



NORTH HOLLYWOOD → **TO PASADENA** Bus Rapid Transit Corridor Project

DRAFT ENVIRONMENTAL IMPACT REPORT

SCH No. 2019060110



Metro

Los Angeles County Metropolitan Transportation Authority

OCTOBER 2020

North Hollywood to Pasadena Bus Rapid Transit Corridor Project

Draft Environmental Impact Report

October 2020



In Association with:

Kimley-Horn
Terry A. Hayes Associates Inc.
Connetics Transportation Group
GPA Consulting
Paleo Solutions, Inc.

Impact Sciences, Inc.
PARIKH Consultants, Inc.
Resource Systems Group
The Robert Group
Translink Consulting, LLC

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
ES.1 Purpose of this Draft Environmental Impact Report	ES-1
ES.2 Environmental Review Process.....	ES-3
ES.3 Project Objectives	ES-4
ES.4 Project History	ES-5
ES.5 Proposed Project.....	ES-6
ES.6 Lane Configurations and Treatments	ES-11
ES.7 Transit Signal Priority	ES-19
ES.8 Enhanced Stations	ES-20
ES.9 Description of Construction	ES-22
ES.10 Description of Operations.....	ES-22
ES.11 Ridership	ES-23
ES.12 Project Cost and Funding.....	ES-23
ES.13 Areas of Controversy and Issues to be Resolved	ES-24
ES.14 Comparison of the Proposed Project and Route Options	ES-25
ES.15 Significant and Unavoidable Impacts	ES-29
ES.16 Summary of Environmental Impacts and Mitigation Measures	ES-29
ES.17 Comparison of Alternatives	ES-45
1. INTRODUCTION.....	1-1
1.1 Purpose of this Draft Environmental Impact Report	1-1
1.2 Environmental Review Process.....	1-2
1.3 EIR Organization.....	1-4
2. PROJECT DESCRIPTION.....	2-1
2.1 Location and Surrounding Uses	2-1
2.2 Project History	2-3
2.3 Project Description	2-5
2.4 Station Locations and Characteristics	2-18
2.5 Lane Configurations and Treatments	2-19
2.6 Operations.....	2-29
2.7 Vehicles.....	2-29
2.8 Maintenance and Storage	2-31
2.9 Construction	2-33
2.10 Permits and Approvals	2-34
2.11 Cost Estimates	2-35
2.12 Implementation Schedule.....	2-36

3. ENVIRONMENTAL IMPACT ANALYSIS.....	3-1
3.1. Transportation	3.1-1
3.2 Aesthetics.....	3.2-1
3.3 Air Quality.....	3.3-1
3.4 Biological Resources.....	3.4-1
3.5 Cultural Resources.....	3.5-1
3.6 Energy Resources.....	3.6-1
3.7 Geology and Soils	3.7-1
3.8 Greenhouse Gas Emissions.....	3.8-1
3.9 Noise	3.9-1
3.10. Tribal Cultural Resources.....	3.10-1
4. OTHER ENVIRONMENTAL CONSIDERATIONS.....	4-1
4.1 Effects Determined Not to Be Significant	4-1
4.2 Significant and Unavoidable Impacts	4-32
4.3 Growth-Inducing Impacts	4-32
4.4 Anticipated Permits and Approvals	4-33
5. CUMULATIVE IMPACTS	5-1
5.1 Methodology.....	5-1
5.2 Related Projects.....	5-3
5.3 Cumulative Impact Analysis	5-11
6. ALTERNATIVES TO THE PROJECT	6-1
6.1 Introduction	6-1
6.2 Project-Level Impacts.....	6-1
6.3 Project Objectives	6-6
6.4 Alternatives to the Proposed Project.....	6-6
6.5 Alternatives Analysis	6-8
6.6 Environmentally Superior Alternative	6-17
7. PUBLIC PARTICIPATION AND OUTREACH.....	7-1
7.1 Scoping Process	7-1
7.2 Public Participation Plan.....	7-2
7.3 Government and Other Agency Consultation.....	7-2
7.4 Tribal Coordination.....	7-3
7.5 Community Outreach	7-3
7.6 Public Scoping Meetings.....	7-4
7.7 Accommodations for Minority, Low-Income, and Persons with Disabilities.....	7-6
7.8 Summary of Scoping Comments.....	7-7
7.9 Post-Scoping Community Workshops.....	7-13
8. LEAD AGENCY AND LIST OF PREPARERS	8-1
8.1 Lead Agency	8-1
8.2 List of Preparers.....	8-1

9. ORGANIZATIONS AND PERSONS CONSULTED9-1

- 9.1 State and Federal Elected Office and Staff Briefings9-1
- 9.2 City of Los Angeles Elected Office and Staff Briefings.....9-1
- 9.3 City of Burbank Elected Office and Staff Briefings9-2
- 9.4 City of Glendale Elected Office and Staff Briefings9-2
- 9.5 City of Pasadena Elected Office and Staff Briefings9-2
- 9.6 Community Stakeholder Briefings9-3
- 9.7 Native American Consultation9-4

10. REFERENCES..... 10-1

LIST OF FIGURES

Figure ES-1 – Regional Context of the Study Corridor	ES-2
Figure ES-2 – Proposed Project with Route Options	ES-7
Figure ES-3 – North Hollywood – Vineland Avenue and Lankershim Boulevard Pre-Project	ES-13
Figure ES-4 – North Hollywood – Vineland Avenue and Lankershim Boulevard Post-Project	ES-13
Figure ES-5 – Burbank – Olive Avenue Pre-Project	ES-14
Figure ES-6 – Burbank – Olive Avenue Post-Project	ES-14
Figure ES-7 – Glendale – Glenoaks Boulevard Pre-Project	ES-15
Figure ES-8 – Glendale – Glenoaks Boulevard Post-Project	ES-15
Figure ES-9 – Glendale – Broadway and Colorado Street Pre-Project	ES-16
Figure ES-10 – Glendale – Broadway and Colorado Street Post-Project.....	ES-16
Figure ES-11 – Eagle Rock – Colorado Boulevard Pre-Project.....	ES-17
Figure ES-12 – Eagle Rock – Colorado Boulevard Post-Proposed Project (Side-Running Configuration)	ES-18
Figure ES-13 – Eagle Rock – Colorado Boulevard Post-Option F1 (Center-Running Configuration	ES-19
Figure 2-1 – Regional Context of the Study Corridor	2-2
Figure 2-2 – Proposed Project with Route Options.....	2-7
Figure 2-3 – Typical Center-Running Bus Lanes Configurations.....	2-26
Figure 2-4 – Typical Median-Running Bus Lanes Configurations.....	2-27
Figure 2-5 – Typical Side-Running Bus Lanes Configurations	2-28
Figure 2-6 – Typical Curb-Running Bus Lanes Configurations.....	2-30
Figure 2-7 – Typical Mixed-Flow Operation Cross Section.....	2-31
Figure 3.1-1 – Metro Bus and Rail Service Hierarchy.....	3.1-5
Figure 3.2-1 - Landscape Unit Overview	3.2-5
Figure 3.2-2 - Illustrative View of LU-1 Pre-Project.....	3.2-19
Figure 3.2-3 - Illustrative View of LU-1 Post-Project	3.2-19
Figure 3.2-4 - Illustrative View of LU-2 Pre-Project.....	3.2-20
Figure 3.2-5 - Illustrative View of LU-2 Post-Project	3.2-20

Figure 3.2-6 - Illustrative View of LU-3 Pre-Project.....3.2-21
Figure 3.2-7 - Illustrative View of LU-3 Post-Project3.2-21
Figure 3.2-8 - Illustrative View of LU-4 Pre-Project.....3.2-22
Figure 3.2-9 - Illustrative View of LU-4 Post-Project3.2-22
Figure 3.2-10 - Illustrative View of LU-5 Pre-Project.....3.2-23
Figure 3.2-11 - Illustrative View of LU-5 Post-Project3.2-24
Figure 3.2-12 - Illustrative View of LU-5, Post Center Running Configuration Option (F2)...3.2-25
Figure 3.5-1 – Representative Streetlight on Broadway, Glendale3.5-10
Figure 3.6-1 - California Energy Consumption by Source 20183.6-9
Figure 3.9-1 – FTA Noise Impact Criteria for Transit Projects3.9-10
Figure 5-1a – Cumulative Impact Study Area5-4
Figure 5-1b – Cumulative Impact Study Area5-5
Figure 5-1c – Cumulative Impact Study Area5-6

LIST OF TABLES

Table ES-1 – Route Segments	ES-8
Table ES-2 – Lane Configuration and Treatments	ES-9
Table ES 3 – Proposed/Optional Stations	ES-21
Table ES-4 – Comparison of Route Options.....	ES-26
Table ES-5 – Summary of Impacts	ES-30
Table ES-6 – Summary of Impact Statements.....	ES-33
Table ES-7 – Summary of Impacts and Mitigation Measures.....	ES-34
Table 2-1 – Route Segments	2-8
Table 2-2 – Station/Platform Locations.....	2-20
Table 2-3 – Proposed BRT Service Span.....	2-32
Table 2-4 – Proposed BRT Service Frequencies	2-32
Table 3.1-1 – 2042 Person Trips and Boardings Summary.....	3.1-16
Table 3.1-2 – Regional VMT	3.1-28
Table 3.3-1 – National Ambient Air Quality Standards	3.3-2
Table 3.3-2 – California Ambient Air Quality Standards	3.3-4
Table 3.3-3 – Attainment Status of the South Coast Air Basin	3.3-4
Table 3.3-4 – Pasadena – South Wilson Avenue Air Monitoring Station Ambient Pollutant Concentrations.....	3.3-10
Table 3.3-5 – Los Angeles – North Main Street Air Monitoring Station Ambient Pollutant Concentrations.....	3.3-10
Table 3.3-6 – Reseda Air Monitoring Station Ambient Pollutant Concentrations.....	3.3-11
Table 3.3-7 – SCAQMD Air Quality Significance Thresholds	3.3-13
Table 3.3-8 – SCAQMD LST Thresholds.....	3.3-13
Table 3.3-9 – Regional Vehicle Miles Traveled	3.3-16
Table 3.3-10 – Maximum Daily Construction Emissions.....	3.3-20
Table 3.3-11 – Maximum Daily Operational Emissions	3.3-21
Table 3.3-12 – Localized Construction Emissions per Site – Maximum Pounds per Day	3.3-23
Table 3.3-13 – Comparison of Intersection Total Approach Volumes	3.3-25
Table 3.4-1 – Vegetation Communities and Cover Classes	3.4-4

Table 3.4-2 – Special Status Species3.4-5

Table 3.5-1 – Designated, Previously Surveyed, and Potential Historical Resources
Identified Within the Historic Resources Study Area3.5-6

Table 3.6-1 – Metro Operations Energy Consumption3.6-12

Table 3.6-2 – Mobile Fuel Combustion Factors3.6-14

Table 3.6-3 – Project BRT Revenue Miles.....3.6-16

Table 3.6-4 – Regional On-Road Vehicle Miles Traveled.....3.6-16

Table 3.6-5 – Project Construction Energy Consumption3.6-18

Table 3.6-6 – Project Direct Operational Energy Consumption3.6-19

Table 3.6-7 – Regional Vehicle Miles Traveled and Fuels Consumption (Year 2017).....3.6-20

Table 3.6-8 – Proposed Project Total Energy Consumption (Year 2017).....3.6-21

Table 3.6-9 – Regional Vehicle Miles Traveled and Fuels Consumption (Year 2042).....3.6-22

Table 3.6-10 – Proposed Project Total Energy Consumption (Year 2042).....3.6-22

Table 3.8-1 – GHG Emissions in California3.8-8

Table 3.8-2 – GHG Emissions from Transportation Source in the SCAG Region3.8-9

Table 3.8-3 – GHG Emissions for the SCAG Region from Three Primary Sectors3.8-9

Table 3.8-4 – GHG Emissions from Metro Operations in 20193.8-10

Table 3.8-5 – Carbon Intensity Factors.....3.8-12

Table 3.8-6 – Regional Vehicle Miles Traveled3.8-14

Table 3.8-7 – Annual GHG Emissions3.8-15

Table 3.9-1 – FTA Land Use Categories and Metrics for Transit Noise Impact Criteria3.9-2

Table 3.9-2– FTA Levels of Impact.....3.9-3

Table 3.9-3 – Existing Ambient Noise Levels at Category 1: Sensitive Receptors3.9-7

Table 3.9-4 – Existing Ambient Noise Levels at Category 2: Sensitive Receptors3.9-7

Table 3.9-5 – Existing Ambient Noise Levels at Category 3: Sensitive Receptors3.9-8

Table 3.9-6 – FTA Construction Vibration Damage Criteria3.9-12

Table 3.9-7 – FTA Land Use Disruption Vibration Thresholds3.9-12

Table 3.9-8– Construction Noise Levels for Proposed Project3.9-15

Table 3.9-9– Predicted Noise Levels for Proposed Project, Category 1 (High Sensitivity)
Receivers3.9-20

Table 3.9-10– Predicted Noise Levels for Proposed Project, Category 2 (Residential)
Receivers3.9-21

Table 3.9-11– Predicted Noise Levels for Proposed Project, Category 3 (Institutional)
Receivers3.9-23

Table 3.9-12– Predicted Noise Levels for Route Options3.9-25

Table 3.9-13 – Construction Vibration Impacts3.9-29

Table 5-1 – Impact Summary for Cumulative Analysis5-2

Table 5-2 – Related Projects5-7

Table 6-1 – Comparison of Alternatives to the Proposed Project6-18

Table 7-1 - Pop-Up Events7-2

Table 7-2 - Agency Comments7-3

Table 7-3 - Government Agencies, Elected Officials, and Special Districts Represented at
Public Scoping Meetings.....7-5

Table 7-4 - Public Participation by Meeting7-6

Table 7-5 – Post-Scoping Community Workshops7-13

Table 7-6 – Virtual and Online Survey Results7-14

LIST OF APPENDICES

Appendix A	Alternatives Analysis
Appendix B	Transportation Impacts Technical Report
Appendix C	Aesthetics Report
Appendix D	Air Quality Technical Report
Appendix E	Archaeological and Tribal Cultural Resources Technical Report
Appendix F	Biological Resources Technical Report
Appendix G	Energy Resources Technical Report
Appendix H	Geology and Soils Technical Report
Appendix I	Greenhouse Gas Emissions Technical Report
Appendix J	Hazards and Hazardous Materials Technical Report
Appendix K	Historic Resources Technical Report
Appendix L	Land Use Technical Report
Appendix M	Mineral Resources Technical Report
Appendix N	Noise and Vibration Technical Report
Appendix O	Paleontological Resources Technical Report
Appendix P	Parklands and Other Recreational Technical Report
Appendix Q	Population and Housing Technical Report
Appendix R	Public Services Technical Report
Appendix S	Utility and Service Systems Technical Report
Appendix T	Water Resources and Hydrology Technical Report
Appendix U	Growth Inducing Impacts Technical Report
Appendix V	Public Scoping Summary Report
Appendix W	Workshop Summary
Appendix X	Operating and Maintenance Costs Report
Appendix Y	Capital Costs Report
Appendix Z	Concept Plans

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AQMP	Air Quality Management Plan
BGS	Below Ground Surface
BRT	Bus Rapid Transit
BSA	Biological Study Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards
California Register	California Register of Historical Resources
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CE	Commuter Express
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO Protocol	Carbon Monoxide Protocol
CO ₂	Carbon Dioxide

CPUC	California Public Utilities Commission
CWA	Clean Water Act
dBA	A-weighted Scale
DSP	Downtown Specific Plan
ECMP	Energy Conservation and Management Plan
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EMFAC2017	Emissions Factor Model
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GGE	Gasoline Gallon Equivalents
GGRP	Greenhouse Gas Reduction Plan
GHG	Greenhouse Gas
GWh	Gigawatt Hours
ISTEA	Intermodal Surface Transportation Efficiency Act
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
L _{dn}	Day-Night Average Noise Level
L _{eq}	Equivalent Noise Level
LEV	Low Emission Vehicle
LRT	Light Rail Transit
LST	Localized Significance Threshold
LU	Landscape Unit
MAP-21	Moving Ahead for Progress in the 21 st Century Act
MATES IV	Multiple Air Toxics Exposure Study IV
Metro	Los Angeles County Metropolitan Transportation Authority
MJ	Megajoules
MMTCO _{2e}	Million Metric Tons of Carbon Dioxide Equivalent
MPG	Miles Per Gallon

MPO	Metropolitan Planning Organization
MW	Megawatts
MWh	Megawatt-Hours
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO ₂	Nitrogen Dioxide
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
NRHD	National Register Historic District
NRHP	National Register of Historic Places
O ₃	Ozone
OHP	Office of Historic Preservation
O&M	Operations and Maintenance
OPR	Office of Planning and Research
Pb	Lead
PM ₁₀	Respirable Particulate Matter Ten Microns or Less in Diameter
PM _{2.5}	Fine Particulate Matter 2.5 Microns or Less in Diameter
PPM	Parts Per Million
PRC	Public Resources Code
PWP	Pasadena Water and Power
RFS	Renewable Fuels Standard
RNG	Renewable Natural Gas
ROC	Reactive Organic Compound
ROG	Reactive Organic Gas
RV	Representative Viewpoint
SAFE	Safe Affordable Fuel-Efficient
SB	Senate Bill

SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SFV	San Fernando Valley
SHMA	Seismic Hazards Mapping Act
SIP	State Implementation Plan
SLF	Sacred Lands File
SO ₂	Sulfur Dioxide
SoCalGas	Southern California Gas Company
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TEA-21	Transportation Equity Act for the 21 st Century
U.S.	United States
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Services
USGS	U.S. Geological Survey
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
VRM	Vehicle Revenue Mile
W	Watts
WEAP	Worker Environmental Awareness Protection
Wh	Watt-Hours
ZEB	Zero-Emission Buses
ZEV	Zero Emission Vehicle

ES. Executive Summary

This Executive Summary is intended to provide the reader with a concise summary of the Los Angeles County Metropolitan Transportation Authority (Metro) North Hollywood to Pasadena Bus Rapid Transit Corridor Project (BRT) (Proposed Project or Project) and its potential environmental effects. It contains the purpose of the Draft Environmental Impact Report (EIR), a summary of the environmental review process, the project history, project objectives, a description of the Proposed Project, a summary of environmental impacts and mitigation measures, areas of controversy/issues to be resolved, a comparison of the Proposed Project to alternatives, and a trade-off analysis comparing the Proposed Project and route options.

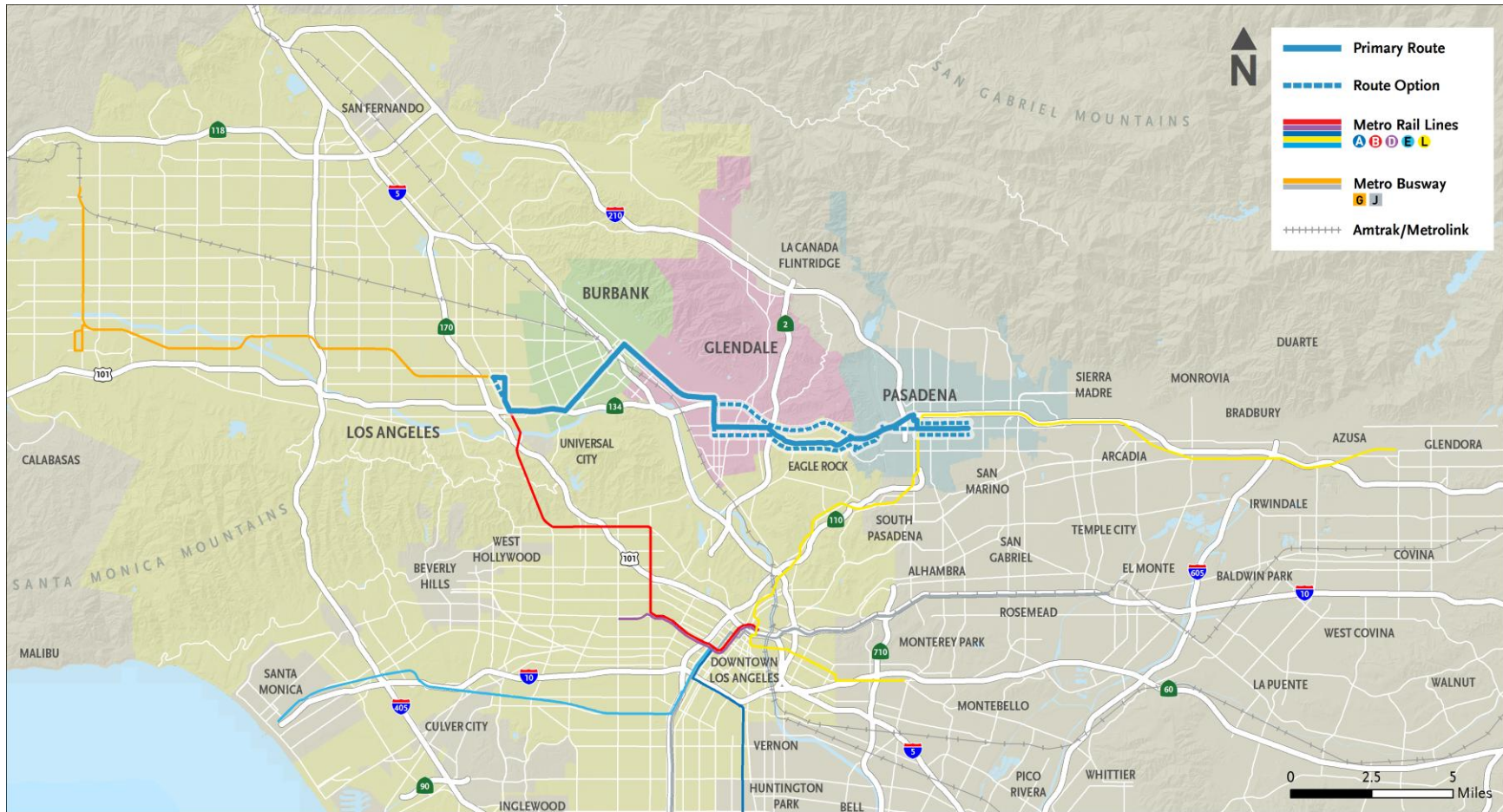
The Proposed Project would provide a BRT service connecting several cities and communities between the San Fernando and San Gabriel Valleys. Specifically, the Proposed Project would consist of a BRT service that runs from the North Hollywood B/G Line (Red/Orange) Station in the City of Los Angeles through the Cities of Burbank and Glendale and into the City of Pasadena ending at Pasadena City College. The Proposed Project would operate along a combination of local roadways and freeway sections with various configurations of mixed-flow and dedicated bus lanes depending on location. **Figure ES-1** shows the regional context of the Project Corridor.

The Proposed Project includes options for the BRT route and configurations. This was necessary due to public feedback during the completion of the Alternatives Analysis and Draft EIR scoping feedback. It was not possible to reach a consensus on one route preferred by Metro, the cities, stakeholders, and general public. Metro determined that all stakeholders and the agency decision-makers would best be informed about the Proposed Project by equally evaluating the potential environmental impacts of multiple routes.

ES.1 PURPOSE OF THIS DRAFT ENVIRONMENTAL IMPACT REPORT

Metro has prepared this Draft EIR to satisfy the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 15000, et seq.). The Draft EIR will inform public agency decision-makers and the public of the significant environmental effects of the Proposed Project, as well as possible ways to minimize those significant effects, and reasonable alternatives to the Proposed Project that would avoid or minimize those significant effects. The Draft EIR will also enable Metro to consider environmental consequences when deciding whether to approve the Proposed Project.

Figure ES-1 – Regional Context of the Study Corridor



SOURCE: Terry A. Hayes Associates Inc., 2020.

Metro serves as the lead agency for the Proposed Project and has the principal responsibility for approving the Project. Lead agencies are charged with the duty to avoid or substantially lessen significant environmental impacts of a project, where feasible. In determining whether to approve a project that would result in significant adverse environmental effects, a lead agency has an obligation to balance the economic, social, technological, legal, and other benefits of a project against its significant unavoidable impacts on the environment.

This Draft EIR is an informational document designed to identify the potentially significant impacts of the Proposed Project on the environment; to indicate the manner in which those significant impacts can be minimized; to identify reasonable and potentially feasible alternatives to the Proposed Project that would avoid or reduce the significant impacts; and to identify any significant unavoidable adverse impacts that cannot be mitigated.

ES.2 ENVIRONMENTAL REVIEW PROCESS

In May 2019, an Alternatives Analysis Report, including its findings and recommendations, was presented to the Metro Board of Directors. The Metro Board directed staff to initiate a Draft EIR. In compliance with the CEQA Guidelines Section 15082, a Notice of Preparation (NOP) was prepared and distributed on June 14, 2019, to the State Clearinghouse and June 17, 2019, to various other public agencies and the general public for a 45-day review and comment period. During the initial 45-day review period, Metro extended the scoping period for an additional 15 days – officially ending the scoping period on August 15, 2019. Five scoping meetings were held in July 2019 to facilitate public review and comment on the Proposed Project and the Draft EIR. Metro received a total of 2,584 comments during the public scoping period. Generally, comments received were a mix of both supportive and opposed sentiments toward the Proposed Project.

After the public review and comment period, written responses to all written comments and oral testimony pertaining to environmental issues received during the comment period will be prepared as part of the Final EIR. As required by CEQA, responses to comments submitted by commenting agencies will be distributed to the agencies for review prior to consideration of the Final EIR by Metro's Board.

Upon completion of the Final EIR and other required documentation, the Metro Board may adopt the findings relative to the Proposed Project's environmental effects after implementation of mitigation measures and statement of overriding considerations, certify the Final EIR, and approve the Proposed Project.

Opportunities for the public to provide comments and participate in virtual public hearings are indicated on the following page.

Public Hearings	
<p>Metro will conduct two virtual public hearing to take testimony on the Draft EIR during the public review and comment period. Public hearings will not be in person to promote community safety related to Coronavirus 2019/2020.</p> <p>The presentation may be viewed during the public review period at: https://www.metro.net/projects/noho-pasadena-corridor/</p>	
<p><u>Virtual public hearings will take place during the following dates and times:</u></p>	
<p>Date: Thursday, November 12, 2020</p> <p>Time: 6:00 p.m. – 8:00 p.m.</p> <p>Online link: https://zoom.us/j/93362737314</p> <p>Telephone: (877) 853-5247 (Toll Free) (888) 788 0099 (Toll Free) (833) 548 0276 (Toll Free) (833) 548 0282 (Toll Free)</p> <p>Webinar ID: 933 6273 7314</p>	<p>Date: Saturday, November 14, 2020</p> <p>Time: 11:00 a.m. – 1:00 p.m.</p> <p>Online link: https://zoom.us/j/93255094044</p> <p>Telephone: (833) 548-0276 (Toll Free) (833) 548-0282 (Toll Free) (877) 853-5247 (Toll Free) (888) 788-0099 (Toll Free)</p> <p>Webinar ID: 932 5509 4044</p>
Public Comments	
<p>The public review and comment period for this Draft EIR is from October 26, 2020 to December 10, 2020. During this period, public agencies, organizations, and individuals may submit written comments concerning the adequacy of the Draft EIR to:</p> <p style="text-align: center;">Scott Hartwell, Project Manager Los Angeles County Metropolitan Transportation Authority One Gateway Plaza, Mail Stop: 99-22-6 Los Angeles, CA 90012 Email: nohopasbrt@metro.net</p> <p>You may also call the North Hollywood Pasadena BRT Corridor Project hotline (213) 418-3228 and leave a message.</p>	

ES.3 PROJECT OBJECTIVES

The Proposed Project would provide improved and reliable transit service to meet the mobility needs of residents, employees, and visitors who travel within the corridor. In addition to advancing the goals of Metro’s Vision 2028 Strategic Plan, objectives of the Proposed Project include:

- Advance a premium transit service that is more competitive with auto travel
- Improve accessibility for disadvantaged communities
- Improve transit access to major activity and employment centers
- Enhance connectivity to Metro and other regional transit services
- Provide improved passenger comfort and convenience
- Support community plans and transit-oriented community goals

ES.4 PROJECT HISTORY

The North Hollywood to Pasadena BRT Corridor was identified by Metro's 2013 Countywide Bus Rapid Transit and Street Design Improvement Study as one of the region's most heavily traveled corridors without a premium bus service. This led to the North Hollywood to Pasadena BRT Corridor Technical Study, completed in March 2017, which explored the feasibility and performance of implementing BRT, including dedicated bus lanes, enhanced stations, all-door boarding, and transit signal priority. The BRT Corridor Technical Study identified two initial BRT concepts (Primary Street and Primary Freeway), including multiple route options, as the most promising alternatives to address the transportation challenges within this corridor.

The North Hollywood to Pasadena BRT Corridor Planning and Environmental Study was initiated in August 2018 to further study BRT concepts. Metro launched an extensive public outreach effort to provide project updates and to solicit feedback on the two initial BRT concepts identified in the BRT Corridor Technical Study. This outreach effort included five community meetings in addition to approximately 40 individual briefings with the affected cities' elected officials and other community, business, and neighborhood groups. To broaden the outreach efforts to reach historically underserved communities, the Metro outreach team attended neighborhood events such as street fairs, farmers markets, and music festivals, and shared project information at the North Hollywood Metro B/G Line (Red/Orange) Station.

Field reviews were conducted to evaluate potential routing and station opportunities and constraints, as well as land uses. Concurrently, a comprehensive database of street cross sections, existing transit service characteristics, and other data was assembled and evaluated to inform the screening and evaluation of alternatives in the North Hollywood to Pasadena Alternatives Analysis Report. The results of the initial screening analysis were synthesized into three distinctive refined routes to further study — street-running, freeway-running, and hybrid street/freeway-running. Each of these three routes extended from the Metro B/G Line (Red/Orange) terminus on Lankershim Boulevard and terminated at the Pasadena City College near Colorado Boulevard at Hill Avenue in Pasadena. It was determined that the street-running route best met the Project's Objectives and would achieve the highest number of overall benefits, including ridership potential, connectivity, transit-orientated community opportunities, equity, and environmental benefits. Promising route segments from the other two screened routes were also recommended to be carried forward, resulting in a refined street-running route with options.

The Alternatives Analysis Report describes routes that were eliminated from consideration. Combined with the feedback received from the various communities, several of the initial routing options were eliminated from further consideration — three from the Primary Street Concept and two from the Primary Freeway Concept. Routes that were eliminated from consideration included, Chandler Boulevard (North Hollywood – Burbank), Magnolia Boulevard (North Hollywood – Burbank), Brand Boulevard (Glendale), Burbank Boulevard – Hollywood Way – Hollywood Burbank Airport – Interstate 5, and Fair Oaks Avenue/Raymond Avenue Couplet (Pasadena).

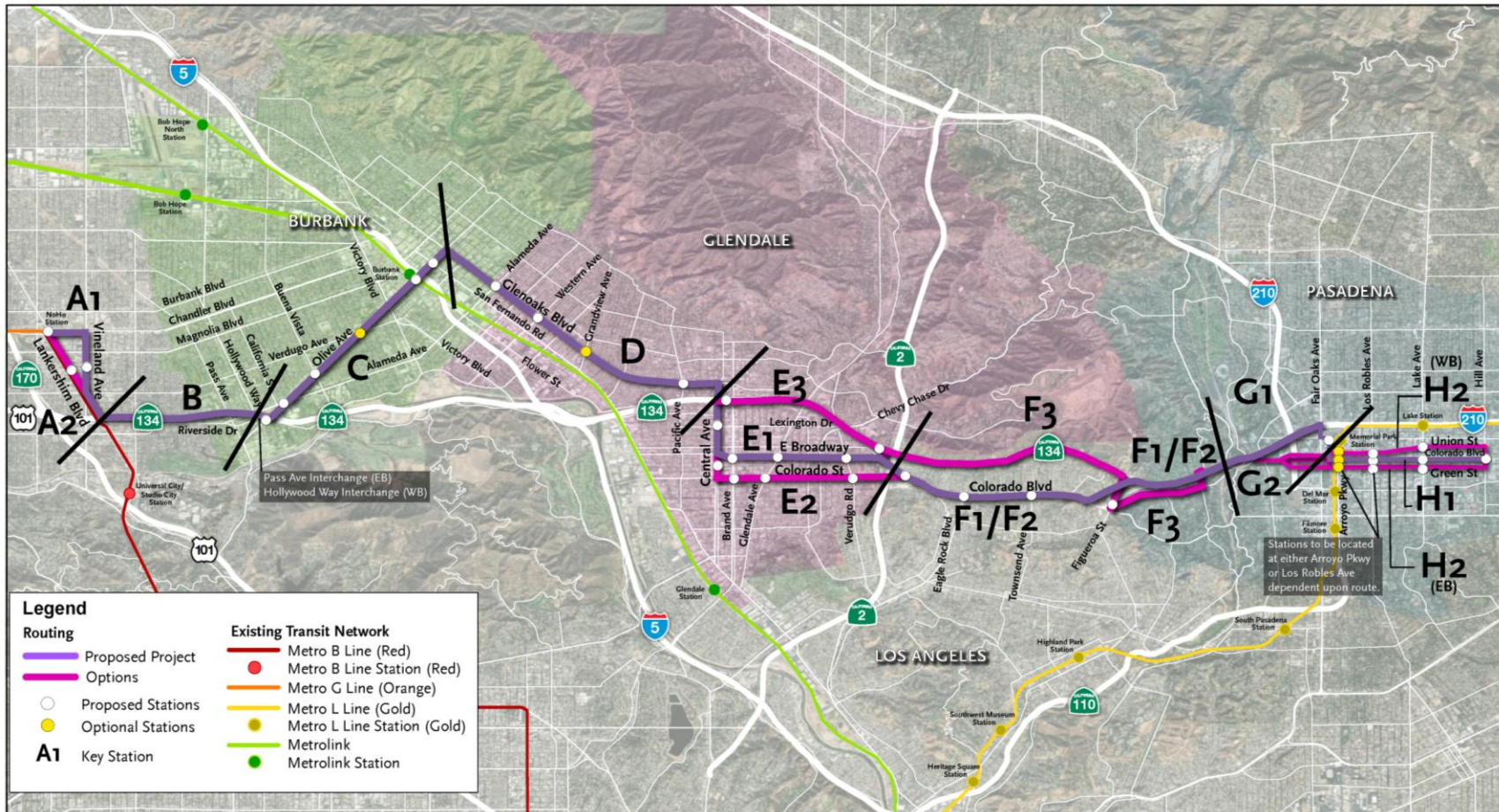
ES.5 PROPOSED PROJECT

The Proposed Project extends approximately 18 miles from the North Hollywood Metro B/G Line (Red/Orange) Station on the west to Pasadena City College on the east. The BRT corridor generally parallels the Ventura Freeway (State Route 134) between the San Fernando and San Gabriel Valleys and traverses the communities of North Hollywood and Eagle Rock in the City of Los Angeles as well as the Cities of Burbank, Glendale, and Pasadena. Potential connections with existing high-capacity transit services include the Metro B Line (Red) and G Line (Orange) in North Hollywood, the Metrolink Antelope Valley and Ventura Lines in Burbank, and the Metro L Line (Gold) in Pasadena. The Project Area includes several dense residential areas as well as many cultural, entertainment, shopping and employment centers, including the North Hollywood Arts District, Burbank Media District, Downtown Burbank, Downtown Glendale, Eagle Rock, Old Pasadena and Pasadena City College.

The Proposed Project would generally include dedicated bus lanes where there is adequate existing street width, while operating in mixed traffic within the City of Pasadena. BRT service would operate in various configurations depending upon the characteristics of the roadways. Route options including in one segment, bus lane configuration options, are evaluated in the EIR in response to input received during completion of the Alternatives Analysis and EIR scoping period: It was not possible to reach a consensus on one route preferred by Metro, the cities, stakeholders, and general public. Metro determined that Metro decision-makers and all stakeholders would best be informed about the Proposed Project by equally evaluating the potential environmental impacts of multiple routes.

Figure ES-2 shows the Proposed Project and route options. **Table ES-1** provides the bus lane configurations for each route segment of the Proposed Project and route options.

Figure ES-2 – Proposed Project with Route Options



SOURCE: Terry A. Hayes Associates Inc., 2020.

Table ES-1 – Route Segments

Key	Segment	From	To	BRT Lane Configuration	Stations
A1 (Project)	Lankershim Blvd.	N. Chandler Blvd.	Chandler Blvd.	Mixed-Flow	<ul style="list-style-type: none"> Western Terminus at North Hollywood Metro Station with connection to Metro B Line (Red) and Metro G Line (Orange)
	Chandler Blvd.	Lankershim Blvd.	Vineland Ave.	Side-Running ¹ Mixed-Flow ²	
	Vineland Ave.	Chandler Blvd.	Lankershim Blvd.	Center-Running	<ul style="list-style-type: none"> Hesby St.
	Lankershim Blvd.	Vineland Ave.	SR-134 Interchange	Center-Running Mixed-Flow ³	
A2 (Option)	Lankershim Blvd.	N. Chandler Blvd.	SR-134 Interchange	Side-Running Curb-Running ⁴	<ul style="list-style-type: none"> Hesby St.
B (Project)	SR-134 Freeway	Lankershim Blvd.	Pass Ave. (EB) Hollywood Wy. (WB)	Mixed-Flow	
C (Project)	Pass Ave. – Riverside Dr. (EB) Hollywood Wy. – Alameda Ave. (WB)	SR-134 Freeway	Olive Ave.	Mixed-Flow ⁵	
	Olive Ave.	Hollywood Wy. (WB) Riverside Dr. (EB)	Glenoaks Blvd.	Curb-Running	<ul style="list-style-type: none"> Riverside Dr. Alameda Ave. Buena Vista St. Verdugo Ave. (optional station) Olive Avenue bridge over Front St. and Burbank-Downtown Metrolink Station San Fernando Blvd.
D (Project)	Glenoaks Blvd.	Olive Ave.	Central Ave.	Curb-Running Median-Running ⁶	<ul style="list-style-type: none"> Alameda Ave. Western Ave. Grandview Ave. (optional station) Pacific Ave.

Key	Segment	From	To	BRT Lane Configuration	Stations
E1 (Project)	Central Ave.	Glenoaks Blvd.	Broadway	Mixed Flow Side-Running ⁷	<ul style="list-style-type: none"> Lexington Dr.
	Broadway	Central Ave.	Colorado Blvd.	Side-Running	<ul style="list-style-type: none"> Brand Blvd. Glendale Ave. Verdugo Rd.
E2 (Option)	Central Ave.	Glenoaks Blvd.	Colorado St.	Mixed-Flow Side-Running ⁷	<ul style="list-style-type: none"> Lexington Dr. Americana Wy.
	Colorado St. – Colorado Blvd.	Central Ave.	Broadway	Side-Running	<ul style="list-style-type: none"> Brand Blvd. Glendale Ave. Verdugo Rd.
E3 (Option)	Central Ave.	Glenoaks Blvd.	Goode Ave. (WB) Sanchez Dr. (EB)	Mixed-Flow	
	Goode Ave. (WB) Sanchez Dr. (EB)	Central Ave.	Brand Blvd.	Mixed-Flow	<ul style="list-style-type: none"> Brand Blvd.
	SR-134 ⁸	Brand Blvd.	Harvey Dr.	Mixed-Flow	<ul style="list-style-type: none"> Harvey Dr.
F1 (Option)	Colorado Blvd.	Broadway	Linda Rosa Ave. (SR-134 Interchange)	Side-Running Center Running ⁹	<ul style="list-style-type: none"> Eagle Rock Plaza Eagle Rock Blvd. Townsend Ave.
F2 (Project)	Colorado Blvd.	Broadway	Linda Rosa Ave. (SR-134 Interchange)	Side-Running	<ul style="list-style-type: none"> Eagle Rock Plaza Eagle Rock Blvd. Townsend Ave.
F3 (Option)	SR-134	Harvey Dr.	Figueroa St.	Mixed-Flow	
	Figueroa St.	SR-134	Colorado Blvd.	Mixed-Flow	<ul style="list-style-type: none"> Colorado Blvd.
	Colorado Blvd.	Figueroa St.	SR-134 via N. San Rafael Ave. Interchange	Mixed-Flow	
G1 (Project)	SR-134	Colorado Blvd.	Fair Oaks Ave. Interchange	Mixed-Flow	
	Fair Oaks Ave.	SR-134	Walnut St.	Mixed-Flow	
	Walnut St.	Fair Oaks Ave.	Raymond Ave.	Mixed-Flow	
	Raymond Ave.	Walnut St.	Colorado Blvd. or Union St./Green St.	Mixed-Flow	<ul style="list-style-type: none"> Holly St. - Metro L Line (Gold)

Key	Segment	From	To	BRT Lane Configuration	Stations
G2 (Option)	SR-134	Colorado Blvd.	Colorado Blvd. Interchange	Mixed-Flow	
	Colorado Blvd. or Union St./Green St.	Colorado Blvd. Interchange ¹⁰	Raymond Ave.	Mixed-Flow	<ul style="list-style-type: none"> • Arroyo Pkwy. Metro L Line (Gold)
H1 (Project)	Colorado Blvd.	Raymond Ave.	Hill Ave.	Mixed-Flow	<ul style="list-style-type: none"> • Los Robles Ave.¹¹ • Lake Ave. • Eastern Terminus at Hill Ave. near Pasadena City College
H2 (Option)	Union St. (WB) Green St. (EB)	Raymond Ave. ¹²	Hill Ave.	Mixed-Flow	<ul style="list-style-type: none"> • Los Robles Ave.¹³ • Lake Ave. • Eastern Terminus at Hill Ave. near Pasadena City College

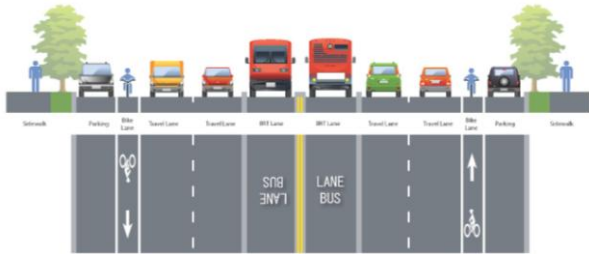
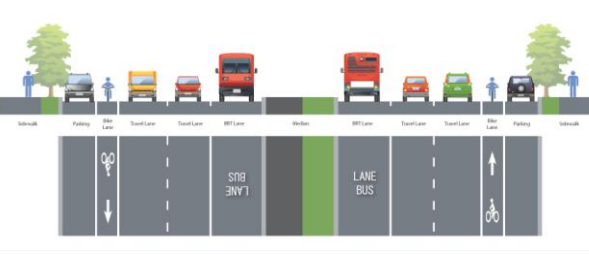
NOTES:

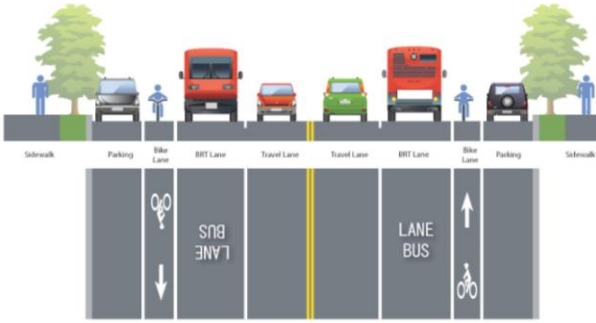
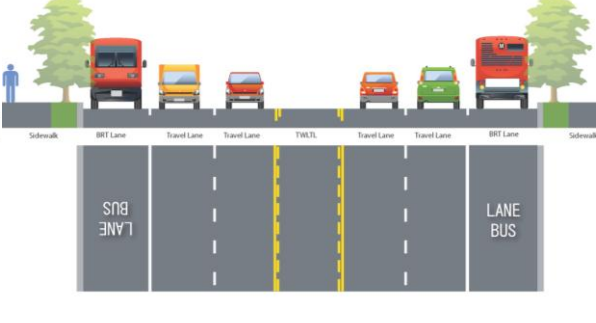
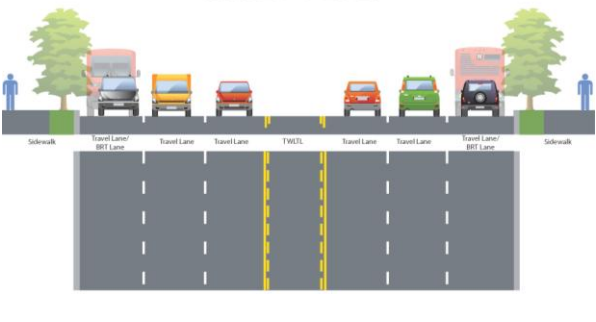
1. Eastbound side-running BRT lane between Fair Ave. and Vineland Ave.
2. Westbound mixed-flow BRT operations between Vineland Ave. and Lankershim Blvd.
3. Southbound mixed-flow BRT operations south of Kling St. and northbound mixed-flow BRT operations south of Hortense St.
4. Side-running BRT lanes transition to curb-running BRT lanes to the south of Huston St.
5. The eastbound BRT on Riverside Dr. transitions from mixed-flow to a curb-running BRT lane to the east of Kenwood Ave.
6. Curb-running BRT lanes transition to median-running BRT lanes at Providencia Ave.
7. Transitions from mixed-flow operations to side-running BRT to the south of Sanchez Dr.
8. Route continues via Broadway to Colorado Blvd./Broadway intersection (Project Route F2 and Route Option F1) or via SR-134 (Route Option F3).
9. Side-running BRT lanes transition to center-running BRT lanes between Ellenwood Dr. and El Rio Ave.
10. Route option is a couplet that would leave/join Colorado Blvd. via St. John Ave.
11. Los Robles Ave. station would not be included if paired with Route Option G2.
12. Route would transition to Colorado Blvd. at St. John Ave. if paired with Route Option G2.
13. Los Robles Ave. station would not be included if paired with Route Option G2.

ES.6 LANE CONFIGURATIONS AND TREATMENTS

The configuration of dedicated bus lanes could be curb-running, side-running alongside existing parking and/or bicycle facilities, and/or center/median-running in the center of the roadway or alongside existing roadway medians. The treatments for the Proposed Project and treatment options being assessed in the Draft EIR are shown in **Table ES-2**.

Table ES-2 – Lane Configuration and Treatments

Center-Running	Median-Running
<p>Center-running bus lanes typically provide two lanes (one for each direction of travel) in the center of the roadway. Center-running bus lanes may be physically separated from adjacent traffic by short raised-curbs to provide an exclusive guideway for BRT vehicles or can simply be delineated with pavement markings. In order to preclude roadway traffic from turning across the bus lanes, a physical barrier such as a short raised-median barrier between the two bus lanes may be provided. Cross-street and turning traffic is usually limited to signalized intersections; pedestrian crossings are signal-controlled as well, using traffic signals or hybrid pedestrian beacons. Left-turns across the busway are usually signal-controlled with turns made from left-turn pockets outboard from the bus lane.</p>	<p>In median-running segments, the BRT service operates within dedicated lanes adjacent to a median (i.e., the left-most lane in the direction of travel). Stations can be placed within the median (for buses with left-hand side doors). Alternatively, the median can be reconfigured in the station area to provide loading islands located outside of the bus lanes (for buses with standard right-hand side doors.) A median-running bus lane may also be physically separated from parallel roadway traffic in a defined guideway through the use of short raised-curbs or rumble strips. Similar to the center-running configuration, cross-street and turning traffic is usually limited to signalized intersections; pedestrian crossings are signal-controlled as well, using traffic signals or hybrid pedestrian beacons. Left-turns across the busway are usually signal-controlled with turns made from left-turn pockets outboard from the bus lane.</p>
	

Side-Running	Curb-Running
<p>Side-running bus lanes dedicate the right-most travel lane to BRT vehicles. Side-running bus lanes are separated from the curb by bicycle lanes, parking lanes, or both, and may allow for right-turns to be made from the curb lane at intersections reducing conflicts with buses. Otherwise, right-turns are allowed to be made from the bus lane. Because station placement is adjacent to the sidewalk, stations are typically developed with bulb outs or curb extensions, enhancing walkability and the pedestrian environment. Station siting and design treatment should minimize conflicts with cyclists, parked vehicles, commercial loading zones/vehicles, and right-turning traffic.</p>	<p>Curb-running bus lanes place the dedicated bus lane immediately adjacent to the curb, which eliminates parking or restricts parking to time periods when the bus lane is not operational. Like the side-running bus lanes configuration, a curb extension may be provided; however, operation along the curb may preclude development of a bulb out. This type of runningway can experience friction or interaction with cyclists, parked vehicles, commercial loading zones/vehicles, and right-turning traffic, which typically merges into the bus lane prior to turning.</p>
	
Mixed-Flow	
<p>Mixed-flow operation may be provided along the BRT route where buses need to transition from one busway configuration to another such as from center-running to side-running, where buses may need to weave into another lane to make a turn, or where traffic operational or geometric constraints make provision of a dedicated lane impractical. In mixed-flow sections, transit priority at intersections may still be provided to facilitate BRT operations.</p>	

Illustrations have been developed to visually show how the Proposed Project would be incorporated into the communities. These illustrations are shown in **Figure ES-3** through **Figure ES-13**.

Figure ES-3 – North Hollywood – Vineland Avenue and Lankershim Boulevard Pre-Project



SOURCE: Kilograph, 2020

Figure ES-4 – North Hollywood – Vineland Avenue and Lankershim Boulevard Post-Project



SOURCE: Kilograph, 2020

Figure ES-5 – Burbank – Olive Avenue Pre-Project



SOURCE: Kilograph, 2020

Figure ES-6 – Burbank – Olive Avenue Post-Project



SOURCE: Kilograph, 2020

Figure ES-7 – Glendale – Glenoaks Boulevard Pre-Project



SOURCE: Kilograph, 2020

Figure ES-8 – Glendale – Glenoaks Boulevard Post-Project



SOURCE: Kilograph, 2020

Figure ES-9 – Glendale – Broadway and Colorado Street Pre-Project



SOURCE: Kilograph, 2020

Figure ES-10 – Glendale – Broadway and Colorado Street Post-Project



SOURCE: Kilograph, 2020

Figure ES-11 – Eagle Rock – Colorado Boulevard Pre-Project



SOURCE: Kilograph, 2020

**Figure ES-12 – Eagle Rock – Colorado Boulevard Post-Proposed Project
(Side-Running Configuration)**



SOURCE: Kilograph, 2020

**Figure ES-13 – Eagle Rock – Colorado Boulevard Post-Option F1
(Center-Running Configuration)**



SOURCE: Kilograph, 2020

ES.7 TRANSIT SIGNAL PRIORITY

TSP expedites buses through signalized intersections and improves transit travel times. Transit priority is available areawide within the City of Los Angeles and is expected to be available in all jurisdictions served by the time the Proposed Project is in service. Basic functions are described below:

- **Early Green:** When a bus is approaching a red signal, conflicting phases may be terminated early to obtain the green indication for the bus.
- **Extended Green:** When a bus is approaching the end of a green signal cycle, the green may be extended to allow bus passage before the green phase terminates.

- **Transit Phase:** A dedicated bus-only phase is activated before or after the green for parallel traffic to allow the bus to proceed through the intersection. For example, a queue jump may be implemented in which the bus departs from a dedicated bus lane or a station ahead of other traffic, so the bus can weave across lanes or make a turn.

ES.8 ENHANCED STATIONS

Metro BRT stations are designed to create a comfortable and safe environment for passengers, fulfilling both a functional and aesthetic need. The stations are distinguishable from competing street elements, yet complementary with the surrounding environments. Station amenities associated with the Proposed Project would be designed using a kit of part approach, similar to Metro rail stations. Although the kit of parts approach is under development by Metro, station elements as described below would be utilized to establish a minimum requirement of baseline of amenities for platforms. At locations with higher ridership or where space allows, additional enhanced amenities would be provided to support the Proposed Project. Stations siting would allow for safe and accessible paths of travel for transit riders including those accessing stations on foot, bike and other rolling modes.

It is anticipated that the stations servicing the Proposed Project may include the following elements:

- Canopy and wind screen
- Seating (benches)
- Illumination, security video and/or emergency call button
- Real-time bus arrival information
- Bike racks
- Monument sign and map displays

Metro is considering near-level boarding which may be achieved by a combination of a raised curb along the boarding zone and/or ramps to facilitate loading and unloading. It is anticipated that BRT buses would support all door boarding with on-board fare collection transponders in lieu of deployment of ticket vending machines at stations.

The Proposed Project includes 35 possible station sites. This includes 21 potential stations along with two optional (future infill) stations along the Proposed Project route, plus an additional 12 potential station locations along route option segments, as indicated in **Table ES 3**. Of the 21 proposed stations, four would be along islands within the street, and the remaining 17 stations would be along the sidewalk, with curb extensions at some locations.

Table ES 3 – Proposed/Optional Stations

Jurisdiction	Proposed Project Stations	Route Option Stations
North Hollywood (City of Los Angeles)	North Hollywood Transit Center (Metro B/G Lines (Red/Orange) Station)	
	Vineland Ave./Hesby St.	Lankershim Blvd./Hesby St.
City of Burbank	Olive Ave./Riverside Dr.	
	Olive Ave./Alameda Ave.	
	Olive Ave./Buena Vista St.	
	Olive Ave./Verdugo Ave. (optional station)	
	Olive Ave./Front St. (on bridge at Burbank-Downtown Metrolink Station)	
	Olive Ave./San Fernando Blvd.	
City of Glendale	Glenoaks Blvd./Alameda Ave.	
	Glenoaks Blvd./Western Ave.	
	Glenoaks Blvd./Grandview Ave. (optional station)	
	Central Ave./Lexington Dr.	Goode Ave. (WB) & Sanchez Dr. (EB) west of Brand Blvd.
		Central Ave./Americana Way
	Broadway/Brand Blvd.	Colorado St./Brand Blvd.
	Broadway/Glendale Ave.	Colorado St./Glendale Ave.
	Broadway/Verdugo Rd.	Colorado St./Verdugo Rd.
	SR 134 EB off-ramp/WB on-ramp west of Harvey Dr.	
Eagle Rock (City of Los Angeles)	Colorado Blvd./Eagle Rock Plaza	
	Colorado Blvd./Eagle Rock Blvd.	
	Colorado Blvd./Townsend Ave.	Colorado Blvd./Figueroa St.
City of Pasadena	Raymond Ave./Holly St. ¹ (near Metro L Line (Gold) Station)	
	Colorado Blvd./Arroyo Pkwy. ²	Union St./Arroyo Pkwy. (WB) ² Green St./Arroyo Pkwy. (EB) ²
	Colorado Blvd./Los Robles Ave. ¹	Union St./Los Robles Ave. (WB) ¹ Green St./Los Robles Ave. (EB) ¹
	Colorado Blvd./Lake Ave.	Union St./Lake Ave. (WB) Green St./Lake Ave. (EB)
	Pasadena City College (Colorado Blvd./Hill Ave.)	Pasadena City College (Hill Ave./Colorado Blvd.)

¹With Fair Oaks Ave. interchange routing.

²With Colorado Blvd. interchange routing.

³This location could also accommodate boardings for the Proposed Project.

ES.9 DESCRIPTION OF CONSTRUCTION

Construction of the Proposed Project would likely include a combination of the following elements dependent upon the chosen BRT configuration for the segment: restriping, curb-and-gutter/sidewalk reconstruction, right-of-way (ROW) preparation, pavement improvements, station/loading platform construction, landscaping, and lighting and traffic signal modifications. Generally, construction of dedicated bus lanes consists of pavement improvements including restriping, whereas ground-disturbing activities occur with station construction and other support structures. Existing utilities would be protected or relocated. Due to the shallow profile of construction, substantial utility conflicts are not anticipated, and relocation efforts should be brief. Construction equipment anticipated to be used for the Proposed Project consists of asphalt milling machines, asphalt paving machines, large and small excavators/backhoes, loaders, bulldozers, dump trucks, compactors/rollers, and concrete trucks. Additional smaller equipment may also be used such as walk-behind compactors, compact excavators and tractors, and small hydraulic equipment.

The construction of the Proposed Project is expected to last approximately 24 to 30 months. Construction activities would shift along the corridor so that overall construction activities should be of relatively short duration within each segment. Construction activities would likely occur during daytime hours. Nighttime activities are not anticipated to be needed to construct the Proposed Project. However, at this stage of the planning process and without a construction contractor, it cannot be confirmed if nighttime construction would be necessary for specialized construction tasks. For these specialized construction tasks, it may be necessary to work during nighttime hours to minimize traffic disruptions. Traffic control and pedestrian control during construction would follow local jurisdiction guidelines and the Work Area Traffic Control Handbook. Published under the authority of the WATCH Committee of Public Works Standards, Inc., the Handbook is a leading source of information for traffic control in low-speed/short-duration work areas. It provides quick reference traffic control guidelines for work activities for contractors, cities, counties, utilities and other agencies responsible for such work. Typical roadway construction traffic control methods would be followed including the use of signage and barricades.

It is anticipated that publicly owned ROW or land in proximity to the Proposed Project's alignment would be available for staging areas. Because the Proposed Project is anticipated to be constructed in a linear segment-by-segment method, there would not be a need for large construction staging areas in proximity to the alignment.

ES.10 DESCRIPTION OF OPERATIONS

The Proposed Project would provide BRT service from 4:00 a.m. to 1:00 a.m. or 21 hours per day Sunday through Thursday, and longer service hours (4:00 a.m. to 3:00 a.m.) would be provided on Fridays and Saturdays. The proposed service span is consistent with the Metro B Line (Red). The BRT would operate with 10-minute frequency throughout the day on weekdays tapering to 15 to 20 minutes frequency during weekday evenings (after 7:00 p.m.), and with 15-minute frequency during the day on weekends tapering to 30 minutes on weekend evenings. The

BRT service would be provided on 40-foot zero-emission electric buses with the capacity to serve up to 75 passengers, including 35-50 seated passengers and 30-40 standees, and a maximum of 16 buses are anticipated to be in service along the route during peak operations. Charging infrastructure would be available at the North Hollywood Station and Pasadena City College termini as well as at the Metro El Monte (Division 9) facility, which is where it is expected that buses would be stored.¹ The Proposed Project has an anticipated opening date in 2024.

When operations commence in 2024, it is possible that the fleet would consist of compressed natural gas (CNG) buses until zero-emission electric buses become available. The employment of CNG buses would be temporary and would not represent long-term operational conditions. The Metro Board in 2017 unanimously adopted a motion endorsing a comprehensive plan to transition the agency to a 100 percent zero emission bus fleet by 2030.

ES.11 RIDERSHIP

The Proposed Project is forecast to attract 34,950 boardings in 2042. Transportation modeling was also completed for the route options. It was determined that the route options would attract less ridership, but the associated regional vehicle miles traveled would not significantly change compared to the Proposed Project. The difference in regional vehicle miles traveled was approximately 0.003 percent for all route options.

ES.12 PROJECT COST AND FUNDING

The Proposed Project is funded by Measure M and Senate Bill 1, which provide a total of \$267 million in funding.

Capital Costs

Capital costs for the Proposed Project were estimated based on the Concept Plans. The approach for developing the capital cost estimate used the Standard Cost Category format developed by the Federal Transit Administration, which captures both the “hard” infrastructure construction costs of a project and the “soft” costs like professional services, right-of-way acquisition, contingency, and inflation. An individual estimate was prepared for each route segment (and segment options) to capture and identify the costs associated with each segment, and to assist in the evaluation of the segment options. There are several project costs that are not attributable to an individual segment, therefore an estimate was prepared for “overall” project items, including the bus vehicles and spare parts allowance.

¹ Charging infrastructure is currently being designed for installation at North Hollywood Station for the Metro G Line (Orange) and additional bus service that accesses this station. Charging infrastructure could potentially be accommodated by displacing a number of surface parking spaces at Pasadena City College, with mast arms extending to the identified layover-loading zone along Hill Avenue. At the El Monte facility, Metro will be installing charging infrastructure in conjunction with the systemwide conversion to electric bus operations.

