3.1 TRANSPORTATION

This section of the Draft EIR provides an analysis of the C Line (Green) Extension to Torrance Project potential impacts on the transportation system. This section presents data associated with the Base Year, which for ridership forecasts, is 2017, consistent with the Metro Transportation Analysis Model. For other data outside of ridership forecasts, the Base Year represents 2021 conditions. The project Horizon Year is 2042, consistent with the Horizon Year used in the Metro Transportation Analysis Model used to develop the ridership forecast.

3.1-1 Regulatory Framework

Federal, state, regional and local regulations concerning transportation are described in the following section.

3.1-1.1 Federal Regulations

Americans with Disabilities Act

Titles I, II, III, and IV of the Americans with Disabilities Act (ADA) have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination on the basis of disability in "places of public accommodation" (businesses and non-profit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Appendix A to Part 36 (Standards for Accessible Design), establishing minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility. The ADA requires public transit operators to meet its requirements. Transit facilities, intermodal centers, rail stations, and platforms must meet accessibility standards as set by the U.S. Department of Transportation (USDOT). Accessibility standards regulate paths of travel, boarding ramps and bridgeplates, bus stops and shelters, curb ramps, doors, elevators, escalators, and emergency alarms, fare collection box placement, gates and turnstiles, grade crossings, parking areas, passenger drop-off areas, platform edges, rescue assistance areas, restrooms, signs, stairs, public telephones, water fountains, and wheelchair spaces. ADA requires fixed route services to provide accessible vehicles, including lifts and ramps so that a passenger using a wheelchair or mobility device can reach a securement location onboard; illuminations, contrast, and slip-resistant surfaces at doorways and stepwells; turning and maneuvering room for wheelchairs; accessible handrails, stanchions, and stop controls (such as pull cords); stop announcements; and legible destination information on vehicles in large font. Additionally, public transit providers must provide rider information in multiple formats, such as large print or braille, assistance equipment and accessible features, adequate boarding time, priority seating and signs, training for operators on how to assist individuals with disabilities and allowing service animals onboard.

3.1-1.2 State and Regional Regulations

California Environmental Quality Act (CEQA)

CEQA Guidelines Section 15064.3(a) establishes increases in vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts, and states that other considerations may include effects on transit and non-motorized travel. The state has set ambitious targets for reductions in greenhouse gas (GHG) generation, which in turn relates to transportation and required reductions in VMT, as transportation is the largest generator of GHGs by sector in the state (41%) (CARB, 2021a). Thus, legislation, programs, plans and policies which target GHG generation and climate change relate directly to transportation and the need to reduce VMT. While the CEQA Guidelines address transportation

impacts and provides general guidance, the methodology and quantitative thresholds are deferred to regional and local regulations.

California Manual on Uniform Traffic Control Devices (CAMUTCD)

The CAMUTCD defines the standards used by road managers in California to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. The CAMUTCD is published by the California Department of Transportation (Caltrans). The CAMUTCD is a compilation of state standards for all traffic control devices, including road markings, highway signs, and traffic signals. All temporary signage and striping for construction and new permanent signage and striping will adhere to these standards.

Statewide Transportation Improvement Program

The California Transportation Commission (CTC) administers transportation programming. Transportation programming is the public decision-making process, which sets priorities and funds projects envisioned in long-range transportation plans. It commits expected revenues over a multi-year period to transportation projects. The Statewide Transportation Improvement Program (STIP) is a multi-year Capital Improvement Program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources. Caltrans manages the operation of State Highways, including the freeways passing through Los Angeles County.

Caltrans Highway Design Manual

The 7th Edition Caltrans Highway Design Manual (HDM) (2020) establishes uniform standards for the design of roadways in the State. Local design guidance generally conforms to the HDM when feasible, though local design standards may deviate when necessary due to local contexts that may differ from overall Statewide standards.

Assembly Bill (AB) 1358, the Complete Streets Act

AB 1358, the Complete Streets Act (Government Code Sections 65040.2 and 65302), was signed into law by Governor Arnold Schwarzenegger in September 2008. As of January 1, 2011, the law requires cities and counties, when updating the part of a local general plan that addresses roadways and traffic flows, to ensure that those plans account for the needs of all roadway users. Specifically, the legislation requires cities and counties to ensure that local roads and streets adequately accommodate the needs of bicyclists, pedestrians, and transit riders, as well as motorists.

At the same time, Caltrans, which administers transportation programming for the State, unveiled a revised version of Deputy Directive 64 (DD-64-R1 October 2008), an internal policy document that now explicitly embraces Complete Streets as the policy covering all phases of state highway projects, from planning to construction to maintenance and repair.

Complete Streets Directive

Caltrans enacted Complete Streets: Integrating the Transportation System (Complete Streets Directive) in October 2008, which required cities to plan for a “balanced, multimodal transportation network that meets the needs of all users of streets” (Caltrans, 2008). A complete street is a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, trucks, and motorists, appropriate to the function and context of the facility. Every complete street looks different, according to its context, community preferences, the types of road users, and their needs.

Senate Bill (SB) 743, Transportation Impacts

To further the state's commitment to the goals of SB 375, AB 32, and AB 1358, Governor Jerry Brown signed SB 743 on September 27, 2013. SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code (PRC). Key provisions of SB 743 include eliminating the measurement of vehicle delay (level of service [LOS]), as a metric that can be used for measuring traffic impacts. Under SB 743, the focus of transportation analysis shifts from LOS to the reduction of GHG emissions through the creation of multimodal transportation networks and promotion of a mix of land uses to reduce VMT. SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts. Particularly for areas served by transit such as transit priority areas (TPA), those alternative criteria must "promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses" (PRC Section 21099[b][1]). Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated." OPR also has discretion to develop alternative criteria for areas that are not served by transit, if appropriate.

Pursuant to the mandate in SB 743, OPR adopted the revised CEQA Guidelines in December 2018, recommending the use of VMT for analyzing transportation impacts under CEQA. In turn, Section 15064.3 was added to CEQA Guidelines, which states "generally, vehicle miles traveled is the most appropriate measure of transportation impacts." In accordance with this requirement, CEQA Guidelines Section 15064.3(a), adopted in December 2018, states "a project's effect on automobile delay does not constitute a significant environmental impact." The requirements of SB 743 went into full effect as of July 1, 2020.

Senate Bill 288, California Environmental Quality Act: Exemptions: Transportation-Related Projects

California SB 288, approved by the Governor on September 28, 2020, defines new statutory exemptions under CEQA for various active transportation, transit, and transit-supportive projects carried out by public agencies that meet certain criteria. Included on the list are light rail and bus rapid transit services on public rail of highway rights-of-way, as well as conversion of general freeway lanes to high-occupancy lanes. Transit prioritization projects, and transit, pedestrian, and bicycle information and wayfinding improvements are also added to the list of exemptions.

Local Roadway Safety Plan (LRSP)

Federal regulations require each state to have a Strategic Highway Safety Plan (SHSP). An SHSP is a statewide data-driven traffic safety plan that coordinates the efforts of a wide range of organizations to reduce traffic accident fatalities and serious injuries on all public roads. In coordination with federal, state, local and private sector safety stakeholders, the SHSP establishes goals, objectives, and emphasis (or challenge) areas. The SHSP address the 4Es of traffic safety: Engineering, Enforcement, Education, and Emergency Services. While the SHSP is used as a statewide approach for improving roadway safety, a LRSP can be a means for providing local and rural road owners with an opportunity to address unique highway safety needs in their jurisdictions while contributing to the success of the SHSP. The process of preparing an LRSP creates a framework to systematically identify and analyze safety problems and recommend safety improvements. Preparing an LRSP facilitates the development of local agency partnerships and collaboration, resulting in a prioritized list of improvements and actions that can demonstrate a defined need and contribute to the statewide plan. The LRSP offers a proactive approach to addressing safety needs and demonstrates agency responsiveness to safety challenges. An LRSP provides a framework for organizing stakeholders to identify, analyze, and prioritize roadway safety

improvements on local roads. The process of developing an LRSP can be tailored to local protocols, needs, and issues. In future Highway Safety Improvement Program (HSIP) Calls-for-Projects, an LRSP (or equivalent, such as a Systemic Safety Analysis Report [SSAR] or Vision Zero Action Plan) will be required for an agency to be eligible to apply for federal HSIP funds. Within the C Line (Green) Extension to Torrance study area, the City of Lawndale has initiated the LRSP process, but has not yet finalized its study. The Cities of Redondo Beach and Torrance have not yet initiated the LRSP process.

Southern California Association of Governments (SCAG)

SCAG is the designated MPO for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for regional transportation, land use and growth management, and air quality. The County is one of many local and regional jurisdictions comprising SCAG. The Regional Transportation Plan (RTP), Regional Comprehensive Plan (RCP), and Compass Growth Vision Report identify the transportation priorities for the Southern California region. The policies and goals of the RTP, RCP, and Compass Growth Vision Report focus on the need to coordinate land use and transportation decisions to manage travel demand.

> RTP – SCAG updates its long-range (i.e., minimum 20 years) RTP/ Sustainable Communities Strategy (SCS) every four years, per federal law (23 U.S.C.A. §134 et seq) and state law (SB 375). SCAG's 2020–2045 RTP/SCS "Connect SoCal" was adopted in May 2020 for federal transportation conformity purposes; the plan in its entirety was formally adopted in September 2020.

> The SCS is a required element of the RTP that provides a plan for meeting GHG emissions reduction targets set forth by CARB. It provides growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the South Coast Air Quality Management District (SCAQMD). CARB has determined SCAG's reduction target for per capita vehicular emissions to be 8% by 2020 and 19% by 2035 relative to the 2005 baseline. Successfully meeting these targets will require substantial effort to reduce VMT. The 2020–45 RTP/SCS calls for investing $638 billion over the 25-year term of the plan toward over 4,000 transportation projects, all of which collectively are expected to result in a 5% reduction in daily VMT per capita and a more than 25% decrease in traffic delay per capita. Investments will focus on maintaining and better managing the existing transportation network, expanding mobility choices, and increasing investment in transit and complete streets.

> Of the 10 goals presented in the 2020–2045 RTP/SCS, the following five are applicable to transportation:

- Goal 2: Improve mobility, accessibility, reliability, and travel safety for people and goods.
- Goal 3: Enhance the preservation, security, and resilience of the regional transportation system.
- Goal 4: Increase person and goods movement and travel choices within the transportation system.
- Goal 7: Adapt to a changing climate and support an integrated regional development pattern and transportation network.
- Goal 8: Leverage new transportation technologies and data-driven solutions that result in more efficient travel.

Los Angeles County Metropolitan Transportation Authority

Metro is the primary public transit operator in Los Angeles County. Metro develops and oversees transportation plans, policies, and funding programs. Relevant Metro policies and plans are discussed below.

Long Range Transportation Plan (LRTP)

Metro's 2009 LRTP provided a 30-year vision for Los Angeles County's transportation system through the year 2040. Metro adopted the 2020 Long Range Transportation Plan, titled *Our Next LA*[1], in September 2020. It is the first update to the LRTP since 2009 and provides a vision for transportation in Los Angeles County through 2047. The plan aims to address population growth, changing mobility needs and preferences, technological advances, equitable access to opportunity, and adaptation to a changing environment. The plan details construction of an additional 100 miles of fixed-guideway transit, investments in arterial and freeway projects to reduce congestion, and construction of regional-scale bicycle and pedestrian projects to increase active transportation. Other efforts detailed in the plan include traffic management practices for congested roadways (e.g., ExpressLanes toll lanes), maintaining and upgrading the existing transportation system for all modes, and partnering with local, state, and federal agencies, and the private sector. *Our Next LA* includes transit and highway improvements funded by Measure M, as well as expansion of off-peak transit service, of the active transportation network, and of programs such as ExpressLanes, partnerships to provide bus only lanes and freight management policies, and bold policy proposals, including more affordable transit, faster bus trips, and subregional congestion pricing.

Short Range Transportation Plan (SRTP)

The 2014 Metro SRTP is a 10-year action plan that guides future Metro programs and projects through 2024 and advances Metro towards the long-term goals identified in the 2009 Metro LRTP. The 2014 SRTP identifies the short-term challenges, provides an analysis of financial resources, proposes action plans for the public transportation and highway modes, and includes other project and program initiatives. In addition, it addressed sustainability, future funding strategies, and lastly, measured the Plan's performance. The 2014 SRTP aimed to honor the near-term priorities of the 2009 LRTP; maintain the existing Metro system in a State of Good Repair; increase construction, operation, and planning sustainability; and develop new funding strategies. Transit improvements programmed in the 2014 SRTP include six major transit corridor projects providing 32 miles of additional track on the C, D, E, and L Lines, as well as the K Line (Crenshaw) and the Regional Connector. Programmed freeway improvements include capacity enhancements, gap closures, construction of carpool lanes, interchange projects, good movement projects, and others.

Vision 2028 Plan

The Metro Vision 2028 Plan is a strategic plan that lays the foundation for transforming mobility across the county over the 10-year period ending in 2028. The plan also seeks to increase prosperity for all by removing mobility barriers, provide swift and easy mobility anytime throughout Los Angeles County, and accommodate more trips through a variety of high-quality mobility options. The Plan seeks to increase mobility across the County by reducing the number of people who drive alone and increasing the number of trips people take by transit, walking, rolling modes such as biking and scootering, shared

[1] "LA" in the context of *Our Next LA* accounts for the overarching region and collection of cities that make up "LA".

rides, and carpooling. It also seeks to improve the customer experience by reducing maximum wait times for any transit trip to 15 minutes or less, even during peak periods, improving bus travel speeds by 30%, and providing reliable, convenient options for users to bypass congestion.

Metro Transit Oriented Communities (TOC) Implementation Plan

The TOC Implementation Plan sets four initiatives for addressing Los Angeles County's mobility challenges, including creating TOC corridor baseline assessments, continually improving Metro TOC program areas, enhancing Metro's internal coordination, and strengthening coordination and collaboration. The TOC Implementation Plan seeks to build partnerships with the community to realize five goals, which include:

1. Increase transit ridership and choice
2. Stabilize and strengthen communities around transit
3. Engage communities and partners in visioning
4. Distribute transit benefits to all
5. Capture value created by transit

2021 LA County Goods Movement Strategic Plan

The Goods Movement Strategic Plan identifies challenges and defines a roadmap for goods movement in Los Angeles County in the context of mobility, competitiveness, equity, and air quality. The Plan outlines five initiatives for improving the goods movement process within these contexts, including equity for goods movement, the LA Metro Countywide Clean Truck Initiative, Southern California rail investment partnership, urban freight delivery, and logistics workforce and competency. Within this plan, many arterial roadways across the County are recognized as being part of the Countywide Strategic Truck Arterial Network (CSTAN), including Hawthorne Boulevard. The designation is used for the recognition of inequitably impacted communities surrounding the network.

Measure M Expenditure Plan

Approved by voters in 2016, Measure M is a sales tax measure that aimed to improve regional transportation. The goals of Measure M include improved traffic flow, expansion of rail transit, pollution reduction, job creation, and overall accessibility, convenience, and affordability improvements for public transportation. 35% of the funds are planned to go toward transit construction, and another 5% to rail operations. Specific goals related to the Proposed Project include the following:

- Improve freeway traffic flow
- Expand the rail and rapid transit system
- Keep the transit and highway system safe
- Make public transportation more accessible, convenient, and affordable
- Embrace technology and innovation
- Create jobs, reduce pollution, and generate local economic benefits

Bus Rapid Transit (BRT) Vision & Principles Study

Adopted in March 2021 in support of Measure M, the "Visioning BRT" report established a set of standards and guidelines for Metro's BRT projects. The report also includes a recommended list of future BRT corridors across Los Angeles County. The study used three levels of screening, including

factors such as network connectivity, land use, points of interest, Metro's Equity Focus Community (EFC) metric, TOCs, trip length, and stakeholder input to build a top five corridors list. Among the top five priority BRT corridors are Atlantic Boulevard, Broadway, La Cienega Boulevard, Sunset Boulevard, and Venice Boulevard. In addition to the top five corridors are an additional top 30 corridors, which includes Hawthorne Boulevard, Prairie Avenue, and Western Avenue. In March 2021, a Metro Board motion requested the evaluation of extending the Western Avenue BRT corridor to San Pedro as part of the BRT Early Action Program.

NextGen Bus Study

Metro initiated the NextGen Bus Study in 2018 to reimagine and restructure its bus network after 25 years to be more relevant to, reflective of, and attractive to the diverse customer needs within Los Angeles County. The plan proposes major bus service changes across the Metro Service Area, including development of a new bus network to improve service to current customers, attract new customers, and regain past customers. The NextGen Bus Study represents the first major overhaul to Metro bus service in more than a quarter century. The plan will:

- Align transit service patterns with travel patterns
- Develop service tiers to provide more frequent service along busy lines
- Establish seamless connectivity with local municipal operators
- Increase the number of routes operating frequently
- Assure all fixed-route services provide headways of 30 minutes or better
- Create standardized frequencies by service tier
- Make the network easier for riders to understand
- Align schedules with midday, evening, and weekend riders
- Consolidate Rapids/Locals into a single service
- Consolidate stops
- Apply all strategies through an equity lens

The NextGen service plan was adopted by the Metro Board in October 2020 and was implemented with a 3-phased roll-out beginning in December 2020 through the end of 2021 for Phase 1. Efforts continue to roll out the speed and reliability elements of the plan including new bus lanes.

Grade Crossing Safety Policy for Light Rail Transit

The Metro Grade Crossing Safety Policy for Light Rail Transit is intended to provide a structured process for the evaluation of grade crossings along light rail lines. The policy includes three levels of review: (1) planning-level; (2) detailed operational evaluation with assessment of potential impacts to rail operations; and (3) developing consensus regarding the proposed design solution with local constituencies, including other involved agencies and the community, as appropriate. The evaluation is based on factors including roadway volumes, train frequencies, site conditions, traffic and rail operations, and safety information.

First/Last Mile(FLM) Strategic Plan

The 2014 Metro FLM Strategic Plan introduced an infrastructure improvement strategy designed to facilitate easy, safe, and efficient access to the Metro system, and provides direction on the layout of

transit access networks and components within Metro Rail and BRT station areas in an effort to increase the size of station area access sheds and improve access conditions within those sheds. The FLM Strategic Plan serves as a resource for planners and decision makers seeking to take advantage of Metro's investments in the public transportation network. The goals of the FLM Strategic Plan are to expand the reach of transit through infrastructure improvements, maximize multi-modal benefits and efficiencies, and build on the SCAG RTP/SCS and Countywide Sustainable Planning Policy.

On May 18, 2016, the Metro Board motioned (File ID 2016-0442) to support the FLM Strategic Plan by designating a Countywide FLM Priority Network, facilitating a build-out of infrastructure for this network, and specifying a process framework for local contribution to first/last mile supportive projects.

To further integrate first/last mile planning, the 2021 FLM Strategic Plan Planning Guidelines provide a coordination tool and resource for Metro, Los Angeles County, municipal organizations, community groups, and private institutions. It also serves as a key source of direction for Metro staff when undertaking planning and design efforts aimed at improving first and last mile connections to transit.

Regional Complete Streets Policy

Metro's adopted Complete Streets policy reinforces the California Complete Streets Act (AB 1358). Effective January 1, 2017, Metro is requiring that all local jurisdictions within LA County must adopt a Complete Streets Policy, an adopted city council resolution supporting Complete Streets, or an adopted general plan consistent with the California Complete Streets Act of 2008 in order to be eligible for Metro capital grant funding programs, starting with the 2017 grant cycles.

None of the cities in the project area have adopted complete streets policies.

Metro Active Transportation Strategic Plan (ATSP)

Adopted in 2016, the ATSP sets goals and objectives for implementing active transportation improvements across Los Angeles County. The plan established existing conditions and defined implementation steps, funding strategies, and performance metrics for the countywide active transportation network. Relevant goals of the ATSP include the following:

- Improve access to transit
- Establish active transportation modes as integral elements of the countywide transportation system
- Enhance safety, remove barriers to access, or correct unsafe conditions in areas of heavy traffic, high transit use, dense bicycle and pedestrian activity
- Promote multiple clean transportation options to reduce criteria pollutants, greenhouse gas emissions, and improve air quality
- Improve public health through traffic safety, reduced exposure to pollutants, design and infrastructure that encourage residents to use active transportation as a way to integrate physical activity into their daily lives
- Foster healthy, equitable, and economically vibrant communities where all residents have greater transportation choices & access to key destinations, such as jobs, medical facilities, schools, and recreation

3.1-1.3 Local Regulations

South Bay Bicycle Master Plan (SBBMP)

The SBBMP is a multi-city bicycle master plan developed in 2011 by the Los Angeles County Bicycle Coalition (LACBC) and the South Bay Bicycle Coalition (SBBC) with the common goal of improving the safety and convenience of bicycling in the South Bay Region. Seven member cities of the South Bay Cities Council of Government were involved in the development of the SBBMP, including El Segundo, Gardena, Hermosa Beach, Lawndale, Manhattan Beach, Redondo Beach, and Torrance. Relevant policies are described in Table 3.1-1 below.

Table 3.1-1. South Bay Bicycle Master Plan

Code/Goal/Policy	Description
South Bay Bicycle Master Plan	
Policy 1.1.4	Review and encourage implementation of policies and facilities proposed in the SBBMP whenever planning new bicycle facilities or capital improvement projects that may be related to bicycle improvements
Objective 1.3	Increased mobility through bicycle-transit integration
Policy 1.3.1	Support the development of bicycle facilities that provide access to regional and local public transit services
Policy 1.3.2	Coordinate with transit providers to ensure bicycles can be accommodated on all forms of transit vehicles and that adequate space is devoted to their storage on board whenever possible
Policy 1.3.3	Coordinate with transit agencies to install and maintain convenient and secure short-term and long-term bike parking facilities – racks, on-demand bike lockers, in-station bike storage, and staffed or automated bicycle parking facilities – at transit stops, statins, and terminals
Policy 1.4.8	Work with Metro to provide bicycle parking in proximity to bus stops and other transit facilities

Source: LACBC and SBBC, 2011

City of Lawndale

The Lawndale General Plan Circulation Element was developed in 1991. The Lawndale General Plan Safety Element was adopted in 2015. These General Plan elements contains goals and policies that focus on transportation and are described in Table 3.1-2.

Table 3.1-2. City of Lawndale – Relevant Regulations

Code/Goal/Policy	Description
City of Lawndale General Plan Circulation Element	
Policy 1B	Provide necessary facilities to balance all travel modes, users, and for a variety of trip purposes. Transportation modes are prioritized in the following order: vehicles, public transit, pedestrians, bicycles where sufficient ROW exists, and freight
Policy 3A	Require or provide adequate traffic safety measures on all roadways
Policy 4A	Reduce daily and peak hour vehicle trips
Policy 5A	Work with regional transportation agencies to establish criteria to implement transit improvements and develop short- and long-term transit service plans, corridor improvements, transit centers, park and ride lots, and the preservation of rights-of-way for commuter rail stations
Policy 5D	Work with regional transportation agencies to plan and implement a commuter rail system, including routes, location of stops, service schedules, feeder bus routes, parking needs, a transit terminal/park and ride lot, and funding
City of Lawndale General Plan Safety Element	
Policy SAF-4.4	Provision of adequate access for emergency vehicles and evacuation in all new developments

Source: City of Lawndale, 1991a; 2015

City of Redondo Beach

The Redondo Beach General Plan Circulation Element was adopted in 2009 and the Redondo Beach General Plan Safety Element was last updated in 1993. These General Plan elements contains goals and policies that focus on transportation and are described in Table 3.1-3.

Table 3.1-3. City of Redondo Beach – Relevant Regulations

Code/Goal/Policy	Description
City of Redondo Beach General Plan Circulation Element	
Goal G1	Address the root causes of trip generation rather than simply reacting to the consequences
Goal G4	Allow for safe and convenient walking, biking, or taking transit
Goal G16	Provide reliable, safe fixed-route transit
Policy P31	Extend Metro's Green Line
Policy P32	Create multi-modal transit hubs
Policy P33	Enhance transit wayfinding and signage at transit stops
City of Redondo Beach General Plan Safety Element	
Objective 10.10	Minimization of the noise of railroad transit, both freight and passenger, on residential uses and other sensitive land uses
Policy 10.10.1	Work with railroad operators to establish operational restrictions during the early morning and late evening hours to reduce adverse noise impacts in residential areas and other noise-sensitive areas
Policy 10.10.2	Install noise mitigation features where operations impact existing adjacent residential or other noise-sensitive uses
Policy 12.1.3	Assess the potential impacts of development to the circulation system as it relates to fire prevention, including emergency response times

Source: Redondo Beach, 1993f, 2009a

City of Torrance – General Plan Circulation and Infrastructure Element

The Torrance General Plan Circulation and Infrastructure Element and Torrance General Plan Safety Element were adopted in 2010 and the Hawthorne Boulevard Corridor Specific Plan was adopted in 1996. These plans contain goals and policies that focus on transportation and are described in Table 3.1-4.

Table 3.1-4. City of Torrance – Relevant Regulations

Code/Goal/Policy	Description
City of Torrance General Plan Circulation and Infrastructure Element	
Objective CI-7	Expansion and optimization of local and regional bus and other transit systems
Policy CI-3.4	Encourage the use of regional rail, buses, bicycling, carpools, and vanpools for work trips
Policy CI-4.1	Protect residential neighborhoods from cut-through traffic by improving signage, guiding traffic away from residential areas, and employing appropriate traffic-calming methods
Policy CI-7.2	Coordinate transit planning with regional and county transportation agencies
Policy CI-7.3	Support and encourage the use of public transit
Policy CI-7.4	Establish a transit center
Policy CI-7.5	Provide attractive and appropriate transit amenities
Policy CI-7.9	Support light rail usage by providing connections to transfer opportunities through the Torrance Transit System
Policy CI-7.10	Implement signal prioritization to support public transit and provide more efficient transit services
City of Torrance General Plan Safety Element	
Objective S-6	Provision of a high level of fire, police, and emergency medical services
Policy S-6.5	Provide for a maximum 6-minute Fire Department response time
Hawthorne Boulevard Corridor Specific Plans	
Goal 1E	Maximize opportunities for alternative modes of transportation and maintain mobility
Policy 6-1	Maintain or improve the existing peak traffic level of service
Policy 6-2	Minimize potential conflicts between through traffic on Hawthorne Boulevard and turning traffic, between vehicles and pedestrians, and between traffic and stopped transit vehicles
Policy 6-4	Avoid the intrusion of through traffic in residential areas
Objective 7A	Transit service which enhances mobility in the corridor and serves as a convenient alternative to automobile travel
Policy 7-1	Coordinate local and regional transit service operating in the corridor in order to maximize the service provided and to optimize convenience to the user
Policy 7-5	Establish shuttle services that enhance corridor carrying capacity and accessibility to adjacent land uses
Objective 8A	Reduce the dependence on single-occupant vehicles for circulation in the corridor

Source: Torrance; 1996, 2010a; 2010f

3.1-2 Methodology

The impacts section addresses the impacts of the Proposed Project and Options based on an analysis of the components of the transportation network described in the existing conditions section. The analysis shall determine the potential impacts of the Proposed Project and Options on the transportation network in the Resource Study Areas (RSA).

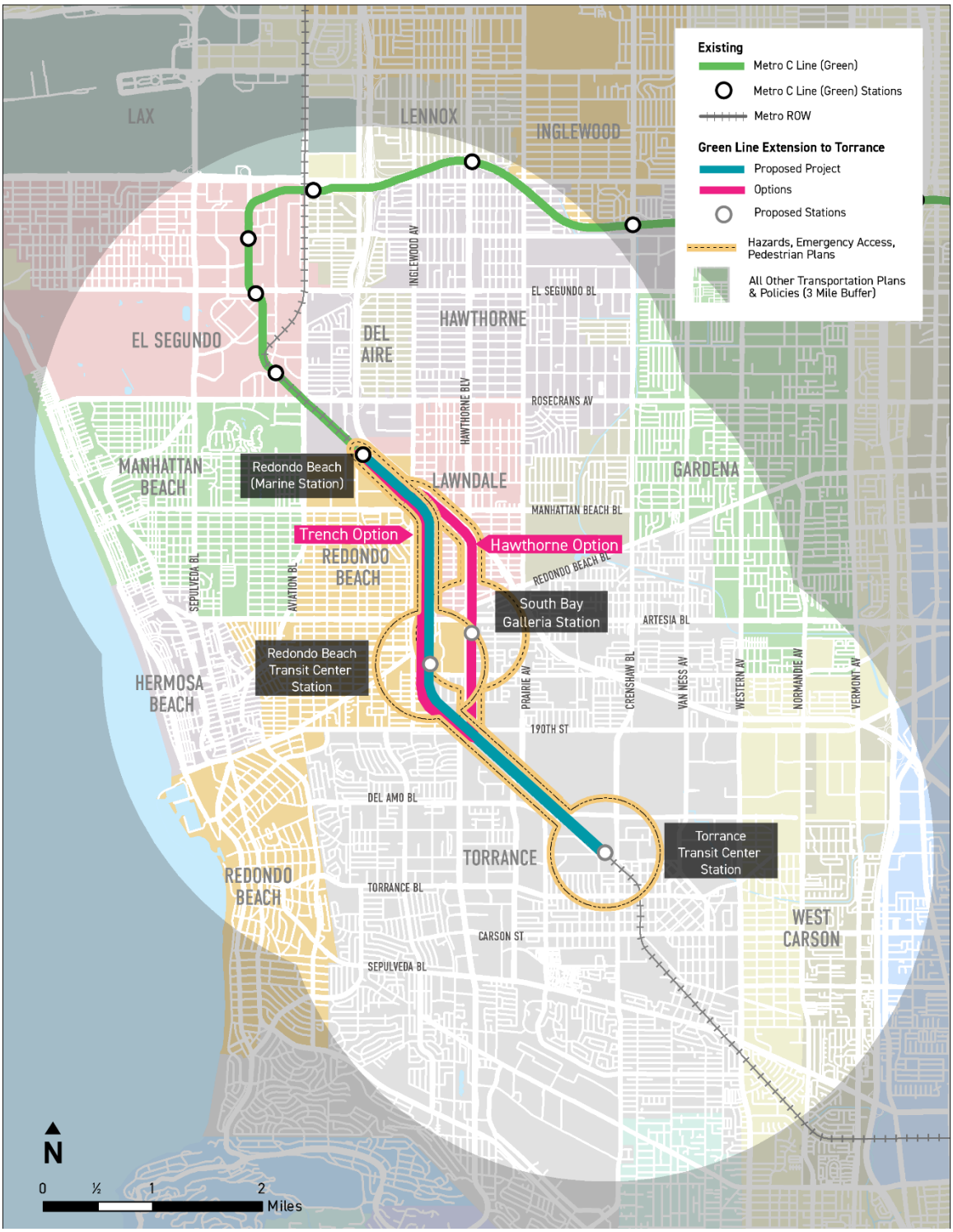
3.1-2.1 Resource Study Area

The RSAs for transportation encompasses the areas in which there may be foreseeable effects of the Proposed Project and Options on transportation safety, emergency access, and on plans or policies regarding the effectiveness of the circulation system inclusive of bicycle paths, pedestrian access, and public transportation.

The RSAs vary in area and distance from the alignments because the potential for impacts can affect a broader or more focused area depending on the impact criteria and thresholds of significance. Figure 3.1-1 shows the RSAs in relation to the Proposed Project and Options. The following RSAs were developed based on the area with the most potential for significant impacts:

- The RSA for assessing potential hazards regarding the conditions of transportation safety and emergency access is within 500 feet of the track alignment and extending out one half-mile from each station
- The RSA for assessing potential conflicts with plans and policies regarding the circulation system is a 3-mile radius from each proposed station

Figure 3.1-1 Resource Study Area



Source: Fehr & Peers, 2022

3.1-2.2 Program, Plan, Ordinance, or Policy Conflict

Consistency with respect to alterations to the transportation network will be assessed against programs, plans, ordinances, and policies identified in the regulatory section of this report. Project consistency is defined as the furtherance of goals and objectives from existing programs, plans, ordinances, and policies through development of the Proposed Project. If the Proposed Project or Options are determined to conflict with an existing program, plan, ordinance, or policy – i.e., it will impede achievement of existing goals and objectives – the Proposed Project and Options will be found to result in a significant impact.

3.1-2.3 CEQA Guidelines Section 15064.3, subdivision (b) Conflict

Per CEQA Guidelines Section 15064.3(b)(2), transportation projects that reduce, or have no impact on, VMT should be presumed to cause a less than significant transportation impact and do not require VMT analysis. OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA explains with respect to public transit projects as follows:

> Transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less-than-significant impact on transportation. This presumption may apply to all passenger rail projects, bus and bus rapid transit projects, and bicycle and pedestrian infrastructure projects. Streamlining transit and active transportation projects aligns with each of the three statutory goals contained in SB 743 by reducing GHG emissions, increasing multimodal transportation networks, and facilitating mixed use development (OPR, 2018b).

As a passenger rail project, the C Line (Green) Extension to Torrance is expected to reduce VMT, resulting only in localized travel pattern shifts as residents shift their commutes and other automobile trips to the nearest transit station parking lot, or use other means such as walking or bicycling to reach stations. It is presumed that the Proposed Project's impact is **less than significant.**

3.1-2.4 Increased Hazards Due to Geometric Design Feature or Incompatible Use

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the Proposed Project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access the Proposed Project site. These conflicts may be created by the Proposed Project alignment itself or station driveway configurations in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections. Geometric design hazards such as visibility/line of sight, sharp curves, curb radii, roadway and pedestrian lighting, and conflict points between different modes will be evaluated to determine if the project introduces hazards. As described in Section 3.1-2.1, the RSA for geometric hazards is within a half mile of each station or 500 feet from the alignment between stations, where the physical footprint and related network alterations would be found.

3.1-2.5 Emergency Access

Adequacy of emergency access will be evaluated using available data including the location of existing emergency support facilities, such as fire stations. The impact analysis for construction would consider temporary street or lane closures and the ability of emergency responder to navigate through or around these closures. If the project is determined to result in inadequate emergency access, a significant transportation impact will be found.

3.1-2.6 Significance Thresholds

Based upon the thresholds of significance contained in Appendix G of the CEQA Guidelines, implementation of the Proposed Project would result in a significant impact if the Proposed Project would:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) [increase in VMT].

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d. Result in inadequate emergency access.

3.1-2.7 Project Features

As described in Chapter 2, Project Description, a number of features have been incorporated into the project to ensure compliance with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features have been developed for transportation.

PF-T-1. Construction Traffic Management Plan (CTMP)

Metro Rail Design Criteria requires that contractors develop a CTMP prior to the initiation of localized construction activities. Per Metro standard practice, this CTMP (inclusive of street closure information, detour plans, haul routes, and a staging plan) shall be prepared and submitted to the Cities of Lawndale, Redondo Beach, and Torrance for review. For the Hawthorne Option, it would also be submitted to Caltrans. Caltrans would also review selected areas of the Proposed Project or Trench Option, such as bridge construction over Artesia Boulevard. The CTMPs shall be based on the nature and timing of the specific construction activities at each of the construction sites. This coordination will ensure construction activities of the concurrent related projects and associated hauling activities are managed in collaboration with one another and the Proposed Project. The CTMPs may be updated as construction progresses to reflect progress at the various construction sites. The CTMPs will include, but not be limited to, the following elements, as appropriate:

- As traffic lane, parking lane, sidewalk closures and full road closures are anticipated, worksite traffic control plans, approved by the local jurisdictions and Caltrans, shall be developed and implemented to route vehicular traffic, bicyclists, and pedestrians around any such closures.
- As partial and full street closures are anticipated at various locations during portions of the Project construction, detour plans, approved by the local jurisdictions, shall be developed and implemented to route vehicular traffic, pedestrians and bicyclists to alternative routes during these periods, including maintaining access for these modes across Hawthorne Boulevard during construction.
- Ensure that vehicle and pedestrian access will remain available from at least one entry and egress point for properties in proximity to the alignments and component sites during construction with access to businesses maintained during normal business hours; nighttime closures may be possible and accordingly arranged with property owners.
- Coordinate with the city and emergency service providers to ensure emergency access is provided to the alignments and component sites and neighboring land uses. Emergency access points will be marked accordingly in consultation with local fire departments, as applicable.

- Provide off-site truck staging in a legal area furnished by the construction truck contractor.
- Schedule deliveries and pick-ups of construction materials during non-peak travel periods to the extent possible and coordinate to reduce the potential of trucks waiting to load or unload for protracted periods.

3.1-3 Affected Environment / Existing Conditions

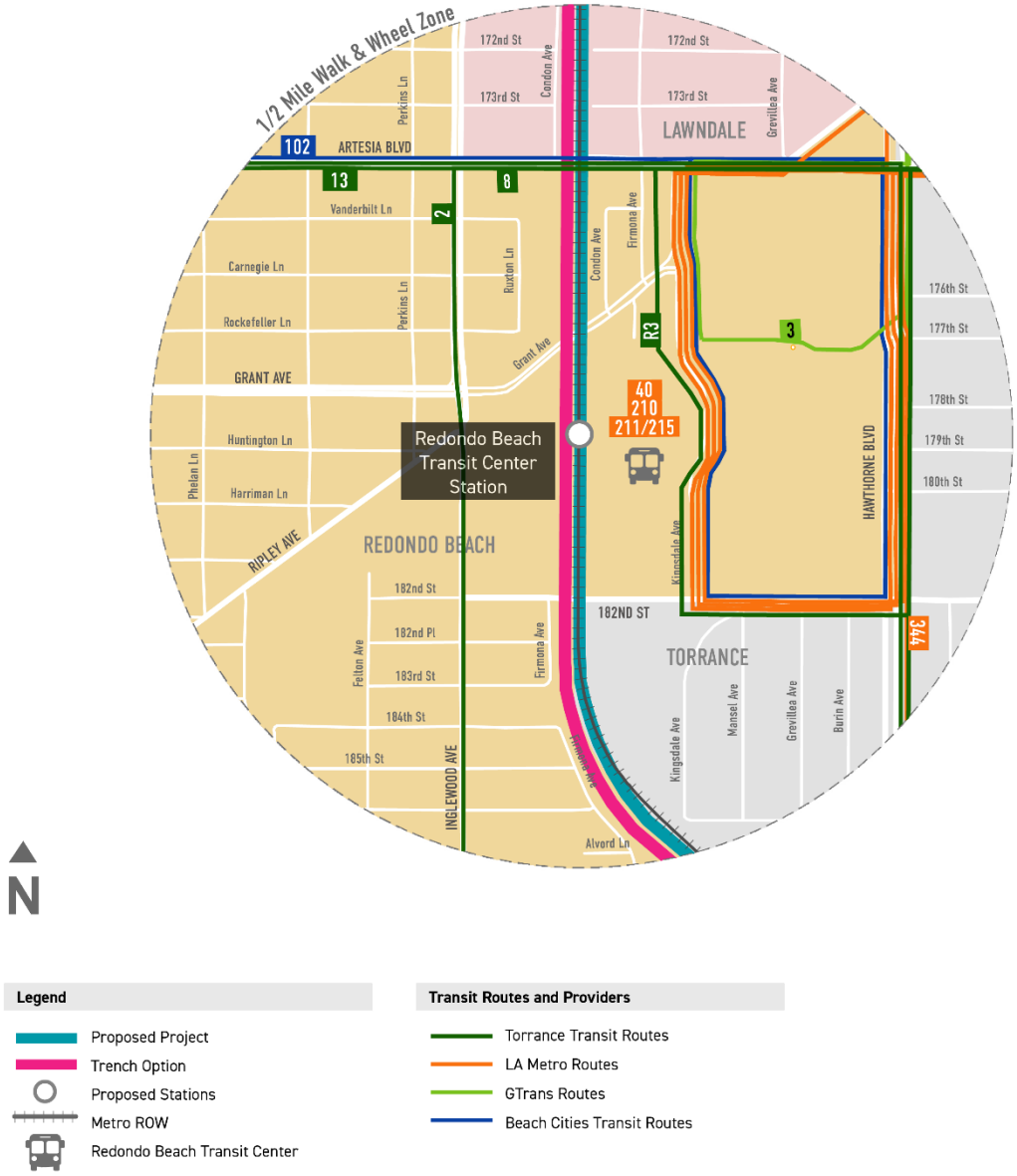
This section presents information about the affected environment and existing transportation conditions in the RSAs under the base year (2021) conditions. The transportation conditions discussed below include transit systems, street and highway systems, parking, and pedestrian and bicycle facilities.

3.1-3.1 Base Year Transit Service

The RSAs are served by several regional and local transit agencies providing both rail and bus services. Metro provides light rail service via the C Line (Green), which operates in the median of the Interstate 105 (I-105) Freeway and to its current terminus at the Redondo Beach (Marine) Station. Bus service in the RSA is provided by Metro, Beach Cities Transit, Los Angeles Department of Transportation (LADOT) Commuter Express, Gardena Transit (GTrans), and Torrance Transit. Service types provided include rapid, express, limited, and local lines. Community-based shuttle service was previously provided by Lawndale Beat, but it was suspended during the COVID-19 pandemic.

Public transit lines that serve RSAs are shown by proposed stations in Figure 3.1-2 through Figure 3.1-4, the larger 3-mile radius around the RSAs in Figure 3.1-5 and are summarized in Table 3.1-5.

Figure 3.1-2 Proposed Project and Trench Option Study Area Base Year Transit Lines (Redondo Beach TC Station)

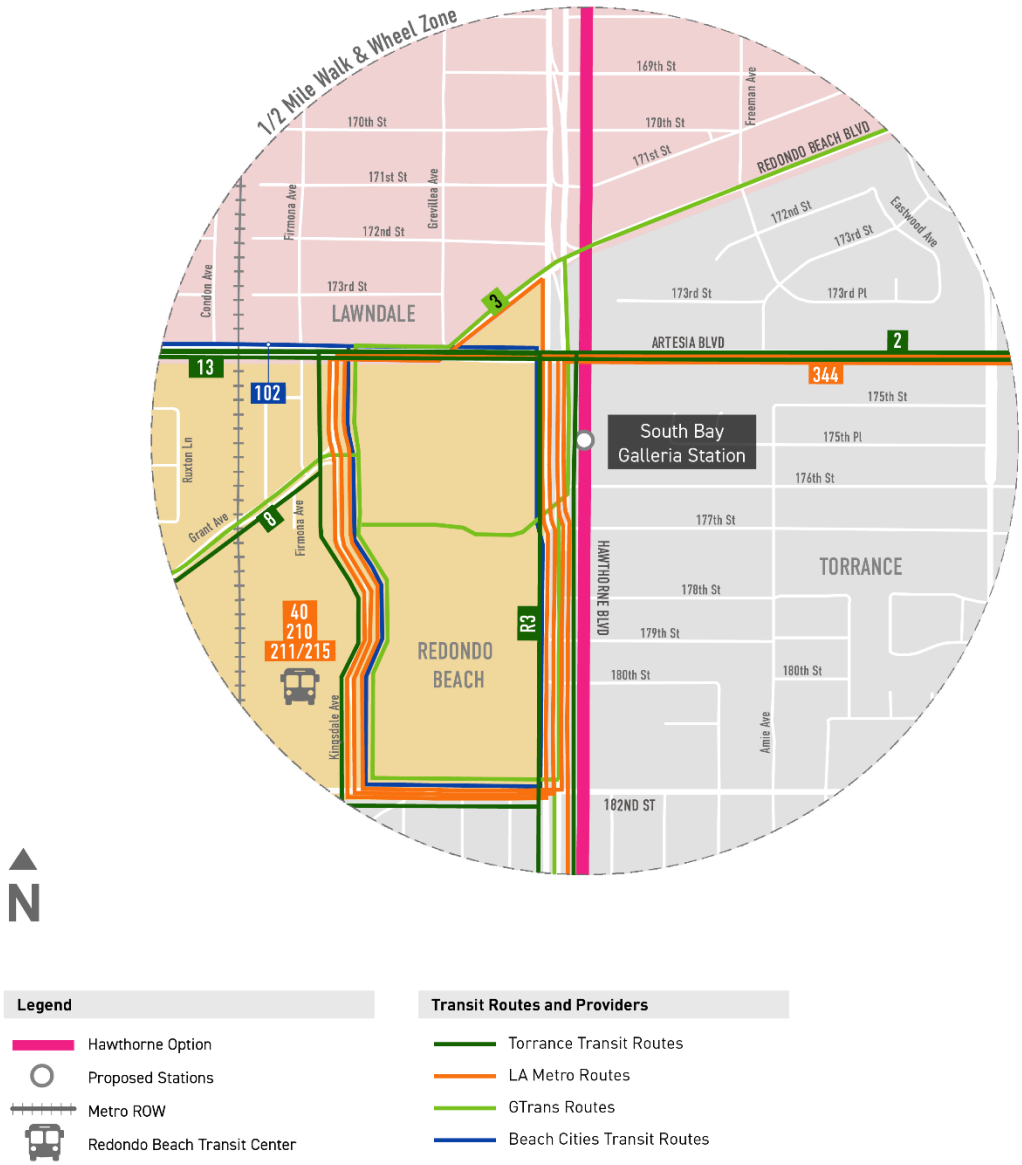


Source: Fehr & Peers / Cityworks Design, 2022; Metro, 2022; Cities of Torrance, Lawndale, Gardena, Redondo Beach, 2022

Figure 3.1-3 Proposed Project and Trench Option Study Area Base Year Transit Lines (Torrance TC Station)

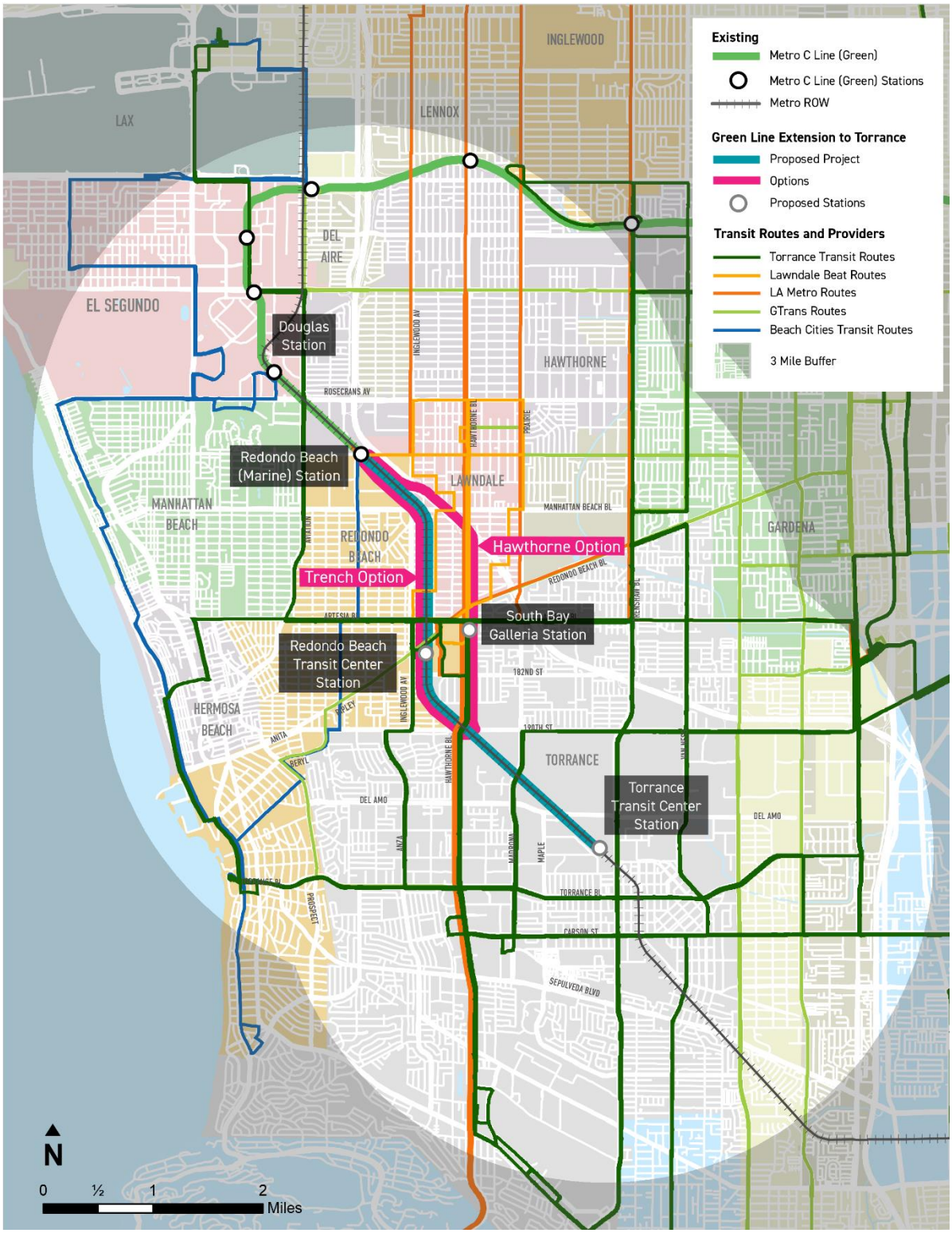
Source: Fehr & Peers / Cityworks Design, 2022; Metro, 2022; City of Torrance, 2022

Figure 3.1-4 Hawthorne Option Study Area Base Year Transit Lines (South Bay Galleria Station)



Source: Fehr & Peers, 2022; Metro, 2022; Cities of Torrance, Lawndale, Gardena, Redondo Beach, 2022

Figure 3.1-5 Base Year Transit Service within Three Miles of the Project



Source: Fehr & Peers, 2022; Metro, 2022; Cities of Torrance, Lawndale, Gardena, Redondo Beach, 2022

Table 3.1-5 Project Study Area Base Year Transit Lines and Operators

Transit Agency	Route Number	Service Type	Pre-COVID Average Peak Period Headways	Proposed Metro NextGen Peak Period Headways
Metro	40	Late Night	15	10
Metro	120	Local	41	30
Metro	125	Local	27	20
Metro	126	Local	57	*Discontinued*
Metro	130	Local	35	30
Metro	204	Local	13	5
Metro	205	Local	37	30
Metro	206	Local	14	10
Metro	210	Local	21	10
Metro	211	Local	38	40
Metro	212	Local	13	7.5
Metro	215	Local	38	40
Metro	232	Local	22	15
Metro	344	Local	33	30
Metro	460	Express	25	30
Metro	550	Express	36	30
Metro	625	Shuttle	26	*Discontinued*
Metro Rapid	740	Rapid	23	*Discontinued*
Metro Rapid	710	Rapid	17	*Discontinued*
Metro Rapid	754	Rapid	9	10
Metro Micro Pilot LAX/Inglewood Service Area north of El Segundo Bl	N/A	On-Demand Van	N/A	*Not Applicable*
Beach Cities Transit	102	Local	30	*Not Applicable*
Beach Cities Transit	109	Local	45	*Not Applicable*
LADOT Commuter Express	438	Express	13	*Not Applicable*
LADOT Commuter Express	574	Express	32	*Not Applicable*
GTrans (Gardena)	1X	Express	30	*Not Applicable*
Gtrans (Gardena)	2	Local	15	*Not Applicable*
Gtrans (Gardena)	3	Local	15	*Not Applicable*
Gtrans (Gardena)	4	Local	50	*Not Applicable*
Gtrans (Gardena)	5	Local	30	*Not Applicable*
Lawndale Beat[1]	EX	Shuttle	40	*Not Applicable*
Lawndale Beat[1]	RES	Shuttle	50	*Not Applicable*
Torrance Transit	1	Local	40	*Not Applicable*
Torrance Transit	2	Local	64	*Not Applicable*
Torrance Transit	3/Rapid 3	Local	25	*Not Applicable*
Torrance Transit	4X	Express	30	*Not Applicable*
Torrance Transit	5	Local	60	*Not Applicable*
Torrance Transit	6	Local	40	*Not Applicable*
Torrance Transit	7	Local	60	*Not Applicable*
Torrance Transit	8	Local	30	*Not Applicable*
Torrance Transit	9	Local	60	*Not Applicable*
Torrance Transit	10	Local	28	*Not Applicable*

Source: Fehr & Peers, 2022; Transit Service Providers

[1] Lawndale Beat was suspended during the COVID-19 pandemic.

3.1-3.2 Programmed Transit Improvements

The following Programmed Transit Improvements[2] are included in the RSAs:

- K Line (Crenshaw) Extension to Los Angeles International Airport (LAX) (Under Construction)
- C Line (Green) Extension to Torrance (Proposed Project)
- NextGen Bus

Additionally, the 2020 LRTP identifies, as Action 1.2i, "implementation of future BRT corridors identified in BRT Vision and Principles Study." Metro's BRT Vision and Principles Study provides the foundation for assignment of Measure M funds for the Countywide BRT Expansion program, additionally identifies Hawthorne Boulevard from the City of Inglewood to the City of Torrance as a Top 30 corridor. The Measure R and Measure M expenditure plans include allocation of funds for general BRT projects throughout the County, though there is not defined allocation to the Hawthorne Boulevard project in particular.

More detail regarding planned transit and other transportation improvements in the region can be found in the introduction to Chapter 3, Environmental Impacts.

3.1-3.3 Traffic

The following is a summary of the existing roadway system and traffic conditions in the RSAs. Descriptions of existing conditions are provided for major arterials and freeways in the RSA, along with selected on- and off-ramps.

3.1-3.4 Regional Roadway Network

The transportation network within the RSAs include a network of roadways that provide local and sub-regional access between cities, along with two freeways that provide regional access throughout Los Angeles County and Southern California. The major roadway facilities within the RSAs are described below.

3.1-3.5 Freeways

The key freeways in the RSAs are as follows:

- I-105 (Century Freeway) – The Century Freeway is an east-west freeway with three mixed-flow lanes in each direction. It extends from LAX east to the City of Norwalk. High occupancy vehicle (HOV) lanes for both the eastbound and westbound direction are provided to the east of Aviation Boulevard. The existing Metro C Line (Green) operates in the median of the freeway east of Aviation Boulevard. Within the Project Study Area, I-105 has an interchange with the I-405 Freeway and local interchanges at Sepulveda Boulevard and Imperial Highway.
- I-405 (San Diego Freeway) – The San Diego Freeway is a north-south freeway with four to six mixed-flow lanes and one HOV lane in each direction. The facility is a "belt" type interstate freeway, with a northern terminus at an interchange with the I-5 Freeway in the San Fernando Valley and a southern terminus also with the I-5 Freeway at an interchange in Irvine. Within the Project Study Area, I-405 has an interchange with I-105 and also has interchanges at Century Boulevard, La Cienega

[2] A programmed transit improvement is a transit improvement planned and adopted by a transit-providing agency but not yet fully implemented at the time of the baseline conditions

Boulevard, El Segundo Boulevard, Rosecrans Avenue, Inglewood Avenue, Hawthorne Boulevard, Redondo Beach Boulevard, Artesia Boulevard, and Crenshaw Boulevard.

3.1-3.6 Arterial Network

Key north-south and east-west arterials in the RSAs are listed below (along with the jurisdictions through which they run) and shown in Figure 3.1-6. Table 3.1-6 provides key characteristics for RSA arterials, such as number of lanes, length, jurisdiction, and surrounding land uses. Each local jurisdiction has a specific naming scheme for the classes of roadways within its local limits. Common classifications include arterials, secondary arterials, and collector roadways.

Major North-South Arterials (listed from west to east):

- Inglewood Avenue – Communities of Del Aire and Lennox (unincorporated Los Angeles County) and Cities of Hawthorne, Lawndale, and Redondo Beach
- Hawthorne Boulevard (also designated SR-107 between I-405 and SR-1) – Cities of Lawndale, Redondo Beach, and Torrance
- Madrona Avenue/ Prairie Avenue – Cities of Torrance and Lawndale
- Crenshaw Boulevard – City of Torrance

Major East-West Arterials (listed from north to south):

- Manhattan Beach Boulevard – Cities of Manhattan Beach, Lawndale, and Redondo Beach
- Artesia Boulevard (SR-91) – Cities of Manhattan Beach, Lawndale, Redondo Beach, and Torrance
- Ripley Avenue/ Redondo Beach Boulevard: Cities of Redondo Beach and Lawndale
- 190th Street – Cities of Redondo Beach and Torrance
- Del Amo Boulevard – City of Torrance
- Torrance Boulevard – City of Torrance

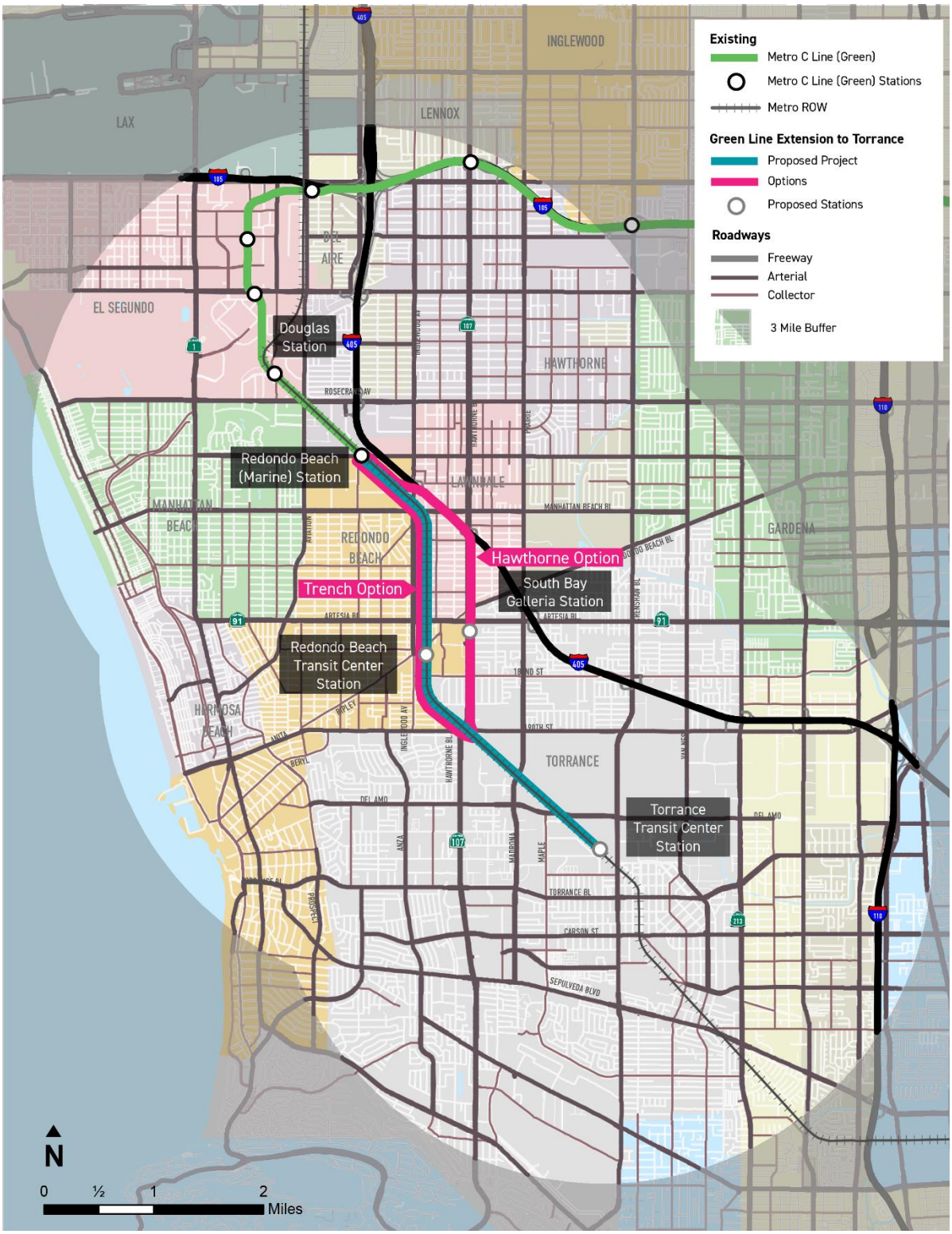
3.1-3.7 Planned Roadway Improvements

Metro's 2020 LRTP, *Our Next LA*, includes funding for planned roadway improvement projects within the RSAs, which includes various ramp and interchange improvements along the I-405 and I-105 freeways. This project and the other roadway improvements in the Project Study Area are included in the future year conditions. Study area projects expected to be completed before the operation of the Proposed Project included in *Our Next LA* include I-105 ExpressLanes from I-405 to I-605.

3.1-3.8 Roadway Operations and LOS

Consistent with SB 375 and Section 15064.3 of the CEQA Guidelines, LOS on roadway segments and at intersections within the RSAs are not required to be evaluated within the context of this EIR.

Figure 3.1-6 Project Study Area Base Year Roadways and Classifications



Source: Fehr & Peers, 2022

Table 3.1-6 Project Study Area Base Year Roadways-Key Characteristics

Arterial	Direction	Jurisdiction	Study Area Extent	Study Area Length (mi)	Lanes in Study Area
Inglewood Ave	North-South	Del Aire (Unincorporated) Lennox (Unincorporated) Hawthorne Lawndale Redondo Beach	El Segundo Blvd – 190th St	4.0	El Segundo Blvd – Manhattan Beach Blvd: 4 lanes Manhattan Beach Blvd – Artesia Blvd: 6 lanes Artesia Blvd – 190th St: 4 lanes
Hawthorne Blvd	North-South	Lawndale Redondo Beach Torrance Caltrans	Imperial Hwy – Pacific Coast Hwy	8.6	Imperial Hwy – 159th St: 6 lanes 159th St – Redondo Beach Blvd: 7 lanes (4 SB, 3 NB) Redondo Beach Blvd – Lomita Blvd: 8 lanes Lomita Blvd – Pacific Coast Hwy: 7 lanes (3 SB, 4 NB)
Prairie Ave/ Madrona Ave	North-South	Hawthorne Torrance Lawndale	Imperial Hwy – Sepulveda Blvd	7.4	Imperial Hwy – Rosecrans Ave: 6 lanes Rosecrans Ave – Manhattan Beach Blvd: 5 lanes (2 SB, 3 NB) Manhattan Beach Blvd – 190th St: 5 lanes (2 NB/SB, 1 center turn lane) 190th St – Sepulveda Blvd: 6 lanes
Crenshaw Blvd	North-South	Hawthorne Gardena Torrance	El Segundo Blvd – Pacific Coast Hwy	8.7	El Segundo Blvd – Pacific Coast Hwy: 6 lanes
Manhattan Beach Blvd	East-West	Manhattan Beach Lawndale Redondo Beach	Manhattan Ave - Van Ness Ave	5.3	Manhattan Ave – Pacific Ave: 2 lanes Pacific Ave – Aviation Blvd: 4 lanes Aviation Blvd – Inglewood Ave: 6 lanes Inglewood Ave – Van Ness Ave: 4 lanes
Artesia Blvd	East-West	Manhattan Beach Lawndale Redondo Beach Torrance Caltrans	Pacific Coast Hwy – Normandie Ave	5.5	Sepulveda Blvd – Normandie Ave: 4 lanes (typ. 6 lanes near major intersections)
Redondo Beach Blvd	East-West	Redondo Beach Lawndale	Artesia Blvd – Western Ave	2.8	Artesia Blvd – Western Ave: 2 lanes
190th St	East-West	Redondo Beach Torrance	Anita St - Vermont Ave	5.1	Anita St – Hawthorne Blvd: 4 lanes Hawthorne Blvd– Vermont Ave: 6 lanes

Arterial	Direction	Jurisdiction	Study Area Extent	Study Area Length (mi)	Lanes in Study Area
Del Amo Blvd	East-West	Torrance	Diamond St – Western Ave	4.2	Diamond St – Prospect Ave: 2 lanes Prospect Ave – Western Ave: 4 lanes
Torrance Blvd	East-West	Torrance	Catalina Ave – Vermont Ave	5.8	Catalina Ave – Anza Ave: 4 lanes Anza Ave – Madrona Ave: 6 lanes Madrona Ave – Crenshaw Blvd: 4 lanes plus frontage road Crenshaw Blvd – Vermont Ave: 4 lanes

Source: Fehr & Peers, 2021

3.1-3.9 Pedestrian Facilities

The pedestrian circulation system varies across the RSA, depending on the density, mix of land uses and vehicular circulation patterns. In some areas, pedestrian flow is impeded due to missing or narrow sidewalks and/or obstructions, such as: utility poles, faded crosswalk markings and overgrown landscaping.

The RSA for potential pedestrian hazards is approximately one half-mile radius around proposed stations and 500 feet on either side of the proposed alignment. Existing pedestrian conditions within the RSA were qualitatively assessed for potential hazards considering the conditions of transportation safety and emergency access. The following summarizes the analysis results for the study locations:

- **Redondo Beach Transit Center (TC) Station (Proposed Project and Trench Option) –** Figure 3.1-7 shows the existing pedestrian conditions around the proposed station south of the intersection of Grant and Kingsdale Avenues. Pedestrian crossing is allowed across all legs of the intersection and continuous sidewalks adjacent to landscaped parkways are also provided. At the southbound approach to the intersection on Kingsdale Avenue, a channelized, uncontrolled right turn is a potential conflict location for pedestrians. A pedestrian refuge island is provided for pedestrians crossing the north leg of this intersection. However, the crosswalk and island are located immediately following the right turn but before the stop sign for right-turning vehicles. The wide curb radius at the southbound right slip lane encourages fast vehicle speeds on the turn directly into the crosswalk. On 182nd Street between Hawthorne Boulevard and the existing freight railroad tracks east of Firmona Avenue, sidewalks are discontinuous. Sidewalks are present on both sides of the street on 182nd Street between Inglewood Avenue and Firmona Avenue and again between Hawthorne Boulevard and Amie Avenue. Following Grant Avenue southbound away from the station entrance, sidewalks are present on both sides of the street throughout the immediate station area west to Inglewood Avenue. However, while Grant Avenue passes through a residential neighborhood immediately west of the proposed station entrance, it also crosses under a rail bridge west of Condon Avenue, under which a narrow sidewalk is hemmed in by high concrete walls. Along Hawthorne Boulevard between 169th Street and 182nd Street, sidewalks are present on both sides of the street. Station access from Hawthorne Boulevard between Artesia Boulevard and 182nd Street lacks a direct east-west pedestrian route through the South Bay Galleria parking lot, as

sidewalks are not continuous. Curb ramps may not be ADA compliant, particularly along 182nd Street, Grant Avenue, and Kingsdale Avenue.

- **South Bay Galleria Station (Hawthorne Option)** – Under the Hawthorne Option, this station replaces the Redondo Beach TC Station (although the Redondo Beach TC itself would remain). As shown in Figure 3.1-9, this station would be in the median of Hawthorne Boulevard immediately south of the intersection with Artesia Boulevard, with a passenger entry plaza at grade and an elevated station platform in line with the elevated guideway. The South Bay Galleria Station would be accessed from the existing crosswalks at the intersection of Artesia Boulevard. The Project additionally proposes a new signalized mid-block crossing at the south end of the station approximately 360 feet south of the Artesia Boulevard intersection and immediately north of the existing South Bay Galleria driveway, which would provide a coordinated signal for pedestrians crossing to and from the median plaza from either side of Hawthorne Boulevard. Although Hawthorne Boulevard features sidewalks for the entire length of the RSA, widths vary significantly block to block. Many intersections feature wide right turn lanes and shallow curb radii that permit vehicles to turn at high speed. The South Bay Galleria Station would be approximately one mile from the Redondo Beach Transit Center, on the opposite side of the South Bay Galleria. Buses that stop on Hawthorne Boulevard adjacent to the South Bay Galleria Station would likely stop at the Redondo Beach Transit Center, providing a connection for patrons that need to access both.
- **Torrance TC Station (Proposed Project)** – The Torrance TC is adjacent to the intersection of Crenshaw Boulevard and Maricopa Street. Figure 3.1-8 shows the existing pedestrian conditions around the proposed station. Pedestrian access to and through existing Torrance TC. At the intersection of Crenshaw Boulevard and Maricopa Street sidewalks are provided on all approaches and directions, but no pedestrian crossing is allowed across the north leg of the intersection. Curb ramps may not be ADA compliant. Along Maricopa Street, the sidewalk on the north side of the road discontinues west of the existing driveway to the site, resuming approximately 1,650 feet west at the intersection with Hickory Street. Sidewalk is present on the south side of Maricopa Street west to Maple Street, just outside the station area. Along Alaska Avenue, sidewalks are not present on the east side of the street adjacent to the future station site. Sidewalks are present on the west side of Alaska Avenue north of Maricopa Street until the existing BNSF railroad crossing, after which they discontinue. On Crenshaw Boulevard, sidewalks are present on both sides of the street. The nearest crosswalk north of the intersection of Crenshaw Boulevard and Maricopa Street can be found at the intersection at Crenshaw Boulevard and West 208th Street, approximately 1,600 feet north. That intersection is signalized and provides a crosswalk along the north and east legs of the intersection. Continuing north, crosswalks are provided on all four legs of the intersection at Crenshaw Boulevard and Del Amo Boulevard; however, sidewalks are not present on Del Amo Boulevard west of Crenshaw Boulevard.
- **182nd Street between Inglewood Avenue and Prairie Avenue**– Sidewalks are discontinuous in some areas and signalized or marked pedestrian crossings are located at the intersections noted below. The only signalized intersections in the RSA are at Inglewood Avenue, Hawthorne Boulevard, and Prairie Avenue.

  - Inglewood Avenue (signalized, south and west legs)
  - Hawthorne Boulevard (signalized, all four legs)
  - Bailey Drive (unsignalized mid-block crossing 182nd)
  - Prairie Avenue (signalized, all four legs)

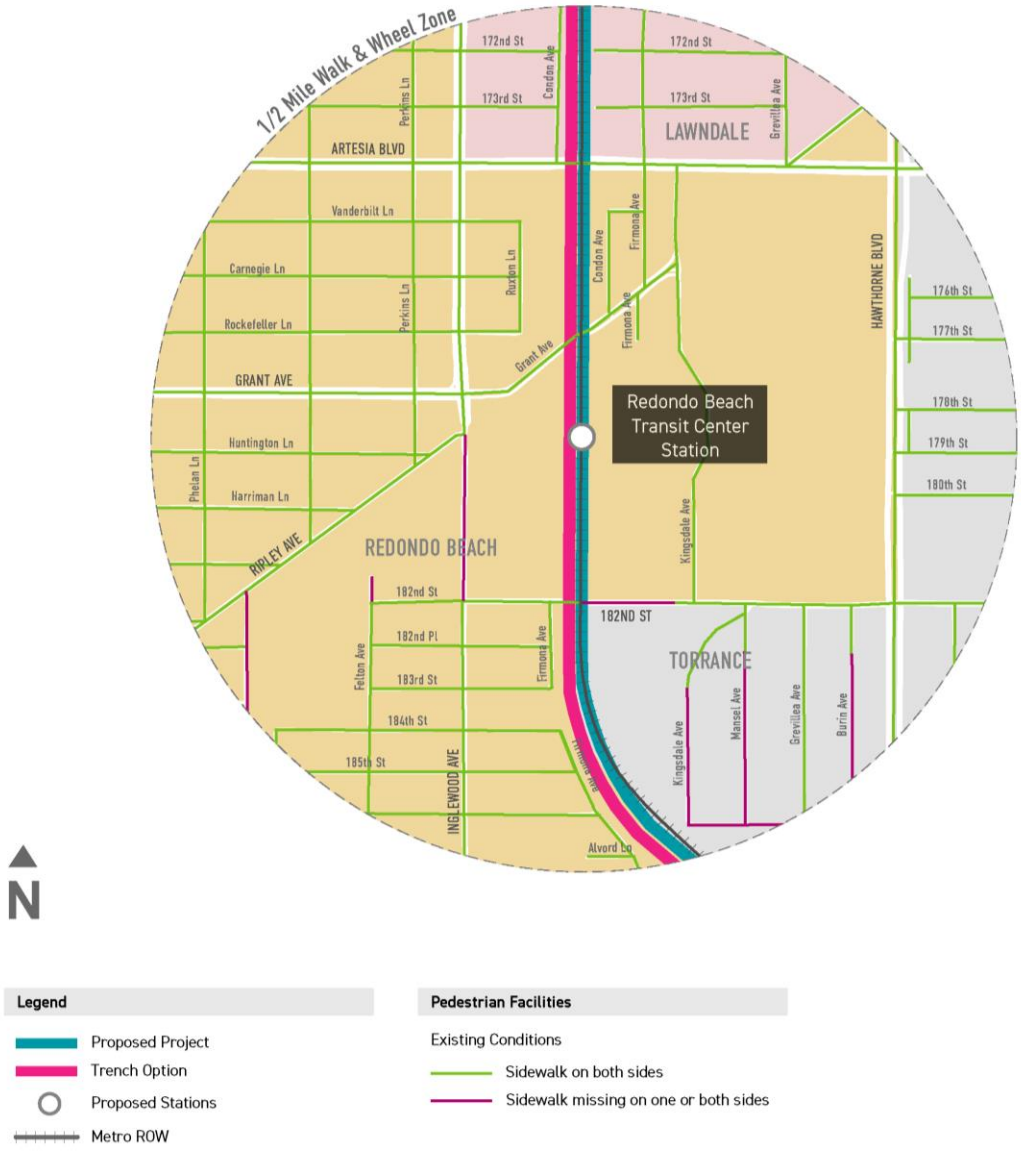
> **Hawthorne Boulevard between I-405 and 190th Street** – Sidewalks are provided on both sides of Hawthorne Boulevard. Signalized or marked pedestrian crossings are located at regular intervals every few hundred feet along Hawthorne Boulevard north of Artesia Boulevard; south of the Artesia Boulevard intersection the marked crossings are more widely spaced.

- 162nd Street (signalized, all four legs)
- 164th Street (unsignalized east-west across Hawthorne Boulevard, north leg)
- 166th Street (signalized, all four legs)
- Midblock between 167th and 168th Street (signalized east-west across Hawthorne Boulevard)
- 169th Street (signalized, all four legs)
- 171st Street (unsignalized east-west across Hawthorne Boulevard)
- Redondo Beach Boulevard (signalized, all four legs)
- Artesia Boulevard (signalized, all four legs)
- 177th Street (signalized, east, west, and south legs)
- 182nd Street (signalized, all four legs)
- 186th Street (signalized, all four legs)
- 190th Street (signalized, east, west, and south legs)

> **Inglewood Avenue between 172nd Street and 185th Street** - Sidewalks are available on both sides of the street north of Grant Avenue. South of Grant Avenue and north of 182nd Street, the sidewalk discontinues on the east side of the street. Marked pedestrian crossings include:

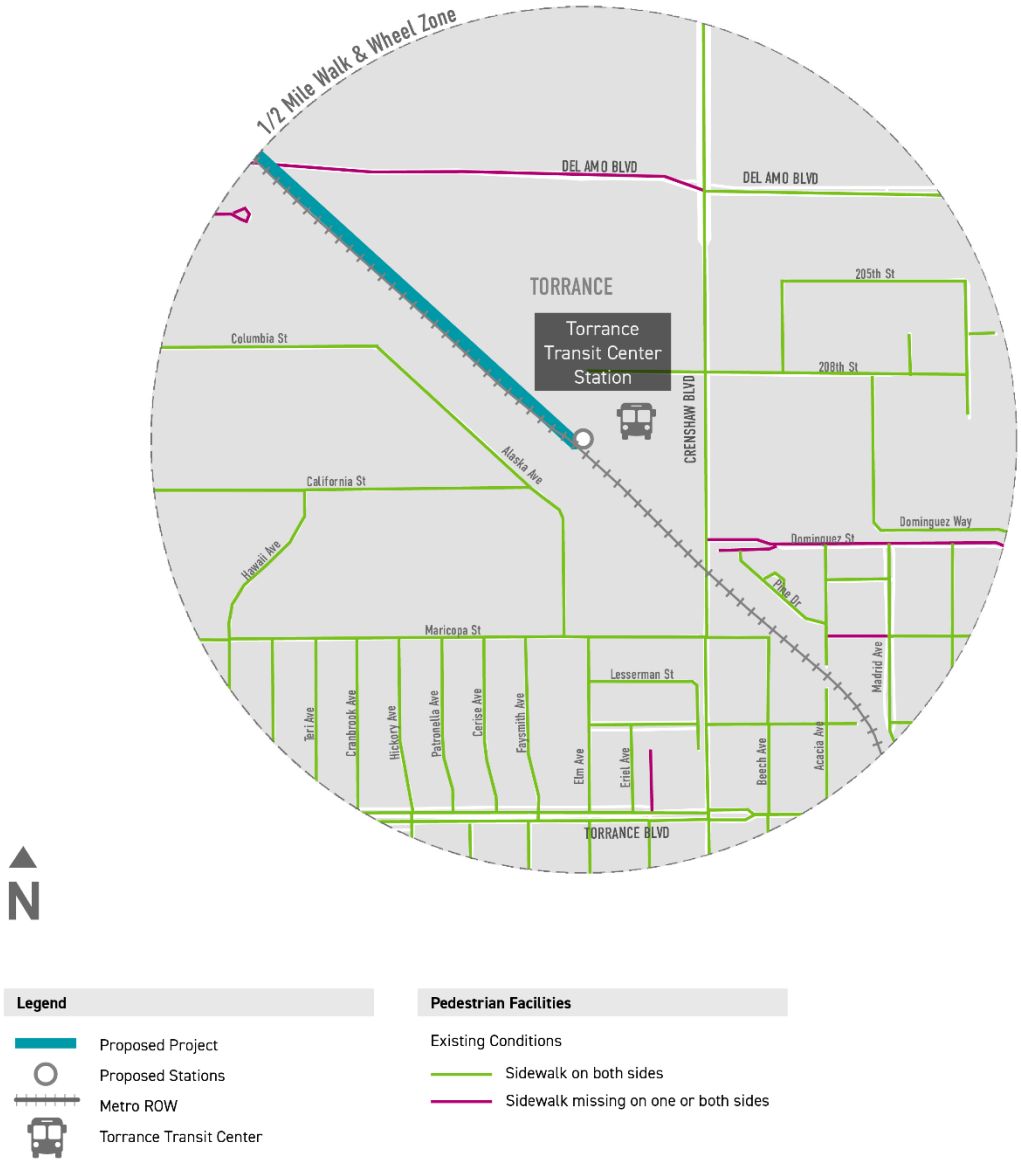
- Artesia Boulevard (signalized, north, south, and west legs)
- Grant Avenue (signalized, all four legs)
- Ripley Avenue (unsignalized, west leg only)
- 182nd Street (signalized, south and west legs)

Figure 3.1-7 Base Year Pedestrian Facilities (Redondo Beach TC Station)



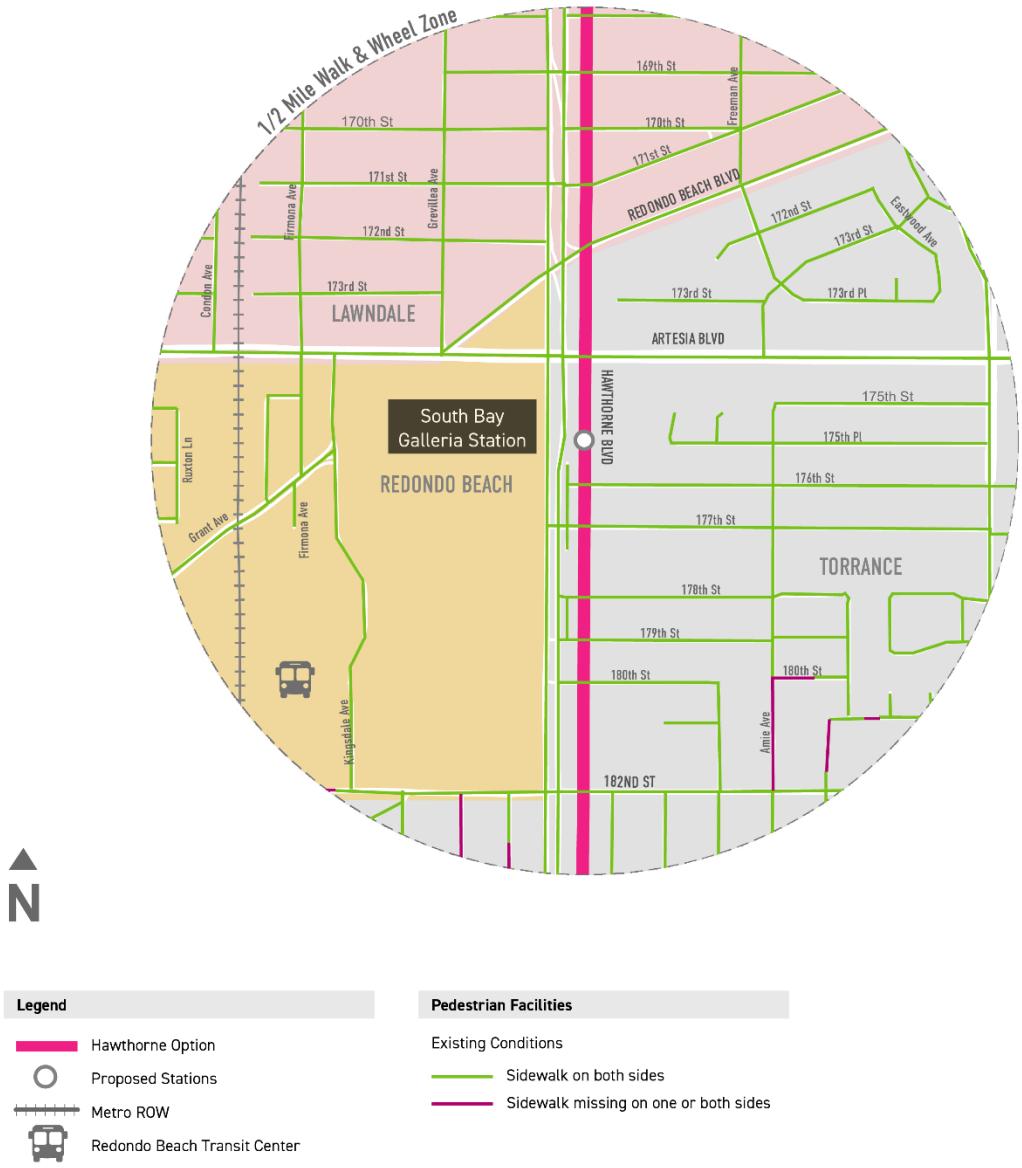
Source: Fehr & Peers, 2022

Figure 3.1-8 Base Year Pedestrian Facilities (Torrance TC Station)



Source: Fehr & Peers, 2022

Figure 3.1-9 Base Year Pedestrian Facilities (South Bay Galleria Station)



Source: Fehr & Peers, 2022

3.1-3.10 Bicycle Facilities

Bicycle facilities are classified based on the 2020 Caltrans HDM terminology:

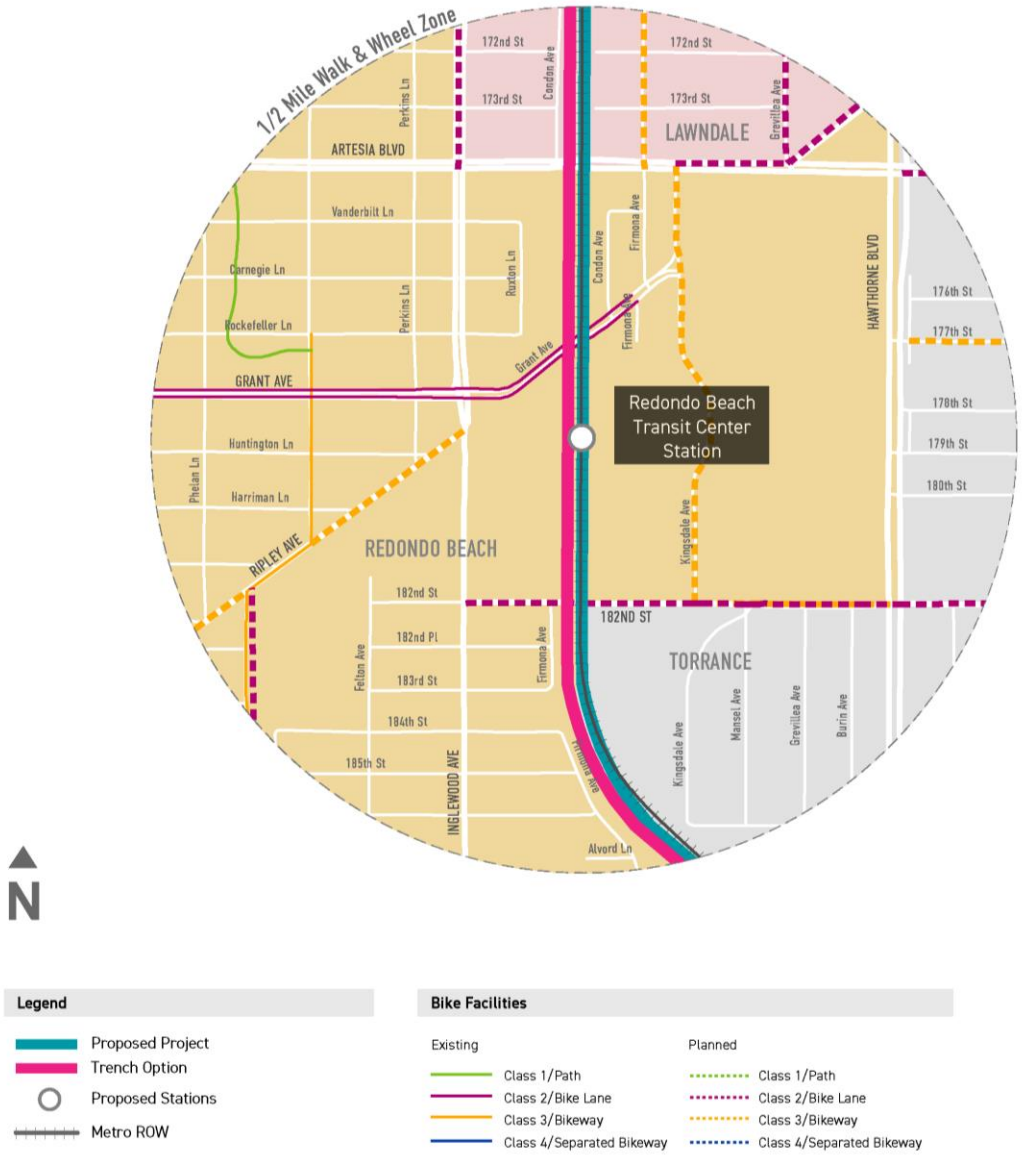
- **Class I Bikeway (Bike Path)** – A completely separate ROW for the exclusive use of bicycles and pedestrians, with vehicle and pedestrian crossflows minimized
- **Class II Bikeway (Bike Lane)** – A restricted ROW designated for the use of bicycles, with a striped lane on a street or a highway. Vehicle parking along with vehicle and pedestrian crossflows are permitted
- **Class III Bikeway (Bike Route)** – A ROW designated by signs or pavement markings for shared use with pedestrians and motor vehicles
- **Class IV Bikeway (Separated Bikeway)** – A ROW for the exclusive use of bicycles which provides a required separation between the bikeway and through vehicular traffic

The base year and planned bicycle facilities in the RSA are illustrated by station area in Figure 3.1-10 through Figure 3.1-12**,** and for the larger 3-mile study area in Figure 3.1-13.

Base year facilities in or near proposed station areas are described below.

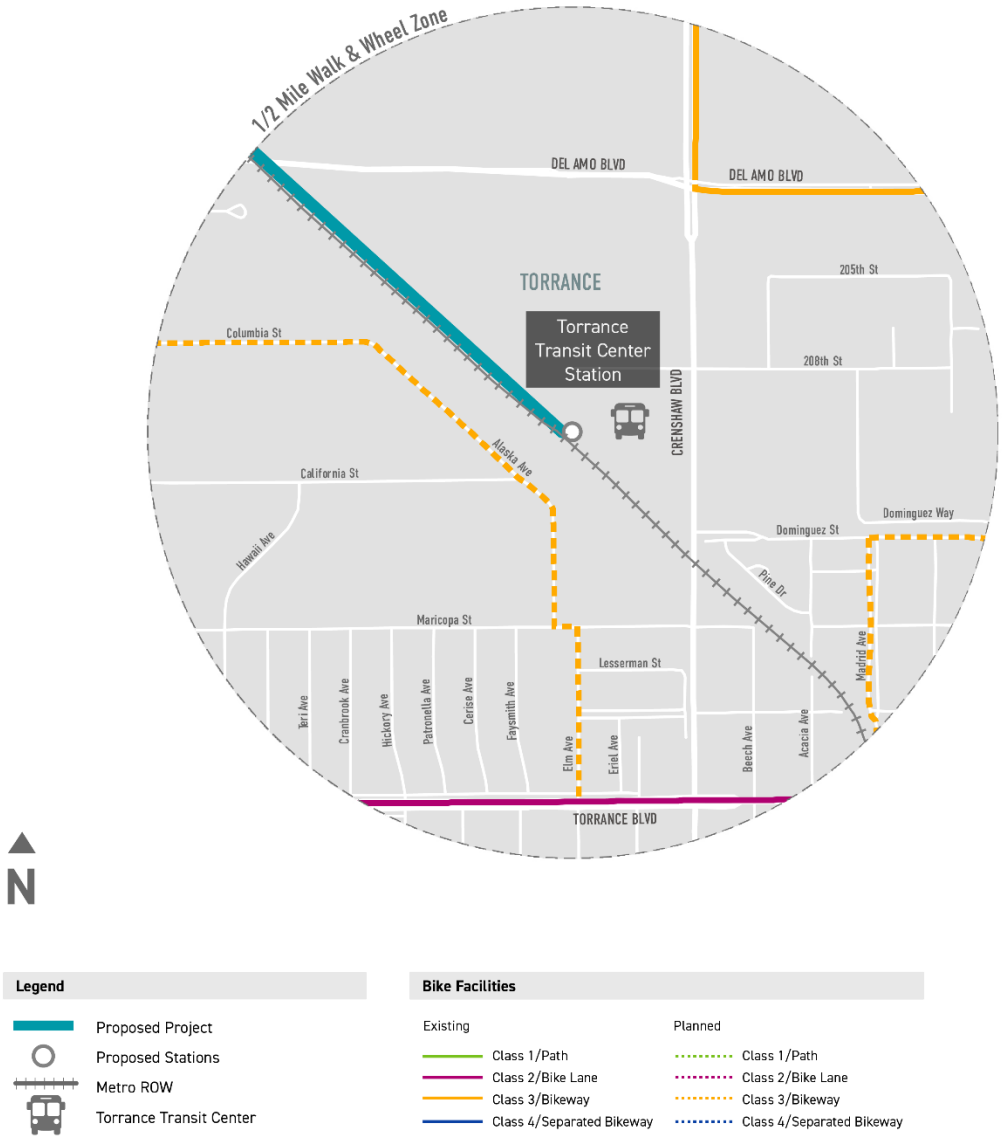
- **Redondo Beach TC (Proposed Project and Trench Option)** – A bike lane is located on Grant Avenue, beginning at Firmona Avenue immediately adjacent to the proposed station site, and continuing west to Harkness Lane
- **South Bay Galleria Station (Hawthorne Option)** – A bike lane is located on Grant Avenue, beginning at Firmona Avenue immediately adjacent to the proposed station site, and continuing west to Harkness Lane. A bike route is located on Redondo Beach Boulevard, starting from Hawthorne Boulevard and heading east to the City of Gardena (marked by a sign only), and on Prairie Avenue/Madrona Avenue (marked by a sign only), starting at Artesia Boulevard and heading south to Sepulveda Boulevard.
- **Torrance TC** (**Proposed Project)** – Within the station area, a bike lane is located south of the station on Torrance Boulevard, providing east-west connectivity across the City of Torrance. Class III facilities are located on Crenshaw Boulevard north of Del Amo Boulevard, and on Del Amo Boulevard east of Crenshaw Boulevard. There are no existing bicycle facilities providing direct access to the proposed station site.

Figure 3.1-10 Base Year and Planned Bicycle Facilities (Redondo Beach TC Station)



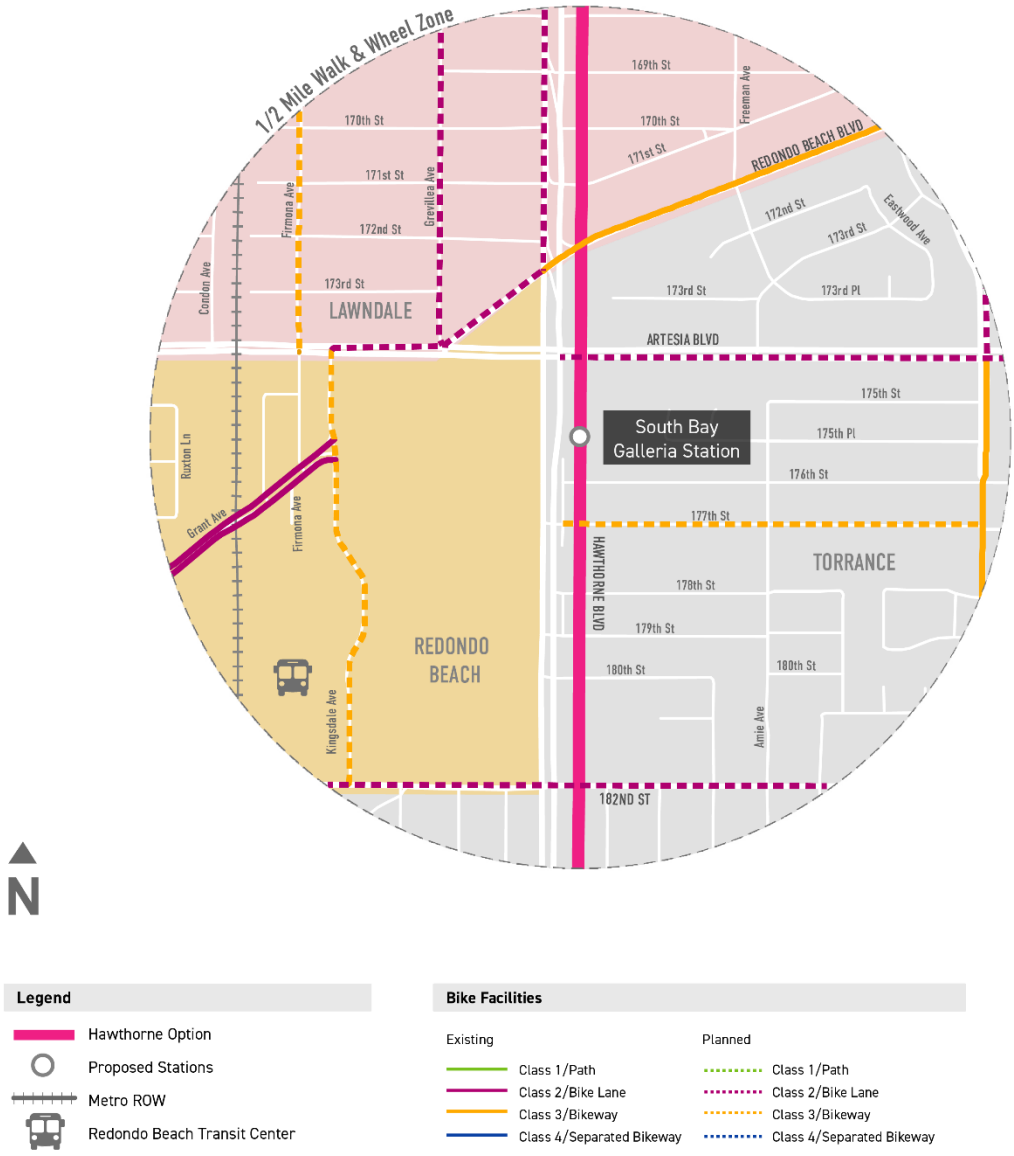
Source: Fehr & Peers / Cityworks Design, 2022

Figure 3.1-11 Base Year and Planned Bicycle Facilities (Torrance TC Station)



Source: Fehr & Peers / Cityworks Design, 2022

Figure 3.1-12 Existing and Planned Bicycle Facilities (South Bay Galleria Station)



Source: Fehr & Peers / Cityworks Design, 2022

Figure 3.1-13 Base Year Bicycle Facilities within Three Miles of the Project

Source: Fehr & Peers / Cityworks Design, 2022

3.1-3.11 Safety

The Proposed Project would cross the following streets at-grade:

- 170th Street, between Condon Avenue and Firmona Avenue, at the site of an existing freight rail at-grade crossing
- 182nd Street, between Inglewood Avenue and Hawthorne Boulevard, east of Firmona Avenue and west of El Nido Park, at the site of an existing freight rail at-grade crossing

In both locations, the existing freight rail crossing is located on a straight segment of roadway with clear visibility and is equipped with a crosswalk sign, flashing lights, and gate arms. No existing freight grade crossings will be closed or grade separated.

Under the Trench Option, the Project would cross the same streets in a grade-separated trench that would maintain the existing freight rail crossings at-grade. There is no change to the number of existing freight grade crossings in the RSA.

The Hawthorne Option would run in an elevated structure along Hawthorne Boulevard between I-405 and 190th Street where the option rejoins the Proposed Project alignment, with no at-grade segments. However, the Hawthorne Option includes support columns and other infrastructure in the median of Hawthorne Boulevard and reconfiguration of certain median areas and intersections. Existing freight grade crossings along the Metro ROW would remain except for the segment south of 190th Street.

3.1-3.12 Collisions

A collision analysis was conducted for each station area to evaluate collision patterns around the proposed stations. Vehicle-on-vehicle and pedestrian- and bicycle-involved collisions for the five years from 2014 – 2018 were included in the analysis. Figure 3.1-14, Figure 3.1-15, and Figure 3.1-16 show the pedestrian, bicycle, and vehicle-only collisions respectively for the combined study area.

To provide context of the area, Table 3.1-7 compares the rate of serious injuries and fatalities per 100 million VMT (five year rolling average to 2017) for the jurisdictions in the RSA with the SCAG region and Los Angeles County.

Table 3.1-7 Study Jurisdictions Severe and Fatal Collision Rates

Jurisdiction	Serious Injuries per 100M VMT	Fatalities per 100M VMT
SCAG Region	3.37	0.96
Los Angeles County	3.92	0.88
Lawndale	6.71	0.00
Redondo Beach	3.36	0.83
Torrance	1.66	0.70

Source: Transportation Injury Mapping System (TIMS) California Safety PM Target Setting Support Tool, 2022

Redondo Beach TC Station (Proposed Project and Trench Option)

Within the half-mile station area, a total of 32 pedestrian-involved collisions and 15 bicycle-involved collisions resulting in at least one report of pain occurred between 2014 and 2018. Among the pedestrian-involved collisions, two resulted in fatalities and three resulted in serious injuries. Both fatalities occurred on Hawthorne Boulevard, as did two of the three collisions resulting in severe injury. Among the bicycle-involved collisions, one resulted in a fatality, and none resulted in severe injury. The fatality occurred on Artesia Boulevard west of Inglewood Avenue.

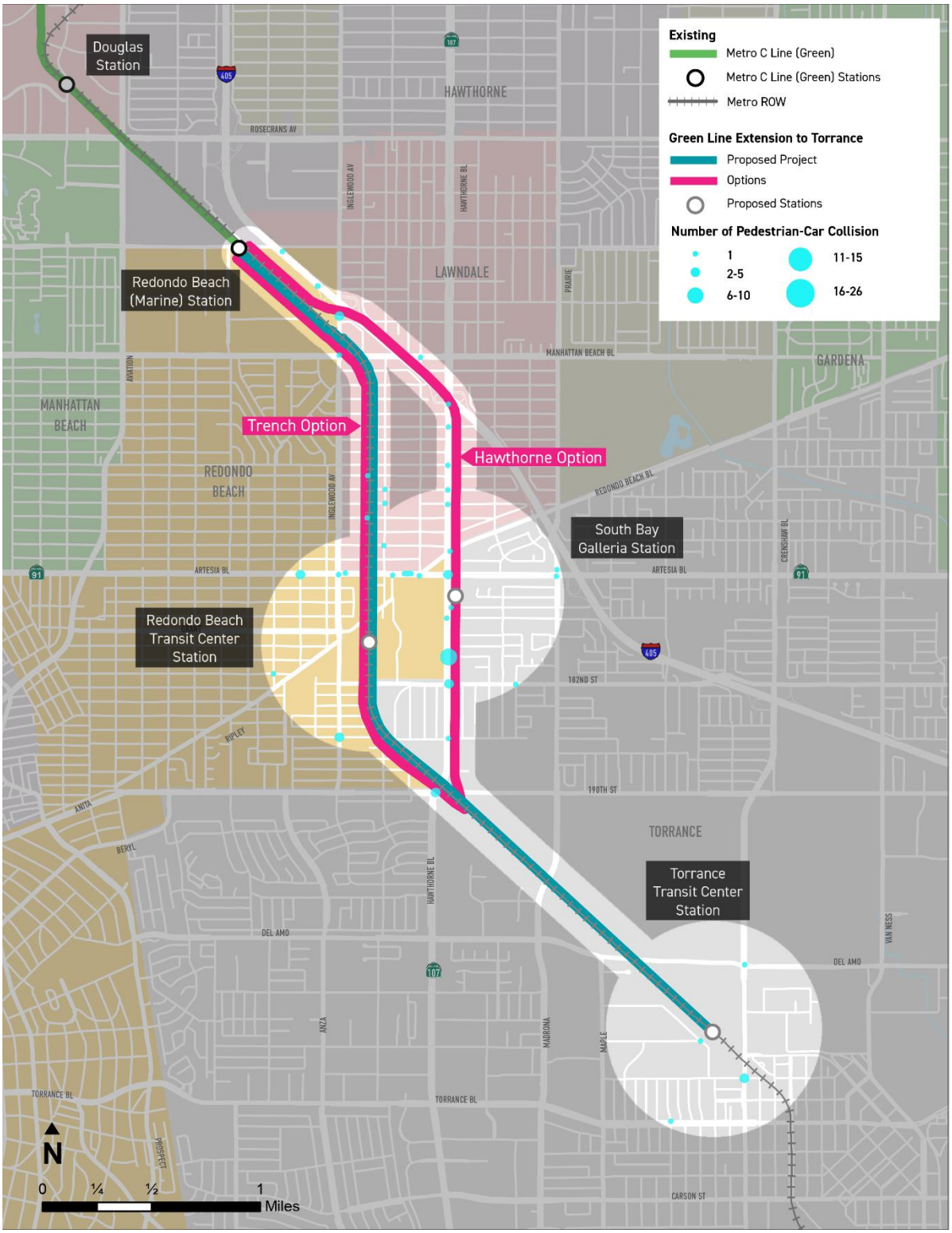
South Bay Galleria Station (Hawthorne Option)

Within the station area, a total of 30 pedestrian-involved collisions and 22 bicycle-involved collisions resulting in at least one report of pain occurred between 2014 and 2018. Among the pedestrian-involved collisions, two resulted in fatalities and six resulted in serious injuries. Both fatalities occurred on Hawthorne Boulevard, as did two collisions resulting in severe injury. The other collisions resulting in severe injury occurred on Artesia Boulevard at the intersection with Prairie Avenue, on 182nd Street east of Hawthorne Boulevard, on Hawthorne Boulevard north of the proposed station area, and in the neighborhood north of the South Bay Galleria. Among the bicycle-involved collisions, none resulted in fatalities or severe injury.

Torrance TC Station (Proposed Project)

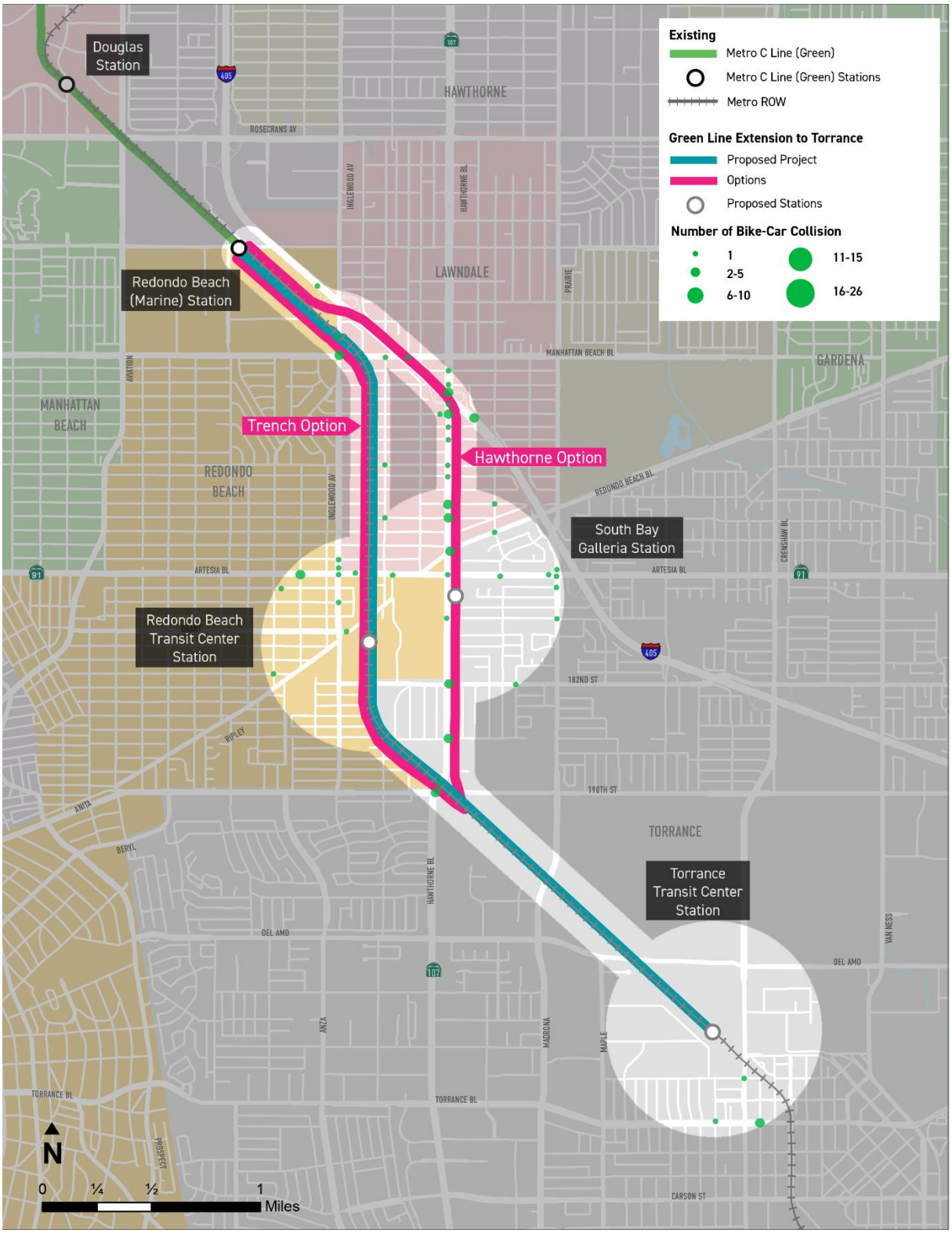
Within the station area, a total of nine pedestrian- or bicycle-involved collisions occurred between 2014 and 2018. No pedestrian-involved collisions resulted in fatalities. Both pedestrian-involved collisions resulting in severe injury occurred at the intersection of Crenshaw Boulevard and Del Amo Boulevard.

Figure 3.1-14 Vehicle-Pedestrian Collisions in Combined Project Study Area (2014-2018)



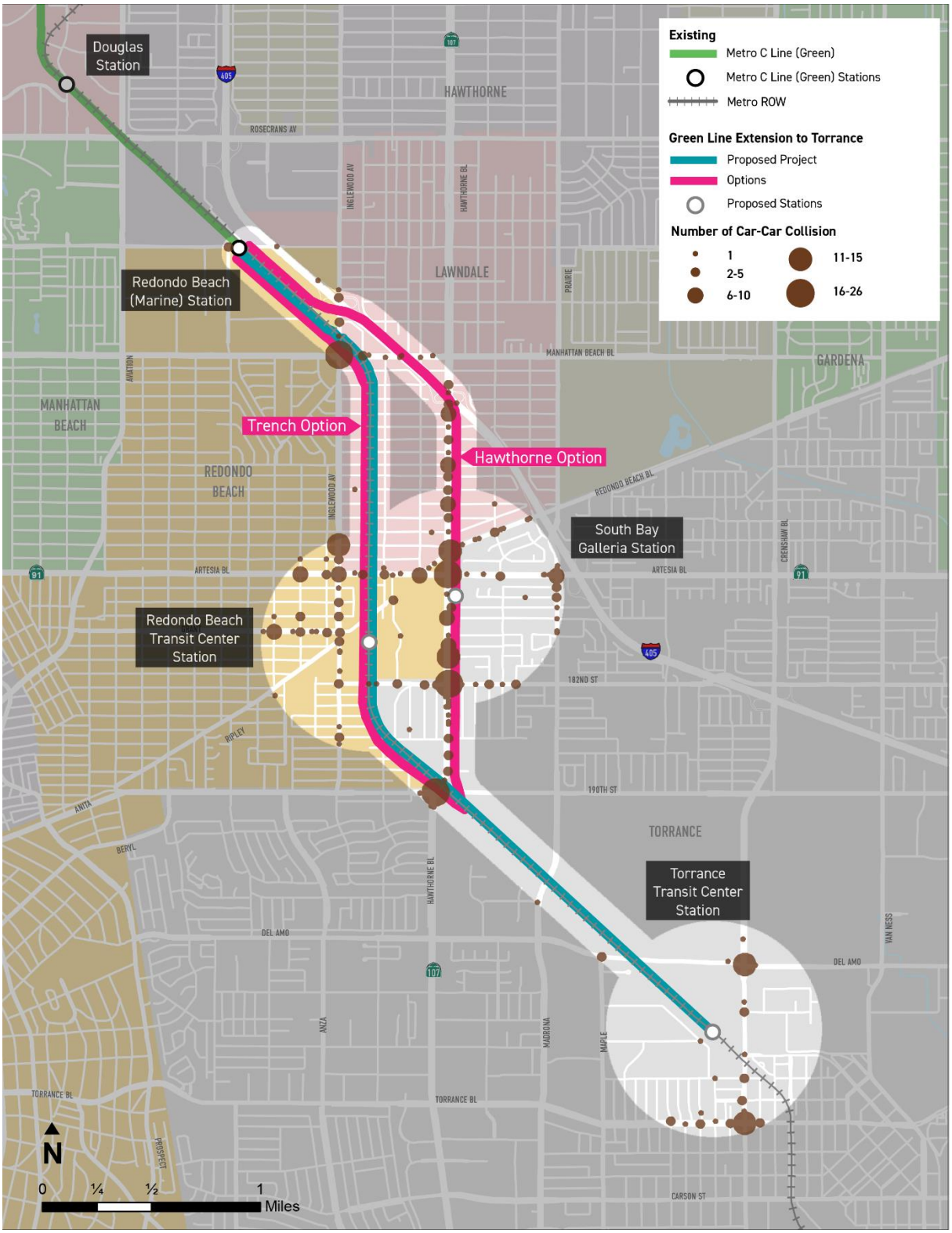
Source: Fehr & Peers, 2022

Figure 3.1-15 Vehicle-Bicycle Collisions in Combined Project Study Area (2014-2018)



Source: Fehr & Peers, 2022

Figure 3.1-16 Vehicle-Vehicle Collisions in Combined Project Study Area (2014-2018)



Source: Fehr & Peers, 2022

3.1-3.13 Emergency Services

The Project Study Area is located within the Los Angeles County Emergency Medical Service (EMS) Service Planning Area (SPA) 8. Per the 2018 Los Angeles County EMS System Report (Los Angeles County, 2019), SPA 8 accounted for 15% of County population, 15% of hospitals, and 19% of EMS calls, indicating that EMS calls in the area are higher than should be expected given the population.

The City of Lawndale fire services are provided by the Los Angeles County Fire Department (LACoFD), which had an average response time of six minutes and five seconds as of 2013 (Los Angeles County, 2013).

The City of Redondo Beach fire services are provided by the Redondo Beach Fire Department (RBFD). The city is served by three fire stations. The closest fire station to the Redondo Beach station is Fire Station 2, located west of the South Bay Galleria at Mackay Lane and Grant Avenue (this would also be the closest City of Redondo Beach fire station to the Hawthorne Option's South Bay Galleria Station). During the 2018-2019 fiscal year, RBFD responded to 7,270 emergency incidents. The average response time of all calls was four minutes and 16 seconds (City of Redondo Beach, 2020a).

The City of Torrance fire services are provided by the Torrance Fire Department (FD). The city is served by six fire stations. The closest fire station to the Torrance TC station is Fire Station 1, located south of the station at Crenshaw Boulevard and Carson Boulevard. Per Torrance FD, response time for the first unit on scene averaged seven minutes and 24 seconds. The overall department standard for EMS calls is six minutes and four seconds and for Fire/Special Operations is six minutes and 24 seconds (City of Torrance FD, 2022).

Other local fire departments within the RSA include the El Segundo Fire Department and the Manhattan Beach Fire Department. Fire stations within the RSA include, from north to south:

- Los Angeles County Fire Department Station 160, located at Rosecrans Avenue east of Aviation Boulevard
- Manhattan Beach Fire Foundation, located at Rosecrans Avenue west of Douglas Street
- Los Angeles County Fire Department Station 21, located at 147th Street east of Hawthorne Boulevard
- Manhattan Beach Station 2, located at Rowell Avenue and Manhattan Beach Boulevard
- Redondo Beach Station 2, located at Mackay Lane and Grant Avenue
- Torrance Fire Department Station 3, located west of the I-405 along 182nd Street
- Torrance Fire Department Station 5, located west of Hawthorne Boulevard along Del Amo Circle
- Torrance Fire Department Station 1, located at Crenshaw Boulevard and Carson Boulevard

3.1-4 Environmental Impacts

3.1-4.1 Will the Proposed Project conflict with a program, plan ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

This section evaluates the consistency of the Proposed Project with local plans and policies. Relevant design standards from the regulatory framework, such as ADA or the MUTCD, are addressed under the evaluation of geometric hazards. Relevant plans, goals, policies and/or objectives that affect transportation and mobility in the cities of Lawndale, Redondo Beach, and Torrance are evaluated, with a detailed breakdown by document in Appendix 3.1-A, Transportation Policy Analysis.

3.1-4.1.1 Construction Impacts

Less than Significant Impact. Given the temporary nature of construction, it is not expected that construction of the Proposed Project would preclude any programs, plan ordinances, or policies addressing the circulation system. Construction will temporarily reduce travel lanes or potentially temporarily close access through railroad crossings, for which traffic may be detoured to another parallel route (for example, with a closure at 170th Street, traffic would detour to 162nd Street or Artesia Boulevard).

- Transit: These closures do not directly affect any existing transit routes and also would not preclude transit service from being detoured to maintain operation. Construction of the project does not preclude jurisdictions from providing or expanding transit options.
- Roadway: The closures would not cause neighborhood cut-through traffic as, pursuant to PF-T-1, detour routes would be designated arterial streets, motorists would be alerted to the detours via signage, and the affected streets are not major corridors themselves.
- Bicycling: Construction would not preclude the planning or implementation of any known planned bicycle routes or facilities, because no facilities were identified directly on the streets that would be affected by construction.
- Walking: Construction could temporarily close walking access through at grade crossings on 170th or 182nd Street. However, walking detour routes would be accommodated within PF-T-1.

Pursuant to PF-T-1, prior to the initiation of localized construction activities for the Proposed Project, CTMPs would be prepared, detailing street closure information, detour plans, haul routes, and a staging plan to ensure safe access or alternate routes of travel for all road users and transit are provided. Thus, there would be a **less than significant impact** with regards to conflicts a program, plan, or policy addressing the circulation system during construction.

TRENCH OPTION

Less than Significant Impact. The construction of the proposed Trench Option does not introduce potential conflicts with programs, plans, ordinances, or policies. The location of construction activities is the same as the Proposed Project. However, it is anticipated that alternating full closures would occur under the Trench Option compared with the Proposed Project, where there will be only partial closures for most of its construction period. Construction of the bridges crossing the trenches would be phased so as not to simultaneously close parallel adjacent crossings. Construction of the Trench Option is estimated to take two years longer than the construction of the Proposed Project. Construction of the trench crossings would take longer than the at-grade crossing construction, the difference between the two is estimated on the order of months. As with the Proposed Project, PF-T-1 would ensure safe access or alternate routes of travel for all road users and transit are provided.

Thus, there would be a less than significant impact with regards to conflicts a program, plan, or policy addressing the circulation system during construction and thus would have a **less than significant impact**.

HAWTHORNE OPTION

Less than Significant Impact. The Hawthorne Option is similar to the Proposed Project in its relationship to programs, plans, ordinances, and policies, despite following a different alignment along I-405 and Hawthorne Boulevard. The following impacts could occur during the construction of the Hawthorne Option:

- Transit: During construction some existing bus stops may need to be temporarily relocated; this is a common practice and is communicated in advance to passengers and posted with signs. Because the project would be constructed in phases, it is anticipated that bus service would be maintained with stop relocations shifting in response to construction stages. Construction would not preclude planning for or expanding transit options.
- Roadways: The construction would occur in stages that would temporarily reduce travel lanes on Hawthorne Boulevard progressively in segments along the alignment. Additionally, there could be short-term closures of freeway shoulder and/or travel lanes and select ramps on I-405. Although these activities would temporarily reduce travel efficiency, alternate routes are available for travelers through the area on parallel major roadways. Pursuant to PF-T-1, during construction, access to businesses would be maintained during business hours, and access would remain to neighborhoods, although some detours may be required and would be signed. The project could temporarily increase the potential for neighborhood cut-through traffic, which would be addressed through the use of signed detours and other strategies to be included in the CTMPs.
- Bicycling and Walking: Similarly, access to bicycle routes and pedestrian facilities would remain during construction although some alternate routes for pedestrians may be required during construction on the east side of Hawthorne Boulevard when curb work would encroach on the sidewalk. Construction of the project would not preclude jurisdictions from planning or implementing improved bicycling and walking infrastructure. No existing or planned bicycle facilities are directly on the streets affected by construction. Small segments of intersecting bikeways, for example, on 190th Street immediately east of Hawthorne Boulevard, may be temporarily shifted, reduced, or closed during construction. Typically, signage warning road users to share the lane with bicyclists is provided for the reduced segment; the bike lane on either side of the construction activity would remain unaffected by the construction.

As with the Proposed Project, PF-T-1 would ensure safe access or alternate routes of travel for all road users and transit are provided. Thus, there would be a less than significant impact with regards to conflicts a program, plan, or policy addressing the circulation system during construction and thus there would be a **less than significant impact**.

3.1-4.1.2 Operational Impacts

Less than Significant Impact. The Proposed Project introduces a new transit option consistent with several local jurisdictions' policy objectives, provides for new bicycling and walking infrastructure along the ROW, and offers an alternative to driving that is anticipated to reduce vehicle trips. Because of this, the Proposed Project would have a **less than significant impact**. More detail on evaluating potential conflicts with policies is described by topic below: Transit, Roadways, Bicycling and Walking.

Policies Addressing Transit

Less than Significant Impact. Policies adopted by the affected jurisdictions regarding transit can be summarized as providing and expanding reliable and safe fixed-route transit. The Proposed Project extends Metro's access to the regional rail transit network and increases connections throughout the study area and to other areas of Los Angeles County. There are examples of specific policies, such as the City of Redondo Beach 2009 Circulation Element which specifically identify the extension of the Metro Green Line (now the C Line) and to create multi-modal transit hubs; similar language is included in the circulation elements for the cities of Lawndale and Torrance. The incorporation of the Proposed Project could cause minor alterations to existing bus routes to connect to stations to improve mobility and access to transit, these minor alterations would not frustrate any transit goals, policies, or plans adopted by the affected jurisdictions. The Proposed Project is therefore not inconsistent with related policies regarding transit.

Relevant regulatory plans, policies, and ordinances set forth by Metro, discussed in Section 2.2.16, include the 2020 LRTP, TOC Implementation Plan, Sustainability Strategic Plan, Goods Movement Strategic Plan, Measure M Expenditure Plan, BRT Vision & Principles Study, 2014 SRTP, Grade Crossing Safety Policy, FLM Strategic Plan, Complete Streets Policy, Vision 2028 Plan, Next Gen Bus Study, and ATSP. The Proposed Project is consistent with and would not conflict with Metro's plans.

Policies Addressing Roadways

Less than Significant Impact. Policies addressing the roadway network include maintaining or improving safe travel, protecting neighborhoods from cut-through traffic and excessive speeds, and maintaining efficient intersection operations. Above all, the changes in California State Law adopted in response to SB 743 provide that jurisdictions shall not treat traffic delay as a significant environmental effect and should instead evaluate the effects of development, plans, and transportation projects based on VMT. As a new transit option, the Project is determined to be consistent with any plan, policy, or ordinance related to VMT reduction because transit provides an alternative to single-occupant vehicle trips and therefore reduce VMT.

The Proposed Project is primarily located within an existing railroad right-of-way and directly intersects the roadway network at-grade only at two locations, 170th Street, between Condon Avenue and Firmona Avenue, and 182nd Street, between Kingsdale Avenue and Firmona Avenue. At these and all other freight crossings paralleling the Proposed Project locations, the Project would include "quiet zone ready" rail grade crossing safety features (discussed further in Chapter 2, Project Description and Section 3.6, Noise and Vibration) to protect roadway users from approaching trains, consistent with policies that call for roadway and pedestrian safety.

The Proposed Project does not conflict with policies to protect neighborhoods from cut-through traffic or unsafe speeds because it does not preclude cities or jurisdictions from implementing measures to deter such traffic behavior. The Project itself is not anticipated to attract cut-through traffic as the proposed stations are intended to be locally serving and are located on and near major corridors providing connections in all directions.

Although vehicle delay at grade crossing locations would increase incrementally as a result of increased train frequency, the Proposed Project is not assumed to conflict with policies to maintain intersection operations because rail transit provides an alternative to driving for many trips which would otherwise increase automobile travel and thus intersection delay. Likewise, the City of Redondo Beach 2009

Circulation Element clearly addresses such a fundamental issue with Goal G1 which states, "Address the root causes of trip generation rather than simply reacting to the consequences."

Policies Addressing Bicycling and Walking

Less than Significant Impact. Policies and plans regarding bicycling and walking include development of future bicycle lanes, improving bicycle-transit integration including multimodal hubs and bicycle parking facilities near transit, and minimizing conflicts between vehicles and pedestrians. The South Bay Bicycle Master Plan proposes a bicycle facility along the Metro ROW; a multi-use path is incorporated in the Proposed Project parallel to the Metro ROW and therefore the Proposed Project is consistent with the South Bay Bicycle Master Plan. The Proposed Project does not preclude the construction of any other bicycle or pedestrian infrastructure and is therefore consistent with policies and plans regarding bicycle infrastructure. The Proposed Project increases frequency of trains at existing at-grade rail crossings at 170th Street and 182nd Street. These "quiet zone ready" crossings (discussed further in Chapter 2, Project Description and Section 3.6, Noise and Vibration) would include safety features to protect bicyclists and pedestrians from collision with trains including gates across the sidewalk.

TRENCH OPTION

Less than Significant Impact. The operation of the Trench Option has a similar relationship to programs, plans, ordinances and policies as the Proposed Project and would thus have a **less than significant impact**. The following would be unique to the Trench Option relative to the Proposed Project:

- Transit: The Trench Option achieves the same regional transit goals as the Proposed Project and would have the same effects on connecting to existing and future transit lines.
- Roadways: The Trench Option reduces the potential effects on the roadway circulation network compared to the Proposed Project by grade-separating the light rail crossings at 170th Street and 182nd Street and therefore fully eliminates potential traffic delay as a result of the Project. The existing freight at-grade crossing would remain.
- Bicycling and Walking: The Trench Option has the same effect on policies and plans as the Proposed Project. The Trench Option proposes an at-grade multi-use path along the ROW. The Trench Option does not preclude the planning or implementation of any bicycling or pedestrian infrastructure. The Trench Option grade-separates the high-frequency light rail and therefore reduces potential for train conflict at 170th Street and 182nd Street, although the existing at-grade freight crossing would remain. Safety measures such as fences and signage would protect pedestrians along the alignment from potentially falling into the trench.

HAWTHORNE OPTION

Less than Significant Impact. The operation of the Hawthorne Option would not conflict with programs, plans, ordinances and policies regarding the circulation system and would thus have a **less than significant impact**. The following would be unique to the Hawthorne Option relative to the Proposed Project:

- Transit: The Hawthorne Option achieves the same regional transit goals as the Proposed Project and would have the same effects on connecting to existing and future transit lines.
- Roadways: The Hawthorne Option would generally limit the Project's potential effect on roadway efficiency by removing any potential at-grade crossing delay between the light rail and other modes. The Hawthorne Option may have incremental localized effects on delay at intersections where turn

pocket capacity would be reduced to accommodate the elevated structure; for example, at the intersection of Hawthorne Boulevard and 177th Street, the northbound left turn pocket would be reduced from two lanes to one longer lane. At certain locations, such as Hawthorne Boulevard at 180th Street, existing median access for left turns would be permanently closed and detoured to neighboring intersections, while the intersection at 179th Street would instead become fully signalized, which improves traffic safety and accessibility. Based on the advanced conceptual engineering, these roadway alterations in combination with the improved transit option as an alternative to driving is not anticipated to significant effect on traffic efficiency.

- Bicycling and Walking: The Hawthorne Option would not conflict with plans and policies regarding bicycling and walking. The Hawthorne Option does not preclude construction of a multi-use path along the Metro ROW, though such a path would not be part of the Hawthorne Option as it is the Proposed Project and Trench Option. The Hawthorne Option does not preclude the planning or implementation of any bicycling or pedestrian infrastructure. The Hawthorne Option would maintain or improve sidewalks along Hawthorne Boulevard and provide new signalized pedestrian crossings at several locations where either an unsignalized crossing or no crossing is currently provided, including at 164th Street in Lawndale and a mid-block crossing south of the proposed South Bay Galleria Station. Such improvements would be consistent with policies to improve mobility, access and safety by signalizing pedestrian crossings across Hawthorne Boulevard. The Hawthorne Option would include bicycle parking at the South Bay Galleria Station, further supporting these policies and objectives.

3.1-4.2 Will the Proposed Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) [increase in VMT]?

3.1-4.2.1 Construction Impacts

Less than Significant Impact. Due to the temporary nature of construction traffic associated with the Proposed Project, a substantial increase in VMT[3] would not be anticipated to result from construction. Given the temporary nature of construction industry jobs, the relatively large regional construction industry, and the total number of construction workers needed during any construction phase, it is likely that the labor force from within the region would be sufficient to complete the majority of project construction without a substantial influx of new workers and their families, and would not result in a substantial increase in VMT. Therefore, construction of the Proposed Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3 and a **less than significant impact** would occur under the Proposed Project.

TRENCH OPTION

Less than Significant Impact. The construction of the Trench Option is similar to the Proposed Project in terms of consistency with CEQA Guidelines Section 15064.3 subdivision (b), and therefore a **less than significant impact** would occur under the Trench Option.

3 For the purposes of this section, VMT refers to the amount and distance of automobile travel attributable to a project. The term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT..

HAWTHORNE OPTION

Less than Significant Impact. The construction of the Hawthorne Option is similar to the Proposed Project in terms of consistency with CEQA Guidelines Section 15064.3 subdivision (b), and therefore a **less than significant impact** would occur under the Hawthorne Option.

3.1-4.2.2 Operational Impacts

Less than Significant Impact. Per CEQA Guidelines Section 15064.3, Subdivision (b), transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. As a non-automobile modal option, the Proposed Project is determined to cause a less than significant transportation impact. The Proposed Project is expected to result in either a positive or neutral effect on vehicle miles traveled, resulting in consistency with CEQA Guidelines Section 15064.3, Subdivision (b) and a **less than significant impact**.

TRENCH OPTION

Less than Significant Impact. CEQA Guidelines Section 15064.3, Subdivision (b) impacts for the Trench Option are expected to be the same as those for the Proposed Project because the fundamental nature of the project remains a transit line with service that should reduce or have a neutral effect on VMT and a **less than significant impact**.

HAWTHORNE OPTION

Less than Significant Impact. CEQA Guidelines Section 15064.3, Subdivision (b) impacts for the Hawthorne Option are expected to be the same as those for the Proposed Project because the fundamental nature of the project remains a transit line with service that should reduce or have a neutral effect on VMT and a **less than significant impact**.

3.1-4.3 Will the Proposed Project substantially increase hazards due to a geometric design feature or incompatible uses?

This section discusses the potential increase of hazards due to a geometric design feature of the Project. Impacts regarding the potential increase of hazards generally relate to degradation of pedestrian, bicycle, or vehicle safety conditions, or the introduction of obstructions that result in decreased visibility of other road users or key roadway infrastructure, such as traffic signals. These impacts are typically evaluated for permanent conditions after project completion but can also be evaluated for temporary conditions during project construction.

The Proposed Project (including its Options) and the proposed stations will be designed to meet relevant standards, including CAMUTCD, HDM, ADA, and Metro's Grade Crossing Safety Policy.

Pedestrian Access

Existing pedestrian conditions have the potential to be affected where retaining walls or at-grade crossings are modified or introduced to the corridor. Such situations will be addressed with Project design features and are discussed below.

Visibility of Cars, Pedestrians, and Bicyclists

The primary project features with the potential to affect the visibility of cars or pedestrians and bicyclists in adjacent crosswalks are elevated guideways, bridges, and support columns introduced in or over the roadway. Elevated rail guideways, bridges, and support columns located off-street are less

likely to affect visibility of pedestrians but could obstruct view of traffic signals and are also evaluated below.

3.1-4.3.1 Construction Impacts

Less than Significant Impact. Proposed Project construction would introduce partial and full street closures and closed worksites on streets for construction activities, such as foundations and steel erection. Construction worksites would be fenced, and lane closures and associated lane tapers, temporary advance warning signs, detour signs, etc., would be implemented in accordance with the CAMUTCD Part 6 (Temporary Traffic Control) to ensure that no significant geometric design hazards are introduced during the construction period. As elements such as columns are constructed, the potential for visibility obstructions for road users could be introduced. PF-T-1 would be compliant with the CAMUTCD and would provide for safe separation of road users from construction activities, ensure visibility of pedestrians and at marked or signalized crossings meets engineering standards, and if necessary, detour vehicles, pedestrians, and/or bicyclists along a safer route, minimizing inconvenience to the extent practical.

Because construction activity varies based on many different factors, and the construction zone typically includes a larger area than the completed project in order to provide sufficient safe zones and shifting of traffic, the effects of construction are addressed related to transit, vehicular traffic, and bicycling and walking, below:

- Transit: During construction some existing bus stops may need to be temporarily relocated; this is a common practice and is communicated in advance to passengers and posted with signs. Because the project would be constructed in phases, bus service should be maintained with stop relocations shifting in response to construction stages. Relocated stops are typically determined by the transit agency or in coordination with the project construction team and would be selected to maintain visibility of waiting passengers by the bus operator and ensure that passengers are able to safely get to and from the stop through any nearby construction zone. Relocated stops even in a construction zone are required to maintain ADA compliance.
- Roadways: The construction would occur in stages that would temporarily reduce travel lanes while temporary structures are built for elevated guideway segments or at-grade crossings. Lane reductions must maintain minimum dimensions and geometry based on the roadway type, maximum design vehicle size, and other factors defined in engineering standards including the HDM and CAMUTCD. The design of construction activities and development of the traffic management plan would ensure compliance with these standards so as not to introduce unsafe or unnavigable roadways. In cases where erection of elevated structures or other vertical obstructions would obscure visibility of a traffic signal or signage, temporary signals and signage may be placed according to the CAMUTCD.
- Bicycling and Walking: Similarly, access to bicycle routes and pedestrian facilities would remain during construction although some alternate routes for pedestrians may be required if construction zones are unable to maintain safe clearance for sidewalks, bicycle lanes, and vehicle travel lanes. The use of temporary sidewalks, barricades, and signage may be necessary at some locations to maintain pedestrian access. The use of signage indicating sharing the road between vehicles and bicycles following standard signs defined in the CAMUTCD may be required where travel lanes are narrowed and existing bicycle facilities are affected.

Thus, with PF-T-1 (as described in Section 3.1-2.7), construction of the Proposed Project would result in a **less than significant impact**.

TRENCH OPTION

Less than Significant Impact. Although the nature of the Trench Option and some of its construction methods are different than the Proposed Project, the construction impacts on the roadway and circulation network are similar to those of the Proposed Project. The Trench Option follows the same Metro ROW like the Proposed Project and would have the same potential for lane reductions or closures at the same locations, although these disruptions to the roadway network may be longer duration, as previously described. Where the Proposed Project would require construction of at-grade crossings at 170th and 182nd Streets, the Trench Option would instead require excavation at these locations the construction effects still result in partial and full road closures as the work progresses, and the potential for geometric hazards affecting transit, vehicles, bicycles and pedestrians are therefore the same. As with the Proposed Project, PF-T-1 would ensure safe access or alternate routes of travel for all road users and transit are provided and construction of the Trench Option would result in a **less than significant impact**.

HAWTHORNE OPTION

Less than Significant Impact. The Hawthorne Option would construct a fully elevated guideway along I-405 south to Hawthorne Boulevard and continuing in the median of Hawthorne Boulevard to approximately 190th Street. The construction of the elevated guideway would be staged to minimize disruptions to traffic and ensure safety for road users near the construction zones.

- Transit: During construction some existing bus stops may need to be temporarily relocated; this is a common practice and is communicated in advance to passengers and posted with signs. Because the project would be constructed in phases, bus service would be maintained with stop relocations shifting in response to construction stages. Relocated stops are typically determined by the transit agency or in coordination with the project construction team and would be selected to maintain visibility of waiting passengers by the bus operator and ensure that passengers are able to safely get to and from the stop through any nearby construction zone. Relocated stops even in a construction zone are required to maintain ADA compliance.
- Roadways: The construction would occur in stages that would temporarily reduce travel lanes on Hawthorne Boulevard in segments along the alignment. Lane reductions must maintain minimum dimensions and geometry based on the roadway type, maximum design vehicle size, and other factors defined in engineering standards including the HDM and MUTCD. The design of construction activities and development of the traffic management plan would ensure compliance with these standards so as not to introduce unsafe or unnavigable roadways. In cases where erection of elevated structures or other vertical obstructions would obscure visibility of a traffic signal or signage, temporary signals and signage may be placed according to the CAMUTCD.
- Bicycling and Walking: Similarly, access to bicycle routes and pedestrian facilities would remain during construction although some alternate routes for pedestrians may be required during construction on the east side of Hawthorne Boulevard when curb work would encroach on the sidewalk. At signalized crossings where construction of the elevated structure could encroach on pedestrian facilities or obscure views for motorists, measures such as temporary sidewalks, curb extensions, or potentially closing and detouring pedestrians to another crossing may be required. At

unsignalized crossings where visibility or safety could be affected by construction, pedestrian crossings may be closed and detoured to another location.

As with the Proposed Project, PF-T-1 would ensure safe access or alternate routes of travel for all road users and transit are provided and construction of the Hawthorne Option would result in a **less than significant impact**.

3.1-4.3.2 Operational Impacts

Less than Significant Impact. This analysis is based on the Advanced Conceptual Engineering drawings in Appendix 2-A, Selected Advanced Conceptual Engineering Drawings which detail the design of the Proposed Project structures and elements such as support columns in relation to the roadway. Per the below analysis, there would be a **less than significant impact** with regards to a geometric design hazard or incompatible use.

Pedestrian Access

Less than Significant Impact. The Proposed Project features a combination of grade-separated (elevated) and at-grade crossings, which maintain the existing at-grade crossing with alterations (typically relocating the crossing to the east or west of its existing location). Because the Proposed Project follows the Metro ROW, each grade crossing of a public roadway is discussed in the following list. Grade crossing safety equipment would be quiet zone ready and constructed as described in Chapter 2, Project Description and Section 3.6, Noise and Vibration.

- Inglewood Avenue between 156th Street and Manhattan Beach Boulevard: In existing conditions, there is no formalized pedestrian crossing across Inglewood Avenue, which would remain with the Proposed Project. For pedestrians along Inglewood Boulevard crossing the at-grade freight track, gates and warning devices would be upgraded and installed on both sides of the crossing.
- Manhattan Beach Boulevard and Condon Ave: In existing conditions, there is no formalized pedestrian crossing across Manhattan Beach Boulevard, which would remain with the Project. The Proposed Project is elevated over this crossing and the at-grade freight crossing would remain with reconfigured pedestrian crossings perpendicular to the track with gates on both sides to improve safety. When the existing freight track along the Metro ROW is relocated, a pedestrian crossing barrier and sign consistent with CAMUTCD standards would prohibit crossing of Manhattan Beach Boulevard to maintain pedestrian safety. The nearest crosswalks are 450 feet and 550 feet to the west and east, respectively.
- 159th, 160th, 161st and 162nd Streets between Inglewood Avenue and Firmona Avenue: In existing conditions, these locations are at-grade crossings of the Metro ROW freight track protected with gates, bells, flashing lights and signs and do not provide marked pedestrian street crossings. The Proposed Project is elevated above these crossings and the at-grade freight crossings would remain, relocated slightly to the west. Additionally, the Proposed Project's mixed-use path running at-grade parallel to the freight track approaches each of these streets. The Proposed Project would enhance the at-grade freight crossing protection to provide pedestrian gates and signals on both sides of the track, on both sides of each street. The multi-use path would cross each street with a signed and continental ("zebra") striped crosswalk.
- 170th Street between Condon Avenue and Firmona Avenue: In existing conditions, this location is an at-grade crossings of the Metro ROW freight track protected with gates, bells, flashing lights and signs and no marked pedestrian street crossing. The Proposed Project is at-grade at this location. The at-grade crossing would encompass both the freight and light rail with gates and other crossing

protection and feature the same pedestrian upgrades on the sidewalks on both sides of the track and both sides of 170th Street. The multi-use path would cross the street with a signed and continental ("zebra") striped crosswalk.

- Artesia Boulevard between Condon Avenue and Firmona Avenue: The Proposed Project would cross Artesia Boulevard as a bridge similar to the existing freight track and would not affect pedestrian access or safety.
- Grant Avenue between Inglewood Avenue and Condon Avenue: The Proposed Project would cross Grant Avenue on a new bridge similar to the existing freight track. At this location pedestrian access to the Redondo Beach Transit Center Station would begin from the south side of Grant Avenue continuing along the east edge of the Metro ROW south to the station. A pedestrian crossing would be provided where the station access path meets Grant Avenue across to Condon Avenue. This would be a new crossing with advance pedestrian signals to warn approaching drivers and would include sidewalk improvements for ADA-compliance. For eastbound drivers on Grant Avenue, advance warning signs would be placed prior to the rail bridges to alert drivers of the pedestrian crossing.
- 182nd Street between Firmona Avenue and Kingsdale Avenue: In existing conditions, this location is an at-grade crossing of the freight track in the Metro ROW protected with gates, bells, flashing lights and signs. The Proposed Project is at-grade at this location. The at-grade crossing would encompass both the freight and light rail with gates and other crossing protection and feature the same pedestrian upgrades on the sidewalks on both sides of the track and both sides of 182nd Street. The multi-use path would cross the street with a signed and continental ("zebra") striped crosswalk.

Visibility Obstructions

Less than Significant Impact. Visual hazards may result from support columns near corners that obstruct the view of crossing pedestrians or overhead bridges that obstruct the view of a traffic signal within the required vehicle stopping distance defined by CAMUTCD Table 4D-2. The Proposed Project is not anticipated to result in either of these visual hazards. There are no support columns near intersections that would obstruct a motorist's view of a crossing pedestrian. Additionally, bridges or columns of the Proposed Project are not expected to degrade visibility, as they are sufficiently high or not within stopping distance of any signalized intersections. The proposed bridges over the noted roadways have the following characteristics that could impair visibility:

- Inglewood Avenue between 156th Street and Manhattan Beach Boulevard: The light rail elevated structure is located approximately 500 feet from the nearest signal or marked crossing in either direction, which is greater than the required stopping distance and therefore not a visual obstruction of signals and intersection activity. At this location, the existing at-grade freight crossing would be shifted north of its current location and result in the at-grade rail being just north of the elevated structure; the Proposed Project would reconstruct the advance railroad warning devices, signage, and striping for northbound traffic in advance of the light rail bridge, and gates on both sides of the crossing. Additionally, a raised curb median would be constructed leading both sides of the at-grade crossing to prevent vehicles from driving around the gates and to restrict turning movements to and from driveways on both sides of the crossing to prevent potential turning conflicts or conflicts with trains.
- Manhattan Beach Boulevard and Condon Avenue: This intersection is unsignalized with an eastbound left-turn pocket on Manhattan Beach Boulevard to access Condon Avenue. Under the

Proposed Project, the at-grade freight crossing would be relocated slightly east of its present location with the light rail elevated structure directly over the at-grade track. To accommodate this overlap, the elevated structure would use straddle-bent columns on either side of the freight track in the road median. The columns are not considered a visibility obstruction because pedestrian crossings of Manhattan Beach Boulevard would be prohibited at this location as described above. The left-turn pocket would be reconfigured to designate a limit line in advance of the at-grade crossing when the warning devices are active; once vehicles safely proceed east of the crossing to turn left, there is clear visibility of oncoming traffic and the crosswalk across Condon Avenue.

- 159th Street, 160th Street, 161st Street, 162nd Street: The light rail elevated structure at these locations would not obstruct the view of the at-grade railroad crossing signals or warning signs for the pedestrian crossing. The support columns for the elevated structure would be located behind the sidewalk on either side, allowing oncoming drivers to see pedestrians approaching the multi-use path crossing. The multi-use path would feature warning signs and vertical delineators to warn users of the approaching crossing and the need to stop and yield to traffic on the street.
- Artesia Boulevard between Condon Avenue and Firmona Avenue: The bridge structure over Artesia Boulevard is located approximately 500 feet from the nearest signal, which is greater than the required stopping distance. There is an existing rail bridge at this location.
- Grant Avenue between Inglewood Avenue and Condon Avenue: The bridge structure over Grant Avenue is located approximately 800 feet from the nearest existing signal, which is greater than the required stopping distance. At the intersection of Condon Avenue, the Proposed Project would implement a new pedestrian crossing to access the Redondo Beach TC Station to the south; in order to provide sufficient visibility for this crossing, advance warning signage would be provided, consistent with the CAMUTCD, west of the bridge for eastbound vehicles.
- Hawthorne Boulevard and 190th Street: The proposed bridge structures crossing these roadways are located further from the downstream signal of interest than the existing freight track bridges. The grade of the roadway is also sufficiently below the existing bridge to provide a clear view of the signal. Thus, the proposed structures would not worsen existing sight conditions.

TRENCH OPTION

Less than Significant Impact. Under the Trench Option, all light rail crossings discussed as part of the Proposed Project would be grade-separated below the roadway thus precluding any potential visual obstructions or geometric hazards related to the light rail. Roadways crossing the trench would be reconstructed as bridges over the trench with safe clearance and barriers to prevent road users from entering the trench. The conditions related to the freight rail crossings, the multi-use path, and how they intersect public roadways are all the same as the Proposed Project. Each freight crossing location would be upgraded with railroad crossing gates and warning devices consistent with the Proposed Project and following the same CAMUTCD standards. Therefore, there would be a **less than significant** impact with regards to geometric hazards.

HAWTHORNE OPTION

Less than Significant Impact. The evaluation of the Hawthorne Option potential for geometric hazards differs from the Proposed Project because much of the elevated structure is in the median of Hawthorne Boulevard following the roadway. Intersecting east-west streets with signals where the elevated structure is low enough to obscure visibility would be reconfigured with signals to be visible approaching the structure. The elevation of the light rail structure compared with the road grade varies

and each location would be designed following CAMUTCD standards for visibility of signals and signs. Due to the width and typical speeds on Hawthorne Boulevard, the majority of pedestrian crossings are signalized. The Hawthorne Option upgrades select unsignalized locations to become signalized intersections or to include mid-block pedestrian crossings. Therefore, there would be a **less than significant** impact with regards to geometric hazards.

PEDESTRIAN ACCESS

Less than Significant Impact. The following locations along the Hawthorne Option alignment provide a marked pedestrian crossing:

- 162nd Street: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized intersection; the elevated structure and columns do not obscure the view of signals for motorists or introduce potential pedestrian-vehicle conflicts.
- 164th Street: The Hawthorne Option would upgrade this unsignalized intersection to a signalized one which would improve the safety for pedestrians and eliminate potential geometric hazards with vehicles.
- 166th Street: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized intersection; the elevated structure and columns do not obscure the view of signals for motorists or introduce potential pedestrian-vehicle conflicts.
- Midblock south of 167th Street: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized mid-block crossing; the elevated structure and columns do not obscure the view of signals for motorists or introduce potential pedestrian-vehicle conflicts.
- 169th Street: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized intersection; the elevated structure and columns do not obscure the view of signals for motorists or introduce potential pedestrian-vehicle conflicts.
- 171st Street: Although this pedestrian crossing is unsignalized, the Hawthorne Option is not expected to introduce new hazards. The elevated structure does not obscure the view of pedestrians approaching the crossing. There is a column for the elevated structure in the median near the crossing, but the median is over 50 feet wide and the column only seven feet wide in the center of the median, allowing sufficient visibility for pedestrians approaching or waiting to cross.
- Redondo Beach Boulevard: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized intersection. Although the project includes several support columns and bents on either side of the intersection, pedestrian crossings are all signalized and traffic movements are separated by protected left-turn phases.
- Artesia Boulevard: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized intersection. Although the project includes several support columns and bents on either side of the intersection, pedestrian crossings are all signalized and traffic movements are separated by protected left-turn phases. This location is the main access point for the South Bay Galleria Station.
- South Bay Galleria Station Mid-Block Crossing: The Hawthorne Option would construct a new signalized mid-block crossing approximately 360 feet south of Artesia Boulevard, at the south end of the station. The signalized crossing would be located in advance of the South Bay Galleria mall driveway, with a curb extension to repurpose the southbound right turn pocket into the Galleria as a designated bus stop for connecting buses. Southbound through and right-turning traffic would be

controlled by a pedestrian-activated signal to provide safe crossing. This configuration would also improve pedestrian crossing safety along Hawthorne Boulevard at this location by reconfiguring and slowing an existing high-speed and wide right turn movement into the Galleria driveway. On the east side of Hawthorne Boulevard, the crossing would be aligned just prior to (south of) the driveway closest to the Sizzler restaurant, safely separating pedestrians from traffic potentially turning into or out of the driveway.

- 177th Street: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized intersection; the elevated structure and columns do not obscure the view of signals for motorists or introduce potential pedestrian-vehicle conflicts.
- 179th Street: The Hawthorne Option would upgrade this unsignalized intersection to a signalized one which provides a new pedestrian crossing of Hawthorne Boulevard and signalizes left-turning traffic in and out of a busy series of shopping centers on the west side of Hawthorne Boulevard. This improvement also would absorb traffic currently allowed to make an unsignalized left tun at 180th Street, where the median would be permanently closed.
- 182nd Street: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized intersection; the elevated structure and columns do not obscure the view of signals for motorists or introduce potential pedestrian-vehicle conflicts.
- 186th Street: The Hawthorne Option is not expected to introduce new pedestrian hazards at this signalized intersection; the elevated structure and columns do not obscure the view of signals for motorists or introduce potential pedestrian-vehicle conflicts.

Visibility Obstructions

Less than Significant Impact. The proposed elevated light rail structure at the following locations where the structure crosses the traveled way was closely evaluated for its potential to result in a geometric hazard regarding the visibility of traffic signals:

- Inglewood Avenue at I-405 Freeway Southbound Ramps: The elevated structure would cross Inglewood Avenue between the I-405 southbound ramps and 156th Street. The southbound off-ramp is a signalized intersection less than 200 feet north of the proposed overhead structure. Although the distance to the signal is less than the required stopping distance at 35 MPH (325 feet, according to CAMUTCD Table 4D-2), the lowest point of the elevated structure is approximately 30 feet above the surface, which is sufficiently high to provide clear visibility of the signal.
- I-405 Freeway Southbound Off-Ramp at Hawthorne Boulevard: Based on an evaluation of the first point where the signal enters the straight-ahead line of sight, there is no potential for an overhead light rail structure at the proposed height (approximately 30 feet) to impact signal visibility. Additionally, the column placement in relation to the ramps would not obstruct visibility of potential hazards ahead.
- Southbound Hawthorne Boulevard at 162nd Street: The elevation to the bottom of the proposed light rail bridge over the intersection of Hawthorne Boulevard and 162nd Street exceeds that of the existing mast arm-supported signal for southbound traffic. The proposed height from the existing ground to the bottom of the light rail structure at this location is approximately 25 feet. The height of the signal (based on design standards) is estimated to be 23 feet.
- Eastbound and Westbound 186th Street at Hawthorne Boulevard: As currently exists, the eastbound and westbound approaches are controlled by high-mount signal heads. The proposed light rail

structure would obstruct the line of sight to the signal heads. To provide sufficient visibility of the signals, they would be located on the approach (near)-side of the elevated structure.

In addition to these locations, the light rail elevated structure would modify the median angled parking zones provided in the City of Lawndale between 162nd Street and 171st Street. In general, the median parking zones are maintained in a similar condition, with the removal of selected parking spaces to accommodate column placement and required clearances around fixed objects. Columns would have a minimum of 18 inches set back from the face of curb in all directions and would not introduce a geometric hazard for vehicles. Access to the median parking is provided by an additional lane to the left of the general travel lanes with a curb providing separation from through traffic. Where space permits, these conditions are maintained; in select locations the separation may be narrowed to use flexible vertical delineators.

Because of the elevated structure column placement, the left turn lanes through this segment, which typically diverge at an angle from the through lanes towards the center of the median, are re-aligned parallel to the through lanes in a more traditional configuration. This change in turn lane alignment may require left turn phases to be split at each intersection to avoid turning conflicts where the path of travel would overlap with the opposing direction. Such changes to signal operation would be determined during the final engineering stage and follow CAMUTCD standards. The column placement at each intersection would not create a visibility obstruction for turning traffic; furthermore, pedestrian movements are restricted during protected left turn phases. Finally, under the Project conditions no unsignalized left turns would remain between 162nd and 170th Streets; the unsignalized intersection at 164th would become signalized; all other streets not explicitly listed are right-in/right-out streets where they intersect Hawthorne Boulevard. The unsignalized southbound left turn to 171st Street would remain similar to its existing condition and elevated structure columns would not obstruct drivers view of oncoming traffic based on the median width and lane configuration.

South of 171st Street, the Hawthorne Option modifies left turn lanes to accommodate the elevated structure column placement and in select locations alters existing unsignalized median access to maintain safe conditions as follows:

- Redondo Beach Boulevard: Northbound and southbound left turn lanes are slightly realigned to accommodate column placement. The columns do not introduce visibility obstructions because the turning movements are protected phases and no opposing movements are permitted.
- Artesia Boulevard: Southbound left turn lanes are realigned underneath the elevated structure between straddle-bent columns. The column width is sufficiently narrow to provide the required 18-inch clearance from the face of curb in all directions. The columns on either side of the intersection do not introduce visibility obstructions because the turning movements are protected phases and no opposing movements are permitted.
- South Bay Galleria Driveway: As discussed under Pedestrian Access, a signalized pedestrian crossing would be implemented immediately north of the Galleria driveway to provide direct pedestrian access between the south end of the station and connecting bus services or points south on Hawthorne Boulevard. To provide a safe environment, the signal and traffic limit line would hold southbound traffic ahead of the driveway and would close the southbound right turn pocket, making the lane closest to the curb into a shared through-right lane. The existing southbound right turn pocket is shared with a major bus stop served by at least four bus lines. Although bus stops commonly share space with turn pockets, implementation of a curb extension and reallocation of the turn lane into a bus turnout creates a safer condition to reduce potential conflicts between

buses and other vehicles and improve visibility of pedestrians walking south along Hawthorne Boulevard across the Galleria driveway.

- 177th Street: Northbound and southbound left turn lanes would be realigned, and the northbound left turn pocket would be reduced from two lanes to one. The columns do not introduce visibility obstructions because the turning movements are protected phases and no opposing movements are permitted.
- 179th Street: The Hawthorne Option would upgrade this unsignalized intersection to a signalized one which provides a new pedestrian crossing of Hawthorne Boulevard and signalizes left-turning traffic in and out of a busy series of shopping centers on the west side of Hawthorne Boulevard. This improvement also would absorb traffic currently allowed to make an unsignalized left tun at 180th Street, where the median would be permanently closed. Signalization is a Project design feature because the column placement through this segment would otherwise create visual obstructions that would prevent drivers from seeing oncoming traffic in an uncontrolled left. The signal allows drivers to make safe, protected left turns.
- 180th Street: The Hawthorne Option would permanently close the median at this location and require left turning traffic to either continue north to the newly signalized intersection at 179th Street, or south to the existing signalized intersection at 182nd Street. Both locations would permit drivers to make a U-turn to access 180th Street or the shopping plaza. This closure is a design feature because the column placement through this segment would otherwise create visual obstructions that would prevent drivers from seeing oncoming traffic in an uncontrolled left.
- 182nd Street: Hawthorne Option alterations to this intersection are primarily curb relocation and do not substantially alter the existing condition or introduce visibility obstructions.
- 186th Street: The northbound left turn lane would be realigned to accommodate column placement, shifting the lane west in the place of the existing median and placing it immediately adjacent to the southbound travel lanes, with the columns located approximately where the existing left turn pocket is. The column would be sized to provide a minimum 18-inch clearance from face of curb on all sides. Flexible vertical delineators would be provided between the northbound left turn lane and the southbound travel lane to provide additional visual clarity.
- South of 186th Street median access: Immediately south of 186th Street an unsignalized southbound left turn is provided to access businesses on the east side of Hawthorne Boulevard. Under the Hawthorne Option, the column design at this location would utilize straddle-bents to maximize visibility for the southbound left turn and of those vehicles by northbound traffic. Analysis of the cone of visibility for drivers at this location determined that locating the columns 18 inches from the west edge of the median would provide a sufficient view for southbound drivers to make the unsignalized turn.

3.1-4.4 Will the Proposed Project result in inadequate emergency access?

3.1-4.4.1 Construction Impacts

Less Than Significant Impact. Proposed Project construction would occur in various phases, which would have different effects on the street system. Any temporary full or partial street closures during construction would, by necessity, increase traffic volumes on the detour routes, which could increase traffic congestion on those routes. However, the Proposed Project alignment is located in an established urban area that is well-served by the surrounding roadway network, and multiple routes exist parallel to the affected streets. Emergency vehicle drivers normally have a variety of options for avoiding traffic,

such as using sirens to clear a path of travel, driving in the lanes of opposing traffic or center turn lanes, and bypassing signals and stopped traffic. Implementation of CTMPs, as part of PF-T-1 and outlined in Section 3.1-2.7, would further ensure adequate emergency access is maintained in and around the Proposed Project construction and component sites throughout all construction activities. Therefore, there would be a **less than significant** impact.

TRENCH OPTION

Less Than Significant Impact. Although the nature of the Trench Option and its construction is different than the Proposed Project, the construction impacts on the roadway and circulation network are similar to the Proposed Project and are likewise less than significant. The Trench Option follows the same Metro ROW like the Proposed Project and would have the potential for lane reductions or closures at the same locations during construction, although these disruptions to the roadway network would be longer duration. Where the Proposed Project would require construction of at-grade crossings at 170th and 182nd Streets, the Trench Option would instead require excavation at these locations and the construction would still result in partial and full road closures as the work progresses. The CTMPs prepared pursuant to PF-T-1 (described in Section 3.1-2.7) would ensure adequate emergency access is maintained. Therefore, there would be a **less than significant** impact.

HAWTHORNE OPTION

Less Than Significant Impact. Although the nature of the Hawthorne Option and its construction is different than the Proposed Project, the construction impacts on the roadway and circulation network are fundamentally similar to the Proposed Project. Construction of the elevated guideway would require temporary lane reductions and some detours for access or egress from intersecting streets. At least one point of access to homes, businesses and neighborhoods would be maintained. The CTMPs prepared pursuant to PF-T-1 (described in Section 3.1-2.7) would ensure adequate emergency access is maintained in and around the Hawthorne Option alignments and component sites throughout all construction activities. Therefore, there would be a **less than significant** impact.

3.1-4.4.2 Operational Impacts

The Proposed Project would introduce gate controlled at-grade crossings (170th Street and 182nd Street), which would require emergency responders to either wait for the crossing to clear or re-route to another street. The introduction of grade crossings would not result in any permanent closures, however, as gates would only be down for temporary and intermittent periods in the relatively infrequent event that an emergency responder would use 170th Street or 182nd Street at the time of a train arrival to the grade crossing. Therefore, the Proposed Project would not result in inadequate emergency access and this impact would be **less than significant**. The Proposed Project's potential effect on emergency access is further discussed below for different emergency responders.

Emergency Vehicle Access from Fire Stations

Less than Significant. The following fire stations are located in the RSA:

- Los Angeles County Fire Department Station 160 - located at Rosecrans Avenue east of Aviation Boulevard
- Manhattan Beach Fire Foundation - located at Rosecrans Avenue west of Douglas Street
- Los Angeles County Fire Department Station 21 - located at 147th Street east of Hawthorne Boulevard

- Manhattan Beach Station 2 - located at Rowell Avenue and Manhattan Beach Boulevard
- Redondo Beach Station 2 - located at Mackay Lane and Grant Avenue
- Torrance Fire Department Station 3 - located west of the I-405 along 182nd Street
- Torrance Fire Department Station 5 - located west of Hawthorne Boulevard along Del Amo Circle
- Torrance Fire Department Station 1 - located at Crenshaw Boulevard and Carson Boulevard

The introduction of grade crossings would not result in any permanent closures, as gates would only be down for temporary and intermittent periods in the relatively infrequent event that an emergency responder would use 170th Street or 182nd Street at the time of a train arrival to the grade crossing. Therefore, the Proposed Project would not result in inadequate access for fire responders and this impact would be **less than significant**.

Emergency Vehicle Access to Emergency Rooms

Less than Significant Impact. The following emergency rooms are located in the RSA, none of which are located on streets with gated grade crossings:

- Memorial Hospital of Gardena - 1145 W Redondo Beach Boulevard, Gardena, CA 90247
- Providence Emergency Department – Torrance - 4101 Torrance Boulevard, Torrance, CA 90503
- Harbor-UCLA Medical Center Emergency Room - 1000 W Carson St, Torrance, CA 90502

The introduction of grade crossings would not result in any permanent closures, as gates would only be down for temporary and intermittent periods in the relatively unlikely event that an emergency responder would use 170th Street or 182nd Street at the time of a train arrival to the grade crossing. Therefore, the Proposed Project would not result in inadequate emergency access for emergency responders and this impact would be **less than significant**.

Police Response

Less than Significant Impact. Police departments typically assign calls to responders who are already on patrol. Thus, police response is typically not operated from a fixed point, such as a station but rather from any nearby patrol vehicle. The introduction of grade crossings would not result in any permanent closures, as gates would only be down for temporary and intermittent periods in the relatively infrequent event that an emergency responder would use 170th Street or 182nd Street at the time of a train arrival to the grade crossing. Therefore, the Proposed Project would not result in inadequate police access and this impact is expected to be **less than significant**.

TRENCH OPTION

Less than Significant Impact. Because the Trench Option fully grade-separates the light rail and maintains the existing road network above the trench, there would be no effect on emergency access as a result of the Trench Option. Existing freight rail crossings would remain at-grade and would not decrease emergency access compared to conditions without the project; the freight rail service is generally infrequent (e.g., typically one to two trains per day) and potential blocking of crossings is rare. Therefore, there would be a **less than significant impact**.

HAWTHORNE OPTION

Less than Significant Impact. Because the Hawthorne Option fully grade-separates the light rail and generally maintains the existing road network below, the Hawthorne Option would not impair

emergency access. At the intersection of Hawthorne Boulevard and 180th Street, the center median would be permanently closed, limiting direct access to 180th Street (east) or into the shopping plaza on the west. However, the intersection at 179th Street would remain with a new traffic signal, which is approximately 200 feet to the north, and 182nd Street which is approximately 630 feet to the south, ensuring that access to 180th Street (east) and the shopping plaza on the west is maintained. Therefore, there would be a **less than significant impact**.

3.1-5 Mitigation Measures

No mitigation measures are required, as there are no significant impacts on transportation.

3.1-6 Cumulative Impacts

The methodology for cumulative analysis and a description of relevant projects and projections are included in Section 3.0, Introduction. The geographic scope of the cumulative analysis for transportation is within one-half mile of the Proposed Project stations. Included in the half-mile area are the following projects:

- Manhattan Beach Boulevard Improvements
- Hawthorne Boulevard Corridor Improvement Project
- Inglewood Avenue Intersection Improvements
- Grant Avenue Signal Improvements
- Crenshaw Boulevard Intersection Improvements
- South Bay Galleria Improvement Project

3.1-6.1 Proposed Project

Under cumulative conditions, incremental improvements to roadway networks around the Proposed Project would occur, primarily consisting of intersection-level additions of turning lanes and traffic signal upgrades to improve safety (by providing separated turning phases) or traffic flow by adding turn lane capacity. Because the area is heavily developed and traffic congestion is a typical condition, jurisdictions have limited tools to address isolated traffic bottlenecks.

Projects listed above generally do not directly intersect the Proposed Project, although some are within the half-mile walkshed of stations where construction of a new turn lane could alter pedestrian crossings. The above-mentioned projects are close enough to the Metro ROW to be potentially disruptive if construction occurred concurrently, but given the shorter and more intermittent duration of the nature of these types of roadway improvement projects, overlap of construction periods would be minimal, if at all. Construction of these projects is not anticipated to be significant in duration or disruption.

Under Operational conditions, these projects are not within the footprint of the Proposed Project and would not cumulatively create new geometric hazards, obstructed visibility, or reduce emergency access. Therefore, the Proposed Project combined with past, present, and probable future projects, would not result in a cumulatively significant impact with regards to conflicts with a program, plan ordinance or policy addressing the circulation system; conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b); substantially increases in hazards due to a geometric design feature or incompatible use; or result in inadequate emergency access.

3.1-6.2 Trench Option

Under cumulative conditions, the above discussed impact areas would result in similar conclusions, therefore the Trench Option would not result in a cumulatively significant impact to transportation. The Trench Option follows the same location and footprint as the Proposed Project and therefore the potential construction and operational considerations with related projects are the same. Although some construction activities, particularly digging of the trench at roadway crossings, would take longer and require more truck hauling trips, the nature of construction and its effect to temporarily detour traffic if and when the road must be closed is the same as the Proposed Project. Under operational conditions, the Trench Option would have even less effect on the roadway network as the light rail would be fully grade-separated from all other modes.

The Trench Option combined with past, present, and probable future projects, would not result in a cumulatively significant impacts with regards to conflicts with a program, plan ordinance or policy addressing the circulation system; conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b); substantially increases in hazards due to a geometric design feature or incompatible use; or result in inadequate emergency access.

3.1-6.3 Hawthorne Option

Under cumulative conditions, incremental improvements to roadway networks around the Hawthorne Option would occur, primarily consisting of intersection-level additions of turning lanes and traffic signal upgrades as described under the Proposed Project. The I-405 Auxiliary Lanes project and the South Bay Galleria Improvement Project could be under construction at the same time as the Hawthorne Option, particularly at the same time as the adjacent South Bay Galleria Station. While the South Bay Galleria Improvement Project includes a construction traffic management plan and the I-405 Auxiliary Lanes project would also be expected to have a construction traffic management plan, coordination would need to be maintained between contractors to ensure consistency with plans and policies, avoid hazards due to geometric design features, and maintenance of emergency access. Coordination would occur via the City of Redondo Beach and Caltrans.

On Hawthorne Boulevard at 182nd Street, an identified cumulative project is proposed to construct a northbound right-turn lane would conflict with the Hawthorne Option conceptual design which requires widening of Hawthorne Boulevard to the east to accommodate the median area needed for elevated support columns while maintaining one northbound left-turn lane and four northbound through lanes. Although the roadway could be further widened at this location to maintain the planned northbound right-turn pocket, this would expand the need for property and right-of-way acquisition.

Conflicting with a planned improvement does not in and of itself constitute a significant impact. The northbound right turn pocket at the intersection of Hawthorne Boulevard and 182nd Street could be modified to address its planned goals while considering the Proposed Project's design. The Proposed Project could modify its proposed striping plan or acquire additional right-of-way. Therefore, the Hawthorne Option combined with past, present, and probable future projects, would not result in a cumulatively significant impact with regards to conflicts with a program, plan ordinance or policy addressing the circulation system; conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b); substantially increases in hazards due to a geometric design feature or incompatible use; or result in inadequate emergency access.