels, likely transit routes of mobile vessels, notice of divers in the water, and the approximate dates, durations and working times shall be given.

- All vessels (working boats and cable vessel) shall show the appropriate shapes and lights for their status, whether moored or in transit. When there are divers in the water, the appropriate shapes and lights will be displayed to warn other marine vessels and users.
- Stationary anchors will be appropriately marked.
- All vessels shall follow the Navigation Rules and will inform San Pedro Traffic of all intended movements.
- All vessels shall meet the minimum requirements for navigation safety (crewing, navigation systems, etc.) as stipulated by 46 CFR 1-399.

TT-8b **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing.** In addition to the LNM, all vessel movements will be reported to the local Vessel Traffic Services (VTS) (San Pedro Traffic). If the grapnel tow is halted (to clear or retrieve debris) San Pedro Traffic shall be informed immediately, and again when towing starts up again.

TT-8c **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.** In addition to the LNM, all vessel movements, particularly estimated times and exact routes, will be reported to the local VTS (San Pedro Traffic). The cable-laying vessel, by law, is defined to be a vessel with restricted movement. Therefore, all other marine traffic utilizing the Traffic Separation Scheme will be required to avoid her. It is assumed that VTS will convey this information to approaching vessels.

Impact TT-9: The grapnel tow may create a navigational hazard to marine traffic by temporarily blocking the pathway of other vessels in the marine area.

The towing of the grapnel would involve either the cable-laying ship or an alternative work boat transiting the proposed cable routes, which cross the Traffic Separation Scheme. Dependent on the presence of debris, this action may also involve unscheduled stoppages (in order to remove debris or free the grapnel). Vessel stoppage may impede other vessel traffic temporarily during grapnel clearing operations. This potential impact to navigation is considered significant. Implementation of Mitigation Measures TT-8a through TT-8c would reduce this impact to a less-than-significant level (Class II).

Mitigation Measures

TT-8a **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores.** See above for the full text of this measure.

TT-8b **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing.** See above for the full text of this measure.

TT-8c **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.** See above for the full text of this measure.

Impact TT-10: Cable laying and plowing could create a temporary navigational hazard to marine traffic within the marine area.

From the exit of the marine bores, the cable would be played out by the cable ship along the predetermined route. Divers in the water would bury the cable using water jets in depths up to 98 feet. The dive crew (assumed to be using surface supply) would be deployed and supported by the primary work boat anchored at locations along the route. The secondary work boat is expected to provide support and services transiting between King Harbor and the work site. At water depths greater than 98 feet but less than 328 feet, or in areas where the cable plow is not effective (due to seabed conditions), a remotely operated vehicle (ROV) would be used to bury the cable. The ROV would be deployed either from the main cable ship or similar vessel. The ROV transits at 0.3 knots; however, several passes may be required to reach satisfactory burial depth. Therefore, it is assumed the cable ship or similar vessel would proceed along the route at a rate of less than 0.1 knot. At depths greater than 328 feet, the cable ship would deploy the cable plow and make way with the plow in tow. The plow is towed from the stern of the ship at a speed of approximate 0.2 knots.

It is expected that cable laying would be achieved by the cable ship and plow at the point the route intersects the Traffic Separation Scheme. Travelling at an average of 0.2 knots, noting that 1 knot = 1 nm/hour, it is assumed that it would take the cable-laying vessel 15 hours to pass across the Traffic Separation Scheme.

Implementation of Mitigation Measures TT-8a through TT-8c would reduce this impact on navigation; however, due to the long duration of this activity, which would occur along the extent of the nearshore area, and the slow vessel speed under which work will be conducted, it is not feasible to completely avoid this impact and it would remain significant even with mitigation (Class I).

Mitigation Measures

TT-8a **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores.** See above for the full text of this measure.

TT-8b **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing.** See above for the full text of this measure.

TT-8c **Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.** See above for the full text of this measure.

Changes in Regional VTS, Navigation Aids, or Other Established Marine Traffic Systems

The marine portions of the proposed Project would be located in the jurisdiction of San Pedro Traffic, a sector of the joint venture between the USCG and Marine Exchange of Southern California. No change would be required to VTS, existing navigation aids, or other established marine traffic

systems. Therefore, the Project would not require any change in regional VTS, existing navigation aids, or other established marine traffic systems in the Los Angeles/Long Beach area during cable installation. No impact would occur.

Long-term Impediments to Marine Traffic

Following completion of the cable laying and submittal of the location of the as-installed cables to the National Oceanic and Atmospheric Administration (NOAA)/USCG, there would be no long-term impediment to marine traffic. Therefore, the Project would not result in a condition that presents a long-term impediment to vessel traffic post-construction.

Increase in Risk of Vessels Running Aground or Striking Floating or Submerged Debris

Impact TT-11: The Project may cause an increase in the risk of vessels in the study area running aground or striking floating or submerged debris resulting from either the construction or permanent works.

The marine bore installation could result in debris from the drilling to occur around the bore exit. Similarly, equipment from the dive support vessel (cutting/jetting, etc.) could potentially be discarded on the seabed. Parts of anchors or wires may also be left behind. Burial of the cable (up to depths of 98 feet) may result in an uneven seabed.

Due to the potential for sediment and discarded equipment to be left on the seabed causing an uneven bathymetric condition that could cause an impedance for future deep-draft vessel traffic, this impact could be significant. Implementation of Mitigation Measure TT-11 would reduce this impact to a less-than-significant level (Class II).

Mitigation Measures

TT-11 **Remove Construction-related Equipment and Debris.** After construction, the applicant shall remove all construction-related equipment, including anchors, debris, etc. from the seabed, and confirm through either photography, video or survey that the seabed is returned to its pre-construction elevation – i.e., no ridges or humps higher than the chart-documented elevation. This documentation shall be submitted to the City and, if requested, the Coastal Commission.