The results of the conceptual capital cost estimates for the Proposed Project and Route Options indicate a range of approximately \$253 million to \$371 million, including contingencies and escalation. The level of detail of the capital cost estimates corresponds with the current level of definition, engineering, and environmental analysis that has been completed for the Project. The level of estimating detail would increase as the project design and engineering advances.

Operations and Maintenance (O&M) Costs

An O&M cost model was developed to estimate the annual cost to operate, maintain and administer the Proposed Project. O&M costs are expressed as the annual total of employee wages and salaries, fringe benefits, contract services, materials and supplies, utilities and other day-to-day expenses incurred in the operation and maintenance of a transit system. O&M costs include costs directly related to the provision of transit service (e.g., bus operators and mechanics), and an allocation of administrative functions to each mode of service that is related to the provision of transit service (e.g., customer service, finance and accounting).

The BRT O&M cost model uses the following service supply characteristics as inputs for estimating annual O&M costs:

- Annual Revenue Bus-Hours
- Annual Revenue Bus-Miles
- Peak Buses
- BRT Station Platforms
- BRT Directional Lane Miles
- BRT Maintenance Facilities (Garages)

The estimated annual cost of operating and maintaining the Proposed Project's BRT service ranges from \$16.6 million to \$18.5 million.

ES.13 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Areas of Controversy

Known areas of controversy associated with the Draft EIR include:

- **Loss of travel lanes:** Travel lanes would be converted into BRT lanes at various locations along the 18-mile alignment including Glenoaks Boulevard, Central Avenue and Broadway in Glendale.
- **Bicycle lane changes:** Under the Proposed Project, a Class II bicycle lane (striped buffer separating bicycle lanes from vehicle lanes) in the Eagle Rock community of the City of Los Angeles would be converted to a multimodal shared bus/bicycle lane. This change would occur under Route Option F2 on Colorado Boulevard.

- **Medians:** Under the Proposed Project, Vineland Avenue would be reconstructed in the City of Los Angeles and the existing raised medians would be removed in order to accommodate new center-running bus lanes. Median modifications would also occur at intersections along Glenoaks Boulevard in the City of Glendale under the Proposed Project and along Colorado Boulevard in Eagle Rock under Route Option F1. During the scoping period, comments were submitted to Metro opposed to median removal.
- **Construction activities:** Controversial construction effects include business access, air pollution, and noise.
- **Parking:** Parking loss is not an issue addressed in the CEQA Guidelines and therefore not addressed in the Draft EIR. Metro acknowledges that parking loss affects businesses and residents in the corridor. The Project Description of the Draft EIR characterizes locations of potential parking loss. This information will be provided to Metro Board for consideration when considering approval of the Proposed Project.

Issues to be Resolved

Issues to be resolved associated with the Draft EIR include:

- **Maintenance Facility:** Metro has capacity for maintaining Proposed Project buses at multiple existing facilities. The specific facility has not been identified at this time, although the likely location is the existing Metro bus facility in El Monte.
- **Electric Buses:** Metro is committed to a fully electrified bus fleet by 2030. The specific implementation date for the Proposed Project has not been identified and natural gas may be used to power buses in the 2024 opening year.
- **Potential charging station at Pasadena City College:** Metro and Pasadena City College are discussing a charging station at the terminus by the campus. The environmental effects of the potential charging station are considered in this document.

ES.14 COMPARISON OF THE PROPOSED PROJECT AND ROUTE OPTIONS

A high-level analysis has been completed to compare the Proposed Project and the route options. **Table ES-4** shows various metrics, including mobility, transit orientated communities, cost, and transportation facilities. **Table ES-5** shows the potential environmental effects associated with the Proposed Project and the route options. This information would be considered by the Metro Board of Directors when determining if the Proposed Project will be approved for implementation. The metrics are described below:

Table ES-4 – Comparison of Route Options

District	Alt.	Benefits						Costs and Effects				
		Mobility			Transit Oriented Communities			Cost	Transportation Facilities			
		Segment Travel Time	Travel Time Reliability	Station Boardings	Transit Connectivity	First/ Last Mile	Economic Potential	Capital Cost	Traffic & Circulation	Parking	Bicycles	Pedestrians & Streetscape
North Hollywood	A1	x	✓	✓	✓	✓	✓	x	✓	x	✓	✓
	A2	✓	✓	✓	✓	✓	✓	✓	x	x	x	x
Glendale	E1	x	✓	✓	✓	✓	✓	x	x	✓	✓	✓
	E2	x	✓	✓	✓	✓	✓	x	x	✓	✓	✓
	E3	✓	x	x	x	x	x	✓	✓	✓	✓	✓
Eagle Rock	F1	✓	✓	✓	✓	✓	✓	x	x	x	✓	x
	F2	✓	✓	✓	✓	✓	✓	x	✓	✓	x	✓
	F3	✓	x	x	x	x	x	✓	✓	✓	✓	✓
Pasadena	G1	x	✓	✓	✓	✓	✓	x	✓	✓	✓	✓
	G2	✓	✓	x	x	✓	✓	✓	✓	✓	✓	✓
Pasadena	H1	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓
	H2	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓

Notes:

- ✓ - Best performing route option(s) for the segment
- x - Poorest performing route option(s) for the segment

SOURCE: Kimley-Horn, 2020.

Mobility Benefits

- Travel Time – The evaluation is based upon the 2042 projected AM peak period segment travel time. Travel time differences of 30 seconds or more were considered.
- Travel Time Reliability – Segments with dedicated bus lanes provide higher reliability. Freeway segments would have low reliability due to peak hour congestion resulting in high variability.
- Station Boardings – The evaluation is based upon the total projected boardings for all stations within a particular route segment.

Transit Oriented Communities Benefits

- Transit Connectivity – Reflects transit integration and opportunities to transfer to other services based upon stations included in the segment.
- First/Last Mile – The evaluation considers walk and bike access to stations within the segment.
- Economic Potential – Reflects the economic potential of stations within the segment considering development patterns, land values and real estate trends, and the potential of the BRT to catalyze community development.

Cost and Effects

- Capital Cost – Indicates route options with higher or lower capital cost.
- Traffic & Circulation – The evaluation considers potential increased congestion associated with conversion of general-purpose lanes to dedicated bus lanes as well as modifications to circulation patterns resulting from reconfiguration of roadways along the BRT route to accommodate bus lanes.
- Parking – Reflects the potential for potential loss of parking due to reconfiguration of the roadway along the BRT route to accommodate bus lanes.
- Bicycles – Indicates route options which may have a beneficial or negative effect on existing and planned bicycle facilities along the BRT route.
- Pedestrians & Streetscape – Reflects potential effects such as sidewalk narrowing to accommodate bus lanes as well as modifications to roadway medians and sidewalk areas which may result in the elimination of existing landscape.

Key observations regarding the indicated trade-offs in each of the five segments where route options are defined are as follows:

- North Hollywood – The proposed project route option A1 via Chandler Boulevard to Vineland Avenue to Lankershim Boulevard is slightly slower and more costly than route option A2 entirely via Lankershim Boulevard but, unlike route option A2, does not reduce the number of through lanes on Lankershim Boulevard north of Camarillo Street. The proposed project route option A1 retains all through lanes and also adds a

Class IV cycle track for bicycles along Vineland Avenue, so A2 was indicated as having poorer performance for bicycles. Route option A2 reduces travel lanes on Lankershim Boulevard north of Camarillo Street and would reduce sidewalk widths along Lankershim Boulevard south of Camarillo Street. There would be some loss of parking associated with either option.

- Glendale – The proposed project route option E1 via Central Avenue to Broadway would provide similar travel time benefits as route option E2 via Central Avenue to Colorado Street. No negative effects were identified for bicycles; however, the proposed project route option E1 would provide a dedicated bus lane along Broadway which would provide more protection for cyclists compared to the existing condition in which cyclists share the road along this route which is designated as a Class III facility in the Glendale bicycle plan. Contrasting either of these route options to route option E3 via Central Avenue connecting to the SR-134 freeway at Brand Boulevard and following the freeway to Harvey Drive, the E3 freeway option would have the fastest travel time and lowest construction cost, but would have relatively poor travel time reliability, low ridership, poor transit connectivity, and poor first/last mile station access.
- Eagle Rock – Route options F1 and F2 would both follow Colorado Boulevard through Eagle Rock, however the configuration for the proposed project, F2, would preserve the travel lanes along the roadway to provide two continuous through lanes along with a shared bus and bicycle lane, which would remove the existing Class II bicycle lane where present (it is discontinuous). Route option F2 would also retain all of the existing parking (with minor losses at stations) and would not conflict with the ATP Cycle 2 improvements under development by the City of Los Angeles. The alternative configuration in route option F1 would retain a narrowed buffered Class II bike lane as well as two continuous through lanes but would result in loss of about one half of the on-street parking as well as the raised landscaped median east of Eagle Rock Boulevard to accommodate side-running bus lanes from Broadway to Ellenwood Drive transitioning to center-running bus lanes from El Rio Avenue to Dahlia Drive (westbound) or Linda Rosa Avenue (eastbound). Left turns across the bus lane would be restricted to major intersections and various minor cross streets; however, turn pockets would be provided for left-turn movements improving safety. By contrast, route option F3, which would be routed via the SR-134 freeway exiting at the Figueroa Street interchange to serve a station at the Figueroa Street / Colorado Boulevard intersection, would have the fastest travel time and lowest construction cost, but would have poorer ridership, less travel time reliability, less transit connectivity and poorer first/last mile station access compared to either route option F1 or F2.
- Pasadena – The proposed project route option G1 via the Fair Oaks Avenue interchange to Walnut Avenue to Raymond Avenue would have a longer travel time compared to route option G2 via the Colorado Boulevard interchange and it would be more costly with an added station along Raymond Avenue at Holly Street adjacent to the Memorial Park L Line (Gold) station. However, because of this station, route option G1 would have higher ridership and transit connectivity compared to route option G2.

The proposed project route option H1 via Colorado Boulevard would have a similar travel time, but lower travel time reliability compared to the route option H2 routed via the Green Street / Union Street couplet; however, route option H1 via Colorado Boulevard would have higher ridership. There would be no other substantial differences.

Table ES-5 provides a summary of the environmental impacts associated with the Proposed Project and each route option. **Table ES-6** provides a summary of the impact statements associated with each route option. This table shows that the environmental impacts in North Hollywood for Route Options A1 and A2 are similar. In Glendale, Route Option E3 would be the least environmentally impactful route while Route Options E1 and E2 would have similar impacts. In Eagle Rock, Route Option F3 would be the least environmentally impactful route. Route Option F2 would be slightly less environmentally impactful than Route Option F1. In Pasadena, Route Options G1, G2, H1, and H2 would all have similar environmental impacts.

ES.15 SIGNIFICANT AND UNAVOIDABLE IMPACTS

No significant and unavoidable impacts have been identified in the Draft EIR.

ES.16 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This Draft EIR has been prepared by Metro to analyze the potential significant environmental impacts of the Proposed Project and to identify mitigation measures capable of avoiding or substantially reducing significant impacts.

Potential impacts of the proposed project have been divided into three categories: significant unavoidable impacts, significant impacts that can be mitigated to less-than-significant levels and impacts that are less than significant or non-existent.

The criteria for the determination of a significant impact in each environmental topic area are discussed in Chapter 3.0 Environmental Impact Analysis and Chapter 4, Other Environmental Considerations. **Table ES-7** provides a summary of the potential environmental impacts, recommended mitigation measures, and the level of significance after mitigation.

Table ES-5 – Summary of Impacts

Proposed Project/Alternative		Environmental Resource										
District	Options	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Energy Resources	Geology and Soils	GHG	Noise	Transportation	Tribal	
Proposed Project and Route Options	North Hollywood	A1 (Proposed Project)	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-6	LTSM CUL-2
		A2	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
	Glendale	E1 (Proposed Project)	LTSM CUL-1	LTS	LTSM BIO-1	LTSM CUL-1 CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-6	LTSM CUL-2
		E2	LTSM CUL-1	LTS	LTSM BIO-1	LTSM CUL-1 CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-6	LTSM CUL-2
		E3	NI	LTS	NI	NI	LTS	LTSM GEO-1	NI	LTS	LTSM TRA-1 TRA-2 TRA-3 TRA-6	NI

Proposed Project/Alternative		Environmental Resource										
District	Options	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Energy Resources	Geology and Soils	GHG	Noise	Transportation	Tribal	
Proposed Project and Route Options	Eagle Rock	F1	LTSM VIS-1 VIS-2	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-5 TRA-6	LTSM CUL-2
		F2 (Proposed Project)	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-6	LTSM CUL-2
		F3	LTS	LTS	NI	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTS	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
	Pasadena	G1 (Proposed Project)	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
		G2	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2

Proposed Project/Alternative		Environmental Resource									
District	Options	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Energy Resources	Geology and Soils	GHG	Noise	Transportation	Tribal
Pasadena	H1 (Proposed Project)	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
	H2	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
No Project Alternative		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Alternative 2		NI	LTS	LTS	LTS	LTS	NI	NI	LTS	LTS	NI

Notes: NI – No impact, LTS – Less-than-significant impact, LTSM – Less-than-significant impact with Mitigation
SOURCE: Terry A. Hayes Associates, Inc., 2020.

Table ES-6 – Summary of Impact Statements

District	Options	Impact Level			
		No Impact	Less-than-Significant Impact	Less-than-Significant Impact with Mitigation	Significant and Unavoidable Impact
North Hollywood	A1	1	3	6	0
	A2	1	3	6	0
Glendale	E1	1	2	7	0
	E2	1	2	7	0
	E3	5	3	2	0
Eagle Rock	F1	1	2	7	0
	F2	1	3	6	0
	F3	2	4	4	0
Pasadena	G1	1	3	6	0
	G2	1	3	6	0
Pasadena	H1	1	3	6	0
	H2	1	3	6	0

SOURCE: Terry A. Hayes Associates, Inc., 2020.

Table ES-7 – Summary of Impacts and Mitigation Measures

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
AESTHETICS		
<p>The Proposed Project and Route Option E2 would result in removal of historic streetlights considered important visual resources along Central Avenue and Broadway in Glendale, a potentially significant impact.</p>	<p>CUL-1: Project design related to potentially historic streetlights and station platforms located immediately adjacent (i.e., on or directly in front of) known or potential historical resources identified in the Historical Resources Project Area shall be reviewed by a qualified architectural historian (individual who meets the Secretary of the Interior’s Professional Qualification Standards in Appendix A of 36 Code of Federal Regulations Part 61) to determine consistency with the rehabilitation treatment under the Secretary of the Interior’s Standards for the Treatment of Historic Properties and confirm the Proposed Project will not cause a substantial adverse change in the significance of a historical resource. The results of this review shall be provided to Metro in a memorandum prepared by the qualified architectural historian conducting the review. This review shall be completed prior to the preparation of final construction documents.</p>	<p>Less Than Significant</p>
<p>Route Option F1 would replace the existing median with the proposed center-running bus lanes and associated station platforms resulting in the removal of an important visual resource to the Eagle Rock community in the City of Los Angeles, a potentially significant impact</p>	<p>VIS-1: Plant material removed from center medians and sidewalks shall be replaced within the existing street/curb right-of-way based on the following requirements:</p> <ul style="list-style-type: none"> • Plant one new tree and/or shrub for every street tree removed (1:1 tree replacement ratio). Replacement tree species should be the same as that removed or to the satisfaction of the affected jurisdiction’s Bureau of Street Services and located within the street right-of-way along station approaches or within the sidewalk. • Plant groundcover using similar replacement species or to the satisfaction of the affected jurisdiction’s Bureau of Street Services. • A Landscape Replacement Study shall be prepared by a licensed landscape architect during final design. The study shall identify the location, species, and landscape design elements for all replacement landscaping associated with the Proposed Project and subject to local jurisdiction review. <p>VIS-2: Replacement median, barriers, or other divider shall be enhanced with patterns or decorative features in accordance with the local jurisdiction’s streetscape design guidelines and approved by local jurisdiction Street Services bureau or similar entity.</p>	<p>Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
BIOLOGICAL RESOURCES		
<p>Construction of the Proposed Project or Route Options A2, E2, F1, G2, and H2 would result in the removal of street trees used by migratory birds and bats for nesting, a potentially significant impact.</p>	<p>BIO-1: To mitigate for construction impacts on special-status bird species, the construction contractor shall implement the following measures:</p> <ul style="list-style-type: none"> • Construction during bird nesting season (typically February 1 to September 1) would be avoided to the extent feasible. Feasible means capable of being accomplished in a successful manner taking into consideration costs and schedule. • If construction is required during the nesting season, vegetation removal would be conducted outside of the nesting season (typically February 1 to September 1), wherever feasible. Feasible means capable of being accomplished in a successful manner taking into consideration costs and schedule. • If construction, trimming, or removal of vegetation and trees are scheduled to begin during nesting bird season, nesting bird surveys would be completed by a qualified biologist no more than 72 hours prior to construction, or as determined by the qualified biologist, to determine if nesting birds or active nests are present within the construction area. Surveys would be conducted within 150 feet for songbirds and 500 feet for raptors, or as otherwise determined by the qualified biologist. Surveys would be repeated if construction, trimming, or removal of vegetation and trees are suspended for five days or more. • If nesting birds/raptors are found within 500 feet of the construction area, appropriate buffers consisting of orange flagging/fencing or similar (typically 150 feet for songbirds, and 500 feet for raptors, or as directed by a qualified biologist) would be installed and maintained until nesting activity has ended, as determined in coordination with the qualified biologist and regulatory agencies, as appropriate. <p>To mitigate construction impacts on special-status bat species, the construction contractor shall implement the following measures:</p> <ul style="list-style-type: none"> • Where feasible, tree removal would be conducted in October, which is outside of the maternal and non-active seasons for bats. • During the summer months (June to August) in the year prior to construction, a thorough bat roosting habitat assessment would be conducted of all trees and structures within 100 feet of the construction 	<p style="text-align: center;">Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
	<p>area. Visual and acoustic surveys would be conducted for at least two nights during appropriate weather conditions to assess the presence of roosting bats. If presence is detected, a count and species analysis would be completed to help assess the type of colony and usage.</p> <ul style="list-style-type: none"> • No fewer than 30 days prior to construction, and during the non-breeding and active season (typically October), bats would be safely evicted from any roosts to be directly impacted by the Project under the direction of a qualified biologist. Once bats have been safely evicted, exclusionary devices designed by the qualified biologist would be installed to prevent bats from returning and roosting in these areas prior to removal. Roosts not directly impacted by the Project would be left undisturbed. • No fewer than two weeks prior to construction, all excluded areas would be surveyed to determine whether exclusion measures were successful and to identify any outstanding concerns. Exclusionary measures would be monitored throughout construction to ensure they are functioning correctly and would be removed following construction. • If the presence or absence of bats cannot be confirmed in potential roosting habitat, a qualified biologist would be onsite during removal or disturbance of this area. If the biologist determines that bats are being disturbed during this work, work would be suspended until bats have left the vicinity on their own or can be safely excluded under direction of the biologist. Work would resume only once all bats have left the site and/or approval is given by a qualified biologist. • In the event that a maternal colony of bats is found, no work would be conducted within 100 feet of the maternal roosting site until the maternal season is finished or the bats have left the site, or as otherwise directed by a qualified biologist. The site would be designated as a sensitive area and protected as such until the bats have left the site. No activities would be authorized adjacent to the roosting site. Combustion equipment, such as generators, pumps, and vehicles, would not to be parked nor operated under or adjacent to the roosting site. Construction personnel would not be authorized to enter areas beneath the colony, especially during the evening exodus (typically between 15 minutes prior to sunset and one hour following sunset). 	

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
CULTURAL RESOURCES		
<p>The Proposed Project and Route Option E2 would result in removal of historic streetlights in along Central Avenue and Broadway in Glendale, a potentially significant impact.</p>	<p>CUL-1: A qualified architectural historian (individual who meets the Secretary of the Interior’s Professional Qualification Standards in Appendix A of 36 Code of Federal Regulations Part 61) shall review all project design documents related to historic streetlights and station platforms located immediately adjacent (i.e., on or directly in front of) known or potential historical resources identified in the Historical Resources Project Area to determine consistency with the rehabilitation treatment under the Secretary of the Interior’s Standards for the Treatment of Historic Properties to confirm the Proposed Project will not cause a substantial adverse change in the significance of a historical resource. The results of this review shall be provided to Metro in a memorandum prepared by the qualified architectural historian conducting the review, and Metro shall incorporate any design recommendations that would address potential substantial adverse changes in the significance of a historical resource into project design documents prior to the preparation of final construction documents.</p>	<p>Less Than Significant</p>
<p>Ground disturbing activities during construction of the Proposed Project or Route Options A2, E2, F1, G2, and H2 has the potential to encounter previously undiscovered and undocumented archaeological resources, a potentially significant impact.</p>	<p>CUL-2: A Qualified Archeologist, meeting the Secretary of the Interior’s Standards for professional archaeology, shall be retained for the Project and will remain on call during all ground-disturbing activities. The Qualified Archaeologist shall ensure that Worker Environmental Awareness Protection (WEAP) training, presented by a Qualified Archaeologist and Native American representative, is provided to all construction and managerial personnel involved with the Proposed Project. The WEAP training shall provide an overview of cultural (prehistoric and historic) and tribal cultural resources and outline regulatory requirements for the protection of cultural resources. The WEAP shall also cover the proper procedures in the event of an unanticipated cultural resource. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the Proposed Project.</p> <p>If an inadvertent discovery of archaeological materials is made during construction activities, ground disturbances in the area of the find shall be halted and the Qualified Archaeologist shall be notified regarding the discovery. If prehistoric or potential tribal cultural resources are identified, the interested Native American participant(s) shall be notified.</p>	<p>Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
	<p>The archaeologist, in consultation with Native American participant(s) and the lead agency, shall determine whether the resource is potentially significant as per CEQA (i.e., whether it is an historical resource, a unique archaeological resource, a unique paleontological resource, or tribal cultural resources). If avoidance is not feasible, a Qualified Archaeologist, in consultation with the lead agency, shall prepare and implement a detailed treatment plan. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of, but would not be limited to, in-field documentation, archival research, subsurface testing, and excavation. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals.</p>	
GEOLOGY AND SOILS		
<p>The Proposed Project and all Route Options pose risks of loss, injury, or death related to seismic conditions including ground shaking, liquefaction, slope failure and landslide, a potentially significant impact.</p>	<p>GEO-1: The Proposed Project shall be designed based on the latest versions of local and State building codes and regulations in order to construct seismically-resistant structures that help counteract the adverse effects of ground shaking. During final design, site-specific geotechnical investigations shall be performed at the sites where structures are proposed within liquefaction-prone designated areas. The investigations shall include exploratory soil borings with groundwater measurements. The exploratory soil borings shall be advanced, as a minimum, to the depths required by local and State jurisdictions to conduct liquefaction analyses. Similarly, the investigations shall include earthquake-induced settlement analyses of the dry substrata (i.e., above the groundwater table). The investigations shall also include seismic risk solutions to be incorporated into final design (e.g., deep foundations, ground improvement, remove and replace, among others) for those areas where liquefaction potential may be experienced. The investigation shall include stability analyses of slopes located within earthquake-induced landslides areas and provide appropriate slope stabilization measures (e.g., retaining walls, slopes with shotcrete faces, slopes re-grading, among others). The geotechnical investigations and design solutions shall follow the “Guidelines for Evaluating and Mitigating Seismic Hazards in California” Special Publication 117A of the California Geologic Service, as well as Metro’s Design Criteria and the latest federal and State seismic and environmental requirements.</p>	<p>Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
NOISE		
<p>Construction of the Proposed Project or Route Options A2, E2, F1, G2, and H2 has the potential to generate noise that could increase ambient noise levels by 5 dBA Leq or more which would exceed local significance thresholds within one or more jurisdictions along the BRT alignment, a potentially significant impact.</p>	<p>NOI-1: Where construction cannot be performed in accordance with the FTA 1-hour Leq construction noise standards, elevates existing ambient noise levels by 5 dBA Leq or more, or exceeds other applicable noise thresholds of significance, The construction contractor shall develop a Noise Control Plan demonstrating how noise criteria would be achieved during construction. The Noise Control Plan shall be designed to follow Metro requirements, include construction noise control measures, measurements of existing noise, a list of the major pieces of construction equipment that would be used, and predictions of the noise levels at the closest noise-sensitive receivers (residences, hotels, schools, churches, temples, and similar facilities). The Noise Control Plan shall be approved by Metro prior to initiating localized construction activities.</p> <p>The Noise Control Plan shall require weekly noise monitoring at land used adjacent to construction activities. Noise reducing measures shall be required should the following performance standards be exceeded within the following jurisdictions:</p> <ul style="list-style-type: none"> • City of Los Angeles: Construction noise levels that exceed the existing ambient exterior noise level at a noise sensitive use by 10 dBA Leq within one hour for construction lasting more than one day, 5 dBA Leq for construction lasting more than 10 days in a three-month period, and any exceedance of 5 dBA during the hours of 9:00 p.m. to 7:00 a.m. Monday through Friday and between 6:00 p.m. to 8:00 a.m. on Saturday or any time Sunday. • City of Burbank: Construction noise levels that exceed the existing ambient exterior noise level between 7:00 a.m. and 7:00 p.m. at a noise sensitive use by 5 dBA Leq for construction lasting more than 10 days in a three-month period. Construction noise levels of any duration that exceed existing ambient exterior noise levels by 5 dBA Leq at a noise sensitive use between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 5:00 p.m. on Saturday, or at any time on Sunday. • City of Glendale: Construction noise levels that exceed the existing ambient exterior noise level between 7:00 a.m. and 7:00 p.m. at a noise sensitive use by 5 dBA Leq for construction lasting more than 10 days in a three-month period. Construction noise levels of any duration that exceed existing ambient exterior noise levels by 5 dBA Leq at a noise sensitive use between 7:00 p.m. and 7:00 a.m. Monday through Saturday or at any time on Sunday. 	<p>Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
	<ul style="list-style-type: none"> • City of Pasadena: Construction noise levels that exceed 85 dBA Leq at 100 feet of distance or any duration of noise levels that exceeds existing ambient exterior noise levels by 5 dBA Leq at a noise sensitive use between 7:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 5:00 p.m. on Saturday, or at any time on Sunday. <p>Noise-reducing methods that may be implemented include:</p> <ul style="list-style-type: none"> • Where construction occurs near noise sensitive land uses, specialty equipment with enclosed engines, acoustically attenuating shields, and/or high-performance mufflers shall be used. • Limit unnecessary idling of equipment. • Install temporary noise barriers or noise-control curtains, where feasible and desirable. • Reroute construction-related truck traffic away from local residential streets and/or sensitive receivers. • Use electric instead of diesel-powered equipment and hydraulic instead of pneumatic tools where feasible. 	
<p>Construction of the Proposed Project or Route Options A2, E2, F1, G2, and H2 includes use of heavy equipment that could produce vibration that would exceed the FTA’s recommended limit of 0.2 in/sec PPV for any non-engineered timber and masonry buildings within 25 feet of construction activity, a potentially significant impact.</p>	<p>NOI-2: Where equipment such as a vibratory roller, that produces high levels of vibration is used within 25 feet of buildings or typical equipment such as large bulldozer is used within 15 feet of buildings, the 0.2 PPV inches per second vibration damage risk threshold would be exceeded. The Construction Vibration Control Plan shall include mitigation measures to minimize vibration impacts during construction. Recommended construction vibration mitigation measures shall, at a minimum, include:</p> <ul style="list-style-type: none"> • The contractor shall minimize the use of tracked vehicles. • The contractor shall avoid vibratory compaction within 25 feet of buildings. • The contractor shall monitor vibration levels near sensitive receivers during activities that generate high vibration levels to ensure thresholds are not exceeded. 	<p>Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
<p>Construction of the Proposed Project or Route Options A2, E2, F1, G2, and H2 could produce vibration from bulldozers and similar equipment that could annoy those in institutional uses (e.g., schools, churches) during the day, and residents at any time during the day or evening. Equipment such as large bulldozers could generate 87 VdB of vibration at 25 feet, which would exceed the 75 VdB significance threshold for occasional events impacting residences and the 78 VdB threshold for institutional daytime land uses, a potentially significant impact.</p>	<p>NOI-3: Where equipment such as a vibratory roller that produces high levels of vibration is used within 105 feet of residences or institutional daytime land uses or equipment such as large bulldozers are used within 65 feet of such uses, the 75 VdB vibration threshold for human annoyance could be exceeded at residences of the 75 VdB threshold at institutional uses. The Construction Vibration Control Plan shall include mitigation measures to minimize vibration impacts during construction. Recommended construction vibration mitigation measures that shall be considered and implemented where feasible include:</p> <ul style="list-style-type: none"> • The contractor shall minimize the use of tracked vehicles and vibratory equipment. • The contractor shall avoid vibratory compaction. • The contractor shall monitor vibration levels near sensitive receivers during activities that generate high vibration levels to ensure thresholds are not exceeded. 	<p>Less Than Significant</p>
TRANSPORTATION		
<p>Construction of the Proposed Project and all Route Options may result in temporary relocation of existing bus stops and temporary delays to transit travel time due to lane closures, a potentially significant impact.</p>	<p>TRA-1: Prior to the initiation of localized construction activities, a Traffic Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed by Metro and the construction contractor in coordination with the City of Los Angeles, City of Burbank, City of Glendale, and City of Pasadena. Metro shall develop detours as appropriate and communicate any changes to bus service to local transit agencies in advance. Stops shall be relocated in a manner which is least disruptive to transit. If bus stops need to be relocated, warning signs shall be posted in advance of closure along with alternative stop notifications and information regarding the duration of the closure.</p>	<p>Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
<p>Construction of the Proposed Project and all Route Options may result in traffic delays and inconvenience due to temporary lane closures temporary, a potentially significant impact.</p>	<p>TRA-2: Prior to the initiation of localized construction activities, a Traffic Management Plan and/or Construction Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed by Metro and the construction contractor in coordination with the City of Los Angeles, City of Burbank, City of Glendale, and City of Pasadena. The Traffic and/or Construction Management Plan shall include provisions such as: approval of work hours and lane closures, designation of construction lay-down zones, provisions to maintain roadway access to adjoining land uses, use of warning signs, temporary traffic control devices and/or flagging to manage traffic conflicts, and designation of detour routes where appropriate.</p>	<p>Less Than Significant</p>
<p>Construction of the Proposed Project and all Route Options may require temporary closure of sidewalks affecting pedestrian circulation, a potentially significant impact.</p>	<p>TRA-3: Prior to the initiation of localized construction activities, a Traffic Management Plan and/or Construction Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed by Metro and the construction contractor, in coordination with affected jurisdictions. The plan shall include provisions for wayfinding signage, lighting, and access to pedestrian safety amenities (such as handrails, fences and alternative walkways). Metro shall also work with local municipalities and public works departments to confirm that only one side of the street would be closed at a time. If crosswalks are temporarily closed, pedestrians shall be directed to use nearby pedestrian facilities. Where construction encroaches on sidewalks, walkways and crosswalks, special pedestrian safety measures shall be used such as detour routes and temporary pedestrian shelters. Access to businesses and residences shall be maintained throughout the construction period. These mitigation measures shall be documented in a Traffic Management Plan and/or Construction Management Plan.</p>	<p>Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
<p>Construction of the Proposed Project and Route Options E2 and F1 would result in temporary roadway lane closures which may affect existing and planned bicycle facilities, a potentially significant impact</p>	<p>TRA-4: Prior to the initiation of localized construction activities, a Traffic Management Plan and/or Construction Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed by Metro and the construction contractor, in coordination with the affected jurisdictions. The plan shall identify on-street bicycle detour routes and signage. Metro shall also work with local municipalities and public works departments to accommodate bicycle circulation during construction. Bicycle access to businesses and residences shall be maintained throughout the construction period. These mitigation measures shall be documented in a Traffic Management Plan and/or Construction Management Plan.</p>	<p>Less Than Significant</p>
<p>The Proposed Project would result in the permanent conversion of the existing 10-foot buffered Class II bicycle lanes along Colorado Boulevard to a 12-foot shared bus/bicycle lane which would be inconsistent with the City of Los Angeles Mobility Element 2035, a potentially significant impact.</p>	<p>TRA-5: Prior to completion of Final Design, Metro shall convene a design working group with LADOT to resolve potential bicycle conflicts and identify network enhancements that integrate bicycle and BRT facilities, consistent with Policy 2.6 and Policy 2.9 of the Mobility Plan 2035. The design working group shall include representatives from the LADOT Active Transportation Division, the Los Angeles Bureau of Engineering, and a representative of the Los Angeles Bicycle Coalition. Coordination shall be provided with LADOT and the Active Transportation Division during the preliminary engineering design development phase.</p>	<p>Less Than Significant</p>
<p>Construction of the Proposed Project and all Route Options would result in lane closures, traffic detours, and designated truck routes associated with construction could temporarily result in decreased access and delayed response times for emergency services, a potentially significant impact.</p>	<p>TRA-6: The construction contractor shall provide early notification of traffic disruption to emergency service providers. Work plans and traffic control measures shall be coordinated with emergency responders to prevent impacts to emergency response times. A Traffic Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed and implemented to minimize impacts on emergency access.</p>	<p>Less Than Significant</p>

Potentially Significant Impact	Mitigation Measures	Impact After Mitigation
TRIBAL CULTURAL RESOURCES		
<p>Ground disturbing activities during construction of the Proposed Project or Route Options A2, E2, F1, G2, and H2 has the potential to impact previously undiscovered buried tribal cultural resources of historical significance, a potentially significant impact.</p>	<p>CUL-2: A Qualified Archeologist, meeting the Secretary of the Interior’s Standards for professional archaeology, shall be retained for the Project and will remain on call during all ground-disturbing activities. The Qualified Archaeologist shall ensure that Worker Environmental Awareness Protection (WEAP) training, presented by a Qualified Archaeologist and Native American representative, is provided to all construction and managerial personnel involved with the Proposed Project. The WEAP training shall provide an overview of cultural (prehistoric and historic) and tribal cultural resources and outline regulatory requirements for the protection of cultural resources. The WEAP shall also cover the proper procedures in the event of an unanticipated cultural resource. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the Proposed Project.</p> <p>If an inadvertent discovery of archaeological materials is made during construction activities, ground disturbances in the area of the find shall be halted and the Qualified Archaeologist shall be notified regarding the discovery. If prehistoric or potential tribal cultural resources are identified, the interested Native American participant(s) shall be notified.</p> <p>The archaeologist, in consultation with Native American participant(s) and the lead agency, shall determine whether the resource is potentially significant as per CEQA (i.e., whether it is an historical resource, a unique archaeological resource, a unique paleontological resource, or tribal cultural resources). If avoidance is not feasible, a Qualified Archaeologist, in consultation with the lead agency, shall prepare and implement a detailed treatment plan. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of, but would not be limited to, in-field documentation, archival research, subsurface testing, and excavation. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals.</p>	<p>Less Than Significant</p>

SOURCE: Terry A. Hayes Associates Inc., 2020.

ES.17 COMPARISON OF ALTERNATIVES

CEQA requires an analysis of alternatives to the Proposed Project to reduce or eliminate significant impacts associated with project development. In addition to the route options, two alternatives have been identified to the Proposed Project. Alternative 1 is the No Project Alternative. The No Project Alternative is required by CEQA Guidelines Section 15126.6 (e)(2) and assumes that the Proposed Project would not be implemented by Metro. The No Project Alternative allows decision-makers to compare the impacts of approving the Proposed Project with the impacts of not approving the Proposed Project. The No Project Alternative is evaluated in the context of the existing transportation facilities in the Project Area and other capital transportation improvements and/or transit and highway operational enhancements that are reasonably foreseeable.

Alternative 2 would implement improved bus service instead of BRT. The improved bus service would have some BRT characteristics. The service may be as frequent as that proposed for BRT, though its ability to attract as much ridership may be less due to less travel time savings and amenities, meaning a slightly less frequent service would be operated compared to that proposed for the BRT Project. Buses would operate in mixed-flow traffic with Traffic Signal Priority (TSP). Stops would be more frequent than the BRT line, but less frequent than local bus lines (typically every 0.6 miles on average). Travel times would be faster than for local service but slower than the travel times expected from the BRT Project. Stops would occur at existing bus stations and there would be no modifications to the roadway configuration. Physical improvements would be limited to new signs at bus stops as well a shelter with solar lighting, bench and trash receptacle as a minimum level of bus stop amenity. Alternative 2 would not include curb extensions, elimination of parking, or changes to bicycle lanes. This alternative would not require a Maintenance and Storage Facility, as buses would be maintained at existing Metro facilities. Similar to BRT buses, buses would have low-floor design to allow for faster and easier boarding and alighting. The fleet would be equipped for all door boarding.

CEQA Guidelines Section 15126.6 requires that an “environmentally superior” alternative be selected among the alternatives that are evaluated in the Draft EIR. The environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. A summary of the impacts of the No Project Alternative (Alternative 1) and Alternative 2 relative to the Proposed Project and the Route Options is shown **Table ES-5**. The No Project Alternative is considered the environmentally superior alternative because there would be no physical changes to the existing environment resulting in construction or operational impacts. Other transit projects would be constructed to enhance the regional network, although improvements within the Project corridor would be limited and minor related to increased ridership. The No Project Alternative would include the North San Fernando Valley (SFV) BRT Project and the NextGen Bus Plan, in addition to other transportation and land use projects listed in Chapter 5 Cumulative Impact Analysis. The North SFV BRT Improvements Project would provide a new, high-quality bus service between the communities of Chatsworth to the west and North Hollywood to the east. Not constructing and operating the Proposed Project would eliminate the potentially significant impacts associated with the Proposed Project

related to transportation (construction), aesthetics (operations), biological resources (construction), cultural resources (construction and operations), geology and soils (operations), noise (construction), and tribal cultural resources (construction). However, the regional transit network within the Project corridor would not be substantially enhanced by the other transit projects.

If the No Project Alternative is identified as the environmentally superior, CEQA requires selection of the environmentally superior alternative other than the No Project Alternative from among the Proposed Project and the other alternatives evaluated in the Draft EIR. Alternative 2 is the environmentally superior alternative because, as compared to the Proposed Project and Route Options, it avoids or reduces all construction impacts related to transportation, biological resources, cultural resources, noise, and tribal cultural resources. It also avoids or reduces operational impacts related to transportation, aesthetics, cultural resources, and geology and soils.

1. Introduction

This chapter provides an overview of the purpose of this Draft Environmental Impact Report (EIR) for the North Hollywood to Pasadena Bus Rapid Transit Project (BRT) (Proposed Project or Project), a discussion of the environmental review process, and a description of the organization of this Draft EIR.

The Proposed Project would provide a BRT service connecting several cities and communities between the San Fernando and San Gabriel Valleys. Specifically, the Proposed Project would consist of a BRT service that runs from the North Hollywood B/G Line (Red/Orange) Station in the City of Los Angeles through the Cities of Burbank and Glendale and into the City of Pasadena ending at Pasadena City College (PCC). The Proposed Project would operate along a combination of local roadways and freeway sections with various configurations of mixed-flow and dedicated bus lanes depending on location. In addition to the Proposed Project, several route options and configuration options are addressed in this Draft EIR.

The Proposed Project includes options for the BRT route and configurations. This was necessary due to public feedback during the completion of the Alternatives Analysis and EIR scoping feedback. It was not possible to reach a consensus on one route preferred by Metro, the cities, stakeholders, and general public. Metro determined that all stakeholders would best be informed about the Proposed Project by equally evaluating the potential environmental impacts of multiple routes in the four cities.

1.1 PURPOSE OF THIS DRAFT ENVIRONMENTAL IMPACT REPORT

The Los Angeles County Metropolitan Transportation Authority (Metro) has prepared this Draft EIR for the following purposes:

- To satisfy the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000, et seq.) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, Chapter 3, Section 15000, et seq.).
- To inform public agency decision-makers and the public of the significant environmental effects of the Proposed Project, as well as possible ways to minimize those significant effects, and reasonable alternatives to the Proposed Project that would avoid or minimize those significant effects.
- To enable Metro to consider environmental consequences when deciding whether to approve the Proposed Project, including which, if any, route to approve.

Metro serves as the Lead Agency for the Proposed Project in accordance with Sections 15051 and 15367 of the CEQA Guidelines, which define the Lead Agency as the public agency that has the principal responsibility for executing or approving a project.

As described in CEQA and the CEQA Guidelines, lead agencies are charged with the duty to avoid or substantially lessen significant environmental impacts of a project, where feasible. In discharging its duties under CEQA, a lead agency has an obligation to balance the economic, social, technological, legal, and other benefits of a project against its significant unavoidable impacts on the environment. This Draft EIR is an informational document designed to identify the potentially significant impacts of the Proposed Project on the environment; to indicate the manner in which those significant impacts can be minimized; to identify reasonable and potentially feasible alternatives to the Proposed Project that would avoid or reduce the significant impacts; and to identify any significant unavoidable adverse impacts that cannot be mitigated. Known areas of controversy associated with the Draft EIR include loss of travel lanes, parking, and bicycle lanes, and removal of portions of roadway medians. Controversial construction effects include business access, air pollution, and noise.

This Draft EIR was prepared in accordance with Section 15151 of the CEQA Guidelines, which defines the standards for EIR adequacy as follows:

“An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.”

1.2 ENVIRONMENTAL REVIEW PROCESS

In May 2019, an Alternatives Analysis Report, including its findings and recommendations, was presented to the Metro Board of Directors. The Metro Board directed staff to initiate a Draft EIR. In compliance with the CEQA Guidelines Section 15082, a Notice of Preparation (NOP) was prepared and distributed on June 14, 2019, to the State Clearinghouse and June 17, 2019, to various other public agencies and the general public for a 45-day review and comment period. During the initial 45-day review period, Metro extended the public scoping period for an additional 15 days – officially ending the scoping period on August 15, 2019. Five scoping meetings were held in July 2019 to facilitate public review and comment on the Proposed Project and the Draft EIR.

Metro received a total of 2,584 comments during the public scoping period. Generally, comments received were a mix of both supportive and opposed sentiments toward the Proposed Project. The scoping process and comments received to date are detailed in Chapter 7, Public Outreach. The NOP and Scoping Report, including the NOP comment letters received by Metro, are contained in Appendix A of this Draft EIR. The baseline condition and existing setting for the Draft EIR are those at the NOP date.

In accordance with the CEQA Guidelines, this Draft EIR includes detailed analyses of the following environmental topics:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Noise
- Land Use and Planning
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

This Draft EIR was prepared under the direction and supervision of Metro and reflects the independent judgment of Metro. During the public review and comment period, public agencies, organizations and individuals may submit written comments concerning the adequacy of the document by email or mail to:

Scott Hartwell, Project Manager
Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza, Mail Stop: 99-22-6
Los Angeles, CA 90012
Email: nohopasbrt@metro.net

Metro will conduct a public hearing to take testimony on the Draft EIR during the public review and comment period. After the public review and comment period, written responses to all written comments and oral testimony pertaining to environmental issues received during the comment period will be prepared as part of the Final EIR. As required by CEQA, responses to comments submitted by commenting agencies will be distributed to those agencies for review prior to consideration of the Final EIR by Metro's Board of Directors. Upon the completion of the Final EIR and other required documentation, the Board of Directors may adopt the findings relative to the Proposed Project's environmental effects after implementation of mitigation measures and provide a statement of overriding considerations, certify the Final EIR, and approve the Proposed Project.

1.3 EIR ORGANIZATION

This Draft EIR is comprised of the following chapters:

Executive Summary. This chapter provides a summary of the Project, the public outreach information, project background, environmental impacts, and mitigation measures.

- 1. Introduction.** This chapter briefly discusses the purpose of the Draft EIR, identifies the environmental topics, describes the environmental review process and organization, and discusses the intended use of this Draft EIR.
- 2. Project Description.** This chapter provides a detailed description of the Proposed Project, including location and surrounding uses, history, objectives, operating characteristics, and construction schedule and phasing.
- 3. Environmental Impacts Analysis.** This chapter presents the environmental setting, project analyses, and if applicable, mitigation measures, and conclusions regarding the level of significance after mitigation for each environmental resource.
- 4. Other Environmental Considerations.** This chapter summarizes possible effects of the Proposed Project that were determined not to be significant; discusses significant unavoidable impacts that would result from the Proposed Project; analyzes significant irreversible changes in the environment; and assesses potential growth-inducing impacts, related to economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding area; and anticipated permits and approvals.
- 5. Cumulative Impacts.** This chapter presents CEQA requirements for cumulative impact analysis and analyzes the potential for the Proposed Project to have significant cumulative effects when combined with other past, present, and “reasonably foreseeable” probable future projects.
- 6. Alternatives.** This chapter provides an analysis of a range of reasonable alternatives to the Proposed Project, including the No Project Alternative required by CEQA.
- 7. Public Participation and Outreach.** This chapter presents public engagement and community outreach that occurred throughout the environmental process.
- 8. Organizations and Persons Consulted.** This chapter lists the organizations and persons with whom Metro consulted during the Draft EIR process.
- 9. List of Preparers.** This chapter lists the persons who contributed to the preparation of this Draft EIR.
- 10. References.** This chapter lists all the references and sources used in the preparation of this Draft EIR.

2. Project Description

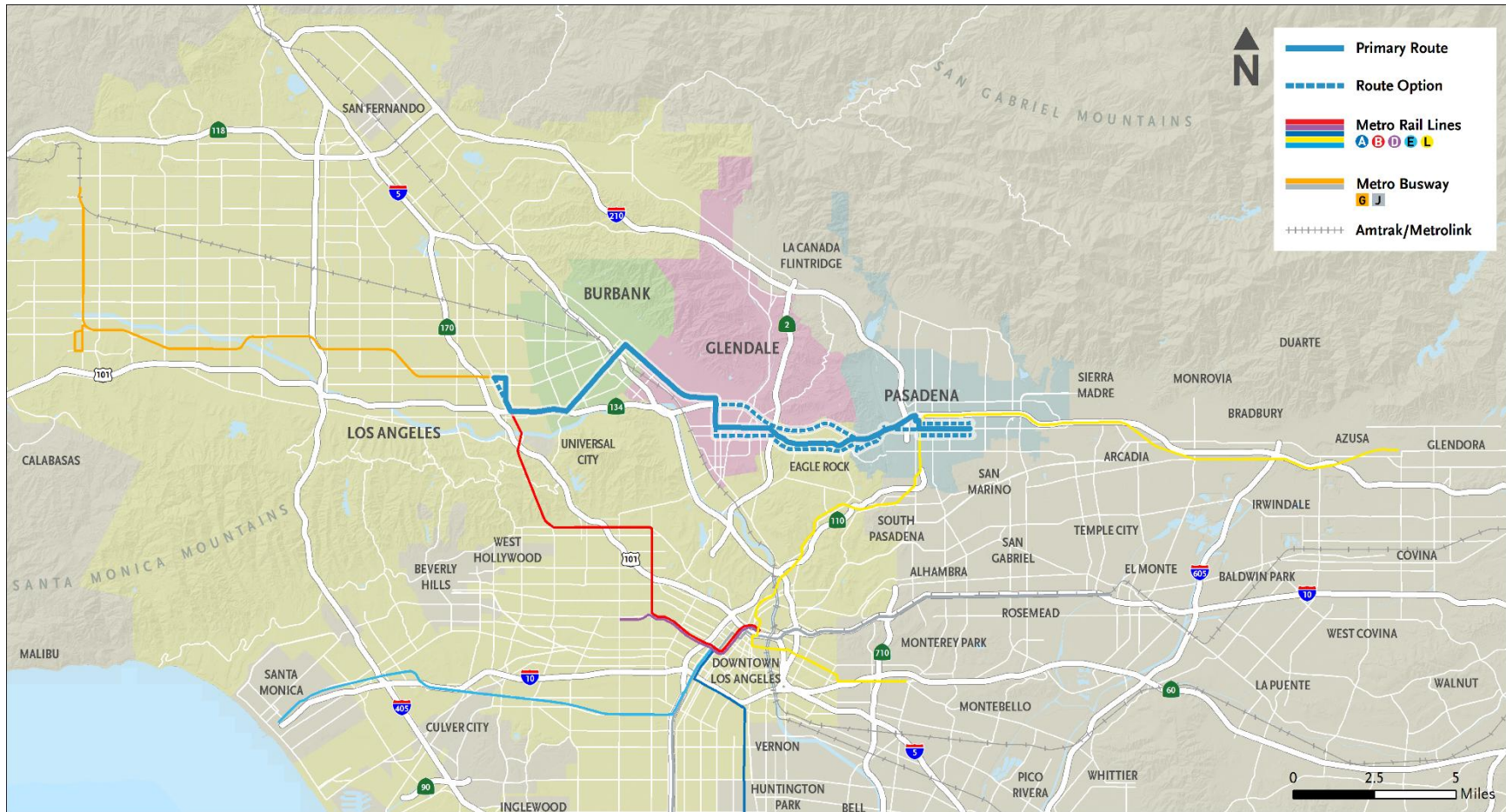
This chapter presents the Proposed Project location and surrounding uses, project history, project description, and the estimated construction schedule and phasing. The Proposed Project would provide a Bus Rapid Transit (BRT) service connecting several cities and communities between the San Fernando and San Gabriel Valleys. The Proposed Project is an approximately 18-mile BRT service that would run from the North Hollywood B/G Line (Red/Orange) Station in the City of Los Angeles through the Cities of Burbank and Glendale and into the City of Pasadena ending at Pasadena City College. The service would operate along a combination of local roadways and freeway segments in “mixed-flow” (sharing lanes with other traffic) and in designated (dedicated) bus lanes depending on location.

2.1 LOCATION AND SURROUNDING USES

The BRT corridor generally parallels the Ventura Freeway (State Route 134) between the San Fernando and San Gabriel Valleys; from west to east, the route traverses the communities of North Hollywood (in the City of Los Angeles), Burbank, Glendale, Eagle Rock (in the City of Los Angeles) and Pasadena. Potential connections with existing high-capacity transit services include the Metro B/G Lines (Red/Orange) in North Hollywood, the Metrolink Antelope Valley and Ventura Lines in Burbank, and the Metro L Line (Gold) in Pasadena. **Figure 2-1** shows the regional context of the Project corridor. Locally, the corridor includes many densely populated residential areas and connections with high-capacity transit services, and has cultural, entertainment, shopping, and employment areas distributed throughout, including:

- North Hollywood Metro B/G (Red/Orange) Line Station
- North Hollywood Arts District
- Burbank Media District
- Burbank Metrolink Station
- Downtown Burbank
- Downtown Glendale
- Eagle Rock
- Old Pasadena
- Metro L Line (Gold) Station
- Pasadena City College

Figure 2-1 – Regional Context of the Study Corridor



2.2 PROJECT HISTORY

The North Hollywood to Pasadena BRT Corridor was identified by Metro’s 2013 Countywide Bus Rapid Transit and Street Design Improvement Study as one of the region’s most heavily traveled corridors without a premium bus service. This led to the North Hollywood to Pasadena BRT Corridor Technical Study, completed in March 2017, which explored the feasibility and performance of implementing BRT, including dedicated bus lanes, enhanced stations, all-door boarding, and transit signal priority. The BRT Corridor Technical Study identified two initial BRT concepts (Primary Street and Primary Freeway), including multiple route options, as the most promising alternatives to address the transportation challenges within this corridor.

The North Hollywood to Pasadena BRT Corridor Planning and Environmental Study was initiated in August 2018 to further study BRT concepts. Metro launched an extensive public outreach effort to provide project updates and to solicit feedback on the two initial BRT concepts identified in the BRT Corridor Technical Study. This outreach effort included five community meetings in addition to approximately 40 individual briefings with the affected cities’ elected officials and other community, business, and neighborhood groups. To broaden the outreach efforts to reach historically underserved communities, the Metro outreach team attended neighborhood events such as street fairs, farmers markets, and music festivals, and shared project information at the North Hollywood Metro B/G Line (Red/Orange) Station.

Field reviews were conducted to evaluate potential routing and station opportunities and constraints, as well as land uses. Concurrently, a comprehensive database of street cross sections, existing transit service characteristics, and other data was assembled and evaluated to inform the screening and evaluation of alternatives in the North Hollywood to Pasadena Alternatives Analysis Report (April 2019). The results of the initial screening analysis were synthesized into three distinctive refined routes to further study — street-running, freeway-running, and hybrid street/freeway-running. Each of these three routes extended from the Metro B/G Line (Red/Orange) terminus on Lankershim Boulevard and terminated at Pasadena City College (PCC) near Colorado Boulevard at Hill Avenue in Pasadena. It was determined that the street-running route best met the Project’s Objectives and would achieve the highest number of overall benefits, including ridership potential, connectivity, transit-orientated community opportunities, equity, and environmental benefits.

Promising route segments from the other two screened routes were also recommended to be carried forward, resulting in a refined street-running route with options. The Alternatives Analysis Report recommended advancing a “Refined Street-Running Alternative with Route Options” for evaluation in the Environmental Impact Report (EIR). This alternative was presented in the Notice of Preparation (June 2019) and presented to the public at a series of Scoping Meetings held in the summer of 2019. Based upon input received from the public and stakeholders through the scoping process, one additional route option – the SR-134 between Harvey Dr. in Glendale and Figueroa St. in Los Angeles – was added for evaluation in the EIR.

The Alternatives Analysis Report also describes routes that were eliminated from consideration. Combined with the feedback received from the various communities, several of the initial routing options were eliminated from further consideration — three from the Primary Street Concept and two from the Primary Freeway Concept. Routes that were eliminated from consideration included:

- **Chandler Boulevard (North Hollywood – Burbank):** Although Metro owns right-of-way (ROW) along Chandler Boulevard, the median area is presently occupied by a Class 1 bikeway. The road is narrow and shifts from a single two-lane roadway in Los Angeles to a two-way couplet in Burbank. Within Burbank, the median is heavily landscaped, and the land use is relatively low-density residential. Metro received community input that a dedicated BRT lane along Chandler Boulevard in the City of Burbank would be incompatible with the residential neighborhood. Burbank residents also expressed strong concern over the potential loss of the bikeway. Moreover, this route option was anticipated to have low ridership potential based on its low-density characteristics.
- **Magnolia Boulevard (North Hollywood – Burbank):** Although Magnolia Boulevard would provide the shortest route between North Hollywood and Downtown Burbank, the roadway narrows to a single eastbound travel lane west of North Clybourn Avenue. The narrow roadway and presence of numerous small businesses that are dependent upon a limited on-street parking supply would make this route challenging to support BRT lanes. This option also was not supported by the Burbank community and City elected officials.
- **Brand Boulevard (Glendale):** This alignment was removed due to physical constraints; routing via Central Avenue in Downtown Glendale was preferred. Bulb-outs and diagonal parking on Brand Boulevard would need to be removed to accommodate dedicated BRT lanes. Without dedicated lanes, service reliability would suffer, particularly during peak times. BRT stations located along Central Avenue (900 feet to the west) at similar cross streets could provide access to the commercial uses along Brand Boulevard.
- **Burbank Boulevard – Hollywood Way – Hollywood Burbank Airport – Interstate 5:** Although this route would serve the Hollywood Burbank Airport, this alignment has several deficiencies. Burbank Boulevard in Los Angeles is too narrow to support dedicated BRT lanes. In addition, the Los Angeles segment has industrial and commercial land uses such as auto body shops that are not anticipated to attract significant ridership. Furthermore, this route is indirect with out-of-direction travel to the north, would not serve the Burbank Media District, and passes through Downtown Burbank along Interstate 5, which does not provide good connectivity to the downtown area. Access to the Hollywood Burbank Airport is provided by several existing transit routes and could be enhanced with an express type service similar to the FlyAway bus that currently serves Los Angeles International Airport.

- **Fair Oaks Avenue/Raymond Avenue Couplet (Pasadena):** This couplet, which would utilize the Fair Oaks interchange along the Ventura Freeway, was included in the Primary Freeway Concept in the BRT Corridor Technical Study. Although a northbound station could be provided immediately adjacent to the Del Mar L Line (Gold) Station, this option would not serve the heart of Pasadena, the South Lake Avenue District, or PCC. Input from stakeholders and City staff confirmed a preference for routing along Colorado Boulevard or a Green Street/Union Street couplet to Pasadena City College at Hill Avenue. However, an alignment along Fair Oaks Avenue from the SR-134 Interchange may be considered to provide a direct connection to the Memorial Park Metro L Line (Gold) Station before heading west either on Colorado Boulevard or the Green Street/Union Street couplet.

2.3 PROJECT DESCRIPTION

2.3.1 Project Objectives

The Proposed Project would provide improved and reliable transit service to meet the mobility needs of residents, employees, and visitors who travel within the corridor. In addition to advancing the goals of Metro's Vision 2028 Strategic Plan, objectives of the Proposed Project include:

- Advance a premium transit service that is more competitive with auto travel
- Improve accessibility for disadvantaged communities
- Improve transit access to major activity and employment centers
- Enhance connectivity to Metro and other regional transit services
- Provide improved passenger comfort and convenience
- Support community plans and transit-oriented community goals

2.3.12 Proposed Project

The Proposed Project is a BRT line that would extend approximately 18 miles from North Hollywood to the City of Pasadena. BRT is intended to move large numbers of people quickly and efficiently to their destinations. BRT service is comparable to light rail, but on rubber tires and at a lower cost.

The Proposed Project includes options for the BRT route and configurations. This was necessary due to public feedback during the completion of the Alternatives Analysis and EIR scoping feedback. It was not possible to reach a consensus on one route preferred by Metro, the cities, stakeholders, and general public. Metro determined that Metro decision-makers and all stakeholders would best be informed about the Proposed Project by equally evaluating the potential environmental impacts of multiple routes.

The following detailed description of the Proposed Project identifies:

- Project Route and Route Options
- Lane Configurations and Treatments
- Station Locations and Characteristics
- Operations
- Vehicles
- Parking and Travel Lane Conversion
- Bicycle Facilities
- Accessibility
- Maintenance and Storage
- Construction
- Cost Estimate
- Implementation Schedule

The Proposed Project extends approximately 18 miles from the western terminus at the North Hollywood station for the Metro B/G Lines (Red/Orange) to the eastern terminus at Pasadena City College in Pasadena. **Figure 2-2** depicts the Proposed Project route along with Route Options. A synopsis of the route is provided immediately below along with **Table 2-1** for a summary of the BRT running-way configurations and station locations (the Proposed Project is highlighted in blue).

Starting at the western terminus at the North Hollywood B/G Line (Red/Orange) station, the BRT route extends through the North Hollywood community of Los Angeles east via Chandler Boulevard to Vineland Avenue then south along Vineland Avenue transitioning onto Lankershim Boulevard accessing SR-134 near Riverside Drive. The route continues east via SR-134 to the Burbank Media District utilizing the Pass Avenue (eastbound) and Hollywood Way (westbound) interchanges. Through the City of Burbank, the BRT service travels via Pass Avenue and Riverside Drive (eastbound) or Alameda Avenue and Hollywood Way (westbound) connecting to Olive Avenue. The BRT route continues northeast along Olive Avenue to Downtown Burbank, turning southeast onto Glenoaks Boulevard and continues along Glenoaks Boulevard into the City of Glendale. The service continues along Glenoaks Boulevard towards Downtown Glendale turning south at Central Avenue. The BRT operates south through Downtown Glendale via Central Avenue to Broadway, turns east along Broadway to Harvey Drive, then turns and continues along West Broadway into the City of Los Angeles. Through the Eagle Rock community of Los Angeles, the BRT service operates along Colorado Boulevard between West Broadway and the SR-134 ramps just east of Linda Rosa Avenue. The route continues east along the freeway towards Pasadena, utilizing the Fair Oaks Avenue interchange. In Pasadena, the BRT service is routed via Fair Oaks Avenue, Walnut Avenue and Raymond Avenue to Colorado Boulevard. The route turns east continuing along Colorado Boulevard to the eastern terminus at Pasadena City College near the Colorado Boulevard/Hill Avenue intersection.

Figure 2-2 – Proposed Project with Route Options

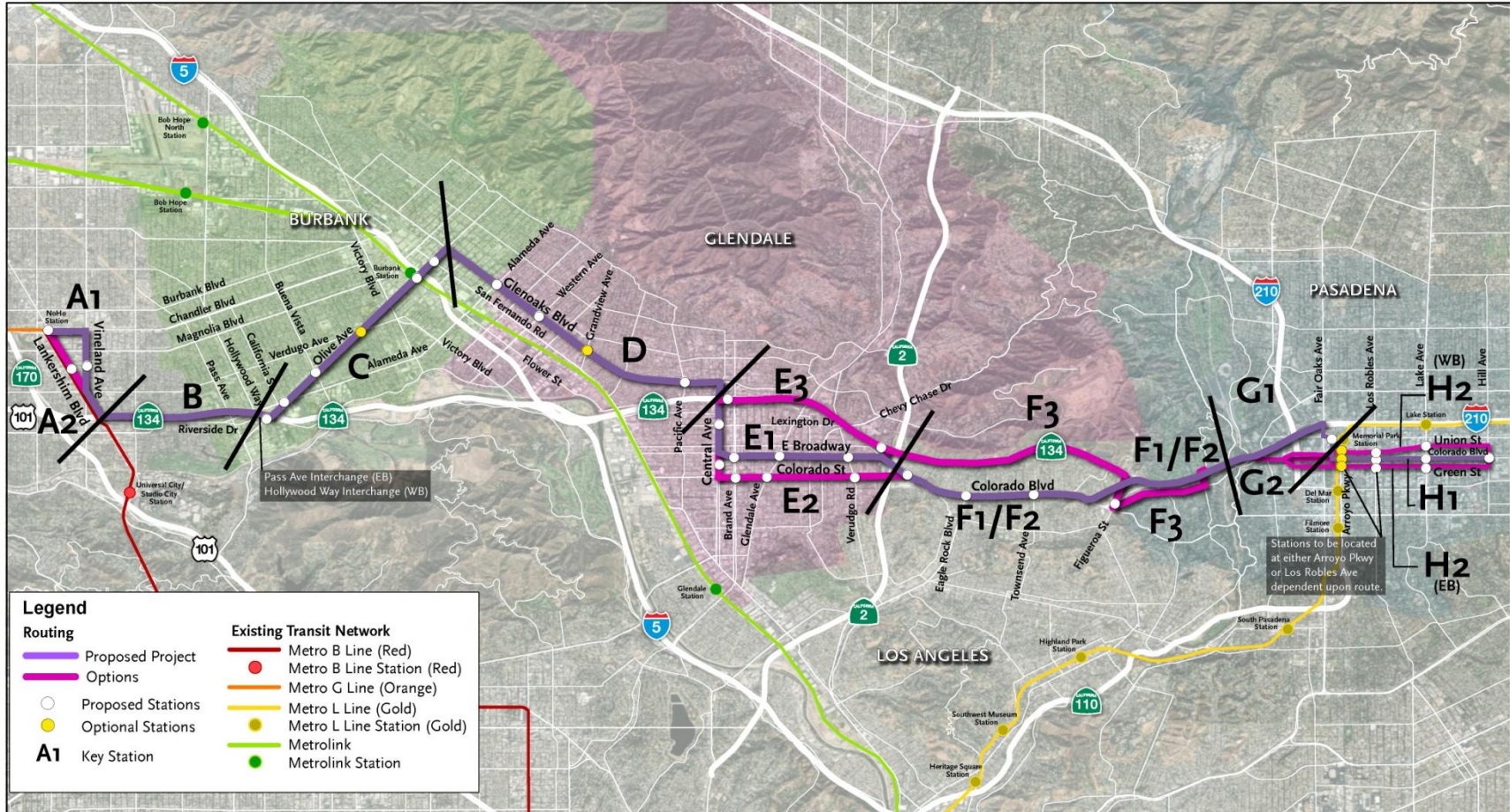


Table 2-1 – Route Segments

Key	Segment	From	To	BRT Lane Configuration	Stations
A1 (Project)	Lankershim Blvd.	N. Chandler Blvd.	Chandler Blvd.	Mixed-Flow	<ul style="list-style-type: none"> Western Terminus at North Hollywood Metro Station with connection to Metro B Line Line and Metro G Line (Orange)
	Chandler Blvd.	Lankershim Blvd.	Vineland Ave.	Side-Running ¹ Mixed-Flow ²	
	Vineland Ave.	Chandler Blvd.	Lankershim Blvd.	Center-Running	<ul style="list-style-type: none"> Hesby St.
	Lankershim Blvd.	Vineland Ave.	SR-134 Interchange	Center-Running Mixed-Flow ³	
A2 (Option)	Lankershim Blvd.	N. Chandler Blvd.	SR-134 Interchange	Side-Running Curb-Running ⁴	<ul style="list-style-type: none"> Hesby St.
B (Project)	SR-134 Freeway	Lankershim Blvd.	Pass Ave. (EB) Hollywood Wy. (WB)	Mixed-Flow	
C (Project)	Pass Ave. – Riverside Dr. (EB) Hollywood Wy. – Alameda Ave. (WB)	SR-134 Freeway	Olive Ave.	Mixed-Flow ⁵	
	Olive Ave.	Hollywood Wy. (WB) Riverside Dr. (EB)	Glenoaks Blvd.	Curb-Running	<ul style="list-style-type: none"> Riverside Dr. Alameda Ave. Buena Vista St. Verdugo Ave. (optional station) Olive Avenue bridge over Front St. and Burbank-Downtown Metrolink Station San Fernando Blvd.
D (Project)	Glenoaks Blvd.	Olive Ave.	Central Ave.	Curb-Running Median-Running ⁶	<ul style="list-style-type: none"> Alameda Ave. Western Ave. Grandview Ave. (optional station) Pacific Ave.

Key	Segment	From	To	BRT Lane Configuration	Stations
E1 (Project)	Central Ave.	Glenoaks Blvd.	Broadway	Mixed-Flow Side-Running ⁷	<ul style="list-style-type: none"> • Lexington Dr.
	Broadway	Central Ave.	Colorado Blvd.	Side-Running	<ul style="list-style-type: none"> • Brand Blvd. • Glendale Ave. • Verdugo Rd.
E2 (Option)	Central Ave.	Glenoaks Blvd.	Colorado St.	Mixed-Flow Side-Running ⁷	<ul style="list-style-type: none"> • Lexington Dr. • Americana Wy.
	Colorado St. – Colorado Blvd.	Central Ave.	Broadway	Side-Running	<ul style="list-style-type: none"> • Brand Blvd. • Glendale Ave. • Verdugo Rd.
E3 (Option)	Central Ave.	Glenoaks Blvd.	Goode Ave. (WB) Sanchez Dr. (EB)	Mixed-Flow	
	Goode Ave. (WB) Sanchez Dr. (EB)	Central Ave.	Brand Blvd.	Mixed-Flow	<ul style="list-style-type: none"> • Brand Blvd.
	SR-134 ⁸	Brand Blvd.	Harvey Dr.	Mixed-Flow	<ul style="list-style-type: none"> • Harvey Dr.
F1 (Option)	Colorado Blvd.	Broadway	Linda Rosa Ave. (SR-134 Interchange)	Side-Running Center Running ⁹	<ul style="list-style-type: none"> • Eagle Rock Plaza • Eagle Rock Blvd. • Townsend Ave.
F2 (Project)	Colorado Blvd.	Broadway	Linda Rosa Ave. (SR-134 Interchange)	Side-Running	<ul style="list-style-type: none"> • Eagle Rock Plaza • Eagle Rock Blvd. • Townsend Ave.
F3 (Option)	SR-134	Harvey Dr.	Figueroa St.	Mixed-Flow	
	Figueroa St.	SR-134	Colorado Blvd.	Mixed-Flow	<ul style="list-style-type: none"> • Colorado Blvd.
	Colorado Blvd.	Figueroa St.	SR-134 via N. San Rafael Ave. Interchange	Mixed-Flow	
G1 (Project)	SR-134	Colorado Blvd.	Fair Oaks Ave. Interchange	Mixed-Flow	
	Fair Oaks Ave.	SR-134	Walnut St.	Mixed-Flow	
	Walnut St.	Fair Oaks Ave.	Raymond Ave.	Mixed-Flow	
	Raymond Ave.	Walnut St.	Colorado Blvd. or Union St./Green St.	Mixed-Flow	<ul style="list-style-type: none"> • Holly St. - Metro L Line (Gold)

Key	Segment	From	To	BRT Lane Configuration	Stations
G2 (Option)	SR-134	Colorado Blvd.	Colorado Blvd. Interchange	Mixed-Flow	
	Colorado Blvd. or Union St./Green St.	Colorado Blvd. Interchange ¹⁰	Raymond Ave.	Mixed-Flow	<ul style="list-style-type: none"> • Arroyo Pkwy.
H1 (Project)	Colorado Blvd.	Raymond Ave.	Hill Ave.	Mixed-Flow	<ul style="list-style-type: none"> • Los Robles Ave.¹¹ • Lake Ave. • Eastern Terminus at Hill Ave. near Pasadena City College
H2 (Option)	Union St. (WB) Green St. (EB)	Raymond Ave. ¹²	Hill Ave.	Mixed-Flow	<ul style="list-style-type: none"> • Los Robles Ave.¹³ • Lake Ave. • Eastern Terminus at Hill Ave. near Pasadena City College

NOTES:

1. Eastbound side-running BRT lane between Fair Ave. and Vineland Ave.
2. Westbound mixed-flow BRT operations between Vineland Ave. and Lankershim Blvd.
3. Southbound mixed-flow BRT operations south of Kling St. and northbound mixed-flow BRT operations south of Hortense St.
4. Side-running BRT lanes transition to curb-running BRT lanes to the south of Huston St.
5. The eastbound BRT on Riverside Dr. transitions from mixed-flow to a curb-running BRT lane to the east of Kenwood Ave.
6. Curb-running BRT lanes transition to median-running BRT lanes at Providencia Ave.
7. Transitions from mixed-flow operations to side-running BRT to the south of Sanchez Dr.
8. Route continues via Broadway to Colorado Blvd./Broadway intersection (Project Route F2 and Route Option F1) or via SR-134 (Route Option F3)
9. Side-running BRT lanes transition to center-running BRT lanes between Ellenwood Dr. and El Rio Ave.
10. Route option is a couplet that would leave/join Colorado Blvd. via St. John Ave.
11. Los Robles Ave. station would not be included if paired with Route Option G2.
12. Route would transition to Colorado Blvd. at St. John Ave. if paired with Route Option G2.
13. Los Robles Ave. station would not be included if paired with Route Option G2.

The following text provides a detailed narrative description of the Proposed Project and the various Route Options, including proposed bus lane configurations and stations for each segment along with a summary of roadway modifications proposed to support the BRT service. Concept plans were developed for the Proposed Project and Route Options and are included in Appendix Z.

Section A – North Hollywood Community of the City of Los Angeles

This segment includes two alignment alternatives – the Proposed Project Segment A1, which follows Chandler Boulevard to Vineland Avenue to Lankershim Boulevard to SR-134, and Route Option A2, which follows Lankershim Boulevard directly to SR-134, as further described below.

Chandler-Vineland-Lankershim Route (Proposed Project Segment A1)

The route begins at the existing B/G (Red/Orange) Line North Hollywood Station and will operate along Chandler Boulevard east of Lankershim Boulevard to Vineland Avenue, turn at Vineland Avenue transitioning back to Lankershim Boulevard at the Vineland Avenue/Lankershim Boulevard/Camarillo Street intersection, then continue to access SR-134 at the Lankershim Boulevard interchange just north of Riverside Drive.

Buses would utilize a side-running bus lane in the eastbound direction created by restriping the Chandler Boulevard roadway (westbound buses would be in mixed-flow traffic). Buffers may be added to the existing Class II bike lanes along Chandler Boulevard east of Fair Avenue with removal of parking from the north curb. Queue jumps would be provided at the Chandler Boulevard/Vineland Avenue intersection to reduce conflicts with other traffic and to facilitate turns to and from Vineland Avenue.

Vineland Avenue would be reconstructed; the existing raised medians would be removed to accommodate new center-running bus lanes. The center-running bus lanes would extend to the Vineland Avenue/Lankershim Boulevard/Camarillo Street intersection and would transition onto Lankershim Boulevard.

As a result of implementation of the center-running bus lanes, through traffic and left-turn movements across the median would be restricted at the following locations¹:

Vineland Avenue

- Weddington Street
- McCormick Street
- Hesby Street (New Traffic Signal and Crosswalk)
- Peach Grove Street

Lankershim Boulevard

- Blix Street
- Kling Street

¹ It should be noted these restrictions are subject to refinement in future design phases.

The bus lanes would terminate at Kling Street south of Camarillo Street where a new traffic signal would provide a queue jump for southbound buses to exit the bus lane and weave to the outside lane approaching Riverside Drive. Eastbound buses would access SR-134 via the Riverside Drive on-ramp west of Lankershim Boulevard; westbound buses would exit directly onto Lankershim Boulevard.

A station serving the Arts District would be located at Hesby Street, about 600 feet east of Lankershim Boulevard. The loading zones are located along islands to the outside of the bus lanes (accessible to buses with right-hand side doors). The intersection would be signalized with a crosswalk serving the loading zones and allowing a signal-protected pedestrian access between the Arts District and other areas of North Hollywood located east of Vineland Avenue.

In conjunction with the reconstruction of Vineland Avenue, the existing Class II bike lanes would be upgraded to a buffered Class IV two-way cycle-track along the west curb. The cycle-track would extend south along Vineland Avenue through the Vineland Avenue/Lankershim Boulevard/Camarillo Street intersection to Hortense Street, where a new pedestrian beacon and crosswalk would be provided to transition back to the existing Class II bike lanes extending further south.

There would be a net loss of about one-third of the parking along Vineland Avenue and Lankershim Boulevard to provide protected turn bays and to accommodate stations. Replacement parking would be added along Vineland Avenue south of Camarillo Street (about 100+ stalls lost and about 40+ stalls replaced), and there is metered parking with availability along the Vineland Place frontage road paralleling Vineland Avenue north of Camarillo Street.

Lankershim Boulevard Route Option (Route Option A2)

This route option follows Lankershim Boulevard from the North Hollywood Station directly to the SR-134 freeway interchange at Lankershim Boulevard north of Riverside Drive. The BRT service would operate in side-running bus lanes created by conversion of the outside southbound travel lane from Chandler Boulevard to the vicinity of Huston Street. South of Huston Street, curb-running bus lanes extend to the SR-134 interchange just north of Riverside Drive, which would be added by removal of on-street parking and minor widening of the roadway (by means of a 1- to 2-foot narrowing of the sidewalk(s)), and two vehicular travel lanes would be maintained in each direction. In the northbound direction, a queue jump would be provided at Magnolia Boulevard to facilitate access to the left-turn lane at Chandler Boulevard and entry into the terminal station.

A station serving the Arts District would be located at Hesby Street with a near-side (i.e. before reaching the intersection) northbound loading zone and a far-side (i.e. after passing through the intersection) southbound loading zone. The loading zones would be developed with curb extensions to increase the pedestrian area for sidewalk circulation and station access.

Conversion of the outside travel lane to the north of Huston Street would retain nearly all of the existing on-street parking, with loss of about a dozen stalls in the vicinity of the station. Further south there would be a loss of about 70 parking stalls, primarily immediately north of the Vineland Avenue/Lankershim Boulevard/Camarillo Street intersection and in the vicinity of the SR-134 interchange. However, there is metered on-street parking located along Vineland Place north of Camarillo Street.

Section B – North Hollywood to Burbank

SR-134 (Proposed Project Segment B)

The BRT route continues east along SR-134 from the Lankershim Boulevard interchange to the Burbank Media District. Eastbound buses would exit at the Pass Avenue interchange and continue in mixed-flow via Pass Avenue and Riverside Drive to Olive Avenue. A short stretch of Riverside Drive east of Kenwood Avenue would be restriped to provide a curb-running bus lane approaching Olive Avenue. Westbound buses would turn from Olive Avenue to Hollywood Way, and would operate in mixed-flow north to Alameda Avenue to access the westbound SR-134 on-ramp east of Hollywood Way.

Sections C and D – City of Burbank

The BRT route follows Olive Avenue (Proposed Project Segment C) through the City of Burbank to downtown before turning onto Glenoaks Boulevard (Proposed Project Segment D).

Olive Avenue (Proposed Project Segment C)

The BRT service would operate in curb-running bus lanes along Olive Avenue accomplished by restriping the existing facility to remove existing on-street parking (about 500 stalls) and/or minor roadway widening. West of Alameda Avenue, the roadway is 72-feet wide and could support bus lanes by restriping alone. East of Alameda Avenue, the roadway narrows to 68-feet at various locations and would be widened to 72 feet by moving the curb out into the shoulder area (narrowing the sidewalk while still preserving adequate sidewalk width to meet ADA requirements²). Right-turning vehicles would merge with the bus lane approaching each intersection and right-turns would be allowed from the curb bus lane. The proposed treatment retains two general purpose travel lanes along Olive Avenue except along the bridge over Interstate 5 between Lake and 1st Streets, which would be restriped to convert the outside lane to a dedicated bus lane.

² The roadway is generally 68 feet curb to curb within a right-of-way which is generally 100 feet wide. West of Alameda Avenue, sidewalks are approximately 15 to 16 feet wide. Between Alameda Avenue and Lake Street, the shoulder area generally includes a landscape setback with a narrower sidewalk – in these sections the widening would generally be within the landscape setback. In the downtown, between 1st Street and Glenoaks Boulevard, the sidewalks are generally 15 to 16 feet wide.

BRT stations would be provided along Olive Avenue at Riverside Drive, Alameda Avenue, Buena Vista Street, Verdugo Avenue (potential station), Front Street (on bridge at Metrolink station), and San Fernando Boulevard. The stations would be integrated into the sidewalk area, which would be widened where feasible using a curb extension to facilitate access and pedestrian circulation. At the Downtown Burbank Metrolink Station, a new traffic signal and crosswalk would be provided on the bridge providing access to existing vertical circulation elements.

Glenoaks Boulevard (Proposed Project Segment D)

Curb-running bus lanes would be provided along the segment of Glenoaks Boulevard between Olive Avenue and Providencia Avenue by removal of existing parking (about 30 stalls) and minor widening similar to Olive Avenue (i.e. accomplished through narrowing the approximately 15 foot wide sidewalk by about 2-feet while still preserving adequate sidewalk width), with shared right-turns allowable from the bus lane at intersections. A queue jump would be provided for westbound buses to make a left-turn from a right-turn bay on Glenoaks Boulevard at Olive Avenue. The BRT route continues southeast via Glenoaks Boulevard into Glendale. East of Providencia Avenue a median-running configuration would be provided by converting the inside travel lanes to a bus-only operation. A queue jump would be provided for eastbound buses at Verdugo Avenue to facilitate transitioning across the roadway to the median-running section; westbound buses would merge with traffic west of Providencia Avenue and would transition to a curb-running bus lane approaching Verdugo Avenue.

Section D and E – City of Glendale

This segment includes Segment D along Glenoaks Boulevard and Segment E, which includes three alignment alternatives: E1, the Proposed Project, which is routed via Central Avenue and Broadway, Route Option E2, which is routed via Central Avenue and Colorado Street, and Route Option E3, which follows SR-134, as further described below.

Glenoaks Boulevard (Proposed Project Segment D)

The route continues southeast in median-running bus lanes along Glenoaks Boulevard through the northwestern portion of the City of Glendale to Central Avenue north of downtown. Dedicated median-running bus lanes would be created along Glenoaks Boulevard by restriping the inside lane for bus-only use. At major intersections along Glenoaks Boulevard, the existing landscaped median would be narrowed to accommodate left-turn bays (existing mid-block signalized pedestrian crossings would be retained). Far-side BRT stations with loading zones to the outside of the bus lanes (for right-hand side loading) that are accessible by signalized crosswalks would be provided opposite the left-turn bays at the following locations: Alameda Avenue, Western Avenue, Grandview Avenue (optional station), and Pacific Avenue. With conversion of the inside travel lane, there would be no loss of parking along Glenoaks Boulevard; the existing bicycle lanes along this section would also be retained.

Central Avenue (Proposed Project Segment E1)

The BRT route turns south towards Downtown Glendale from the intersection of Glenoaks Boulevard / Central Avenue. Buses would operate in mixed-flow along Central Avenue through the SR-134 interchange area; dedicated bus lanes would be provided south of Sanchez Drive by restriping to convert the outside lane to bus-only, with right-turns allowed from the bus lane. The bus lanes would be side-running adjacent to the existing Class II bike lanes which extend from Doran Street to Broadway. A station would be provided at Lexington Drive where a pair of far-side loading zones would be constructed along the sidewalk using a curb extension to facilitate pedestrian access and circulation. A bicycle bypass lane would be provided behind the stations to avoid bus-bicycle conflicts in the loading zone.

Broadway (Proposed Project Segment E1)

The BRT route turns from Central Avenue and follows Broadway to Harvey Drive. Dedicated curb- and side-running bus lanes would be provided along Broadway by converting the outside travel lane to bus-only with right-turns allowed from the bus lane. Between Central Avenue and Brand Boulevard, where no on-street parking exists, the outside travel lane would be converted to bus-and-right-turn only; east of Brand Boulevard, the outside travel lane would be converted into a side-running bus-only lane retaining existing on-street parking and curb extensions. The side-running lanes would run alongside the parking lane which would remain (with the possible loss of a few parking stalls at each station). Far-side stations would be provided along the sidewalk at Brand Boulevard, Glendale Avenue and Verdugo Road, with curb extensions where feasible. The existing Class III bicycle “sharrows” would be removed; however, bicycles would be allowed to use the bus lanes. Buses would maneuver into the mixed-flow lanes to pass cyclists as-needed. Red-colored pavement would be implemented in the shared bus lanes as a traffic control device. The Federal Highway Administration (FHWA) has issued an Interim Approval for the optional use of red-colored pavement to enhance the visibility of station stops, bus lanes, or other locations in the roadway that are reserved for multi-modal facilities where public transit is the primary mode. At Harvey Drive, the BRT service turns onto W. Broadway heading into the Eagle Rock community of the City of Los Angeles.

Colorado Street (Route Option E2)

This route option would also operate in dedicated bus lanes in a side-running configuration along Central Avenue south of Sanchez Drive. However, rather than turning at Broadway, the BRT would continue to a turn at Colorado Street. The BRT would follow Colorado Street connecting to Colorado Boulevard approaching the Los Angeles city limit near SR-2. Dedicated curb- and side-running bus lanes would be provided along Colorado Street by restriping to convert the outside lane to a bus-and-right-turn only lane. Between Central Avenue and Brand Boulevard, where no on-street parking exists, the outside travel lane would be converted to bus-and-right-turn only; east of Brand Boulevard, the outside travel lane would be converted into a side-running bus-only lane retaining existing on-street parking and curb extensions. The route continues east to the Glendale border, where buses would operate in mixed-flow approaching and through the SR-2 interchange area along Colorado Boulevard, heading into the Eagle Rock

community of Los Angeles. Similar to the Proposed Project Segment E1, there would be a station along Central Avenue at Lexington Drive and there would be a second station along Central Avenue at Americana Way. Along Colorado Street, there would be three more stations – at Brand Boulevard, Glendale Avenue, and Verdugo Road. All stations would have far-side loading zones along the sidewalk, which would be widened with curb extensions where feasible.

SR-134 (Route Option E3)

This route option utilizes the SR-134 freeway between Brand Boulevard and Harvey Drive. The BRT service would operate in mixed-flow along the frontage road couplet – Sanchez Drive (eastbound) and Goode Avenue (westbound) – to access the SR-134 ramps at Brand Boulevard. The BRT service continues along the freeway to the vicinity of the Harvey Drive interchange where buses would either exit to serve a station at Harvey Drive and then continue east into Eagle Rock (via Sections F1 or F2) or continue east along the freeway (via Section F3). Loading zones would be located along the shoulder areas of the eastbound off-ramp and westbound on-ramp.

Section F – Eagle Rock Community of the City of Los Angeles

This district includes Proposed Project Segment F2 which would provide side-running bus lanes along Colorado Boulevard, Route Option F1 which is a hybrid side-and-center-running Configuration Option along Colorado Boulevard, and Route Option F3 which is mixed-flow, routed via SR-134, Figueroa Street and Colorado Boulevard.

Colorado Boulevard Hybrid Side-and-Center Running Configuration Option (Route Option F1)

An alternative configuration would provide side-running bus lanes extending from the West Broadway/Colorado Boulevard intersection transitioning to a center-running configuration east of Ellenwood Drive. The center-running configuration would replace the existing median along Colorado Boulevard. As a result of implementation of the center-running bus lanes, various through traffic and left-turn movements across the median would be restricted at the following intersections:³

- Lockhaven Avenue
- Windemere Avenue
- El Rio Avenue
- Rockland Avenue
- Caspar Avenue (partial)
- Shearin Avenue
- Glen Iris Avenue
- Highland View Avenue
- Hermosa Avenue (partial)
- Argus Drive (partial)
- La Roda Avenue
- Mount Royal Drive (partial)
- Townsend Avenue (partial)
- Floristan Avenue
- Hartwick Street
- Los Robles Street
- Mt. Helena Avenue
- Holbrook Street

³ Some movements would remain open at locations indicated as right turn movements would remain allowable at all locations. It should be noted these restrictions are subject to refinement in future design phases.

The center-running configuration would require full reconstruction of the street. The BRT lanes would be placed in the center and new narrower medians would be interspersed throughout the segment. In addition, Class II Bicycle Lanes would be provided. The center-running configuration would extend to Dahlia Drive; between Dahlia Drive and the SR-134 ramps east of Linda Rosa Avenue there would be an eastbound center-running bus lane whereas westbound buses would operate in mixed-flow. There would be three stations serving Eagle Rock – Eagle Rock Plaza (near Sierra Villa Drive), Eagle Rock Boulevard, and Townsend Avenue. The stations at Eagle Rock Boulevard and Townsend Avenue would be built on loading islands accessible by signalized crosswalks. In addition to replacing the existing striped and raised median with a center-running busway, this alternative configuration would result in the loss of approximately 50 percent of the existing on-street parking along Colorado Boulevard and would require removal and/or modification of most of the Active Transportation Program Cycle 2 improvements proposed by the City of Los Angeles.

Colorado Boulevard (Proposed Project Segment F2)

The BRT service would operate through the Eagle Rock community of Los Angeles along Colorado Boulevard, connecting from West Broadway or Colorado Street in Glendale.

The Proposed Project configuration would provide dedicated side-running bus lanes east of the Colorado Boulevard/West Broadway intersection extending approximately 1.5 miles to Dahlia Drive. Under this configuration, the existing buffered bike lanes would be converted to 11- or 12-foot shared bus-and-bicycle lanes. Bicycles would be allowed to operate within the bus lane. Buses would maneuver into the mixed-flow lanes to pass cyclists as-needed. Buses would operate in mixed-flow between Dahlia Drive and the SR-134 ramps just east of Linda Rosa Avenue, and would continue via SR-134 to Pasadena. Right-turning vehicles would merge into the bus-and-bicycle lane approaching intersections and would turn from the bus lane. There would be three stations serving Eagle Rock – Eagle Rock Plaza (near Sierra Villa Drive), Eagle Rock Boulevard, and Townsend Avenue. The stations would utilize curb extensions to accommodate station elements while maintaining adequate sidewalk width for pedestrian circulation and access to adjacent buildings. A bicycle bypass lane would be provided behind the stations to avoid bus-bicycle conflicts in the loading zone. This configuration would retain the existing painted and raised landscaped medians along Colorado Boulevard along with most of the on-street parking (with no more than 10 stalls removed at station locations). Curb extensions proposed as part of the City of Los Angeles Active Transportation Program Cycle 2 project would be retained.

SR-134 (Route Option F3)

This route option bypasses the heart of the Eagle Rock community by extending the BRT service east along SR-134 between the Harvey Drive interchange in Glendale and the Figueroa Street interchange. The BRT service would operate along Figueroa Street to a station at the Colorado Boulevard/Figueroa Street intersection continuing east via Colorado Boulevard to re-join the SR-134 at the North San Rafael Avenue interchange. Buses would operate in mixed-flow throughout this segment.

Sections G and H – City of Pasadena

Buses would operate in mixed-flow along existing travel lanes throughout the City of Pasadena, extending to the terminus at Pasadena City College near the Colorado Boulevard/Hill Avenue intersection. There are two segments in Pasadena, each of which includes the Proposed Project as well as one Route Option. Because the BRT service would operate along existing travel lanes, parking impacts would be limited to less than 10 stalls per station where red curb zones may need to be lengthened to accommodate the BRT along with other bus services.

Fair Oaks Interchange (Proposed Project Segment G1)

The BRT route exits SR-134 at the Fair Oaks Avenue interchange and operates via Fair Oaks Avenue – Walnut Street – Raymond Avenue to Colorado Boulevard or the Union Street/Green Street one-way couplet, dependent upon the selected route in Section H. A station serving the Metro L Line (Gold) would be provided along Raymond Avenue at Holly Street adjacent to the Memorial Park station.

Colorado Boulevard Interchange Route Option (Route Option G2)

This route option uses the Colorado Boulevard interchange rather than the Fair Oaks Avenue interchange. Buses would follow Colorado Boulevard to the eastern terminus or would transition via St. John Avenue to the Union Street/Green Street one-way couplet dependent upon the selected route in Section H.

Colorado Boulevard (Proposed Project Segment H1)

The BRT service would operate via Colorado Boulevard to the eastern terminus at Pasadena City College. Stations would be provided at Los Robles Avenue (with Proposed Project Segment G1) or Arroyo Parkway (with Route Option G2), as well as at Lake Avenue and Hill Avenue. An on-street bus layover zone would also be provided along Hill Avenue south of Colorado Boulevard by restriping the roadway, which would eliminate a short stretch of curb parking on the southbound side of Hill Avenue.

Green Street – Union Street One-Way Couplet (Route Option H2)

Under this route option, buses would operate eastbound along Green Street then northbound via Hill Avenue to the eastern terminus, before returning westbound along Union Street. Station pairs would be provided at Los Robles Avenue (with Proposed Project Segment G1) or Arroyo Parkway, as well as at Lake Avenue. The terminal station and layover zone would be located along the east curb of Hill Avenue south of Colorado Boulevard.

2.4 STATION LOCATIONS AND CHARACTERISTICS

The Proposed Project includes 35 possible station sites. This includes 21 potential stations along with two optional (future infill) stations along the Proposed Project route, plus an additional 12 potential station locations along Route Option segments. For planning purposes,

the typical station footprint is considered to be 100 feet long and 10 feet wide; however, station loading zones as short as 70 feet in length may be required due to site constraints. Depending upon the station location, red curb may extend up to 40 feet in advance of, or beyond, the platform area to provide maneuvering room for buses. It is anticipated that buses with all-door boarding and on-board fare collection would load from a near level raised curb within the station area.

Where feasible, a curb extension up to 12 feet wide would be provided to accommodate the station platform to minimize impacts to the existing sidewalk area. A minimum pedestrian pathway of five feet would be maintained through the station area to accommodate pedestrian circulation and maintain access to adjacent land uses. Bicycle lanes, where present, would be routed on a designated bike path behind the loading area at stations.

Metro BRT stations are designed to create a comfortable and safe environment for passengers, fulfilling both a functional and aesthetic need. The stations are distinguishable from competing street elements, yet complementary the surrounding environments. Station amenities associated with the Proposed Project would be designed using a kit of parts approach, similar to Metro rail stations. The kit of parts approach is under development by Metro, although station elements as described below would be utilized to establish a minimum requirement of baseline of amenities for platforms. At locations with higher ridership or where space allows, additional enhanced amenities would be provided to support the Proposed Project. Stations siting would allow for safe and accessible paths of travel for transit riders including those accessing stations on foot, bike and other rolling modes.

Table 2-2 provides a summary of the proposed station locations and key aspects of the proposed configuration at each location. (Refer to **Figure 2-2** for a map providing station locations and route segment labels.) Where integration with existing sidewalks, plazas or landscaping is indicated, station design would consider retaining or relocating existing vertical elements such as trees, signs, parking meters and streetlights. In addition, one half of one percent of the overall project construction costs will be set aside for the integration of site-specific public art to promote a sense of place for surrounding neighborhoods.

Station placement and design features would be subject to refinement during the Preliminary Engineering phase to meet site-specific opportunities and constraints.

2.5 LANE CONFIGURATIONS AND TREATMENTS

The configuration of dedicated bus lanes could be curb-running, side-running alongside existing parking and/or bicycle facilities, and/or center/median-running in the center of the roadway or alongside existing roadway medians. The treatments for the Proposed Project and treatment options being assessed in the Draft EIR are shown in **Table 2-1**. The treatments are further described below.

Table 2-2 – Station/Platform Locations

Location	Segment / Status	Description
NORTH HOLLYWOOD (CITY OF LOS ANGELES)		
North Hollywood Metro B/G (Red/Orange) Line Station	A1, A2 Proposed Project Terminus	Existing off-street station would be replaced with a new transit center that would accommodate the Proposed Project. The new transit center would be constructed regardless of the proposed project as part of the separate and independent North Hollywood Station Joint Development Project (see https://www.metro.net/projects/jd-noho/s).
Vineland Ave. at Hesby St.	A1 Proposed Project	Median station with islands outboard of bus lanes (for right-hand side loading) south of Hesby St. (eastbound far-side / westbound near-side) with new traffic signal and crosswalk for access.
<i>Lankershim Blvd. at Hesby St.</i>	A2 <i>(Route Option)</i>	Sidewalk station with curb extensions south of Hesby St. (eastbound near-side / westbound far-side) using existing traffic signal and crosswalk for access.
CITY OF BURBANK		
Olive Ave. at Riverside Drive and Hollywood Way	C Proposed Project	Sidewalk station with eastbound loading zone on curb extension on Riverside Drive far-side from Hollywood Way; westbound loading zone on Olive Ave. far-side from Riverside Drive and would be integrated with existing plaza.
Olive Ave. at Alameda Ave.	C Proposed Project	Sidewalk station with 70-foot far-side eastbound loading zone displacing existing westbound Alameda Ave. to eastbound Olive Ave. “free” right-turn pocket; westbound far-side loading zone at existing bus stop.
Olive Ave. at Buena Vista St.	C Proposed Project	Sidewalk station with far-side eastbound loading zone shifted beyond commercial driveway; near-side 70-foot westbound loading zone would be integrated with existing landscaping and plaza.
Olive Ave. at Verdugo Ave.	C <i>Optional Station</i>	Sidewalk station with far-side eastbound loading zone along existing triangular island; far-side westbound loading zone would displace existing eastbound Verdugo Ave. to westbound Olive Ave. “free” right-turn pocket.
Olive Ave. at Burbank-Downtown Metrolink Station (on bridge)	C Proposed Project	Sidewalk station with curb extensions and new mid-block signalized crosswalk connecting existing elevator and stairs adjacent to the westbound lanes and pedestrian ramp adjacent to the eastbound lanes.
Olive Ave. at San Fernando Blvd.	C Proposed Project	Sidewalk station with 120 – 140-foot-long far-side loading zones to accommodate the Project and local bus services. Station elements would be integrated with sidewalk and would avoid conflicts with existing mature street trees.

Location	Segment / Status	Description
CITY OF GLENDALE		
Glenoaks Blvd. at Alameda Ave.	D Proposed Project	Median station with far-side loading islands outboard of bus lanes (for right-hand side loading) accessible by existing signalized crosswalk. The existing landscaped median-noses would be reconfigured to accommodate the stations and left-turn bays.
Glenoaks Blvd. at Western Ave.	D Proposed Project	Median far-side station with same configuration as Glenoaks Blvd. at Alameda Ave.
<i>Glenoaks Blvd. at Grandview Ave.</i>	<i>D Optional Station</i>	Median far-side station with same configuration as Glenoaks Blvd. at Alameda Ave.
Glenoaks Blvd. at Pacific Ave.	D Proposed Project	Median far-side station with same configuration as Glenoaks Blvd. at Alameda Ave.
Central Ave. at Lexington Dr.	E1 & E2 Proposed Project	Sidewalk station with far-side loading zones along curb extensions; includes bicycle pathway behind station.
Broadway at Brand Blvd.	E1 Proposed Project	Sidewalk station with far-side loading zones. Curb extension would be provided to widen sidewalk for eastbound station; westbound station would be integrated with sidewalk/plaza.
Broadway at Glendale Ave.	E1 Proposed Project	Sidewalk station with far-side loading zones. Stations would be integrated with sidewalk.
Broadway at Verdugo Rd.	E1 Proposed Project	Sidewalk station with far-side loading zones. Stations would utilize existing wide sidewalks.
<i>Central Ave. at Americana Way</i>	<i>E2 Route Option</i>	Sidewalk station with far-side loading zones. Stations would utilize existing wide sidewalks.
<i>Colorado St. at Brand Blvd.</i>	<i>E2 Route Option</i>	Sidewalk station with far-side loading zones along curb extensions.
<i>Colorado St. at Glendale Ave.</i>	<i>E2 Route Option</i>	Sidewalk station with far-side loading zones along curb extensions.
<i>Colorado St. at Verdugo Rd.</i>	<i>E2 Route Option</i>	Sidewalk station with far-side loading zones along curb extensions.
<i>Brand Blvd. at Goode Ave. and Sanchez Dr.</i>	<i>E3 Route Option</i>	Sidewalk station with mid-block near-side eastbound and far-side westbound loading zones along curb extensions. Eastbound platform set back from Brand Blvd. to avoid conflict with right-turn bay.

Location	Segment / Status	Description
<i>SR-134 Ramps and Harvey Dr.</i>	<i>E3 Route Option</i>	Stations on shoulders of ramps with near-side eastbound and far-side westbound loading zones. The eastbound station would be developed on the off-ramp by improving the existing LADOT Commuter Express 549 bus stop; westbound station would be constructed in shoulder area of the ramp.
EAGLE ROCK DISTRICT (CITY OF LOS ANGELES)		
<i>Colorado Blvd. at Eagle Rock Plaza</i>	<i>F1 / F2 (Route Option / Proposed Project)</i>	Sidewalk station with loading zones along curb extensions; includes bicycle pathway behind station. Station locations vary based upon the roadway configuration and connecting route segments: for the F2 / Proposed Project (side-running configuration), stations would be located near-side at the Colorado Blvd. / Sierra Villa Drive signalized intersection using the existing crosswalks for access. With the F1 / alternative configuration (hybrid side-and-center-running) the eastbound loading zone is located on the far-side of the Colorado Blvd. / W. Broadway intersection. For buses continuing onto W. Broadway the westbound loading zone with the hybrid configuration is located on the near-side of this intersection; buses continuing along Colorado Blvd. (Segment E2) would load at a near-side station at the Colorado Blvd. / Sierra Villa Drive intersection.
<i>Colorado Blvd. at Eagle Rock Blvd.</i>	<i>F1 / F2 (Route Option / Proposed Project)</i>	Station locations and configurations vary based upon the roadway configuration: For the F2 / Proposed Project (side-running configuration) sidewalk stations with loading zones along curb extensions, including a bicycle pathway behind the station, would be provided far-side at the Colorado Blvd. / Eagle Rock Blvd. intersection. With the F1 / alternative configuration (hybrid side-and-center-running) median stations with far-side loading islands outboard of bus lanes (for right-hand side loading) accessible by existing signalized crosswalk would be provided. The eastbound station would be located far-side at the Colorado Blvd. / Caspar Ave. intersection; the westbound station would be located far-side at the Colorado Blvd. / Eagle Rock Blvd. intersection.
<i>Colorado Blvd. at Townsend Ave.</i>	<i>F1 / F2 (Route Option / Proposed Project)</i>	Station locations and configurations vary based upon the roadway configuration: For the F2 / Proposed Project (side-running configuration) sidewalk stations with loading zones along curb extensions, including a bicycle pathway behind the station, would be provided near-side of the Colorado Blvd. / Townsend Ave. intersection (eastbound station west of the south leg of Townsend Ave. and westbound station east of the north leg). With the F1 / alternative configuration (hybrid side-and-center-running) median stations with loading islands outboard of bus lanes (for right-hand side loading) accessible by existing signalized crosswalk would be provided west of the south leg of Townsend Ave. (near-side for eastbound buses and far-side for westbound buses).

Location	Segment / Status	Description
<i>Figueroa St. at Colorado Blvd.</i>	<i>F3 Route Option</i>	Sidewalk station with far-side loading zones along curb extensions at the Figueroa St. / Colorado Blvd. intersection. The eastbound station is on the east leg of the intersection; the westbound station is on the north leg.
CITY OF PASADENA		
Raymond Ave. at Holly St.	G1 Proposed Project	Sidewalk station with curb extensions on Raymond Ave. north of Holly St. proximate to the Metro L Line (Gold). The eastbound loading zone would be near-side and the westbound loading zone would be far-side. Vertical elements would be integrated with the existing landscaping to avoid removal of large trees and would be kept clear of the facade of the historic Raymond Theatre building.
<i>Colorado Blvd. at Arroyo Parkway</i>	<i>H1 Route Option</i>	This station option would provide the nearest connection to the Metro L Line (Gold) if the G2 Route Option utilizing the Colorado Blvd. interchange is selected. The station would be located on the sidewalk and would have 200-foot far-side loading zones (to accommodate the BRT and other bus services). Curb extensions behind the Rose Bowl Parade “blue line” would retain a wide sidewalk walking zone for pedestrians behind the loading area.
Colorado Blvd. at Los Robles Ave.	H1 Proposed Project	This station would be used if the G1 Proposed Project route utilizing the Fair Oaks Ave. interchange is selected. The station would be located on the sidewalk and would have 200-foot far-side loading zones (to accommodate the BRT and other bus services). Curb extensions behind the Rose Bowl Parade “blue line” would retain a wide sidewalk walking zone for pedestrians behind the loading area.
Colorado Blvd. at Lake Ave.	H1 Proposed Project	The station would be located on the sidewalk and would have 200-foot far-side loading zones (to accommodate the BRT and other bus services). Curb extensions behind the Rose Bowl Parade “blue line” would retain a wide sidewalk walking zone for pedestrians behind the loading area.
Colorado Blvd. at Hill Ave.	H1 Proposed Project	The eastern terminal station would be located on the sidewalk and would have 200-foot far-side loading zones (to accommodate the BRT and other bus services). Curb extensions behind the Rose Bowl Parade “blue line” would retain a wide sidewalk walking zone for pedestrians behind the loading area. To support BRT operations, Hill Ave. may be restriped to provide an on-street layover area south of Colorado Blvd., which could also serve as a boarding area for westbound service. If electric bus charging infrastructure is provided, vertical elements, potentially including a mast and electric bus charging boom, would be integrated with the existing street trees and a charging sub-station may displace as many as ten parking stalls within the adjacent Pasadena City College surface parking lot.

Location	Segment / Status	Description
<i>Green St. and Union St. at Arroyo Parkway</i>	<i>H2 Route Option</i>	This station pair option (eastbound along Green St. and westbound along Union St.) provides the nearest connection to the Metro L Line (Gold) if the G2 Route Option utilizing the Colorado Blvd. interchange is selected. The loading zones would be built using a curb extension to increase the sidewalk width; the eastbound station on Green St. would have a far-side loading zone, and the westbound station on Union St. would have a near-side loading zone.
<i>Green St. and Union St. at Los Robles Ave.</i>	<i>H2 Route Option</i>	This station pair (eastbound along Green St. and westbound along Union St.) would be used if the G1 Proposed Project route utilizing the Fair Oaks Ave. interchange is selected. The loading zones would be built using a curb extension to increase the sidewalk width.
<i>Green St. and Union St. at Lake Ave.</i>	<i>H2 Route Option</i>	A pair of stations (eastbound along Green St. and westbound along Union St.) would be provided east of Lake Ave. The eastbound station would be far-side and would be built with a curb extension to increase the sidewalk width adjacent to the bank building plaza (the existing green zone and yellow loading zone would be relocated to the east). The westbound station would be near-side with the loading zone located on an island or plaza adjacent to the rightmost through lane.
<i>Hill Ave. at Colorado Blvd.</i>	<i>H2 Route Option</i>	The eastern terminal station would be located along the sidewalk mid-block between Green St. and Colorado Blvd. The existing roadway would be restriped to provide an approximate 200-foot long combined layover and station zone along the east curb (the platform area would be about 150 feet south of Colorado Blvd.) Station vertical elements, potentially including a mast and electric bus charging boom would be integrated with the existing street trees; the landscaping between the curb and adjacent PCC parking lot would be paved to accommodate the station and pedestrian circulation. A charging sub-station may displace as many as ten parking stalls, if provided.

2.5.1 Center-Running

Center-running bus lanes typically provide two lanes (one for each direction of travel) in the center of the roadway. Center-running bus lanes may be physically separated from adjacent traffic by short raised-curbs to provide an exclusive guideway for BRT vehicles or can simply be delineated with pavement markings, as shown on **Figure 2-3**. This type of runningway can be generally applied in streets with 100-foot or greater curb-to-curb width. In order to preclude roadway traffic from turning across the bus lanes, a physical barrier such as a short raised-median barrier between the two bus lanes may be provided. Cross-street and turning traffic is usually limited to signalized intersections; pedestrian crossings are signal-controlled as well, using traffic signals or hybrid pedestrian beacons. Left-turns across the busway are usually signal-controlled with turns made from left-turn pockets outboard from the center bus lanes.

2.5.2 Median-Running

In median-running segments, the BRT service operates within dedicated lanes adjacent to a median (i.e., the left-most lane in the direction of travel). Stations can be placed within the median (for buses with left-hand side doors), as shown in **Figure 2-4**. Alternatively, the median can be reconfigured in the station area to provide loading islands located outside of the bus lanes (for buses with standard right-hand side doors.) A median-running bus lane may also be physically separated from parallel roadway traffic in a defined guideway through the use of short raised-curbs or rumble strips. Similar to the center-running configuration, cross-street and turning traffic is usually limited to signalized intersections; pedestrian crossings are signal-controlled as well, using traffic signals or hybrid pedestrian beacons. Left-turns across the busway are usually signal-controlled with turns made from left-turn pockets outboard from the bus lane.

2.5.3 Side-Running

Side-running bus lanes dedicate the right-most travel lane to BRT vehicles, as shown in **Figure 2-5**. Side-running bus lanes are separated from the curb by bicycle lanes, parking lanes, or both, and may allow for right-turns to be made from the curb lane at intersections reducing conflicts with buses. Otherwise, right-turns are allowed to be made from the bus lane. Because station placement is adjacent to the sidewalk, stations are typically developed with bulb outs or curb extensions, enhancing walkability and the pedestrian environment. Station siting and design treatment should minimize conflicts with cyclists, parked vehicles, commercial loading zones/vehicles, and right-turning traffic.

Figure 2-3 – Typical Center-Running Bus Lanes Configurations

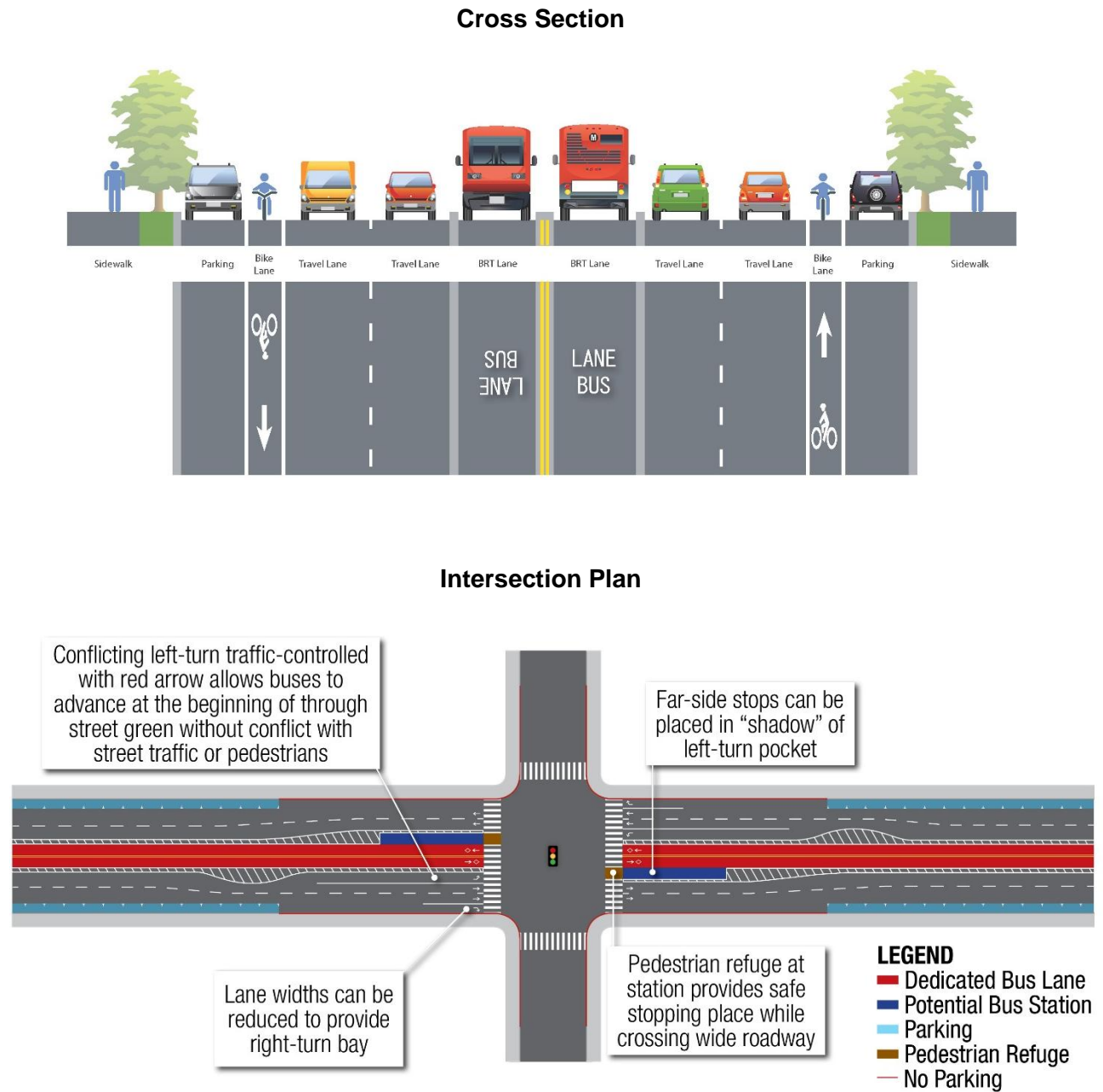


Figure 2-4 – Typical Median-Running Bus Lanes Configurations

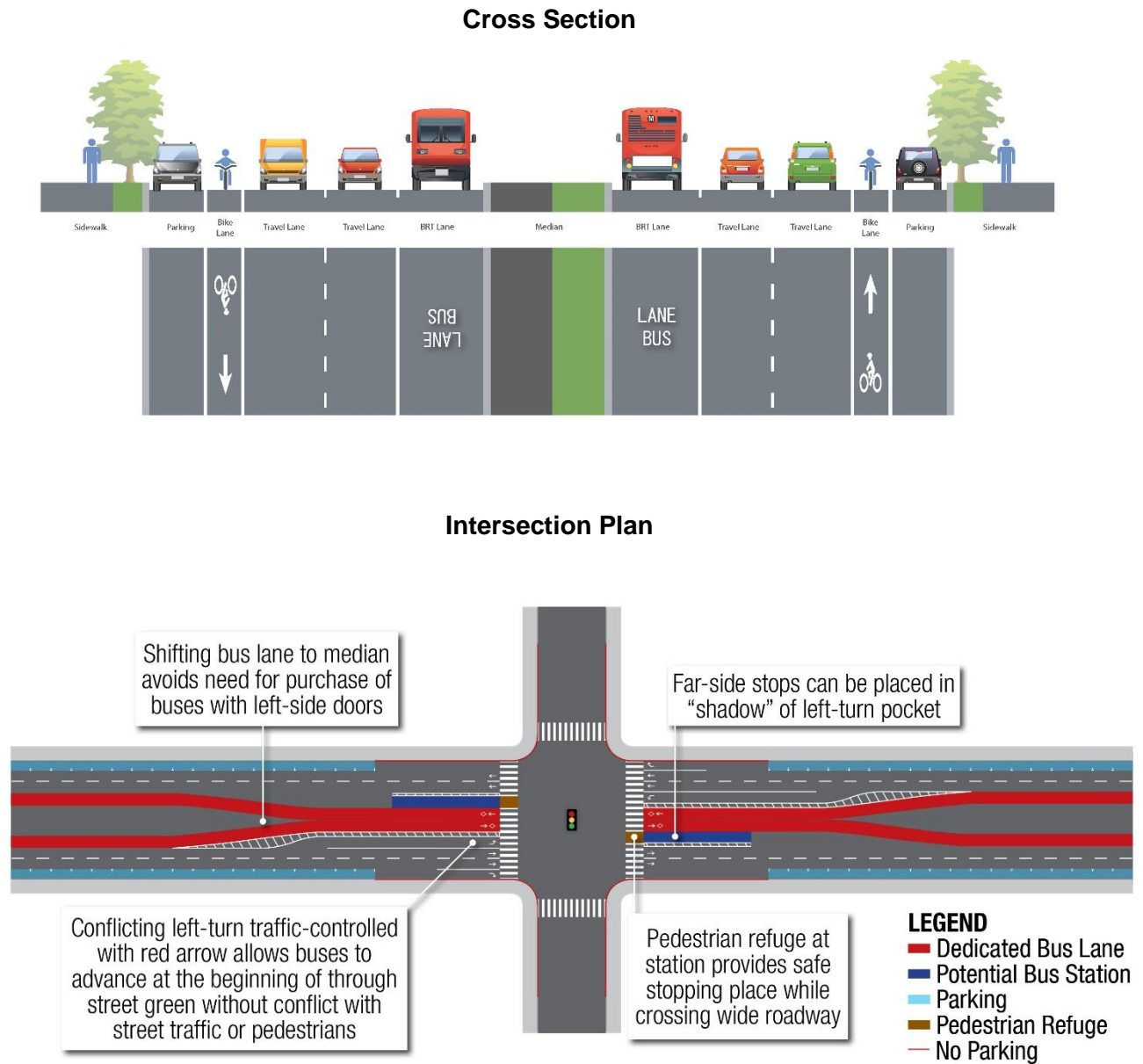
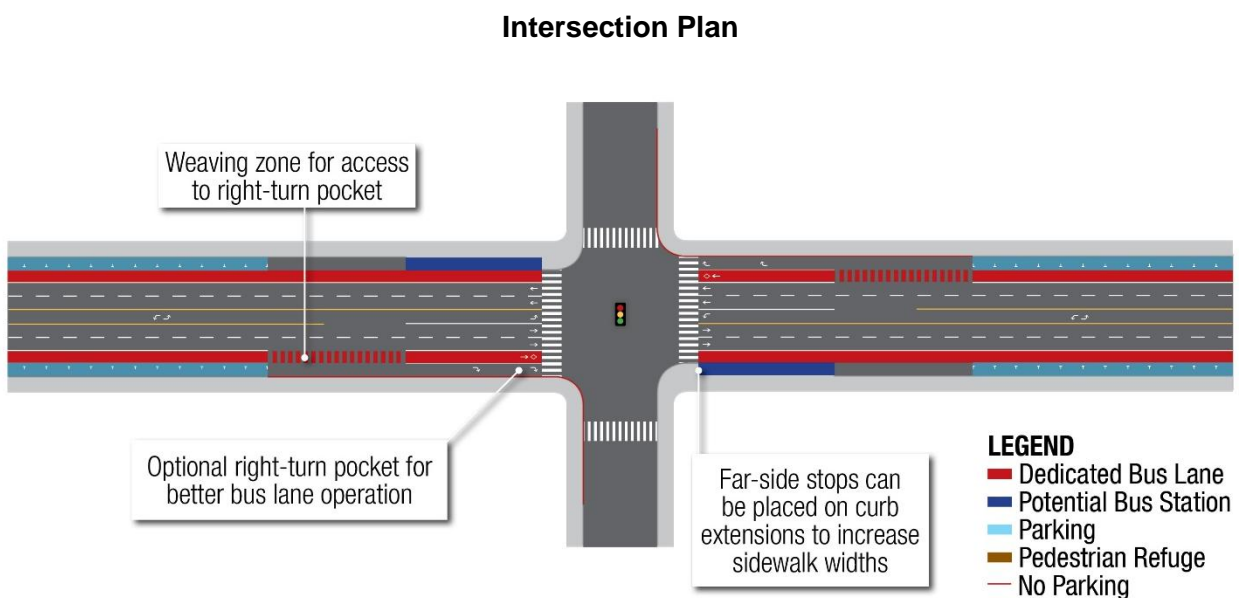
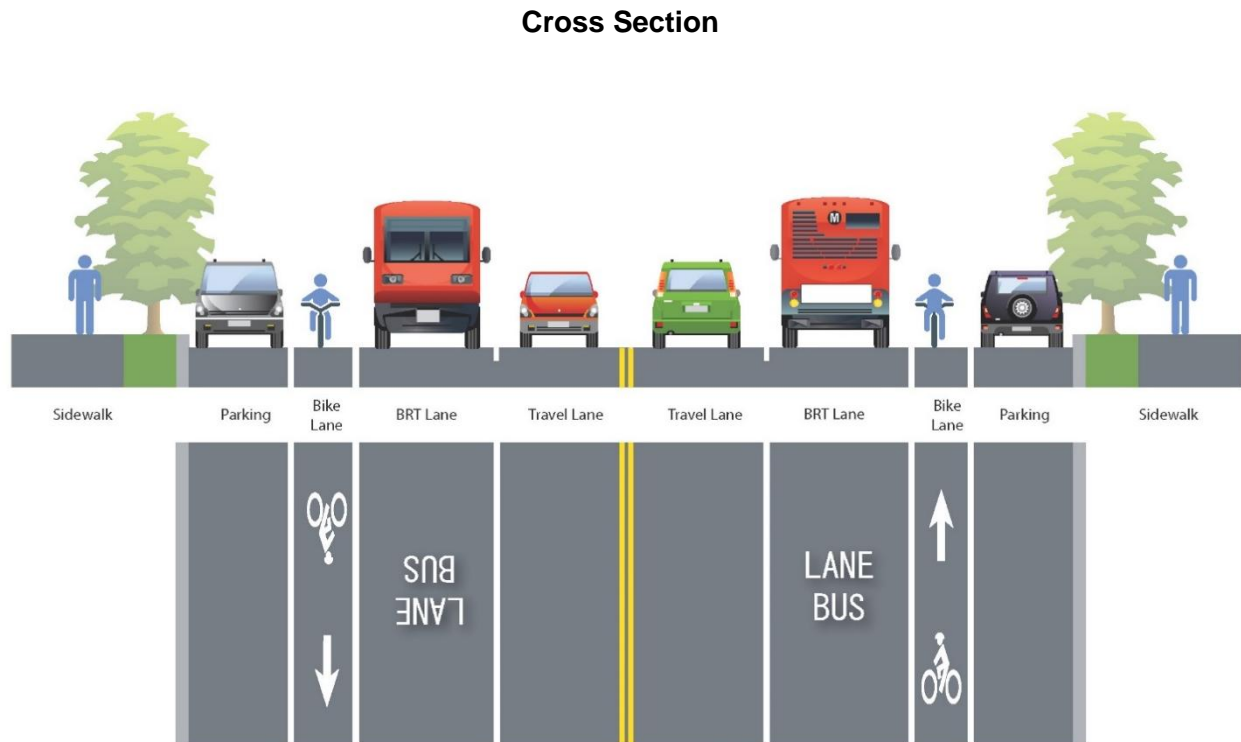


Figure 2-5 – Typical Side-Running Bus Lanes Configurations



2.5.4 Curb-Running

Curb-running bus lanes place the dedicated bus lane immediately adjacent to the curb, as shown in **Figure 2-6**, which eliminates parking or restricts parking to time periods when the bus lane is not operational. Like the side-running bus lanes configuration, a curb extension may be provided; however, operation along the curb may preclude development of a bulb out. This type of runningway can experience friction or interaction with cyclists, parked vehicles, commercial loading zones/vehicles, and right-turning traffic, which typically merges into the bus lane prior to turning.

2.5.5 Mixed-Flow

Mixed-flow operation may be provided along the BRT route where buses need to transition from one busway configuration to another such as from center-running to side-running, where buses may need to weave into another lane to make a turn, or where traffic operational or geometric constraints make provision of a dedicated lane impractical. In mixed-flow sections, transit priority at intersections may still be provided to facilitate BRT operations (see **Figure 2-7**).

2.6 OPERATIONS

The Proposed Project would provide BRT service from 4:00 a.m. to 1:00 a.m. or 21 hours per day Sunday through Thursday, and longer service hours (4:00 a.m. to 3:00 a.m.) would be provided on Fridays and Saturdays (see **Table 2-3**). The proposed service span is consistent with the Metro B Line (Red).

The BRT would operate with 10-minute frequency throughout most of the day on weekdays tapering to 15 to 20 minutes frequency during the evenings, and with 15-minute frequency during most of the day on weekends tapering to 30 minutes in the evenings. **Table 2-4** shows the frequencies.

2.7 VEHICLES

The BRT service would be provided on 40-foot zero-emission electric buses with the capacity to serve up to 75 passengers. A maximum of 16 buses are anticipated to be in service along the route during peak operations. A typical 40-foot bus seats approximately 40 passengers and can carry up to 35 additional standees in the aisle circulation space, although this maximum capacity lowers the passengers' comfort and perception of quality of service and is not recommended for standard operations. If warranted by high ridership, additional buses could be deployed to the high demand segments of the BRT route during peak periods and turned-back at an interim station along the route where the ridership decreases.

Figure 2-6 – Typical Curb-Running Bus Lanes Cross Section

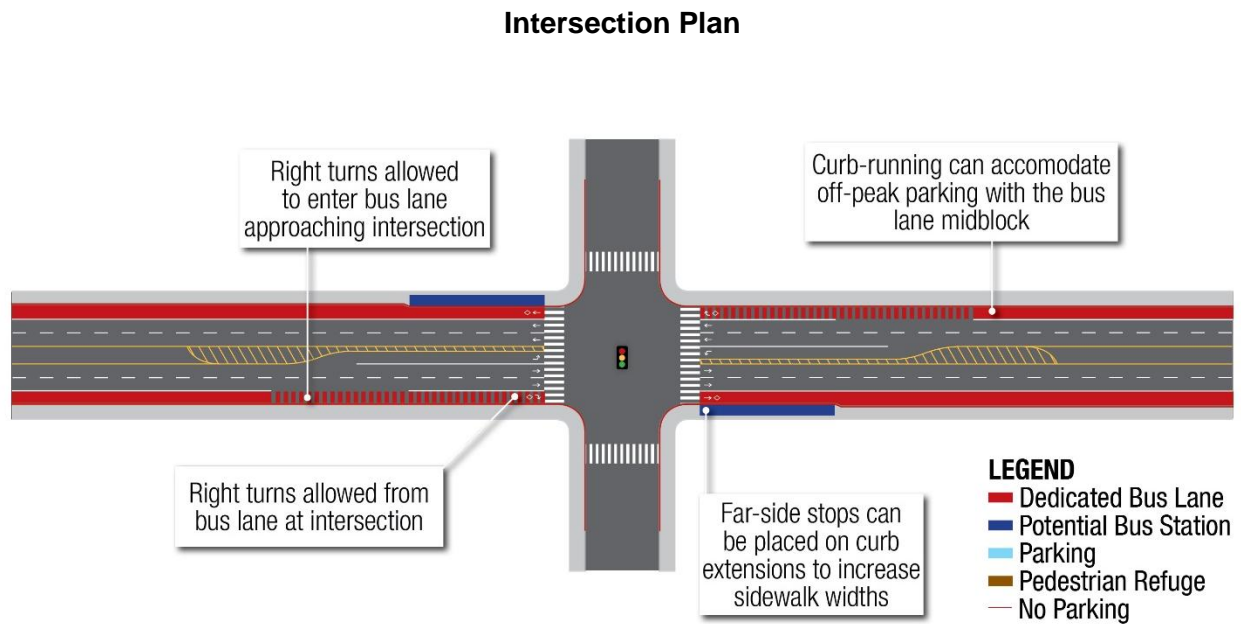
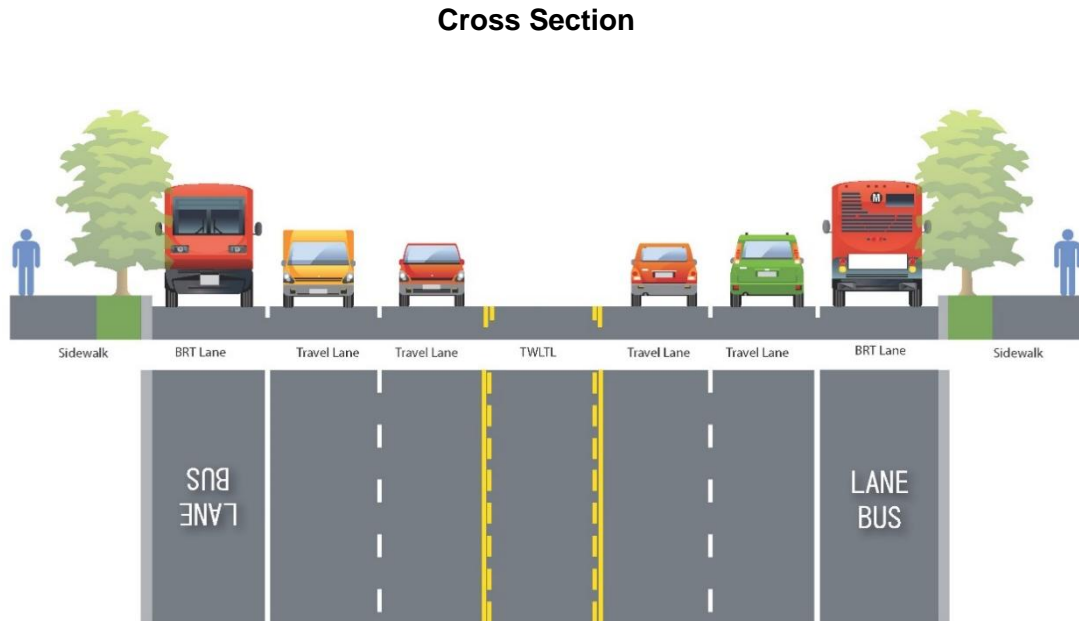
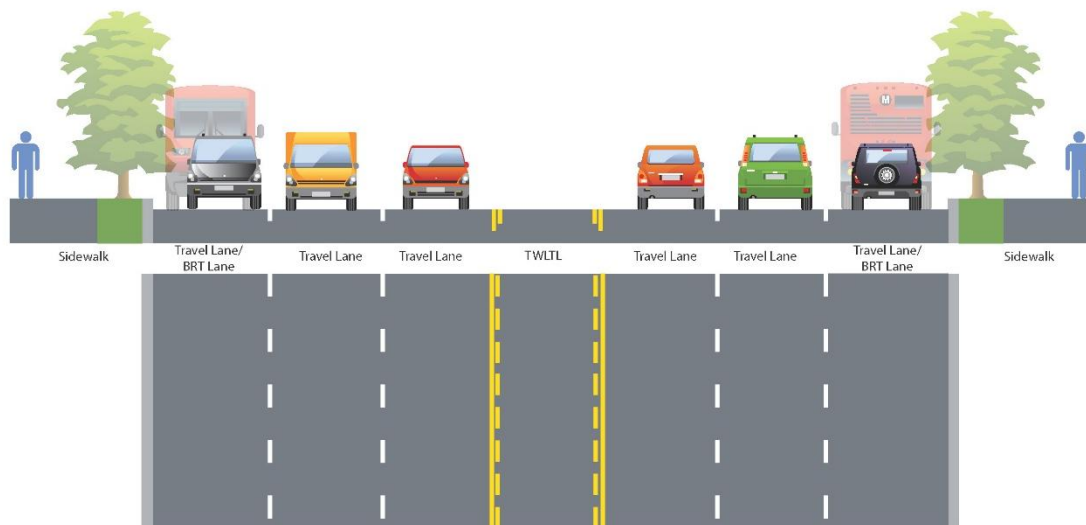


Figure 2-7 – Typical Mixed-Flow Operation Cross Section



The BRT service’s fleet of zero-emission electric buses would charge overnight at the maintenance and storage facility where the buses are parked. In addition, electric charging equipment would be provided at both ends of the BRT route, at the North Hollywood B/G Line (Red/Orange) and PCC, for the opportunity to boost the charge on the buses between runs.

When operations commence in 2024, it is possible that the fleet would operate compressed natural gas (CNG) buses in its service until ZEV buses become available. The employment of CNG buses would be temporary and would not represent long-term operational conditions.

2.8 MAINTENANCE AND STORAGE

Maintenance and storage facilities for Metro buses are located throughout the County. At each is a parking lot for buses, repairs garage, bus wash, assignment desk for bus operators, lockers and lunchroom. The buses for the BRT service would be stored at an existing Metro facility, potentially at the El Monte Division or another Metro division in closer proximity to the Project corridor. Metro has an existing program to transition its entire bus fleet to zero-emission buses by 2030. The transition to zero-emission buses requires infrastructure improvements at Metro’s maintenance and storage facilities, including installing electric equipment for overnight charging. While a small portion of the Proposed Project funds would contribute to these improvements, the infrastructure would support the entire Metro fleet and is independent of the Proposed Project. Implementation of the zero-emission charging infrastructure would be carried out under Metro’s Zero Emission Fleet Program.

Table 2-3 – Proposed BRT Service Span

	Early	AM Peak	Midday	PM Peak	Evening	Late Night	Owl
Monday -Thursday	4:00 a.m. - 6:00 a.m.	6:00 a.m. - - 9:00 a.m.	9:00 a.m. - 3:00 p.m.	3:00 p.m. - 7:00 p.m.	7:00 p.m. - 9:00 p.m.	9:00 p.m. - 12:00 a.m.	12:00 a.m. - 1:00 a.m.
Friday	4:00 a.m. - 6:00 a.m.	6:00 a.m. - 9:00 a.m.	9:00 a.m. - 3:00 p.m.	3:00 p.m. - 7:00 p.m.	7:00 p.m. - 9:00 p.m.	9:00 p.m. - 12:00 a.m.	12:00 a.m. - 3:00 a.m.
Saturday	4:00 a.m. - 6:00 a.m.	6:00 a.m. - 9:00 a.m.	9:00 a.m. - 3:00 p.m.	3:00 p.m. - 7:00 p.m.	7:00 p.m. - 9:00 p.m.	9:00 p.m. - 12:00 a.m.	12:00 a.m. - 3:00 a.m.
Sunday/Holiday	4:00 a.m. - 6:00 a.m.	6:00 a.m. - - 9:00 a.m.	9:00 a.m. - 3:00 p.m.	3:00 p.m. - 7:00 p.m.	7:00 p.m. - 9:00 p.m.	9:00 p.m. - 12:00 a.m.	12:00 a.m. - 1:00 a.m.

Table 2-4 – Proposed BRT Service Frequencies

	Early	AM Peak	Midday	PM Peak	Evening	Late Night	Owl
Monday-Thursday	20 minutes	10 minutes	10 minutes	10 minutes	15 minutes	20 minutes	20 minutes
Friday	20 minutes	10 minutes	10 minutes	10 minutes	15 minutes	20 minutes	20 minutes
Saturday	30 minutes	15 minutes	15 minutes	15 minutes	15 minutes	30 minutes	30 minutes
Sunday/Holiday	30 minutes	15 minutes	15 minutes	15 minutes	15 minutes	30 minutes	30 minutes

2.9 CONSTRUCTION

The Proposed Project would primarily be constructed and operate within existing street ROW although minor acquisitions, easements, or temporary construction easements may be necessary at select intersections or station locations. Construction of the Proposed Project would likely include a combination of the following elements dependent upon the chosen BRT configuration for the segment: restriping, curb-and-gutter/sidewalk reconstruction, ROW preparation, pavement improvements, station/loading platform construction, landscaping, and lighting and traffic signal modifications.

Generally, construction of dedicated bus lanes consists of pavement improvements including restriping, whereas ground-disturbing activities occur with station construction and other support structures. Existing utilities would be protected or relocated. Due to the shallow profile of construction, substantial utility conflicts are not anticipated, and relocation efforts should be brief. Utility companies have not been contacted at this time in the planning process. During Advanced Conceptual Engineering, the Project team would coordinate with utility companies to request information. These companies would be contacted to ensure they are aware of the Proposed Project and provide mark-ups, as-builts or confirmation of owner exhibits. Utility coordination meetings would be set up with each utility company with potentially affected facilities to help determine if relocation would be required or the facility could be protected-in-place. The utility coordination meetings would help to ensure all the utility companies are engaged early during Project development. Preliminary relocation concepts would be developed and presented to each utility owner with affected facilities. Utility agreements would be finalized to ensure the designs are prepared by third party utility owners.

Construction equipment anticipated to be used for the Proposed Project consists of asphalt milling machines, asphalt paving machines, large and small excavators/backhoes, loaders, bulldozers, dump trucks, compactors/rollers, and concrete trucks. Additional smaller equipment may also be used such as walk-behind compactors, compact excavators and tractors, and small hydraulic equipment.

The construction duration of the Proposed Project is expected to last approximately 24 to 30 months. Construction activities would shift along the corridor so that overall construction activities should be of relatively short duration within each segment. Construction activities would likely occur during daytime hours. Nighttime activities are not anticipated to be needed to construct the Proposed Project. However, at this stage of the planning process and without a construction contractor, it cannot be confirmed if nighttime construction would be necessary for specialized construction tasks. For these specialized construction tasks, it may be necessary to work during nighttime hours to minimize traffic disruptions.

Traffic control and pedestrian control during construction would follow local jurisdiction guidelines and the Work Area Traffic Control Handbook (WATCH). Published under the authority of the WATCH Committee of Public Works Standards, Inc., the Handbook a leading source of information for traffic control in low-speed/short-duration work areas. It provides quick

reference traffic control guidelines for work activities for contractors, cities, counties, utilities and other agencies responsible for such work. Typical roadway construction traffic control methods would be followed including the use of signage and barricades. Temporary traffic signalization adjustments may be necessary when construction occurs at intersections. It is not anticipated that construction activities would routinely require closing roadways. If roadway closures are required, closure periods would be determined to minimize disruptions to traffic flow and impacts to businesses. Coordination with any adjacent construction work would take place to minimize disruption.

The need for construction staging areas or easements would be identified in the engineering phase. It is anticipated that publicly owned ROW or land in proximity to the Proposed Project's alignment would be available for staging areas. Because the Proposed Project is anticipated to be constructed in a linear segment-by-segment method, there would not be a need for large construction staging areas in proximity to the alignment.

2.10 PERMITS AND APPROVALS

This document is intended to environmentally clear future related discretionary actions under CEQA by Metro and other agencies. Discretionary actions include those approvals, entitlements or permits necessary in order to implement a project. Metro will prepare a SWPPP consistent with federal and County requirements for stormwater discharges associated with construction and industrial activities. Coordination and approvals from communications and utility purveyors would be needed for temporary or permanent utility relocation or service interruption. The Proposed Project would require approval and/or permits from departments associated with the Cities of Los Angeles, Burbank, Glendale, and Pasadena (e.g., fire departments and transportation departments). It is anticipated that permits and approvals include, but are not limited to, the following:

- **Metro Board of Directors:** Certification of the EIR, adoption of Findings and Statement of Overriding Considerations, adoption of the Mitigation Monitoring and Reporting Program.
- **City of Los Angeles:** Approval of traffic signal/transit priority system improvements and street restriping plans; recommendation for approval by the City Council; Approval of plans for fire life safety design requirements; and possible noise variance for nighttime construction activities.
- **City of Burbank:** Discretionary actions and permits would be required, including possible noise variance for nighttime construction activities.
- **City of Glendale:** Discretionary actions and permits would be required, including possible noise variance for nighttime construction activities.
- **City of Pasadena:** Discretionary actions and permits would be required, including possible noise variance for nighttime construction activities.

2.11 COST ESTIMATES

2.11.1 Capital Costs

Capital costs for the Proposed Project are presented in Appendix Y and were estimated based on the Concept Plans presented in Appendix Z. The approach for developing the capital cost estimate used the Standard Cost Category format developed by the Federal Transit Administration, which captures both the “hard” infrastructure construction costs of a project and the “soft” costs like professional services, right-of-way acquisition, contingency, and inflation.

An individual estimate was prepared for each route segment (and segment options) to capture and identify the costs associated with each segment, and to assist in the evaluation of the segment options. There are several project costs that are not attributable to an individual segment, therefore an estimate was prepared for “overall” project items, including the bus vehicles and spare parts allowance.

The results of the conceptual capital cost estimates for the Proposed Project and route options indicate a range between \$249 million and \$367 million. The level of detail of the capital cost estimates corresponds with the current level of definition, engineering, and environmental analysis that has been completed for the Proposed Project. The level of estimating detail would increase as the Project design and engineering advances.

2.11.2 Operations and Maintenance Costs

An Operations and Maintenance (O&M) cost model was developed to estimate the annual cost to operate, maintain and administer the Proposed Project. As discussed in Appendix X, O&M costs are expressed as the annual total of employee wages and salaries, fringe benefits, contract services, materials and supplies, utilities and other day-to-day expenses incurred in the operation and maintenance of a transit system. O&M costs include costs directly related to the provision of transit service (e.g., bus operators and mechanics), and an allocation of administrative functions to each mode of service that is related to the provision of transit service (e.g., customer service, finance and accounting).

The BRT O&M cost model uses the following service supply characteristics as inputs for estimating annual O&M costs:

- Annual Revenue Bus-Hours
- Annual Revenue Bus-Miles
- Peak Buses
- BRT Station Platforms
- BRT Directional Lane Miles
- BRT Maintenance Facilities (Garages)

The estimated annual cost of operating and maintaining the Proposed Project’s BRT service ranges from \$16.6 million to \$18.5 million.

2.12 IMPLEMENTATION SCHEDULE

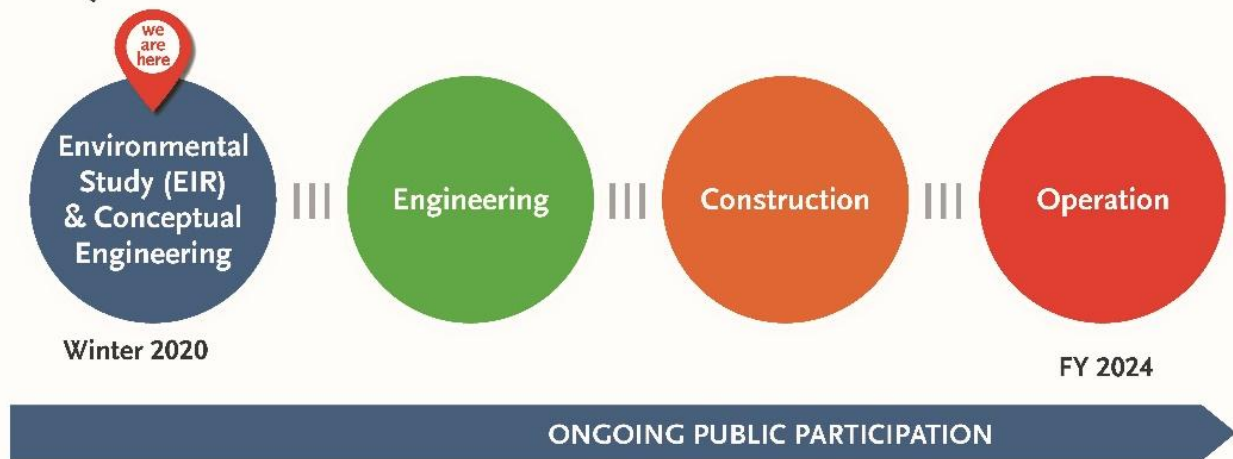
The Draft EIR will be available for public review and comment period from October 26, 2020 to December 10, 2020. After the completion of the public review period, Metro will prepare responses to comments received during the process. In Winter/Spring 2021, the Metro Board will select the Locally Preferred Alternative (LPA) for the Proposed Project. The CEQA process will be completed in Spring/Summer 2021 through the preparation and certification of the Final EIR.

Environmental Process



The overall project schedule anticipates design and constructing commencing in late 2021 with initiation of revenue service in 2024.

Project Schedule



3.1. TRANSPORTATION

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to transportation. Refer to the Transportation Technical Report (Appendix B) for additional details related to applicable regulations and the existing setting.

3.1.1 Regulatory Framework

3.1.1.1 Federal Regulations

There are no existing federal regulations pertaining to transportation that are applicable to the Proposed Project.

3.1.1.2 State Regulations

Senate Bill (SB) 743. SB 743 changes the way transportation impacts are analyzed under CEQA from level of service to vehicle miles traveled (VMT). State guidelines require all lead agencies to update their transportation impact analysis metrics to VMT before July 1, 2020. CEQA generally defers to the lead agencies on the choice of methodology to analyze VMT impacts. Pursuant to section 15064.3(b)(2) of State CEQA Guidelines, transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less-than-significant transportation impact.

Assembly Bill (AB) 1358 – The Complete Streets Act. This law requires cities and counties to include complete streets policies as part of their general plans so that roadways are designed to safely accommodate all users, including bicyclists, pedestrians, transit riders, children, older people, and disabled people, as well as motorists. Beginning January 2011, any substantive revision of the circulation element in the general plan of a California local government would include complete streets provisions.

3.1.1.3 Regional Regulations

2020-2025 Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS). Metropolitan planning organizations (MPO) are designated local decision-making bodies that carry out the federal transportation planning process. SCAG is the federally designated MPO for Los Angeles County. SCAG is required to adopt and periodically update a RTP. SCAG's 2020-2045 RTP/SCS presents the latest transportation vision for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial Counties through 2045 and provides a long-term investment framework for addressing the region's transportation and growth challenges.¹ The expansion of public transit and displacement of on-road light duty automobile and truck travel

¹ SCAG, 2020-2045 RTP/SCS, May 7, 2020.

are recognized in 2020-2045 RTP/SCS as crucial pillars of sustainable regional transportation planning.

Metro Active Transportation Strategic Plan. Finalized in April 2016, the Active Transportation Strategic Plan focuses on enhancing access to transit stations and developing a regional network for people who choose to take transit, walk, and/or bike. The Strategic Plan serves as a roadmap for stakeholders and partners to help identify transportation concepts and changes they would like to see in their community.

3.1.1.4 Local Regulations

City of Los Angeles

General Plan. The City's General Plan Framework Element is the citywide plan that establishes how Los Angeles will grow in the future. The Framework Element is a strategy for long-range growth and development, setting a citywide context for the update of Community Plans and citywide elements. The Framework Element responds to State and Federal mandates to plan for the future by providing goals, policies, and objectives on a variety of topics, such as land use, housing, urban form, open space, transportation, infrastructure, and public services.

2010 Bicycle Plan. The City of Los Angeles' 2010 Bicycle Plan, adopted on March 1, 2011, designates a 1,680-mile bikeway system and introduces a comprehensive collection of programs and policies for the City. Collectively the policies, programs, projects and recommendations in the 2010 Bicycle Plan are intended to create an environment that increases, improves and enhances bicycling in the City as a safe, healthy, and enjoyable means of transportation and recreation for bicyclists.

Mobility Plan 2035. Adopted in September 2016, the Mobility Plan 2035 provides the policy foundation for achieving a transportation system that balances the needs of all road users. The plan recognizes that primary emphasis must be placed on maximizing the efficiency of existing and proposed transportation infrastructure through advanced transportation technology, through reduction of vehicle trips, and through focusing growth in proximity to public transit. The plan incorporates the "complete streets" principle. The Mobility Plan 2035 also incorporates the City's 2010 Bicycle Plan which contains the policies, programs, projects, and recommendations for the City's bicycle network.

City of Burbank

General Plan. Adopted February 19, 2013, the Burbank2035 is the City of Burbank's General Plan. Burbank2035 provides guidance to City decision-makers on allocating resources and determining the future physical form and character of development. Burbank2035 evaluated many different planning chapters including air quality and climate change, land use, mobility, noise, open space and conservation, safety, and plan realization. The Mobility Element defines the transportation network and describes how people move throughout the City, including the streets, railways, transit routes, bike paths, and sidewalks.

Media District Specific Plan. Adopted in January 1991, the Media District Specific Plan is a plan for the commercial and industrial industries in southwest Burbank. The Plan assures all new development can be accommodated by infrastructure and public services, while funding their fair-share cost for improvements. Additionally, the Plan contains a neighborhood protection program to preserve the character and quality of the surrounding single-family residential neighborhoods including policies on limiting traffic spillover.

Burbank Center Plan. The Burbank Center Plan is an economic revitalization plan that, among other things, also contains land use and development standards designed to encourage mixed-use projects that would minimize the volume of vehicular traffic by encouraging the development of a variety of compatible uses within close proximity, and the use of public transit, carpooling, and pedestrian traffic within the area.

Bicycle Master Plan. Adopted December 15, 2009, the Bike Master Plan is a policy document to guide the development and maintenance of a bicycle network, support facilities, and other programs for Burbank over a 25-year horizon. It includes policies around bike planning, community involvement, utilization of existing resources, facility design, multi-modal integration, safety education, support facilities, as well as programs, implementation strategies, maintenance, and funding. The City of Burbank recognizes that a bicycle-friendly environment enhances the quality of life for residents, workers, and visitors in the City.

City of Glendale

Circulation Element of the General Plan. Adopted August 1998, the Circulation Element of the General Plan defines the goals and policies for managing the movement of people and goods through the City. The plan developed a vision of a circulation system which preserves and enhances the quality of life in the City by allowing for commerce to thrive, protecting the character of residential neighborhoods, and minimizing adverse environmental impacts.

Bicycle Transportation Plan. Adopted August 28, 2012, the City of Glendale's Bicycle Transportation Plan proposed a variety of measures, including the improvement of the existing bicycle facilities, construction of new bike routes linking major activity centers, the installation of secured bicycle parking equipment, and the expansion of bicycle education/advocacy programs to enhance public awareness.

Downtown Specific Plan. Adopted March 26, 2019, the Downtown Specific Plan is a mixed-use, urban design plan that establishes the desired physical vision for Downtown Glendale through a clear and comprehensive set of policies, incentives, and requirements. The Plan establishes a coherent and consistent regulatory framework of standards and guidelines in the form of an easy-to-read, graphics-based manual. It sets the physical standards and guidelines as well as land use regulations, and directs policies for economic development; streetscape improvements; transportation development; parking; pedestrian amenities; open space and land use; preservation of cultural resources; and public art. The Downtown Specific Plan mobility policies maximize the accessibility, safety, and efficiency of the Downtown transportation system for all users, including pedestrians, transit passengers, cyclists, and drivers of both personal and commercial vehicles.

City of Pasadena

Mobility Element of the General Plan. Adopted August 18, 2015, the Mobility Element of the City of Pasadena's General Plan. The Mobility Element addresses all modes of travel such as walking, bicycling, transit, driving, and provides a guide for the continuing development of the transportation system to support planned growth. It contains measures for the implementation of goals and policies and addresses the requirements of California state law regarding the transportation needs of the community within the context of the region. The Mobility Element identifies Mobility Objectives, which are specific strategies and guidelines for enhancing livability, strengthening the local economy, and improving all methods of travel in Pasadena.

Bicycle Transportation Action Plan. Adopted August 17, 2015, provides specific goals, objectives, actions, and timelines for creating an environment (1) where people circulate without a car, (2) that significantly increases the number of people who commute by bike, (3) that increases the number of people who use a bike for utilitarian trips, fitness and recreation, and (4) that provides business and economic benefits for the City. The plan provides details for a network of bikeways so that every neighborhood is within 1/4 mile of an effective bicycling route in the north-south and east-west directions. The plan outlines educational, engagement, enforcement, and evaluation strategies designed to increase bicyclist safety by educating both bicyclists and motorists.

3.1.2. Existing Setting

3.1.2.1 Existing Transit System

There are multiple transit providers within the Project Area, including Metro, City of Los Angeles Department of Transportation (LADOT), BurbankBus, Glendale Beeline, Pasadena Transit, and Foothill Transit, as well as Metrolink commuter rail service via the Antelope Valley and Ventura County lines.

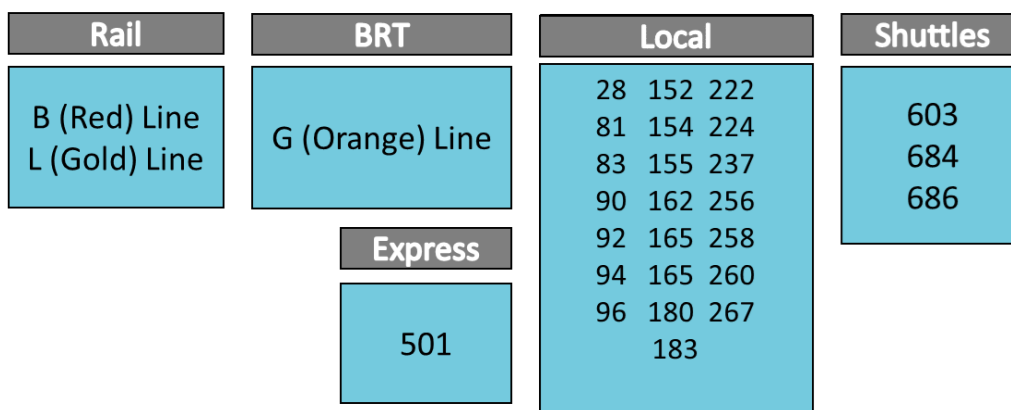
Los Angeles County Metropolitan Transportation Authority (Metro) Services

Metro began the NextGen Bus Plan in January 2018, which reimagines the bus network to be more relevant, reflective of, and attractive to the diverse customer needs within Los Angeles County. The NextGen Bus Plan will realign Metro's bus network based upon data of existing ridership and adjust bus service routes and schedules to improve the overall network. With Metro's NextGen service redesign, one existing service maintains connection between the North Hollywood Station and Pasadena. Metro 501 is an express service that has been in operation since March 2016, connecting North Hollywood and Pasadena via the SR-134 with limited stops at major employment centers in Burbank and northern Glendale. NextGen weekday service frequency on Metro 501 is proposed to be every 15 minutes in the AM and PM peak periods, with service every 15-30 minutes in the weekday base period.

Beyond existing services that serve the length of the Proposed Project corridor, Metro operates a considerable amount of bus and rail service in the study corridor. The Project Area has one existing BRT line, the Metro G Line (Orange) operating between Chatsworth and North

Hollywood. The hierarchy of services include rail, BRT, express bus, and local bus services, as illustrated in **Figure 3.1-1**. Routes reflect NextGen changes which generally have replaced Metro Rapids 762, 780 and 794 with Metro 260, 180, and 94 services.

Figure 3.1-1 – Metro Bus and Rail Service Hierarchy (reflects proposed NextGen changes)



Together, the local routes (Routes 28 through 267) form a comprehensive network that serves travelers within the study corridor, although terrain limits the ability to create a true grid of service and no single local route serves the full corridor from North Hollywood to Pasadena. Reconfigured Metro 180 comes the closest to serving the corridor, linking Pasadena, Eagle Rock and Glendale via Colorado Boulevard and Broadway, before continuing to Hollywood Boulevard and south on Fairfax Avenue to terminate at the La Cienega/Jefferson Station on the Metro E Line (Expo).

Los Angeles Department of Transportation (LADOT)

LADOT operates two types of services: Commuter Express (CE) routes operating in peak periods between park-and-ride lots and major employment centers, and DASH routes providing connectivity through local neighborhoods. Besides LADOT CE 549, commuter express routes operating in the Project corridor include:

- LADOT CE 409 between Sylmar and Downtown Los Angeles via the SR-2 (Glendale Freeway).
- LADOT CE 419 between Chatsworth and Downtown Los Angeles via the I-5 (Golden State Freeway).

DASH routes operating in the Project corridor include:

- LADOT DASH Highland Park/Eagle Rock, operating with a 20-minute frequency throughout the day, Monday through Saturday.

Burbank Bus (BurbankBus)

BurbankBus operates three routes in the study corridor:

- NoHo/Airport operates via Burbank Boulevard, Hollywood Way, and Buena Vista Street to the Hollywood Burbank Airport. Service is every 15 minutes in the peak and every 20 minutes in the midday and evenings, weekdays only.
- NoHo/Media operates via Magnolia Boulevard, Hollywood Way, and Buena Vista Street to the Media District. Service is every 12 minutes during peak periods only.
- Pink Route operates via Cahuenga Boulevard, Riverside Drive, and Olive Avenue to the Burbank-Downtown Metrolink Station. Service is every 15 minutes during peak periods, and 30 minutes during midday.

The routes are set up to connect the major destinations within the City, operating along main thoroughfares

Glendale Beeline

The Glendale Beeline operates eleven routes within the study corridor:

- Glendale Routes 1 and 2 operate along Brand Boulevard and Central Avenue, forming a spine with the highest consistent frequencies in the system.
- Glendale Routes 1, 2 and 4 are the only three in the system that operate seven days a week.
- Glendale Routes 3/31/32 connect Downtown Glendale to Glendale Avenue and the Jet Propulsion Laboratory.
- Glendale Routes 5 through 7 serve major corridors and destinations on all sides of the city. These routes operate six days a week.
- Glendale Routes 11 and 12, dubbed Metrolink Express, operate weekdays only and connect to Metrolink stations (Route 11 to the Glendale Station and Route 12 to the Glendale and Burbank-Downtown Stations).

Pasadena Transit

Pasadena Transit operates five routes within the study corridor:

- All routes except for Pasadena Route 60 operate seven days a week. Pasadena Route 60 operates on weekdays only.
- Pasadena Routes 10, 20, 40, and 51/52 serve Downtown Pasadena and provide a connection to the Metro L Line (Gold).

Foothill Transit

Foothill Transit (FT) operates one route within the study corridor:

- FT 187 is a local service, operating seven days a week along Colorado Boulevard in Pasadena. The route operates regionally between Pasadena, Arcadia, and Azusa.

Metrolink

Metrolink operates two lines that provide service at the Burbank-Downtown Station:

- Antelope Valley Line, operating seven days a week. This line has 30 weekday train trips and 12 weekend train trips serving the Burbank-Downtown Station.
- Ventura County Line, operating five days a week. This line has 34 weekday train trips (including one Amtrak trip) serving the Burbank-Downtown Station.

3.1.2.2 Existing Roadway Facilities

Freeway Network

The SR-134 is the principal east-west freeway that spans the study area. This freeway connects Ventura County to Pasadena through the southern portion of the San Fernando Valley. Based on the annual counts conducted by the California Department of Transportation, the existing (2017) average daily traffic (ADT) on SR-134 ranges from 109,500 (west of Interstate-5) to 242,000 (west of Pacific Avenue). SR-134 varies between three and five general purpose lanes in each direction, with several sections having an additional high occupancy vehicle lane along with auxiliary lanes and/or collector/distributor roadways. Access ramps to/from SR-134 serving the Proposed Project and route options include the following:

- Lankershim Boulevard (eastbound on/westbound off)
- North Pass Avenue (eastbound off)
- West Alameda Avenue (westbound on)
- Brand Boulevard (westbound off/eastbound on)
- Harvey Drive (eastbound off/westbound on, eastbound on/ westbound off)
- Figueroa Street (eastbound off/westbound on)
- San Rafael Avenue (eastbound on/westbound off)
- Fair Oaks Avenue (eastbound off/westbound on)
- Colorado Avenue (eastbound off/westbound on)

Arterial Network

The following lists the roadways and associated classifications affected by the Proposed Project and Route Options from west to east.

City of Los Angeles (North Hollywood)

Street classifications in the City of Los Angeles are defined in the City of Los Angeles Complete Streets Design Guide.

Chandler Boulevard – A Class II Boulevard with one westbound lane and two eastbound lanes. On-street parking is permitted on both sides of the street and Class II bicycle lanes exist in both directions.

Vineland Avenue – A divided Class II Boulevard with two lanes in each direction. On-street parking is permitted on both sides of the street and Class II bicycle lanes exist in both directions.

Lankershim Boulevard – A Class II Boulevard with two lanes in each direction. On-street parking is permitted on both sides of the street.

Riverside Drive – A Class I Avenue with two lanes in each direction. On-street parking is permitted on both sides of the street.

City of Burbank

Street classifications in the City of Burbank are defined in the City of Burbank General Plan Mobility Element.

North Pass Avenue – A major arterial with two lanes in each direction. Limited parking is allowed between SR-134 and Riverside Drive.

Riverside Drive – A major arterial with two lanes in each direction. Riverside Drive east of Evergreen Street and west of Olive Avenue is a secondary arterial with two lanes in each direction. On-street parking is permitted on both sides of the street except between the SR-134 eastbound on-ramp and North Hollywood Way.

North Hollywood Way – A major arterial with two lanes in each direction. On-street parking is prohibited along this stretch.

West Olive Avenue – A major arterial with two lanes in each direction. On-street parking is permitted on both sides of the street.

West Alameda Avenue – A major arterial with two eastbound lanes and three westbound lanes. On-street parking is prohibited along this stretch.

South Glenoaks Boulevard – A major arterial with two lanes in each direction. Southeast of Providencia Avenue and northwest of Alameda Avenue there are three lanes in each direction. On-street parking is permitted on both sides of the street.

City of Glendale

Street classifications in the City of Glendale are defined in the City of Glendale General Plan Circulation Element.

West Glenoaks Boulevard – A divided, major arterial with three lanes in each direction. On-street parking is permitted on both sides of the street and Class II bicycle lanes exist in both directions except eastbound between North Pacific Avenue and North Central Avenue where the facility provides a Class III bicycle route.

Central Avenue – A major arterial with two lanes in each direction, and on-street parking is prohibited. South of Sanchez Drive and north of Lexington Drive there are two southbound lanes and three northbound lanes. On-street parking is prohibited and there are Class II bicycle lanes in each direction along this stretch. South of Lexington Drive and North of Broadway there are two lanes in each direction, on-street parking is permitted, and there is a mix of Class II bicycle lanes and Class III bicycle routes. Lastly, south of Broadway and north of Colorado Street there are three lanes in each direction. On-street parking is prohibited and there are no bicycle lanes.

Goode Avenue – A two to three lane one-way westbound frontage roadway connecting between the split diamond SR-134 interchange ramps at Brand Boulevard and Central Avenue.

Sanchez Drive – A three lane one-way eastbound frontage roadway connecting between the split diamond SR-134 interchange ramps at Central Avenue and Brand Boulevard.

Broadway – A minor arterial with two lanes in each direction. On-street parking is permitted on both sides of the street and Class III bicycle routes exist in both directions.

Colorado Street – A major arterial with three lanes in each direction. On-street parking is prohibited on both sides of the street and there are no bicycle lanes. East of Louise Street and west of Eagle Dale Avenue there are two lanes in each direction. On-street parking is permitted on both sides of the street and there are no bicycle lanes.

Harvey Drive – A four lane roadway connecting between Broadway and the SR-134 interchange north of Wilson Avenue.

Wilson Avenue – A four lane roadway with striped median connecting between Wilson Avenue and West Broadway in the City of Los Angeles. Parking is allowed along the south curb.

City of Los Angeles (Eagle Rock)

Street classifications in the City of Los Angeles are defined in the City of Los Angeles Complete Streets Design Guide.

West Broadway – A Class II Boulevard with two lanes in each direction. On-street parking is permitted on both sides of the street at some locations. There is an eastbound Class II bicycle lane and a westbound Class III bicycle route.

Colorado Boulevard – A Class II Boulevard with two lanes in each direction. On-street parking is permitted on both sides of the street and Class II bicycle lanes exist in each direction.

Figueroa Street – A two-lane arterial of variable width with supplemental lanes at principal intersections in the section where the project is routed.

City of Pasadena

Street classifications in Pasadena are defined in the Pasadena Street Design Guide.

Colorado Boulevard – A City Connector with two lanes in each direction. On-street parking is permitted on both sides of the street.

Green Street – A City Connector that is a one-way street with three eastbound lanes. East of Historic Route 66 and west of Los Robles Avenue there are four eastbound lanes. Lastly, east of Los Robles Avenue and west of Hill Avenue there are three eastbound lanes. On-street parking is permitted on the stretches with three eastbound lanes.

Union Street – A one-way City Connector with three westbound lanes. On-street parking is permitted on both sides of the street. There is a stretch between Arroyo Parkway and De Lacey Avenue where there are only two westbound lanes and on-street parking is only permitted on one side of the street.

Fair Oaks Avenue – A City Connector with four to six lanes. Parking is prohibited in the section connecting to the SR-134 interchange where the project would operate.

Walnut Street – A City Connector with four lanes. Parking is limited in the section where the project would operate.

Raymond Avenue – A four-lane Access Street, with parking allowed.

St. John Street – A four-lane City Connector with parking allowed along one side.

Hill Avenue – A four-lane City Connector with limited parking allowed.

3.1.2.3 Existing Bicycle Facilities

The existing bicycle network in the Project Area consists of a network of existing and proposed Class I, II, III, and IV bicycle facilities (additional bicycle facilities are also planned by each City) which are defined as follows:

- Class I Bikeway (Bike Path): Also known as a shared path or multi-use path, a bicycle path is a paved right-of-way for bicycle travel that is separate from any street or highway.
- Class II Bikeway (Bike Lane): A striped and stenciled lane for one-way bicycle travel on a street or highway. This facility could include a buffered space between the bicycle lane and vehicle lane, and the bicycle lane could be adjacent to on-street parking.

- Class III Bikeway (Bike Route): A signed route along a street where the bicyclist shares the right-of-way with motor vehicles. This facility can also be designated using a shared-lane marking (sharrow).
- Class IV Bikeway (Separated Bike Lane): A bikeway for the exclusive use of bicycles including a separation between the bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

The existing bicycle facilities within the Project Area include the following:

- Chandler Boulevard - Class I facilities to the east of the Proposed Project and Class I (Fair Avenue to Vineland Avenue) and Class II (Lankershim Boulevard to Vineland Avenue) facilities along the Proposed Project.
- Vineland Avenue - Class II bicycle lanes on both sides of the street. The Class II bicycle lanes continue south to Ventura Boulevard near Studio City.
- Olive Avenue - At the Burbank-Downtown Metrolink Station, bicyclists can travel along a Class II bicycle lane to access a Class I facility on Front Street which connects to Class I facilities along Chandler Boulevard and San Fernando Boulevard.
- Glenoaks Boulevard - Class II bicycle lanes are provided southeast of Alameda Avenue. In Glendale, Class II bicycle lanes are before transitioning to a Class III bicycle route at Pacific Avenue.
- Central Avenue – Class II bicycle lanes between Doran Street and Wilson Avenue.
- Broadway – Class III bicycle facility (sharrows) from Central Avenue to Harvey Drive.
- Colorado Boulevard (City of Los Angeles) - Class II bicycle lanes between Eagle Dale Avenue and Figueroa Street. The bicycle lanes are buffered in both directions from Sierra Villa Drive to Dahlia Drive. The bicycle lanes are buffered only along the south curb from Eagle Vista Drive/Mount Helena Avenue to Wiota Street. In advance of nearly all cross streets, the Class II buffered bicycle lane ends and transitions to a zone shared by bicyclists and right-turning vehicles.
- Corson Street - Class II bicycle lanes; however, near the Fair Oaks Avenue/SR-134 off-ramp, this bicycle lane transitions to a Class III facility. On Fair Oaks Avenue north of the SR-134, there is a Class II bicycle lane. There are nearby Class III bicycle routes near the interchange and near the Project's proposed station area at North Raymond Avenue/Holly Street, including Marengo Avenue, Los Robles Avenue, and Union Street and Cordova Street. North of the project area, there is a Class II bicycle lane along Maple Street (north of the Interstate-210).
- Colorado Boulevard - There are no bicycle facilities on Colorado Boulevard within the Proposed Project's route, but there are parallel Class II facilities along Maple Street and Corson Street. There is also an approved plan for a Class II buffered bicycle lane on Colorado Boulevard between Holliston Avenue and the city limits to the east.

- Union Street – There is an approved plan for a 2-way cycle track along the south curb between Arroyo Parkway and Hill Avenue.²

3.1.2.4 Existing Pedestrian Facilities

The existing pedestrian network varies across the Project Area, depending on the roadway right-of-way, lane configurations, and density of adjacent land uses. In general, the entire roadway network is considered open to pedestrians, either with sidewalks or road shoulders, except for locations where no shoulder exists. The existing pedestrian network is generally fully built; i.e., sidewalks are present throughout the Project Area and pedestrian crossings are generally provided at major intersections with some mid-block crossings at select locations where there are pedestrian-oriented land uses such as Glendale High School along Broadway. Other than sidewalk facilities, there is a multi-use trail between Fair Avenue and Vineland Avenue in North Hollywood and a pedestrian ramp structure, stairs, and an elevator at the Burbank Metrolink Station.

3.1.3 Significance Thresholds and Methodology

3.1.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to transportation if it would:

- a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and/or
- d) Result in inadequate emergency access.

3.1.3.2 Methodology

Transit

To assess the Proposed Project impacts on transit service, future transit ridership was established through a forecasting analysis utilizing the Metro's Corridors Based Model 18 to estimate ridership. The model was developed by Metro and calibrated for the Proposed Project. The model considers current travel patterns and applies future transit service changes to the network resulting from the Proposed Project to forecast trips by mode and estimate boardings.

Corridors Based Model 18 was updated for the 2042 Baseline Scenario without implementation of the Proposed Project to reflect other transit network changes expected in the year 2042, such as the Vermont Corridor BRT and the North San Fernando Valley BRT. The North San Fernando Valley BRT would connect with the Proposed Project at the North Hollywood Station.

² City of Pasadena, *Pasadena Bicycle Action Plan*, 2015.

Additional changes were made to the Corridors Based Model 18 for the 2042 Baseline Scenario to provide consistency across corridors:

- Changed peak and off-peak university trip tables to better reflect the locations of California State University Northridge and California Institute of Technology.
- Revised bus network to reflect NextGen Bus Plan changes in the project area.

This analysis would estimate total boardings for the Proposed Project and net new boardings for the Metro system. Also, changes to the 2042 Baseline Scenario transit network are identified for each route option.

Traffic

Section 15064.3 of the CEQA Guidelines provides for the application of VMT, instead of level-of-service and other measures of traffic flow, to evaluate the transportation impacts of transit projects. VMT provides a metric for determining vehicle trip changes across the Project Area roadway network. VMT is a measure of the total amount of travel in miles by all vehicles on the entire roadway network during a certain period. Reductions to VMT are beneficial because fewer cumulative vehicle miles are being generated daily as a result of a particular alternative.

Based on the new CEQA Guidelines, the presumption of a less-than-significant impact suggests that a detailed VMT analysis is not required for transit projects. The Governor's Office of Planning and Research issued a "Technical Advisory on Evaluating Transportation Impacts" (December 2018). It includes a specific directive that:

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

Lead agencies have discretion to choose a threshold of significance for transportation projects. PRC Section 21099, subdivision (b)(1), provides criteria for determining the significance for transportation impacts. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.

The Office of Planning and Research recommends the effect of a transportation project on vehicle travel should be estimated using the change in total VMT. The assessment of total VMT without the project and an assessment with the project should be made; the difference between the two is the amount of VMT attributable to the project. The assessment should cover the full area in which driving patterns are expected to change.

The City of Los Angeles has updated their CEQA Guidelines to comply with SB 743. Section 2.3 of the LADOT Transportation Assessment Guidelines provides screening criteria, impact criteria, and a method for determining if a transportation project would induce additional vehicle miles traveled. LADOT believes transit and active transportation projects that reduce roadway capacity generally reduce VMT and are presumed to cause a less-than-significant impact on transportation. LADOT does not require an induced travel analysis for transit projects and roadway capacity reducing projects.

The City of Pasadena's Transportation Impact Analysis Guidelines does not provide impact criteria or methodology for transportation projects. Burbank administratively adopted the Office of Planning and Research guidelines. Glendale has yet to develop their own transportation analysis guidelines.

The Corridors Based Model 18 was used to evaluate the effect that the Proposed Project would have on VMT. Since this Proposed Project spans multiple cities, the analysis compares VMT for the 2042 Baseline Scenario and Proposed Project Scenarios at the regional level to determine the amount of VMT attributable to the Proposed Project. The Corridors Based Model 18 is a validated model that captures the regional traffic flow pattern and transit ridership and is appropriate for this type of regional transit project. In addition to the 2042 Baseline analysis, a separate assessment of existing VMT conditions was conducted by calibrating the model for 2017 conditions which allowed for an analysis of Existing Conditions (Year 2017) and the effect of the Proposed Project upon existing regional VMT.

Bicycle and Pedestrian Facilities

The State CEQA Guidelines do not describe specific significance thresholds for bicycle and pedestrian facilities; however, generally impacts to bicycle and pedestrian facilities are assessed through consistency with applicable plans, ordinances, or policies pertaining to bicycle and pedestrian facilities.

Existing and planned pedestrian and bicycle facilities were obtained from the 2016 Metro Active Transportation Strategic Plan and local regulations listed in Section 3.1.1.³ Bicycle facility and bicycle route conditions and potential conflict locations were observed through field surveys. The methodology for assessing impacts to pedestrian circulation involves a qualitative assessment to evaluate any potential impacts to existing or planned pedestrian or bicycle facilities along the corridor and near each proposed BRT station. If the Proposed Project removes an existing or planned pedestrian and/or bicycle facility without a remedy that is consistent within a program, plan, ordinance or policy, the impact would be described, and mitigation measures would be identified.

³ Metro, *Active Transportation Strategic Plan*, 2016.

Hazards Due to Geometric Design Features or Incompatible Use

The State CEQA Guidelines do not describe specific significance thresholds for geometric design features or incompatible use, therefore the evaluation is made based upon conformity of the Proposed Project to applicable local design standards and allowable uses. Examples of hazards in geometric design would include lane mis-matches across intersections, lane drops with inadequate distance for merging, or sight distance restrictions due to curves or grades ahead of conflict points. Examples of incompatible use would include improper mixing of modes, such as routing truck traffic on local roadways.

Emergency Access

The State CEQA Guidelines do not provide quantitative thresholds for emergency access. geometric design features or incompatible use, therefore the evaluation is made based upon the potential of the Proposed Project to substantially degrade emergency access, for example, requiring emergency vehicles to re-route or perform out-of-direction maneuvers adding minutes or more of travel time as a result of changes to the roadway configuration.

3.1.3.3 Impact Analysis

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable).

Impact 3.1-1) Would the Proposed Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The Proposed Project was developed to improve mobility and regional transit system access while supporting community plans and transit-oriented development goals. The Project was developed to align with applicable plans, ordinances, and policies related to transportation at the regional and local jurisdiction level for the City of Los Angeles, City of Burbank, City of Glendale, and the City of Pasadena.

Transit

Construction

Less-Than-Significant Impact with Mitigation. The Proposed Project would result in construction effects like those experienced for a typical roadway project. These construction effects could include inconveniences associated with temporary disruptions to existing travel patterns and temporary access limitations. Construction of the Proposed Project would occur in phases and within separate work zones. Construction activities would shift along the corridor so that overall construction activities should be of relatively short duration within each segment.

During the construction of the Proposed Project, it may be necessary to temporarily relocate existing bus stops while construction is active in the area. In addition, buses may temporarily experience delays and increases in travel time when traveling through construction zones with temporary lane closures.

As required by Mitigation Measure **TRA-1**, a Traffic Management Plan would be required to mitigate impacts to transit circulation and access. This document that details the way activities in the road corridor would be carried out, so they minimize inconvenience and help ensure road users and workers remain as safe as possible. Therefore, without mitigation, the Proposed Project would result in a significant impact on transit related to construction activities.

Operations

Less-Than-Significant Impact. The Proposed Project would add a new, high quality transit service in the Project Area connecting the cities and communities between the San Fernando and San Gabriel Valleys while providing connections to Metro’s major to transit lines including the Metro B and G Lines (Red and Orange) in North Hollywood and the Metro L Line (Gold) in Pasadena. In addition, the Proposed Project would add dedicated bus lanes in Los Angeles, Burbank and Glendale which could be utilized by other Metro bus services, and buses operated by LADOT, the City of Burbank and the City of Glendale. The bus lane improvements would deliver near-term benefits to existing transit conditions including higher operating speeds and improved travel time reliability.

Estimated ridership forecasts for 2042, including overall transit trips and boardings for the region and the Proposed Project, respectively, is presented in **Table 3.1-1**. The transit trips reflect how many travelers are choosing to ride transit from their origin to their destination. Boardings account for each time a traveler accesses a route, which includes transfers. The Proposed Project is forecast to increase the total new transit trips in the region by 16,149 and the total new Metro boardings by 33,141. In addition, the Proposed Project is forecast to attract 34,950 boardings in 2042 of which 1,809 boardings would be attracted to other Metro services. In summary, the operations of the Proposed Project would provide a benefit to transit in the corridor with increased service frequency and ridership. Therefore, the Proposed Project would result in a less-than-significant impact on transit operations.

Table 3.1-1 – 2042 Person Trips and Boardings Summary

	2042 Baseline	Proposed Project
Total Person Trips	77,652,996	
Transit Trips	1,710,355	1,726,504
Change in Transit Trips	N/A	16,149
Total Metro Boardings	2,222,499	2,255,640
Change in Metro Boardings	N/A	33,141
Project Boardings	N/A	34,950

Roadway

The Proposed Project was reviewed with respect to roadway elements for consistency with applicable plans, ordinances, and policies related to transportation at the local jurisdiction level for the City of Los Angeles, City of Burbank, City of Glendale, and the City of Pasadena.

Construction

Less-Than-Significant Impact with Mitigation. The Proposed Project would result in construction effects like those experienced for a typical roadway project. These construction effects could include inconveniences associated with temporary disruptions to existing travel patterns and temporary access limitations. Construction impacts could include roadway lane closures for temporary periods of time. The degree of traffic disruption during construction would depend on several factors, including how large the construction activity area is and the duration of each construction phase. In addition to impacts due to construction activities, the traffic generated by construction workers and trucks hauling construction materials and supplies may also cause traffic impacts. Construction would involve removal and reconstruction of raised medians, landscaping and lighting, utility relocation, and construction of sheltered bus stations. Construction traffic would be similar to that which would occur during typical roadway maintenance and rehabilitation. This impact is considered potentially significant.

As required by Mitigation Measure **TRA-2**, a Traffic Management Plan would be required to mitigate impacts to traffic circulation and access. With mitigation, the Proposed Project would result in a less than significant impact on transit related to construction activities.

Operations

Less-Than-Significant Impact. Operation of the Proposed Project is not expected to result in substantial changes to vehicle circulation. It should also be noted that the Proposed Project will result in reduced regional VMT, which in turn indicates a slight reduction in traffic densities regionally (refer to **Table 3.1-2**).

Segment A – North Hollywood District of the City of Los Angeles

Proposed Project – A1

Chandler Avenue: In the westbound direction, there are no anticipated changes caused by the Proposed Project except the replacement of some on-street parking spaces. In the eastbound direction, one vehicular travel lane would be converted to a dedicated bus lane, thereby providing one vehicular travel lane along Chandler Boulevard in both the eastbound and westbound directions.

Vineland Avenue: The Proposed Project maintains two vehicular travel lanes in each direction. The Proposed Project would require new traffic signals at Vineland Avenue / Weddington Street and at Vineland Avenue / McCormick Street for the operation of the proposed cycle track. In addition, a new pedestrian signal is proposed at Vineland Avenue/Huston Street to improve pedestrian circulation.

Hesby Street: The Proposed Project would restrict left turns from Hesby Street (N) to northbound Vineland Avenue.

Lankershim Boulevard: The Proposed Project converts one northbound approach lane to a dedicated bus lane at the Vineland Avenue / Lankershim Boulevard / Camarillo Street intersection.

Kling Street: The Proposed Project would restrict some left-turn movements at Kling Street, requiring vehicles to divert to an alternate route. The Proposed Project would add a traffic signal to allow left turns from northbound Lankershim Boulevard to westbound Kling Street, across the Proposed Project's dedicated bus lanes.

Route Option A2

Lankershim Boulevard: This Route Option proposes to convert a vehicular travel lane to a dedicated bus lane in each direction between Chandler Boulevard and Camarillo Street, reducing Lankershim Boulevard from two vehicular travel lanes to one vehicular travel lane in each direction. Right-turning vehicles along Lankershim Boulevard would be allowed to enter the bus lanes to make right turns.

Segment B – North Hollywood to Burbank

Proposed Project - B

SR-134: The Project Proposed would operate the BRT service in mixed-flow traffic along SR-134 with no change to the existing roadway configuration or operations.

Segments C and D – City of Burbank

Proposed Project - C

Olive Avenue: The Proposed Project would operate in a curb-running configuration and would retain two vehicular travel lanes in each direction.

Proposed Project - D

Glenoaks Boulevard: The Proposed Project would operate in a curb-running configuration for a short segment before transitioning to a median-running configuration. The Proposed Project would retain two vehicular travel lanes in each direction on Glenoaks Boulevard through the City of Burbank.

Segments D and E – City of Glendale

Proposed Project - D

Glenoaks Boulevard: The Proposed Project would convert the inside vehicular travel lane in each direction to a dedicated bus lane, reducing Glenoaks Boulevard from three vehicular travel lanes to two vehicular travel lanes in each direction.

Proposed Project - E1

Central Avenue: The Proposed Project would convert the outside vehicular travel lane in each direction to a dedicated bus lane between Sanchez Drive and Broadway.

Broadway: The Proposed Project would convert the outside vehicular travel lane in each direction to a dedicated bus lane.

Route Option E2

Colorado Street: Route Option E2 would convert the outside vehicular travel lane in each direction to a dedicated bus lane.

Route Option E3

SR 134: Route Option E3 would operate along SR-134 in mixed-flow traffic and use the shoulder areas of ramps for loading zones at BRT stations.

Segment F – Eagle Rock Community of the City of Los Angeles

Route Option F1

Colorado Boulevard: Route Option F1 would convert the existing median area to center-running bus-only lanes and would maintain two vehicular travel lanes in each direction. Route Option F1 would maintain left-turn operations at major signalized intersections.

Proposed Project - F2

Colorado Boulevard: - The Proposed Project would convert the existing buffered bicycle lanes to shared bus-and-bicycle lanes. Two vehicular travel lanes would be maintained in each direction.

Route Option F3

SR 134: Route Option F3 would operate in mixed-flow traffic on SR-134 with no change to the existing roadway configuration or operations.

Segments G and H – City of Pasadena

Proposed Project - G1

The Proposed Project would operate in mixed-flow traffic along Fair Oaks Avenue, Walnut Street, and Raymond Avenue with no change to the existing roadway configuration or operations.

Route Option G2

Route Option G2 would operate in mixed-flow traffic along Colorado Boulevard with no change to the existing roadway configuration or operations.

Proposed Project - H1

The Proposed Project would operate in mixed-flow traffic along Colorado Boulevard with no change to the existing roadway configuration or operations.

Route Option H2

The Proposed Project would operate in mixed-flow traffic along Union Street and Green Street with no change to the existing roadway configuration or operations.

Overall, the operation of the Proposed Project is not expected to result in substantial changes to vehicle circulation and there would not be a conflict with applicable plans, ordinances, and policies. Therefore, the Proposed Project would result in a less-than-significant impact related to roadway operations.

Pedestrian Facilities

The Proposed Project was reviewed with respect to pedestrian facilities for consistency with applicable plans, ordinances, and policies at the local jurisdiction level for the City of Los Angeles, City of Burbank, City of Glendale, and the City of Pasadena.

Construction

Less-Than-Significant Impact with Mitigation. Construction of the Proposed Project may require temporary closure of sidewalks along the Project's BRT route and in proximity to the proposed BRT stations. These temporary closures may impact existing pedestrian circulation. Although temporary, the potential disruption to pedestrian circulation may result in an impact without mitigation measures. Depending on the magnitude and duration of construction, pedestrian detours and appropriate signage may mitigate the impacts to the pedestrian circulation. Pedestrian access to adjacent properties would be maintained during construction.

Pursuant to Mitigation Measure **TRA-3**, a Traffic Management Plan would be required to mitigate impacts to pedestrian circulation and access. With implementation of mitigation, construction of the Proposed Project would result in a less than significant impact on pedestrian facilities.

Operations

Less-Than-Significant Impact. Operation of the Proposed Project is not expected to result in substantial changes to pedestrian circulation or facilities. At some locations, sidewalks may require an approximate 1 to 2 foot reduction in width to accommodate station platforms and/or widening of the roadway to accommodate dedicated bus lanes, however, the remaining sidewalk width would typically exceed 10 feet and in no instances would sidewalks be reduced to the extent that pedestrian circulation would be impaired or in violation of ADA standards. At some locations, stations placed on sidewalks would require bus patrons to share portions of the sidewalk with general pedestrian traffic, and where on-street bicycle lanes exist, bikes may be routed onto the sidewalk in a shared zone behind the bus loading area to avoid conflicts with the bus loading zone. Overall, the Proposed Project would enhance walkability in the station areas. Therefore, the Proposed Project would result in a less-than-significant impact related to pedestrian operations. The Proposed Project would provide enhancements to pedestrian circulation by installing signalized marked crosswalks and reconstructing sidewalks to

accommodate new stations/platforms while also serving pedestrian movements. The following is a summary of changes to pedestrian facilities.

Segment A – North Hollywood District of the City of Los Angeles

Proposed Project - A1

Lankershim Boulevard/Camarillo Street (Proposed Project - A1 and Route Option A2): New crosswalk.

Vineland Avenue/Huston Street: New pedestrian signal and crosswalk.

Route Option A2

Lankershim Boulevard: The 15-foot sidewalk width along Lankershim Boulevard south of Camarillo Street would need to be reduced by up to two feet on each side of the street to fit the dedicated bus lanes.

Segment B – North Hollywood to Burbank

Proposed Project - B

SR-134: No changes in pedestrian facilities.

Segments C and D – City of Burbank

Proposed Project - C

Olive Avenue/Burbank-Downtown Metrolink Station: A pair of station loading platforms would be located along the sidewalks on the bridge with a new signalized mid-block crosswalk connecting the station platforms with the existing elevator and pedestrian ramp structure, respectively. Curb extensions would be provided to accommodate station platforms and pedestrian circulation along the sidewalks.

Riverside Drive/Olive Avenue: Curb extensions would be added to accommodate station platforms and pedestrian circulation at Riverside Drive/Olive Avenue.

Olive Avenue between Alameda Avenue and Niagara Street: The roadway would be widened from 68 feet to 72 feet by moving the curb out into the shoulder area. Blocks towards the Media District typically have fully paved 15 foot wide sidewalks; approaching downtown Burbank, there is a landscaped strip between the paved sidewalk and curb which would be reduced in width. The sidewalk would remain functional and Americans with Disabilities Act (ADA) compliant.

Olive Avenue between Fairview Street and Niagara Street: The segment of Olive Avenue between Fairview Street and Niagara Street has an existing landscape strip between the sidewalk and the curb which would be narrowed without affecting the sidewalk.

Olive Avenue between Lincoln Street and Myers Street: Sidewalk widths would be reduced by up to two feet along the east and west curb of Olive Avenue between Lincoln Street and Myers Street. The sidewalk would remain functional and ADA compliant.

Olive Avenue between Parish Place and Reese Place: Sidewalk widths would be reduced by up to three feet along the west curb of Olive Avenue between Parish Place and Reese Place. The sidewalk would remain functional and ADA compliant.

Olive Avenue between Beachwood Drive and Virginia Avenue: Sidewalk widths would be reduced by up to two feet along the east and west curb of Olive Avenue between Beachwood Drive and Virginia Avenue. The sidewalk would remain functional and ADA compliant. Along this segment there are locations with an existing landscape strip between the sidewalk and the curb which would be narrowed without affecting the sidewalk.

Proposed Project - D

Glenoaks Boulevard between Olive Avenue and Providencia Avenue: The existing sidewalk width of 15 feet would be reduced by up to two feet on each side of Glenoaks Boulevard between Olive Avenue and Providencia Avenue to accommodate the dedicated bus lanes. The sidewalk would remain functional and ADA compliant.

Segment E – City of Glendale

Proposed Project – E1

Central Avenue/Lexington Drive (Proposed Project - E1 and Route Option E2): Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Broadway/Brand Boulevard: Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Broadway/Glendale Avenue: Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Route Option – E2

Colorado Street/Brand Boulevard: Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Colorado Street/Glendale Avenue: Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Colorado Street/Verdugo Road: Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Route Option – E3

Goode Avenue: Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Segment F – Eagle Rock Community of the City of Los Angeles

Route Option – F1

Colorado Boulevard/Eagle Rock Plaza Station: A new crosswalk would be added on the east leg of the West Broadway/Colorado Boulevard intersection along with curb extensions to accommodate access to the station platforms and pedestrian circulation. Implementation of the bus lanes will conflict with most of the ATP curb extensions currently under design by the City of Los Angeles. However, at most locations where crosswalks are present new medians proposed in conjunction with the bus lanes would provide refuge for pedestrians crossing Colorado Boulevard.

Proposed Project – F2

Colorado Boulevard/Townsend Avenue: Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Route Option – F3

Figueroa Street/Colorado Boulevard (Route Option F3): Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Segments G and H – City of Pasadena

Proposed Project - G1

North Raymond Avenue/Holly Street: Curb extensions would be added to accommodate station platforms and pedestrian circulation.

Route Option G2

Colorado Boulevard/Arroyo Parkway: Curb extensions would be added behind the Rose Bowl Parade “blue line” to accommodate station platforms and pedestrian circulation.

Green Street/Arroyo Parkway (Route Option G2 with Route Option H2): Curb extensions would be added to accommodate the station platform and pedestrian circulation.

Union Street/Arroyo Parkway (Route Option G2 with Route Option H2): Curb extensions would be added to accommodate the station platform and pedestrian circulation.

Proposed Project - H1

Colorado Boulevard/Los Robles Avenue: Curb extensions would be added behind the Rose Bowl Parade “blue line” to accommodate station platforms and pedestrian circulation.

Colorado Boulevard/Lake Avenue: Curb extensions would be added behind the Rose Bowl Parade “blue line” to accommodate station platforms and pedestrian circulation.

Hill Avenue south of Colorado Boulevard: The layover facility along the east curb of Hill Avenue would require relocating the sidewalk. The Proposed Project would extend the sidewalk five feet towards the Pasadena Community College parking lot on private property impacting the existing landscape. This layover zone would also be used for passenger loading for Route Option H2.

Route Option H2

Green Street/Lake Avenue: A curb extension would be added to accommodate a station platform and pedestrian circulation adjacent to commercial uses (bank building). The existing green zone and yellow loading zone along the curb would be relocated further to the east along Green Street.

Union Street/Lake Avenue: A pedestrian plaza would be developed adjacent to the station platform within the existing Union Street right-of-way on the east leg of the intersection, to reduce pedestrian crossing distances across Union Street.

Hill Avenue south of Colorado Boulevard: Similar to Route Option H1, the layover facility along the east curb of Hill Avenue would require relocating the sidewalk. The Proposed Project would extend the sidewalk five feet towards the Pasadena Community College parking lot on private property impacting the existing landscape.

Although in some instances, sidewalks may require a small reduction in width to accommodate station platforms and/or widening of the roadway to accommodate dedicated bus lanes, sidewalk widths would be maintained in accordance to local ADA and other standards. The Proposed Project would enhance walkability in the station areas. Therefore, the Proposed Project would result in a less-than-significant impact related to pedestrian operations.

Bicycle Facilities

Construction

Less-Than-Significant Impact with Mitigation. Construction of the Proposed Project may require roadway lane closures for temporary periods of time that may affect existing and planned bicycle facilities. Existing bicycle lanes (Class II) along Vineland Avenue between Chandler Boulevard and Lankershim Boulevard (Proposed Project - A1), Glenoaks Boulevard between Alameda Avenue and Pacific Avenue (Proposed Project – D), Central Avenue between Doran Street and Wilson Avenue (Proposed Project – E1 and Route Option E2), and Colorado Boulevard between Eagledale Avenue and Figueroa Street (Route Option F1 and Proposed Project – F2) may be affected during construction of the Proposed Project. Although temporary, the effect upon bicycle circulation may be disruptive. Without mitigation, the Proposed Project would result in a potentially significant impact to bicycle facilities related to construction activities.

Mitigation Measure **TR-4** requires preparation of a Traffic Management Plan to mitigate impacts to bicycle circulation and access. With implementation of mitigation, construction of the Proposed Project would have a less than significant impact on bicycle facilities.

Operations

Less-Than-Significant Impact with Mitigation. The Proposed Project would primarily enhance bicycle facilities by providing bypass lanes around BRT stations and by allowing bicycles to utilize dedicated bus lanes. However, the existing 10-foot buffered Class II bicycle lanes on Colorado Boulevard in Eagle Rock would be converted to a 12-foot shared bus/bicycle lane

under the Proposed Project. Any design changes to bicycle facilities would be coordinated with the Cities of Los Angeles, Burbank, Glendale, and Pasadena. The following is a summary of effects to bicycle facilities by project segment.

Potential project impacts were analyzed based on the following changes to the bicycle network contemplated by the Proposed Project:

In order to facilitate bicycle safety along Broadway (Proposed Project - E1) in the City of Glendale, the current Class III route (sharrows) would be removed. Bicyclists would share the bus lanes with a low volume of buses relative to traffic on the existing general purpose lanes. In addition, bicyclists can use the nearby parallel Class III route (sharrows) along Harvard Street.

To accommodate far-side platforms near Central Avenue/Lexington Drive (Proposed Project - E1 and Route Option E2), the Class II Bike Lanes would be rerouted behind the station platform area.

The Colorado Boulevard Class II bicycle lanes would be rerouted behind the station platform area at the Colorado Boulevard/Eagle Rock Plaza Station for Route Option F1.

For the Colorado Boulevard (Proposed Project - F2) in Eagle Rock (City of Los Angeles), the existing 10-foot buffered Class II bicycle lanes would be converted to a 12-foot shared bus/bicycle lane. Red-colored pavement would be implemented in the shared bus-and-bicycle lanes as a traffic control device. The Federal Highway Administration (FHWA) has issued an Interim Approval for the optional use of red-colored pavement to enhance the conspicuity of station stops, travel lanes, or other locations in the roadway that are reserved for (1) the exclusive use by public transit vehicles or (2) multi-modal facilities where public transit is the primary mode. Colorado Boulevard is identified on both the Mobility's Plan Transit Enhanced Network and the Bicycle Enhanced Network, which requires designs to include both dedicated transit facilities and protected bicycle facilities, if feasible. However, the Mobility Plan realizes that future street improvements may not always fully realize the full design elements that have been conceived and/or articulated. Further, Policy 2.9 of the City of Los Angeles Mobility Plan 2035 calls for the consideration of each enhanced network (transit, bicycle, and vehicle) when designing a street that includes multiple modes. While the configuration provides a designated multi-modal facility with design and operations considerations for bicycles and transit, the conversion of the existing (10-foot buffered⁴) Class II bicycle lanes to a multi-modal lane would be inconsistent with the Mobility Plan 2035 by degrading the travel experience for bicycle riders. Therefore, without mitigation, the Proposed Project would result in a significant impact related to consistency with plans and policies governing bicycle operations.

⁴ It should be noted that buffers are omitted approaching all cross streets where right turns are allowed but where there is inadequate width to provide a marked right-turn pocket. At all of these locations, no delineation of a bicycle lane is provided and bicycles operate in mixed-flow similar to a Class III bicycle route.

The conversion of the existing Class II bicycle lanes on Colorado Boulevard in Eagle Rock would degrade the travel experience and may not be consistent with Mobility Plan 2035. Therefore, without mitigation, the Proposed Project would result in a significant impact related to consistency with plans and policies governing bicycle operations. With implementation of Mitigation Measure **TR-5**, this impact would be reduced to less than significant.

It should be noted that the existing Class II bicycle lanes along Vineland Avenue between Chandler Boulevard and Kling Street south of Camarillo Street would be upgraded to a two-way Class IV cycle-track along the west curb. Also, between Lankershim Boulevard and Chandler Boulevard would be improved with the addition of “buffers”. Also, the existing Class II bicycle lanes on Chandler Boulevard east of Lankershim Boulevard would be improved with the addition of “buffers”.

Mitigation Measures

- TRA-1:** Prior to the initiation of localized construction activities, a Traffic Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed by Metro and the construction contractor in coordination with the City of Los Angeles, City of Burbank, City of Glendale, and City of Pasadena. Metro shall develop detours as appropriate and communicate any changes to bus service to local transit agencies in advance. Stops shall be relocated in a manner which is least disruptive to transit. If bus stops need to be relocated, warning signs shall be posted in advance of closure along with alternative stop notifications and information regarding the duration of the closure.
- TRA-2:** Prior to the initiation of localized construction activities, a Traffic Management Plan and/or Construction Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed by Metro and the construction contractor in coordination with the City of Los Angeles, City of Burbank, City of Glendale, and City of Pasadena. The Traffic and/or Construction Management Plan shall include provisions such as: approval of work hours and lane closures, designation of construction lay-down zones, provisions to maintain roadway access to adjoining land uses, use of warning signs, temporary traffic control devices and/or flagging to manage traffic conflicts, and designation of detour routes where appropriate.
- TRA-3:** Prior to the initiation of localized construction activities, a Traffic Management Plan and/or Construction Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed by Metro and the construction contractor, in coordination with affected jurisdictions. The plan shall include provisions for wayfinding signage, lighting, and access to pedestrian safety amenities (such as handrails, fences and alternative walkways). Metro shall also work with local municipalities and public works departments to confirm that only one side of

the street would be closed at a time. If crosswalks are temporarily closed, pedestrians shall be directed to use nearby pedestrian facilities. Where construction encroaches on sidewalks, walkways and crosswalks, special pedestrian safety measures shall be used such as detour routes and temporary pedestrian shelters. Access to businesses and residences shall be maintained throughout the construction period. These mitigation measures shall be documented in a Traffic Management Plan and/or Construction Management Plan.

TRA-4: Prior to the initiation of localized construction activities, a Traffic Management Plan and/or Construction Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed by Metro and the construction contractor, in coordination with the affected jurisdictions. The plan shall identify on-street bicycle detour routes and signage. Metro shall also work with local municipalities and public works departments to accommodate bicycle circulation during construction. Bicycle access to businesses and residences shall be maintained throughout the construction period. These mitigation measures shall be documented in a Traffic Management Plan and/or Construction Management Plan.

TRA-5: Prior to completion of Final Design, Metro shall convene a design working group with LADOT to resolve potential bicycle conflicts and identify network enhancements that integrate bicycle and BRT facilities, consistent with Policy 2.6 and Policy 2.9 of the Mobility Plan 2035. The design working group shall include representatives from the LADOT Active Transportation Division, the Los Angeles Bureau of Engineering, and a representative of the Los Angeles Bicycle Coalition. Coordination shall be provided with LADOT and the Active Transportation Division during the preliminary engineering design development phase.

Significance of Impacts after Mitigation

Mitigation Measures **TRA-1** through **TRA-4** would ensure that the Proposed Project would not interfere with transit, traffic circulation and access, pedestrian operations and circulation, or bicycle operations and circulation during construction. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to construction activities.

Mitigation Measure **TRA-5** would ensure that the Proposed Project is designed in a manner that is consistent with Mobility Plan 2035 avoiding potential conflicts between the Proposed Project operations and bicycles. Examples of specific design provisions include: (1) maintaining minimum standard sizing of traffic handling features, (2) configuring transition zones to provide adequate length for maneuvering and maintaining adequate sight distance at conflict points, (3) routing of bicycles behind sidewalk station loading zones where applicable, (4) use of colored pavement markings to minimize intrusion into the bus and bicycle lanes where applicable, and (5) provision of appropriate warning and regulatory signage. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact 3.1-2) Would the Proposed Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3 describes specific considerations for evaluating transportation impacts. The Guidelines states that VMT is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel. The Guidelines also state that transportation projects that reduce, or have no impact on, VMT should be presumed to cause a less than significant transportation impact.

Construction

Less-Than-Significant Impact. During construction, the Proposed Project would temporarily generate additional VMT related to construction work activities and the hauling of excavated materials and construction supplies. The additional construction-related VMT would be typical of a roadway construction project consisting of approximately 25 trips per day with an assumed average trip length of approximately 15 miles. Consistent with CEQA Guidelines Section 15064.3, once constructed, the Proposed Project is anticipated to reduce VMT regionally. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

No Impact. Table 3.1-2 demonstrates that VMT is forecast to decrease due to the increased use of transit with the implementation of the Proposed Project in comparison to the Existing 2017 or 2042 Baseline scenario. The VMT reduction for the Existing (2017) scenario was factored based upon the VMT reduction indicated by the model for the 2042 Baseline and applied to the 2017 VMT extracted from the model. The Proposed Project is expected to attract new transit riders thus encouraging a shift from automobile use to public transit as well as improved regional connectivity and local transit access to corridor destinations in the near term as well as long term. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Table 3.1-2 – Regional VMT

Scenario	Existing / 2042 Baseline	Proposed Project	Difference
Existing (2017)	428,794,499	428,721,905	(72,594)
2042 Baseline (2042)	511,871,989	511,785,330	(86,659)

SOURCE: RSG, 2020

Transportation modeling was completed for three scenarios (Proposed Project and two scenarios representative of the route options), which collectively incorporated all the various route options. The regional VMT for implementing the route options differed from the Proposed Project by only 0.003 percent and in all cases the VMT was lower than for the 2042 Baseline scenario. Therefore, like the Proposed Project, the route options would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant impact.

Impact 3.1-3) Would the Proposed Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction

No Impact. Construction activities would not create hazards due to geometric design or incompatible land uses. In addition, Mitigation Measures **TRA-1** through **TRA-4** require the Proposed Project to implement a Traffic Management Plan, including traffic control measures that comply with the California Manual on Uniform Traffic Control Devices for temporary traffic control while also following local jurisdiction guidelines. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

Less-Than-Significant-Impact. The Proposed Project uses the existing street alignment and right-of-way and would not substantially increase hazards due to a geometric design feature, as the Proposed Project would be designed per applicable design State, Metro, and city criteria and standards. For segments with median-running bus lanes, stations are usually provided on islands at intersections and are accessible from the signalized crosswalk. The safety measures include signal-protected pedestrian movements, channelization, barriers to protect and route pedestrians, ADA-compliant curb ramps, along with warning signs to provide for convenient and safe access to boarding areas. Further, the BRT service would include queue jumps at selected locations at which a traffic signal with special bus indications would display a bus-only phase, which would allow buses to enter an intersection before a green indication is given to other traffic in order to allow the bus to maneuver across mixed-flow lanes ahead of conflicting traffic. Since other traffic would be observing a red signal during the bus phase, adverse safety impacts would be minimal. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant impact.

Impact 3.1-4) Would the Proposed Project result in inadequate emergency access?

Construction

Less-Than-Significant Impact with Mitigation. Lane closures, traffic detours, and designated truck routes associated with construction could temporarily result in decreased access and delayed response times for emergency services. As required by Mitigation Measure **TRA-6**, a Traffic Management Plan would be required to maintain circulation and access. Therefore, without mitigation, the Proposed Project would result in significant impact related to construction activities.

Operations

Less-Than-Significant Impact. Emergency vehicles would be permitted to use the Project's dedicated bus lanes, like mixed-flow vehicular travel lanes. Since the dedicated bus lanes would be free of most vehicular traffic and emergency vehicles would be permitted to use the dedicated bus lanes, emergency response time would be no worse than under current conditions and would likely be improved. Therefore, the Proposed Project would result in less-than significant impact related to operational activities.

Mitigation Measures

TRA-6: The construction contractor shall provide early notification of traffic disruption to emergency service providers. Work plans and traffic control measures shall be coordinated with emergency responders to prevent impacts to emergency response times. A Traffic Management Plan compliant with the provisions of the current California Manual on Uniform Traffic Control Devices, the California Traffic Control Handbook and local ordinances, as applicable, shall be developed and implemented to minimize impacts on emergency access.

Significance of Impacts after Mitigation

Mitigation Measure **TRA-6** would ensure that the Proposed Project construction activities would not interfere with emergency access. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to emergency access.

3.2. AESTHETICS

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to aesthetics. Refer to the Aesthetics Technical Report (Appendix C) for additional details related to applicable regulations and the existing setting.

3.2.1 Regulatory Framework

3.2.1.1 Federal Regulations

There are no existing federal regulations pertaining to aesthetics and visual resources that are applicable to the Proposed Project.

3.2.1.2 State Regulations

California Scenic Highway Program. California Department of Transportation (Caltrans) manages the California Scenic Highway Program, which was created in 1963 by the California legislature to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are eligible for designation as scenic highways or that have been designated as such. A highway may be designated as scenic based on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes on the traveler's enjoyment of the view. State laws governing the California Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

3.2.1.3 Local Regulations

The following local regulations are applicable to the Proposed Project.

City of Los Angeles

City of Los Angeles General Plan. The Framework Element contains objectives and policies for the provision, management, and conservation of Los Angeles' open space resources. In addition to the Framework Element, the Urban Design, Conservation, and Mobility Elements include relevant objectives and policies to aesthetics and visual resources.

North Hollywood Redevelopment Project Commercial Core Urban Design Guidelines. The Commercial Core Urban Design Guidelines outline the North Hollywood Redevelopment Project's vision for development within North Hollywood by creating vibrant districts within the Project Area which most notably consist of the NoHo Arts District and the Lankershim Core District. The Design Guidelines identify distinct design criteria and recommendations aimed at concentrating particular types of businesses in the design districts as well as unique characteristics to give the districts a sense of place.

City of Los Angeles Municipal Code. The City of Los Angeles Municipal Code contains chapters pertaining to planning and zoning (Chapter 1) and building regulations (Chapter 9) which pertain to aesthetics and visual quality. While the municipal code regulations generally pertain to development projects and buildings, aspects of the regulations dictate allowable lighting and signage conditions along roadways and sidewalks as well as design regulations regarding street design, pedestrian areas, and landscaping.

City of Burbank

Land Use, Open Space, and Conservation Element of the Burbank 2035 General Plan. The Burbank 2035 General Plan addresses aesthetics in the Land Use Element and Open Space and Conservation Element.

Burbank Center Plan. The Burbank Center Plan is an economic revitalization plan for Downtown Burbank and surrounding areas. The plan is divided into three subareas (City Center, South San Fernando, and City Center West) and addresses transitioning underused industrial properties into mixed-use neighborhoods with an attractive pedestrian environment.

Media District Specific Plan. The Media District Specific Plan was adopted in 1991 in response to the development of several high-rise office buildings in the 1980s and the potential effects that similar future development could have on surrounding residential neighborhoods.

City of Burbank Zoning Ordinance. Title 10 of the Burbank Municipal Code addresses the aesthetic considerations of development. The Zoning Ordinance sets development standards for parking, building heights, setbacks, density, lot coverage, open space requirements, and signs. The Burbank Municipal Code includes numerous references and requirements to avoid effects of light and glare on neighboring properties and uses.

City of Glendale

Open Space and Conservation, Recreation, and Land Use Elements of the Glendale General Plan. The City of Glendale's General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Open Space and Conservation and Recreation Elements of the General Plan outline policies, goals, and objectives that are applicable to visual and scenic resources.

Greater Downtown Strategic Plan. The Greater Downtown Strategic Plan includes the downtown area and the adjacent residential neighborhoods. Goals of the plan include significantly increasing the amount of public open space and developed parkland in Downtown Glendale and strengthening the interdependence between downtown and the surrounding neighborhoods.

Downtown Specific Plan (DSP). The DSP is designed to update and implement the vision, goals, and policies for the downtown as initially set forth in the Greater Downtown Strategic Plan. The DSP is an urban design-oriented plan, which sets the physical standard and guidelines as well as land use regulations for activities within the DSP area.

Glendale Town Center Specific Plan. The Glendale Town Center Specific Plan was adopted in 2004 and includes development standards to help protect aesthetic resources within the Glendale Town Center Specific Plan area. Chapter Three - Land Use and Development Standards in the Glendale Town Center Specific Plan includes design standards, such as height; landscaping; outdoor space; open, public, and park lands; lighting; fences and walls; trash collection areas; and signage, relevant to this aesthetics analysis. Chapter Five - Plan Implementation ensures compliance with these standards, a process for which is provided below.

Glendale Comprehensive Design Guidelines. The intent of the Guidelines is to provide predictability for property owners and developers, as well as residents and other stakeholders in the Glendale community. The Guidelines are used by all those applying for permits in the City, by City staff, the Design Review Board, and City Council. The Guidelines are separated into four categories: single family; hillside; commercial; and multifamily and mixed-use.

City of Glendale Municipal Code. Glendale Municipal Code Chapter 16.08 regulates development within ridgeline areas and provides an exception for public roadways and utilities subject to adoption of findings at a public hearing by the City Council if found necessary for project implementation. General Municipal Code Chapter 30.33 regulates the construction, alternation, repair, location, electrification and maintenance of any sign or sign structure within Glendale. Standards regulate sign size, height, quantity, materials, surface, support structures, spacing, and lighting for the different types of signs defined in the ordinance.

City of Pasadena

Land Use and Green Space, Recreation, and Parks Elements of the Pasadena General Plan. The City of Pasadena's General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Land Use and Green Space, Recreation, and Parks Elements include relevant objectives and policies to aesthetics and visual resources.

Citywide Design Principles and Design Guidelines. The Citywide Design Principles and Design Guidelines are intended to guide the design of new development so that it complements the existing aesthetic environment and respects the existing character of Pasadena and its neighborhoods. The guidelines are intended to enhance the surrounding environment, incorporate human values and needs, and show creativity and imagination.

Central District Specific Plan. The Central District Specific Plan contains the required heights, setbacks, floor area ratios and residential densities for projects in the Central District. These development standards are implemented by the Zoning Code. The purpose of the Specific Plan is to encourage a diverse mix of land uses designed to create the primary business, financial, retailing and government center of the City.

Design Guidelines for Historic Districts. The Design Guidelines for Historic Districts provide guidance for improvements to historic properties and work in locally designated landmark and historic districts in the City. Besides promoting the preservation of the City's many structures with architectural, cultural, and historical significance, the guidelines preserve Pasadena's visual character by establishing high standards for quality urban design and architecture.

City of Pasadena Municipal Code. The following provisions from the Municipal Code are intended to minimize adverse aesthetic impacts associated with new development projects and are relevant to the General Plan Update. Relevant chapters of the municipal code include the following: 2.80 (Design Commission), 8.52 (City Trees and Tree Protection Ordinance), 17.44 (Landscaping), 17.62 (Historic Preservation), and 17.48 (Signs).

3.2.2. Existing Setting

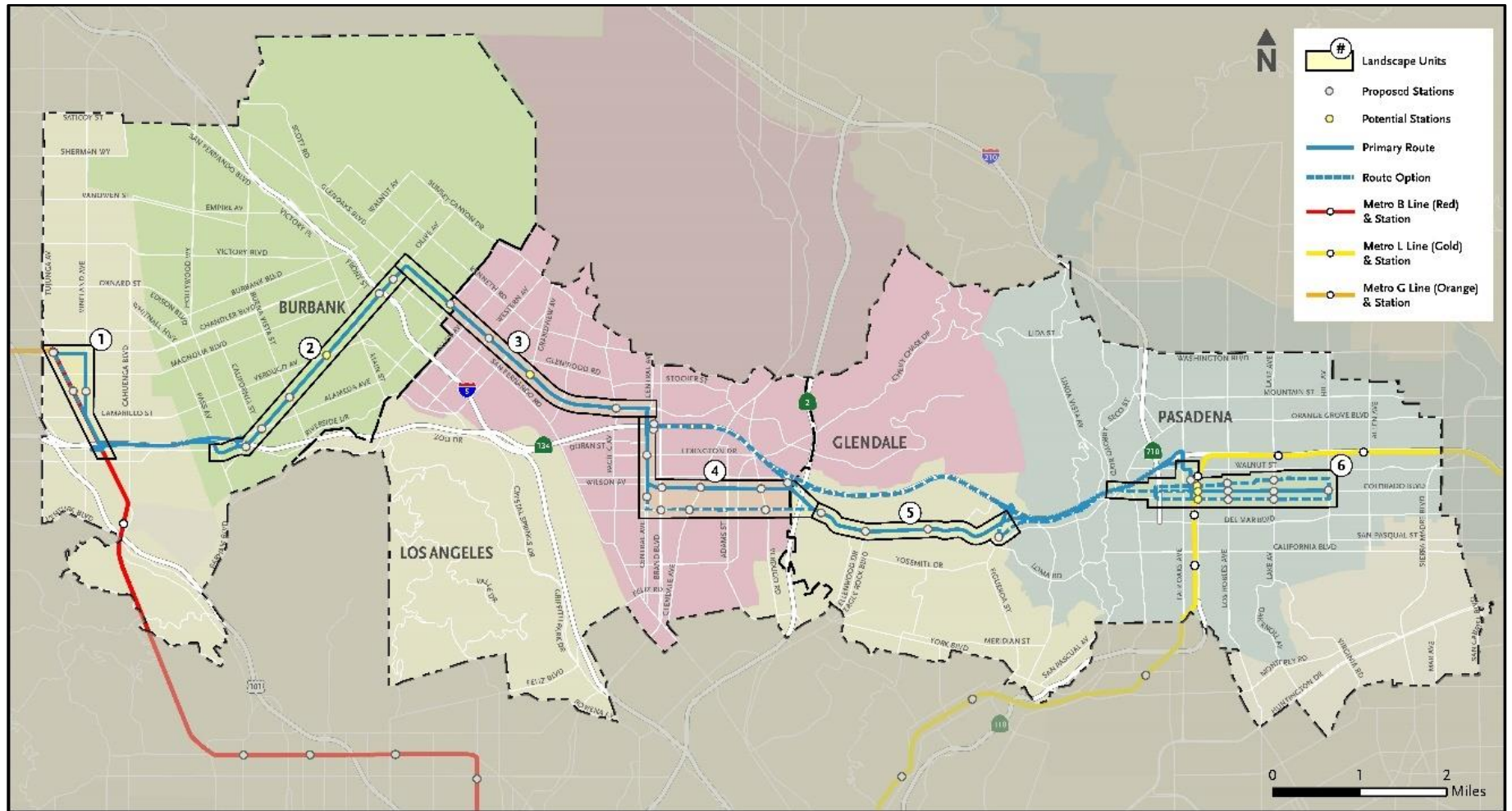
The Proposed Project runs east-west from North Hollywood in the San Fernando Valley to the City of Pasadena in the San Gabriel Valley. The Project Area is within a topographically flat area with a gradual northward slope toward the foothills of the San Gabriel Mountains. There are several mountain ranges and topographic features including the San Gabriel Mountains and San Rafael Hills to the north and the Hollywood Hills to the south. The Proposed Project traverses an urbanized area with primarily residential and commercial land uses.

There are no designated scenic vista points or other public vistas within the Project Area but the Project Area is visible and falls within the viewshed of vista points at high elevation viewing locations, most notably, the Griffith Park Observatory which is located approximately two miles from the Proposed Project. Other than the Griffith Park Observatory, informal views of the Project Area are available from roadways along the mountainous terrain.

Existing lighting, glare, and shading in the Project Area are characteristic of a typical urban environment that includes commercial and residential buildings, and streetscape elements (light poles, street trees). Existing sources of light in the Project Area include streetlights, headlights and tail-lights on cars and other vehicles in the roadway, and interior and exterior lighting from adjacent buildings. There are no major sources of glare. Existing shading is from vehicles on the roadway, adjacent buildings, streetlights, and street trees.

To illustrate the existing visual setting, representative landscape units (LUs) were selected to provide a summarized description of the visual character and quality of the Project Area as well as an account of visual resources present. An LU is a portion of the regional landscape and can be thought of as an outdoor room that exhibits a distinct visual character. The LUs were selected based on geographic and jurisdictional divisions along the route and route options with a focus on the visual consistency among development patterns, visual resources, and overall character. Each LU is delineated on maps and numbered from LU-1 to LU-6. **Figure 3.2-1** provides an overview of the LUs geographic extent within the Project Area. In addition, representative viewpoints (RVs) were selected for each LU to illustrate the typical viewshed in each LU and are numbered RV-1 to RV-7. Freeway portions of the Proposed Project and route options were not included in selected LUs as no physical changes to freeways would occur.

Figure 3.2-1 - Landscape Unit Overview



3.2.2.1 LU-1 North Hollywood, Vineland Avenue and Lankershim Boulevard

LU-1 includes the Project segment within the North Hollywood community including the North Hollywood Metro B/G Line (Red/Orange) Station, Chandler Boulevard, Vineland Avenue, Lankershim Boulevard, and a short portion of Riverside Drive between Lankershim Boulevard and Cahuenga Boulevard. The affected roadways within this LU all consist of two vehicle lanes in each direction with a center median and/or turn lanes. There are parking spaces and sidewalks throughout the LU with bicycle lanes in both directions along Chandler Boulevard and Vineland Avenue. Both Vineland Avenue and Lankershim Boulevard are developed as transit-oriented corridors with a mixture of commercial retail, office buildings, restaurants, and medium to high density apartments. LU-1 has been developed and designed consistent with the design goals of the NoHo Arts District and North Hollywood Redevelopment Plan.

LU-1 includes a variety of streetscape features the most prevalent of which are along Lankershim Boulevard which includes a landscaped median, decorative pavement markings, street trees along sidewalks, and informational signage related to the NoHo Arts District. The mix of urban streetscape elements, artistic street treatments, palate of street trees, and variety of architectural design gives Lankershim Boulevard a high degree of vividness. Vineland Avenue also includes a landscaped median and a meandering walking path situated between Vineland Avenue and the frontage road (Vineland Place). Overhead utilities are present along both sides of Vineland Avenue with infrastructure (telephone poles) situated within the median as well. In the northbound direction, the San Gabriel Mountains are visible yet distant; in the southbound direction, the Santa Monica Mountains/Hollywood Hills are visible.

Visual resources within LU-1 consist of mature street trees, decorative street treatments particularly along Lankershim Boulevard, the landscaped median and walking path along Vineland Avenue, and historic buildings visible from the roadway including the following:

- Lankershim Train Depot (11275 Chandler Boulevard)
- El Portal Theater (5269 Lankershim Boulevard)
- The Federal (5303 Lankershim Boulevard)
- Los Angeles Department of Water and Power Building (5108 Lankershim Boulevard)

3.2.2.2 LU-2 Burbank, Olive Avenue

LU-2 includes the segment of the Project along Olive Avenue in the City of Burbank as well as a short stretch of Riverside Drive between Pass Avenue and Olive Avenue. Olive Avenue consists of two vehicle lanes in each direction with a center turn lane. There are parking spaces and sidewalks throughout the LU with limited streetscape amenities consisting of street trees and grassy parkways along the sidewalk of Olive Avenue.

Land uses fronting the roadway in LU-2 are almost entirely commercial and related to the Burbank Media District businesses including TV and film studios (e.g., iHeart Radio Theater, Warner Bros. Studios, Walt Disney Studios), office buildings, and small single-story local serving businesses such as restaurants. Low and medium density residential uses are one block north of Olive Avenue and one block south of Olive Avenue. Further northeast of the

Media District, commercial and residential uses are lower density with educational uses (John Burroughs High School and Walt Disney Elementary School), the Olive Recreation Center park, and churches interspersed. Near Victory Boulevard and I-5, uses are primarily industrial and transportation-related including the Burbank Transit Center and the Burbank Metrolink Station. Northeast of the I-5, the LU includes Downtown Burbank where there is a mix of commercial retail, restaurants, and the Burbank Civic Center. Building mass throughout the LU is generally low-scale ranging from one- to two-story structures with some low-rise commercial office buildings (four to ten stories) concentrated in the southwestern portion of the LU in the Burbank Media District and in the Downtown Burbank area in the northeast portion of the LU.

Typical views in LU-2 include the Olive Avenue corridor, bordered by parking, sidewalks, street trees, commercial buildings, signs on both sides, and additional buildings visible in the background. Visual resources include historic properties such as the Mentzer House, Burbank City Hall, Burbank Post Office, and the Olive Avenue Recreation Center, all of which are visible from the roadway. In the eastbound direction, the San Gabriel Mountains are a visible and prevalent natural feature; in the southbound direction, the Santa Monica Mountains and Griffith Park are visible though distant from a majority of accessible views within the LU.

Visual resources within LU-2 consist of mature street trees, the Olive Avenue Recreation Center, and historic buildings visible from the roadway including the following:

- The Mentzer House (1015 Olive Avenue)
- The Burbank Post Office (125 Olive Avenue)
- The Burbank City Hall (275 Olive Avenue)

3.2.2.3 LU-3 West Glendale, Glenoaks Boulevard

LU-3 includes the Glenoaks Boulevard corridor from Olive Avenue in Burbank to Central Avenue in Glendale. There are no known historic properties within LU-3 though the development along the roadway is one of the oldest established communities within the City of Glendale. Glenoaks Boulevard is three lanes in each direction with a landscaped median running along the middle. The LU is developed with a mixture of commercial and residential development with multi-family residential development located along the northwest stretch of the LU; however, development immediately adjacent to Glenoaks Boulevard is predominately commercial. Commercial properties are generally low-density one- and two-story structures with storefronts and consist of a mix of local-serving restaurants and shops. Commercial development is mostly within strip malls with dedicated parking areas as well single-storefront developments with rear parking/alleyways. The eastern portion of the LU is more residential in the immediate surroundings of Glenoaks Boulevard and development consists of two- to three-story apartment and duplex structures. Major land uses within the LU include Kaiser Permanente Glendale, Thomas Jefferson Elementary School, and the Department of Motor Vehicles Glendale office. On-street parking and street trees along sidewalks are present throughout the LU and the City of Glendale is in the planning stages of improving the bicycle lanes along the Glenoaks Boulevard corridor.

Typical views in LU-3 include the Glenoaks Boulevard corridor bordered by parking, sidewalks, street trees, and commercial buildings. A majority of the LU includes a wide landscaped median with mature trees and other landscaping. Views of the San Gabriel Mountains to the north of Glenoaks Boulevard are accessible from the entire LU and views of the Santa Monica Mountains are available in the southwestern facing direction though the mountains are distant and obstructed by most buildings along Glenoaks Boulevard. The Downtown Glendale skyline can be seen in the distance for eastbound travels. The San Gabriel Mountains are present off the left-hand side of the frame; however, due to the natural slope of the area, the view from Glenoaks Boulevard is less dramatic than in other LUs.

Visual resources within LU-3 consist of urban streetscape elements such as mature street trees and the landscaped median along the center of Glenoaks Boulevard through the majority of the LU.

3.2.2.4 LU-4 South Glendale, Broadway and Colorado Street

LU-4 is entirely within the City of Glendale and includes Central Avenue between Glenoaks Boulevard and Colorado Street, Broadway between Central Avenue and Colorado Boulevard, and Colorado Street between Central Avenue and the City of Los Angeles. Central Avenue is two lanes in the southbound direction and three lanes in the northbound direction with a center/turn lane throughout and bicycle lanes along both sides of the street. Broadway is two lanes in both directions with a center/turn lane between Central Avenue and Louise Street where it narrows to only two lanes in each direction. Colorado Street is two lanes in each direction with a center/turn lane throughout. There are no bicycle lanes along Broadway or Colorado Street and on-street parking is provided intermittently on each street within the LU where right-turn lanes are not required.

The LU includes Downtown Glendale which is a mix of high-density residential development along Central Avenue and regional activity centers, including the Glendale Galleria along Central Avenue, Broadway, and Colorado Street, and the Americana along Central Avenue and Colorado Street. The Central Avenue portion of the LU is a mix of large-scale commercial development and office buildings and high density residential; however, Central Avenue forms the “backside” of Downtown Glendale which is developed around Brand Boulevard two blocks to the east of Central Avenue. From Central Avenue, the LU follows the Broadway corridor which, beyond Brand Boulevard, is a mostly small-scale commercial corridor that also includes public/civic land uses including the Glendale Post Office, Glendale Police Department, Glendale City Hall, and Glendale High School. Much of the development along Broadway between Brand Boulevard and Glendale Avenue is older than other portions of the LU, with City Hall and the Post Office being constructed in the 1930s along with the historic streetlights lining portions of Broadway. East of Glendale Boulevard land uses along Broadway remain commercial but consist of newer strip mall developments. The eastern portion of the LU in the vicinity of Glendale High School is more residential with two story apartment buildings fronting the roadway east of Chevy Chase Drive. The Colorado Street portion of the LU is similarly commercial with one- and two-story structures lining the entire corridor.

Typical views in LU-4 include the Central Avenue, Broadway, and Colorado Street corridors which are all bordered by sidewalks, street trees, and commercial and residential buildings. The Central Avenue portion of the LU includes street trees and the historic streetlights mentioned previously; however, the streetscape elements are not dominant features within this portion of the LU due to relatively narrow sidewalks and large buildings lining the street. In this regard, Central Avenue is geared toward travel to and from major shopping areas including the Americana and the Glendale Galleria. In contrast, the Broadway portion of the LU includes several streetscape elements that add to the visual character of the LU, including street trees, decorative and historic streetlights, and decorative sidewalk and crosswalk pavement. In particular, portions of Broadway have sidewalks that consist of a red brick paving material which matches many of the buildings lining the street which results in a designed feel and memorable viewer experience. Colorado Street is similar to Central Avenue, as it has relatively few street trees other than within intermittent curb extensions that are landscaped with small shrubs and palm trees, which are dispersed east of Glendale Avenue. Architectural elements along Colorado Street vary widely and the corridor is catered to local commercial activity. The San Gabriel Mountains are visible to north facing views and portions of the San Rafael Hills can be seen from east facing views along Broadway, though these natural features are generally obscured by buildings in the foreground.

Visual resources within LU-4 consist of urban streetscape elements such as mature street trees, decorative street treatments particularly along Broadway, the potentially historic streetlights along Broadway and Central Avenue, and historic buildings visible from the roadway including the following:

- The Security Trust and Savings Bank (100 North Brand Boulevard)
- The Hotel Glendale (701 East Broadway)
- The Glendale City Hall (613 East Broadway)

3.2.2.5 LU-5 Eagle Rock, Colorado Boulevard

LU-5 is entirely within the Eagle Rock neighborhood of the City of Los Angeles and consists of Colorado Boulevard from the Glendale city limit on the west to Figueroa Street on the east. Colorado Boulevard is two lanes in each direction with a center/turn lane between the City limit and Caspar Avenue. East of Caspar Avenue there is a landscaped median along the center of the roadway. Parking and bicycle lanes run along both sides of the street throughout the LU. Street elements along Colorado Boulevard include on-street parking, bicycle lanes and intermittent street trees along sidewalks.

Colorado Boulevard is an entirely commercial corridor within the self-contained community of Eagle Rock. Land uses along the corridor include small scale commercial uses consisting of restaurants, shops, and some neighborhood serving businesses (i.e., liquor stores, groceries, etc.). Residential land uses within the LU are located to the north and south of Colorado Boulevard, behind commercial buildings and extending up and down arterials perpendicular to Colorado Boulevard. The portion of the LU to the west of Eagle Rock Boulevard is less neighborhood-oriented with transitory land uses that cater to a more regional population such as

Eagle Rock Plaza, motels, and car washes. In addition, this portion of the LU is less pedestrian oriented as evidenced by the lack of streetscape features and relative distance between land uses. East of Eagle Rock Boulevard, the LU becomes more neighborhood-oriented with pedestrian-friendly streetscape treatments and commercial uses spaced more closely together. Within this portion of the LU, commercial buildings are of a consistent height and scale with similar facades. The landscaped median extends from Caspar Avenue on the west to Townsend Avenue on the east and consists of an approximately 16-foot wide median with trees scattered throughout and simple landscaping (i.e., grass and small shrubs). There are multiple gaps along the length of the median to provide pockets for left turns at each intersection. In addition to the median, mature street trees line the south side of Colorado Boulevard and are dispersed intermittently along the north side of the street. East of Townsend Avenue, development within the LU becomes less dense as the topography of the area is more varied and pedestrian circulation is less convenient.

Visual resources in LU-5 include streetscape elements such as mature street trees, the landscaped median along Colorado Boulevard, and the following historic buildings:

- The Arts Center Eagle Rock (2225 Colorado Boulevard)
- The Los Angeles City Council office (2035 Colorado Boulevard)
- The Women's 20th Century Club building (5105 Hermosa Avenue)

In addition to these historic and cultural monuments, the Eagle Rock, a major granite monolith that is important to the community and a notable visual resource, is not visible from the LU.

3.2.2.6 LU-6 Pasadena, Colorado Boulevard

LU-6 is entirely within the City of Pasadena and consists of the Proposed Project route along Colorado Boulevard, Raymond Avenue, and Walnut Street as well as the route option that utilizes Green Street and Union Street. A majority of the Proposed Project route through LU-6 utilizes Colorado Boulevard but a short stretch from between the SR-134 would follow Fair Oaks Avenue to Raymond Avenue via Walnut Street. Colorado Boulevard is two lanes in each direction with a center/left-turn lane throughout the LU. Both sides of the roadway also include the "blue stripe" which demarcates the boundary for the annual Rose Parade route through the City of Pasadena as well as on-street parking. Both Green Street and Union Street are one-way streets (Green Street is eastbound and Union Street is westbound) with lane configurations that range from two lanes to four lanes depending on the location. There are no bicycle lanes along either Green Street or Union Street.

From SR-134 to Colorado Boulevard, the LU consists of a portion of Fair Oaks Avenue, Walnut Street, and Raymond Avenue, all of which are two lanes in each direction with a center/left-turn lane. This short segment includes Memorial Park, which is a NRHP designated historic property. In addition to its historic value, the park also has several visual resources including a variety of exotic plants, a Romanesque stone building constructed in 1890, an art deco band shell, and a civil war memorial statue. Other than Memorial Park, this portion of the LU is defined by architectural elements which are consistent with Pasadena's Central District and Old Pasadena

Historic District. Buildings are two- to four-stories with consistent façade treatments and adaptive re-use historic-period structures.

Colorado Boulevard, a part of the original Route 66, makes up the majority of the LU and traverses Pasadena's major activity centers popularly known as Old Pasadena, the Civic Center, and the Playhouse District. Colorado Boulevard is an important scenic corridor in the City of Pasadena for its focused views east and west through the City's Central District and adjacent neighborhoods. Colorado Boulevard showcases historic commercial architecture in Old Pasadena and provides views of major cultural institutions such as Pasadena City College. Visually, the corridor ties together a long sequence of neighborhoods. Due to its prominence in the City's hierarchy of streets, it is also commonly used for wayfinding by motorists, pedestrians, and others. Land uses along Colorado Boulevard are primarily commercial with activity-oriented businesses such as restaurants and shops within the Central District, transitioning to more office uses and destination shopping and businesses such as office supply and department stores to the east. Buildings in the Central District are generally of a similar scale and mass, and façade treatments depict a consistent theme of restoration and reuse of historic buildings as determined by the design guidelines of the Central District Specific Plan. Landforms including the San Gabriel Mountains to the north and the San Rafael Hills to the west are visible from the LU and serve as the backdrop for the urban setting of the LU.

Visual resources within LU-6 consist of urban streetscape elements such as mature street trees, decorative street treatments such as decorative streetlights consistent with historic district design guidelines, and numerous historic buildings which consist primarily of the Old Pasadena National Register of Historic Places (NRHP) District, the Pasadena Civic Center NRHP District and the Pasadena Playhouse NRHP District, with contributing and individual resources interspersed throughout the LU. The following historic sites are located within the LU:

Old Pasadena NRHP District

- The Pasadena Civic Center NRHP District
- The Pasadena Playhouse NRHP District
- Memorial Park (85 East Holly Street)
- All Saints Episcopal Church (132 North Euclid Ave)
- Castle Green/Green Hotel Apartments (50 East Green Street)
- Pasadena City Hall (100 Garfield Ave)
- Civic Auditorium (300 East Green Street)

Colorado Boulevard

- Pasadena Public Library (285 East Walnut Street)
- Pasadena Playhouse (39 South El Molino Avenue)
- St. Andrews Catholic Church (311 North Raymond Avenue)
- Holliston Community Church (1305 East Colorado Boulevard)

3.2.3 Significance Thresholds and Methodology

3.2.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to aesthetics if it would:

- a) Have a substantial adverse effect on a scenic vista;
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; and/or
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.2.3.2 Methodology

The following steps were used to assess the existing visual setting of the Project corridor:

- The existing visual resources, character and quality were identified;
- Maps were prepared and photographs were taken to illustrate existing visual character and quality;
- Existing viewers, viewer exposure, and viewer response were evaluated; and
- An assessment of the potential impacts on visual resources was conducted using architectural renderings and visual simulations.

Background research was conducted to identify the regulatory and planning context for visual resources in the Project Area. Existing land use and aerial maps, as well as other available background information, were reviewed to identify the general visual setting and context of the Project, including major geographical features, vegetated areas, water features, and patterns of development. Field surveys were performed of the Project Area on February 19, 2020, and March 5, 2020, to identify distinct landscape units and to describe associated landform, visual resources, vegetation patterns, and manmade development.

Views from representative viewpoints were digitally photographed to depict the Project Area and for potential use in creating visual simulations. Adjacent property types and associated uses were also catalogued in order to identify users/viewers and their exposure to the Project. After identifying existing viewsheds and visual resources, maps were created using Geographic Information Systems to convey the location and spatial distribution of these resources in the Project Area.

Photo-realistic visual simulations were created to illustrate potential impacts that could result from the Proposed Project (see Section 3.2.4). For each LU, visual simulations were created, with exception to LU-6 in the City of Pasadena because physical improvements within the LU would be limited.

3.2.4 Impact Analysis

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable).

Impact 3.2-1) Would the Proposed Project have a substantial adverse effect on a scenic vista?

While there are no formal or designated scenic vistas within the Project Area, scenic viewing areas are available at higher elevations in the San Gabriel Mountains and Santa Monica Mountains. These vistas generally provide views of the Los Angeles Basin and are not formally intended for viewing the Project Area or individual components contained within it. In this regard, views from vista points at high elevations would be unaffected by the Proposed Project as structures associated with the Project are relatively small and unobtrusive as compared to urban development throughout the Project Area and would likely not be visible from vista points in the San Gabriel Mountains or Santa Monica Mountains. This discussion focuses on vistas within the Project Area.

Scenic vistas in the Project Area include views of the surrounding mountains, which are visible from various locations and include the Santa Monica Mountains/Hollywood Hills to the south, the Verdugo Mountains to the north and east, the San Gabriel Mountains to the north, and the San Rafael Hills to the north and east. Views of surrounding mountains are visible in each of the LUs. In some LUs, the surrounding mountains are minimally visible due to the orientation of the subject roadway and intervening land uses and development, such as in LU-3 and LU-5. In some LUs the surrounding mountains are a visually dominant feature in the background, such as in LU-1 and LU-6.

Drivers, transit riders, people on bicycles, and pedestrians would be expected to have more fleeting views of scenic vistas because they are moving along the Project corridor, while residents, pedestrians, employees/students, and visitors would be expected to have longer views.

Construction

Less-Than-Significant Impact. The presence of construction vehicles, equipment, visual signs of construction, construction staging and laydown of materials, and personnel would present visually disruptive elements in each of the LUs but would be temporary. Construction activities would introduce heavy equipment to the area (i.e., bulldozers, scrapers, and trucks), security fencing, barricade materials, stockpiled building materials, and safety and directional signage into the Project Area, which would result in some obstructed views of visual elements in the foreground such as buildings and landscape elements; however, views of surrounding mountains and

landscapes would remain unaffected from view corridors of public streets, sidewalks, and properties where construction would occur. It is not anticipated that cranes or other tall construction equipment would be required to construct the Proposed Project and thus no obstruction of the physical landscape surrounding the Project Area would occur. Construction activities along sidewalks would restrict visual access to the pedestrian viewer group, which would be most affected by construction activities given their exposure and sensitivity. Impacts to scenic vistas would be temporary and not significant given the nature of construction activities and general lack of high-quality vistas within the Project Area. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

Less-Than-Significant Impact. There are no formal scenic vistas in the Project Area and views of surrounding landscapes and topography are available but generally low quality and not the primary focus of affected viewer groups. The primary visual elements of the Proposed Project include the addition of BRT vehicles, changes to existing parking and vehicle lanes, bus stations and platforms, curb and sidewalk modifications, and changes to street configurations including bus-only lanes, new or relocated bus stops, and modifications to existing medians. The addition of buses in any of the proposed configurations would not be expected to substantially affect existing views in the Project Area. Stations would include canopies, potential monument signs, and other vertical features which could limit views for viewers directly adjacent to or underneath the canopies; however, views in the Project Area as a whole would not be substantially affected. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant.

Impact 3.2-2) Would the Proposed Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no designated state scenic highways within the Project Area. Scenic resources include existing landscaping elements, including rows of mature trees along the medians in LU-1, LU-3, and LU-5, and historic properties.

Construction

Less-Than-Significant Impact. Construction activities are not anticipated to result in damage to any scenic resources. Certain construction activities associated with modifications to the medians along Glenoaks Boulevard and Colorado Boulevard as well as placing stations along sidewalks may require trimming of existing street trees and temporary removal of streetscape features (i.e., decorative street lights and paving), but such resources would be replaced or

maintained where feasible. Permanent removal of historic resources, street trees and other landscape elements as well as historic properties are addressed in the following operational discussion. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

Less-Than-Significant Impact with Mitigation. The Proposed Project would result in permanent alterations to the street where bus lanes are proposed and along sidewalks and medians where station platforms are proposed. Such modifications would not result in substantial effects on visual resources which, in the Project Area, consist mainly of typical street trees and streetscape amenities such as decorative paving. Certain station locations may conflict with existing street trees but further design refinement during the Preliminary Engineering phase would avoid most conflicts with existing street trees located within sidewalks. Station footprints in LU-4 may affect decorative brick paving at the proposed Broadway/Brand Boulevard Station and Broadway/Glendale Avenue Station; however, the impact would be less than significant as a majority of the existing brick would be unaffected by the proposed station and during Preliminary Engineering and Final Design, Metro would coordinate station design with the City of Glendale to ensure stations are incorporated into the streetscape in a manner that does not substantially alter the visual quality of the LU. Additionally, the Project will integrate site-specific public art during final design. The aesthetic design of stations and related transit facilities will promote a sense of place and minimize adverse visual impacts on surrounding neighborhoods.

The Proposed Project may require the demolition or relocation of the Central Avenue and Broadway Streetlights in LU-4, which are historic resources. There is some speculation as to whether all of the affected street lights are historic or reproductions; however, as visual resources they contribute to the visual character of the LU regardless of their designation as historic properties because the reproductions are indiscernible from their historic counterparts. Based on current concept engineering plans station, platforms conflict with approximately three historic streetlights on Central Avenue and approximately three on Broadway. The final platform locations are subject to refinement during the Preliminary Engineering phase to meet site-specific conditions. Metro is developing a standard “kit of parts” for station features, which would be further refined in the Preliminary Engineering phase. The selection of specific station features as well as final platform locations are also subject to refinement during the Preliminary Engineering phase to meet site-specific conditions. As discussed, during Preliminary Engineering and Final Design, Metro would coordinate station design with the City of Glendale to ensure stations are incorporated into the streetscape in a manner that does not substantially alter the visual quality of the LU. Such design incorporation may include but is not limited to relocating historic streetlights in close proximity to their existing locations, paving the station areas with similar brick treatments, or inclusion of additional streetscape features to offset losses in streetscape amenities. Refer to Section 3.5, Cultural Resources of the Draft EIR for additional information related to historic resources. Regarding other historic properties, no potential conflicts have been identified between stations or roadway modifications and existing historic resources that may result in damage or destruction.

The landscaped medians along Glenoaks Boulevard in LU-3 would undergo modifications as a result of the Proposed Project. In LU-3, portions of the median along Glenoaks Boulevard would be removed to allow for station platforms and transition lanes for BRT station approaches as well as left turn pockets. Some trees within the landscaped median as well as existing landscaping would be removed as a result; however, the majority of the median and associated landscaping would remain unaffected by the Project. In addition, the Proposed Project would install additional landscaping and median extension/jersey barriers at left-turn approaches to ensure safety but also to compensate for the loss of portions of the median. Therefore, impacts related to existing landscaped medians would be less than significant.

Due to the potential removal or relocation of the potentially historic Central Avenue and Broadway streetlights, without mitigation, the Proposed Project would result in a significant impact related to operational activities. Implementation of Mitigation Measure **CUL-1** would reduce this impact to less than significant.

Colorado Street (Route Option E2)

The Colorado Street route option would avoid all impacts to the potentially historic streetlights on Broadway; however, the Central Avenue streetlights would still potentially be affected by the proposed station platform at Central Avenue and Lexington Drive. While fewer streetlights would be affected, without mitigation, the Proposed Project with the Colorado Street route option would result in a significant impact related to operational activities. Implementation of Mitigation Measure **CUL-1** would reduce this impact to less than significant.

SR-134 (Route Option E3)

The SR-134 route option would avoid all construction-related impacts to the Central Avenue and Broadway streetlights. Therefore, the Proposed Project with the SR-134 route option (Route Option E3) would result in no impact related to operational activities.

Colorado Boulevard Hybrid Side-and-Center Running Configuration Option (Route Option F1)

The Colorado Boulevard Hybrid Side-and-Center Running Configuration Option in the Eagle Rock community would replace the existing median with the proposed center-running bus lanes and associated station platforms at Caspar Avenue and Townsend Avenue. While the existing median and associated landscaping would be removed as a result of the Configuration Option, new median and center lane landscaping amenities would be installed throughout the LU for safety purposes, as part of the Project, but would also offset some of the loss in visual resources within LU-5. Given the Eagle Rock community's expressed sensitivity to the loss of the median and associated visual resources and the substantial degree to which visual resources in LU-5 would be affected, without mitigation, the Proposed Project with the Colorado Boulevard Hybrid Side-and-Center Running Configuration Option (Route Option F1) would result in a potentially significant impact related to operational activities. As discussed, the Project will integrate site-specific public art during final design. The aesthetic design of stations and related transit facilities will promote a sense of place and minimize adverse visual impacts

on surrounding neighborhoods. Mitigation Measures **VIS-1** and **VIS-2** are recommended to reduce this impact to less than significant.

Mitigation Measures

VIS-1: Plant material removed from center medians and sidewalks shall be replaced within the existing street/curb right-of-way based on the following requirements:

- Plant one new tree and/or shrub for every street tree removed (1:1 tree replacement ratio). Replacement tree species should be the same as that removed or to the satisfaction of the affected jurisdiction's Bureau of Street Services and located within the street right-of-way along station approaches or within the sidewalk.
- Plant groundcover using similar replacement species or to the satisfaction of the affected jurisdiction's Bureau of Street Services.
- A Landscape Replacement Study shall be prepared by a licensed landscape architect during final design. The study shall identify the location, species, and landscape design elements for all replacement landscaping associated with the Proposed Project and subject to local jurisdiction review.

VIS-2: Replacement median, barriers, or other divider shall be enhanced with patterns or decorative features in accordance with the local jurisdiction's streetscape design guidelines and approved by local jurisdiction Street Services bureau or similar entity.

CUL-1: Please refer to Section 3.5, Cultural Resources of the Draft EIR.

Significance of Impacts after Mitigation

Mitigation Measures **VIS-1** and **VIS-2** would reduce potential visual impacts by requiring landscaping and streetscape beautification. Mitigation Measure **CUL-1** would reduce potential visual impacts by ensuring that the Proposed Project design would be consistent with Rehabilitation Standards for historic resources damaged or relocated within the Project Area. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to impacts to visual resources.

Impact 3.2-3) In non-urbanized areas, would the Proposed Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The Proposed Project is located in an urbanized area. The following analysis focuses on potential impacts related to conflicts with applicable zoning and other regulations governing scenic quality. Refer to the Aesthetics Technical Report, included as Appendix C to the Draft EIR, for additional information related to visual character and quality of views.

Construction

No Impact. None of the jurisdictions in the Project Area have policies or plans that govern visual quality during construction activities as visual quality is typically a permanent condition that cities regulate. Adherence to South Coast Air Quality Management District Rules 401 and 403 would reduce the amount of visible Project-related emissions that are released into the air (Rule 401) and the amount of Project-related fugitive dust that are entrained into the air (Rule 403). Project-related construction activities would be required to comply with these rules. Therefore, the Proposed Project would not result in a significant impact related to related to construction activities.

Operations

Less-Than-Significant Impact. While each jurisdiction in the Project Area has a zoning ordinance that regulates the scenic quality of development projects, the zoning ordinances do not directly regulate the design of transportation infrastructure elements including bus facilities such as stations. Limited property acquisitions are anticipated, and Proposed Project elements would primarily be located within the street right-of-way such that no changes to existing land uses are anticipated. As such, the Proposed Project would be consistent with zoning requirements.

The Proposed Project would follow Metro's Transit Service Policies & Standards, Public Art Policy, Systemwide Station Design Standards, and Standard/Directive Drawings. The Metro Transit Service Policies & Standards identifies policies, principles and requirements that will be used by Metro staff in the design or modification of the transit network. The Metro Public Art Policy mandates the inclusion of art in the design of its transit systems; the Systemwide Station Design Standards Policy provides a consistent, streamlined systemwide design approach for Metro stations that include sustainable design features and sustainable landscaping.

In locations where there are specific design guidelines or ordinances, including the North Hollywood Redevelopment Project Commercial Core Urban Design Guidelines, Glendale Downtown Specific Plan, Glendale Town Center Specific Plan, Glendale Comprehensive Design Guidelines, Pasadena Citywide Design Principles and Design Guidelines, or Pasadena Central District Specific Plan, the Project would comply with applicable design requirements including undergoing mandated design review. Metro has been coordinating and continues to coordinate with the affected jurisdictions regarding Project design to ensure the Project is consistent with all applicable local jurisdiction zoning and other regulations governing scenic quality. As discussed, the Project will integrate site-specific public art during final design. The aesthetic design of stations and related transit facilities will promote a sense of place and minimize adverse visual impacts on surrounding neighborhoods. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Although visual character is not required to be assessed in the Draft EIR, illustrations have been developed to visually show how the Proposed Project would be incorporated into the communities. These illustrations are shown in **Figure 3.2-2** through **Figures 3.2-12**.

Figure 3.2-2 - Illustrative View of LU-1 Pre-Project



SOURCE: Kilograph, 2020

Figure 3.2-3 - Illustrative View of LU-1 Post-Project



SOURCE: Kilograph, 2020

Figure 3.2-4 - Illustrative View of LU-2 Pre-Project



SOURCE: Kilograph, 2020

Figure 3.2-5 - Illustrative View of LU-2 Post-Project



SOURCE: Kilograph, 2020

Figure 3.2-6 - Illustrative View of LU-3 Pre-Project



SOURCE: Kilograph, 2020

Figure 3.2-7 - Illustrative View of LU-3 Post-Project



SOURCE: Kilograph, 2020

Figure 3.2-8 - Illustrative View of LU-4 Pre-Project



SOURCE: Kilograph, 2020

Figure 3.2-9 - Illustrative View of LU-4 Post-Project



SOURCE: Kilograph, 2020

Figure 3.2-10 - Illustrative View of LU-5 Pre-Project



SOURCE: Kilograph, 2020

Figure 3.2-11 - Illustrative View of LU-5 Post-Project



SOURCE: Kilograph, 2020

Figure 3.2-12 - Illustrative View of LU-5, Post Center Running Configuration Option (F2)



SOURCE: Kilograph, 2020

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant.

Impact 3.2-4) Would the Proposed Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction

No Impact. Most construction activities would occur during daytime hours; however, if necessary, nighttime illumination during construction activities would be temporary and would not result in permanent effects to nighttime views in the Project Area. No construction equipment or activities have been identified that would result in a substantial source of light or glare during daytime hours. Therefore, the Proposed Project would not result in a significant impact related to related to construction activities.

Operations

No Impact. Because the Proposed Project is located in a developed, urban area, there is a substantial amount of existing lighting and glare. Current lighting and glare sources in the Project Area include streetlights, buildings and other structures, vehicles, and other various sources. Shading sources include buildings, other structures, utilities, and vegetation. The primary elements of the Proposed Project that could result in lighting, glare, and shading are the station upgrades and additional buses. These elements would not be expected to result in a substantial change in existing lighting, glare, or shading. Shading related to the bus station canopies would be a beneficial change for station users and would not result in impacts on adjacent land uses, as canopies would be relatively low profile compared to surrounding development. Therefore, the Proposed Project would not result in a significant impact related to related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

3.3. AIR QUALITY

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to Air Quality. Refer to the Air Quality Technical Report (Appendix E) for additional details related to applicable regulations and the existing setting.

Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards for outdoor concentrations. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons such as children, pregnant women, and the elderly, from illness or discomfort. Criteria air pollutants include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), fine particulate matter 2.5 microns or less in diameter (PM_{2.5}), respirable particulate matter ten microns or less in diameter (PM₁₀), and lead (Pb). Note that reactive organic gases (ROGs), which are also known as reactive organic compounds (ROCs) or volatile organic compounds (VOCs), and Nitrogen oxide (NO_x) are not classified as criteria pollutants. However, ROGs and NO_x are widely emitted from land development projects and participate in photochemical reactions in the atmosphere to form O₃. The analysis also discusses toxic air contaminants (TACs).

3.3.1 Regulatory Framework

3.3.1.1 Federal Regulations

Clean Air Act (CAA). The federal CAA was first enacted in 1955 to establish federal air quality standards, known as National Ambient Air Quality Standards (NAAQS). The CAA mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met. The Proposed Project is located within the South Coast Air Basin (SCAB) and, as such, is in an area designated as a nonattainment area for certain pollutants that are regulated under the CAA.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would most substantially affect the development of the Proposed Project include Title 1 (Nonattainment Provisions) and Title II (Mobile-Source Provisions). Title III (Air Toxics) also has provisions that apply to the development of the Proposed Project.

National Ambient Air Quality Standards (NAAQS). The NAAQS set primary standards and secondary standards for specific criteria air pollutants. Primary standards define ambient concentration limits for the intention of protecting public health, which includes considerations for sensitive populations such as asthmatics, children, and the elderly. Secondary Standards

define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation, and buildings. A summary of the NAAQS is shown in **Table 3.3-1**.

Table 3.3-1 – National Ambient Air Quality Standards

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon Monoxide (CO)		Primary	8-hour	9 ppm
			1-hour	35 ppm
Lead (Pb)		Primary and secondary	Rolling 3-month average	0.15 µg/m ³
Ozone (O ₃)		Primary and secondary	8-hour	0.070 ppm
Nitrogen dioxide (NO ₂)		Primary	1-hour	100 ppb
		Primary and secondary	Annual	0.053 ppm
Particulate Matter	PM _{2.5}	Primary	Annual	12 µg/m ³
		Secondary	Annual	15 µg/m ³
	PM ₁₀	Primary and secondary	24 hours	35 µg/m ³
		Primary and secondary	24 hours	150 µg/m ³
Sulfur Dioxide (SO ₂)		Primary	1-hour	75 ppb
		Secondary	3-hour	0.5 ppm

ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter

SOURCE: CARB, *Ambient Air Quality Standards*, June 25, 2020.

The adverse health effects of criteria pollutants include:

- **Carbon Monoxide (CO).** Elevated concentrations of CO weaken the heart’s contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with chronic heart disease. Inhalation of CO can cause nausea, dizziness, and headaches at moderate concentrations and can be fatal at high concentrations.
- **Lead (Pb).** Lead affects the brain and other parts of the body’s nervous system. Exposure to lead in very young children impairs the development of the nervous system, kidneys, and blood forming processes in the body.
- **Ozone (O₃).** An elevated level of O₃ irritates the lungs and breathing passages, causing coughing and pain in the chest and throat, thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower lung efficiency.
- **Nitrogen Dioxide (NO₂) and Nitrogen Oxides (NO_x).** Nitrogen oxides irritate the nose and throat, and increase one’s susceptibility to respiratory infections, especially in people with asthma. The principal concern of NO_x is as a precursor to the formation of ozone.
- **Particulate Matter (PM₁₀ and PM_{2.5}).** These small particulates can potentially aggravate existing heart and lung diseases, change the body’s defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM₁₀ and PM_{2.5}. Lung impairment can persist for two to

three weeks after exposure to high levels of particulate matter. Some types of particulates can become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

- **Sulfur Dioxide (SO₂).** Emissions of sulfur dioxide aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. SO₂ potentially causes wheezing, shortness of breath, and coughing. High levels of particulates appear to worsen the effect of sulfur dioxide, and long-term exposures to both pollutants leads to higher rates of respiratory illness.

Safe Affordable Fuel-Efficient (SAFE) Vehicle Rule. On September 19, 2019, the U.S. Department of Transportation's National Highway Traffic Safety Administration and United States Environmental Protection Agency (USEPA) issued the "One National Program Rules" to enable the federal government to provide nationwide uniform fuel economy and greenhouse gas emission standards for automobile and light duty trucks. This action finalizes the SAFE Vehicles Rule and clarifies that federal law preempts State and local tailpipe greenhouse gas emissions standards as well as zero emission vehicle (ZEV) mandates. The SAFE Vehicle Rule also withdraws the CAA waiver granted to the State of California that allowed the State to enforce its own Low Emission Vehicle program.¹ On March 31, 2020, Part II of the SAFE Vehicles was issued and sets carbon dioxide emissions and corporate average fuel economy standards for passenger vehicles and light duty trucks, covering model years 2021 to 2026.²

3.3.1.2 State Regulations

The California Clean Air Act of 1988 (Chapter 1568, Statutes of 1988) requires all air pollution control districts in the state to aim to achieve and maintain California Ambient Air Quality Standards (CAAQS) by the earliest possible date and to develop plans and regulations specifying how the districts will meet this goal. Responsibility for achieving the CAAQS, which for certain pollutants and averaging periods are more health protective than federal standards, is placed on the California Air Resources Board (CARB) and local air pollution control districts. State standards, shown in **Table 3.3-2**, are to be achieved through district-level air quality management plans that are incorporated into the SIP. Traditionally, CARB has established the CAAQS, maintained oversight authority in air quality planning, developed programs for reducing emission from motor vehicles, developed air emissions inventories, collected air quality and meteorological data, and approved SIPs developed by the individual air districts.

¹ U.S. Department of Transportation and USEPA, *One National Program Rule on Federal Preemption of State Fuel Economy Standards*, 2019. <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-one-national-program-federal-preemption-state#:~:text=In%20this%20action%20NHTSA%20is,and%20local%20programs%20are%20preempted.>

² U.S. Department of Transportation, *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks*, 2020. https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_preamble_web_version_200330.pdf.

Table 3.3-2 – California Ambient Air Quality Standards

Pollutant		Averaging Time	Level
Carbon Monoxide (CO)		8-hour	9 ppm
		1-hour	20 ppm
Lead (Pb)		30-day average	1.5 µg/m ³
Nitrogen Dioxide (NO ₂)		1-hour	0.180 ppm
		Annual	0.030 ppm
Ozone (O ₃)		8-hour	0.070 ppm
		1 hour	0.09 ppm
Particulate Matter	PM _{2.5}	Annual	12 µg/m ³
	PM ₁₀	24 hours	50 µg/m ³
		Annual	20 µg/m ³
Sulfur Dioxide (SO ₂)		1-hour	0.25 ppm
		24 hours	0.04 ppm
Sulfates		24 hours	25 µg/m ³
Hydrogen Sulfide		1 hour	0.03 ppm

SOURCE: CARB, *Ambient Air Quality Standards*, <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, May 2016.

3.3.1.3 Regional Regulations

South Coast Air Quality Management District (SCAQMD). The SCAQMD was created to protect the public from the harmful effects of air pollution, achieve and maintain air quality standards, foster community involvement, and develop and implement cost-effective programs that meet State and federal mandates, while considering environmental and economic impacts. The SCAQMD monitors air quality, and plans, implements, and enforces programs in order to attain and maintain CAAQS and NAAQS in the SCAB. The SCAB region makes up all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The attainment status of the SCAB region is summarized in **Table 3.3-3**. SCAB is a nonattainment area for ozone and particulate matter for both the CAAQS and the NAAQS.

Table 3.3-3 – Attainment Status of the South Coast Air Basin

Pollutants	Federal Classification	State Classification
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Ozone (O ₃) - 8-hour standard	Nonattainment (extreme)	Non-attainment
Ozone (O ₃) - 1-hour standard	Nonattainment (extreme)	Non-attainment
Particulate Matter (PM ₁₀)	Attainment	Non-attainment
Particulate Matter (PM _{2.5})	Non-attainment (serious)	Non-attainment
Sulfur Dioxide (SO ₂)	Unclassifiable/Attainment	Unclassifiable/Attainment

SOURCE: CARB, *Maps of State and Federal Area Designations*, 2019.

The SCAQMD is required to develop an Air Quality Management Plan (AQMP) to reach attainment for ozone and particulate matter in the region. The SCAQMD approved the latest version, 2016 AQMP, in March 2017. The 2016 AQMP analyzes the existing and potential regulatory options, including proven, cost-effective strategies, for controlling emissions and seeks to achieve multiple goals in partnerships to further reduce air contaminants as well as greenhouse gas emissions and TACs in order to meet attainment. The 2016 AQMP projected the SCAB region would attain the 24-hour PM_{2.5} standards by 2019, annual PM_{2.5} standards by 2021, 1-hour O₃ standards by 2023, and 8-hour O₃ standards by 2032.

SCAQMD Rules and Regulations

The following is a list of noteworthy SCAQMD rules applicable to the Proposed Project:

- Rule 402 (Nuisance) – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.
- Rule 403 (Fugitive Dust) – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce PM₁₀ from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.
- Rule 1113 (Architectural Coatings) – This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.

Southern California Association of Governments (SCAG). MPO are designated local decision-making bodies that carry out the federal transportation planning process. SCAG is the federally designated MPO for Los Angeles County. SCAG is required to adopt and periodically update a RTP. SB 375 requires MPOs to set regional greenhouse gas emission reduction targets that are developed through a SCS as part of the RTP. SCAG's 2020-2045 RTP/SCS presents the latest transportation vision for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial Counties through 2045 and provides a long-term investment framework for addressing the region's transportation and growth challenges. The expansion of public transit and displacement of on-road light duty automobile and truck travel are recognized in 2020-2045 RTP/SCS as crucial pillars of sustainable regional transportation planning.

Los Angeles County Metropolitan Transportation Authority (Metro). Approved by the Metro Board of Directors on September 24, 2020, the Moving Beyond Sustainability Plan establishes agency-wide sustainability goals, targets, and strategies for the next ten years. The Plan includes energy, water, emissions and pollution control, materials and construction/operations,

climate adaptation and resiliency, livable neighborhoods, equity, and economic and workforce development goals. Metro has also prepared the Climate Action and Adaptation Plan 2019 that commits the agency to reducing greenhouse gas emissions by 79 percent relative to 2017 levels by 2030 and 100 percent by 2050. The Draft Moving Beyond Sustainability Plan, published in 2020, establishes agency-wide sustainability goals, targets, and strategies for the next ten years. The Plan will include energy, water, emissions and pollution control, materials and construction/operations, climate adaptation and resiliency, livable neighborhoods, equity, and economic and workforce development goals. Metro has also prepared the Climate Action and Adaptation Plan 2019 that commits the agency to reducing greenhouse gas emissions by 79 percent relative to 2017 levels by 2030 and 100 percent by 2050. Many of the benefits of reducing greenhouse gas (GHG) emissions correlate to other air pollutants as well. The 2019 Climate Action and Adaptation Plan updated the agency's commitment to reducing operational greenhouse gas emissions by 79 percent relative to 2017 levels by 2030 and 100 percent by 2050. Operational emissions are broken down into three sources, or scopes. Scope 1 emissions include direct GHG emissions from equipment and facilities owned and/or operated by Metro. Scope 2 includes indirect GHG emissions from electricity purchases. Scope 3 includes all other Metro activities from sources owned or controlled by another company or entity, including: business travel, embodied emission in material goods purchased and service contracted by Metro, emissions from landfilled solid waste, and emissions Metro employee commute patterns. The Plan includes thirteen mitigation measures to reduce GHG emissions, most of which are aimed at reducing Scope 1 and Scope 2 emissions.

Metro adopted a Green Construction Policy in August 2011 and is committed to using more sustainable construction equipment and vehicles as well as implementing best practices, to reduce harmful diesel emissions from all Metro construction projects performed on Metro properties and in Metro ROWs. The Green Construction Policy encourages the use of construction equipment with technologies such as hybrid drives and specific fuel economy standards, both of which are methods to reduce air pollutant emissions during the construction period. From January 2015 onwards, the Green Construction Policy has required all off-road, diesel-powered construction equipment greater than 50 horsepower shall meet Tier 4 off-road emission standards at a minimum.

3.3.1.4 Local Regulations

The Cities through which the Proposed Project traverses have published planning documents that address air quality. Refer to the Air Quality Technical Report for a more detailed discussion of the specific elements of each plan below that are relevant to the Proposed Project.

City of Los Angeles

General Plan. The City of Los Angeles' General Plan contains goals and policies for future development in the City. The General Plan Framework Element provides Citywide policy and direction for the creation and updates of the General Plan elements. The Air Quality Element of the General Plan identifies existing air quality issues for the City of Los Angeles and contains goals, objectives, and policies for improving air quality through strategic land use planning and other initiatives.

Land Use/Transportation Policy. The City of Los Angeles Land Use/Transportation Policy provides the framework to guide future development around transit station areas. The policy includes several elements, consisting of Land Use, Housing, Urban Design, Ridership Strategy, Parking and Traffic Circulation, Equity, Economic Development, and Community Facilities Elements. The elements are intended to guide the land use and circulation patterns linked to the transit system. The guiding principles of the Land Use/Transportation Policy that are applicable to air quality include:

- Increase transit ridership and maximize the use and efficiency of Los Angeles' rail and bus transit systems.
- Establish transit centers and station areas as places where future growth of Los Angeles is focused.
- Develop compact quality pedestrian oriented mixed-use neighborhoods within walking distance to rail transit stations and other transit centers.
- Improve the public health and environment by reducing emission of air pollution from automobiles by creating a more efficient urban form.

North Hollywood – Valley Village Community Plan. The North Hollywood – Valley Village Hollywood Community Plan Area is located approximately 15 miles northeasterly of Downtown Los Angeles. The Community Plan is intended to promote an arrangement of land uses, streets, and services which will contribute to the economic, social, and physical health, safety, welfare, and convenience of the people who live and work in the community. The plans include goals to maximize the development opportunities of transit systems.

Mobility Plan 2035. In February 2015, the City of Los Angeles released the City's Mobility Plan 2035 as an addition to the Air Quality Element of the General Plan. The Plan identifies goals, objectives, policies, and action items (programs and projects) that serve as guiding tools for making sound transportation decisions as the City evolves. The Mobility Plan 2035 includes a number of policies related to the Proposed Project, including policies that promote the link between land use and transportation and increase the use of technology (applications, real time transportation information). It also includes wayfinding to expand awareness and access to parking options and a host of multi-modal options (car share, bicycle share, car/van pool, bus and rail transit, shuttles, walking, bicycling, driving).

City of Burbank

General Plan. The Burbank 2035 General Plan addresses air quality in the Air Quality and Climate Change Element. The plan acknowledges that one of the City's biggest challenges is how to best accommodate growth and encourage economic development, while protecting air quality and taking action to curb greenhouse gas emissions. The City of Burbank General Plan identifies air quality and climate change programs to reduce air pollutant emissions in order to improve overall air quality and environmental health.

Burbank Center Plan. The Burbank Center Plan is an economic revitalization plan for Downtown Burbank and surrounding areas. The Burbank Center Plan includes objectives related to air quality such as encouraging coordination of land use and transportation facilities and services in order to reduce the need for private vehicle transportation in accordance with regional congestion management and clean air goals.

City of Glendale

General Plan. The Air Quality Element of the Glendale General Plan identifies existing air quality issues for the City of Glendale and contains goals and policies. The overall goal of this element is to assist other governmental agencies in the attainment of healthful air for Glendale, including those sensitive to air pollution.

Greater Downtown Strategic Plan. The Greater Downtown Strategic Plan, adopted in 1996, includes the downtown area and the adjacent residential neighborhoods. Goals of the Greater Downtown Strategic Plan include significantly increasing the amount of public open space and developed parkland in Downtown Glendale and strengthening the interdependence between downtown and the surrounding neighborhoods. The Greater Downtown Strategic Plan was followed by the Town Center Specific Plan in 2004 and the Downtown Strategic Plan in 2006 to update and implement the vision, goals, and policies for the Greater Downtown area.

Downtown Specific Plan (DSP). The DSP is designed to update and implement the vision, goals, and policies for the downtown as initially set forth in the Greater Downtown Strategic Plan. The DSP is an urban design-oriented plan, which sets the physical standard and guidelines as well as land use regulations for activities within the DSP area. The DSP's purpose as it relates to air quality includes strengthening pedestrian, bicycle and transit-oriented characteristics while ensuring vehicular access to downtown destinations and concentrating growth in the downtown – a transit-rich entertainment, employment and cultural center – to relieve development pressures on existing residential neighborhoods.

City of Pasadena

General Plan. The City of Pasadena's General Plan does not include an Air Quality Element; however, the mobility element of the General Plan includes policies aimed at reducing air quality pollutant emissions through transit. The relevant mobility objectives and policies are generally focused on integration of transit to displace vehicle trips, reducing congestion, encouraging active transportation, and enhancing multi-modal transportation nodes.

3.3.2. Existing Setting

This section describes the existing air quality setting of the Project Area, which includes a discussion of the air pollutants of concern, the background concentrations of these pollutants, and the air quality management of the SCAB. Below is a description of the air pollutants commonly used to characterize air quality conditions and public health issues.

3.3.2.1 Sensitive Receptors

Certain groups of people are more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The 18-mile corridor includes many sensitive receptors.

3.3.2.2 Climate and Meteorology

The Proposed Project is located within the SCAB, an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the SCAB, which is a coastal plain with connecting broad valleys and low hills. The Southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the SCAB is a function of the area's natural physical characteristics (weather and topography) and human influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the SCAB, making it an area of high pollution potential.

3.3.2.3 Measured Pollutant Concentrations

The SCAQMD operates air quality monitoring stations throughout Los Angeles County. The monitoring stations located closest to the Proposed Project and most representative of the air quality within the Project Area are the Pasadena – South Wilson Avenue, Los Angeles – North Main Street, and Reseda stations. All three stations monitor O₃, NO₂, and PM_{2.5}, while the Los Angeles – North Main Street station also monitors PM₁₀. A summary of the monitored values for O₃, NO₂, and PM_{2.5} at the Pasadena – South Wilson Avenue monitoring station for the past three years of available data (2017 to 2019) is presented in **Table 3.3-4**. The values show that the Pasadena monitoring station has registered values above State and/or federal standards for O₃.

A summary of the monitored values for O₃, NO₂, PM₁₀, and PM_{2.5} at the Los Angeles – North Main Street monitoring station for the past three years of available data (2017 to 2019) is presented in **Table 3.3-5**. The values show that the Los Angeles monitoring station has registered values above State and federal standards for O₃ and PM_{2.5}.

Table 3.3-4 – Pasadena – South Wilson Avenue Air Monitoring Station Ambient Pollutant Concentrations

Pollutant	Standards	Year		
		2017	2018	2019
OZONE (O₃)				
Maximum 1-hour concentration monitored (ppm)		0.139	0.112	0.120
Maximum 8-hour concentration monitored (ppm)		0.100	0.090	0.098
Number of days exceeding State 1-hour standard	0.09 ppm	18	8	1
Number of days exceeding federal/State 8-hour standard	0.070 ppm	36	19	6
NITROGEN DIOXIDE (NO₂)				
Maximum 1-hour concentration monitored (ppm)		0.072	0.068	0.059
Annual average concentration monitored (ppm)		0.015	0.014	0.013
Number of days exceeding State 1-hour standard	0.18 ppm	0	0	0
FINE PARTICULATE MATTER (PM_{2.5})				
Maximum 24-hour concentration monitored (µg/m ³)		22.8	32.5	30.9
Annual average concentration monitored (µg/m ³)		9.6	10.2	8.9
Number of samples exceeding federal standard	35 µg/m ³	0	0	0

SOURCE: CARB, *Air Quality Data Statistics*, 2020; SCAQMD, *Air Quality South Coast Air Quality Management District*, 2019.

Table 3.3-5 – Los Angeles – North Main Street Air Monitoring Station Ambient Pollutant Concentrations

Pollutant	Standards	Year		
		2017	2018	2019
OZONE (O₃)				
Maximum 1-hour concentration monitored (ppm)		0.116	0.098	0.085
Maximum 8-hour concentration monitored (ppm)		0.086	0.073	0.080
Number of days exceeding State 1-hour standard	0.09 ppm	6	2	0
Number of days exceeding federal/State 8-hour standard	0.070 ppm	14	4	2
NITROGEN DIOXIDE (NO₂)				
Maximum 1-hour concentration monitored (ppm)		0.081	0.070	0.069
Annual average concentration monitored (ppm)		0.02	0.018	0.018
Number of days exceeding State 1-hour standard	0.18 ppm	0	0	0
RESPIRABLE PARTICULATE MATTER (PM₁₀)				
Maximum 24-hour concentration monitored (µg/m ³)		64.6	68.2	62.0
Annual average concentration monitored (µg/m ³)		25.7	30.2	25.5
Number of samples exceeding State standard	50 µg/m ³	40	31	3
Number of samples exceeding federal standard	150 µg/m ³	0	0	0
FINE PARTICULATE MATTER (PM_{2.5})				
Maximum 24-hour concentration monitored (µg/m ³)		54.9	61.4	43.5
Annual average concentration monitored (µg/m ³)		12	12.8	10.8
Number of samples exceeding federal standard	35 µg/m ³	6	6	1

SOURCE: CARB, *Air Quality Data Statistics*, 2020; SCAQMD, *Air Quality South Coast Air Quality Management District*, 2019.

A summary of the monitored values for O₃, NO₂, and PM_{2.5} at the Reseda monitoring station for the past three years of available data (2017 to 2019) is presented in **Table 3.3-6**. The values show that the Reseda monitoring station has registered values above State and/or federal standards for O₃.

Table 3.3-6 – Reseda Air Monitoring Station Ambient Pollutant Concentrations

Pollutant	Standards	Year		
		2017	2018	2019
OZONE (O₃)				
Maximum 1-hour concentration monitored (ppm)		0.140	0.101	0.101
Maximum 8-hour concentration monitored (ppm)		0.114	0.0101	0.087
Number of days exceeding State 1-hour standard	0.09 ppm	44	23	6
Number of days exceeding federal/State 8-hour standard	0.070 ppm	64	49	6
NITROGEN DIOXIDE (NO₂)				
Maximum 1-hour concentration monitored (ppm)		0.063	0.057	0.064
Annual average concentration monitored (ppm)		0.012	0.012	0.011
Number of days exceeding State 1-hour standard	0.18 ppm	0	0	0
FINE PARTICULATE MATTER (PM_{2.5})				
Maximum 24-hour concentration monitored (µg/m ³)		35.2	38.9	30.0
Annual average concentration monitored (µg/m ³)		9.7	**	9.2
Number of samples exceeding federal standard	35 µg/m ³	0	1	0

**Insufficient data available to determine value.

SOURCE: CARB, *Air Quality Data Statistics*, 2020; SCAQMD, *Air Quality South Coast Air Quality Management District*, 2019.

Air Toxics

The SCAQMD completed the Multiple Air Toxics Exposure Study IV (MATES IV), which was an ambient air monitoring and evaluation study conducted in the SCAB. Compared to previous studies of air toxics in the SCAB, Mates IV found a decreasing risk for air toxics exposure. The MATES IV concluded that the average carcinogenic risk throughout the SCAB, attributed to TACs, is approximately 418 in one million.

As the MATES-IV was being concluded, the California Office of Environmental Health Hazard Assessment (OEHHA) adopted revised methods for estimating cancer risks, which resulted in a SCAB-wide cancer risk of 1,023 in one million. This revised figure represents a change in the methodology for risk calculations, taking into account age sensitivity factors and breathing rates to a greater extent than previous efforts. Mobile sources (e.g., cars, trucks, trains, ships, aircraft) represent the greatest contributors, at 90 percent. About 68 percent of all risk is attributed to diesel particulate matter emissions. As of August 2020, SCAQMD is updating and finalizing its MATES-V.

According to the most current SCAQMD inhalation cancer risk data (MATES IV Carcinogenic Interactive Map), the Project Area is within a cancer risk zone of approximately 792 to 1,142 cases per one million. This is largely due to the Proposed Project proximity to Interstate 210, Interstate 5, SR-1, and SR-2. The potential alignments travel through seven areas that have a higher cancer risk than the SCAB-wide average. For comparison, the average cancer risk in the SCAB is 1,023 cases per one million people; as such, existing risks in the study area are not substantially different from the SCAB-wide average. The alignment runs through 19 areas (from the MATES IV Interactive Map), seven of which have a risk greater than the SCAB-wide average cancer risk.

3.3.3 Significance Thresholds and Methodology

3.3.3.1 Thresholds of Significance

State CEQA Guidelines

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to air quality if it would:

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard;
- c) Expose sensitive receptors to substantial pollutant concentrations; and/or
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The State CEQA Guidelines also states that the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the determination above.

SCAQMD Air Quality Significance Thresholds

Based on the SCAQMD's regulatory role in SCAB, the significance thresholds and analysis methodologies outlined in the *SCAQMD CEQA Air Quality Handbook, Localized Significance Thresholds and Calculation Methodology* guidance documents were used in evaluating impacts. The SCAQMD daily air pollutant emissions threshold amounts are presented in **Table 3.3-7**. If the operation or construction emissions exceed the applicable threshold, then the impact can be considered to be significant.

Table 3.3-7 – SCAQMD Air Quality Significance Thresholds

Pollutant	Construction	Operation
MASS DAILY THRESHOLDS		
Nitrogen Oxides (NOx)	100 lbs/day	55 lbs/day
Volatile Organic Compounds (VOC)	75 lbs/day	55 lbs/day
Respirable Particulate Matter (PM10)	150 lbs/day	150 lbs/day
Fine Particulate Matter (PM2.5)	55 lbs/day	55 lbs/day
Sulfur Oxides (SOx)	150 lbs/day	150 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Lead (Pb)	3 lbs/day	3 lbs/day

SOURCE: SCAQMD, *SCAQMD Air Quality Significance Thresholds*, 2019.

The SCAQMD has also established a localized significance threshold (LST) for emissions based on the source receptor area (SRA), site size, and the receptor distance. These LSTs represent the mass emissions rates that could result in localized exceedances of ambient air quality standards. The Proposed Project traverses three different SRAs: the East San Fernando Valley SRA (SRA 7), West San Gabriel Valley (SRA 8), and South San Gabriel Valley (SRA 11). To evaluate construction impacts, this analysis assumes a number of localized construction projects focusing on building BRT stations and associated infrastructure. To ensure a conservative analysis, a one-acre site and 25-meter distance to the nearest sensitive receptor were assumed. These are the smallest site sizes and closest receptor distances published in the SCAQMD's LST look-up tables for daily localized emissions. To evaluate operations impacts, this analysis recognizes the linear footprint of the BRT corridor and conservatively assumes the Project Area to be one-acre with receptors 25 meters from the source of emissions. Localized emissions would be significant if the operation or construction emissions exceed any of the LST thresholds shown in **Table 3.3-8**.

Table 3.3-8 – SCAQMD LST Thresholds

Phase	NOx	CO	PM ₁₀	PM _{2.5}
EAST SAN FERNANDO VALLEY (SRA 7)				
Construction (lbs/day)	80	498	5	3
Operation (lbs/day)	80	498	1	1
WEST SAN GABRIEL VALLEY (SRA 8)				
Construction (lbs/day)	69	535	4	3
Operation (lbs/day)	69	535	1	1
SOUTH SAN GABRIEL VALLEY (SRA 11)				
Construction (lbs/day)	83	760	5	4
Operation (lbs/day)	83	760	1	1

SOURCE: SCAQMD, *Mass Rate LST Look-Up Tables*, 2009.

With respect to criteria pollutants, NAAQS and CAAQS represent the exposure level (with an adequate margin of safety) deemed safe for humans. No ambient air quality standards exist for TACs because there is no exposure level deemed safe for humans. Pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, CARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risk they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor, called a Hazard Index, is used to evaluate risk.

3.3.3.2 Methodology

The Proposed Project would generate temporary construction-related emissions and result in changes to regional operational emissions. The methodology used to evaluate construction and operational effects is described below.

Construction

The analysis quantified construction emissions using the California Emissions Estimator Model (CalEEMod) version 2016.3.2, which has been approved by the SCAQMD for emissions estimation within SCAB. To determine the significance of potential construction air quality impacts, the calculated daily emissions were measured against applicable SCAQMD regional and local significance thresholds. The *SCAQMD Air Quality Analysis Handbook* recommends the assessment of air pollutant emissions from projects for both regional and localized impacts. Regional emissions refer to all emissions associated with project implementation that occur within SCAB, while localized emissions are those emitted from sources specifically located on a project site.

For construction, regional emissions include those that would be generated by all equipment, fugitive/area sources, and emissions associated with debris hauling, material delivery, and crew vehicle trips. The SCAQMD guidance advises that maximum daily emissions be disclosed in the air quality impacts assessment. While construction of the Proposed Project is expected to cumulatively last 24 to 30 months, construction activities at any one station location would be much shorter in duration, with potential overlapping activities at two or more locations. The regional analysis accounts for a conservative projection of the maximum daily equipment and vehicle activity that could be occurring along the entire Project corridor in a given day. Analyzing such a worst-case scenario ensures that all other construction activities would not produce air quality impacts that exceed those analyzed in this document.

The SCAQMD has developed a set of mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from construction LSTs. If the on-site emissions from proposed construction activities are below the LST emissions levels found in the LST mass rate look-up tables for the SRA, then emissions would not have the potential to cause a significant localized air quality impact. The proposed BRT service would travel through three SRAs: East

San Fernando Valley SRA (SRA 7), West San Gabriel Valley (SRA 8), and South San Gabriel Valley (SRA 11).

The localized analysis accounts for the standard construction methods that would be used to install the station platforms and accessory features along the Proposed Project corridor. Construction work would generally include a combination of the following elements dependent upon the chosen BRT alignment: restriping, curb-and-gutter/sidewalk reconstruction, ROW clearing, pavement improvements, station/loading platform construction, landscaping, and lighting and traffic signal modifications. Construction equipment anticipated to be used for the Proposed Project could include but would not be limited to asphalt milling machines, asphalt paving machines, large and small excavators/backhoes, loaders, bulldozers, dump trucks, compactors/rollers, and concrete trucks. Smaller equipment may also be used such as walk-behind compactors, compact excavators and tractors, and small hydraulic equipment.

The SCAQMD's methodology clearly states that off-site mobile emissions should not be included in the emissions compared to LSTs. Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod on-site emissions outputs were considered. Each individual project site (assumed to be each proposed BRT station) is less than 1-acre and it was assumed that sensitive receptors would lie adjacent to the BRT stations. According to SCAQMD methodology, it is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters. Therefore, the LST screening thresholds for a 1-acre project site with sensitive receptors located within 25 meters of the project site were used for this analysis.

Daily construction emissions from off-road equipment, on-road vehicles and fugitive dust from the Proposed Project were compared to the SCAQMD's regional significance thresholds, see **Table 3.3-7**. In order to evaluate localized emissions impacts, emissions from the construction of a representative bus station were evaluated and compared to the LSTs for the East San Fernando Valley SRA, West San Gabriel SRA, and South San Gabriel Valley SRA, see **Table 3.3-8**.

Operations

The Proposed Project would produce two types of operational air quality impacts. First, BRT service would generate emissions associated with operating bus services throughout the corridor. BRT service is expected to utilize zero-emission electric buses. However, compressed natural gas (CNG)-powered buses may be required when the Proposed Project first opens. If required, the use of CNG-powered buses during operation would be a temporary condition and any additional impacts posed by CNG-powered buses would be short-term and negligible. While operation of electric buses would not generate combustion-related emissions directly, buses would require battery charging.

The energy consumption of the buses would generate indirect operational NOx emissions from power plant or other energy sources that were quantified below based on the annual vehicle miles traveled (VMT) of the fleet and the USEPA’s eGRID2018 Summary Tables for the State of California.³ Second, operation of the electric buses would generate particulate matter emissions from brake and tire wear as well as fugitive road dust. The analysis quantified brake and tire wear particulate matter and fugitive road dust emissions using CARB’s Emissions Factor Model (EMFAC2017).

The Proposed Project was compared against existing conditions, which “normally constitutes the baseline physical conditions by which a lead agency determines whether an impact is significant,” under Section 15125(a) of the CEQA Guidelines. As summarized in **Table 3.3-9**, there are over 428 million regional daily VMT for motor vehicles under existing conditions. As the Proposed Project includes several route options, the alignment with the highest mixed-flow traffic VMT was evaluated and compared to the SCAQMD’s thresholds. As a result, this route would result in the highest operational emissions; consequently, any other route would produce lesser operational emissions. When compared to the Existing condition, the Existing plus Project condition would reduce VMT by 0.017 percent by replacing some auto use with bus transit trips. A similar reduction is demonstrated between the 2042 Baseline condition and the Proposed Project. Year 2017 was used as the Baseline condition in this analysis to ensure consistency with the regional transportation model. There is a marginal difference (less than 0.1 percent) in regional VMT between 2017 and 2019 and the difference would have no effect to the impact conclusions presented in this analysis.

Table 3.3-9 – Regional Vehicle Miles Traveled

Scenario	Daily VMT	Annual VMT	Percent Decrease
Existing (2017)	428,792,499	148,791,691,153	-
Existing + Project	428,721,905	148,766,500,989	0.017%
2042 Baseline	511,871,989	177,619,580,183	-
Proposed Project	511,785,330	177,589,509,510	0.017

SOURCE: Kimley-Horn Associates, *North Hollywood to Pasadena BRT Project Transportation Technical Report*, 2020.

Transportation modeling was also completed for the Route Options. The regional VMT for implementing the design options differed marginally from the Proposed Project by approximately 0.003 percent. Therefore, it is reasonable to only quantify air pollutant emissions associated with the Proposed Project. In order to conservatively evaluate any potential BRT service route, the alignment with the highest mixed-flow traffic VMT was evaluated and compared to the SCAQMD’s thresholds. As a result, this route would result in the highest operational emissions; consequently, any other route would produce lesser operational emissions. Additionally, the

³ USEPA, *eGRID2018*, https://www.epa.gov/sites/production/files/2020-01/documents/egrid2018_summary_tables.pdf, 2018.

analysis takes into account the changes in air quality emissions associated with changes along the project route from implementation of Metro's NextGen Service and the Proposed Project that would reduce service from existing bus lines that overlap with the proposed BRT route. Metro Line 180 connects Hollywood with Pasadena and would be restructured to reduce service along the route by approximately 303,125 annual revenue miles.

The potential impacts related to localized CO hot-spot emissions are evaluated following the methodology prescribed in the Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) developed for the California Department of Transportation (Caltrans) by the Institute of Transportation Studies at the University of California, Davis.

3.3.4 Impact Analysis

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The potential for the Proposed Project to result in an impact to energy resources is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact 3.3-1) Would the Proposed Project conflict with or obstruct implementation of the applicable air quality plan?

Construction and Operations

Less than Significant Impact. As part of its enforcement responsibilities, the USEPA requires each State with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under State law, the California CAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and State ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The Proposed Project is located within the SCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. In order to reduce such emissions, the SCAQMD drafted the 2016 AQMP. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving the CAAQS and NAAQS. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts (defined in consultation with local governments and with reference to local general plans).

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *SCAQMD's 1993 CEQA Air Quality Handbook*, and include the following:

- Consistency Criterion No. 1: The Proposed Project would not result in an increase in the frequency or severity of existing air quality violation, or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.
- Consistency Criterion No. 2: The Proposed Project would not exceed the assumptions of the AQMP or increments.

The violations to which Consistency Criterion No. 1 refers are the CAAQS and the NAAQS. As evaluated under Impact (b) below, the Proposed Project would not exceed the short-term construction standards or long-term operational standards and, as a result, would not violate any air quality standards, see **Table 3.3-10** and **Table 3.3-11**. The Proposed Project would be consistent with the first criterion.

Second, the 2016 AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The Proposed Project would construct an 18-mile BRT route connecting North Hollywood to Pasadena. Implementation of the Proposed Project would not introduce new growth in population, housing, or employment to Los Angeles County or the greater SCAG region. Therefore, the Proposed Project would not induce growth exceeding the assumptions within the AQMP. The Proposed Project would expand the transit network within the County of Los Angeles and would encourage mode shift from single-passenger vehicles to transit. As a result, the Proposed Project is consistent with the 2016 AQMP as well as the goals set out in the Cities of Los Angeles, Burbank, Glendale, and Pasadena's General Plans. The Proposed Project is also consistent with the second criterion.

Therefore, the Proposed Project would result in a less-than-significant impact related to construction and operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant impact.

Impact 3.3-2) Would the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?

Construction

Less-Than-Significant Impact. The SCAB region is in nonattainment for O₃ and PM_{2.5}. The analysis presented below quantitatively addresses the six pollutants regulated by the SCAQMD's significance thresholds, including particulate matter as well as O₃ precursors, ROG and NOx.

Construction activities would result in the short-term generation of criteria pollutant emissions. Emissions would include (1) fugitive dust generated from curb/pavement demolition, site work, and other construction activities; (2) hydrocarbon (ROG) emissions related to the application of architectural coatings; (3) exhaust emissions from powered construction equipment; and (4) motor vehicle emissions associated with debris hauling trips, material delivery trips, and worker trips.

During construction, the Proposed Project would be subject to SCAQMD Rule 403 (Fugitive Dust). SCAQMD Rule 403 does not require a permit for construction activities but sets forth requirements for all construction sites (as well as other fugitive dust sources) in SCAB. In general, Rule 403 prohibits a project from causing or allowing emissions of fugitive dust from construction (or another fugitive dust source) to remain visible in the atmosphere beyond the property line of the emissions source.

Bus charging is expected to occur at stationary facilities. Coaches would likely be serviced at one maintenance division, likely the El Monte Metro Division. Coaches maybe CNG-fueled in the opening years and use existing fueling facilities. Metro is committed to an electric bus fleet by 2030. The BRT coaches would utilize charging facilities already planned for this and other maintenance and storage facilities. Any upgrades needed to substations, transformers, conduits, and charging facilities would be programmed into Metro's capital improvement plans for its fleet and developed over time. The BRT service's fleet of zero-emission electric buses would be charged overnight at the maintenance and storage facility where the buses are parked. In addition, electric charging equipment would be provided at both ends of the BRT route, at the North Hollywood B/G Line (Red/Orange) and PCC, for the opportunity to boost the charge on the buses between runs.

Construction under the Proposed Project would involve sidewalk modifications as well as the installation of stations along the route. Emissions sources include but are not limited to equipment, truck trips for debris disposal and material delivery, and worker commute trips. Consistent with Metro's Green Construction Policy, Proposed Project construction would require Tier 4-certified construction equipment. The SCAQMD significance thresholds are based on the maximum daily emissions of a project. Therefore, for the purposes of this impact analysis, the maximum single-day construction activity for the Proposed Project was modeled.

Emissions for a scenario characterizing maximum daily activity intensity along the Proposed Project corridor during construction were estimated using the SCAQMD-recommended CalEEMod, version 2016.3.2.

Table 3.3-10 shows potential criteria pollutant emissions during the calendar year of 2022. Any construction work in a later year would generally produce less emissions given turnover of older construction equipment over time in favor of new, clear-burning engines. Further, any concurrent construction of another site could increase emissions, but would not exceed these regional thresholds of significance. Finally, Metro’s Green Construction Policy requires construction to use Tier 4 construction equipment; however, in order to provide the most conservative analysis, the estimates of construction emissions do not include this measure. As a result, maximum daily construction emissions would likely be lower than those provided in **Table 3.3-10**. Proposed Project construction emissions would not exceed the SCAQMD’s regional construction thresholds for any criteria air pollutant and, as a result, emissions would be less than significant. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Table 3.3-10 – Maximum Daily Construction Emissions

Emissions Source	Daily Emissions in Pounds per Day					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Off-Road Equipment	4.52	45.83	45.38	0.08	2.24	2.08
On-Site Paving	0.05	-	-	-	-	-
On-Road Haul Trucks	0.08	2.52	0.66	0.008	0.18	0.06
On-Road Vendor Trucks	0.03	0.92	0.27	0.002	0.07	0.02
On-Road Worker Trips	0.27	0.18	2.04	0.006	0.68	0.18
Total Emissions	4.95	49.45	48.34	0.09	3.16	2.34
SCAQMD Regional Thresholds	75	100	550	150	150	55
Exceed?	No	No	No	No	No	No

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Air Quality Report*, 2020.

Operation

Less-Than-Significant Impact. The Proposed Project would result in indirect criteria air pollutant emissions from, brake and tire wear from transit buses, and the reduction of motor vehicle use throughout the surrounding region as motorists shift from vehicles to public transit.

Under the Proposed Project, ZEV buses are expected to travel 1,348,500 annual revenue miles in 2042 as well as an additional 267,180 “deadhead” miles to the El Monte Metro Division, or other Metro division in closer proximity to the Project corridor, for battery charging. Any other overnight facility would be closer to the Project corridor, resulting in less emissions from “deadhead” miles. Implementation of Metro’s NextGen service and implementation of the Proposed Project would reduce service from existing bus lines that overlap with the proposed BRT route. Metro Line 180 connects Hollywood with Pasadena and would be restructured to reduce service along the route by approximately 303,124 annual revenue miles. Metro anticipates having a 100 percent electric fleet by 2030, which is accounted for in the emissions analysis.

As summarized in **Table 3.3-11**, the operation ZEVs for the BRT service combined with the service reduction from Metro Line 180 would result in negligible increases in PM₁₀ and PM_{2.5} emissions in 2042, exclusively from tire wear and break wear. .

Table 3.3-11 – Maximum Daily Operational Emissions

Emissions Source	Daily Emissions in Pounds per Day					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
2042 BASELINE EMISSIONS						
Regional Traffic Emissions	19,045	140,871	664,736	2,919	1,682	1,582
PROPOSED PROJECT						
ZEV Operations	-	-	-	-	0.83	0.31
Displaced Metro Line 180 Operations	-	-	-	-	0.19	0.07
Regional Traffic Emissions	19,042	140,847	664,624	2,918	1,681	1,582
NET OPERATIONAL EMISSIONS						
Total Emissions	-3	-24	-112	-1	-0.36	0.24
SCAQMD Thresholds	55	55	550	150	150	55
<i>Exceed?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Air Quality Report*, 2020.

More significantly, the implementation of BRT service in this corridor would also reduce emissions emitted by the overall vehicle fleet traveling within the study area, as mode share shifts away from auto use to public transit. In operational year 2042, BRT service would reduce 30,070,673 VMT annually as compared to conditions without BRT service), a 0.017 percent reduction in VMT that would result in concomitant reductions in start, hot soak, and running emissions from the vehicle fleet. As summarized in **Table 3.3-11**, the Proposed Project would result in a net decrease of ROG, NO_x, CO, and PM_{2.5}. PM₁₀ emissions would slightly increase as a result of operations. The increase in daily PM₁₀ emissions is significantly lower than the SCAQMD’s thresholds. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

When compared to the Existing condition, the Existing plus Project condition would also reduce overall emissions in the study area. As shown in **Table 3.3-9**, BRT services would reduce 25,190,164 VMT annually when compared to the Existing condition. This would also result in reductions in start, hot soak, and running emissions from the vehicle fleet in the study area. There would be some criteria pollutant emissions from the initial use of CNG buses at the start of service in 2022. Specifically, the operation of 20 CNG buses would emit 0.78_lbs/day of ROG, 4.14 lbs/day of NOx, 421 lbs/day of CO, 0.03_lbs/day of PM₁₀, and 0.03 lbs/day of PM_{2.5}. When considering overall fleet emissions reductions associated with mode shift from passenger vehicles to public transit, initial BRT service would result in -5.08_lbs/day of ROG, -32.62 lbs/day of NOx, -160 lbs/day of CO, -0.55_lbs/day of PM₁₀, and -0.48 lbs/day of PM_{2.5}. Like the 2042 scenarios, these daily emissions would not exceed SCAQMD operations thresholds, and would be considered less than significant.

Transportation modeling was also completed for the route options. The regional VMT for implementing the design options differed from the Proposed Project by approximately 0.003 percent. Therefore, the implementation of any route options would still result in a reduction in criteria pollutant emissions that would not exceed SCAQMD's regional operational thresholds of significance and would be considered less than significant.

These reductions in regional emissions would also reduce the ambient levels of criteria pollutants and produce public health benefits. Reductions in ozone precursor emissions will contribute to reductions in respiratory infections, asthma, and other ailments associated with ozone exceedances. Reductions in other criteria pollutants will reduce heart and lung diseases associated with particulate emissions and heart disease associated with carbon monoxide, among other health benefits.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant impact.

Impact 3.3-3) Would the Proposed Project expose sensitive receptors to substantial pollutant concentrations?

Construction

Less-than-Significant Impact. The following analysis assesses the potential for sensitive receptors to be exposed to substantial pollutant concentrations during construction activities.

Toxic Air Contaminants. The greatest potential for TAC emissions would be related to diesel particulate matter emissions associated with heavy equipment operations during construction activities. Construction activities associated with the Proposed Project would be sporadic and short-term in nature. Metro has committed to using equipment outfitted with engines meeting Tier 4 emissions standards that would substantially reduce diesel PM emissions and associated exposures. Construction would travel along the route and would not be in any one location over those 30-months. The assessment of cancer risk is typically based on a 70-year exposure period; however, the Proposed Project's construction is anticipated to have a duration of approximately 30 months. Because exposure to diesel exhaust would be well below the 70-year exposure period, construction activities would not result in an elevated cancer risk to exposed persons because of the short-term nature of construction. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Localized Pollutant Emissions. The SCAQMD has developed a set of mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from construction LSTs. A single-day construction scenario was prepared in CalEEMod in order estimate the

maximum daily activity that may occur upon construction along the route. **Table 3.3-12** summarizes the localized emissions associated with construction activity at a typical station site.

Table 3.3-12 – Localized Construction Emissions per Site – Maximum Pounds per Day

Construction Activity	NO _x	CO	PM ₁₀	PM _{2.5}
Demolition	10.31	11.58	0.55	0.52
Site Preparation	13.87	7.92	1.58	0.59
Station Construction	9.75	13.56	0.46	0.42
Roadway/Sidewalk Paving	12.01	17.35	0.60	0.55
Roadway Restriping	5.33	8.09	0.25	0.24
Maximum Daily Localized Emissions	13.87	17.35	1.58	0.59
East San Fernando Valley SRA LST	80	498	5	3
West San Gabriel Valley SRA - LST	69	535	4	3
South San Gabriel Valley SRA - LST	83	760	5	4
Exceed?	No	No	No	No

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Air Quality Report*, 2020.

The on-site air pollutant emissions on the peak day of construction would not exceed the applicable LSTs in any of the three SRAs. Metro’s Green Construction Policy requires construction to use Tier 4 construction equipment; however, because the Policy allows for exceptions to this requirement under specific, documented circumstances, in order to provide the most conservative analysis, **Table 3.3-12** construction emissions do not include this measure. As a result, emissions are likely to be lower than what is presented in the table. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

Less-than-Significant Impact. The following analysis assesses the potential for sensitive receptors to be exposed to substantial pollutant concentrations during operational activities.

Localized Pollutant Emissions. Operational activities would not include localized emissions. The only potential source of localized emissions associated with bus operations would be pollutants from bus idling. The Proposed Project would include ZEVs and there would be no exhaust emissions. There is no potential for localized emissions to exceed the SCAQMD significance thresholds.

Carbon Monoxide Hot-Spot Analysis. The *SCAQMD CEQA Air Quality Analysis Handbook* recommends the evaluation of potential CO hot spots that may occur from traffic congestion resulting from implementation of projects with substantial trip generation or modifications to roadway networks. Based on ambient air monitoring data collected by SCAQMD, SCAB has continually met State and federal ambient air quality standards for CO since 2003. As such, SCAB was reclassified to attainment/maintenance status from serious nonattainment, effective June 11, 2007. While the Final 2016 AQMP is the most recent AQMP, no additional regional or hot-spot CO modeling has been conducted to demonstrate attainment of the 8-hour average CO standard since the analysis provided in the 2003 AQMP.

Since local CO concentrations are a function of (1) intersection traffic volumes, (2) peak-hour intersection LOS, (3) CO emissions factors [idle and grams per mile], and (4) the ambient CO background concentration, it is possible to identify which, if any, of the most congested intersection locations anticipated under Proposed Project have the potential to violate State or federal CO standards. As shown in **Table 3.3-13**, maximum intersection approach volumes under the Proposed Project would not exceed the maximum total intersection approach volume identified for a 2003 attainment demonstration intersection during the peak periods. Refer to the Air Quality Technical Report for a comprehensive list of intersection volumes.

USEPA Air Data provides the maximum 8-hour CO concentrations at monitoring stations within Los Angeles County. The closest monitoring stations to the Proposed Project include Pasadena – South Wilson, Los Angeles – North Main Street, and Reseda. The maximum CO background concentrations in 2020 at Pasadena – South Wilson, Los Angeles – North Main Street, and Reseda are 0.9 parts per million (ppm), 1.3 ppm, and 1.4 ppm, respectively.⁴ These background concentrations are significantly lower than the 8-hour CO ambient air standard of 9.0 ppm as well as the predicted 8-hour background concentration of 7.8 ppm used for the 2003 attainment demonstration analysis.

Maximum intersection approach volumes under the Proposed Project would be over 40 percent less than the maximum intersection approach volume used for the 2003 AQMP attainment demonstration. Volumes would be less in the Existing plus Project condition without the ambient growth attributed to future years. Furthermore, the background concentration of 8-hour CO has significantly reduced as compared to the 2003 AQMP. As such, there would be no potential for CO emissions at any intersection location to result in an exceedance of either the CAAQS or NAAQS for CO. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Toxic Air Contaminant Emissions. Operation of the proposed BRT service would utilize zero-emission buses that do not combust fuel that could create TAC emissions from diesel or other fuels. Further, the enhancement of public transit service over this 18-mile corridor would generally reduce use of passenger vehicles and trucks for travel, as people shift increasingly to public transit. As such, the long-term operation of BRT service would reduce TAC emissions from motor vehicles. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities. The Proposed Project may require CNG buses during the opening years of BRT service; however, due to the decrease in VMT from the overall vehicle fleet, the Proposed Project would help reduce TAC emissions along the service corridor and impacts from TAC emissions would be considered less than significant. These reductions in localized emissions would also reduce the ambient levels of criteria pollutants and produce public health benefits. This includes reducing the incidence of heart and lung diseases associated with localized particulate emissions, heart disease associated with carbon monoxide, and chronic and acute health impacts associated with exposure to TACs.

⁴ USEPA, *Monitor Values Report*, <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>.

Table 3.3-13 – Comparison of Intersection Total Approach Volumes

Intersections	Proposed Project									
	AM Peak-Hour Approach Volumes					PM Peak-Hour Approach Volumes				
	South bound	West bound	North bound	East Bound	Total	South bound	West bound	North bound	East Bound	Total
N. Buena Vista & W. Magnolia Blvd.	1,641	1,005	848	956	4,450	1,077	1,274	1,332	1,123	4,806
W. Magnolia Blvd. & Victory Blvd.	1,392	934	777	918	4,021	1,401	1,014	1,234	1,316	4,965
Maximum Volumes	4,450					4,965				
ATTAINMENT DEMONSTRATION INTERSECTION										
Wilshire Blvd./ Veteran Ave.	721	1,830	560	4,951	8,062	1,400	3,317	933	2,069	7,719
Sunset Blvd./ Highland Ave.	2,304	1,342	1,551	1,417	6,614	1,832	1,540	2,238	1,764	7,374
La Cienega Blvd./ Century Blvd.	1,384	1,890	821	2,540	6,635	2,029	2,728	1,674	2,243	8,674
Long Beach Blvd./ Imperial Highway	479	1,760	756	1,217	4,212	944	1,400	1,150	2,020	5,514
Maximum Volumes	8,062					8,674				
Percent Change: Maximum Build Alternative vs. Maximum Attainment Demonstration Total Approach Volumes	-45%					-43%				

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Air Quality Report*, 2020.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant impact.

Impact 3.3-4) Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Construction

Less-Than-Significant Impact. Construction activities associated with the Proposed Project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the Proposed Project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would reduce the detectable odors from heavy-duty equipment exhaust. The Proposed Project would also be required to comply with the SCAQMD Rule 1113 – Architectural Coating, which would minimize odor impacts from ROG emissions during architectural coating. Any odor impacts to existing adjacent land uses would be short-term and not substantial. Nuisances can be reported to the local jurisdiction for enforcement as well. The Proposed Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Operations

Less-Than-Significant Impact. The *SCAQMD CEQA Air Quality Handbook* (1993) identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. Stations would include waste bins that would be maintained on a regular basis and would not typically generate significant odors. The Proposed Project would not include any of the land uses that have been identified by the SCAQMD as odor sources. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant impact.

3.4. BIOLOGICAL RESOURCES

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to Biological Resources. Refer to the Biological Resources Technical Report (Appendix G) for additional details related to applicable regulations and the existing setting.

3.4.1 Regulatory Framework

3.4.1.1 Federal Regulations

Federal Endangered Species Act (FESA). The FESA provides a framework to conserve and protect endangered and threatened species and their habitat. Section 10 of the FESA allows for the “incidental take” of endangered and threatened wildlife species by non-federal entities. Section 10(a)(1)(B) of the FESA authorizes the taking of federally listed wildlife or fish through an incidental take permit. Section 10(a)(2)(A) of the FESA requires an applicant for an incidental take permit to submit a habitat conservation plan that specifies, among other things, the impacts likely to result from the taking of the species, and the measures the permit applicant will take to minimize and mitigate impacts on the species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.¹

Migratory Bird Treaty Act (MBTA). The MBTA protects migratory birds, their occupied nests, and their eggs from disturbance and/or destruction, including all species native to the United States (U.S.) (or U.S. territories) that are known to be present as a result of natural biological or ecological processes. In addition, the U.S. Fish and Wildlife Service (USFWS) provided clarification that the MBTA does not apply to any nonnative species whose presence in the United States are solely the result of intentional or unintentional human-assisted introduction.² Nonnative bird species not protected by the MBTA include, but are not limited to, the house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and rock pigeon (*Columba livia*).

3.4.1.2 State Regulations

California Fish and Game Code. Section 2126 states that it is unlawful for any person to take any mammals that are identified within Section 2118, including all species of bats; Sections 3503, 3513, and 3800 prohibit the take of birds, including any birds in the order Falconiformes or Strigiformes (birds-of-prey) protected under the MBTA, and protect their occupied nests. Section 3801 and 3800 state that the house sparrow and European starling are the only species authorized for take without prior authorization from the California Department of Fish and Wildlife (CDFW). Section 2080.1 states that, if a project would result in take of a species that is both federally and State listed, a consistency determination may be completed in lieu of undergoing a separate California Endangered Species Act (CESA) consultation. Under

¹ USFWS, *Endangered Species Act*, 1973.

² USFWS, *Migratory Bird Treaty Act – Bird Protection*, 2013.

Section 2081, if a project would result in take of a species that is State-only listed as threatened or endangered, then an incidental take permit from the CDFW is required. Sections 3511, 4700, 5050, and 5515 prohibit the take or possession of 37 fully protected bird, mammal, reptile, amphibian, and fish species. The CDFW will not authorize the incidental take of fully protected species when activities are proposed in areas inhabited by those species.³

California Environmental Quality Act (CEQA). Section 15380 of the CEQA Guidelines requires that species of special concern be included in an analysis of project impacts. California Species of Special Concern include species that are native to California and are experiencing population declines but are not currently listed as threatened or endangered, all State and federally protected and candidate species, and Bureau of Land Management and United States Forest Service sensitive species. Species considered declining or rare by the California Native Plant Society (CNPS) or National Audubon Society, and a selection of species which are considered to be under population stress but are not formally proposed for listing, are also included under species of special concern.⁴

3.4.1.3 Local Regulations

City of Los Angeles

The Framework and Conservation Elements of the General Plan. The City of Los Angeles' General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Framework Element contains objectives and policies for the provision, management, and conservation of Los Angeles' biological resources.⁵ In addition to the Framework Element, the Conservation Element includes relevant objectives and policies to biological resources.⁶

Protected Tree Relocation and Replacement Ordinance. The ordinance protects the following native tree species: California black walnut (*Juglans californica*), California bay (*Umbellularia californica*), western sycamore (*Platanus racemosa*), and all oak tree species (*Quercus sp.*). This ordinance applies to trees that have a diameter of four inches or greater at 4.5 feet above the ground level. Removal of protected trees requires a permit by the City of Los Angeles Department of Public Works.⁷

3 California State Legislature, *California Fish and Game Code*, 2020.

4 California State Legislature, *The California Environmental Quality Act (CEQA)*, 1970.

5 City of Los Angeles Department of City Planning, *Los Angeles General Plan – Framework Element*, 1974.

6 City of Los Angeles Department of City Planning, *Los Angeles General Plan – Conservation Element*, 2001.

7 City of Los Angeles Department of City Planning, *Protected Tree Relocation and Replacement Ordinance #177404*, 2006.

City of Burbank

The Open Space and Conservation Element of the Burbank 2035 General Plan. The Burbank 2035 General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. It addresses biological resources in the Open Space and Conservation Element.⁸

Burbank Municipal Code. The Burbank Municipal Code 7-4-111 discusses the procedure for removal of trees during construction.⁹

City of Glendale

The Open Space and Conservation Element of the Glendale General Plan. The City of Glendale's General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Open Space and Conservation Element of the General Plan outlines policies, goals, and objectives that are applicable to biological resources.¹⁰

Glendale Municipal Code. The City of Glendale Indigenous Tree Ordinance protects indigenous trees by requiring a permit for work performed on a protected tree or a review of project plans when construction is proposed near a protected tree. An Indigenous Tree Report is required for projects that will result in encroachment of protected trees.¹¹ The City Street Tree Ordinance established standards and regulations to promote the benefits of a healthy urban forest and preserve and protect street trees.¹²

City of Pasadena

The Open Space and Conservation Element of the Pasadena General Plan. The City of Pasadena's General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Open Space and Conservation Element include relevant objectives and policies to biological resources.¹³

Pasadena Municipal Code. The City Trees and Tree Protection Ordinance was established to preserve and grow canopy cover by protecting native trees, street trees, and trees on public property and to protect and maintain healthy trees in the land use planning processes.¹⁴ Protection is given to all public trees and to all native and specimen trees, landmark trees and trees that meet the criteria for landmark tree, public trees, and mature trees in all zoning districts except for properties subject to RS and RM-12 (multi-family two units on a lot) development standards.

⁸ City of Burbank, *Burbank 2035 General Plan*, 2013.

⁹ City of Burbank, *Burbank Municipal Code*, April 18, 2014.

¹⁰ City of Glendale, *City of Glendale General Plan: Open Space and Conservation Element*, 1993.

¹¹ City of Glendale, *Glendale Municipal Code 12.44 Indigenous Trees*, 2010.

¹² City of Glendale, *Glendale Municipal Code - Chapter 12.40 City Street Trees*, 2004.

¹³ City of Pasadena, *General Plan Update: Draft Open Space and Conservation Element*, 2012.

¹⁴ City of Pasadena, *Code of Ordinances: City Trees and Tree Protection Ordinance*, 2002.

3.4.2. Existing Setting

The Biological Study Area (BSA) is approximately 18 miles long and includes areas that would be directly or indirectly impacted by the Proposed Project, either temporarily or permanently, including an approximate 300-foot buffer to account for indirect impacts. The limits of the BSA were determined by reviewing project plans, aerial photography, and evaluating potential construction limits. See Section 4 of the Biological Resources Technical Report (Appendix G) for a complete discussion of the existing conditions within the BSA, including maps and figures of the BSA and biological resources.

3.4.2.1 Vegetation Communities and Cover Classes

Vegetation within the BSA consists of ornamental trees, grasses, and shrubs.¹⁵ **Table 3.4-1** shows the vegetation communities and cover classes observed in the BSA.

Table 3.4-1 - Vegetation Communities and Cover Classes

Vegetation Community / Cover Class	Description	Location
Coastal Sage Scrub	Coastal Sage Scrub communities are dominated or co-dominated by California sagebrush (<i>Artemisia californica</i>), California buckwheat (<i>Eriogonum fasciculatum</i>), and coyote bush (<i>Baccharis pilularis</i>).	North of the SR-134 option through Eagle Rock
Ornamental	Ornamental communities predominantly consist of non-native horticultural plants, including introduced trees, shrubs, flowering plants, and turf grass	Along the shoulders and within the medians of affected roadways.
Developed	Developed areas are where human disturbance has resulted in permanent impacts on natural communities. These include paved areas, buildings, bridges, and other structures.	North Hollywood to Pasadena BRT Corridor's streets and each bus stop location along the North Hollywood to Pasadena BRT Corridor.

SOURCE: GPA Consulting, *Biological Resources Technical Report*, 2020.

3.4.2.1 Observed Wildlife

The habitat in the BSA is developed and disturbed; however, there are buildings and mature landscaped trees adjacent to the paved areas that could provide suitable habitat for birds and bats. Wildlife species observed during surveys were mostly urban species including rock pigeon and mourning dove (*Zenaida macroura*).

¹⁵ CDFW, *Metadata Descriptions of CNDDDB Fields*, 2020.

3.4.2.3 Special Status Species

Special Status Species are those that are threatened to varying degrees. The discussion of the special-status plant and wildlife species with potential to be in the BSA is based on (1) a record reported in the California Natural Diversity Database (CNDDDB), National Marine Fisheries Service (NMFS) or USFWS species lists, (2) the presence of suitable habitat, and (3) survey results.^{16,17} **Table 3.4-2** discusses the various special status species in the Project Area, including the Special Status Natural Communities, Plant Species, and Wildlife Species.

Table 3.4-2 - Special Status Species

Description	Special Status Species
NATURAL COMMUNITIES	
<p>According to the CNDDDB search, nine special-status natural communities have potential to be in the BSA. Based on survey results, there is no potential for special-status natural communities to be in the BSA.</p>	<ul style="list-style-type: none"> • California Walnut Woodland • Open Engelmann Oak Woodland • Riversidean Alluvial Fan Sage Scrub • Southern California Arroyo Chub/Santa Ana Sucker Stream • Southern Coast Live Oak Riparian Forest • Southern Cottonwood Willow Riparian Forest • Southern Mixed Riparian Forest • Southern Sycamore Alder Riparian Woodland • Walnut Forest
PLANT SPECIES	
<p>According to the CNDDDB and USFWS searches, 93 special-status plant species have potential to be in the BSA. Based on research and survey results, there is potential for 18 special-status plant species to be in the BSA.</p>	<ul style="list-style-type: none"> • Western Spleenwort (<i>Asplenium vespertinum</i>) • Braunton’s Milk-Vetch (<i>Astragalus brauntonii</i>) • Davidson’s Saltscale (<i>Atriplex serenana</i> var. <i> davidsonii</i>) • Catalina Mariposa-Lily (<i>Calochortus catalinae</i>) • Plummer’s Mariposa-Lily (<i>Calochortus plummerae</i>) • Parry’s Spineflower (<i>Chorizanthe parryi</i> var. <i> parryi</i>) • Small-Flowered Morning-Glory (<i>Convolvulus simulans</i>) • Many-Stemmed Dudleya (<i>Dudleya multicaulis</i>) • Mesa Horkelia (<i>Horkelia cuneata</i> var. <i> puberula</i>) • Southern California Black Walnut (<i>Juglans californica</i>) • Robinson’s Peppergrass (<i>Lepidium virginicum</i> var. <i> robinsonii</i>) • Ocellated Humboldt Lily (<i>Lilium humboldtii</i> ssp. <i> ocellatum</i>) • Davidson’s Bush-Mallow (<i>Malacothamnus davidsonii</i>) • California Spineflower (<i>Mucronea californica</i>) • Hubby’s Phacelia (<i>Phacelia hubbyi</i>) • White Rabbit-Tobacco (<i>Pseudognaphalium leucocephalum</i>) • Nuttall’s Scrub Oak (<i>Quercus dumosa</i>) • Coulter’s Matilija Poppy (<i>Romneya coulteri</i>)

¹⁶ CDFW, CNDDDB RareFind 5, 2020.

¹⁷ CDFW, CDFW QuickView Tool for the San Fernando, Sunland, Condor Peak, Chilao Flat, Mt. Wilson, EL Monte, Van Nuys, Burbank, Pasadena, Beverly Hills, Hollywood, and Los Angeles 7.5-foot topographic quadrangles for Unprocessed Data, 2020.

Description	Special Status Species
WILDLIFE SPECIES	
<p>According to the CNDDDB, USFWS, and NMFS searches, 108 special-status wildlife species have potential to be in the BSA. Based on research and survey results, there is potential for 13 special-status wildlife species to be in the BSA.</p>	<ul style="list-style-type: none"> • Cooper’s Hawk (<i>Accipiter cooperii</i>) • Sharp-Shinned Hawk (<i>Accipiter striatus</i>) • Southern California Rufous-Crowned Sparrow (<i>Aimophila ruficeps canescens</i>) • Pallid Bat (<i>Antrozous pallidus</i>) • Orange-Throated Whiptail (<i>Aspidoscelis hyperythra</i>) • Busck’s Gallmoth (<i>Carolella busckana</i>) • Western Mastiff Bat (<i>Eumops perotis californicus</i>) • California Gull (<i>Larus californicus</i>) • Silver-Haired Bat (<i>Lasionycteris noctivagans</i>) • Western Red Bat (<i>Lasiurus blossevillii</i>) • Hoary Bat (<i>Lasiurus cinereus</i>) • Western Yellow Bat (<i>Lasiurus xanthinus</i>) • Oregon Vesper Sparrow (<i>Pooecetes gramineus affinis</i>)

SOURCE: CNDDDB, NMFS, and USFWS Species Lists, 2020.

3.4.2.4 Habitat Connectivity/Wildlife Movement Corridor Assessment

The land surrounding the BSA consists of commercial, residential, industrial, and governmental properties. There are no essential wildlife connectivity areas or natural landscape blocks in the BSA. The closest natural landscape block is approximately 0.3 mile south of the BSA within Griffith Park.¹⁸ The Proposed Project is not located within the boundary of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. However, the BSA may be used for local foraging and movement by local wildlife species from the surrounding areas.

3.4.3 Significance Thresholds and Methodology

3.4.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to biological resources if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

¹⁸CDFW, *BIOS Habitat Connectivity Viewer*, 2019.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance; and/or
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

3.4.3.2 Methodology

USFWS, CNDDDB, and NMFS species lists were generated on July 3, 2019, and updated on January 16, 2020, to identify special-status species previously recorded in the vicinity of the BSA. To determine whether the Proposed Project would result in a significant impact on biological resources, a windshield survey was conducted on July 9, 2019, to document the existing conditions in the BSA and determine the potential for sensitive species or habitats to be in the BSA. Based on observations during the windshield survey, the BSA is a fully developed transit corridor. Vegetation is limited to common ornamental trees, grasses, and shrubs.

3.4.4 Impact Analysis

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations that are on surface streets. There would no potential for a biological resources impact on SR-134 segments, which includes B, E3, G1, and the portions of F1, F2, and F3 on the SR-134 in the City of Los Angeles.

Impact 3.4-1) Would the Proposed Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Construction

The analysis below addresses potential impacts on biological resources, including FESA and CESA species, anticipated during construction activities.

Special-Status Plant Species

No Impact. There is potential for 18 special-status plant species to be in the BSA. However, all of these species only have potential to be in the Coastal Sage Scrub community located north of the SR-134 near Eagle Rock, and there would be no construction activities within or adjacent to this community. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Special-Status Wildlife Species

Less-than-Significant Impact with Mitigation. Based on habitat requirements and survey results, 13 special-status wildlife species have potential to be in the BSA, including the Cooper's hawk, sharp-shinned hawk, southern California rufous-crowned sparrow, pallid bat, orange-throated whiptail, Busck's gallmoth, western mastiff bat, California gull, silver-haired bat, western red bat, hoary bat, western yellow bat, and Oregon vesper sparrow. None of these species are federally or State threatened or endangered species. The southern California rufous-crowned sparrow, orange-throated whiptail, and Busck's gallmoth have potential to be in the Coastal Sage Scrub community located north of the SR-134 near Eagle Rock. However, there would be no construction activities within or adjacent to the Coastal Sage Scrub.

Construction activities would include vegetation removal, pedestrian and vehicle movement, staging, and paving within the BSA, which could result in direct and indirect impacts on special-status wildlife species if these activities were to be conducted while wildlife species are within or adjacent to the affected areas. Special-status birds and mammals are known to use the trees and open area in the BSA for foraging and roosting. Removal of trees and habitat and increased noise, vibration, carbon dioxide, and human activity could result in direct and indirect impacts to special-status wildlife species. Without mitigation, the Proposed Project would result in a potentially significant impact to special-status species as a result of construction activities. Therefore, Mitigation Measure **BIO-1** is recommended to reduce the construction related impact to special-status species to less than significant.

Operations

No Impact. The Proposed Project would not affect the Coastal Sage Scrub community along SR-134. In addition, there is already a high level of human activity, night lighting, and noise in the BSA and the Proposed Project would not increase levels of human activity, night lighting, or noise in the BSA. Therefore, operation of the Proposed Project would not result in impacts on any species identified as a candidate, sensitive, or special-status. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

BIO-1: To mitigate for construction impacts on special-status bird species, the construction contractor shall implement the following measures:

- Construction during bird nesting season (typically February 1 to September 1) would be avoided to the extent feasible. Feasible means capable of being accomplished in a successful manner taking into consideration costs and schedule.
- If construction is required during the nesting season, vegetation removal would be conducted outside of the nesting season (typically February 1 to September 1), wherever feasible. Feasible means capable of being accomplished in a successful manner taking into consideration costs and schedule.

- If construction, trimming, or removal of vegetation and trees are scheduled to begin during nesting bird season, nesting bird surveys would be completed by a qualified biologist no more than 72 hours prior to construction, or as determined by the qualified biologist, to determine if nesting birds or active nests are present within the construction area. Surveys would be conducted within 150 feet for songbirds and 500 feet for raptors, or as otherwise determined by the qualified biologist. Surveys would be repeated if construction, trimming, or removal of vegetation and trees are suspended for five days or more.
- If nesting birds/raptors are found within 500 feet of the construction area, appropriate buffers consisting of orange flagging/fencing or similar (typically 150 feet for songbirds, and 500 feet for raptors, or as directed by a qualified biologist) would be installed and maintained until nesting activity has ended, as determined in coordination with the qualified biologist and regulatory agencies, as appropriate.

To mitigate construction impacts on special-status bat species, the construction contractor shall implement the following measures:

- Where feasible, tree removal would be conducted in October, which is outside of the maternal and non-active seasons for bats.
- During the summer months (June to August) in the year prior to construction, a thorough bat roosting habitat assessment would be conducted of all trees and structures within 100 feet of the construction area. Visual and acoustic surveys would be conducted for at least two nights during appropriate weather conditions to assess the presence of roosting bats. If presence is detected, a count and species analysis would be completed to help assess the type of colony and usage.
- No fewer than 30 days prior to construction, and during the non-breeding and active season (typically October), bats would be safely evicted from any roosts to be directly impacted by the Project under the direction of a qualified biologist. Once bats have been safely evicted, exclusionary devices designed by the qualified biologist would be installed to prevent bats from returning and roosting in these areas prior to removal. Roosts not directly impacted by the Project would be left undisturbed.
- No fewer than two weeks prior to construction, all excluded areas would be surveyed to determine whether exclusion measures were successful and to identify any outstanding concerns. Exclusionary measures would be monitored throughout construction to ensure they are functioning correctly and would be removed following construction.
- If the presence or absence of bats cannot be confirmed in potential roosting habitat, a qualified biologist would be onsite during removal or disturbance of this area. If the biologist determines that bats are being disturbed during this work, work would be suspended until bats have left the vicinity on their own or can be safely excluded under direction of the biologist. Work would resume only once all bats have left the site and/or approval is given by a qualified biologist.

- In the event that a maternal colony of bats is found, no work would be conducted within 100 feet of the maternal roosting site until the maternal season is finished or the bats have left the site, or as otherwise directed by a qualified biologist. The site would be designated as a sensitive area and protected as such until the bats have left the site. No activities would be authorized adjacent to the roosting site. Combustion equipment, such as generators, pumps, and vehicles, would not be parked nor operated under or adjacent to the roosting site. Construction personnel would not be authorized to enter areas beneath the colony, especially during the evening exodus (typically between 15 minutes prior to sunset and one hour following sunset).

Significance of Impacts after Mitigation

Mitigation Measure **BIO-1** would mitigate inadvertent impacts to biological resources during construction activities by ensuring compliance with the MBTA and California Fish and Game Code (Sections 2126, 3503, 3513, and 3800). Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact.

Impact 3.4-2) Would the Proposed Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Construction and Operations

No Impact. There are three concrete lined riverine features within the BSA; however, these riverine features do not contain riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW and the USFWS.¹⁹ In addition, the proposed bus stations are located away from the riverine features and no construction work or bus operations are anticipated within these features. Therefore, the Proposed Project would not result in a significant impact related to construction or operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

¹⁹ USFWS, *Information for Planning and Consultation*, 2020.

Impact 3.4-3) Would the Proposed Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Construction and Operations

No Impact. There are three concrete lined riverine features within the BSA; however, these riverine features do not contain State or federally protected wetlands.²⁰ In addition, the proposed bus stations are located away from the riverine features and no construction work or bus operations are anticipated within these features. Therefore, the Proposed Project would not result in a significant impact related to construction or operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact 3.4-4) Would the Proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Construction

Less-Than-Significant Impact with Mitigation. Native migratory birds and native bats may use the trees in this area as a nursery site (nesting). Tree removal during construction activities, including staging, could interfere with bird nesting and bat roosting. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact related to construction activities. Implementation of Mitigation Measure **BIO-1** would reduce this impact to less than significant by ensuring that tree removal during construction does not interfere with bird nesting and bat roosting.

Operations

No Impact. Once construction is complete, no additional removal of trees would be required; therefore, project operation would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

²⁰ USFWS, *Wetlands Mapper*, 2019.

Mitigation Measures

Refer to Mitigation Measure **BIO-1**.

Significance of Impacts after Mitigation

Mitigation Measure **BIO-1** would mitigate inadvertent impacts to biological resources during construction activities by ensuring compliance with the MBTA and California Fish and Game Code (Sections 2126, 3503, 3513, and 3800). Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to construction activities.

Impact 3.4-5) Would the Proposed Project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

Construction

Less-Than-Significant Impact. There is potential for tree and vegetation removal within the City of Los Angeles, City of Burbank, City of Glendale, and City of Pasadena. Each City has ordinances protecting native and/or street trees. Trees that could be removed within the City of Los Angeles are non-native and are not protected under the City of Los Angeles Protected Tree Relocation and Replacement Ordinance. Trees that could be removed within the City of Pasadena are non-native and are not protected under the City Trees and Tree Protection Ordinance. The City of Burbank Municipal Code 7-4-111 requires a tree removal permit for any street tree removed within the City, and replacement plantings. City of Glendale Municipal Code Chapter 12.40 requires a tree removal permit for any street tree removed, and replacement plantings may be required. Therefore, Project construction would result in a less than significant impact related to any local policy or ordinance. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

No Impact. Once construction is complete, no additional removal of trees would be required. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact 3.4-6) Would the Proposed Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

Construction and Operations

No Impact. The BSA is not within the boundary of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the Proposed Project would not result in a significant impact related to construction or operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

3.5. CULTURAL RESOURCES

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to Cultural Resources. Refer to the Historic Resources Technical Report (Appendix K) and the Archaeological and Tribal Cultural Resources Technical Report (Appendix E) for additional details related to applicable regulations and the existing setting.

3.5.1 Regulatory Framework

3.5.1.1 Federal Regulations

National Register of Historic Places (National Register). The National Register is the authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment.¹ To be eligible for listing in the National Register, a property must be at least 50 years of age (unless the property is of exceptional importance) and possess significance in American history and culture, architecture, or archaeology. The National Register includes significant properties, which are classified as buildings, sites, districts, structures, or objects. A historic district “derives its importance from being a unified entity, even though it is often composed of a variety of resources. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties.”² A district is defined as a geographically definable area of land containing a significant concentration of buildings, sites, structures, or objects united by past events or aesthetically by plan or physical development.³

3.5.1.2 State Regulations

California Register of Historical Resources (California Register). The California Register is an authoritative guide used by state and local agencies, private groups, and citizens to identify historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse impacts.⁴ The California Register consists of properties that are listed automatically as well as those that must be nominated through an application and public hearing process. Properties eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. It is possible that properties may not retain sufficient integrity to meet the criteria for listing in the National Register, but they may still be eligible for listing in the California Register. An altered property may still have sufficient

¹ Title 36 Code of Federal Regulations Part 60.2.

² U.S. Department of the Interior, National Park Service, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*, accessed March 31, 2020, https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf, 5.

³ Title 36 Code of Federal Regulations Part 60.3(d).

⁴ Public Resources Code Section 5024.1 (a).

integrity for the California Register if it maintains the potential to yield significant scientific or historical information or specific data.⁵ A property less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historical importance.⁶

California Public Resources Code (PRC). Archaeological and historical sites are protected pursuant to policies and regulations enumerated under the California PRC. California PRC Sections 5020–5029.5 continue the former Historical Landmarks Advisory Committee as the State Historical Resources Commission. California PRC Sections 5079–5079.65 define the functions and duties of the Office of Historic Preservation (OHP). The OHP is responsible for the administration of federally and state-mandated historic preservation programs in California and the California Heritage Fund. California PRC Sections 5097.9–5097.991 provide protection to Native American historical and cultural resources and sacred sites and identify the powers and duties of the Native American Heritage Commission (NAHC). It also requires notification to descendants of discoveries of Native American human remains and provides for treatment and disposition of human remains and associated grave goods. California PRC Section 21083.2(g) protects archaeological resources. California PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Assembly Bill (AB) 52. AB 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that tribal cultural resources must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. Refer to Section 3.10 Tribal Cultural Resources for additional details related to AB 52.

California Health and Safety Code. The California Health and Safety Code Section 7050.5(b) specifies protocol when human remains are discovered. Specifically, burials or human remains found either inside or outside a known cemetery are not to be disturbed or removed unless by authority of law, and the area of a discovery of human remains should remain undisturbed until the County Coroner is notified and has examined the remains prior to determining the appropriate course of action.

3.5.1.3 Local Regulations

Each of the cities within the Project Area have passed resolutions related to historic and archeological resources. These resolutions are usually included in their general plans, which provide additional guidance on assessment and treatment measures for projects subject to

⁵ California Code of Regulations Section 4852 (c)

⁶ California Code of Regulations Section 4852 (d) (2).

CEQA compliance. In addition, a preservation ordinance has been adopted by each city to address local designation and treatment of historic resources. Provided below is a summary of relevant policies for the cities within the Project Area.

City of Los Angeles

The City of Los Angeles General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Conservation Element of the General Plan identifies paleontological, archaeological, and historic cultural resources within the City of Los Angeles and describes objectives, policies, and programs for their protection, preservation, and management.⁷ The relevant objective is to protect important cultural and historical sites and resources for historical, cultural, research, and community educational purposes.

The North Hollywood-Valley Village Community Plan and the Northeast Los Angeles Community Plan guide the development of their respective neighborhoods through land use goals, policies, issues and opportunities.^{8,9} The relevant objective of the plans is to preserve and enhance neighborhoods with a distinctive and significant historical or architectural character.

In the City of Los Angeles, the procedures for Historic-Cultural Monument designations and their preservation are described in the Cultural Heritage Ordinance (Number 178,402, effective April 2, 2007). The ordinance also establishes the Cultural Heritage Commission and defines its roles and responsibilities.¹⁰

City of Burbank

The City of Burbank's 2035 General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Burbank 2035 General Plan addresses cultural resources in the Land Use Element. The Open Space and Conservation Element contains policies for paleontological resources.¹¹ The relevant objective is to maintain a careful balance between a desire for economic prosperity and the high quality of life valued by the Burbank community.

The City of Burbank's historic preservation regulations are outlined in the Historic Resources Management Ordinance, including the procedures for designating and maintaining historic properties and the duties and responsibilities of the Heritage Commission. The Historic Preservation Plan provides further direction for implementing the ordinance with specific guidelines and polices for historic preservation.¹²

⁷ City of Los Angeles Department of City Planning, *Los Angeles General Plan – Conservation Element*, 2001.

⁸ City of Los Angeles, *North Hollywood-Valley Village Community Plan*, 1995

⁹ City of Los Angeles, *Northeast Los Angeles Community Plan*, 1999.

¹⁰ City of Los Angeles Municipal Code, *Cultural Heritage Ordinance (Number 178,402)*, 2007.

¹¹ City of Burbank, *Burbank 2035 General Plan*, 2013.

¹² City of Burbank Municipal Code, *Historic Resource Management Ordinance (Number 10-1-925)*, 2011.

City of Glendale

The City of Glendale's General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Historic Preservation Element of the General Plan outlines policies, goals, and objectives that are applicable to cultural resources.¹³ The relevant goals are to preserve historic resources which define community character and to create and continue programs and practices which enable an appreciation of history and historic preservation.

Local historic preservation regulations include the Historic Preservation Ordinance (Glendale Municipal Code, Section 15.20), which pertains to the Glendale Register of Historic Resources, and the Historic District Overlay Zone Ordinance (Glendale Municipal Code, Section 30.25), which outlines procedures for historic districts. The Demolition Review Ordinance (Glendale Municipal Code, Section 15.22) includes requirements for proposed demolitions of properties over 30 years old. The roles and duties of the Historic Preservation Commission are codified in Glendale Municipal Code, Section 2.76.¹⁴

City of Pasadena

The City of Pasadena's General Plan is a comprehensive, long range declaration of purposes, policies and programs for the development of the City. The Land Use Element of the General Plan includes goals and policies to provide for community conservation and strategic growth, preserving existing neighborhoods and targeting new development to infill areas that are vacant or underutilized, and are scaled and designed to complement existing uses.¹⁵ In regards to historic resources, the General Plan outlines the following Guiding Principle: "Pasadena's historic resources will be preserved. Citywide, new development will be in harmony with and enhance Pasadena's unique character and sense of place. New construction that could affect the integrity of historic resources will be compatible with, and differentiated from, the existing resource."¹⁶

The Historic Preservation Ordinance (Pasadena Zoning Code, Section 17.62) outlines procedures related to historic resources in the City of Pasadena. It includes the processes for designating historic landmarks and landmark districts, criteria for designation, the process for the acquisition of historic façade easements, and processes for the alteration, demolition, or relocation of a historic resource. It also outlines available incentives for preserving historic resources as well as the powers and duties of the Historic Preservation Commission.¹⁷

¹³ City of Glendale, *General Plan, Historic Preservation Element*, 1993.

¹⁴ City of Glendale Municipal Code, *Historic Preservation Ordinance (Number 15.20, 15.22, 15.25, 2.76)*, 1996.

¹⁵ City of Pasadena, *Land Use Element of the City of Pasadena General Plan*, 2015, amended 2016.

¹⁶ *Ibid.*, 1-1.

¹⁷ City of Pasadena Municipal Code, *Historic Preservation Ordinance (Number 17.62)*, 2007.

3.5.2 Existing Setting

3.5.2.1 Historic Resources

The Historical Resources Survey Area was limited to the public ROW for the length of the entire alignment, except at possible station platform locations, where the survey area was increased to include properties abutting the ROW within approximately 100 feet of the proposed station platform footprint. Since potential for impacts resulting from a change in setting are limited to areas where stations are proposed, defining the Historical Resources Study Area in this way resulted in a level of effort in line with the potential impact of the Proposed Project.

A reconnaissance survey of all properties over 45 years of age within the Historical Resources Study Area was conducted to identify properties that appeared to be potential historical resources. Potential historical resources were defined as those properties that are over 45 years of age, have apparent potential significance, and retain a moderate to high level of integrity (i.e., it retains sufficient integrity to convey its potential significance). The determination of “potential significance” was made by qualified architectural historians utilizing the applicable historic contexts. For properties located in the City of Los Angeles, this encompassed those historic contexts included in the City of Los Angeles’ Citywide Historic Context Statement and SurveyLA¹⁸ methodology for evaluating potential historical resources. For those properties located within the cities of Burbank, Glendale, and Pasadena, existing historic context statements prepared by the respective municipalities were utilized to the extent possible and are described in the Historic Resources Technical Report (Appendix K).

Records searches in the California Historical Resources Information System (CHRIS) were conducted at the South Central Coastal Information Center (SCCIC) to obtain previously recorded resources and reports within the Project Area. The record search radius was 0.25-miles from the center of the BRT alignment. Various portions of the Project Area have been the subject of previous historic context statements and historic resources surveys.¹⁹ These were reviewed to identify previously evaluated historic resources and inform the historic context statement. A total of 309 previously recorded resources are located within the 0.25-mile record search radius and only one resource is prehistoric. Four of the previously recorded built environment resources overlap the alignment, and 68 are immediately adjacent to the alignment. **Table 3.5-1** shows all designated, previously surveyed, and potentially significant properties identified through Project reconnaissance within the Historical Resources Study Area. Refer to the Historic Resources Technical Report (Appendix K) for mapped locations of the resources, which are shown in a series of 19 maps. The maps were not included in the body of the Draft EIR to limit the length of the document.

¹⁸ SurveyLA is the City of Los Angeles Citywide Historic Resources Survey.

¹⁹ See *Historic Resources Technical Report* for additional information regarding previously reviewed historic resources surveys.

Table 3.5-1 – Designated, Previously Surveyed, and Potential Historical Resources Identified Within the Historic Resources Study Area

Map Ref. No	Address	City/Neighborhood	Year Built	Designated (Name), Previously Surveyed (Survey Name), or Identified
1	11275 Chandler Blvd	Los Angeles/North Hollywood	c. 1895	Previously Surveyed (CHRIS #P-19-186585)
2	5025 Lankershim Blvd	Los Angeles/North Hollywood	1971	Previously Surveyed (SurveyLA)
3	3000 W. Alameda Ave	Burbank	1956	Identified through Project Survey
4	142 E. Olive Ave	Burbank	1974	Identified through Project Survey
5	175 E. Olive Ave	Burbank	1972	Identified through Project Survey
6	N. Central Ave Streetlights	Glendale	1924-1926	Identified through Project Survey
7	346 N. Central Ave	Glendale	1934	Previously Surveyed (Downtown Specific Plan)
8	336 N. Central Ave	Glendale	1960	Previously Surveyed (Downtown Specific Plan)
9	100 N. Brand Blvd	Glendale	1923	Designated (GR #16; Security Trust and Savings Bank)
10	E. Broadway Streetlights	Glendale	1921	Previously Surveyed (Downtown Specific Plan)
11	222 E. Harvard St	Glendale	1973	Previously Surveyed (Downtown Specific Plan)
12	613 E. Broadway	Glendale	1940	Designated (GR #31; Glendale City Hall)
13	633 E. Broadway	Glendale	1966	Previously Surveyed (Downtown Specific Plan)
14	600 E. Broadway	Glendale	1959	Previously Surveyed (Downtown Specific Plan)
15	701 E. Broadway	Glendale	1924	Designated (GR #17; Hotel Glendale)
16	101 N. Verdugo Rd	Glendale	ca.1973	Identified through Project Survey
17	1401 E. Broadway	Glendale	1949	Previously Surveyed (South Glendale)
18	1377 E. Colorado St	Glendale	1922	Previously Surveyed (South Glendale)
19	1538 E. Wilson Ave	Glendale	1936	Previously Surveyed (South Glendale)
20	1542 E. Wilson Ave	Glendale	1935	Previously Surveyed (South Glendale)
N/A	Eagle Rock Commercial Historic District	Los Angeles/Eagle Rock	1910-1927	Previously Surveyed (SurveyLA)
21	2711 Colorado Blvd	Los Angeles/Eagle Rock	1964	Previously Surveyed (SurveyLA)
22	2557 Colorado Blvd	Los Angeles/Eagle Rock	1951	Previously Surveyed (SurveyLA)
23	2225 Colorado Blvd	Los Angeles/Eagle Rock	1914/1927	Designated (HCM #292; Old Eagle Rock Branch Library)

Map Ref. No	Address	City/Neighborhood	Year Built	Designated (Name), Previously Surveyed (Survey Name), or Identified
24	2160 Colorado Blvd/ Eagle Rock Commercial	Los Angeles/Eagle Rock	1915	Previously Surveyed (SurveyLA)
25	2144 Colorado Blvd/ Eagle Rock Commercial	Los Angeles/Eagle Rock	1922	Previously Surveyed (SurveyLA)
26	2124 Colorado Blvd/ Eagle Rock Commercial	Los Angeles/Eagle Rock	1910	Previously Surveyed (SurveyLA)
27	2116 Colorado Blvd/ Eagle Rock Commercial	Los Angeles/Eagle Rock	1927	Previously Surveyed (SurveyLA)
28	2108 Colorado Blvd/ Eagle Rock Commercial	Los Angeles/Eagle Rock	1912	Previously Surveyed (SurveyLA)
29	2106 Colorado Blvd/ Eagle Rock Commercial	Los Angeles/Eagle Rock	1925	Previously Surveyed (SurveyLA)
30	2102 Colorado Blvd/ Eagle Rock Commercial	Los Angeles/Eagle Rock	1912	Previously Surveyed (SurveyLA)
31	2028 Colorado Blvd/ Eagle Rock Commercial	Los Angeles/Eagle Rock	1924	Previously Surveyed (SurveyLA)
32	1627 Colorado Blvd	Los Angeles/Eagle Rock	1931	Designated (HCM #692; Dahlia Motors Building)
33	1620 Colorado Blvd	Los Angeles/Eagle Rock	1912	Previously Surveyed (SurveyLA)
34	1579 Colorado Blvd	Los Angeles/Eagle Rock	1923	Previously Surveyed (SurveyLA)
35	85 E. Holly St/ 195 N. Raymond Ave	Pasadena	1930	Designated (Memorial Park/Pasadena Civic Center National Register Historic District)
36	145 N. Raymond Ave	Pasadena	1932	Designated (Armory Building/Old Pasadena)
37	125 N. Raymond Ave	Pasadena	1921	Designated (Crown Theatre/Old Pasadena National Register Historic District)
38	95 N. Raymond Ave	Pasadena	1895	Designated (Adams & Taylor Funeral Home/Old Pasadena)
39	119 E. Union St	Pasadena	1915	Designated (Union Building/Old Pasadena)
40	35 N. Arroyo Parkway	Pasadena	1924	Designated (Broadway Building/Old Pasadena)
41	163 E. Union St	Pasadena	1905	Previously Surveyed (Historic Designed Gardens)
42	75 N. Marengo Ave	Pasadena	ca.1930	Designated (First Baptist Church/ Pasadena Civic Center)

Map Ref. No	Address	City/Neighborhood	Year Built	Designated (Name), Previously Surveyed (Survey Name), or Identified
43	177 E. Colorado Blvd	Pasadena	1970	Previously Surveyed (Historic Designed Gardens)
44	117 E. Colorado Blvd	Pasadena	1905	Designated (Chamber of Commerce/Old Pasadena)
45	45 S. Arroyo Pkwy	Pasadena	1916	Previously Surveyed (Pasadena Central District)
46	101 S. Marengo Ave	Pasadena	1974	Previously Surveyed (Recent Past, Historic Designed Gardens)
47	469 E. Colorado Blvd	Pasadena	1927	Designated (Thomas Warner Building/Pasadena Playhouse District)
48	464 E. Colorado Blvd	Pasadena	1930	Designated (Walter Gerlach Building/Pasadena Playhouse National Register Historic District)
49	500 E. Colorado Blvd	Pasadena	1925	Designated (First Methodist Church/Pasadena Playhouse District)
50	880 E. Colorado Blvd	Pasadena	1974	Identified through Project Survey
51	940 E. Colorado Blvd	Pasadena	1926	Designated (Pasadena Historic Landmark; Constance Hotel)
52	909 E. Green St	Pasadena	1952	Previously Surveyed (Pasadena Central District)
53	55 S. Hill Ave	Pasadena	1925	Designated (Pasadena Historic Landmark; Hill Avenue Library)
54	20 N. Raymond Ave	Pasadena	1901	Designated (Union Savings Bank Building/Old Pasadena)
55	80 E. Colorado Blvd	Pasadena	1886	Designated (Masonic Temple/Old Pasadena)
56	87 E. Colorado Blvd	Pasadena	1929	Designated ([No Name]/Old Pasadena)
57	96 E. Colorado Blvd	Pasadena	1896	Designated (Richardson Block/Old Pasadena)
58	97 E. Colorado Blvd	Pasadena	1902	Designated ([No Name]/Old Pasadena)
N/A	Various	Pasadena	1886-1936	Designated (Old Pasadena National Register Historic District)
N/A	Various	Pasadena	1910-1932	Designated (Civic Center National Register Historic District)
N/A	Various	Pasadena	1905-1928	Designated (Civic Center Financial National Register Historic District)
N/A	Various	Pasadena	1906-1940	Designated (Pasadena Playhouse National Register Historic District)

SOURCE: GPA Consulting, *Historic Resources Technical Report*, 2020.

There was a total of 23 designated properties (listed in the National, California, and/or local register), including 16 contributors to historic districts, and 29 properties previously surveyed and evaluated as potentially eligible (for listing in the National, California, and/or local register), including eight that are contributors to a potential historic district. An additional six potentially significant properties were identified through site reconnaissance efforts conducted for the Proposed Project.

The potentially historic streetlights on East Broadway and North Central Avenue in the City of Glendale are of particular importance to the Proposed Project due to proposed sidewalk improvements. Along Central Avenue and Broadway, the Proposed Project would be side or curb-running and proposed station platform footprints may result in the removal or relocation of potentially historic streetlights currently within the existing sidewalk. Conceptual engineering plans developed to support the Draft EIR show proposed station platform footprints that appear to conflict with the placement of approximately three potentially historic streetlights on Central Avenue and approximately three on Broadway. These include two streetlights at the northeast corner and one streetlight at the southwest corner of Central Avenue at Lexington Drive, one streetlight at the northwest corner of Broadway at Glendale Avenue, and two at the southeast corner of Broadway at Brand Boulevard. **Figure 3.5-1** shows one of the potentially historic streetlights.

3.5.3.2. Archaeological Resources

The Proposed Project is situated on lands that were once inhabited by the Gabrieleno (also known as the Tongva) and to the south of lands that were once inhabited by the Tataviam. As discussed, a records search was conducted at SCCIC to identify previously-recorded cultural resources and previous investigations within the Project Area and within a 0.25-mile radius. The records search reviewed technical reports and Department of Parks and Recreation site records. Additional consulted sources included the Historic Property Data File, which identifies resources listed on or determined eligible for listing on the National, California, and local registers, and the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility.

The Project Area consists of existing roadways and developed parcels. An assessment of the Project Area, via a review of historic and current aerial photographs and maps along with a windshield survey of the Project Area, indicated that no exposed native ground surface is present.

The records search indicated that a total of 154 previous studies have taken place within the 0.25-mile records search radius, between 1949 and 2016. Of these, 30 overlapped the Project Area, 40 were immediately adjacent to the Project Area, and the remaining 84 studies were outside of the Project Area but within the 0.25-mile radius. The results of the SCCIC records search also indicated that 271 previously-recorded resources are located within the 0.25-mile records search radius of the Project Area. Four of the built environment resources overlap the Proposed Project. The four that overlap include the Union, Raymond, Holly, and Fair Oaks corridors, Pasadena Civic Center District, Old Pasadena Historic District, and Alta San Rafael Association. No prehistoric or historic-age archaeological resources have been previously recorded within the Project Area.

Figure 3.5-1 – Representative streetlight on Broadway, Glendale



SOURCE: GPA Consulting, *Historic Resources Technical Report*, 2020.

3.5.6 Significance Thresholds and Methodology

3.5.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to Cultural Resources if it would:

- a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; and/or
- c) Disturb any human remains, including those interred outside of formal cemeteries.

3.5.3.2 Methodology

Historic Resources

The definition of historical resource for CEQA includes properties listed in or determined eligible for the California Register. Properties listed in a local register of historical resources or identified as historically significant in a historic resources survey (provided certain statutory criteria and requirements are satisfied) are also presumed to be a historical resource unless a preponderance of evidence demonstrates that the property is not historically or culturally significant. A lead agency may also treat a property as historical resource if it meets statutory requirements and substantial evidence supports the conclusion.²⁰

The State CEQA Guidelines set the standard for determining the significance of impacts to historical resources in Title 14 California Code of Regulations Section 15064.5(b), which states:

A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

Title 14 California Code of Regulations Section 15064.5(b)(1) further clarifies “substantial adverse change” as follows:

Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

²⁰ Title 14 California Code of Regulations §15064.5(a).

Title 14 California Code of Regulations Section 15064.5(b)(2) in turn explains that a historical resource is “materially impaired” when a project:

Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Projects that may affect historical resources are considered mitigated to a level of less than significant if they are conducted in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (Standards).²¹ The Standards were issued by the National Park Service and are accompanied by Guidelines for four types of treatments for historical resources: Preservation, Rehabilitation, Restoration, and Reconstruction. The most common treatment is rehabilitation; this is the treatment that applies to the Proposed Project. The definition of rehabilitation assumes that at least some alteration of the historic property will be needed in order to provide for an efficient contemporary use; however, these alterations must not damage or destroy materials, features, or finishes that are important in defining the property's historic character.

The Standards for Rehabilitation are as follows:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

²¹ Title 14 California Code of Regulations §15126.4(b).

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

It is important to note that the Standards are not intended to be prescriptive, but instead provide general guidance. They are intended to be flexible and adaptable to specific project conditions to balance continuity and change, while retaining materials and features to the maximum extent feasible. Their interpretation requires exercising professional judgment and balancing the various opportunities and constraints of any given project. Not every Standard necessarily applies to every aspect of a project, nor is it necessary to comply with every Standard to achieve compliance.

Archaeological Resources

Archaeological sites are usually adversely affected only by physical destruction or damage. The CEQA and the CEQA Guidelines contain specific standards for determining the significance of impacts to archaeological sites (PRC Section 21083.2; 14 California Code Regulations Section 15064.5(c)). If the lead agency determines that the Project may have a significant effect on unique archaeological resources, the EIR must address those archaeological resources.²² The analysis of archaeological resources was based on a cultural resource records search and literature review at the SCCIC, a SLF file search, windshield survey, and AB 52 consultation results.

3.5.4 Impact Analysis

Impact 3.5-1) Would the Proposed Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Construction

Less-Than-Significant Impact with Mitigation. There would be no physical demolition or alteration of known and potential historical resources identified within the Project Area, with one exception, discussed below. It is anticipated that Proposed Project, including station platforms or dedicated lanes, would be constructed in the immediate or broader setting of historical

²² California PRC, Section 21083.2(a).

resources, but not within the physical boundaries of the historical resource itself. Construction activities, including staging areas, would not physically affect nearby historical resources because the Proposed Project would not demolish or materially alter in an adverse manner those physical characteristics of an historical resource that convey its historical significance. Construction-related noise and/or visual effects from activity and equipment in the vicinity of historical resources would not be permanent. The identified historical resources are not highly fragile building types, and so would not be susceptible to physical damage from the anticipated level of vibration associated with construction activities.

The Proposed Project passes through the boundaries of four historic districts in the City of Pasadena (Old Pasadena National Register of Historic District (NRHD), Pasadena Civic Center NRHD, Civic Center Financial NRHD, and Pasadena Playhouse NRHD).²³ Within Pasadena, the proposed alignment is mixed-flow in existing travel lanes. Station platform footprints in the City of Pasadena would be constructed on the sidewalk or on sidewalk extensions; five are situated at the edge of a historic district boundary, but none are wholly within a historic district boundary. Construction activities would not impact the four historic districts.

The exception to the preceding analyses is the potentially historic streetlights on Central Avenue and Broadway in the City of Glendale. Along Central Avenue and Broadway, the Proposed Project would be side or curb-running and proposed station platform footprints may result in the removal or relocation of potentially historic streetlights currently within the existing sidewalk. Conceptual engineering plans developed to support the Draft EIR show proposed station platform footprints that appear to conflict with the placement of approximately three potentially historic streetlights on Central Avenue and approximately three on Broadway. These include two streetlights at the northeast corner and one streetlight at the southwest corner of Central Avenue at Lexington Drive, one streetlight at the northwest corner of Broadway at Glendale Avenue, and two at the southeast corner of Broadway at Brand Boulevard. These six streetlights are similar in appearance to historic streetlights elsewhere on the street, although research suggests some may have been recently installed (or reinstalled) as early as 2007 or as recent as 2014, depending on the location. Regardless, at this time in the planning process, it is possible for the Proposed Project to interfere with potentially historic streetlights. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact related to construction activities. Implementation of Mitigation Measure **CUL-1** would reduce this impact to a less than significant level by ensuring that rehabilitation adheres to the Secretary of the Interior's Standards for the Treatment of Historic Properties and by confirming that the Proposed Project will not cause a substantial adverse change in the significance of a historical resource.

²³ The Proposed Project would also pass immediately adjacent to, but not within, the boundaries of the Eagle Rock Commercial Historic District in the community of Eagle Rock, as either a center-running or curb-running alignment with one station platform immediately adjacent to the district boundaries. As a result, no physical alteration to any features of Eagle Rock Commercial Historic District would occur during construction or operation of the Proposed Project.

Colorado Street (Route Option E2)

The Colorado Street route option would avoid all impacts to the potentially historic streetlights on Broadway; however, the Central Avenue streetlights would still potentially be affected by construction of the proposed station platform at Central Avenue and Lexington Drive. While fewer streetlights would be affected, without mitigation, the Proposed Project with the Colorado Street route option would result in a potentially significant impact related to construction activities. Implementation of Mitigation Measure **CUL-1** would reduce this impact to a less than significant level by ensuring that rehabilitation adheres to the Secretary of the Interior's Standards for the Treatment of Historic Properties and by confirming that the Proposed Project will not cause a substantial adverse change in the significance of a historical resource.

SR-134 (Route Option E3)

The SR-134 route option would avoid all construction-related impacts to the Central Avenue and Broadway streetlights. Therefore, the Proposed Project with the SR-134 route option (Route Option E3) would result in no impact related to construction activities.

Operations

Less-Than-Significant Impact with Mitigation. The Proposed Project would operate within the existing public ROW and would not directly affect historic resources. However, components of the Proposed Project would be located within the setting of known and potential historical resources. These components, such as stations, electric charging infrastructure, and signs, have the potential to visually affect historic resources.

Potential impacts to historical resources would primarily be limited to changes in setting at the location of station platforms, where shade structures and other vertical features would be constructed. Station platforms would generally be level with the sidewalk; the roadway curb may be raised slightly to provide "near level" boarding. Where feasible, a curb extension up to 12 feet would be provided to accommodate the station platform with minimal impact to the existing sidewalk area. Within the station platform footprint various vertical elements such as shelters (up to approximately 15 feet tall), seating, monument signs (up to approximately 20 feet tall), electronic displays, and bicycle racks may be located. Design integration of the station features into the sidewalk area would consider retaining or relocating existing vertical elements such as trees, signs, parking meters, and streetlights to minimize conflicts.

Station features (e.g., shelters, amenities, etc.) would be selected from a standard "kit of parts," which Metro is currently developing, and refined during the Preliminary Engineering phase of the Proposed Project. In the case of historical resources that are characterized by their relationship to the street, such as pedestrian oriented street fronts sited at or near the property line, consistency with Rehabilitation Standards can be achieved by maintaining physical access to the historical resource from the sidewalk and a visual connection between the historical resource and the street. The size, massing, and placement of station platform components would be carefully considered, especially proposed vertical structures that may obstruct views of important physical features or interrupt spatial relationships that characterize a historical

resource. Additionally, the materials, scale, and proportion of proposed station features would be differentiated from, yet compatible with, nearby historical resources. It is assumed the “kit of parts” would have a contemporary appearance that is generally consistent among the stations. This would visually differentiate the proposed new features from existing historical resources nearby. Compliance with Rehabilitation Standards would be unobtrusive as possible and allow the Proposed Project to retain the historic relationships between buildings and the landscape in the setting.

Rehabilitation Standard Nine advises “...related new construction will not destroy historic materials, features, and spatial relationships that characterize the [historic] property...new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the [historic] property and its environment.” The only historical resources anticipated to be physically altered by the Proposed Project are the Central Avenue and Broadway streetlights (as described in the “Construction” section above). For all other historical resources, including individually significant properties, properties contributing to a historic district, and historic districts, it is assumed that changes would occur within the setting only. Where station platforms are proposed on the sidewalk or on sidewalk extensions directly in front of a historical resource, changes would occur in the immediate setting and in closer proximity to the historical resource. Where station platforms are proposed at the roadway center or median, changes would occur in the broader setting and would be further removed from the historical resource.

Rehabilitation Standard Ten advises “...related new construction will be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.” With the possible exception of the Central Avenue and Broadway streetlights, the Proposed Project would not construct station platforms within the boundaries of a historical resource or change the essential physical form or integrity of a historical resource. As such, consistency with Rehabilitation Standard Ten would be achieved for stations proposed adjacent to historical resources.

It is anticipated that station platforms would be designed in a manner that is consistent with the Rehabilitation Standards. However, a qualified architectural historian would be needed to confirm if the appearance and placement of new features would not materially alter in an adverse manner those physical characteristics of an historical resource that convey its historical significance. Therefore, without mitigation, operation of Proposed Project could result in a potential significant impact to historic resources. Implementation of Mitigation Measure **CUL-1** would ensure this impact is reduced to less than significant.

Mitigation Measures

CUL-1: A qualified architectural historian (individual who meets the Secretary of the Interior’s Professional Qualification Standards in Appendix A of 36 Code of Federal Regulations Part 61) shall review all project design documents related to historic streetlights and station platforms located immediately adjacent (i.e., on or directly in front of) known or potential historical resources identified in the Historical Resources Project Area to determine consistency with the rehabilitation treatment under the Secretary of the Interior’s Standards for the Treatment of Historic Properties to confirm the Proposed Project will not cause a substantial adverse change in the significance of a historical resource. The results of this review shall be provided to Metro in a memorandum prepared by the qualified architectural historian conducting the review, and Metro shall incorporate any design recommendations that would address potential substantial adverse changes in the significance of a historical resource into project design documents prior to the preparation of final construction documents.

Significance of Impacts after Mitigation

Mitigation Measure **CUL-1** would ensure that the Proposed Project design would be consistent with Rehabilitation Standards. Therefore, the Proposed Project would result in a less-than-significant related to construction and operational activities.

Impact 3.5.2 Would the Proposed Project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Construction

Less-Than-Significant Impact with Mitigation. No archaeological resources were identified during the records search and literature review, SLF search, AB 52 consultation, or windshield survey. Surficial archaeological resources that may have existed have likely been displaced or destroyed as a result of previous development activities. The negative results and the developed nature of the Project Area does not, however, preclude the existence of undiscovered prehistoric or archaeological resources that may be encountered during construction.

Construction activities associated with the establishment of dedicated bus lanes would involve minimal ground disturbance and excavation. Excavation activities would be limited to 2 to 3 feet below ground surface, within soils previously impacted during initial road and sidewalk construction. Excavation associated with these vertical elements would be limited to two to three feet below ground surface, within soils previously impacted during initial road and sidewalk construction. Vertical element relocation activities, such as trees, signs, parking meters and streetlights, may extend to a depth of 12 feet below ground surface, below the currently disturbed soils. It is therefore possible that previously undiscovered and undocumented archaeological resources could be encountered during construction activities. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact related to

construction activities. With implementation of Mitigation Measure **CUL-2**, this impact would be reduced to less than significant by ensuring that any archaeological resource discovered during construction is avoided or treated to the standards established by the Secretary of Interior.

Operations

No Impact. The potential to disturb archaeological resources is only possible during construction activities. There is no potential for the surface-running BRT to encounter archaeological resources. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

CUL-2: A Qualified Archeologist, meeting the Secretary of the Interior's Standards for professional archaeology, shall be retained for the Project and will remain on call during all ground-disturbing activities. The Qualified Archaeologist shall ensure that Worker Environmental Awareness Protection (WEAP) training, presented by a Qualified Archaeologist and Native American representative, is provided to all construction and managerial personnel involved with the Proposed Project. The WEAP training shall provide an overview of cultural (prehistoric and historic) and tribal cultural resources and outline regulatory requirements for the protection of cultural resources. The WEAP shall also cover the proper procedures in the event of an unanticipated cultural resource. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the Proposed Project.

If an inadvertent discovery of archaeological materials is made during construction activities, ground disturbances in the area of the find shall be halted and the Qualified Archaeologist shall be notified regarding the discovery. If prehistoric or potential tribal cultural resources are identified, the interested Native American participant(s) shall be notified.

The archaeologist, in consultation with Native American participant(s) and the lead agency, shall determine whether the resource is potentially significant as per CEQA (i.e., whether it is an historical resource, a unique archaeological resource, a unique paleontological resource, or tribal cultural resources). If avoidance is not feasible, a Qualified Archaeologist, in consultation with the lead agency, shall prepare and implement a detailed treatment plan. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of, but would not be limited to, in-field documentation, archival research, subsurface testing, and excavation. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals.

Significance of Impacts after Mitigation

Mitigation Measure **CUL-2** would mitigate inadvertent impacts to subsurface archaeological deposits during construction. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to construction activities.

Impact 3.5.3 Would the Proposed Project disturb any human remains, including those interred outside of dedicated cemeteries?

Construction

Less-Than-Significant Impact. The results of the record searches from the SCCIC and the NAHC indicated that no human remains have been recorded within the Project Area or within a 0.25-mile radius. The negative results and the developed nature of the Project Area does not, however, preclude the existence of buried human remains that may be encountered during construction. If human remains are encountered during construction, the procedures and protocols set forth in CEQA Guidelines Section 15064.5(e)(1); Health and Safety Code Section 7050.5, subdivision (c); and PRC Section 5097.98 (as amended by AB 2641) would be followed. According to these existing legal requirements, if human remains are discovered, all work within 100 feet of the find must be halted immediately and the Los Angeles County Coroner and Metro must be notified by the construction contractor. Should the Coroner determine that the remains are Native American, the Coroner has 24 hours to notify the NAHC, who shall in turn, notify the person they identify as the most likely descendent (MLD) of any human remains.. The NAHC would identify the MLD to be consulted by Metro regarding treatment and/or reburial of the remains. The MLD must be afforded an opportunity to inspect the find and make recommendations for treatment options. If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after being granted access to the Project Area to examine the remains, the landowner, working with the Metro, must rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. Compliance with these existing laws would ensure unanticipated discovery of human remains would be treated with appropriate deference and legal requirements. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

No Impact. The potential to disturb human remains is only possible during construction activities. There is no potential for the surface-running BRT to encounter human remains. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

3.6. ENERGY RESOURCES

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to energy resources. Refer to the Energy Resources Technical Report (Appendix G) for additional details related to applicable regulations and the existing setting.

3.6.1 Regulatory Framework

3.6.1.1 Federal Regulations

Energy Policy and Conservation Act. The Federal Energy Policy and Conservation Act of 1975 established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 Federal Register 62624–63200).

Alternative Motor Fuels Act. The Alternative Motor Fuels Act of 1988 amended a portion of the Energy Policy and Conservation Act to encourage the use of alternative fuels, including electricity. This Act directed the Secretary of Energy to conduct a study regarding alternative fuel vehicles' performance, fuel economy, safety, and maintenance costs and report to Congress the results of a feasibility study concerning the disposal of such federal vehicles.

Intermodal Surface Transportation Efficiency Act (ISTEA). ISTEA, passed in 1991, presented an intermodal approach to highway and transit funding with collaborative planning requirements, giving additional powers to state and local transportation decision-makers and metropolitan planning organizations.

Energy Policy Act. The Energy Policy Act of 1992 was passed to reduce U.S. dependence on foreign petroleum and improve air quality. The Energy Policy Act includes several provisions intended to build an inventory of alternative fuel vehicles in large, centrally fueled fleets in metropolitan areas. The Energy Policy Act requires certain Federal, state, and local government and private fleets to purchase a percentage of light duty alternative fuel vehicles each year.

Transportation Equity Act for the 21st Century (TEA-21). The TEA-21 was enacted in 1998 as the successor legislation to ISTEA and builds on its established initiatives. This Act reauthorized the Congestion Management Air Quality Program and authorized federal highway, highway safety, transit and other surface transportation programs over the next six years.

Energy Policy Act. The Energy Policy Act of 2005 includes provisions for renewed and expanded tax credits for electricity generated by qualified energy sources (i.e., landfill gas), provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification, and establishes a Federal purchase requirement for renewable energy called the Renewable Fuels Standard (RFS).

Energy Independence and Security Act (EISA). On December 19, 2007, the EISA was signed into law requiring increased levels of renewable fuels (the RFS) to replace petroleum. The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the Act, the original RFS program required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that lay the foundation for achieving significant reductions in GHG emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the U.S.

Light Duty Vehicles Standards. On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the U.S. auto industry. The adopted federal standard applied to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpassed the prior Corporate Average Fuel Economy (CAFE) standards and required an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of carbon dioxide (CO₂) per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 passenger cars and light-duty trucks. By 2020, new vehicles are projected to achieve 41.7 mpg—if GHG reductions are achieved exclusively through fuel economy improvements—and 213 grams of CO₂ per mile (Phase 2 standards). By 2025, new vehicles are projected to achieve 54.5 mpg and 163 grams of CO₂ per mile, a reduction of approximately 50 percent relative to 2010.

On September 27, 2019, the USEPA and the NHTSA published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program” (84 Federal Register 51310 [September 27, 2019]). The Part One Rule revokes California’s authority to set its own GHG emissions standards and set zero-emission vehicle (ZEV) mandates in California. Both the GHG emission standards and the ZEV sales standards reduce GHG emissions and fossil fuel energy consumption; as a result of the loss of ZEV sales requirements, there may be fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years. California expects Part Two of these regulations to be adopted in 2020, and it is anticipated that the federal government may adopt revised GHG emission standards and fuel efficiency standards.

Moving Ahead for Progress in the 21st Century Act (MAP-21). Signed in 2012, MAP-21 represented the first multi-year transportation authorization enacted since 2005, funding surface transportation programs with more than \$105 billion for fiscal years 2013 and 2014. MAP-21 also authorized \$70 million for a public transportation research program that focuses on energy efficiency and system capacity, among other items. With the exception of the provisions of MAP-21, there is no federal legislation related specifically to the subject of energy efficiency in public transportation project development and operation.

3.6.1.2 State Regulations

Warren-Alquist Act. The California Legislature passed the Warren-Alquist Act in 1974. The Warren-Alquist Act created the California Energy Commission (CEC), which is the State's primary energy policy and planning agency. The legislation directed the CEC to formulate and adopt the nation's first energy conservation standards for both buildings constructed and appliances sold in California; removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high-demand projections, and transferred it to a more impartial CEC; and directed CEC to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources. Several regulatory entities administer energy policy throughout the State. The California Public Utilities Commission (CPUC) regulates privately owned utilities providing the telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation services.

Senate Bill 1389. SB 1389 requires the CEC to prepare a biennial integrated energy policy report assessing major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors. The report is also intended to provide policy recommendations to conserve resources, protect the environment, and ensure reliable, secure, and diverse energy supplies.

