

West Santa Ana Branch Transit Corridor

Draft EIS/EIR Appendix EE
Final Cumulative Impact Analysis Report



Metro®

WEST SANTA ANA BRANCH TRANSIT CORRIDOR PROJECT

**Draft EIS/EIR Appendix EE
Final Cumulative Impact Analysis Report**

Prepared for:



Metro[®]

Los Angeles County
Metropolitan Transportation Authority

Prepared by:



WSP USA
444 South Flower Street
Suite 800
Los Angeles, California 90071



July 2021

AUTHORS

Terry A. Hayes Associates Inc.

Terry A. Hayes, AICP

Allyson Dong

Kieran Bartholow

TABLE OF CONTENTS

1	INTRODUCTION	1-1
1.1	Study Background.....	1-1
1.2	Alternatives Evaluation, Screening, and Selection Process	1-1
1.3	Report Purpose and Structure.....	1-2
1.4	General Background	1-3
1.5	Methodology.....	1-3
2	PROJECT DESCRIPTION	2-1
2.1	Geographic Sections.....	2-5
2.1.1	Northern Section	2-5
2.1.2	Southern Section	2-6
2.2	No Build Alternative	2-6
2.3	Build Alternatives.....	2-9
2.3.1	Proposed Alignment Configuration for the Build Alternatives	2-9
2.3.2	Alternative 1: Los Angeles Union Station to Pioneer Station	2-12
2.3.3	Alternative 2: 7th Street/Metro Center to Pioneer Station	2-15
2.3.4	Alternative 3: Slauson/A (Blue) Line to Pioneer Station.....	2-15
2.3.5	Alternative 4: I-105/C (Green) Line to Pioneer Station.....	2-15
2.3.6	Design Options	2-16
2.3.7	Maintenance and Storage Facility.....	2-16
3	REGULATORY FRAMEWORK.....	3-1
3.1	Federal.....	3-1
3.1.1	Council on Environmental Quality (40 CFR Section 1500 – 1508).....	3-1
3.2	State	3-1
3.2.1	California Environmental Quality Act (Cal. Public Resources Code, Section 21000 et seq.) and CEQA Guidelines (14 Cal. Code Regs., Section 15000 et seq.)	3-1
4	AFFECTED ENVIRONMENT/EXISTING CONDITIONS.....	4-1
4.1	Affected Area.....	4-1
4.2	Forecasted Growth	4-2
5	ENVIRONMENTAL CONSEQUENCES/ENVIRONMENTAL IMPACTS	5-1
5.1	No Build Alternative	5-1
5.2	Build Alternatives.....	5-1
5.2.1	Transportation.....	5-1
5.2.2	Land Use and Development	5-1
5.2.3	Communities and Neighborhoods.....	5-3
5.2.4	Acquisitions and Displacements	5-3
5.2.5	Visual and Aesthetics	5-4
5.2.6	Air Quality.....	5-5
5.2.7	Greenhouse Gas Emissions.....	5-6
5.2.8	Noise and Vibration	5-6
5.2.9	Ecosystems and Biological Resources.....	5-7
5.2.10	Geotechnical/Subsurface/Seismic Hazards.....	5-8
5.2.11	Hazards and Hazardous Materials.....	5-8
5.2.12	Water Resources.....	5-8
5.2.13	Energy	5-9

5.2.14	Historic, Archeological, and Paleontological Resources	5-10
5.2.15	Tribal Cultural Resources	5-10
5.2.16	Parklands and Community Facilities	5-10
5.2.17	Economic and Fiscal Impacts	5-11
5.2.18	Safety and Security	5-11
5.2.19	Environmental Justice	5-12
6	CONSTRUCTION IMPACTS	6-1
6.1	Construction Activities	6-1
6.2	Regulatory Background and Methodology.....	6-1
6.2.1	Regulatory Background	6-1
6.2.2	Methodology.....	6-1
6.3	No Build Alternative	6-1
6.4	Build Alternative.....	6-1
6.4.1	Transportation.....	6-1
6.4.2	Land Use and Development	6-2
6.4.3	Communities and Neighborhoods.....	6-2
6.4.4	Acquisitions and Displacements	6-3
6.4.5	Visual and Aesthetics	6-3
6.4.6	Air Quality.....	6-3
6.4.7	Greenhouse Gas Emissions.....	6-4
6.4.8	Noise and Vibration	6-5
6.4.9	Ecosystems and Biological Resources.....	6-6
6.4.10	Geotechnical/Subsurface/Seismic Hazards.....	6-7
6.4.11	Hazards and Hazardous Materials.....	6-7
6.4.12	Water Resources.....	6-8
6.4.13	Energy	6-8
6.4.14	Historic, Archeological, and Paleontological Resources	6-8
6.4.15	Tribal Cultural Resources	6-9
6.4.16	Parklands and Community Facilities	6-9
6.4.17	Economic and Fiscal Impacts	6-10
6.4.18	Safety and Security	6-10
6.4.19	Environmental Justice	6-10
7	REFERENCES.....	7-1

Tables

Table 2.1. No Build Alternative – Existing Transportation Network and Planned Improvements.....	2-7
Table 2.2. Summary of Build Alternative Components.....	2-9
Table 4.1. Geographic Scope of Evaluation for Cumulative Impacts	4-1
Table 4.2. SCAG Forecasted 2012 - 2040 Net Growth	4-3

Figures

Figure 2-1. Project Alternatives	2-2
Figure 2-2. Project Alignment by Alignment Type.....	2-4
Figure 2-3. Northern Section	2-5
Figure 2-4. Southern Section	2-6
Figure 2-5. Freeway Crossings	2-10
Figure 2-6. Existing Rail Right-of-Way Ownership and Relocation.....	2-11
Figure 2-7. Maintenance and Storage Facility Options.....	2-17

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AA	Alternatives Analysis
BMP	Best Management Practice
BRT	Bus Rapid Transit
Caltrans	California Department of Transportation
CART	Cudahy Area Rapid Transit
CEQ	Council of Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
COW	Cerritos on Wheels
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJ	Environmental Justice
FLM	First/Last Mile
FTA	Federal Transit Administration
GATE	Get Around Town Express
GCCOG	Gateway Cities Council of Governments
GHG	Greenhouse Gas
GIS	Geographic Information System
I-	Interstate Freeway
LA	Los Angeles
LADOT	Los Angeles Department of Transportation
LAUS	Los Angeles Union Station
LAX	Los Angeles International Airport
LBT	La Campana, Long Beach Transit
LRT	Light Rail Transit
LRTP	Long Range Transportation Plan
LRV	Light Rail Vehicle
Metro	Los Angeles County Metropolitan Transportation Authority
MSF	Maintenance and Storage Facility
MWD	Metropolitan Water District

Acronym	Definition
NEPA	National Environmental Policy Act
NOP	Notice of Preparation
NTS	Norwalk Transit System
OCTA	Orange County Transportation Authority
PEROW	Pacific Electric Right-of-Way
ROW	Right-of-Way
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SWPPP	Stormwater Pollution Prevention Plan
TBM	Tunnel Boring Machine
TCE	Temporary Construction Easement
TOD	Transit Oriented Development
TPSS	Traction Power Substations
UPRR	Union Pacific Railroad
US	US Route
VMT	Vehicle Miles Traveled
WSAB	West Santa Ana Branch

1 INTRODUCTION

1.1 Study Background

The West Santa Ana Branch (WSAB) Transit Corridor (Project) is a proposed light rail transit (LRT) line that would extend from four possible northern termini in southeast Los Angeles (LA) County to a southern terminus in the City of Artesia, traversing densely populated, low-income, and heavily transit-dependent communities. The Project would provide reliable, fixed guideway transit service that would increase mobility and connectivity for historically underserved, transit-dependent, and environmental justice communities; reduce travel times on local and regional transportation networks; and accommodate substantial future employment and population growth.

1.2 Alternatives Evaluation, Screening, and Selection Process

A wide range of potential alternatives have been considered and screened through the alternatives analysis processes. In March 2010, the Southern California Association of Governments (SCAG) initiated the Pacific Electric Right-of-Way (PEROW)/WSAB Alternatives Analysis (AA) Study (SCAG 2013) in coordination with the relevant cities, Orangeline Development Authority (now known as Eco-Rapid Transit), the Gateway Cities Council of Governments, the Los Angeles County Metropolitan Transportation Authority (Metro), the Orange County Transportation Authority, and the owners of the right-of-way (ROW) other than the PEROW—Union Pacific Railroad (UPRR), BNSF Railway, and the Ports of Los Angeles and Long Beach. The AA Study evaluated a wide variety of transit connections and modes for a broader 34-mile corridor from Union Station in downtown Los Angeles to the City of Santa Ana in Orange County. In February 2013, SCAG completed the PEROW/WSAB Corridor Alternatives Analysis Report¹ and recommended two LRT alternatives for further study: West Bank 3 and the East Bank.

Following completion of the AA, Metro completed the WSAB Technical Refinement Study in 2015 focusing on the design and feasibility of five key issue areas along the 19-mile portion of the WSAB Transit Corridor within LA County:

- Access to Union Station in downtown Los Angeles
- Northern Section Options
- Huntington Park Alignment and Stations
- New Metro C (Green) Line Station
- Southern Terminus at Pioneer Station in Artesia

In September 2016, Metro initiated the WSAB Transit Corridor Environmental Study with the goal of obtaining environmental clearance of the Project under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

¹ Initial concepts evaluated in the SCAG report included transit connections and modes for the 34-mile corridor from Union Station in downtown Los Angeles to the City of Santa Ana. Modes included low speed magnetic levitation (maglev) heavy rail, light rail, and bus rapid transit (BRT).

Metro issued a Notice of Preparation (NOP) on May 25, 2017, with a revised NOP issued on June 14, 2017, extending the comment period. In June 2017, Metro held public scoping meetings in the Cities of Bellflower, Los Angeles, South Gate, and Huntington Park. Metro provided Project updates and information to stakeholders with the intent to receive comments and questions through a comment period that ended in August 2017. A total of 1,122 comments were received during the public scoping period from May through August 2017. The comments focused on concerns regarding the Northern Alignment options, with specific concerns related to potential impacts to Alameda Street with an aerial alignment. Given potential visual and construction issues raised through public scoping, additional Northern Alignment concepts were evaluated.

In February 2018, the Metro Board of Directors approved further study of the alignment in the Northern Section due to community input during the 2017 scoping meetings. A second alternatives screening process was initiated to evaluate the original four Northern Alignment options and four new Northern Alignment concepts. The *Final Northern Alignment Alternatives and Concepts Updated Screening Report* was completed in May 2018 (Metro 2018b). The alternatives were further refined and, based on the findings of the second screening analysis and the input gathered from the public outreach meetings, the Metro Board of Directors approved Build Alternatives E and G for further evaluation (now referred to as Alternatives 1 and 2, respectively, in this report).

On July 11, 2018, Metro issued a revised and recirculated CEQA NOP, thereby initiating a scoping comment period. The purpose of the revised NOP was to inform the public of the Metro Board's decision to carry forward Alternatives 1 and 2 into the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR). During the scoping period, one agency and three public scoping meetings were held in the Cities of Los Angeles, Cudahy, and Bellflower. The meetings provided Project updates and information to stakeholders with the intent to receive comments and questions to support the environmental process. The comment period for scoping ended on August 24, 2018; over 250 comments were received.

Following the July 2018 scoping period, a number of Project refinements were made to address comments received, including additional grade separations, removing certain stations with low ridership, and removing the Bloomfield extension option. The Metro Board adopted these refinements to the project description at their November 2018 meeting.

1.3 Report Purpose and Structure

This Impact Analysis Report examines the environmental effects of the Project as it relates to cumulative impacts. The report is organized into seven sections:

- Section 1 – Introduction
- Section 2 – Project Description
- Section 3 – Regulatory Framework
- Section 4 – Affected Environment / Existing Conditions
- Section 5 – Environmental Impacts / Environmental Consequences
- Section 6 – Construction Impacts
- Section 7 – References

1.4 General Background

The Council of Environmental Quality (CEQ) regulations that implement the procedural provisions of the NEPA define cumulative effects as:

“the impact of the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 Code of Federal Regulations (CFR) Section 1508.7)

The CEQA Section 15355 defines cumulative impacts as “two or more individual impacts which, when considered together, are considerable or that compound or increase other environmental impacts”. The cumulative impact of several projects is the change in the environment that results from the incremental impact of the Project when added to other, closely related past, present, or reasonably foreseeable, probable future projects.

1.5 Methodology

To satisfy NEPA requirements, the degree of the effects of the action are analyzed to assess the likelihood of effects that are later in time or farther removed in distance. To satisfy CEQA requirements, the methodology follows CEQA Guidelines Section 15130. CEQA Guidelines indicate that the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the Project’s incremental effects are cumulatively considerable. CEQA Guidelines Section 15130(b) states that the cumulative impacts can be based on a “summary of projections contained in an adopted local, regional, or statewide plan, or related planning document that describes or evaluates conditions contributing to the cumulative effect.”

2 PROJECT DESCRIPTION

This section describes the No Build Alternative and the four Build Alternatives studied in the WSAB Transit Corridor Draft EIS/EIR, including design options, station locations, and maintenance and storage facility (MSF) site options. The Build Alternatives were developed through a comprehensive alternatives analysis process and meet the purpose and need of the Project.

The No Build Alternative and four Build Alternatives are generally defined as follows:

- **No Build Alternative** - Reflects the transportation network in the 2042 horizon year without the proposed Build Alternatives. The No Build Alternative includes the existing transportation network along with planned transportation improvements that have been committed to and identified in the constrained Metro 2009 Long Range Transportation Plan (2009 LRTP) (Metro 2009a) and SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016a), as well as additional projects funded by Measure M that would be completed by 2042.
- **Build Alternatives:** The Build Alternatives consist of a new LRT line that would extend from different termini in the north to the same terminus in the City of Artesia in the south. The Build Alternatives are referred to as:
 - Alternative 1: Los Angeles Union Station to Pioneer Station; the northern terminus would be located underground at Los Angeles Union Station (LAUS) Forecourt
 - Alternative 2: 7th Street/Metro Center to Pioneer Station; the northern terminus would be located underground at 8th Street between Figueroa Street and Flower Street near 7th Street/Metro Center Station
 - Alternative 3: Slauson/A (Blue) Line to Pioneer Station; the northern terminus would be located just north of the intersection of Long Beach Avenue and Slauson Avenue in the City of Los Angeles, connecting to the current A (Blue) Line Slauson Station
 - Alternative 4: I-105/C (Green) Line to Pioneer Station; the northern terminus would be located at I-105 in the city of South Gate, connecting to the C (Green) Line along the I-105

Two design options are under consideration for Alternative 1. Design Option 1 would locate the northern terminus station box at the LAUS Metropolitan Water District (MWD) east of LAUS and the MWD building, below the baggage area parking facility. Design Option 2 would add the Little Tokyo Station along the WSAB alignment. The Design Options are further discussed in Section 2.3.6.

Figure 2-1 presents the four Build Alternatives and the design options. In the north, Alternative 1 would terminate at LAUS and primarily follow Alameda Street south underground to the proposed Arts/Industrial District Station. Alternative 2 would terminate near the existing 7th Street/Metro Center Station in the Downtown Transit Core and would primarily follow 8th Street east underground to the proposed Arts/Industrial District Station.

Figure 2-1. Project Alternatives



Source: Metro, 2020

From the Arts/Industrial District Station to the southern terminus at Pioneer Station, Alternatives 1 and 2 share a common alignment. South of Olympic Boulevard, the Alternatives 1 and 2 would transition from an underground configuration to an aerial configuration, cross over the Interstate (I) 10 freeway and then parallel the existing Metro A (Blue) Line along the Wilmington Branch ROW as it proceeds south. South of Slauson Avenue, which would serve as the northern terminus for Alternative 3, Alternatives 1, 2, and 3 would turn east and transition to an at-grade configuration to follow the La Habra Branch ROW along Randolph Street. At the San Pedro Subdivision ROW, Alternatives 1, 2, and 3 would turn southeast to follow the San Pedro Subdivision ROW and then transition to the PEROW, south of the I-105 freeway. The northern terminus for Alternative 4 would be located at the I-105/C (Green) Line. Alternatives 1, 2, 3, and 4 would then follow the PEROW to the southern terminus at the proposed Pioneer Station in Artesia. The Build Alternatives would be grade-separated where warranted, as indicated on Figure 2-2.

Figure 2-2. Project Alignment by Alignment Type



Source: Metro, 2020

2.1 Geographic Sections

The approximately 19-mile corridor is divided into two geographic sections—the Northern and Southern Sections. The boundary between the Northern and Southern Sections occurs at Florence Avenue in the City of Huntington Park.

2.1.1 Northern Section

The Northern Section includes approximately 8 miles of Alternatives 1 and 2 and 3.8 miles of Alternative 3. Alternative 4 is not within the Northern Section. The Northern Section covers the geographic area from downtown Los Angeles to Florence Avenue in the City of Huntington Park and would generally traverse the Cities of Los Angeles, Vernon, Huntington Park, and Bell, and the unincorporated Florence-Firestone community of LA County (Figure 2-3). Alternatives 1 and 2 would traverse portions of the Wilmington Branch (between approximately Martin Luther King Jr Boulevard along Long Beach Avenue to Slauson Avenue). Alternatives 1, 2, and 3 would traverse portions of the La Habra Branch ROW (between Slauson Avenue along Randolph Street to Salt Lake Avenue) and San Pedro Subdivision ROW (between Randolph Street to approximately Paramount Boulevard).

Figure 2-3. Northern Section



Source: Metro, 2020

2.1.2 Southern Section

The Southern Section includes approximately 11 miles of Alternatives 1, 2, and 3 and includes all 6.6 miles of Alternative 4. The Southern Section covers the geographic area from south of Florence Avenue in the City of Huntington Park to the City of Artesia and would generally traverse the Cities of Huntington Park, Cudahy, South Gate, Downey, Paramount, Bellflower, Cerritos, and Artesia (Figure 2-4). In the Southern Section, all four Build Alternatives would utilize portions of the San Pedro Subdivision and the Metro-owned PEROW (between approximately Paramount Boulevard to South Street).

Figure 2-4. Southern Section



Source: Metro, 2020

2.2 No Build Alternative

For the NEPA evaluation, the No Build Alternative is evaluated in the context of the existing transportation facilities in the Transit Corridor (the Transit Corridor extends approximately 2 miles from either side of the proposed alignment) and other capital transportation improvements and/or transit and highway operational enhancements that are reasonably foreseeable. Because the No Build Alternative provides the background transportation

network, against which the Build Alternatives' impacts are identified and evaluated, the No Build Alternative does not include the Project.

The No Build Alternative reflects the transportation network in 2042 and includes the existing transportation network along with planned transportation improvements that have been committed to and identified in the constrained Metro 2009 LRTP and the SCAG 2016-2040 RTP/SCS, as well as additional projects funded by Measure M, a sales tax initiative approved by voters in November 2016. The No Build Alternative includes Measure M projects that are scheduled to be completed by 2042.

Table 2.1 lists the existing transportation network and planned improvements included as part of the No Build Alternative.

Table 2.1. No Build Alternative – Existing Transportation Network and Planned Improvements

Project	To / From	Location Relative to Transit Corridor
Rail (Existing)		
Metro Rail System (LRT and Heavy Rail Transit)	Various locations	Within Transit Corridor
Metrolink (Southern California Regional Rail Authority) System	Various locations	Within Transit Corridor
Rail (Under Construction/Planned)¹		
Metro Westside D (Purple) Line Extension	Wilshire/Western to Westwood/VA Hospital	Outside Transit Corridor
Metro C (Green) Line Extension ² to Torrance	96th Street Station to Torrance	Outside Transit Corridor
Metro C (Green) Line Extension	Norwalk to Expo/Crenshaw ³	Outside Transit Corridor
Metro East-West Line/Regional Connector/Eastside Phase 2	Santa Monica to Lambert Santa Monica to Peck Road	Within Transit Corridor
Metro North-South Line/Regional Connector/Foothill Extension to Claremont Phase 2B	Long Beach to Claremont	Within Transit Corridor
Metro Sepulveda Transit Corridor	Metro G (Orange) Line to Metro E (Expo) Line	Outside Transit Corridor
Metro East San Fernando Valley Transit Corridor	Sylmar to Metro G (Orange) Line	Outside Transit Corridor
Los Angeles World Airport Automated People Mover	96th Street Station to LAX Terminals	Outside Transit Corridor
Metrolink Capital Improvement Projects	Various projects	Within Transit Corridor
California High-Speed Rail	Burbank to LA LA to Anaheim	Within Transit Corridor
Link US	LAUS	Within Transit Corridor

2 Project Description

Project	To / From	Location Relative to Transit Corridor
Bus (Existing)		
Metro Bus System (including BRT, Express, and local)	Various locations	Within Transit Corridor
Municipality Bus System ⁴	Various locations	Within Transit Corridor
Bus (Under Construction/Planned)		
Metro G (Orange) Line (BRT)	Del Mar (Pasadena) to Chatsworth Del Mar (Pasadena) to Canoga Canoga to Chatsworth	Outside Transit Corridor
Vermont Transit Corridor (BRT)	120th Street to Sunset Boulevard	Outside Transit Corridor
North San Fernando Valley BRT	Chatsworth to North Hollywood	Outside Transit Corridor
North Hollywood to Pasadena	North Hollywood to Pasadena	Outside Transit Corridor
Highway (Existing)		
Highway System	Various locations	Within Transit Corridor
Highway (Under Construction/Planned)		
High Desert Multi-Purpose Corridor	SR-14 to SR-18	Outside Transit Corridor
I-5 North Capacity Enhancements	SR-14 to Lake Hughes Rd	Outside Transit Corridor
SR-71 Gap Closure	I-10 to Rio Rancho Rd	Outside Transit Corridor
Sepulveda Pass Express Lane	I-10 to US-101	Outside Transit Corridor
SR-57/SR-60 Interchange Improvements	SR-70/SR-60	Outside Transit Corridor
I-710 South Corridor Project (Phase 1 & 2)	Ports of Long Beach and LA to SR-60	Within Transit Corridor
I-105 Express Lane	I-405 to I-605	Within Transit Corridor
I-5 Corridor Improvements	I-605 to I-710	Outside Transit Corridor

Source: Metro 2020, WSP 2020

Notes: ¹ Where extensions are proposed for existing Metro rail lines, the origin/destination is defined for the operating scheme of the entire rail line following completion of the proposed extensions and not just the extension itself.

² Metro C (Green) Line extension to Torrance includes new construction from Redondo Beach to Torrance; however, the line will operate from Torrance to 96th Street.

³ The currently under construction Metro Crenshaw/LAX Line will operate as the Metro C (Green) Line.

⁴ The municipality bus network system is based on service patterns for Bellflower Bus, Cerritos on Wheels, Cudahy Area Rapid Transit, Get Around Town Express, Huntington Park Express, La Campana, Long Beach Transit, Los Angeles Department of Transportation, Norwalk Transit System and the Orange County Transportation Authority.

BRT = Bus Rapid Transit; LAUS = Los Angeles Union Station; LAX = Los Angeles International Airport; VA = Veterans Affairs

2.3 Build Alternatives

2.3.1 Proposed Alignment Configuration for the Build Alternatives

This section describes the alignment for each of the Build Alternatives. The general characteristics of the four Build Alternatives are summarized in Table 2.2. Figure 2-5 illustrates the freeway crossings along the alignment. Additionally, the Build Alternatives would require relocation of existing freight rail tracks within the ROW to maintain existing operations where there would be overlap with the proposed light rail tracks. Figure 2-6 depicts the alignment sections that would share operation with freight and the corresponding ownership.

Table 2.2. Summary of Build Alternative Components

Component	Quantity			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Alignment Length	19.3 miles	19.3 miles	14.8 miles	6.6 miles
Stations Configurations	11 3 aerial; 6 at-grade; 2 underground ³	12 3 aerial; 6 at-grade; 3 underground	9 3 aerial; 6 at-grade	4 1 aerial; 3 at-grade
Parking Facilities	5 (approximately 2,780 spaces)	5 (approximately 2,780 spaces)	5 (approximately 2,780 spaces)	4 (approximately 2,180 spaces)
Length of underground, at-grade, and aerial	2.3 miles underground; 12.3 miles at-grade; 4.7 miles aerial ¹	2.3 miles underground; 12.3 miles at-grade; 4.7 miles aerial ¹	12.2 miles at-grade; 2.6 miles aerial ¹	5.6 miles at-grade; 1.0 miles aerial ¹
At-grade crossings	31	31	31	11
Freight crossings	10	10	9	2
Freeway Crossings	6 (3 freeway undercrossings ² at I-710; I-605, SR-91)	6 (3 freeway undercrossings ² at I-710; I-605, SR-91)	4 (3 freeway undercrossings ² at I-710; I-605, SR-91)	3 (2 freeway undercrossings ² at I-605, SR-91)
Elevated Street Crossings	25	25	15	7
River Crossings	3	3	3	1
TPSS Facilities	22 ³	23	17	7
Maintenance and Storage Facility site options	2	2	2	2

Source: WSP, 2020

Notes: ¹ Alignment configuration measurements count retained fill embankments as at-grade.

² The light rail tracks crossing beneath freeway structures.

³ Under Design Option 2 – Add Little Tokyo Station, an additional underground station and TPSS site would be added under Alternative 1

Figure 2-5. Freeway Crossings



Source: WSP, 2020

Figure 2-6. Existing Rail Right-of-Way Ownership and Relocation



Source: WSP, 2020

2.3.2 Alternative 1: Los Angeles Union Station to Pioneer Station

The total alignment length of Alternative 1 would be approximately 19.3 miles, consisting of approximately 2.3 miles of underground, 12.3 miles of at-grade, and 4.7 miles of aerial alignment. Alternative 1 would include 11 new LRT stations, 2 of which would be underground, 6 would be at-grade, and 3 would be aerial. Under Design Option 2, Alternative 1 would have 12 new LRT stations, including an additional underground station at the Little Tokyo Station. Five of the stations would include parking facilities, providing a total of up to 2,780 new parking spaces. The alignment would include 31 at-grade crossings, 3 freeway undercrossings, 2 aerial freeway crossings, 1 underground freeway crossing, 3 river crossings, 25 aerial road crossings, and 10 freight crossings.

In the north, Alternative 1 would begin at a proposed underground station at/near LAUS either beneath the LAUS Forecourt or, under Design Option 1, east of the MWD building beneath the baggage area parking facility (Section 2.3.6). Crossovers would be located on the north and south ends of the station box with tail tracks extending approximately 1,200 feet north of the station box. A tunnel extraction portal would be located within the tail tracks for both Alternative 1 terminus station options.

From LAUS, the alignment would continue underground crossing under the US-101 freeway and the existing Metro L (Gold) Line aerial structure and continue south beneath Alameda Street to the optional Little Tokyo Station between 1st Street and 2nd Street (note: under Design Option 2, Little Tokyo Station would be constructed). From the optional Little Tokyo Station, the alignment would continue underground beneath Alameda Street to the proposed Arts/Industrial District Station under Alameda Street between 6th Street and Industrial Street. (Note, Alternative 2 would have the same alignment as Alternative 1 from this point south. Refer to Section 2.3.3 for additional information on Alternative 2.)

The underground alignment would continue south under Alameda Street to 8th Street, where the alignment would curve to the west and transition to an aerial alignment south of Olympic Boulevard. The alignment would cross over the I-10 freeway in an aerial viaduct structure and continue south, parallel to the existing Metro A (Blue) Line at Washington Boulevard. The alignment would continue in an aerial configuration along the eastern half of Long Beach Avenue within the UPRR-owned Wilmington Branch ROW, east of the existing Metro A (Blue) Line and continue south to the proposed Slauson/A (Blue) Line Station. The aerial alignment would pass over the existing pedestrian bridge at East 53rd Street. The Slauson/A (Blue) Line Station would serve as a transfer point to the Metro A (Blue) Line via a pedestrian bridge. The vertical circulation would be connected at street level on the north side of the station via stairs, escalators, and elevators. (The Slauson/A Line Station would serve as the northern terminus for Alternative 3; refer to Section 2.3.4 for additional information on Alternative 3.)

South of the Slauson/A (Blue) Line Station, the alignment would turn east along the existing La Habra Branch ROW (also owned by UPRR) in the median of Randolph Street. The alignment would be on the north side of the La Habra Branch ROW and would require the relocation of existing freight tracks to the southern portion of the ROW. The alignment would transition to an at-grade configuration at Alameda Street and would proceed east along the Randolph Street median. Wilmington Avenue, Regent Street, Albany Street, and Rugby Avenue would be closed to traffic crossing the ROW, altering the intersection design to a

right-in, right-out configuration. The proposed Pacific/Randolph Station would be located just east of Pacific Boulevard.

From the Pacific/Randolph Station, the alignment would continue east at-grade. Rita Avenue would be closed to traffic crossing the ROW, altering the intersection design to a right-in, right-out configuration. At the San Pedro Subdivision ROW, the alignment would transition to an aerial configuration and turn south to cross over Randolph Street and the freight tracks, returning to an at-grade configuration north of Gage Avenue. The alignment would be located on the east side of the existing San Pedro Subdivision ROW freight tracks, and the existing tracks would be relocated to the west side of the ROW. The alignment would continue at-grade within the San Pedro Subdivision ROW to the proposed at-grade Florence/Salt Lake Station south of the Salt Lake Avenue/Florence Avenue intersection.

South of Florence Avenue, the alignment would extend from the proposed Florence/Salt Lake Station in the City of Huntington Park to the proposed Pioneer Station in the City of Artesia, as shown in Figure 2-4. The alignment would continue southeast from the proposed at-grade Florence/Salt Lake Station within the San Pedro Subdivision ROW, crossing Otis Avenue, Santa Ana Street, and Ardine Street at-grade. The alignment would be located on the east side of the existing San Pedro Subdivision freight tracks and the existing tracks would be relocated to the west side of the ROW. South of Ardine Street, the alignment would transition to an aerial structure to cross over the existing UPRR tracks and Atlantic Avenue. The proposed Firestone Station would be located on an aerial structure between Atlantic Avenue and Firestone Boulevard.

The alignment would then cross over Firestone Boulevard and transition back to an at-grade configuration prior to crossing Rayo Avenue at-grade. The alignment would continue south along the San Pedro Subdivision ROW, crossing Southern Avenue at-grade and continuing at-grade until it transitions to an aerial configuration to cross over the LA River. The proposed LRT bridge would be constructed next to the existing freight bridge. South of the LA River, the alignment would transition to an at-grade configuration crossing Frontage Road at-grade, then passing under the I-710 freeway through the existing box tunnel structure and then crossing Miller Way. The alignment would then return to an aerial structure to cross the Rio Hondo Channel. South of the Rio Hondo Channel, the alignment would briefly transition back to an at-grade configuration and then return to an aerial structure to cross over Imperial Highway and Garfield Avenue. South of Garfield Avenue, the alignment would transition to an at-grade configuration and serve the proposed Gardendale Station north of Gardendale Street.

From the Gardendale Station, the alignment would continue south in an at-grade configuration, crossing Gardendale Street and Main Street to connect to the proposed I-105/C (Green) Line Station, which would be located at-grade north of Century Boulevard. This station would be connected to the new infill C (Green) Line Station in the middle of the freeway via a pedestrian walkway on the new LRT bridge. The alignment would continue at-grade, crossing Century Boulevard and then over the I-105 freeway in an aerial configuration within the existing San Pedro Subdivision ROW bridge footprint. A new Metro C (Green) Line Station would be constructed in the median of the I-105 freeway. Vertical pedestrian access would be provided from the LRT bridge to the proposed I-105/C (Green) Line Station platform via stairs and elevators. To accommodate the construction of the new station platform, the existing Metro C (Green) Line tracks would be widened and, as part of the I-105 Express Lanes Project, the I-105 lanes would be reconfigured. (The I-105/C (Green) Line

Station would serve as the northern terminus for Alternative 4; refer to Section 2.3.5 for additional information on this alternative.)

South of the I-105 freeway, the alignment would continue at-grade within the San Pedro Subdivision ROW. To maintain freight operations and allow for freight train crossings, the alignment would transition to an aerial configuration as it turns southeast and enter the PEROW. The existing freight track would cross beneath the aerial alignment and align on the north side of the PEROW east of the San Pedro Subdivision ROW. The proposed Paramount/Rosecrans Station would be located in an aerial configuration west of Paramount Boulevard and north of Rosecrans Avenue. The existing freight track would be relocated to the east side of the alignment beneath the station viaduct.

The alignment would continue southeast in an aerial configuration over the Paramount Boulevard/Rosecrans Avenue intersection and descend to an at-grade configuration. The alignment would return to an aerial configuration to cross over Downey Avenue descending back to an at-grade configuration north of Somerset Boulevard. One of the adjacent freight storage tracks at Paramount Refinery Yard would be relocated to accommodate the new LRT tracks and maintain storage capacity. There are no active freight tracks south of the World Energy facility.

The alignment would cross Somerset Boulevard at-grade. South of Somerset Boulevard, the at-grade alignment would parallel the existing Bellflower Bike Trail that is currently aligned on the south side of the PEROW. The alignment would continue at-grade crossing Lakewood Boulevard, Clark Avenue, and Alondra Boulevard. The proposed at-grade Bellflower Station would be located west of Bellflower Boulevard.

East of Bellflower Boulevard, the Bellflower Bike Trail would be realigned to the north side of the PEROW to accommodate an existing historic building located near the southeast corner of Bellflower Boulevard and the PEROW. It would then cross back over the LRT tracks at-grade to the south side of the ROW. The LRT alignment would continue southeast within the PEROW and transition to an aerial configuration at Cornuta Avenue, crossing over Flower Street and Woodruff Avenue. The alignment would return to an at-grade configuration at Walnut Street. South of Woodruff Avenue, the Bellflower Bike Trail would be relocated to the north side of the PEROW. Continuing southeast, the LRT alignment would cross under the State Route-91 freeway in an existing underpass. The alignment would cross over the San Gabriel River on a new bridge, replacing the existing abandoned freight bridge. South of the San Gabriel River, the alignment would transition back to an at-grade configuration before crossing Artesia Boulevard at-grade.

East of Artesia Boulevard the alignment would cross beneath the I-605 freeway in an existing underpass. Southeast of the underpass, the alignment would continue at-grade, crossing Studebaker Road. North of Gridley Road, the alignment would transition to an aerial configuration to cross over 183rd Street and Gridley Road. The alignment would return to an at-grade configuration at 185th Street, crossing 186th Street and 187th Street at-grade. The alignment would then pass through the proposed Pioneer Station on the north side of Pioneer Boulevard at-grade. Tail tracks accommodating layover storage for a three-car train would extend approximately 1,000 feet south from the station, crossing Pioneer Boulevard and terminating west of South Street.

2.3.3 Alternative 2: 7th Street/Metro Center to Pioneer Station

The total alignment length of Alternative 2 would be approximately 19.3 miles, consisting of approximately 2.3 miles of underground, 12.3 miles of at-grade, and 4.7 miles of aerial alignment. Alternative 2 would include 12 new LRT stations, 3 of which would be underground, 6 would be at-grade, and 3 would be aerial. Five of the stations would include parking facilities, providing a total of approximately 2,780 new parking spaces. The alignment would include 31 at-grade crossings, 3 freeway undercrossings, 2 aerial freeway crossings, 1 underground freeway crossing, 3 river crossings, 25 aerial road crossings, and 10 freight crossings.

In the north, Alternative 2 would begin at the proposed WSAB 7th Street/Metro Center Station, which would be located underground beneath 8th Street between Figueroa Street and Flower Street. A pedestrian tunnel would provide connection to the existing 7th Street/Metro Center Station. Tail tracks, including a double crossover, would extend approximately 900 feet west beyond the station, ending east of the I-110 freeway. From the 7th Street/Metro Center Station, the underground alignment would proceed southeast beneath 8th Street to the South Park/Fashion District Station, which would be located west of Main Street beneath 8th Street.

From the South Park/Fashion District Station, the underground alignment would continue under 8th Street to San Pedro Street, where the alignment would turn east toward 7th Street, crossing under privately owned properties. The tunnel alignment would cross under 7th Street and then turn south at Alameda Street. The alignment would continue south beneath Alameda Street to the Arts/Industrial District Station located under Alameda Street between 7th Street and Center Street. A double crossover would be located south of the station box, south of Center Street. From this point, the alignment of Alternative 2 would follow the same alignment as Alternative 1, which is described further in Section 2.3.2.

2.3.4 Alternative 3: Slauson/A (Blue) Line to Pioneer Station

The total alignment length of Alternative 3 would be approximately 14.8 miles, consisting of approximately 12.2 miles of at-grade, and 2.6 miles of aerial alignment. Alternative 3 would include 9 new LRT stations, 6 would be at-grade and 3 would be aerial. Five of the stations would include parking facilities, providing a total of approximately 2,780 new parking spaces. The alignment would include 31 at-grade crossings, 3 freeway undercrossings, 1 aerial freeway crossing, 3 river crossings, 15 aerial road crossings, and 9 freight crossings. In the north, Alternative 3 would begin at the Slauson/A (Blue) Line Station and follow the same alignment as Alternatives 1 and 2, described in Section 2.3.2.

2.3.5 Alternative 4: I-105/C (Green) Line to Pioneer Station

The total alignment length of Alternative 4 would be approximately 6.6 miles, consisting of approximately 5.6 miles of at-grade and 1.0 mile of aerial alignment. Alternative 3 would include 4 new LRT stations, 3 would be at-grade, and 1 would be aerial. Four of the stations would include parking facilities, providing a total of approximately 2,180 new parking spaces. The alignment would include 11 at-grade crossings, 2 freeway undercrossings, 1 aerial freeway crossing, 1 river crossing, 7 aerial road crossings, and 2 freight crossings. In the north, Alternative 4 would begin at the I-105/C (Green) Line Station and follow the same alignment as Alternatives 1, 2, and 3, described in Section 2.3.2.

2.3.6 Design Options

Alternative 1 includes two design options:

- **Design Option 1:** LAUS at the Metropolitan Water District (MWD) – The LAUS station box would be located east of LAUS and the MWD building, below the baggage area parking facility instead of beneath the LAUS Forecourt. Crossovers would be located on the north and south ends of the station box with tail tracks extending approximately 1,200 feet north of the station box. From LAUS, the underground alignment would cross under the US-101 freeway and the existing Metro L (Gold) Line aerial structure and continue south beneath Alameda Street to the optional Little Tokyo Station between Traction Avenue and 1st Street. The underground alignment between LAUS and the Little Tokyo Station would be located to the east of the base alignment.
- **Design Option 2:** Add the Little Tokyo Station – Under this design option, the Little Tokyo Station would be constructed as an underground station and there would be a direct connection to the Regional Connector Station in the Little Tokyo community. The alignment would proceed underground directly from LAUS to the Arts/Industrial District Station primarily beneath Alameda Street.

2.3.7 Maintenance and Storage Facility

MSFs accommodate daily servicing and cleaning, inspection and repairs, and storage of light rail vehicles (LRV). Activities may take place in the MSF throughout the day and night depending upon train schedules, workload, and the maintenance requirements.

Two MSF options are evaluated; however, only one MSF would be constructed as part of the Project. The MSF would have storage tracks, each with sufficient length to store three-car train sets and a maintenance-of-way vehicle storage. The facility would include a main shop building with administrative offices, a cleaning platform, a traction power substation (TPSS), employee parking, a vehicle wash facility, a paint and body shop, and other facilities as needed. The east and west yard leads (i.e., the tracks leading from the mainline to the facility) would have sufficient length for a three-car train set. In total, the MSF would need to accommodate approximately 80 LRVs to serve the Project's operations plan.

Two potential locations for the MSF have been identified—one in the City of Bellflower and one in the City of Paramount. These options are described further in the following sections.

2.3.7.1 Bellflower MSF Option

The Bellflower MSF site option is bounded by industrial facilities to the west, Somerset Boulevard and apartment complexes to the north, residential homes to the east, and the PEROW and Bellflower Bike Trail to the south. The site is approximately 21 acres in area and can accommodate up to 80 vehicles (Figure 2-7).

2.3.7.2 Paramount MSF Option

The Paramount MSF site option is bounded by the San Pedro Subdivision ROW on the west, Somerset Boulevard to the south, industrial and commercial uses on the east, and All-American City Way to the north. The site is 22 acres and could accommodate up to 80 vehicles (Figure 2-7).

Figure 2-7. Maintenance and Storage Facility Options



Source: WSP, 2020

3 REGULATORY FRAMEWORK

This section identifies applicable plans and regulations related to cumulative effects. The following presents a list of applicable plans and laws.

Federal

- Council on Environmental Quality (40 CFR Section 1500 – 1508)

State

- California Environmental Quality Act

Regional

No applicable regional plans, policies, or regulations in regard to cumulative effects.

Local

No applicable regional plans, policies, or regulations in regard to cumulative effects.

3.1 Federal

3.1.1 Council on Environmental Quality (40 CFR Section 1500 – 1508)

The CEQ regulations (40 CFR Section 1500 – 1508) define cumulative effects “changes to the human environment from the proposed action or alternatives that are reasonably foreseeable...and may include effects that are later in time or farther removed in distance from the proposed action or alternatives.”

3.2 State

3.2.1 California Environmental Quality Act (Cal. Public Resources Code, Section 21000 et seq.) and CEQA Guidelines (14 Cal. Code Regs., Section 15000 et seq.)

CEQA requires an EIR to evaluate cumulative impacts of a project when the project’s incremental effect is cumulatively considerable. If the project’s incremental effect is not cumulatively considerable, the effect need not be considered as significant, but the basis for concluding that the incremental effect is not cumulatively considerable must be briefly described. “‘Cumulatively considerable’ means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” (CEQA Guidelines, Section 15064(h)(1).)

4 AFFECTED ENVIRONMENT/EXISTING CONDITIONS

4.1 Affected Area

For purposes of the cumulative analysis, the general geographic area that could be affected by the Build Alternatives in combination with projected growth varies depending on the environmental resource. For instance, cumulative visual quality and aesthetics or noise impacts are more localized; whereas, cumulative air quality and climate change impacts occur on a broader regional or global scale. The geographic area of the cumulative impact analysis for each environmental topic is summarized in Table 4.1.

Table 4.1. Geographic Scope of Evaluation for Cumulative Impacts

Topic	Geographic Extent
Study Area	2-mile buffer from the Project's alignments
Transportation	Regional; key intersections identified that could be affected by the proposed transit service
Land Use and Development	Within 50 feet of the Build Alternatives
Displacement and Acquisitions	Within 50 feet of the Build Alternatives
Community and Neighborhood	Within 0.25 mile of the proposed alignments, parking facilities, and MSF site options, and 0.5 mile around the proposed station areas
Visual Quality and Aesthetics	Immediate Vicinity; localized viewsheds for the Build Alternatives
Air Quality	South Coast Air Basin
Noise and Vibration	Immediate Vicinity
Ecosystems and Biological Resources	Within 100 feet of the Build Alternatives
Geotechnical/Subsurface/Seismic Hazards	Within 250 feet of the Build Alternatives
Hazards and Hazardous Materials	Within 200 feet of the Build Alternatives
Water Resources	Within 500 feet of the construction footprint
Energy	SCAG Region and service areas for electricity and natural gas suppliers
Historic, Archaeological, Paleontological Resources	The ground surface and subsurface within the proposed alignments, stations, MSF site options, TPSS sites, and parking facilities where ground disturbance associated with the Project may occur
Tribal Cultural Resources	Within the direct APE established for the Project
Parklands and Community Facilities	Within 0.25 mile of the Build Alternatives
Economic and Fiscal Impacts	Within 0.25 mile of the proposed alignments, parking facilities, and MSF site options, and 0.5 mile around the proposed station areas

Topic	Geographic Extent
Safety and Security	Within 100 feet of the Project and its components for safety and security and within the 2-mile buffer from the Project's alignments for emergency services
Climate Change	South Coast Air Basin
Environmental Justice	Within 0.25 mile of the alignments, parking facilities, and MSF site options, and 0.5 mile of the station areas

Source: TAHA, 2021

4.2 Forecasted Growth

The SCAG 2016-2040 RTP/SCS (SCAG 2016a) plan is the adopted population, housing, and employment forecast for the Southern California inclusive of the project study area. This forecast envisions change associated with the development of high-quality transit areas, livable corridors, and neighborhood mobility areas. The forecast has been adopted in close coordination with cities and jurisdictions throughout the SCAG region. This forecast process fundamentally assumes proposed land use changes at the local level.

Changes within jurisdictions within the project study area are expected to take the form of new development, expansion of existing development, redevelopment/demolition, intensification of land use densities. Over the forecast period of 28 years (2012 to 2040) demolition, modification of existing buildings and infrastructure as well as new residential and non-residential construction is expected. In most of the corridor jurisdictions, these changes have been anticipated and are incorporated into local planning processes, including the initiation and/or adoption of specific plans or transit-oriented communities anticipating the Project among other changes. As such, these changes would likely result in overlapping construction and associated activities in areas near or adjacent to the proposed project, particularly station vicinities. Table 4.2 shows the projected 2012-2040 net growth for projected future projects within the jurisdictions that intersect the Project and illustrates the magnitude of future changes that particularly during construction of transportation, development projects, and associated infrastructure that could combine for cumulative effects. Projected growth forecasts also include the transportation projects identified in the Table 2.1.

Table 4.2. SCAG Forecasted 2012 - 2040 Net Growth

Jurisdiction	2012 - 2040 Net Growth		
	Population	Housing	Employment
Central City North, City of Los Angeles ¹	38,400	7,900	10,700
Central City, City of Los Angeles ²	84,000	49,300	37,800
Southeast Los Angeles, City of Los Angeles ³	100	0	8,300
Vernon	200	100	2,900
Huntington Park	8,900	2,800	3,000
Bell	1,200	300	1,300
Cudahy	0	0	0
South Gate	17,100	5,100	3,600
Downey	9,200	3,400	14,600
Paramount	3,500	900	2,700
Bellflower	2,500	700	1,100
Artesia	1,400	500	800
Cerritos	1,600	500	3,300
TOTAL	168,100	71,500	90,100

Source: TAHA 2021

Notes: ¹ Identifying the growth in the City of Los Angeles community plan areas better represents the related cumulative growth for the immediate Project area rather than the City of Los Angeles as a whole as the city is large. City of Los Angeles Central City North neighborhoods within 0.25 mile from the alignment and 0.5-mile from the station areas include: Downtown Los Angeles, Arts District/Little Tokyo, Chinatown, Echo Park

² City of Los Angeles Central City neighborhoods within 0.25 mile from the alignment and 0.5-mile from the station areas include: Downtown Los Angeles, Arts District/Little Tokyo, Chinatown

³ City of Los Angeles Southeast Los Angeles neighborhoods within 0.25 mile from the alignment and 0.5-mile from the station areas include: Downtown Los Angeles, South Central, Central Alameda

5 ENVIRONMENTAL CONSEQUENCES/ENVIRONMENTAL IMPACTS

5.1 No Build Alternative

The No Build Alternative includes projects identified in the Metro's 2009 LRTP, SCAG 2016-2040 RTP/SCS, and Measure M. Under the No Build Alternative, the Build Alternatives would not be developed, and adverse effects related to the Build Alternatives would not occur. However, several infrastructure and transportation-related projects located within the Study Area to relieve potential future congestion on roadways and transportation infrastructure, as described in Table 2.1, would continue to be implemented and built. SCAG 2016-2040 RTP/SCS, Metro's 2009 LRTP, and Measure M projects identified in the vicinity of the Project alignment include the Metro East-West Line/Regional Connector/Eastside Phase 2, California High-Speed Rail, Metro North-South Line/Regional Connector, improvements to the Metro bus system and local municipality bus systems, I-710 South Corridor Project, and I-105 Express Lane. These projects would undergo project-specific environmental clearance and would implement project-specific mitigation measures, as necessary, so that potential adverse effects are reduced or avoided.

As the No Build Alternative would not result in adverse effects or impacts, the No Build Alternative would not result in cumulative effects. As the Build Alternatives would not be constructed under the No Build scenario and no related adverse effects would occur, the Build Alternatives would not result in significant potential adverse effects.

5.2 Build Alternatives

A detailed analysis of the adverse effects to environmental resources are provided in the impact analysis reports prepared for the Build Alternatives, including Design Options 1 and 2 for Alternative 1. The MSF site options are support facilities to serve the project and for the purpose of a cumulative analysis are analyzed together with the Build Alternatives.

5.2.1 Transportation

The traffic analysis considered traffic impacts for the horizon year 2042 for the No Build Alternative and each Build Alternative. The traffic volumes utilized for the No Build Alternative were derived using growth rates obtained from the Metro travel demand model, which includes planned growth in population and employment in the LA County region. As a result, the traffic volumes used for the No Build Alternative represents the cumulative future condition based on the effects of regional growth on the transportation system. The traffic analysis evaluates cumulative future impacts and is presented in the *West Santa Ana Branch Transit Corridor Project Final Transportation Impact Analysis Report* (Metro 2021t). Based on the transportation analysis, the Build Alternatives in combination with the projected growth in the region would cause significant cumulative transportation effects and the Project's incremental contribution to this cumulatively significant impact would be cumulatively considerable.

5.2.2 Land Use and Development

The geographic scope for the cumulative land use and development analysis includes the Build Alternatives' immediate vicinities and the land use Affected Area. Generally, existing

development within the Affected Area has been built around the rail ROWs, which physically separates the neighborhoods and communities within the Affected Area. The Build Alternatives would not introduce Project components that would create physical barriers or generate any permanent access disruptions to existing land uses on either side of the Project alignment, and access to the surrounding communities would remain available. Street closures and turning restrictions are proposed; however, such changes would not divide the existing communities since access to these streets and surrounding properties would generally be required to be maintained through the re-routing of traffic within adjacent local streets. Projected growth could consist of new development or infrastructure, redevelopment, or expansions. In addition, as the cities are generally highly developed, it is unlikely projected growth in the region would result in activities that would physically divide existing communities within the Affected Area. Potential future development opportunities are likely to occur within existing parcels as urban infill and are not expected to physically divide an established community. Therefore, the Build Alternatives in relation to projected growth would not cause a significant cumulative impact related to the division of an established community.

The Build Alternatives and projected growth in the region would provide future development opportunities that may result in a more densely developed urban environment in the Affected Area. Similar development opportunities provided by other projects could also result in a more densely developed urban environment by creating better transportation connections in communities. The Build Alternatives and projected future growth would be required to comply with applicable land use plans, policies, and regulations of the affected jurisdictions and would be subject to independent review including land use conformity analyses. Related transit projects in the region, including the Build Alternatives, would provide opportunities for implementing SCAG and local land use policies or local planning objectives. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative effects associated land use compatibility issues.

The Build Alternatives and projected future projects would be generally consistent with applicable goals, objectives, and policies related to alternative transportation, public transportation, and future growth in transit identified in the general plans, community plans, specific plans, master plans, and bicycle master plans of the affected local jurisdictions. Therefore, cumulative land use impacts would generally not be cumulatively significant.

However, the Build Alternatives could potentially preempt future development and implementation of Class I bicycle paths identified in the General Plan or bicycle master plan of the cities of Huntington Park, Bell, Cudahy, South Gate, Paramount, and Bellflower. While planned, the bike facilities are unfunded and not scheduled for implementation. Mitigation Measure LU-1 (Consistency with Bike Plans) (see *West Santa Ana Branch Transit Corridor Project Final Land Use Impact Analysis Report* [Metro 2021a]) would be implemented to minimize preemption of future development and maintain consistency with existing bike paths. Metro would continue to coordinate with jurisdictions and local agencies and would support preparation of amended language for each affected bicycle plan consistent with the city's mobility and connectivity goals. However, because the process to amend General Plans and bike plans is a local process, including public participation, the ultimate outcome and resolution of plan elements cannot be predicted. Even with mitigation, the Project may preempt future development and implementation of planned bike paths and an adverse effect and significant and unavoidable impact would

occur. Therefore, the Build Alternatives in relation to the projected future growth in the land use Affected Area would cause significant cumulative land use effects with respect to planned Class I bicycle paths and the Project's incremental contribution to this cumulatively significant impact would be cumulatively considerable.

5.2.3 Communities and Neighborhoods

The geographic scope for the communities and neighborhoods analysis includes the Build Alternatives' immediate vicinities where the adverse effects are largely localized. Generally, existing development along the alignment has been built around the existing rail ROWs, which physically separate the neighborhoods and communities within the Affected Area. The Build Alternatives would not impede community access and mobility; and property displacement and acquisition, street closure, turning restrictions, and changes in noise levels, visual character, land use, and demographics are not expected to isolate or change the character and cohesion of communities.

The Build Alternatives and projected growth in the community and neighborhood Affected Area would be in highly urbanized areas. The Build Alternatives are anticipated to enhance circulation and connectivity with the greater region and improve connections with transit stations and other pedestrian and bike facilities, while projected projects could consist of new development, redevelopments, or infrastructure projects. The projected future projects may also help communities and neighborhoods within the Affected Area remain cohesive. Similar to the Build Alternatives, projected future projects would be solely at the discretion and approval of the affected city and would be subject to all applicable requirements and regulations of local jurisdictions. In this context, it is anticipated that any potential adverse indirect effects associated with community character would be addressed and mitigated by restrictions imposed by local jurisdictions. Therefore, the Build Alternatives and projected future projects would not result in significant cumulative effects associated with access and mobility, community stability, and community character and cohesion.

The Build Alternatives are intended to increase the overall accessibility and mobility of persons within the Affected Area and would not directly result in population growth within surrounding communities. However, the Build Alternatives could indirectly affect population, housing, and employment growth as a result of and in combination with projected future projects in the region. Changes in demographics associated with new development opportunities are anticipated to be consistent with the SCAG adopted growth projections since these growth projections are based on the General Plan land use designations of local jurisdictions. Therefore, the Build Alternatives in combination projected future projects would not result in significant cumulative impacts associated with SCAG-adopted growth projections.

5.2.4 Acquisitions and Displacements

In general, effects associated with acquisitions and displacements are site-specific and adverse effects are largely localized and located in a highly urbanized geographical area. The Build Alternatives would result in property acquisitions and displacements required to accommodate project tracks, tunneling, aerial structures, vents/switches/egress, stations, train control house, radio house, TPSS sites, grade crossing/separations, and parking facilities. The displacement of properties would not necessitate the construction of replacement housing elsewhere and is not expected to displace a substantial number of people that would necessitate the construction of replacement housing elsewhere. Adequate

replacement housing is available in the affected communities and surrounding areas based on the Project's gap analysis of the housing and business market. Metro, public agencies, and developers are required to provide relocation assistance and compensation for all displaced businesses as required under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) (for federally funded projects) and California Relocation Act. For relocated businesses, jobs would also be relocated and would not be permanently displaced; however, permanent job losses may be anticipated as a result of economic market conditions.

Similarly, projected future projects may also be required to comply with the Uniform Act, California Relocation Act, and other applicable relocation policies and procedures for any potentially displaced businesses and residences. Therefore, the Build Alternatives in combination with projected future projects would not result in adverse effects related to property acquisition and displacements and a significant cumulative impact would not result.

5.2.5 Visual and Aesthetics

Projected growth and future projects could alter the visual environment in the Affected Area and in neighboring jurisdictions. In general, visual resource effects of projected future projects are site-specific and would not be expected to combine with other projects in separate viewsheds to create a cumulative impact. The geographic area of the Build Alternatives and projected future projects in the visual quality and aesthetics Affected Area is characterized as predominantly developed with varied heights and massing in the visual environment.

No scenic vistas or scenic highways are located in the visual quality and aesthetics Affected Area. The Build Alternatives and projected future would not obstruct views of or alter the visual character and quality of scenic resources such as scenic vistas and scenic highways. Therefore, the Build Alternatives and projected future projects would not have potential to contribute to cumulative effects associated with scenic vistas and scenic highways.

The Build Alternatives would be consistent with and are not expected to permanently degrade the existing visual character and quality of the Affected Area. At Somerset Boulevard, the existing landscaping and decorative wall on the south side of the World Energy storage tracks (east of the proposed LRT tracks) could potentially be removed, which would make the refinery storage tank cars more visible to sensitive viewers (residents) and visually incompatible with the surrounding residential area. In addition, the "Belle" public art cow statue has aesthetic value to the City of Bellflower and would be removed. Implementation of Mitigation Measures VA-1 (Screening at Somerset Boulevard) and VA-2 (Relocation of "Belle") would ensure impacts to the visual character are minimized and no adverse effect would occur. The Build Alternatives and projected future projects could provide future development opportunities around station areas that may result in a more densely developed urban environment in the Affected Area, which could affect visual character and quality in the vicinity of these projects. These development opportunities would be required to comply with local jurisdictional regulations in which the development opportunities would be located and would require mitigation measures to reduce visual impacts, if any. The Build Alternatives would be consistent with and are not expected to permanently degrade the existing visual character and quality of the Affected Area with the implementation of Mitigation Measures VA-1 (Screening at Somerset Boulevard) and VA-2 (Relocation of "Belle"). Therefore, the Build Alternatives in

combination with projected future projects would not result in a significant cumulative impact on visual character and quality.

The Build Alternatives and projected future projects could also provide opportunities for development around the station areas or improvements to connect with existing pedestrian and bicycle facilities, which may result in an increase in daytime glare and ambient nighttime lighting. These development opportunities would be required to adhere to lighting regulations of the affected jurisdictions. The Build Alternatives and projected future projects are located in a highly developed and well-lit area and would not represent a substantial change in the lighting environment of the area to the extent that nighttime views that are currently available would become unavailable. The Build Alternatives would not result in adverse impacts on light and glare as lighting would incorporate standard practices that would reduce potential lighting and glare effects (i.e., exterior lighting shielded and directed downward, low-reflective surfaces). It is expected that projected future projects would also incorporate similar practices in their lighting and structure design to minimize excessive adverse lighting and glare effects. Therefore, the Build Alternatives and projected future projects would not result in significant cumulative impacts on light and glare.

5.2.6 Air Quality

California is divided geographically into 15 air basins for the purpose of managing the state's air resources at a regional level. Each air basin generally has similar meteorological and geographic conditions throughout. Each local district is responsible for preparing the portion of the State Implementation Plan applicable within their boundaries. The South Coast Air Basin is the Affected Area for evaluation of cumulative impacts for air quality. The South Coast Air Basin is currently designated as in nonattainment of the federal and state ambient air quality standards for ozone and particulate matter (PM₁₀ and PM_{2.5}). Therefore, there is an ongoing cumulative effect associated with these air pollutants.

The South Coast Air Quality Management District (SCAQMD) has responsibility for managing the South Coast Air Basin's air resources and is responsible for bringing the South Coast Air Basin into attainment for federal and state air quality standards. The SCAQMD prepares the Air Quality Management Plan to evaluate contemporary South Coast Air Basin air quality and the emissions inventory and forecast control strategies to ultimately bring the South Coast Air Basin into attainment of the ambient air quality standards. To achieve this goal, the SCAQMD prepares/updates the Basin's Air Quality Management Plan every four years. The Air Quality Management Plan emissions budgets are developed partially based on the 2016-2040 RTP/SCS, and the two planning documents are typically developed in conjunction with one another. The Build Alternatives are included in 2016-2040 RTP/SCS under Project ID 1TR1011, which demonstrates that the regional transportation and emissions modeling budget in the Air Quality Management Plan accounts for implementation of the Build Alternatives. Therefore, implementation of the Build Alternatives would not contribute in a significant way to cumulative effects related to projections built into the Air Quality Management Plan.

In 2003, the SCAQMD published a white paper on cumulative impacts and potential control strategies, which contains considerations for evaluating cumulative air quality impacts under CEQA. Projects that exceed the project-specific thresholds are considered by the SCAQMD to be cumulatively considerable, and, conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant. The Build Alternatives represent public transit projects that would reduce regional vehicle miles travelled (VMT) and

associated air pollutant emissions, and operation of all Build Alternatives would result in less than significant air quality impacts when compared to the project specific SCAQMD thresholds. Therefore, operation of the Build Alternatives would not result in a cumulatively considerable impact for any South Coast Air Basin nonattainment pollutant.

5.2.7 Greenhouse Gas Emissions

The State of California, through Assembly Bill 32, has acknowledged that greenhouse gas (GHG) emissions are a statewide impact. Emissions generated by the Build Alternatives combined with projected future projects could contribute to this impact. The CEQA Guidelines emphasize that the effects of GHG emissions are cumulative in nature and should be analyzed in the context of CEQA's existing cumulative impacts analysis. The Office of Planning and Research acknowledges that although climate change is cumulative in nature, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less-than-significant level as a means of avoiding or substantially reducing the cumulative impact of a project. The following analysis assesses the Build Alternatives for potential cumulative impacts related to GHG emissions in the context of projected future projects.

As compared to the No Build Alternative, the Build Alternatives would result in fewer GHG emissions with reductions related to the reduction of regional VMT for passenger vehicles associated with increased transit ridership. The Build Alternatives would be consistent with applicable GHG plans, policies, and regulations. There are no state, regional, or local GHG reduction plans that promote increased passenger vehicles on the roadway network. The Build Alternatives would be consistent with the 2016-2040 RTP/SCS, Energy Conservation Management Plan, City of Los Angeles Zero Emission 2028 Roadmap, and other conservation plans for local jurisdictions. GHG emissions that would be generated are not considered significant as mass transit and reduced VMT is a key component of relevant GHG reduction plans. There is no potential for the Build Alternatives to interfere with State and regional GHG reduction targets. Consequently, Build Alternatives would not incrementally contribute to cumulatively significant GHG effects.

5.2.8 Noise and Vibration

Noise is a localized phenomenon that is significantly reduced in magnitude as distance from the source increases. Operational noise related to LRT pass-by is only assessed within 350 feet of the tracks. Alternatives 3 and 4 would result in fewer noise and vibration impacts as the alignments are shorter.

5.2.8.1 Noise

The geographic scope for the cumulative noise analysis is the immediate vicinity of the Build Alternatives where project-generated noise could be heard concurrently with noise from other sources. The noise environment in the vicinity of the Build Alternatives along the alignment can be primarily defined by traffic on adjacent roadways, freight trains, and the existing Metro A (Blue) Line (applicable to Alternatives 1, 2, and 3). In addition, housing, and job opportunities are expected to grow in the cities located in the vicinity of the Build Alternatives. Based on each city's built-out character, the cities are forecasted to have a steady growth with the exception of the cities of Vernon and Cudahy. As such, increases in roadway traffic volumes over time can be expected due to cumulative growth and development and

would concurrently increase ambient noise levels in the area. However, future increases in roadway noise are expected to be minimal along the alignment due to limited roadway capacity and freight train noise, which is generally intermittent as only approximately two to three trains pass-by per day. Therefore, it is unlikely for the Build Alternatives traffic and freight train noise to combine to produce a cumulative adverse noise effect. The Metro A (Blue) Line was accounted for in noise measurements and is included in the analysis for Alternatives 1, 2, and 3 (Alternative 4 does not include the Metro A (Blue) Line).

The Build Alternatives would result in adverse operational noise effects at sensitive receptors along the Project alignment (see *West Santa Ana Branch Transit Corridor Project Final Noise and Vibration Impact Analysis Report* [Metro 2021j]). Implementation of Mitigation Measures NOI-1 through NOI-7, which include soundwalls, low impact frogs, and noise monitoring, would reduce adverse effects related to noise; however, due to physical constraints along the alignment not all affected areas would be fully mitigated, and adverse effects and significant and unavoidable impacts would remain. Therefore, the Build Alternatives in combination with traffic noise generated by projected future projects, would result in a significant cumulative noise impact to sensitive receptors along the alignment; the project's contribution to this significant cumulative impact would be cumulatively considerable.

5.2.8.2 Vibration

Permanent vibration effects are typically localized and instantaneous events. The geographic scope for the cumulative vibration analysis is the immediate vicinity (within 25 feet) of the Build Alternatives where project-generated vibrations could occur concurrently with vibrations from other sources. The Build Alternatives would result in vibrations impacts and would implement Mitigation Measures VIB-1 (Ballast Mat or Resilient Rail Fasteners) and VIB-2 (Low Impact Frogs) reduce vibration impacts. The primary source of existing vibration within the corridor are the freight lines along the alignment. Freight train vibration is generally intermittent, as only approximately two to three trains pass-by per day, and is unlikely that LRT vibration and freight train vibration would combine to produce a cumulative vibration effect. Regardless of the existing vibrations from infrequent freight trains, after implementation of Mitigation Measures VIB-1 (Ballast Mat or Resilient Rail Fasteners) and VIB-2 (Low Impact Frogs) adverse effects and significant and unavoidable impacts would remain for the Build Alternatives. Therefore, the Build Alternatives in combination with vibration generated by projected projects and existing freight, would result in a significant cumulative vibration impact; the Project's contribution to this significant cumulative impact would be cumulatively considerable.

5.2.9 Ecosystems and Biological Resources

The geographic scope for ecosystems and biological resources is the immediate vicinity and the biological resources Affected Area. The Build Alternatives and projected future projects are located in a heavily developed/disturbed area and do not support any plant 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 United States Fish and Wildlife Service and would be unlikely to affect wildlife species if present. Most wildlife species that could be expected to be identified in the cumulative Affected Area are species that have adapted to urban environments and disturbances caused by human-induced activities. The Build Alternatives in and projected future projects are unlikely to result in impacts to ecosystems and biological resources as the area is urbanized and heavily developed. Similar to the Build Alternatives, the projected future projects would also be

required to comply with applicable regulations and include mitigation measures to ensure impacts to biological resources are reduced or avoided. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative ecosystems and biological resource effects.

5.2.10 Geotechnical/Subsurface/Seismic Hazards

The geographic scope for geologic, subsurface, and seismic hazards is site specific and adverse effects are largely localized. The Build Alternatives and projected future projects are located in a seismically active region of Southern California, with large liquefaction zones under each of the Build Alternatives and are not in an area with landslide risks. The Build Alternatives would implement Mitigation Measures GEO-1 (Hazardous Gas [Operation]) through GEO-3 (Gas Monitoring [Operation]), comply with all applicable state and local guidelines and mandatory design requirements with seismic-related ground failure, and no adverse effects would occur related to geologic, subsurface, and seismic hazards due to operation of the Build Alternatives. Similar to the Build Alternatives, projected future projects would be located in an area of Los Angeles county susceptible to geological hazards. Projected future projects would be required to comply with all prescribed building standards, requirements, and guidance related to geologic, subsurface, and seismic hazards and is unlikely to contribute to cumulative effects. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative geologic, subsurface, and seismic hazards effects.

5.2.11 Hazards and Hazardous Materials

In general, effects associated with hazards and hazardous materials are site-specific and adverse effects are largely localized and located in a highly urbanized geographical area. The Build Alternatives would not result in adverse effects related to hazards and hazardous materials with the implementation of Project Measures HAZ PM-1 (Handling, Storage, and Transport of Hazardous Materials or Wastes [Operation]), HAZ PM-2 (Disposal of Groundwater [Operation]), and HAZ PM-3 (Contaminated Soil, Soil Vapor, and Groundwater [Operation]), and GEO PM-2 (Oil Fields, Methane Zones, and Methane Buffer Zones [Operation]) identified in Section 4.10.4 of the Hazards and Hazardous Materials Section, and Mitigation Measures HAZ-1 (Oil and Gas Wells in Tunnel Areas) and GEO-1 (Hazardous Gas [Operation]). The Build Alternatives would comply with all prescribed standards, requirements, and guidance related to hazards and hazardous materials. Similarly, it is anticipated that operation of projected future would result in minimal adverse effects with the implementation of project specific mitigation measures, as necessary and would also comply with all prescribed standards, requirements, and guidance related to hazards and hazardous materials. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative hazard and hazardous materials effects.

5.2.12 Water Resources

The geographic scope for the cumulative water resources analysis is the LA County storm drainage system serving the water resources Affected Area and watersheds the area discharges to (i.e., LA River Watershed and the Rio Hondo Channel and Compton Creek sub-watersheds, San Gabriel River Watershed and the Coyote Creek and Los Cerritos Channel sub-watersheds, and the Ballona Creek Watershed). Operation of the Build Alternatives would result in a modification to the local drain systems, increase in impervious area and would affect water quality through pollutant runoff from rail operations. The Build

Alternatives would comply and be subject to post-construction and hydromodification requirements of the LA County National Pollutant Discharge Elimination System municipal separate storm sewer system permit and implement project design features to minimize water quality impacts. Impacts related to these resources would not be adverse. The Build Alternatives would also cross three major flood control channels, each with Federal Emergency Management Agency established floodplains: the LA River, the Rio Hondo and the San Gabriel River. The Build Alternatives would be designed in accordance with Executive Orders 11988 and 13690 and impacts to floodplains would not be adverse. The Build Alternatives may also affect groundwater resources, but these impacts would be minimized through design features that would include low impact development treatment controls (i.e., landscaping) to help offset the loss of permeable surfaces. Similarly, projected future projects may also result in modifications to the local drain systems, increase in impervious areas, and result in pollutant runoff that could result in adverse effects. However, projected future projects and Build Alternatives would be subject to state and regional water quality permit requirements and would be designed in compliance with all existing regulations and requirements regarding water quality and water resources. Therefore, the Build Alternatives in combination with projected future projects would be required to adhere to similar applicable permit requirements and would not result in significant cumulative water resources effects.

5.2.13 Energy

The Build Alternatives would consume less energy with energy reductions due to the reduction of regional VMT for passenger vehicles associated with increased transit ridership. The energy reductions associated with the VMT decrease overrides energy increases associated with operation of the MSF and energy utilized to power the LRT system. There are no state, regional, or local energy conservation plans that promote increased passenger vehicles on the roadway network. The Build Alternatives would be consistent with the applicable regional and local conservation plans. Energy used to operate the Build Alternatives is not considered a wasteful or inefficient use of energy as mass transit and reduced VMT are key components of relevant energy conservation plans. As with the Build Alternatives, projected future projects will be subject to compliance with applicable energy efficiency and management codes and regulations, including, but not limited to, the California Title 24 Energy Efficiency Standards, the CALGreen building standards code, and the Los Angeles Green Building Code as well as other provisions of local planning initiatives from the cities of Vernon, Huntington Park, Bell, Cudahy, South Gate, Downey, Paramount, Bellflower, Artesia, and Cerritos. All new Metro projects will be implemented in accordance with the Metro *Green Construction Policy* and the *Energy Conservation and Management Plan* so that the expenditure of energy resources is controlled to the maximum extent feasible.

There is no present regional shortage of energy resources for land use and transportation development planning and implementation, and no foreseeable strains on existing resources have been identified. The Build Alternatives would not require new distribution infrastructure such as transmission lines from power facilities and transformers, although connections between TPSS units and existing electrical utility lines would be required to operate the Build Alternatives. Such activities would not be related to supply or capacity deficiencies and would be similar to routine utility improvements (e.g., construction of new underground conduits). There is no potential for operation of the Build Alternatives to conflict with energy conservation goals or interfere with the energy supply and distribution

facilities. Consequently, the Build Alternatives in combination with projected future projects would not result in significant cumulative energy effects during operation.

5.2.14 Historic, Archeological, and Paleontological Resources

The geographic scope of historic, archaeological and paleontological effects is generally site-specific and localized and generally characterized as urbanized and highly developed. No adverse effects would occur to historic properties, archeological resources or paleontological resources during operation of the Build Alternatives. Direct and indirect impacts to historic, archaeological, and paleontological resources due to ongoing maintenance and operations of the Build Alternatives would be negligible because there would be minimal, if any, ground disturbance during operation of the Build Alternatives outside of existing ROW and previously disturbed areas. Similarly, projected future projects would be located within existing public ROWs and would have limited ground disturbance during operation. As all historic, archaeological and paleontological resources are unique, projected future projects would be expected to comply with applicable federal, state, and local regulations to protect those resources. Therefore, the Build Alternatives in combination with projected future projects would not cause significant cumulative impacts to historic, archaeological, or paleontological resources during operation.

5.2.15 Tribal Cultural Resources

The geographic scope of tribal cultural resources is generally site-specific and localized and generally characterized as urbanized and highly developed. No tribal cultural resources were identified within the area of potential effect and no adverse effects would occur to tribal cultural resources during operation of the Build Alternatives. Direct and indirect impacts to tribal cultural resources due to ongoing maintenance and operations of the Build Alternatives would be negligible because there would be minimal, if any, ground disturbance during operation of the Build Alternatives outside of existing ROW and previously disturbed areas. Similarly, projected future projects would be located within existing public ROWs and would have limited ground disturbance during operation. As tribal cultural resources are unique, projected future projects would be expected to comply with applicable federal, state, and local regulations to protect tribal cultural resources. Similar to the Build Alternatives, projected future projects are not anticipated to cause adverse effects to tribal cultural resources during operation with compliance of all applicable regulations regarding the handling and care of such resources. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative tribal cultural resource effects.

5.2.16 Parklands and Community Facilities

Apart from potential impacts to the Class I bicycle path along Salt Lake Avenue and the Class I bicycle path north of Rayo Avenue and south of the LA River, the Build Alternatives would not result in adverse effects to parklands or community facilities, as the LRT would operate within the confines of the rail ROW and would not impede access to any parklands or community facility. The Build Alternatives would not directly increase the local residential population that would result in an increase in parklands and community facilities use.

The Build Alternatives and projected future projects are located in urban areas and would be located within existing public ROW or within infill parcels. Some projected future projects would improve the overall accessibility to the station areas, community facilities, and other modes of transportation. Projected future projects may also increase the number of businesses and residents in the area; however, population growth has been accounted for in the regional

and local plans. The Build Alternatives in combination with projected future projects would not result in significant cumulative effects to parklands or community facilities.

Realignment of segments of the Paramount Bike Trail and Bellflower Bike Trail would not result in adverse physical effects or prevent access to the bike facilities and Mitigation Measure LU-1 (Consistency with Bike Plans) would be implemented to maintain connectivity. The Build Alternatives could preempt future development and implementation of the Class I bicycle path along Salt Lake Avenue and the Class I bicycle path north of Rayo Avenue and south of the LA River, identified in the *City of Huntington Park Bicycle Transportation Master Plan*, *City of Cudahy 2040 General Plan*, *South Gate Bicycle Transportation Plan*, and *City of Bell Bicycle Master Plan*. However, while planned, the bike facilities are conceptual in the local plans, unfunded and not scheduled for implementation. Therefore, they are remote and speculative. The impacts related to consistency with land use plans is discussed in Section 5.2.2.

Overall, the Build Alternatives would not result in adverse effects to parklands or community facilities, as the LRT would operate within the confines of the rail ROW and would not impede access to any parklands or community facility. The Build Alternatives and projected future projects are located in urban areas and primarily would be located within existing public ROW or within infill parcels. Subsurface easements or partial acquisitions would not affect the function or result in a displacement of community facilities. Some projected future projects would improve the overall accessibility to the station areas, community facilities, and other modes of transportation. Projected future projects may also increase the number of businesses and residents in the area; however, population growth has been accounted for in the regional and local plans. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative effects to parklands or community facilities.

5.2.17 Economic and Fiscal Impacts

Operation of the Build Alternatives would have beneficial economic and fiscal impacts by improving transit accessibility and mobility, enhancing regional connectivity and reducing travel time and costs in the region. Similarly, projected future projects may also introduce new business, residents, and jobs to the area; growth of which has been accounted for in the local and regional plans. Combined with the Build Alternatives, projected future projects would likely encourage greater economic activity and benefit surrounding businesses and commuting employees. The Build Alternatives and projected future projects could also result in an increase in employment and tax revenue that would benefit local and regional economies. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative economic and fiscal effects during operation.

5.2.18 Safety and Security

Adverse safety and security impacts are generally site-specific and localized. Operation of the Build Alternatives would be operated in accordance with Metro system safety plans, policies, and procedures, including the *Metro System Safety Program Plan*, *Metro System Security Plan*, *Metro Standard and Emergency Operating Procedures*, and *Rail Operating Rulebook*, or equivalent. The Build Alternatives would comply with all applicable federal, state, and local safety codes and regulations. Metro would coordinate with emergency response services so that response times and emergency access would not be adversely affected during operation. Mitigation Measure SAF-1 (Encroachment Detection) would be implemented so that no adverse effects would occur. Similarly, the related projects would be required to be designed

to safely and be subject to all applicable safety codes and regulations and comply with requirements with the local emergency services. In the event projected future projects result in an overall decrease in safety and security, each project would be required to implement project measures and mitigation measures, as necessary, to reduce impacts. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative safety and security effects during operation.

5.2.19 Environmental Justice

The Build Alternatives would not result in disproportionately high and adverse effects on minority and low-income populations. Similarly, projected future projects in the Affected Area may be located in Environmental Justice (EJ) communities. Additional environmental analyses would be required to determine if potential operational impacts are predominately borne on EJ populations or disproportionately affect EJ populations. (see *West Santa Ana Branch Transit Corridor Project Environmental Justice Impact Analysis Report* [Metro 2021dd]). Therefore, the Build Alternatives would not have potential to contribute to significant cumulative impacts on EJ communities.

6 CONSTRUCTION IMPACTS

6.1 Construction Activities

Construction activities associated with the West Santa Ana Branch Transit Corridor Project are detailed in the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2021g).

6.2 Regulatory Background and Methodology

6.2.1 Regulatory Background

All federal, state, regional, and local regulations and guidelines pertinent to the construction the Project would be followed. For additional regulatory information, refer to the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2021g).

6.2.2 Methodology

To satisfy NEPA requirements, the methodology used for this analysis follows the CEQ's guidance *Considering Cumulative Effects Under the National Environmental Policy Act*. The cumulative impact discussion for each specific discipline assessed in the Draft EIS/EIR reflects the potential severity of the impacts and the likelihood of occurrence.

To satisfy CEQA requirements, the methodology follows CEQA Guidelines Section 15130. CEQA Guidelines indicate that the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the Project's incremental effects are cumulatively considerable.

6.3 No Build Alternative

Under the No Build Alternative, the Build Alternatives would not be developed, and adverse effects related to construction of the Build Alternatives would not occur. Under the No Build Alternative, adverse construction effects are not anticipated to occur as projects identified in the No Build Alternative would generally comply with applicable regulations, plans and policies to avoid potential adverse effects to the environment to the extent possible. In addition, projected future projects would undergo project-specific environmental clearance and would implement project-specific mitigation measures, as necessary, so that potential adverse effects related to construction are reduced or avoided. As the No Build Alternative would not result in adverse construction effects or impacts, cumulative effects would not occur. As the Build Alternatives would not be constructed under the No Build scenario and no related adverse effects would occur, the Build Alternatives would not contribute to potential adverse cumulative construction effects and would not be cumulatively considerable.

6.4 Build Alternative

6.4.1 Transportation

The traffic analysis evaluates cumulative future impacts and is presented in the *West Santa Ana Branch Transit Corridor Project Final Transportation Impact Analysis Report* (Metro 2021t). Based on the transportation analysis, the Build Alternatives in combination with projected growth in the region would cause significant cumulative temporary transportation effects and

the Project's incremental contribution to this cumulatively significant impact would be cumulatively considerable.

6.4.2 Land Use and Development

Construction of the Build Alternatives would involve temporary construction activities, such as construction staging, materials stockpiling, hauling of dirt and materials, temporary street and lane closures, temporary construction easements (TCE) and permanent easements, and property acquisitions. Similar construction activities may also occur with projected future projects in the Affected Area. Although access to businesses and nearby neighborhoods may be detoured temporarily during construction, access would be maintained per implementation of Mitigation Measure COM-1 (Construction Outreach Plan). Sites acquired for TCEs and for temporary street, lane, and bicycle path detours and closures would be returned to pre-construction conditions once construction is complete. Metro would coordinate with other ongoing construction projects to minimize temporary construction issues.

Similarly, projected future projects would result in temporary construction effects and are anticipated also implement construction plans to minimize temporary construction impacts. Construction of the Build Alternatives in combination with projected future projects could potentially affect nearby sensitive land uses. However, given the temporary nature of construction activities and the implementation of mitigation measures for air quality, noise, and traffic, construction of the Build Alternatives and projected future projects would not result in land use conflicts and would not conflict with applicable land use plans, policies, and regulations of local agencies. The Build Alternatives in combination with projected future projects would not result in significant cumulative effects related to land use during construction.

6.4.3 Communities and Neighborhoods

Construction of the Build Alternatives and projected future projects would involve temporary construction activities that could disrupt the community where the construction activities are occurring. The Build Alternatives would implement Mitigation Measure COM-1 (Construction Outreach Plan) to minimize effects to communities and businesses. Mitigation Measures AQ-1 (Vehicle Emissions), NOI-8 (Noise Control Plan) and VIB-3 (Vibration Control Plan), VIB-4 (Minimize the Use of Impact Devices), VIB-5 (Drilling for Business Foundations), VIB-6 (Construction Vibration Limits), and VIB-7 (Construction Monitoring for Vibration) would be implemented during construction to reduce construction-related air quality, noise, and vibration impacts to the extent feasible. However, adverse effects related to noise and air quality emissions during construction would occur even with mitigation. Nonetheless, the indirect impacts associated with temporary construction-related noise, vibrations, and air quality would be temporary and would not permanently inhibit the use of the community facilities, change the community character, or affect community cohesion.

Metro would also coordinate with other ongoing construction projects to minimize street and sidewalk closures, maintain access to businesses, and to minimize any other cumulative temporary community impacts. Similarly, projected future projects could also result in temporary construction activities that could result in temporary adverse effects to the surrounding community and may also require mitigation measures to minimize potential effects. Therefore, the Build Alternatives in combination with projected future projects would not result in significant effects associated with communities and neighborhoods during construction.

6.4.4 Acquisitions and Displacements

Construction of the Build Alternatives would require TCEs and full acquisitions of properties for construction laydown areas and construction support sites. Metro would provide compensation for all businesses and residents affected during construction as required under the Uniform Act and California Relocation Act. Furthermore, properties to be used as TCEs would be appraised to determine the fair market value of the portion that would be utilized temporarily during construction and just compensation not less than the approved appraisal would be made to each property owner. Replacement sites for like businesses and residences are available in the affected communities and surrounding areas. Similarly, projected future projects may also require TCEs and full acquisitions for construction-related activities, which may result in a cumulative impact. Like the Build Alternatives, projected future projects would also be required to comply with applicable regulations, including the Uniform Act (for federally funded projects) and the California Relocation Act to provide compensation for all affected businesses and residents and impacts would not be adverse. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative effects regarding displacement and acquisitions during construction.

6.4.5 Visual and Aesthetics

No scenic vistas and no scenic highways are located within the visual quality and aesthetics Affected Area or in the affected area of projected future projects. Therefore, construction of the Build Alternatives in combination with projected future projects would not have potential to contribute to cumulative effects associated with scenic vistas and scenic highways.

The Build Alternatives and the related projects are located in highly urbanized areas with varied heights and massing in the visual environment. Construction activities of the Build Alternatives would temporarily alter the visual character and quality of the Affected Area, requiring the implementation of Mitigation Measures VA-3 (Landscaping at LAUS) and VA-4 (Construction Screening) to minimize potential temporary construction visual impacts. Similar temporary visual adverse effects would also be associated with the construction of the related projects, which would be localized to the area and may require the implementation of mitigation measures to minimize potential construction-related adverse effects. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative effects on visual quality or character during construction.

Construction activities for the Build Alternatives would generally occur between 7:00 a.m. and 5:00 p.m. on weekdays and would not result in a substantial source of light or glare. Implementation of Mitigation Measure VA-5 (Construction Lighting) would minimize potential construction lighting adverse effects. Similar to the Build Alternatives, projected future projects would be required to comply with applicable policies and regulations regarding construction hours and light and glare and would need to implement project or mitigation measures to further minimize potential construction lighting effects. Therefore, the Build Alternatives in combination with construction of projected future projects would not result in significant cumulative effects related to light and glare during construction.

6.4.6 Air Quality

The South Coast Air Basin is currently designated as in nonattainment of the federal and state ambient air quality standards for ozone and particulate matter (PM₁₀ and PM_{2.5}). Therefore, there is an ongoing significant cumulative effect associated with these air pollutants. Emissions generated during construction of the Build Alternatives combined with

construction of projected future projects could impede attainment efforts or result in locally significant pollutant concentrations. Therefore, the Build Alternatives in combination with projected future projects could result in significant cumulative air quality impacts.

The SCAQMD has not established separate quantitative cumulative thresholds for emissions of criteria pollutants. Rather, the SCAQMD established the same mass daily thresholds of significance for project-specific and cumulative impacts assessment because of the regional importance of project-specific emissions in the context of attaining the ambient air quality standards. Attainment designations are made at the county and geographic basin levels, therefore there is a cumulative aspect to all project-level emissions in nonattainment areas. For both construction and operational activities, if a project exceeds the identified project-level significance thresholds, its emissions would be considered cumulatively significant, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Construction of the Build Alternatives would generate varying degrees of maximum daily air pollutant emissions due to differences in daily haul truck activity required to dispose of demolition debris and excavated soil and import fill materials. Maximum daily emissions of nitrogen oxides (NO_x)—an ozone precursor—during construction of Alternative 1 and 2 would exceed the mass daily significance threshold even after the implementation of Mitigation Measure AQ-1. The exceedance in the NO_x threshold is due to haul truck emissions that will be distributed along the regional roadway network and not concentrated in one specific location. Because construction of Alternatives 1 and 2 would temporarily exceed the SCAQMD significance threshold for NO_x during the most intensive material hauling activities, Alternatives 1 and 2 would cause a cumulatively considerable impact to the region's air quality related to the nonattainment designation for ozone. No additional feasible control strategies were identified to further reduce regional NO_x emissions beyond compliance with the Metro *Green Construction Policy* and implementation of Mitigation Measure AQ-1 (Vehicle Emissions). Therefore, this impact would remain cumulatively significant and unavoidable during construction of Alternative 1 and 2, if implemented.

Construction of Alternatives 3 and 4 compared to Alternatives 1 and 2 and would result in a reduction of maximum daily haul truck loads and maximum daily construction workers and, thus, would not produce emissions exceeding any regional mass daily threshold. Therefore, construction of Alternative 3 and 4 would not result in a cumulatively considerable short-term contribution to degradation of the region's air quality. Once operational, Alternatives 3 and 4 would reduce vehicle miles traveled, which would result in a net benefit to regional air quality.

Construction activities of the Build Alternatives would adhere to provisions of the Metro Green Construction Policy and employ Best Management Practices (BMPs) to prevent the occurrence of a nuisance odor or dust plume in accordance with SCAQMD Rule 402 (Nuisance). Projected future projects would also be required to employ with similar BMPs. Therefore, a cumulatively significant impact related to odor is not anticipated. The Build Alternatives would not incrementally contribute to nuisance odor and dust effects.

6.4.7 Greenhouse Gas Emissions

The Build Alternatives would result in fewer GHG emissions than both the Existing Condition (if the Build Alternatives were operational in 2017) and No Build Alternative. The Build Alternatives would be consistent with applicable GHG plans, policies, and regulations.

Standard construction procedures would be undertaken in accordance with the Metro Green Construction Policy and SCAQMD and California Air Resources Board regulations applicable to heavy duty construction equipment and diesel haul trucks. Adhering to requirements pertinent to equipment maintenance and inspections standards and emissions standards, as well as diesel fleet requirements related to idling restrictions, would prevent construction of the Build Alternatives from conflicting with GHG emissions reductions efforts. Additionally, Metro selection criteria gives competitive preference to construction products and services that conserve natural resources (e.g., recycled materials).

There are no state, regional, or local GHG reduction plans that promote increased passenger vehicles on the roadway network. The Build Alternatives would be consistent with the 2016-2040 RTP/SCS, Energy Conservation Management Plan, City of Los Angeles Zero Emission 2028 Roadmap, and other conservation plans for local jurisdictions. Although temporary GHG emissions would be generated during construction, no adverse impact would occur as the project is for mass transit and reduced VMT is a key component of relevant GHG reduction plans. There is no potential for the Build Alternatives to interfere with State and regional GHG reduction targets. Consequently, the Build Alternatives would not cause a cumulatively considerable incremental impact related to GHG emissions.

6.4.8 Noise and Vibration

Noise is a localized phenomenon that is significantly reduced in magnitude as distance from the source increases. For construction impacts, only the immediate surroundings of the construction areas are included in the cumulative context, as it would be the most vulnerable to construction noise. This is typically within 500 feet of construction activity. Vibration is even more localized than noise and is generally not perceptible beyond 75 feet from construction equipment.

6.4.8.1 Noise

The geographic scope for the cumulative noise analysis is the immediate vicinity (within 500 feet) of the Build Alternatives where project construction-generated noise could be heard concurrently with noise from other sources. Construction of the Build Alternatives would require heavy-earth moving equipment, generators, cranes, pneumatic tools and other similar machinery. Construction activity north of the I-10 freeway (Alternatives 1 and 2) would include the use of a tunnel boring machine (TBM) or cut and cover for construction of the underground segments (Alternatives 1 and 2). The TBM would not be audible at above-ground sensitive receivers but the TBM launch site or cut and cover activities would include equipment similar to the other above-ground activities. Construction noise levels for each Build Alternative would exceed Federal Transit Administration (FTA) and local noise standards due to the intensive nature of LRT construction activities and the proximity of sensitive land uses to the corridor without mitigation measures. Implementation of Mitigation Measure NOI-8 (Noise Control Plan) would reduce construction noise levels but would still likely exceed the FTA construction noise criteria and local standards resulting in temporary adverse effects related to construction noise. Similar to the Build Alternatives, construction of projected future projects would likely include the use of heavy construction equipment that would generate elevated construction noise levels. Projected future projects would go through their own environmental clearance process and would include mitigation for construction noise to reduce impacts. Projected future projects within 500 feet of construction of the Build Alternatives could potentially result in a cumulative construction noise impact at sensitive receptors. Although it is not possible to predict which projected

future projects would result in a cumulative construction noise scenario, the construction noise levels associated with the Build Alternatives could increase ambient noise levels. Therefore, when combined with noise generated by projected future projects, the Build Alternatives would result in cumulative noise effects during construction and the Build Alternatives' incremental contribution to this impact would be cumulatively considerable.