3.12.3.4 Cumulative Effects

Introduction

For the purposes of the cumulative analysis of terrestrial transportation impacts, only other projects that make a contribution to traffic along the same roadways utilized and disrupted by the proposed Project are considered. Roadway segments where Project-related trips would combine with those of cumulative projects could experience appreciable increases in traffic, particularly if the construction schedules of projects overlap. All of the projects identified in Table 3-1 have been considered with respect to this cumulative traffic analysis in case they may utilize roadways affected by Project traffic or by Project construction in street right-of-ways. However, based on location and timing, it is not likely that all of these projects would utilize the same streets at the same time.

The marine segments of the cable systems are located in Santa Monica Bay between the MHW line and the outer limit of the Continental Shelf—that is, areas where seawater depth is no greater than approximately 5,904 feet (1,800 meters). Santa Monica Bay is a semi-enclosed shelf centrally located

in the Southern California Bight. The region surrounding Santa Monica Bay has been substantially altered in the last one hundred years and terrestrial areas have been developed. Marine transportation and traffic has increased over time. Marine traffic includes non-reporting motorized and non-motorized pleasure craft immediately outside of the 300-yard shoreline exclusion zone and marine traffic outside of the immediate nearshore consisting of commercial vessels using the anchorage areas. Submarine cables have also been previously installed in Santa Monica Bay. All of the projects listed in Table 3-1 are terrestrial and not considered within the extent of the water area of Santa Monica Bay as defined by the marine segments of the Project. No cumulative projects or activities have been identified within the region of the marine portion of the Project other than those represented by current conditions.

Project Contribution to Cumulative Impacts

As discussed in Section 3.12.3.3, temporary road or lane closures would affect traffic flow and contribute to congestion to affected roadways. The cumulative projects identified in Table 3-1 would contribute daily traffic to the area, both temporarily during construction and permanently from operations. Most identified cumulative projects are not expected to require temporary travel lane closures or disruptions. Further, the potential for cumulative traffic impacts would only occur if multiple projects were constructed simultaneously and utilized the same roadways affected by the Project. Project operation and maintenance would contribute only a small amount of periodic trips to local roadways and, therefore, would not make a substantial contribution to local traffic congestion.

The Project's contribution to local roadway congestion would be reduced with the implementation of Mitigation Measure TT-1a, which requires the preparation of a Construction Traffic Control Plan that would be reviewed and approved by the City of Hermosa Beach, City of Manhattan Beach, Caltrans, and all other affected jurisdictions. This plan would require the Project applicant to define the method to maintaining close coordination, prior to and during construction, with all agencies responsible for encroachment permits on each affected roadway, to minimize cumulative impacts of multiple simultaneous construction projects affecting shared portions of the circulation system. While vehicle trips generated by cumulative projects could overlap with temporary travel lane disruptions from construction of the Project, the proposed Project's cumulative contribution would not be considerable because it would be temporary and reduced by implementation of Mitigation Measure TT-1a.

The nature and location of the marine segments of the Project provide a distinct separation from the terrestrial projects listed in Table 3-1 and would not contribute to effects caused by these projects. Further, the projects listed in Table 3-1 also do not consist of any activity that would utilize marine transportation on Santa Monica Bay. Regarding marine traffic, any Project disturbances to marine transportation and traffic would be avoided with implementation of Mitigation Measures TT-2a, TT-2b, and TT-2c, including the issuance of appropriate notification regarding marine construction activities. Project construction would be short term and limited mainly to the water, and the scale would be relatively small. Therefore, the Project is not expected to make a significant contribution to cumulative impacts related to marine vessel traffic.

3.12.3.5 Summary of Impacts, Mitigation Measures, and Significance Conclusions

Table 3.12-7, below, provides a summary of each identified impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.12-7 also indicates the significance conclusion for each identified impact.

Table 3.12-7. Summary of Traffic and Transportation Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Impact TT-1: Project traffic volumes or temporary road or travel lane closures would affect traffic flow and create congestion.	TT-1a Construction Traffic Control Plan.	Class II
Impact TT-2: Project activities requiring temporary road or travel lane closures would affect beach access and access to adjacent residential and business properties.	TT-1a Construction Traffic Control Plan.	Class II
Impact TT-3: Project activities requiring temporary road or travel lane closures would affect emergency vehicle response.	TT-1a Construction Traffic Control Plan.	Class II
Impact TT-4: Project activities requiring temporary road or travel lane closures would affect bus transit service.	TT-1a Construction Traffic Control Plan.	Class II
Impact TT-5: Project activities requiring temporary road or travel lane closures would affect pedestrian/bicycle routes.	TT-1a Construction Traffic Control Plan.	Class II
Impact TT-6: Construction activities and temporary road or travel lane closures would create hazards to motorists, pedestrians, and bicyclists.	TT-1a Construction Traffic Control Plan. TT-6a Repair Roadways Damaged by Construction Activities.	Class II
Impact TT-8: The marine boring operation would create a temporary hazard for marine traffic.	TT-8a Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores. TT-8b Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing. TT-8c Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.	Class II
Impact TT-9: The grapnel tow may create a navigational hazard to marine traffic by temporarily blocking the pathway of other vessels in the marine area.	TT-8a Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores. TT-8b Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing. TT-8c Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.	Class II
Impact TT-10: Cable laying and plowing could create a temporary navigational hazard to marine traffic within the marine area.	TT-8a Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores. TT-8b Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing. TT-8c Issue Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.	Class I
Impact TT-11: The Project may cause an increase in the risk of vessels in the study area running aground or striking floating or submerged debris resulting from either the construction or permanent works.	TT-11 Remove Construction-related Equipment and Debris.	Class II

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR.