

Draft Environmental Impact Report Executive Summary

C LINE (GREEN) EXTENSION TO TORRANCE



Draft Environmental Impact Report

Executive Summary

January 2023

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Abbreviations/Acronyms

AP	Alquist-Priolo
APM.....	Automated People Mover
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
HFB.....	High-Frequency Bus
I-	Interstate
LAX	Los Angeles International Airport
Metro	Los Angeles County Metropolitan Transportation Authority
ROW	Right-of-Way
SAA.....	Supplemental Alternatives Analysis
TC	Transit Center
TPSS.....	Traction Power Substation

ES EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The Executive Summary provides an overview of the of the Draft Environmental Impact Report (EIR) for the C Line (Green) Extension to Torrance project (Proposed Project), including project description, project objectives, environmental analysis, and comparison of alternatives.

The Los Angeles County Metropolitan Transportation Authority (Metro) prepared the Draft EIR to satisfy the requirements of the California Environmental Quality Act (CEQA) and the CEQA Guidelines, to inform public agency decision-makers and the public of the significant environmental effects of the Proposed Project, as well as possible ways to minimize those significant effects, and reasonable alternatives to the Proposed Project that would avoid or minimize those significant effects, and to enable the Metro Board to consider environmental consequences when deciding whether to approve the Proposed Project.

ES.2 PROJECT DESCRIPTION

ES.2-1 Overview and History

Figure ES-1 shows the project location within Los Angeles County. Figure ES-2 shows the Project Area, which follows the Metro-owned Harbor Subdivision railroad right-of-way (Metro ROW) along a 4.5-mile north-south corridor from the existing Redondo Beach (Marine) Metro C Line (Green) Station traveling southeast to the Torrance Transit Center (TC). The Project Area includes portions of the Cities of Hawthorne, Lawndale, Redondo Beach and Torrance. The boundaries of the Project Area form roughly a one-mile buffer around the Metro ROW, with the borders generally following city limits and/or major roadways. A one-mile buffer is generally the area in which potential benefits and ridership of a major transportation project are likely to be focused.

In 2017, Metro initiated a Supplemental Alternatives Analysis (SAA) for the Proposed Project, which assumed an opening year of 2030 and an analysis horizon year of 2042. The intent of the SAA was to build upon previous corridor studies, including an Alternatives Analysis in 2009 and environmental analysis in 2010, and to refine and recommend alternatives to be considered in a future environmental study. The SAA evaluated four light rail transit alternatives to extend the existing Metro C Line (Green) south to the Torrance TC. On September 27, 2018, the Metro Board voted to approve two of the four light rail alternatives to be carried forward for environmental analysis: the Metro ROW and Hawthorne Boulevard alignments (both primarily at-grade alignments).

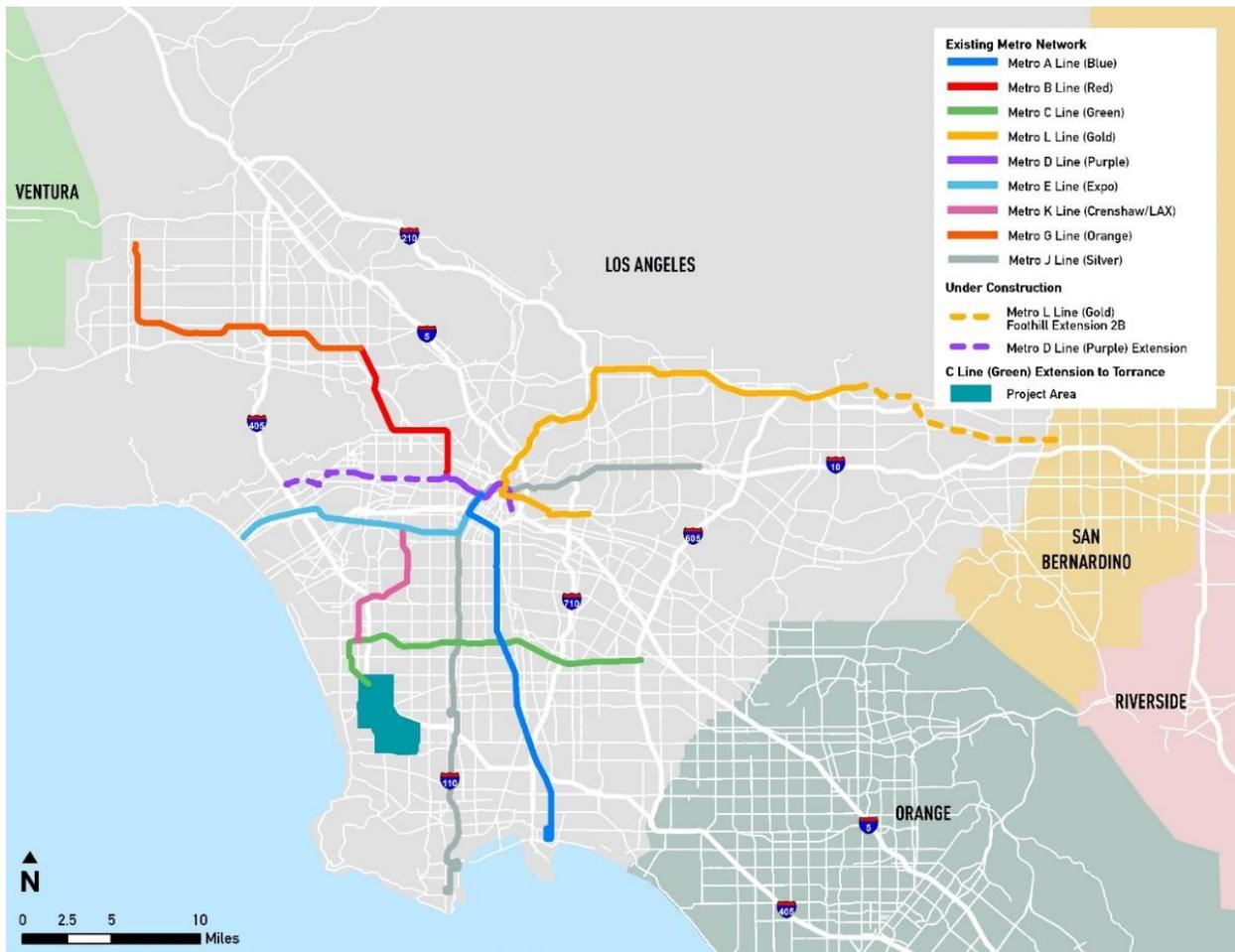
In February 2021, Metro conducted scoping for this EIR to evaluate the Metro ROW and Hawthorne Boulevard alignments. As a result of community input, the project team included an additional alignment along the Metro ROW be studied, which would travel below street level in an open-air trench. As part of the planning analysis, Metro determined that the Hawthorne Boulevard alignment would need to be elevated to address safety.

For purposes of defining the project under CEQA, the alignment options were renamed for this Draft EIR. This Draft EIR serves to evaluate the potential environmental impacts of the Proposed Project (Metro ROW elevated/at-grade alignment) and two Options in the northern portion of the alignment: the Trench Option (primarily below-grade) and the Hawthorne Option (entirely elevated). There is one alignment south of 190th Street for the Proposed Project without any options. An overview of the Proposed Project and Options is shown in Figure ES-2. The Metro ROW Elevated/Street-Level alignment is referred to as the Proposed Project in the Draft EIR because it is the alignment that has been historically studied and advanced for the extension of the C Line (Green) to the South Bay region. This

term does not, however, convey any preference or recommendation as to the alignment or Options. Metro staff will prepare a recommendation on its preferred alignment in Spring 2023 based on findings from the Draft EIR, public comments made during the comment period, technical analysis, stakeholder input, and other factors such as cost, ridership, and project objectives.

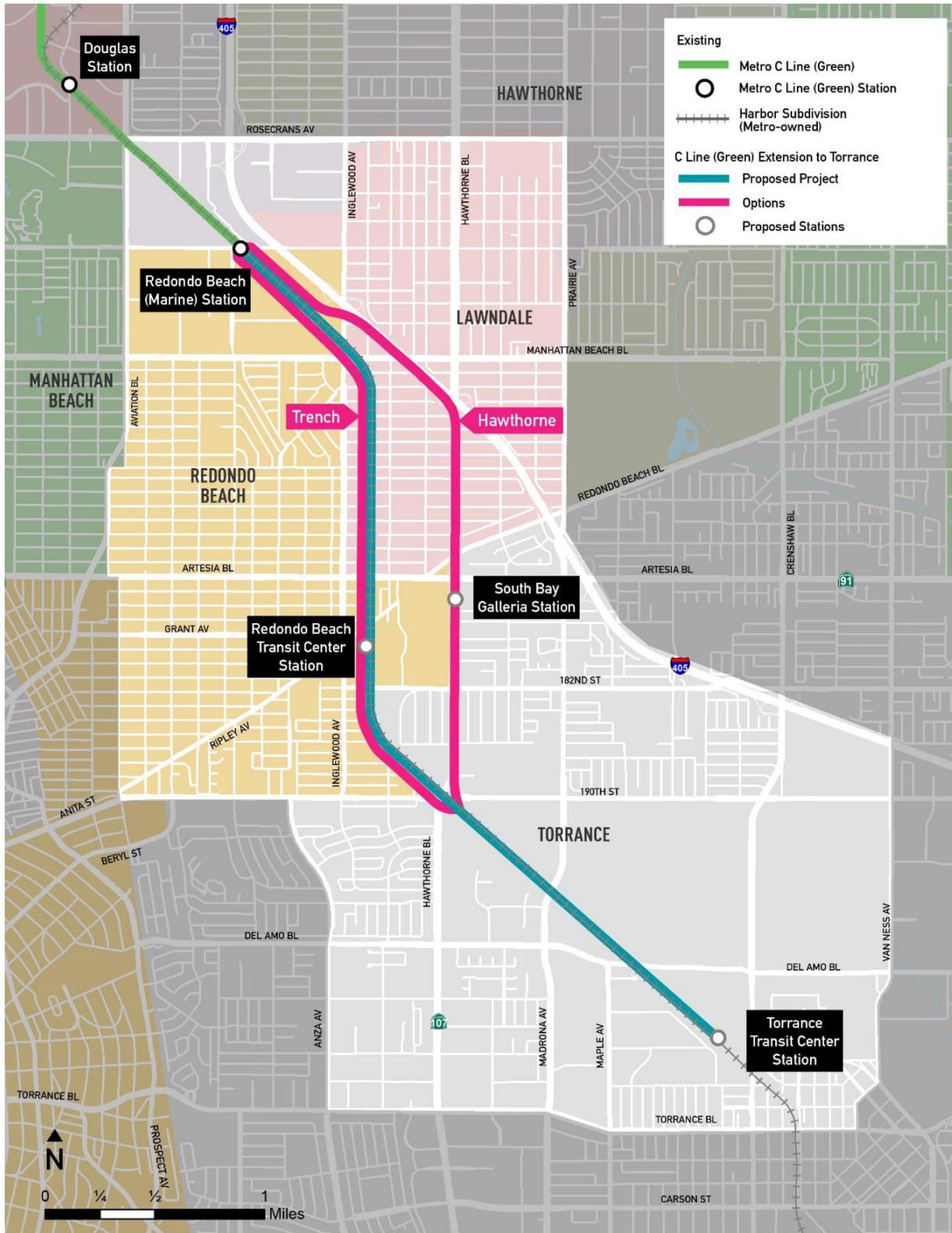
CEQA requires an analysis of a reasonable range of potentially feasible alternatives to the Proposed Project to substantially reduce or eliminate significant impacts associated with project development. As such, the Draft EIR evaluates three alternatives to the Proposed Project: No Project Alternative, High-Frequency Bus (HFB) Alternative, and 170th/182nd Grade-Separated Light Rail Transit Alternative, described in further detail in Chapter 4, Alternatives.

Figure ES-1. Project Location and Regional Vicinity



Source: Metro, STV, 2022

Figure ES-2. Metro C Line (Green) Extension to Torrance – Overview



Source: STV, 2022

ES.2-2 Project Objectives

The underlying purpose of the Proposed Project is to provide high-capacity transit service in the South Bay. Metro has identified the following project objectives:

- > Improve mobility within the South Bay and encourage mode shift by:
 - Introducing high-frequency transit service options from the current C Line terminus south to Torrance.
 - Creating direct connections between the regional transit network and local transit hubs for convenient transfers.
 - Providing an alternative mode of transportation for commuters traveling along congested arterials and Interstate 405 (I-405).
 - Providing First-Last Mile facilities to connect to neighborhoods to station areas.
- > Reduce air pollution and greenhouse gas emissions by making transit a more viable transportation choice.
- > Avoid and minimize environmental impacts on environmental resources to the maximum extent feasible.
- > Provide a cost-effective project.
- > Provide more equitable access to regional destinations by improving connections to the Metro regional rail system.

ES.2-3 Project and Project Options Considered in the EIR

ES.2-3.1 Proposed Project

The Proposed Project follows the existing Metro ROW and would extend the Metro C Line (Green) approximately 4.5 miles, with a combination of elevated and at-grade segments between Redondo Beach (Marine) and the Torrance TC. Figure ES-4 shows an overview of the alignment. The light rail tracks would start on an elevated structure, as shown in an example cross-section in Figure ES-4, and run above street level to cross over six streets, for approximately 1.1 miles of elevated structure. The light rail tracks would then come down to street level for approximately 3.5 miles with two at-grade crossings (170th Street and 182nd Street). The existing freight track would be rebuilt and shifted in some areas within the Metro ROW and would remain at-grade throughout the length of the corridor. An example cross-section is shown in Figure ES-5.

Two stations are proposed: Redondo Beach TC Station and Torrance TC Station, both adjacent to the cities' new bus transit centers to provide easy transfers between bus and rail. The two-level Redondo Beach TC Station would be located south of Grant Avenue, west of the City of Redondo Beach's transit center. The at-grade Torrance TC Station would be located just west of Crenshaw Boulevard, west of the City of Torrance's transit center. Two multi-use paths are proposed along the Metro ROW where there is space (between 159th Street and Condon Ave and between Grant Ave and 182nd Street), to create recreational space for walking and cycling in the neighborhoods. The light rail tracks would be separated from all roadways, except for two at-grade crossings at 170th and 182nd Streets; Figure ES-6 shows the vertical profile of the Proposed Project and all the roadways that it would cross. To support light rail vehicle operations, six traction power substations (TPSS) would be needed for the Proposed Project. Access would be provided to each via maintenance access roads and shielded with landscaping where

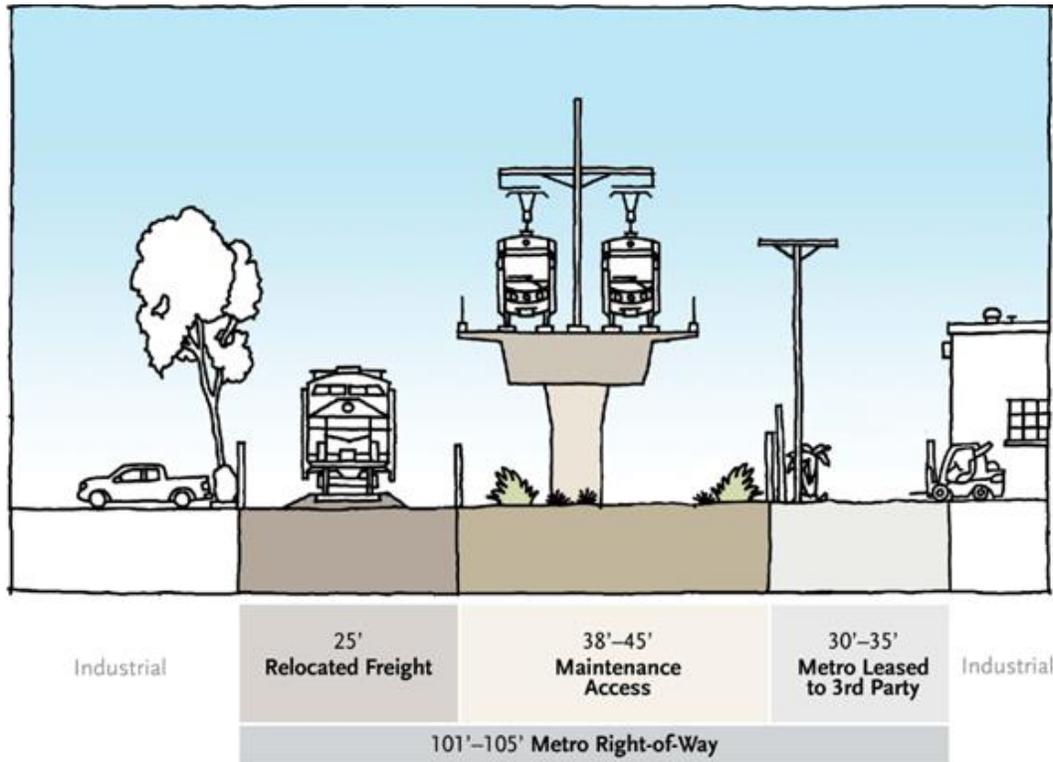
possible. The Proposed Project would not include a new or modified maintenance facility, as light rail vehicles would be maintained and stored at existing Metro facilities. The existing freight track would shift within the Metro ROW as part of the Proposed Project to accommodate the light rail tracks. The at-grade crossings (for both freight and light rail) would be designed and upgraded to be “quiet zone ready”, which would allow local jurisdictions to implement a quiet zone policy for the corridor in the future from north of Inglewood Avenue to south of 182nd Street. A quiet zone would reduce noise along the corridor by allowing freight trains to eliminate the use of horns when approaching at-grade crossings, which would have safety gates and enhancements for trains, vehicles, and pedestrians.

Figure ES-3. Proposed Project – Overview



Source: STV, 2022

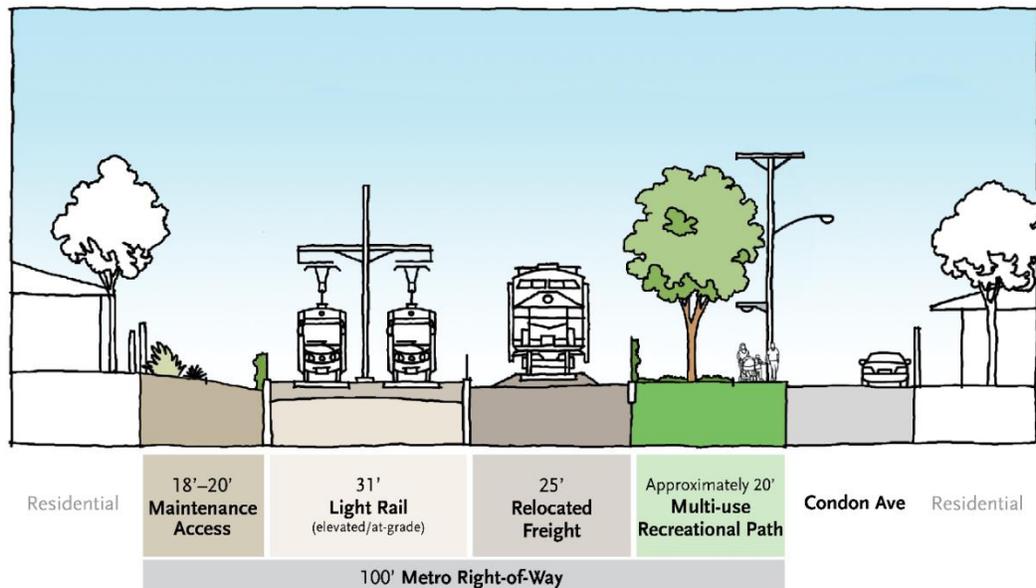
Figure ES-4. Proposed Project – Looking South Between Inglewood Avenue and Manhattan Beach Boulevard



Source: Cityworks Design, 2022

Dimensions and ROW boundaries are preliminary and subject to confirmation in future phases of design.

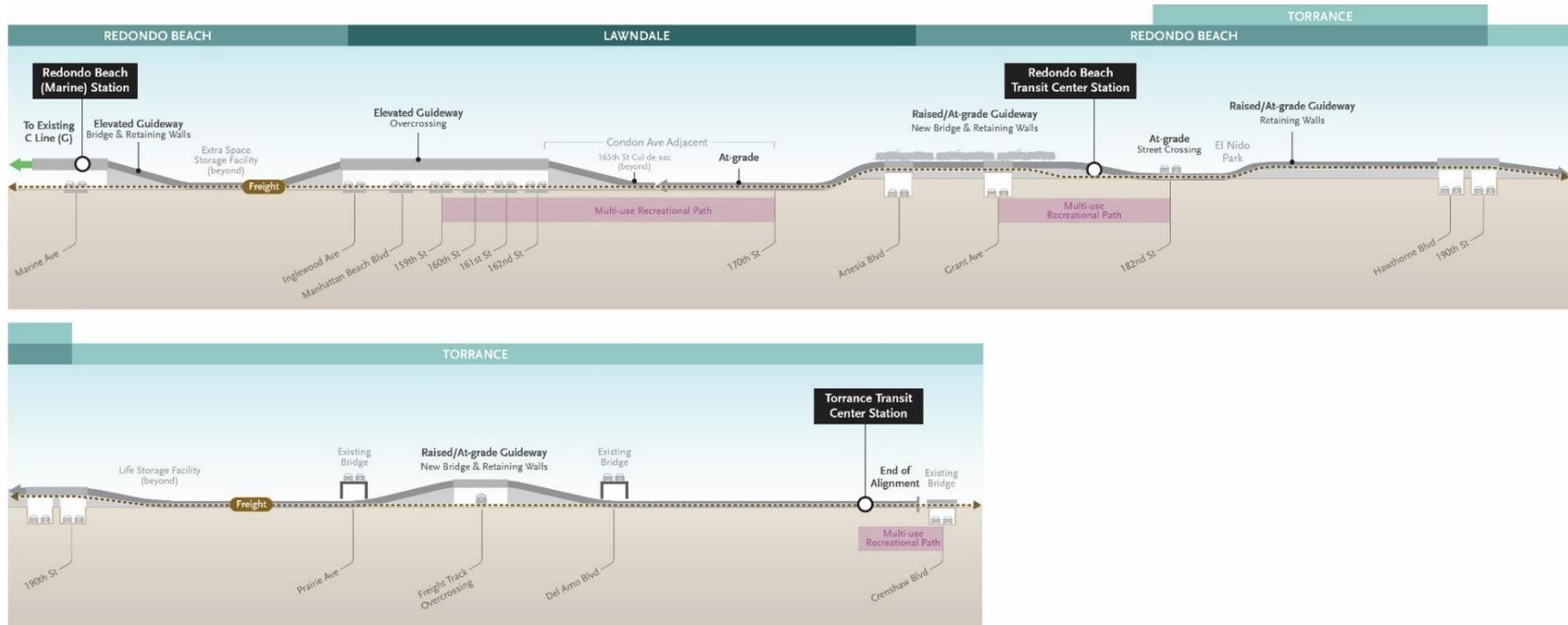
Figure ES-5. Proposed Project – Looking South Between 165th Street and 170th Street



Source: Cityworks Design, 2022

Note: Dimensions and ROW boundaries are preliminary and subject to confirmation in future phases of design.

Figure ES-6. Proposed Project – Vertical Profile Diagram



Note: Transition to vertical profile not to scale

- PROPOSED
- Station
 - Alignment

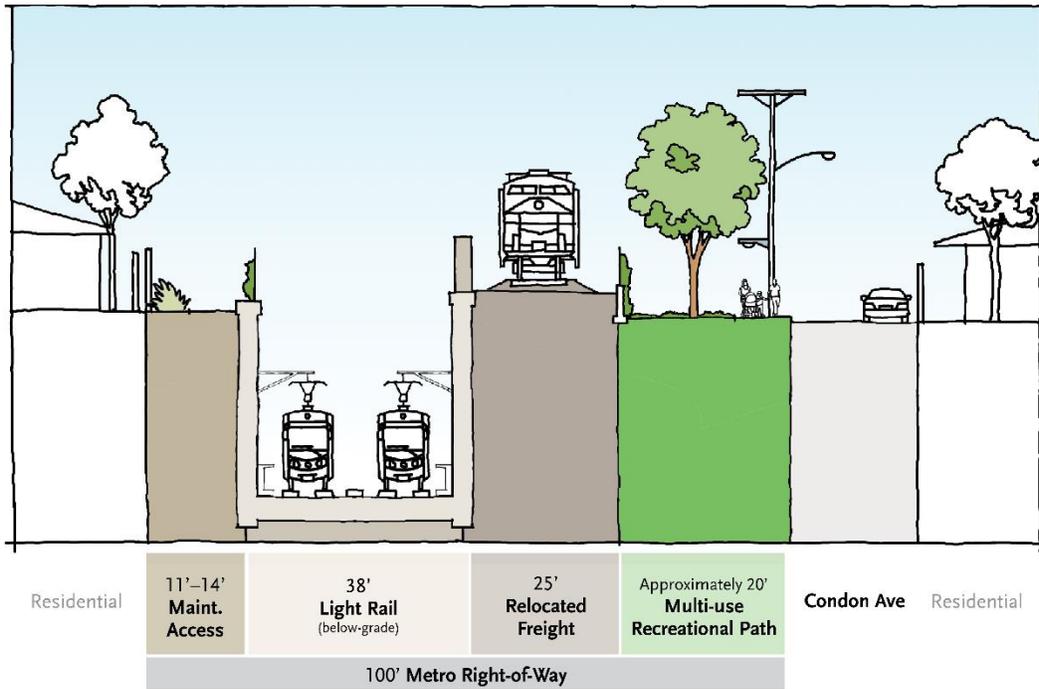
Source: Cityworks Design, 2022
 Not to scale.

ES.2-3.2 Trench Option

The Trench Option follows the existing Metro ROW between the Redondo Beach (Marine) Station and 190th Street, with a combination of below grade (trench) and at-grade segments. In the northern part of the alignment, the light rail would travel in an open-air trench for approximately two miles, crossing under eight streets between Inglewood Avenue and 182nd Street. At-grade segments are proposed between 173rd Street and Grant Avenue and south of 182nd Street, where the light rail would cross over bridges at Artesia Boulevard, Grant Avenue, Hawthorne Boulevard, and 190th Street. South of 190th Street, the alignment and Torrance TC Station would be identical to the Proposed Project. Figure ES-7 shows an overview of the alignment. An example cross section is shown in Figure ES-8.

One station is proposed in the Trench Option segment: Redondo Beach TC Station. Similar to the Proposed Project, the Redondo Beach TC Station would be located south of Grant Avenue, but as a one-level station approximately 10 feet below existing ground level, which is needed to allow the light rail tracks to cross under 182nd Street. The Trench Option also includes two multi-use paths in the Metro ROW where there is room, similar to the Proposed Project. The Trench Option would be entirely grade-separated with no rail crossings at street level; Figure ES-9 shows the vertical profile of the Trench Option and all the roadways that it would cross. The depth of the trench varies based on underground utilities, ground conditions, and topography with a deeper trench in the north (between 30 to 40 feet) and a shallower trench around 170th Street and 182nd Street (approximately 20 feet). There would be four TPSSs needed for the Trench Option north of 190th Street that would be accessible via maintenance roads and would be shielded with landscaping where possible. Similar to the Proposed Project, the Trench Option would shift the existing freight track in some locations and rebuild freight crossings to be quiet zone ready.

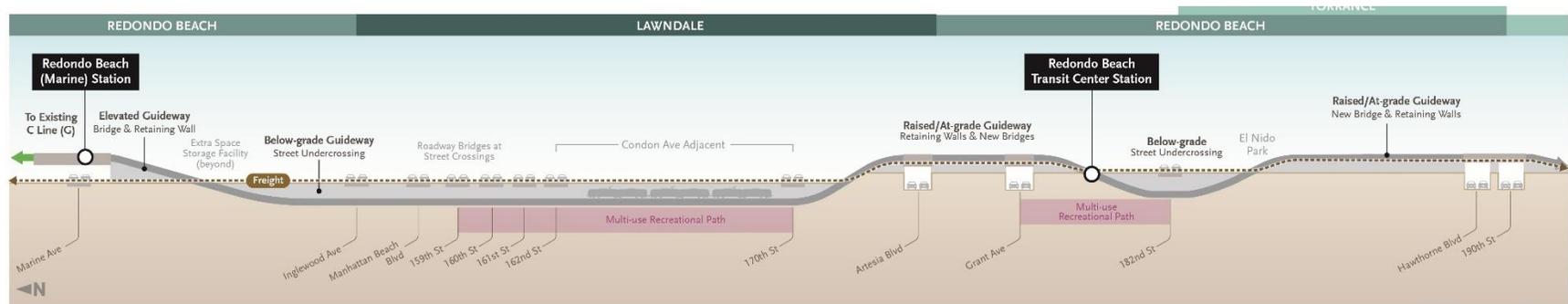
Figure ES-8. Trench Option - Looking South Between 162nd Street and 168th Street



Source: Cityworks Design, 2022

Note: Dimensions and ROW boundaries are preliminary and subject to confirmation in future phases of design.

Figure ES-9. Trench Option – Vertical Profile Diagram



*Note: Transition to vertical profile not to scale,
 Freight tracks west of proposed light rail tracks*

PROPOSED
 ○ Station
 — Alignment

Source: Cityworks Design, 2022

Note: South of 190th Street, the alignment is the same as the Proposed Project.
 Not to scale.

ES.2-3.3 Hawthorne Option

The Hawthorne Option would start within the existing Metro ROW, leave the Metro ROW to parallel I-405 between Inglewood Avenue and Hawthorne Boulevard, and follow Hawthorne Boulevard south between 162nd Street and 190th Street. The entire alignment within the Hawthorne Option segment would be elevated, for approximately 2.7 miles. South of 190th Street, the alignment and Torrance TC Station would be identical to the Proposed Project. Figure ES-10 shows an overview of the alignment. Example cross-section are shown in Figure ES-11 and Figure ES-12.

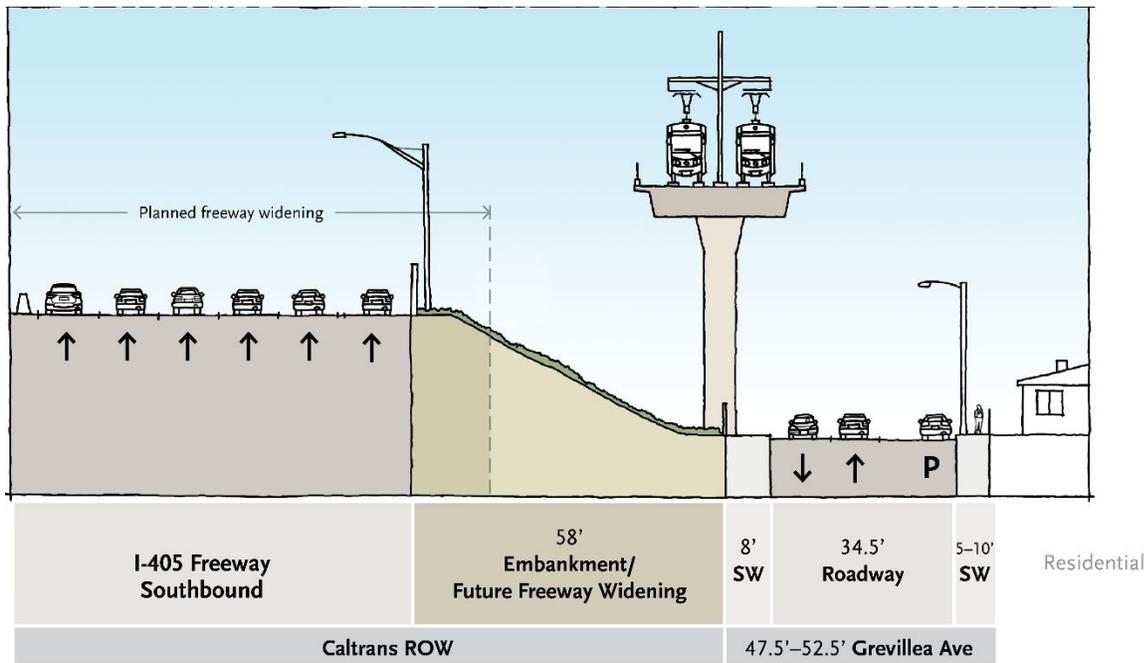
One station is proposed in this segment: South Bay Galleria Station. The South Bay Galleria Station would be located in the median of Hawthorne Boulevard between Artesia Boulevard and 177th Street. The Hawthorne Option light rail tracks would be elevated and not cross any roadways at-grade. While some travel lanes would be realigned on Hawthorne Boulevard to accommodate the light rail structure, there would be no loss in the number of travel lanes. The configuration of the median and left turn lanes would be modified in some areas to allow for the placement of columns, resulting in some signalization changes and a loss of approximately 20 parking spaces in the median between 162nd Street to 171st Street. Figure ES-13 shows the vertical profile of the Hawthorne Option and all the roadways that it would cross over. There would be four TPSSs needed for the Hawthorne Option north of 190th Street that would be accessible via maintenance roads and shielded with landscaping where possible.

Figure ES-10. Hawthorne Option – Overview



Source: STV, 2022

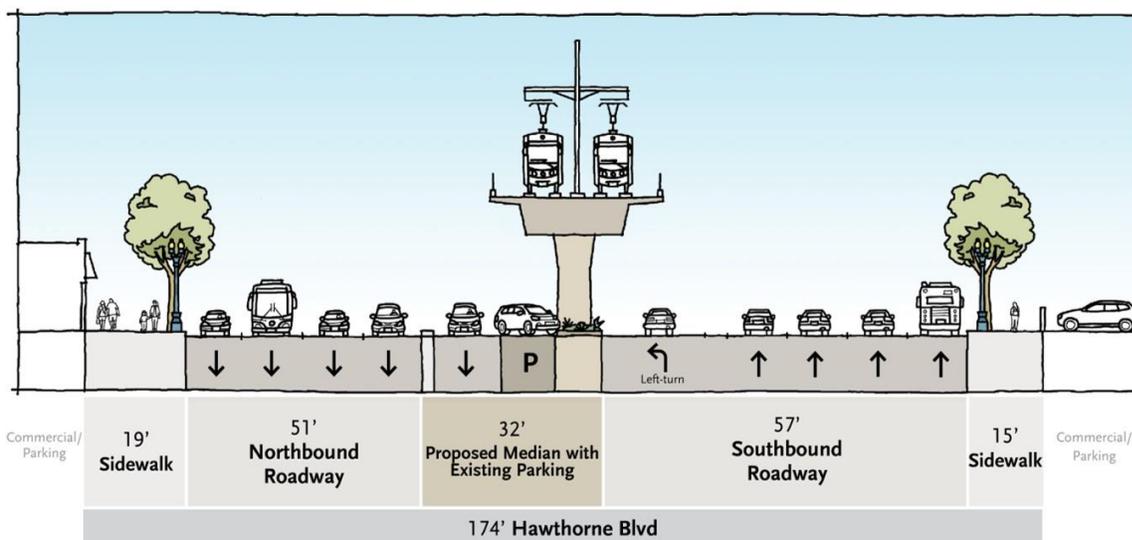
Figure ES-11. Hawthorne Option – Looking South of 159th Street



Source: Cityworks Design, 2022

Dimensions and ROW boundaries are preliminary and subject to confirmation in future phases of design.
 SW = sidewalk

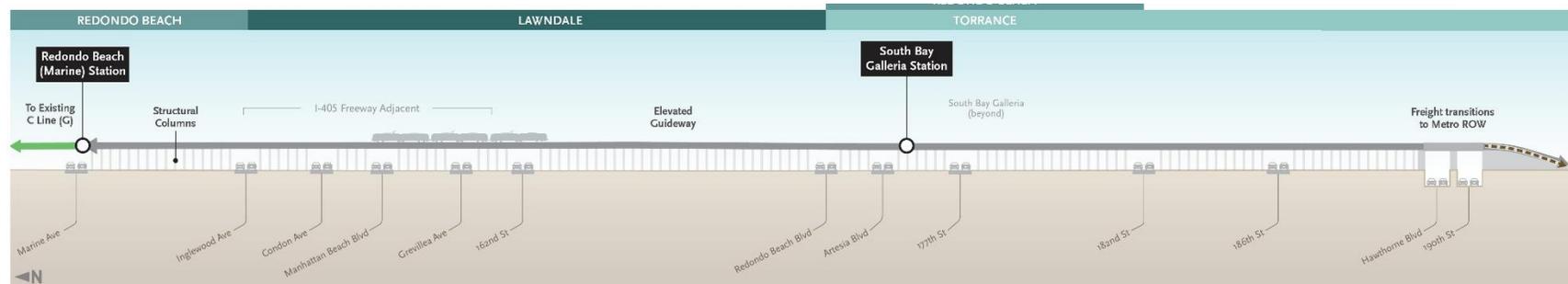
Figure ES-12. Hawthorne Option - Looking South of 170th Street



Source: Cityworks Design, 2022

Note: Dimensions and ROW boundaries are preliminary and subject to confirmation in future phases of design.

Figure ES-13. Hawthorne Option – Vertical Profile Diagram



Note: Transition to vertical profile not to scale

PROPOSED
 ○ Station
 — Alignment

Source: Cityworks Design, 2022

Note: South of 190th Street, the alignment is the same as the Proposed Project.
 Not to scale.

ES.3 SUMMARY OF ENVIRONMENTAL IMPACT ANALYSIS

The Draft EIR identifies potential environmental impacts due to the construction and operation of the Proposed Project and Options and analyzes any significant impacts and implementation of feasible mitigation measures. Project features are incorporated as part of the Project and consist of design features, best management practices, or other measures required by law and/or permit approvals that avoid or minimize potential effects. Mitigation measures are additional actions, not otherwise part of the Project, that are designed to avoid, minimize, or compensate for significant impacts.

Table ES-1 below provides a high-level overview of the topic areas where environmental impacts have been identified for the Proposed Project or for the Options.

Table ES-1. Summary of Environmental Impacts

Level of Impact	Environmental Topic Areas
No Impact/Less than Significant Impact	Transportation Greenhouse Gas Emissions Hazards and Hazardous Materials Hydrology and Water Quality Utilities and Service Systems Energy Public Services
Less than Significant Impact with Mitigation	Land Use and Planning Aesthetics Biological Resources Geology, Soils, and Paleontological Resources Cultural Resources Tribal Cultural Resources
Significant and Unavoidable Impact	Air Quality Noise and Vibration

Table ES-2 shows a summary identifying the environmental impacts, mitigation measures, and level of significance after mitigation if applicable. Detailed analyses of these topics are provided in Chapter 3, Environmental Impacts.

Table ES-2. Summary of Impacts Evaluation

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Transportation				
A. Will the Project conflict with a program, plan ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
B. Will the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
C. Will the Project substantially increase hazards due to a geometric design feature or incompatible uses?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
D. Will the Project result in inadequate emergency access?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Land Use				
A. Would the Project physically divide an established community?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
B. Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Significant Operations: Less than Significant	Construction: MM-LU-1: Temporary Crossings	Construction: Less than Significant Operations: Less than Significant
Visual & Aesthetics				
A. Would the Project have a substantial effect on a scenic vista?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
B. Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Visual & Aesthetics				
C. In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point such as a sidewalk). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
D. Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Proposed Project	Construction: Significant Operations: Less than Significant	Construction: MM-AES-1: Construction Lighting	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Significant Operations: Less than Significant	Construction: MM-AES-1: Construction Lighting	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Significant Operations: Less than Significant	Construction: MM-AES-1: Construction Lighting	Construction: Less than Significant Operations: Less than Significant
Air Quality				
A. Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Air Quality				
B. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Significant Operations: Less than Significant	Construction: MM-AQ-1: Cleaner Haul Trucks	Construction: Significant and Unavoidable Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
C. Would the Project expose sensitive receptors to substantial pollutant concentrations?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
D. Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
Greenhouse Gas Emissions				
A. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Greenhouse Gas Emissions				
B. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
Noise and Vibration				
A. Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established by the FTA, in the local general plan or noise ordinance, or applicable standards of other agencies?	Proposed Project	Construction: Significant Operations: Significant	Construction: MM-NOI-1: Noise Control Plan Operation: MM-NOI-2: Soundwalls MM-NOI-3: Low Impact Frogs MM-NOI-4: Quiet Zone Establishment	Construction: Significant and Unavoidable Operations: Significant and Unavoidable
	Trench Option	Construction: Significant Operations: Significant	Construction: MM-NOI-1: Noise Control Plan Operations: MM-NOI-2: Soundwalls MM-NOI-3: Low Impact Frogs MM-NOI-4: Quiet Zone Establishment	Construction: Significant and Unavoidable Operations: Less than Significant*

* With establishment of quiet zones by the Cities of Lawndale, Redondo Beach, and Torrance (MM-NOI-4), the Trench Option would have a less than significant impact with mitigation for operational noise.

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Noise and Vibration				
A. Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established by the FTA, in the local general plan or noise ordinance, or applicable standards of other agencies?	Hawthorne Option	Construction: Significant Operations: Significant	Construction: MM-NOI-1: Noise Control Plan Operations: MM-NOI-2: Soundwalls MM-NOI-3: Low Impact Frogs MM-NOI-5: Wheel Squeal Noise Monitoring	Construction: Significant and Unavoidable Operations: Less than Significant
B. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Noise and Vibration				
C. Would the Project result in generation of excessive ground-borne vibration?	Proposed Project	Construction: Significant Operations: Significant	Construction: MM-VIB-1: Vibration Control Plan MM-VIB-2: Construction Equipment Location MM-VIB-3: Pre- and Post-Construction Surveys Operations: MM-VIB-4: Low-Impact Frogs MM-VIB-5: Resilient Fasteners MM-VIB-6: Ballast Mats	Construction: Significant and Unavoidable Operations: Less than Significant
	Trench Option	Construction: Significant Operations: Significant	Construction: MM-VIB-1: Vibration Control Plan MM-VIB-2: Construction Equipment Location Operations: MM-VIB-4: Low-Impact Frogs MM-VIB-5: Resilient Fasteners MM-VIB-6: Ballast Mats	Construction: Significant and Unavoidable Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Noise and Vibration				
C. Would the Project result in generation of excessive ground-borne vibration?	Hawthorne Option	Construction: Significant Operations: Less than Significant	Construction: MM-VIB-1: Vibration Control Plan MM-VIB-2: Construction Equipment Location	Construction: Significant and Unavoidable Operations: Less than Significant
Biological Resources				
A. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Proposed Project	Construction: Significant Operations: Significant	Construction: MM-BIO-1: General Protection Measures to Avoid and Minimize Impacts on Sensitive Biological Resources MM-BIO-2: Nesting Bird Season Restrictions and Pre-Construction Surveys MM-BIO-3: Roosting Bat Restrictions and Survey Requirements MM-BIO-4: Pre-construction Rare Plant Survey Operations: MM-BIO-1: General Protection Measures to Avoid and Minimize Impacts on Sensitive Biological Resources	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Biological Resources				
<p>A. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p>	<p>Trench Option</p>	<p>Construction: Significant Operations: Significant</p>	<p>Construction: MM-BIO-1: General Protection Measures to Avoid and Minimize Impacts on Sensitive Biological Resources MM-BIO-2: Nesting Bird Season Restrictions and Pre-Construction Surveys MM-BIO-3: Roosting Bat Restrictions and Survey Requirements MM-BIO-4: Pre-construction Rare Plant Survey</p> <p>Operations: MM-BIO-1: General Protection Measures to Avoid and Minimize Impacts on Sensitive Biological Resources</p>	<p>Construction: Less than Significant Operations: Less than Significant</p>

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Biological Resources				
A. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Hawthorne Option	Construction: Significant Operations: Significant	<p>Construction:</p> <p>MM-BIO-1: General Protection Measures to Avoid and Minimize Impacts on Sensitive Biological Resources</p> <p>MM-BIO-2: Nesting Bird Season Restrictions and Pre-Construction Surveys</p> <p>MM-BIO-3: Roosting Bat Restrictions and Survey Requirements</p> <p>MM-BIO-4: Pre-construction Rare Plant Survey</p> <p>Operations:</p> <p>MM-BIO-1: General Protection Measures to Avoid and Minimize Impacts on Sensitive Biological Resources</p>	Construction: Less than Significant Operations: Less than Significant
B. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Biological Resources				
C. Would the Proposed Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
D. Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
E. Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
F. Would the Project conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Geology, Soils, and Paleontological Resources				
<p>A. Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <ul style="list-style-type: none"> i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo (AP) Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? ii. Strong seismic ground shaking iii. Seismic-related ground failure, including liquefaction iv. Landslides 	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
<p>B. Would the Project result in substantial soil erosion or the loss of topsoil?</p>	Proposed Project	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
	Trench Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
	Hawthorne Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Geology, Soils, and Paleontological Resources				
C. Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
D. Would the Project be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code, creating substantial direct or indirect risks to life or property?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
E. Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Geology, Soils, and Paleontological Resources				
F. Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Proposed Project	Construction: Significant Operations: No Impact	Construction: MM-GEO-1: Engage a Qualified Paleontological Resources Specialist	Construction: Less than Significant Operations: No Impact
	Trench Option	Construction: Significant Operations: No Impact	Construction: MM-GEO-1: Engage a Qualified Paleontological Resources Specialist	Construction: Less than Significant Operations: No Impact
	Hawthorne Option	Construction: Significant Operations: No Impact	Construction: MM-GEO-1: Engage a Qualified Paleontological Resources Specialist	Construction: Less than Significant Operations: No Impact
Hazards and Hazardous Materials				
A. Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
B. Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Hazards and Hazardous Materials				
C. Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
D. Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Proposed Project	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
	Trench Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
	Hawthorne Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
E. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project Area?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Hazards and Hazardous Materials				
F. For a project located within the vicinity of a private airstrip, as a result, create a safety hazard for people residing or working in the project area.	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
G. Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
H. Would the Project expose people or structures to a significant risk of loss, injury or death involving wildfires, including where wildland fires are adjacent to urbanized areas or where residences are intermixed with wildlands?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
Hydrology and Water Quality				
A. Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Hydrology and Water Quality				
B. Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
C. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
D. Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
E. Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Utilities and Service Systems				
A. Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
B. Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
C. Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	Proposed Project	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
	Trench Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
	Hawthorne Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Utilities and Service Systems				
D. Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Proposed Project	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
	Trench Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
	Hawthorne Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact
E. Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
Energy				
A. Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
B. Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Cultural Resources				
A. Would the Proposed Project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	Proposed Project	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Trench Option	Construction: No Impact Operations: No Impact	None	Construction: No Impact Operations: No Impact
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
B. Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	Proposed Project	Construction: Significant Operations: No Impact	Construction: MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation	Construction: Less than Significant Operations: No Impact
	Trench Option	Construction: Significant Operations: No Impact	Construction: MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation	Construction: Less than Significant Operations: No Impact
	Hawthorne Option	Construction: Significant Operations: No Impact	Construction: MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation	Construction: Less than Significant Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Cultural Resources				
C. Would the Project disturb any human remains, including those interred outside of formal cemeteries?	Proposed Project	Construction: Significant Operations: No Impact	Construction: MM-CUL-3: Unanticipated Discovery of Human Remains Associated with Known Cemeteries	Construction: Less than Significant Operations: No Impact
	Trench Option	Construction: Significant Operations: No Impact	Construction: MM-CUL-3: Unanticipated Discovery of Human Remains Associated with Known Cemeteries	Construction: Less than Significant Operations: No Impact
	Hawthorne Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Tribal Cultural Resources				
A. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	Proposed Project	Construction: Significant Operations: Less than Significant	Construction MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation MM-CUL-3: Unanticipated Discovery of Human Remains Associated with Known Cemeteries	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Significant Operations: Less than Significant	Construction MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation MM-CUL-3: Unanticipated Discovery of Human Remains Associated with Known Cemeteries	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Significant Operations: Less than Significant	Construction: MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation MM-CUL-3: Unanticipated Discovery of Human Remains Associated with Known Cemeteries	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Tribal Cultural Resources				
<p>B. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?</p>	Proposed Project	<p>Construction: Significant Operations: Less than Significant</p>	<p>Construction: MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation MM-CUL-3: Unanticipated Discovery of Human Remains Associated with Known Cemeteries</p>	<p>Construction: Less than Significant Operations: Less than Significant</p>
	Trench Option	<p>Construction: Significant Operations: Less than Significant</p>	<p>Construction: MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation MM-CUL-3: Unanticipated Discovery of Human Remains Associated with Known Cemeteries</p>	<p>Construction: Less than Significant Operations: Less than Significant</p>
	Hawthorne Option	<p>Construction: Significant Operations: Less than Significant</p>	<p>Construction: MM-CUL-1: Cultural Resources Identification Training MM-CUL-2: Archaeologist Consultation MM-CUL-3: Unanticipated Discovery of Human Remains Associated with Known Cemeteries</p>	<p>Construction: Less than Significant Operations: Less than Significant</p>