6.4.8.2 Vibration

The geographic scope for the cumulative construction vibration analysis is the immediate vicinity (within 75 feet) of the Build Alternatives where project-generated vibrations could occur concurrently with vibrations from other sources. Construction would require heavy-earth moving equipment, cranes, and other similar machinery. Vibration-generating activities associated with construction of the Build Alternatives could result in noticeable levels of vibration but would largely occur within the rail ROWs. However, they are unlikely to result in building damage as vibration attenuates quickly with distance. The Build Alternatives would implement Mitigation Measures VIB-3 (Vibration Control Plan), VIB-4 (Minimize the Use of Impact Devices), VIB-5 (Drilling for Business Foundations), VIB-6 (Construction Vibration Limits), and VIB-7 (Construction Monitoring for Vibration) to avoid construction vibration levels that would exceed the FTA construction impact criteria and no adverse effect would occur. The Build Alternatives in combination with projected future projects are not considered likely to result in the exposure of sensitive receivers to excessive vibration, due to the localized nature of vibration impacts and the fact that not all construction would occur at the same time and at the same location. Only sensitive receivers located near each construction site would be potentially affected by each activity. For the combined vibration impact from simultaneous construction projects to reach cumulatively significant levels, intense construction from these projects would have to occur simultaneously within 75 feet of any sensitive receiver. It is not anticipated that vibration generating equipment from related projects would operate at the same time and at the same location as equipment related to The Build Alternatives. Therefore, when combined with vibration generated by projected future projects, the Build Alternatives would not result in significant cumulative vibration effects during construction.

6.4.9 Ecosystems and Biological Resources

The Build Alternatives and related projects are located in dense urban environments. The Build Alternatives may adversely affect nesting birds and bats if initial ground disturbance and vegetation/tree trimming or removal is required during the nesting bird season. Construction-related noise and dust could also result in an adverse indirect effect on nesting birds. However, the Build Alternatives would comply with all required applicable regulations. Project construction would not result significant impacts related to special-status species, jurisdictional waters, and protected trees with implementation of Mitigation Measures BIO-1 (Special-Status Bats), BIO-2 (Nesting Birds), BIO-3 (Jurisdictional Resources), and BIO-4 (Protected Trees). However, potential effects associated with construction of the Project are greater under Alternatives 1 and 2 due to their overall length (19.3 miles as opposed to 14.8 under Alternative 3) and 6.6 under Alternative 4). Alternative 4 poses the least potential for effects as it would be the shortest and includes one river crossing as opposed to three (Alternatives 1, 2 and 3 include three river crossings).to the Build Alternatives, projected future projects would also comply with applicable regulations and ordinances and implement applicable mitigation so impacts to special-status species, jurisdictional waters and protected trees are minimized or avoided.

Therefore, the Build Alternatives in combination with projected future projects would not result in cumulatively significant impacts to jurisdictional waters.

6.4.10 Geotechnical/Subsurface/Seismic Hazards

In general, geologic, subsurface, and seismic hazards are site-specific and adverse effects are largely localized. The greatest potential for an adverse cumulative construction effect to occur during construction of the Build Alternatives would be in the downtown LA area where other tunneling and excavation related to the Regional Connector Transit Project is currently underway. However, it is anticipated that construction of the Regional Connector Transit Project would be completed by 2021 and would not result in adverse cumulative construction effects related to the Build Alternatives. No adverse effects would occur related to geologic, subsurface, and seismic hazards due to construction of the Build Alternatives and would comply with all prescribed standards, requirements, and guidance related to geologic, subsurface, and seismic hazards. In addition, the Build Alternatives (except for Alternatives 3 and 4 because they do not consist of underground activities) would implement Mitigation Measure GEO-5 (Gas Monitoring [Construction]), which would minimize potential adverse effects related to hazardous gases in methane zones. Similarly, projected future projects would be required to comply with all prescribed standards, requirements, and guidance related to geologic, subsurface, and seismic hazards. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative geologic, subsurface, and seismic hazards effects during construction.

6.4.11 Hazards and Hazardous Materials

In general, impacts associated with hazards and hazardous materials are site-specific and adverse effects are largely localized. The greatest potential for an adverse cumulative effect to occur would be in the downtown LA area where other tunneling and excavation related to the Regional Connector Transit Project is currently underway. However, it is anticipated that construction of the Regional Connector Transit Project would be completed by 2021 and would not result in adverse cumulative construction effects related to the Build Alternatives. The Build Alternatives would not result in adverse effects related to hazards and hazardous materials and would comply with all regulatory requirements and hazardous wastes would be properly handled. The Build Alternatives would implement Project Measures HAZ PM-4 through PM-9, which includes oil and gas zones, gas monitoring, demolition plans, groundwater disposal, oil well abandonment, and contaminated soil, soil vapor, and groundwater, and GEO PM-4 (Tunnel Advisory Panel) identified in Section 4.10.4 of the Hazards and Hazardous Materials Section and Mitigation Measures HAZ-1 (Oil and Gas Wells in Tunnel Areas) and GEO-4 (Tunnel Advisory Panel) to minimize potential impacts and reduce the risk of adverse health effects during construction and no adverse effect would occur. Similarly, projected future projects would be required to comply with all prescribed standards, requirements, and guidance related to hazards and hazardous materials and implement project measures and mitigation measures to minimize potential hazards and hazardous materials impacts. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative hazard and hazardous materials effects during construction.

6.4.12 Water Resources

Construction of the Build Alternatives may lead to temporary changes in grades and drainage patterns, discharge of pollutants into surface waters, exposure of soils to stormwater and erosive conditions, and temporary dewatering may be required. These temporary impacts would be addressed via a stormwater pollution prevention plan (SWPPP) that complies with the General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit [CGP]). Construction of the Build Alternatives (except for Alternative 4) over the LA River, Rio Hondo and San Gabriel River would not result in impacts to floodplains as construction activities would comply with all applicable federal and local floodplain regulations, including applicable National Flood Insurance Program regulations. Dewatering of the construction site would be subject to the requirements of the Construction Dewatering Permit and therefore would not cause construction-related impacts to surface or groundwater quality. Similarly, projected future projects could also result in similar water resource impacts during construction and would be required to comply with existing regulations, including SWPPPs, and to implement BMPs to reduce construction impacts on water resources. Therefore, the Build Alternatives in combination with projected future projects would not result in significant cumulative water resource effects during construction.

6.4.13 Energy

Diesel fuel for construction vehicles and equipment would be the primary end use of energy resources consumed throughout the course of the construction period. There is no presently identified ongoing cumulatively significant condition related to energy resources that construction of the Build Alternatives would have the potential to exacerbate. Given the extensive network of fueling stations throughout the Project vicinity and the fact that construction would be temporary, no new or expanded sources of energy or infrastructure would be required to meet the energy demands during construction of the Build Alternatives. In addition, construction activities would comply with the *Metro Green Construction Policy* and construction equipment and vehicles would be maintained in accordance with manufacturers' specifications. The one-time expenditure of fuel is not considered a wasteful or inefficient use of non-renewable resources as the fuel is being used to construct a mass transit system, which has been identified by state and regional agencies as an efficient method of reducing permanent energy use. Similarly, projected future projects are not expected to place an undue burden on the availability of existing or future energy resources. Consequently, the Build Alternatives in combination with projected future projects would not result in significant cumulative energy effects during construction.

6.4.14 Historic, Archeological, and Paleontological Resources

Historic, archaeological and paleontological impacts are generally site-specific and localized. Ground disturbing construction activities could directly impact paleontological resources and archaeological resources. The Build Alternatives would implement Mitigation Measures PR-1(a) (Paleontological Resources Mitigation and Monitoring Program) and PR-1(b) (Paleontological Worker Environmental Awareness Program), PR-1(c) (Construction Monitoring), and PR-1(d) (Preparation and Curation of Recovered Fossils) to reduce potential adverse effects and no adverse effect would occur. Surface level activities may result in impacts to historic structures from the operation of heavy equipment in close proximity. Temporary visual impacts and construction easements related to construction would be temporary and would not result in any permanent change to a historical resource.

Implementation of Mitigation Measures CR-1 through CR-6 would further reduce impacts by requiring archaeological and culture resource monitoring programs, treatment of known and unknown resources, worker awareness programs, and historic design review and would not result in adverse effects to historic or archaeological resources. Similarly, projected future projects could also require ground disturbance activities during construction and would be required to comply with all applicable regulations and would implement mitigation measures to reduce adverse effects. Therefore, the Build Alternatives when combined with projected future projects would not result in significant cumulative historic, archaeological, paleontological resources effects during construction.

6.4.15 Tribal Cultural Resources

Impacts to tribal cultural resources are generally site-specific and localized. The Affected Area is located within a previously disturbed developed area. Nonetheless, the potential still exists for tribal cultural resources to be encountered due to the previous inhabitation of the Los Angeles basin by various Native American tribes. However, should potential tribal cultural resources be discovered, Metro would comply with applicable federal, State, and local guidelines during construction activities, including those set forth in Public Resources Code Section 21083.2, State Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 to ensure no adverse effects would occur. In addition, the Build Alternatives would implement Mitigation Measures TCR-1 (Native American Monitoring) and TCR-2 (Unanticipated Discovery of Tribal Cultural Resources) and would not result in adverse effects. Projected future projects would also be required to comply with applicable federal, State, and local guidelines. As with the Build Alternatives, projected future projects are not anticipated to cause adverse effects to tribal cultural resources during construction and would comply with all applicable regulations regarding the handling and care of such resources. Therefore, the Build Alternatives when combined with projected future projects would not result in significant cumulative tribal cultural resource effects during construction.

6.4.16 Parklands and Community Facilities

Construction activities of the Build Alternatives related to access, acquisitions, air quality, noise and vibration, and traffic and parking may temporarily affect parklands and community facilities. Indirect effects related to noise, vibration, and air quality would be temporary and are not anticipated to result in adverse effects to parklands and community facilities. The use of nearby streets may result in restricted street parking, sidewalk detours and traffic lane of full street closures. As a result, community disruption could occur while construction activities are performed. The Build Alternatives would implement Mitigation Measure COM-1 (Construction Outreach Plan) to minimize effects to communities and businesses. Mitigation Measures AQ-1 (Vehicle Emissions), NOI-8 (Noise Control Plan) and VIB-3 (Vibration Control Plan), VIB-4 (Minimize the Use of Impact Devices), VIB-5 (Drilling for Business Foundations), VIB-6 (Construction Vibration Limits), and VIB-7 (Construction Monitoring for Vibration) would be implemented during construction to reduce construction-related air quality, noise, and vibration impacts to the extent feasible. However, adverse effects related to noise and air quality emissions during construction would occur even with mitigation. Nonetheless, the indirect impacts associated with temporary construction-related noise, vibrations, and air quality would be temporary and would not permanently inhibit the use of parklands, recreational facilities, and community facilities.

Similarly, construction of proposed future projects could result in temporary indirect adverse effects related to noise, vibration and air quality, and require temporary restrictions in street parking, sidewalk detours, and traffic detours that may require mitigation measures to minimize potential effects. The proposed future projects would also be required to coordinate with local jurisdictions to minimize construction impacts to surrounding parklands and community facilities through project-specific construction management plans that would maintain access to parklands and community facilities to the extent feasible. Therefore, the Build Alternatives combined with proposed future projects would not result in significant effects associated with parklands and community facility during construction.

6.4.17 Economic and Fiscal Impacts

Construction would have beneficial economic and fiscal impacts related to direct and indirect effects from construction spending. Construction effects on business and residences near the construction area would be temporary. The Build Alternatives would implement Mitigation Measures COM-1 (Construction Outreach Plan) and TRA-23 (Loss of Parking [Construction]) so that access to businesses are maintained and no adverse effects would occur. Similarly, projected future projects would also bring beneficial economic and fiscal effects to the city in which the related project is located. In addition, it is anticipated that the projects would prepare a construction plan and mitigation measures as necessary to reduce potential temporary effects on businesses and residences. Therefore, the Build Alternatives when combined with projected future projects would result in a beneficial cumulative economic and fiscal effects during construction.

6.4.18 Safety and Security

Adverse safety and security impacts are generally site-specific and localized. Project construction activities could temporarily affect the pedestrian and bicycle environment, motorist safety, emergency response services, and crime and terrorism activities. Temporary street closures may also result in impacts to emergency response services. The Build Alternatives would coordinate with police, medical, and fire services, develop construction staging plans, and comply with applicable regulations. The Build Alternatives would implement Mitigation Measures SAF-2 (School District Coordination), SAF-3 (Construction Site Measures), and elements of COM-1 (Construction Outreach Plan) to avoid adverse effects to pedestrian, bicyclist, or motorist safety. Similarly, projected future projects would be required to comply with all applicable regulations and implement mitigation measures and/or best management practices to reduce safety and security impacts. Therefore, the Build Alternatives when combined projected future projects would not result in significant cumulative safety and security effects during construction.

6.4.19 Environmental Justice

The Build Alternatives would not result in disproportionately high and adverse effects on minority and low-income populations. Therefore, the Build Alternatives combined with projected future projects would not result in significant cumulative impacts on EJ communities.

7 REFERENCES

- Council on Environmental Quality (CEQ). 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*
- Los Angeles County Metropolitan Transportation Authority (Metro). 2021a. *West Santa Ana Branch Transit Corridor Project Final Land Use Impact Analysis Report*.
- Los Angeles County Metropolitan Transportation Authority (Metro). 2021g. *West Santa Ana Branch Transit Corridor Project Construction Methods Report*.
- Los Angeles County Metropolitan Transportation Authority (Metro). 2021j. *West Santa Ana Branch Transit Corridor Project Final Noise and Vibration Impact Analysis Report*.
- Los Angeles County Metropolitan Transportation Authority (Metro). 2021t. *West Santa Ana Branch Transit Corridor Project Final Transportation Impact Analysis Report*.