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Public Services				
A. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for: i. fire protection; ii. police protection; iii. schools; iv. parks; v. libraries?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
B. Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant

Environmental Impact	Proposed Project/Option	Impact Before Mitigation	Proposed Mitigation Measures	Impact After Mitigation
Public Services				
C. Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Proposed Project	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Trench Option	Construction: Less than Significant Operations: Less than Significant	None	Construction: Less than Significant Operations: Less than Significant
	Hawthorne Option	Construction: Less than Significant Operations: No Impact	None	Construction: Less than Significant Operations: No Impact

ES.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines under Section 15216(b) requires EIRs to include a discussion of any significant environmental impacts that cannot be avoided if the project is implemented. The Draft EIR identifies environmental resources with significant and unavoidable impacts and presents feasible mitigation measures to reduce impacts to a less than significant level. If a specific impact cannot be reduced to a less than significant level, it is considered a significant and unavoidable impact. As concluded in the Draft EIR and shown in Table ES-2, the following impacts would be significant and unavoidable, even after implementation of mitigation measures:

- > Proposed Project
 - Noise (construction and operation)
 - Vibration (construction)
- > Trench Option
 - Air quality (construction)
 - Noise (construction)
 - Vibration (construction)
- > Hawthorne Option
 - Noise (construction)
 - Vibration (construction)

ES.5 PROJECT ALTERNATIVES

CEQA requires that a range of reasonable project alternatives to the Proposed Project is considered that could meet most of the basic project objectives and substantially reduce or eliminate significant impacts associated with the project. CEQA Guidelines Section 15126.6(a) states, in part:

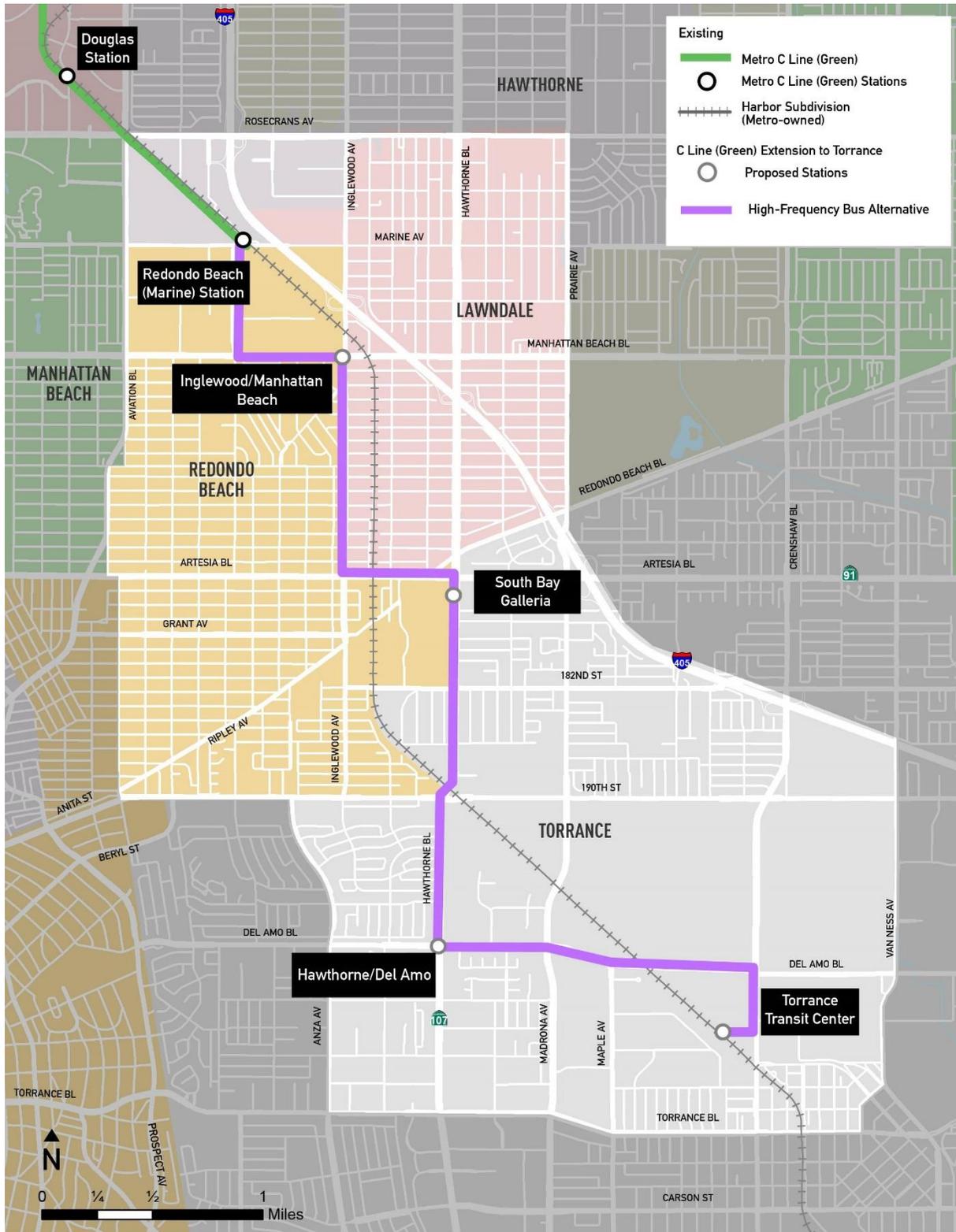
“An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.”

A description of the Project Alternatives is summarized below, and described in more detail in Chapter 4, Alternatives.

- > **No Project Alternative:** The No Project Alternative is required by CEQA Guidelines Section 15126.6(e) and assumes that Metro would not implement the Proposed Project. The No Project Alternative allows decision-makers to compare the impacts of approving the Proposed Project with the impacts of not approving the Proposed Project. The No Project Alternative is evaluated in the context of the existing transportation facilities in the Project Area and other capital transportation improvements and/or transit and highway operational enhancements that are reasonably foreseeable. Such projects include the Metro K Line (Crenshaw), the LAX Automated People Mover (APM), LAX/Metro Transit Center Station, Metro’s NextGen Bus Improvements, and all projects included in Section 3.0, Introduction of the EIR that are evaluated under the cumulative analysis.

- > **High Frequency Bus (HFB) Alternative:** The HFB Alternative would implement a rapid bus service instead of a light rail extension. The bus line would be a local express service with some bus rapid transit characteristics. The service may be as frequent as that proposed for light rail, though its ability to attract ridership would be less due to less travel time savings and fewer amenities. The buses would operate in mixed-flow traffic with transit signal priority systems, which give priority to transit vehicles at signalized intersections by giving an early green signal or holding a green signal. There would be a total of four bus stops between the existing Redondo Beach (Marine) Station and Torrance TC, compared to two light rail stations in the Proposed Project (not including the existing Redondo Beach (Marine) Station and Torrance TC Station). Travel times from end to end would be about 25 minutes, which is faster than local bus service (approximately one hour, with a transfer), but slower than the travel times expected from the Proposed Project (approximately seven minutes). Stops would be located at existing bus stops or improved relocated stops. Physical improvements would be limited to new signs at bus stops, shelters as well with solar lighting, benches, and trash receptacles, as a minimum level of bus stop amenities. Where practical, the HFB Alternative may include curb extensions, elimination of parking, or other improvements to the sidewalk area near new bus stops. Construction of the HFB Alternative would be limited to existing roadways and sidewalks, to implement potential minor improvements such as restriping, curb extensions, or bus stop amenities. Like the Proposed Project, this Alternative would not require a new maintenance facility, as buses would be maintained at existing Metro facilities. Buses would have low-floor design to allow for faster and easier boarding and alighting. A potential route for the HFB alternative is shown in Figure ES-14.
- > **170th/182nd Grade-Separated Light Rail Transit Alternative:** The 170th/182nd Grade-Separated Light Rail Transit Alternative would be identical to Proposed Project in the north with an elevated segment of light rail between Inglewood Ave and 162nd Street. In the south, the light rail would be grade separated from the roadways at 170th Street and 182nd Street, with the light rail tracks located below street level in a trench to reduce significant noise impacts during operations and significant vibration impacts during construction. Between 170th Street and 182nd Street, the Alternative would be identical to the Trench Option, including the Redondo Beach TC Station configuration. All other aspects of the project, including ancillary facilities, track geometry, and vertical configuration would be the same as the Proposed Project. This Alternative would be entirely grade-separated with six over-crossings in the north (between Inglewood Ave and 162nd Street) and two below-grade crossings at 170th and 182nd Streets. Freight crossings would remain at-grade as they are today, and PF-NV-1 (described in more detail in Section 3.6, Noise and Vibration) would be implemented to include all the safety infrastructure and improvements that are anticipated to be needed to allow for the local jurisdictions to establish a quiet zone. Construction activities for the 170th/182nd Grade-Separated Light Rail Transit Alternative would be generally the same as the Proposed Project, except more excavation would be required to construct the trench areas and the construction schedule would be slightly longer. Figure ES-15 shows an overview of the alignment.

Figure ES-14. Potential Route and Stops for the High Frequency Bus Alternative



Source: STV, 2022

Figure ES-15. Overview of 170th/182nd Grade-Separated Light Rail Transit Alternative



Source: STV, 2022

ES.5-1 Comparison of Alternatives

Table ES-3 summarizes the impacts of the No Project Alternative, HFB Alternative, and 170th/182nd Grade-Separated Light Rail Transit Alternative relative to the Proposed Project and Options' impacts. As shown in the table and described in more detail in Chapter 4, Alternatives, the No Project Alternative has significant and unavoidable impacts for transportation, land use, air quality, greenhouse gas emissions, and energy related to potential inconsistency with the 2020-2045 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy. Otherwise, the No Project Alternative would avoid or reduce all significant impacts associated with the Proposed Project. The HFB Alternative would have less than significant impacts for all topics.

For most of the 170th/182nd Grade-Separated Light Rail Transit Alternative, the impacts would be the same as the Proposed Project, except in the area between 170th and 182nd Streets, where the impacts would be similar to the Trench Option. Notably, the 170th/182nd Grade-Separated Light Rail Transit Alternative would have a less than significant impact with mitigation for noise during operation, compared to significant and unavoidable for the Proposed Project. As the Alternative would be located in a trench to cross under 170th and 182nd Streets, it would have reduced operational noise impacts associated with at-grade crossings, and implementation of MM-NOI-2 through MM-NOI-4 would result in a less than significant impact. However, if the local jurisdictions do not establish a quiet zone(s), the 170th/182nd Grade-Separated Light Rail Transit Alternative would have a significant and unavoidable impact without MM-NOI-4 during operation.

Additionally, the 170th/182nd Grade-Separated Light Rail Transit Alternative would have a less than significant impact with mitigation for vibration damage during construction, compared to significant and unavoidable impact for the Proposed Project (however, the significant and unavoidable vibration annoyance impact would be the same during construction). The Alternative would not require relocating the freight bridge at Grant Avenue, and therefore would have reduced potential for building damage in that vicinity. Mitigation measures would be able to reduce the potential damage impacts of the 170th/182nd Grade-Separated Light Rail Transit Alternative to less than significant with mitigation.

Table ES-3. Comparison of Alternatives' Environmental Impacts to the Proposed Project

		Proposed Project	Trench Option	Hawthorne Option	No Project Alternative	HFB Alternative	170th/182nd Grade-Separated Alternative
Transportation	Construction	LTS	LTS	LTS	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	SUI	LTS	LTS
Land Use and Planning	Construction	LTS	LTS	LTSM	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	SUI	LTS	LTS
Aesthetics	Construction	LTSM	LTSM	LTSM	LTS	LTS	LTSM
	Operation	LTS	LTS	LTS	LTS	LTS	LTS
Air Quality	Construction	LTS	SUI	LTS	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	SUI	LTS	LTS
Greenhouse Gas Emissions	Construction	LTS	LTS	LTS	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	SUI	LTS	LTS
Noise	Construction	SUI	SUI	SUI	LTS	LTS	SUI
	Operation	SUI	SUI/LTSM ¹	LTS	LTS	LTS	SUI/LTSM ¹
Vibration	Construction	SUI	SUI	SUI	LTS	LTS	SUI
	Operation	LTSM	LTSM	LTSM	LTS	LTS	LTSM
Biological Resources	Construction	LTSM	LTSM	LTSM	LTS	LTS	LTSM
	Operation	LTS	LTS	LTS	LTS	LTS	LTS
Geology, Soils, and Paleontological Resources	Construction	LTSM	LTSM	LTSM	LTS	LTS	LTSM
	Operation	LTS	LTS	LTS	LTS	LTS	LTS
Hazards and Hazardous Materials	Construction	LTS	LTS	LTS	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	LTS	LTS	LTS
Hydrology and Water Quality	Construction	LTS	LTS	LTS	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	LTS	LTS	LTS
Utilities and Service Systems	Construction	LTS	LTS	LTS	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	LTS	LTS	LTS

		Proposed Project	Trench Option	Hawthorne Option	No Project Alternative	HFB Alternative	170th/182nd Grade-Separated Alternative
Energy	Construction	LTS	LTS	LTS	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	SUI	LTS	LTS
Cultural Resources	Construction	LTSM	LTSM	LTSM	LTS	LTS	LTSM
	Operation	LTS	LTS	LTS	LTS	LTS	LTS
Tribal Cultural Resources	Construction	LTSM	LTSM	LTSM	LTS	LTS	LTSM
	Operation	LTS	LTS	LTS	LTS	LTS	LTS
Public Services	Construction	LTS	LTS	LTS	LTS	LTS	LTS
	Operation	LTS	LTS	LTS	LTS	LTS	LTS

¹ With establishment of quiet zones by the Cities of Lawndale, Redondo Beach, and Torrance (MM-NOI-4), the Trench Option and 170th /182nd Street Grade-Separated Alternative would have a less than significant impact with mitigation for operational noise.

ES.5-2 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 requires that an “environmentally superior” alternative be identified. The environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. If the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

As shown in Table ES-3, the No Project Alternative would avoid many of the construction and operational impacts identified for the Proposed Project, but it would have significant and unavoidable impacts during operation related to transportation, land use and planning, air quality, greenhouse gas emissions, and energy as it would conflict with plans and programs that assumed the Proposed Project would be built. The HFB Alternative would reduce all construction and operational impacts identified for the Proposed Project. Therefore, the HFB Alternative is the environmentally superior alternative as it would avoid or reduce all impacts to a less than significant level. However, the HFB Alternative would not realize the same level of benefits from vehicle miles traveled reduction, air quality improvements, greenhouse gas emissions reduction, and energy savings as the Proposed Project and Options.

ES.6 AREAS OF CONTROVERSY

CEQA Guidelines (Section 15123(b)(2)) require that an EIR identify areas of controversy known to the lead agency, including issues raised by agencies and the public. Public comments were received in response to the Notice of Preparation regarding areas of controversy. Areas of potential controversy include:

- > Aesthetic changes and loss of community character
- > Effects to local businesses during construction
- > Noise levels and air quality during construction and operation
- > Changes to street parking
- > Security and safety at stations and along the ROW
- > Traffic changes due to lane and road closures during construction

ES.7 ISSUES TO BE RESOLVED BY THE DECISION-MAKING BODY

CEQA Guidelines (Section 15123(b)(3)) requires a discussion of issues to be resolved, including a choice of alternatives and whether or how to mitigate significant impacts. The Metro Board will decide if the Proposed Project and Options’ significant impacts to land use and planning, aesthetics, vibration, biological resources, paleontological resources, cultural resources, and tribal cultural resources have been fully mitigated below a level of significance. Additionally, the Metro Board will determine whether overriding considerations should be adopted for significant and unavoidable impacts related to air quality, noise, and vibration. The Metro Board will also decide whether any of the CEQA project alternatives are feasible and could be approved.