Senate Bill 1078 and Senate Bill 107. SB 1078 (2002) and SB 107 (2006) created the Renewable Energy Standard, which required electric utility companies to increase procurements from eligible renewable energy resources by at least 1 percent of their retail sales annually until reaching 20 percent by 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the State's Renewables Portfolio Standard to 33 percent renewable power by 2020. On April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's Renewables Portfolio Standard to 33 percent by 2020. SB 350 (Chapter 547, Statutes of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027.

Senate Bill 100. On September 10, 2018, Governor Jerry Brown signed SB 100, which further increased California's Renewables Portfolio Standard to achieve 50 percent renewable resources by December 31, 2026, and a 60 percent target by December 31, 2030, while requiring retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, and that the CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045.

Assembly Bill 118. In 2007, Assembly Bill 118 created the Alternative and Renewable Fuel and Vehicle Technology Program, to be administered by the CEC. This Program authorizes the CEC to award grants, revolving loans, loan guarantees and other appropriate measures to qualified entities to develop and deploy innovative fuel and vehicle technologies that will help achieve California's petroleum reduction, air quality and climate change goals, without adopting or advocating any one preferred fuel or technology. The statute was amended in 2008 and 2013,

which authorized the CEC to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the State's climate change policies.

Senate Bill 350. The Clean Energy and Pollution Reduction Act of 2015, SB 350 (Chapter 547, Statutes of 2015) was approved by Governor Jerry Brown on October 7, 2015. SB 350 does the following: (1) increases the standards of California's RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) requires the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provides for the evolution of the Independent System Operator into a regional organization; and (4) requires the State to reimburse local agencies and school districts for certain costs mandated by the State through procedures established by statutory provisions.

Title 24 Standards. The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. The standards require that enforcement agencies determine compliance with the California Code of Regulations, Title 24, Part 6 before issuing building permits for any construction.

California Green Building Standards Code. Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."

California Transportation Plan. The California Transportation Plan is a statewide, long-range transportation plan to meet future mobility needs developed by the California Department of Transportation. The Plan defines performance-based goals, policies, and strategies to comply with MAP-21 and to achieve an integrated, multimodal transportation system. The Plan addresses how the State will achieve maximum feasible emissions reductions, taking into consideration the use of alternative fuels, new vehicle technology and tailpipe emissions reductions.

Senate Bill 375. SB 375 addresses energy resources associated with the transportation sector through regional transportation and sustainability plans. SB 375 required the CARB to adopt regional GHG emissions reduction targets for the automobile and light-truck sector for the milestone years 2020 and 2035, and tasked regional MPOs with the preparation of SCS within their RTPs.

Senate Bill 743. SB 743 encourages land use and transportation planning decisions and investments to reduce VMT that contribute to GHG emissions. SB 743 requires the Office of Planning Research to develop revisions to the CEQA Guidelines and establish criteria to determine the significance of transportation impacts of projects within transit priority areas.

3.6.1.3 Regional Regulations

Metro Energy Management. Metro has implemented several policies and plans to enhance energy efficiency throughout its system. In 2011, Metro published its Energy Conservation and Management Plan (ECMP) to serve as a strategic blueprint for proactively guiding energy use in a sustainable, cost-effective, and efficient manner. The ECMP complements Metro's 2007 Energy and Sustainability Policy, focusing on electricity for rail vehicle propulsion, electricity for rail and bus facility purposes, natural gas for rail and bus facility purposes, and the application of renewable energy. Metro's efforts to improve energy efficiency and expand renewable energy use are directly correlated with systemwide GHG emissions reductions; the 2012 Metro Climate Action and Adaptation Plan relied upon the ECMP sustainability analyses to set a path forward for reducing Metro's GHG emissions.

Adopted in 2012, the Metro Countywide Sustainability Planning Policy & Implementation Plan outlines Metro's robust approach to improving energy efficiency, reducing GHG emissions, and providing a healthier and more accessible network of transportation and transit infrastructure. The plan includes core principles and priorities that guide Metro's transportation planning efforts to influence sustainability outcomes as a regional mobility provider, a project manager, and a steward of public funds. Metro identified three key social, economic, and environmental priorities for each fundamental principle to be advanced through the transportation planning process.

Metro prepares an annual Energy & Resource Report to provide an annual evaluation of the sustainability performance of the multi-modal system, measured across ten specific performance metrics and through updates on program impact. Between 2017 and 2018, Metro reduced its systemwide energy use per vehicle revenue mile (VRM) by approximately 6.5 percent. Metro has committed to incorporating renewable natural gas (RNG) into its bus fleet, and intends to achieve zero carbon emissions by 2050 through strategies including transitioning its fleet to 100 percent zero-emission buses by 2030 and ensuring 100 percent renewable energy use by 2035. Metro published an updated iteration of its Climate Action and Adaptation Plan in 2019 that summarizes current and projected GHG emissions from Metro operations, describes how climate change could affect Metro's system and operations, and identifies steps to reduce emissions and increase resilience to climate change.

In 2020 Metro published *Moving Beyond Sustainability*, a 10-year strategic plan that is the most comprehensive to date and sets goals, targets, strategies, and actions that align with and emanate from other key Metro guidance documents. The plan is organized into topical strategic focus areas including water quality and conservation, solid waste, materials, construction and operations, energy resource management, emissions and pollution control, resilience and climate adaptation, and economic and workforce development. By recognizing the intersectionality of these various focus areas, Metro designed a robust, holistic plan to guide the

expansion and enhancement of its transit services into the future. Targets of the plan specifically related to energy resources include:

- Reduce potable water use by 22 percent from the 2020 Business as Usual scenario.
- Reduce annual operational solid waste disposal 24 percent from business as usual scenario.
- Achieve LEED Silver certification for all new facilities over 10,000 square feet, and achieve Envision certification where LEED is not applicable.
- Design and build 100 percent of capital projects to CALGreen Tier 2 standards.
- Reduce energy consumption by 17 percent at facilities from the 2030 Business as Usual Scenario.
- Increase onsite renewable energy generation to 7.5 MW.

Southern California Association of Governments (SCAG). SCAG is the MPO for the regional planning jurisdiction encompassing Los Angeles, Ventura, San Bernardino, Riverside, Orange, and Imperial Counties. SCAG is required by federal law to prepare and update a long-range RTP (23 United States Code [U.S.C.] Section 134 et seq.) California SB 375, codified in 2008 in Government Code Section 65080 (b)(2)(B), also requires that the RTP include a SCS that outlines growth strategies for land use and transportation and helps reduce the State's GHG emissions from cars and light duty trucks. SCAG adopted the Connect SoCal 2020–2045 RTP/SCS (Connect SoCal) in May 2020, which is the most recent and applicable RTP for the Proposed Project. The Proposed Project is identified in Connect SoCal as the “BRT Connector – Orange/Red Line to Gold Line.”

Connect SoCal includes a commitment to reduce emissions from transportation sources to comply with SB 375. The 2016-2040 RTP/SCS states that the region will meet or exceed the SB 375 per capita targets, lowering regional per capita GHG emissions by 8 percent by 2020, 18 percent by 2035, and 22 percent by 2040. The GHG emissions reductions from automobile and light-truck sectors would result from decreased transportation fuels consumption.

Los Angeles Countywide Sustainability Plan. The Los Angeles Countywide Sustainability Plan is a regional sustainability plan for unincorporated areas of Los Angeles County. The Countywide Sustainability Plan includes various goals to improve countywide sustainability features and can serve as a template for cities within LA County to formulate their own municipality-level sustainability plans.

3.6.1.3 Local Regulations

The Cities through which the Proposed Project traverses have published planning documents that address energy. Refer to the Energy Technical Report for a more detailed discussion of the specific elements of each plan below that are relevant to the Proposed Project.

City of Los Angeles

GreenLA Climate Action Plan. The City of Los Angeles began addressing the issue of global climate change by publishing Green LA, An Action Plan to Lead the Nation in Fighting Global Warming (LA Green Plan) in 2007. This document outlines the goals and actions the City has established to reduce the generation and emission of GHG emissions from both public and private activities. According to the LA Green Plan, the City is committed to the goal of reducing emissions of CO₂ to 35 percent below 1990 levels by year 2030. To achieve this, the City LA Green Plan a policy to change transportation and land use patterns to reduce dependence on automobiles.

Mobility Plan 2035. State law requires that municipal General Plans must contain seven mandatory elements: land use, transportation, housing, conservation, open space, noise, and safety; the City of Los Angeles has 12 elements within its General Plan to better address the specific local planning challenges it faces. Adopted by the City Council in September 2016, Mobility Plan 2035 represents the transportation element of the Los Angeles General Plan dedicated to improving multimodal connectivity throughout the City.

Sustainable City pLAn. In April 2015, Mayor Eric Garcetti released the City of Los Angeles' Sustainable City pLAn as a roadmap to achieve short-term (2017) and longer term (by 2025 and 2035) targets in 14 categories that will advance the City's commitment to a cleaner environment, stronger economy, and equity. The Green New Deal, released in 2019, provided an update to the Sustainable City pLAn.

L.A.'s Green New Deal. In April 2019, Mayor Eric Garcetti announced Los Angeles' Green New Deal to set goals for the City's sustainable future. Los Angeles' Green New Deal commits to uphold the Paris Climate Agreement and deliver environmental justice through an inclusive green economy, plans to ensure every City resident has the ability to join the green economy, and sets a determination to lead by example within City government. The Green New Deal aims to reach a 50 percent reduction in GHG emissions by 2025 and reach net neutrality by 2050.

City of Burbank

The City of Burbank adopted its General Plan 2035 in 2013, which contains numerous items related to management of energy resources. Goals include promoting planning and programs that reduce air pollutants to improve the health and sustainability of the City and County. Implement policies that reduce fossil fuel combustion (by reducing VMT and promoting conservation and use of renewable energy) to lessen adverse impacts on both air quality and climate change.

City of Glendale

The City of Glendale General Plan contains several elements that address energy resources management, conservation, and efficiency that are relevant to Proposed Project implementation. The Glendale Circulation Plan contains Goals and Objectives that set direction for the City's policies, principles, standards, and programs related to community mobility. In

addition to the Circulation Plan, Glendale published a Greener Glendale Plan – The City of Glendale’s Sustainability Plan that also addresses energy resource management and efficiency related to public transit and transportation fuels consumption. Tenets of the Greener Glendale Plan pertinent to the Proposed Project include public transit accessibility, the energy benefits of reducing on-road passenger vehicle travel and transportation fuels consumption, and objectives and strategies aimed at expanding and encouraging public transit access and use.

City of Pasadena

The City of Pasadena updated the Mobility Element of its General Plan in 2015, which contains Mobility Objectives that are incorporated into local planning endeavors to promote a city where people can circulate without cars. In 2018, the City of Pasadena prepared a climate action plan (CAP) with the goal to reduce community-wide GHG emissions 27 percent below 2009 levels by 2020, 49 percent below 2009 levels by 2030, 59 percent below 2009 levels by 2035, and 83 percent below 2009 levels by 2050. City initiatives to reduce GHG emissions are directly and indirectly correlated with energy resource management, improving energy efficiency, and reducing transportation fuels consumption.

3.6.2. Existing Setting

Various forms of energy resources are used to fuel on-road vehicles, provide lighting and heat for residential and non-residential buildings, treat, supply, and distribute potable water, among many other end uses. Direct and indirect energy resources involved in the transit system implementation include electricity, natural gas, and transportation fuels (i.e., gasoline and diesel fuel). This section provides a brief discussion of the types of energy resources that would be consumed by construction and operation of the Proposed Project and how they are produced and distributed to the respective end uses.

Electricity

The production of electricity requires the consumption or conversion of other natural resources, whether it be water (hydroelectric power), wind, oil, gas, coal, or solar energy. The delivery of electricity as a utility involves several system components for distribution and use. Electricity is distributed through a network of transmission and distribution lines referred to as a power grid. Energy capacity, or electrical power, is generally measured in watts (W), while energy use is measured in watt-hours (Wh), which is the integral electricity consumption over a time period of one hour. On a utility scale, the capacity of electricity generation and amount of consumption is generally described in megawatts (MW) and megawatt-hours (MWh), respectively. Within the Proposed Project area, electricity providers include Los Angeles Department of Water and Power (LADWP), Burbank Water and Power, Glendale Water and Power, and Pasadena Water and Power (PWP).

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is a fossil energy source formed deep beneath the earth’s surface. Natural gas consumed in California is obtained from its naturally occurring subterranean reservoirs and delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the total energy requirements in California and is generally measured in units of standard cubic feet or British thermal units. The Southern California Gas Company (SoCalGas) is the natural gas provider for the Project Area.

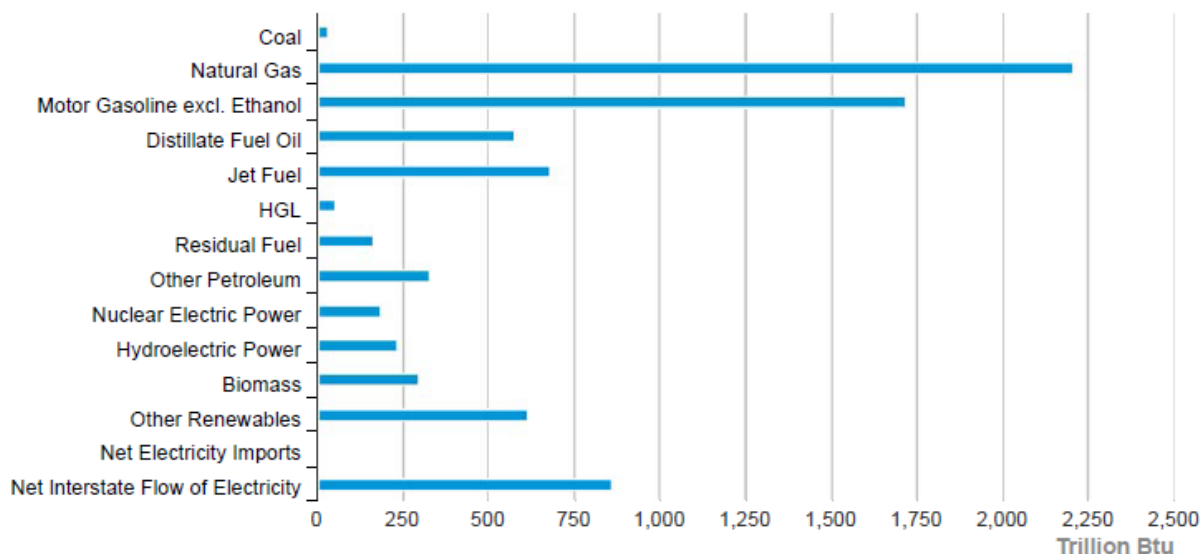
Transportation Fuels

The spark-ignited internal combustion engines of on-road motor vehicles and off-road equipment use fossil fuel energy for propulsion. Gasoline and diesel fuel are formulations of fossil fuels refined for use in various applications. Gasoline is the primary fuel source for most passenger automobiles, and diesel fuel is the primary fuel source for most off-road equipment and medium and heavy-duty trucks.

3.6.2.1 State Setting

This subsection provides a brief overview of the statewide energy resources for electricity, natural gas, and transportation fuels. Electricity, natural gas, and renewable energy production, consumption, research, and conservation within the State are managed by the CEC in coordination with the CPUC and the California Department of Conservation. California’s consumption by source for the year 2018 is shown in **Figure 3.6-1**. Natural gas and gasoline are the most consumed resources and account for 27.6 percent and 21.5 percent of all energy consumption in the State.

Figure 3.6-1 - California Energy Consumption by Source 2018



SOURCE: U.S. Energy Information Administration, 2020.

Electricity

According to the U.S. Energy Information Administration State Energy Profile, California leads the nation in electricity generation from renewable sources including solar, geothermal, and biomass. California is also a leading producer of electricity from conventional hydroelectric power and wind, ranking fourth in the nation in both. Electricity in California is produced in a variety of ways and consumed in many more. In 2018, renewable resources—including hydroelectric and non-commercial solar installations—supplied almost half (44 percent) of California's in-State electricity generation, which was approximately 195,027 gigawatt hours (GWh) of electrical power. Hydropower accounted for approximately 13 percent of generation in 2018 and fluctuates based on precipitation patterns. Non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass, provided about 30 percent of net generation from utility-scale (greater than one MW) facilities. Natural gas-fired power plants provided more than 46 percent of in-State electricity, and nuclear power accounted for approximately 9.4 percent. Solar and wind now account for approximately 23 percent of in-State electricity generation. In 2018 California also relied on 90,648 GWh of net electricity imports, less than 15 percent of which was sourced from coal-fired power plants.

Natural Gas

California's natural gas output equals about one-tenth of state demand. Almost two-thirds of California households use natural gas for home heating, and almost half of the State's utility-scale electricity generation is fueled by natural gas. Several interstate natural gas pipelines enter the State from Arizona, Nevada, and Oregon and bring natural gas into California from the Southwest, the Rocky Mountain region, and western Canada. Almost all the natural gas delivered to California is used in the State or is placed in storage. California has 14 natural gas storage reservoirs in 12 storage fields, together those fields have a natural gas storage capacity of about 600 billion cubic feet.

Transportation Fuels

According to the CEC, transportation fuels account for nearly 40 percent of statewide total energy demand and approximately 39 percent of the State's GHG emissions. In 2018, California consumed 15.5 billion gallons of gasoline and 3.7 billion gallons of diesel fuel. Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use. To address the magnitude of transportation fuel consumption, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHG emissions from the transportation sector, and reduce on-road vehicle miles traveled. The California initiatives have begun to gradually reduce statewide dependence on fossil fuels, and the CEC predicts that demand for gasoline will continue to decline as the expansion of public transit infrastructure and use of alternative fuels becomes more prevalent.

3.6.2.2 Local Setting

This subsection provides an overview of local energy resources and the Metro energy resources profile. Although the Proposed Project would traverse local utility jurisdictions of Burbank Water and Power, Glendale Water and Power, and PWP, it is assumed that the ZEV buses would primarily utilize Metro facilities within the City of Los Angeles for recharging and maintenance. Additional charging may be supplemented at Pasadena City College, which would be provided by PWP. The amount of charging that may occur at Pasadena City College is unknown at this time, and the proportion of electricity supplied by Pasadena City College would not change the total expenditure of energy resources associated with Proposed Project operations. Energy consumption at station platforms would result in negligible increases to electricity service providers other than LADWP. Therefore, the discussion of local electricity resources focuses on LADWP and Metro resources, as well as regional transportation fuels consumption.

Electricity

LADWP provides electrical service throughout the City, serving approximately four million people within a service area of approximately 465 square miles. LADWP generates power from a variety of energy sources, such as wind, solar, and geothermal sources. According to LADWP's 2017 Power Strategic Long-Term Resource Plan, the department has a net dependable generation capacity greater than 7,880 MW and experienced a net record instantaneous peak demand of 6,500 MW in 2017. Approximately 30 percent of LADWP's 2017 electricity purchases were from renewable sources, which is similar to the statewide proportion. By 2030, LADWP forecasts its energy supply sourcing to be approximately 26 percent natural gas, 60 percent renewable, nine percent nuclear, and five percent large hydroelectric infrastructure. In 2019, LADWP committed with the City to achieve carbon neutrality by 2050, and updated its RPS targets to 50 percent by 2025, 55 percent by 2030, and 65 percent by 2036. As the power supply becomes more dependent upon renewable energy, overall grid efficiency will increase, and associated GHG emissions will be reduced. In the County of Los Angeles, 68,486,187,103 kWh (68,486 GWh) of electricity were consumed in 2018.

Natural Gas

Natural gas is provided to the region by SoCalGas, which is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas services approximately 21.6 million customers in more than 500 communities encompassing approximately 20,000 square miles throughout Central and Southern California. SoCalGas receives gas supplies from several sedimentary basins in the western U.S. and Canada, including supply basins located in New Mexico (San Juan Basin), West Texas (Permian Basin), the Rocky Mountains, and Western Canada as well as local California supplies.

SoCalGas, along with five other California utility providers, released the 2018 California Gas Report, presenting a forecast of natural gas supplies and requirements for California through the year 2035. SoCalGas predicts a decrease in natural gas demand in future years due to a decrease in per capita usage, energy efficiency policies, and the transition of the State to renewable energy displacing fossil fuels including natural gas.

Transportation Fuels

The CEC maintains a statewide database of annual transportation fuel retail sales in accordance with the Petroleum Industry Information Reporting Act called the California Retail Fuel Outlet Annual Reporting system. Annual gasoline and diesel fuel sales are available by county within the database for years 2010 through 2018. Retail transportation fuels sales in Los Angeles County in 2018 were approximately 3,638 million gallons of gasoline and approximately 253 million gallons of diesel fuel. More transportation fuels were purchased in Los Angeles County than any other county in the State, accounting for 24 percent of statewide gasoline sales and 14 percent of statewide diesel sales.

3.6.2.3 Metro System Energy

Metro’s contribution to regional energy consumption includes on-road vehicle fuel use (primarily compressed natural gas) and electricity for rail vehicle propulsion and maintenance and administrative facility operation. The 2019 Energy and Resource Report examined Metro energy use for the 2019 calendar year and refined estimates prepared by previous analysis. **Table 3.6-1** presents the Metro system energy consumption by end use between 2015 and 2019. As of 2019, the Metro system comprises 124,695,827 million revenue miles consuming approximately 53.5 megajoules (MJ) of energy per revenue mile, for a total of 6,667.1 million MJ. Metro system energy consumption has decreased by 6.9 percent during the period from 2015 to 2019. Metro has prioritized generating system energy from alternative fuels in recent years. Approximately 30 percent of Metro’s electricity is generated by renewable sources, and Metro is on track to utilize 33 percent renewable energy by 2020. Metro plans to phase out all directly operated natural gas buses by 2030 to be replaced by ZEVs.

Table 3.6-1 - Metro Operations Energy Consumption

End Use	Annual Energy Consumption (Megajoules)				
	2015	2016	2017	2018	2019
Vehicle Fuel	5,796,786,075	5,644,897,527	5,787,683,879	5,317,489,842	5,357,290,785
Rail Propulsion	719,276,609	711,196,744	775,022,735	817,378,502	781,571,203
Facilities	642,626,521	660,898,312	564,325,336	491,666,179	528,225,942
Total	7,158,689,205	7,016,992,583	7,127,031,949	6,626,534,523	6,667,087,930

Notes: GGE = gasoline gallon equivalent; kWh = kilowatt hours

SOURCE: Metro, Energy and Resource Report, 2019.

3.6.3 Significance Thresholds and Methodology

3.6.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to GHG emissions if it would:

- a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; and/or
- b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see PRC Section 21100(b)(3)). The CEQA Guidelines recommend that the assessment of energy impacts assess energy use for all phases and components, including transportation-related energy, during construction and operation.

Appendix F of the CEQA Guidelines addresses energy conservation. The objective of conserving energy involves the wise and efficient use of energy, which is achieved through intersecting efforts to decrease overall per capita energy consumption, decrease reliance on fossil fuels such as coal, natural gas, and oil, and increase reliance on renewable energy sources. The CEQA Guidelines acknowledge that environmental impacts analysis related to energy may consider:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.

The above criteria are used to determine the potential significance of energy resources impacts associated with the Proposed Project. Consumption of electricity, natural gas, and transportation fuels during construction and operations are evaluated quantitatively in the context of local and regional resources. Consistency with relevant renewable energy and energy efficiency planning is addressed qualitatively.

3.6.3.2 Methodology

Under CEQA, energy impacts analyses should evaluate direct and indirect effects of a project on the environment. Direct energy effects include the one-time expenditure of gasoline and diesel fuels used by off-road equipment and on-road vehicles during construction activities, as well as operational electricity required for propulsion of the ZEV buses. Indirect energy effects

for the Proposed Project include the induced change in regional transportation fuels consumption resulting from mode shift associated with BRT trips replacing passenger vehicle trips, and the expenditure of natural resources at power plants to produce the electricity for bus propulsion. Direct and indirect energy resources effects are quantified separately for construction and operations.

Construction

Construction activities would result in the direct expenditure of gasoline and diesel fuels to power off-road equipment and on-road vehicles involved in construction activities. Preliminary planning by Metro determined that construction would last up to 30 months and would generally comprise sidewalk demotion and restoration, BRT station facilities installation, and roadway repaving and restriping. Landscaping features would also be installed in medians along certain segments of the corridor. Construction activities would employ diesel-fueled off-road equipment and on-road material delivery and debris hauling trucks, as well as gasoline-fueled vehicles associated with construction crew trips. The construction energy impacts analysis estimated the one-time expenditure of diesel fuel and gasoline fuel associated with the Proposed Project.

CalEEMod is the preferred regulatory tool for estimating construction emissions of air pollutants, including GHG emissions, from proposed land use and transportation development projects. Estimates of GHG emissions that would be generated by construction were produced using CalEEMod, as disclosed in Section 3.8, Greenhouse Gas Emissions of the Draft EIR. The estimates of CH₄ emissions from off-road equipment and estimates of CO₂ emissions from on-road vehicles were used to quantify construction diesel and gasoline fuel consumption using the emission factors presented in **Table 3.6-2**, derived from the USEPA Emission Factors for Greenhouse Gas Inventories which is used by CARB in development of their OFFROAD and EMFAC models.

Table 3.6-2 – Mobile Fuel Combustion Factors

Vehicle Type	Fuel Type	Combustion Factor (Units)
Off-Road Equipment	Diesel	0.20 gCH ₄ /gallon
On-Road Trucks	Diesel	10.21 kgCO ₂ /gallon
On-Road Passenger Vehicles	Gasoline	8.78 kgCO ₂ /gallon

SOURCE: USEPA, Emission Factors for Greenhouse Gas Inventories, 2020.

The CalEEMod output emissions of CH₄ from off-road equipment and emissions of CO₂ from on-road vehicles were multiplied by the corresponding conversion factors to estimate the one-time expenditure of fuel consumption during construction. The passenger vehicle emissions were multiplied by the CARB Off-Model Adjustment Factors published in response to the SAFE Vehicle Rule Part One, using the 2024 value of 1.0315.

All construction activities would be conducted in accordance with the Metro Green Construction Policy, which includes best management practices that would control and minimize the consumption of fuels by off-road equipment and on-road vehicles. Although not accounted for in the quantitative analysis of energy resources, the following measures would be adhered to during construction to reduce fuel consumption to the maximum extent feasible:

- Maintain equipment according to manufacturer specifications.
- Restrict idling of construction equipment and on-road heavy duty trucks to a maximum of 5 minutes when not in use, except as provided to the applicable CARB regulations regarding idling for off-road and on-road equipment.
- Prepare haul routes that conform to local requirements to minimize traversing through congested streets or near sensitive receptor areas.
- Use electric power in lieu of diesel power where available.

Operations

Operational energy consumption would occur directly through the consumption of electricity for propulsion of the ZEV buses, and indirectly through induced changes to transportation fuels consumption through regional mode shift displacing on-road vehicle trips. In addition to the displacement of on-road vehicle trips, operation of the Proposed Project would supplant eastern portions (approximately 303,124 annual revenue miles) of the existing Metro 180 bus line operations, which currently uses CNG for vehicle propulsion. Indirect energy effects resulting from reduced Metro 180 bus travel are accounted for assuming future conversion to electric propulsion. Additionally, natural and renewable resources are indirectly consumed to provide the electricity used to charge the ZEV buses, and consumption of these resources is addressed qualitatively based on the LADWP electricity generation profile described earlier in this section.

Annual direct electricity demand was estimated using projected annual VRM of the ZEV buses as presented in the Operating Statistics and O&M Costs Report, which relied upon an estimated one-way trip distance along the BRT corridor of 18.1 miles.

Table 3.6-3 presents a summary of the daily and annual VRM for the Proposed Project. Operations would result in approximately 1,348,500 VRM annually. It was assumed that the buses would recharge at the El Monte Metro Division, the farthest Metro Division from the route likely to accommodate the Project's fleet, which would increase daily VMT by 36.6 miles of "deadhead" travel per bus. Charging at PCC, the North Hollywood transit station, or another location on the route would result in less "deadhead" VMT. It was conservatively assumed that the fleet would use up to 20 individual buses per day for operations, and therefore total annual deadhead miles would be 267,180. When combined with VRM, the total annual BRT miles would be 1,615,680 for operations. The electricity consumption associated with ZEV bus propulsion was estimated using a fuel economy factor of 2.2 kWh per VMT (Metro 2019 Climate Action Adaptation Plan).

Table 3.6-3 – Project BRT Revenue Miles

Day of Week	Daily Trips (One-Way)	Daily VRM (miles)	Days per Year	Annual VRM (miles)
Monday-Thursday	208	4,012	203	814,400
Friday	220	4,243	52	220,600
Saturday	152	2,932	52	152,400
Sunday/Holiday	144	2,777	58	161,100
Total Annual Vehicle Revenue Miles				1,348,500

SOURCE: Kimley-Horn, *Operating Statistics and O&M Costs Report*, 2020.

The Proposed Project would also result in changes to regional on-road VMT through transportation mode shift displacing passenger vehicle trips. **Table 3.6-4** presents the results of regional transportation modeling under the Existing (2017) condition and the Existing plus Project (2017) condition along with the 2042 Baseline and Proposed Project conditions in 2042. The table shows that Proposed Project would reduce VMT in the existing and 2042 conditions. Year 2017 was used as the Baseline condition in this analysis to ensure consistency with the regional transportation model. There is a marginal difference (less than 0.1 percent) in regional VMT between 2017 and 2019 and the difference would have no effect to the impact conclusions presented in this analysis.

Table 3.6-4 – Regional On-Road Vehicle Miles Traveled

Scenario	Daily VMT	Annual VMT
Existing (2017)	428,794,449	148,791,691,153
Existing + Project (2017)	428,721,905	148,766,500,989
Change from Existing (2017)	-72,594	-25,190,164
Percent Change from Existing (2017)	-0.014%	-0.014%
2042 Baseline	511,871,989	177,619,580,183
Proposed Project (2042)	511,785,330	177,589,509,510
Change from 2042 Baseline	-86,659	-30,070,673
Percent Change from 2042 Baseline	-0.017%	-0.017%

SOURCE: Kimley-Horn, *Transportation Technical Report*, 2020.

The CARB mobile source emissions inventory contains projections for air pollutant. The CARB mobile source emissions inventory contains projections for air pollutant emissions and fuel consumption throughout California. Projected regional fuel consumption within Los Angeles County in 2017 and 2042 from EMFAC2017 was utilized to estimate daily and annual transportation fuels consumption by the on-road vehicle fleet under the Baseline and Proposed Project conditions. Based on the EMFAC2017 database for the operational year 2017,

approximately 42.06 gallons of gasoline and 5.76 gallons of diesel fuel are consumed for every 1,000 on-road VMT by the regional fleet. In the operational year 2042, approximately 24.88 gallons of gasoline and 5.61 gallons of diesel fuel would be consumed. These factors were multiplied by the annual VMT for the Baseline and Proposed Project conditions to estimate changes in annual gasoline and diesel fuels consumption resulting from implementation of the Project.

Implementation of Metro's NextGen service and implementation of the Proposed Project would reduce service from existing bus lines that overlap with the proposed BRT route. The existing Metro Line 180 connects Hollywood with Pasadena and would be restructured to reduce service along the route by approximately 303,124 annual VRM under operations. The operational analysis accounted for the displaced bus VRM assuming that the Metro Line 180 would be operating ZEV buses in 2042. Therefore, the Metro consumption factor of 2.2 kWh per mile was applied to the reduction in annual Metro bus VRM resulting from operation of the Proposed Project.

The Proposed Project would not require the use of any natural gas resources by the operational year of 2042. When operations commence in 2024, it is possible that the fleet would operate CNG buses in its service until ZEV buses become available. The employment of CNG buses would be temporary and would not represent long-term operational conditions. As of 2019, Metro's directly operated natural gas bus fleet comprised 65,492,776 VRM annually and consumed approximately 44,203,405 therms of natural gas—averaging 0.675 therms of natural gas per VRM (0.675 therms per VRM)—of which approximately 41 percent is sourced from RNG. A conservative estimate of annual natural gas consumption associated with operation of the BRT corridor in the opening year of 2024 is presented for informational disclosure using the 2019 natural gas consumption factor.

3.6.4 Impact Analysis

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The potential for the Proposed Project to result in an impact to energy resources is independent of the specific alignment and Proposed Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact 3.6-1) Would the Proposed Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Construction

Less-Than-Significant Impact. Construction activities would use energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment, construction worker travel, and delivery truck travel, and haul truck travel. Construction is anticipated to last up to 30 months, and as a conservative approach, petroleum-based fuels consumption during construction activities accounted for the maximum construction duration.

Table 3.6-5 presents a summary of the one-time expenditure of petroleum-based fuels that would be required for construction.

Table 3.6-5 – Project Construction Energy Consumption

Construction Activity	Off-Road Equipment Diesel (Gallons)	On-Road Vehicles Diesel (Gallons)	Total Diesel (Gallons)	Construction Worker Gasoline (Gallons)
Demolition	75,500	18	75,518	2,269
Site Preparation	83,000	359	83,359	1,135
Station Construction	722,000	2,458	724,458	7,739
Paving	180,000	693	180,693	2,129
Roadway Striping	30,850	346	31,196	1,059
Total Construction Fuel Consumption (Gallons)			1,095,225	14,331
Annual Average Fuel Consumption (Gallons)			438,090	5,733

SOURCE: Terry A. Hayes Associates Inc., 2020.

Annual average petroleum-based fuels consumption during construction activities would be approximately 438,090 gallons of diesel fuel and 5,733 gallons of motor gasoline. As disclosed in 4.3.3, Local Transportation Fuels, 2018 Los Angeles County retail sales of diesel fuel and gasoline were approximately 253 million gallons and 3,658 million gallons, respectively. Relative to existing petroleum-based transportation fuels consumption in Los Angeles County, construction would temporarily increase annual diesel fuel consumption within the County by approximately 0.17 percent and would temporarily increase annual gasoline fuel consumption by approximately 0.0002 percent.

All equipment and vehicles that would be used in construction activities would comply with applicable CARB regulations, the Pavley and Low Carbon Fuel Standards, the CAFE Standards. Construction would not place an undue burden on available petroleum-based fuel resources. Based on the CARB EMFAC2017 mobile source inventory, and given that the Proposed Project fleet will be fully ZEV by no later than 2030, the one-time expenditure of gasoline would be offset by operations within one year and the one-time expenditure of diesel fuel would be offset within five years of operation through transportation mode shift. The temporary additional transportation fuels consumption does not require additional capacity provided at the local or regional level.

Construction activities may include lighting for security and safety in construction zones. Lighting would be sparse and would not require additional capacity provided at the local or regional level.

The Proposed Project would adhere to the provisions of the Metro Green Construction Policy to control and minimize emissions to the maximum extent feasible. At least 50 percent of debris generated by demolition activities will be diverted from landfills, and all equipment and vehicles would be maintained in accordance with manufacturer specifications and would be subject to idling limits. Thus, based on the substantiation provided above, construction would not result in

wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

Less-Than-Significant Impact in the Near Term; No Impact in the Long Term. Operations would result in changes to energy resources consumption through direct electricity demand for ZEV bus propulsion and indirect, induced displacement of transportation fuels combustion from passenger vehicles on the regional roadway network. Operation of the BRT corridor would annually comprise 1,348,500 VRM and 267,180 deadhead miles, for a total of 1,615,680 bus miles. **Table 3.6-6** presents the direct annual energy consumption associated with operations. Using Metro’s electric bus fuel economy of 2.2 kWh per mile, annual electricity consumption would be approximately 3,554.5 MWh assuming that the BRT line is powered by electricity. If the BRT line employed vehicles powered by natural gas, Proposed Project operations would directly consume 1,090,480 Therms annually.

Table 3.6-6 – Project Direct Operational Energy Consumption

Route	Annual Vehicle Revenue Miles	Electric Bus Fuel Economy (kWh/mile)	Annual Electricity Consumption (MWh)	Metro CNG Bus Fuel Economy (Therms/VRM)	Annual Natural Gas Consumption (Therms)
Proposed Project	1,615,680	2.2	3,554.5	0.675	1,090,480
Metro Line 180	-303,124	2.2	-666.9	0.675	-204,589
Net Total	1,312,556	Electricity	2,887.6	Natural Gas	885,891

SOURCE: Terry A. Hayes Associates Inc., 2020.

Existing/Baseline Analysis

Metro system operations consumed approximately 341,592 MWh of electricity in 2017. If operational in 2017, the Existing plus Proposed Project electric vehicles would result in a net consumption of 2,887.6 MWh after accounting for reduced Metro Line 180 service, representing a 0.8 percent systemwide increase in electricity use. Electricity to charge buses would potentially be provided by LADWP, SCE, or PWP. Although the Proposed Project would traverse local utility jurisdictions of Burbank Water and Power, Glendale Water and Power, and PWP, it is assumed that the ZEV buses would primarily utilize Metro facilities within the City of Los Angeles for recharging and maintenance. Additional charging may be supplemented at Pasadena City College, which would be provided by PWP, or at the El Monte Maintenance and Storage Facility, which would be provided by SCE. The amount of charging that may occur at Pasadena City College or El Monte Maintenance and Storage Facility is unknown at this time, and the proportion of electricity supplied by PWP or SCE would not change the total expenditure of energy resources associated with Proposed Project operations. Energy consumption at station platforms would result in negligible increases to electricity service providers other than LADWP. Therefore, the discussion of local electricity resources focuses on LADWP and Metro resources, as well as regional transportation fuels consumption.

According to LADWP’s 2017 Power Strategic Long-Term Resource Plan, there is a net dependable generation capacity greater than 7,880 MW and the electrical infrastructure experienced a net record instantaneous peak demand of 6,500 MW in 2017. A 1.1 percent increase in Metro’s contribution to the peak demand on the LADWP infrastructure would have a negligible impact on available energy resources. Existing plus Project operations would also eliminate approximately 303,124 annual VRM from Metro Line 180, which would result in a reduction of 667 MWh of electrical demand associated with Metro system operations. The net annual electricity consumption of the Proposed Project would be approximately 2,887.6 MWh per year, which would not constitute a significant increase in demand.

If operational in 2017 and electric buses were not available, Existing plus Project operations would require approximately 1,090,480 Therms of natural gas annually, and produce a net increase in consumption of approximately 885,891 Therms after accounting for the reduced Metro Line 180 operations as shown in **Table 3.6-6**. In 2017, Metro’s directly operated bus fleet consumed approximately 38,562,151 Therms of natural gas. If operational in 2017, Existing plus Project operations would increase Metro bus fleet natural gas consumption by approximately 2.3 percent. The 2.3 percent increase in Metro natural gas consumption in 2017 would not place an undue burden on regional RNG resources. Therefore, the Proposed Project’s near-term energy impact would be less than significant.

In addition to direct energy consumption, implementation of the Proposed Project would reduce on-road regional VMT by displacing vehicle trips. **Table 3.6-7** presents the annual VMT and the corresponding gasoline and diesel fuel consumption in the operational year of 2017 with and without the Proposed Project. Existing plus Project operations would reduce regional transportation fuels consumption by approximately 1,059,489 gallons of gasoline and 145,106 gallons of diesel fuel annually based on fuel consumption of the regional fleet. Reducing on-road VMT is a key land use and transportation strategy for improving air quality, reducing GHG emissions, and decreasing reliance on petroleum-based transportation fuels for regional mobility. The results of the regional transportation modeling and operational fuels consumption analysis demonstrate that the Existing plus Project condition would not have a significant effect related to transportation fuels consumption.

Table 3.6-7 – Regional Vehicle Miles Traveled and Fuels Consumption (Year 2017)

Scenario	Annual VMT	Annual Gasoline Consumption (Gallons)	Annual Diesel Fuel Consumption (Gallons)
Existing (2017)	148,791,691,153	6,258,126,454	857,105,515
Existing + Project (2017)	148,766,500,989	6,257,066,965	856,960,409
Net Difference	-25,190,164	-1,059,489	-145,106

SOURCE: Terry A. Hayes Associates Inc., 2020.

Energy effects of the Proposed Project related to electricity, natural gas, and transportation fuels consumption are evaluated in total by converting to MJ. Electricity is converted to MJ using a factor of 3,600 MJ/MWh based on Metro’s energy conversion chart. For transportation fuels, the conversion factors to MJ include of 1.155 gasoline gallon equivalents (GGE) per diesel gallon and 131.2 MJ per GGE. **Table 3.6-8** presents a summary of total Proposed Project energy effects. If operational in 2017 and employing electric propulsion buses, the Proposed Project would reduce annual transportation fuels energy consumption by approximately 150,572,368 MJ. The use of natural gas buses for Existing plus Project operations would result in a net annual reduction of approximately 67,501,280 MJ.

Table 3.6-8 – Proposed Project Total Energy Consumption (Year 2017)

Source	Value	Conversion Factor	Annual Energy (MJ/year)
Electric Buses			
Bus Propulsion Electricity	2,887.6 MWh	3,600 MJ/MWh	10,395,360
Displaced Gasoline Fuel	-1,059,489 Gal	131.2 MJ/Gallon	-138,982,453
Displaced Diesel Fuel	-145,106 Gal	151.5 MJ/Gallon	-21,985,275
Total Energy			-150,572,368
Natural Gas Buses			
Bus Propulsion NG	885,891 Therms	105.5 MJ/Therm	93,466,448
Displaced Gasoline Fuel	-1,059,489 Gal	131.2 MJ/Gallon	-138,982,453
Displaced Diesel Fuel	-145,106 Gal	151.5 MJ/Gallon	-21,985,275
Total Energy			-67,501,280

SOURCE: Terry A. Hayes Associates Inc., 2020.

If operational in 2017, the Proposed Project would result in marginal increases to Metro system electricity or natural gas use, depending on the type of vehicle available, and would not create a disproportionate demand on existing energy resources. Implementation of the Proposed Project would result in less than significant short-term energy impacts.

Baseline Year 2042 Analysis

In the operational year 2042, all of Metro’s directly operated bus fleet will be fully converted to electric propulsion and there would no possibility for the employment of natural gas vehicles. Operation of the Proposed Project in 2042 would result in a net electricity demand of approximately 2,887.6 MWh per year. As of 2018, approximately 32 percent of LADWP’s electric generation profile came from renewable sources. LADWP is committed to achieving a doubling of energy efficiency in electricity generation between 2017 and 2027 and producing 65 percent of its electricity from renewable resources in 2036. The expenditure of natural resources to produce LADWP electricity will be cut in half by 2036, according to compliance with its own energy efficiency planning initiatives. Operation of the Proposed Project in 2042 would not result in a significant impact to electric utilities.

Under the 2042 Baseline condition, annual VMT would be approximately 177,619,580,813, resulting in the consumption of approximately 4,460,414,998 gallons of gasoline and 995,923,521 gallons of diesel fuel. Implementation of the Proposed Project would reduce annual VMT by over 30 million and would decrease regional gasoline and diesel fuels consumption by 755,140 gallons and 168,608 gallons, respectively. **Table 3.6-9** presents the annual change in regional on-road VMT and annual transportation fuels consumption resulting from implementation of the Proposed Project in 2042. The reduction of on-road VMT and regional dependence on petroleum-based transportation fuels is a primary focus of regional land use and transportation planning strategies.

Table 3.6-9 – Regional Vehicle Miles Traveled and Fuels Consumption (Year 2042)

Scenario	Annual VMT	Annual Gasoline Consumption (Gallons)	Annual Diesel Fuel Consumption (Gallons)
2042 Baseline	177,619,580,813	4,460,414,998	995,923,521
Proposed Project	177,589,509,510	4,459,659,858	995,754,913
Net Difference	-30,070,642	-755,140	-168,608

SOURCE: Terry A. Hayes Associates Inc., 2020.

Energy effects of the Proposed Project related to electricity, natural gas, and transportation fuels consumption are evaluated in total by converting to MJ. Electricity is converted to MJ using a factor of 3,600 MJ/MWh based on Metro’s energy conversion chart. For transportation fuels, the conversion factors to MJ include of 1.155 gasoline gallon equivalents (GGE) per diesel gallon and 131.2 MJ per GGE. **Table 3.6-10** presents a summary of total Proposed Project energy effects. In 2042, operation of the Proposed Project would reduce annual transportation fuels energy consumption by approximately 124,624,580 MJ. Accounting for the 10,395,360 MJ of electricity demand, the net annual energy effects of Proposed Project operations would be an equivalent reduction of approximately 114,229,190 MJ.

Table 3.6-10 – Proposed Project Total Energy Consumption (Year 2042)

Source	Value	Conversion Factor	Annual Energy (MJ/year)
Bus Propulsion Electricity	2,887.6 MWh	3,600 MJ/MWh	10,395,360
Displaced Gasoline Fuel	-755,140 Gallons	131.2 MJ/Gallon	-99,074,368
Displaced Diesel Fuel	-168,608 Gallons	151.5 MJ/Gallon	-25,550,182
Total Energy			-114,229,190

SOURCE: Terry A. Hayes Associates Inc., 2020.

The effects of Proposed Project operations on regional petroleum-based transportation would not constitute a wasteful or inefficient use of energy resources. On the contrary, implementation of the Proposed Project would improve regional transportation energy efficiency. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact 3.6-2) Would the Proposed Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Construction

Less-Than-Significant Impact. Energy resources consumption during construction would be predominantly combustion of petroleum-based transportation fuels. Construction would result in a one-time expenditure of approximately 1,095,225 gallons of diesel fuel and 14,331 gallons of gasoline. Average annual fuel consumption would be approximately 438,090 gallons of diesel fuel and 5,733 gallons of gasoline. Implementation of Metro's Green Construction Policy, the CALGreen Code, and Title 24 would ensure that construction would be consistent with State and local energy plans and policies to reduce energy consumption. The Green Construction Policy commits Metro contractors to using less-polluting construction equipment and vehicles and implementing best practices to reduce harmful diesel emissions. Best practices include Tier 4 emission standards for off-road diesel-powered construction equipment with greater than 50 horsepower and restricting idling to a maximum of five minutes. The CALGreen Code requires reduction, disposal, and recycling of at least 50 percent of nonhazardous construction materials and requires demolition debris to be recycled and/or salvaged. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

No Impact. The Proposed Project is a BRT system providing energy efficient mass transit to communities in need of enhanced accessibility options. The BRT system would reduce auto passenger vehicle trips and reduce reliance on petroleum-based transportation fuels. The benefits of the Proposed Project are consistent with the goals, objectives, and policies of SCAG and the Cities of Los Angeles, Burbank, Glendale, and Pasadena outlined in the local regulatory framework above. As the renewable energy portfolios of Metro and LADWP expand over time, natural resources consumption to provide the electricity required for BRT operations would become more energy efficient. The Proposed Project would not conflict with any adopted plan or regulation to enhance energy efficiency or reduce transportation fuels consumption and would support the initiatives of the Metro 2019 Climate Action and Adaptation Plan. In addition, the Proposed Project would not interfere with LADWP renewable portfolio targets and would not result in a wasteful or inefficient expenditure of LADWP resources. The Proposed Project would positively contribute to statewide, regional, and local efforts to create a more efficient and sustainable transportation infrastructure network. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

3.7. GEOLOGY AND SOILS

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to Geology and Soils and Paleontological Resources. Refer to the Geology and Soils Technical Report (Appendix H) and the Paleontological Resources Technical Report (Appendix O) for additional details related to applicable regulations and the existing setting.

3.7.1 Regulatory Framework

3.7.1.1 Federal Regulations

National Earthquake Hazards Reduction Program. The National Earthquake Hazards Reduction Program was established by the United States Congress when it passed the Earthquake Hazards Reduction Act of 1977. Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use and redevelopment controls, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs.

National Engineering Handbook. The National Engineering Handbook was prepared by the U.S. Department of Agriculture in 1983. Chapter 3 (Erosion) of Section 3 (Sedimentation) states that in planning programs, to reduce erosion and sediment yield, it is most important that the various types of erosion be thoroughly investigated as sources of sediment. Proper conservation practices and land stabilization measures can then be planned and applied.

Federal Soils Protection Act. The purpose of the Federal Soil Protection Act is to protect or restore the functions of the soil on a permanent sustainable basis. Protection and restoration activities include prevention of harmful soil changes, rehabilitation of the soil of contaminated sites and of water contaminated by such sites, and precautions against negative soil impacts. If impacts are made on the soil, disruptions of its natural functions and of its function as an archive of natural and cultural history should be avoided, as far as practicable. In addition, the requirements of the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) through the National Pollution Discharge Elimination System (NPDES) provide guidance for protection of geologic and soil resources.

U.S. Geological Survey (USGS) Landslide Hazards Program. The USGS created the Landslide Hazard Program in the mid-1970s. According to USGS, the primary objective of the Landslide Hazards Program is to reduce long-term losses from landslide hazards by improving understanding of the causes of ground failure and suggesting mitigation strategies. The federal government takes the lead role in funding and conducting this research, whereas the reduction of losses due to geologic hazards is primarily a state and local responsibility.

Clean Water Act (CWA). The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. USEPA has implemented pollution control programs such as setting wastewater standards for

industry. USEPA has also developed national water quality criteria recommendations for pollutants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. The NPDES permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

3.7.1.2 State Regulations

California Building Standards Code. The California Building Standards Code is a compilation of three types of building standards from three different origins: 1) Building standards that have been adopted by State agencies without change from building standards contained in national model codes; 2) Building standards that have been adopted and adapted from national model codes to address California's ever-changing conditions; and 3) Building standards, authorized by the California legislature, that constitute amendments not covered by national model codes, that have been created and adopted to address particular California concerns. All occupancies in California are subject to national model codes adopted into Title 24, and occupancies are further subject to amendments adopted by State agencies and ordinances implemented by local jurisdictions' governing bodies. The 2019 California Building Code, California Code of Regulations, Title 24 was published July 1, 2019, with an effective date of January 1, 2020.

California Government Code. The California Government Code requires that planning agencies of all cities and counties prepare comprehensive, long-term general plans for physical development within their jurisdictions. The plans should provide objectives and policies addressing public health and safety, including protection against the impacts of seismic ground motions, fault ruptures, and other geological and soils hazards. As stated in Section 6302 (g) (1) of the California Government Code, a general plan shall include:

“A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.”

Chapter 7.8 (Section 2690) of Division 2 of the PRC, referred to above, is known as the Seismic Hazards Mapping Act (SHMA), which is described below.

The California PRC (Chapter 1.7), Sections 5097 and 30244, includes requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on State

lands, and define the excavation, destruction, or removal of paleontological “sites” or “features” from public lands without the express permission of the jurisdictional agency as a misdemeanor. As used in Section 5097, “State lands” refers to lands owned by, or under the jurisdiction of, the state or any State agency. “Public lands” is defined as lands owned by, or under the jurisdiction of, the State, or any city, county, district, authority, or public corporation, or any agency thereof.

California Stormwater Best Management Practices Handbook. The California Stormwater Quality Association develops four Best Management Practices Handbooks (i.e., construction, industrial and commercial, municipal, and new development and redevelopment) generally matched to the three NPDES permit types (i.e., municipal separate storm sewer systems, construction activities, and industrial activities) offering stormwater runoff management support.

Southern California Catastrophic Earthquake Response Plan. The Southern California Catastrophic Earthquake Response Plan provides a coordinated State/federal response to a catastrophic earthquake in southern California. The mission of the unified effort of local, State, tribal, and federal emergency response is to support the needs of the impacted community by saving and sustaining human life, minimizing suffering, stabilizing and restoring critical infrastructure and setting conditions for recovery.

Seismic Hazards Mapping Act. The SHMA of 1990 directs the Department of Conservation to identify and map areas prone to earthquake hazards of liquefaction, earthquake-induced landslides and amplified ground shaking. The purpose of the SHMA is to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating these seismic hazards. The SHMA was passed by the legislature following the 1989 Loma Prieta earthquake. The SHMA requires the State Geologist to establish regulatory zones (Zones of Required Investigation) and to issue appropriate maps (Seismic Hazard Zone maps).

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act was enacted as the Special Studies Zones Act in 1971 to prevent land development and construction of structures for human occupancy directly across the trace of active faults. The law required the State Geologist to delineate approximately one quarter mile-wide zones along surface traces of active faults. The act defines an active fault as one that has ruptured the ground surface within the past 11,000 years or Holocene period. Prior to approving construction of structures for human occupancy, permit authorities must require a project’s applicant to submit a fault investigation report for review and approval by the local jurisdiction. Although the Alquist-Priolo Act does not regulate transit or transportation projects, it provides relevant information about areas that would be susceptible to ground rupture from an earthquake.

National Hazards Disclosure Act. The Natural Hazards Disclosure Act came into effect on June 1, 1998 and requires sellers and their listing agents to provide prospective buyers with a Natural Hazards Disclosure statement that designates whether the home they are selling is located in a hazard area. Hazard areas include flood, fire, earthquake fault, and seismic hazard zones.

3.7.1.3 Local Regulations

The California Government Code requires that planning agencies of all cities and counties prepare comprehensive, long-term general plans for the physical development within their jurisdictions. The plans should provide objectives and policies addressing public health and safety, including protection against the impacts of seismic ground motions, fault ruptures, and other geological and soils hazards. The legislative bodies of all California cities and counties must adopt general plans that include the following elements related to geology, soils, seismicity, and paleontological resources:

- Conservation Element, which addresses the following topics relevant to soils and paleontological resources:
 - Reclamation of land and waters;
 - Soil erosion prevention, control, and correction;
 - Location, quantity and quality of rock, sand, and gravel resources; and
 - Preservation of Paleontological resources.
- Safety Element, which addresses the protection of the community from any unreasonable risks associated with the effects of the following seismic and geologic hazards and which is required to include mapping of such known hazards:
 - Seismically-induced surface rupture;
 - Ground shaking;
 - Ground failure;
 - Slope instability leading to mudslides and landslides;
 - Subsidence due to fluid or gas withdrawal;
 - Liquefaction;
 - Other seismic hazards identified pursuant to California PRC Chapter 7.8 (commencing with Section 2690) of Division 2; and
 - Other geologic hazards known to the legislative body.

City of Los Angeles

The City of Los Angeles General Plan (Chapter III of the Safety Element) describes goals, objectives, policies and programs that are broadly stated to reflect the comprehensive scope of the Emergency Operations Organization.¹ All City of Los Angeles emergency preparedness, response and recovery programs are integrated into Emergency Operations Organization operations and are reviewed and revised continuously.

The Conservation Element of the General Plan identifies paleontological resources in the City of Los Angeles and contains resource management objectives and policies. The objective is to protect the City's archaeological and paleontological resources for historical, cultural, research and/or educational purposes. The primary policy is to continue to identify and protect significant

¹ City of Los Angeles, *Safety Element of the Los Angeles General Plan*, 1996.

archaeological and paleontological sites and/or resources known to exist or that are identified during land development, demolition or property modification activities.

Chapter IX (Building Regulations) of the City of Los Angeles Municipal Code of 2020 was prepared to safeguard life, limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures erected or to be erected within the City, and by regulating certain grading operations within the City. Section 91.1804 (Excavation, Grading, and Fill) adopts Section 1804 of the California Building Code.

City of Burbank

The goals and policies contained in the Safety Element (Chapter 7) of the Burbank 2035 General Plan of 2013 provide a framework for keeping residents, businesses, and visitors safe from natural and human hazards.² They also provide increased safety for the emergency response personnel.

The Open Space and Conservation Element of the General Plan contains resource management goals and policies related to paleontological resources. The goal is to ensure open space areas and mountain ranges are protected spaces supporting important habitat, recreation, and resource conservation. The primary policy is to recognize and maintain cultural, historical, archaeological, and paleontological structures and sites essential for community life and identity.

Article 1 (Grading, Fills and Excavations) of Chapter 7 (Excavations) of the City of Burbank Municipal Code of 2007 was prepared to safeguard life, health, property and the public welfare by establishing minimum requirements for grading, fills and excavations and the prevention of environmental and other damage, and to prescribe procedures by which these requirements may be enforced.

City of Glendale

The goals and policies contained in Safety Element of the City of Glendale General Plan of 2003 provides an assessment of the natural and manmade hazards in the City, including, but not limited to, earthquakes, landslides, fire, flood, dam, inundation, hazardous materials incidents, terrorism, and vector control and provides a framework by which safety considerations are introduced into the land use planning process and the redevelopment process.³ Section 3.1 of Chapter 3 covers seismic and geologic hazards.

The City of Glendale General Plan does not contain any goals, objectives, or policies pertaining to paleontological resources.

² City of Burbank, *Burbank 2035 General Plan*, February 19, 2013.

³ City of Glendale, *Safety Element of the Glendale General Plan*, 2003.

Chapter 15 (Grading in Hillside Areas and Excavation Blasting) of the City of Glendale Municipal Code was prepared to safeguard life, health, property, public welfare and preservation of the environment by establishing minimum requirements for regulating hillside grading and excavations in addition to the grading requirements in Appendix Chapter 33 of the Glendale Building and Safety Code which adopts the latest version of the California Building Code.

City of Pasadena

Section 5 (Implementation) of the Safety Element of the City of Pasadena General Plan of 2002 addresses a variety of natural and man-made hazards and provides goals and policies aimed at reducing the risk associated with these hazards.⁴

The City of Pasadena General Plan does not contain any goals, objectives, or policies pertaining to paleontological resources.

Chapter 14.05 (Excavation and Grading in Hillside Areas) of the City of Pasadena Municipal Code was prepared to regulate excavation and grading within hillside districts and excavation and grading on a slope any portion of which is greater than 15 percent in order to: a) Safeguard life, limb, property and public welfare; b) Protect streams, lakes, reservoirs, and any other water bodies from pollution with chemicals, fuels, lubricants or any other harmful materials associated with construction or grading activities; c) Avoid pollution of the water bodies described above with nutrients, sediment materials, or other earthen or organic materials generated on or caused by surface runoff on or across the permit area; d) Preserve the contours of the natural landscape and land forms; and e) Prevent erosion and control sedimentation.

3.7.2. Existing Setting

The Proposed Project topography is relatively flat with elevated areas along the southern San Rafael Hills. The eastern third of the Proposed Project route lays on an alluvial plain (alluvium: a deposit of clay, silt, sand, and gravel left by a flowing stream in a valley or delta) of the San Fernando Valley transitioning to alluvial fans emanating from creeks and canyons draining the south-west aspect of the Verdugo Mountains and Verdugo Canyon. The Proposed Project section with the most topographic relief lays along the southern San Rafael Hills before descending onto the alluvial plain of Pasadena. Generally, the western third of the Proposed Project lays at around 600 feet above mean sea level, gradually increasing to 800 feet above mean sea level at the Brand Boulevard/Broadway intersection and elevation 1,000 feet above mean sea level at the Brand Boulevard/SR-134 interchange, and descends to elevation 800 feet above mean sea level onto the alluvial plain of Pasadena.

⁴ City of Pasadena, *Safety Element of the Pasadena General Plan*, 2002.

Geology and Soils

The Project Area is located within the Transverse Ranges Geomorphic Province at its southern boundary with the Peninsular Ranges Geomorphic Province. A geomorphic province is a geographical area of distinct landscape character with related geophysical features, including relief, landforms, orientations of valleys and mountains, type of vegetation, and other geomorphic attributes. Geologic mapping indicates that the Project area is underlain by Holocene-age younger sedimentary deposits (Qa, Qf, Qg), Pleistocene-age older sedimentary deposits (Qoa, Qof), Miocene-age Topanga Formation (Ttsc, Ttqdb), and Cretaceous-age igneous rocks (gr, qpd). Additionally, mapped within the half mile buffer of the Project Area are recent artificial fill (af) and Tertiary-age dikes (Tb). Refer to the Geology and Soils Technical Report (Appendix H) for additional details and maps related to soil details and location maps.

Subsurface Soil Conditions

Subsurface soil conditions were evaluated based on data from previous explorations performed in the Project Area. Using the Unified Soil Classification System, previous explorations encountered mostly coarse-grained cohesionless soils (sand, silty sand, gravel) with cobbles and boulders. Interbedded fine-grained cohesionless and cohesive soils (sandy silt, sandy silty clay, clay) are also present. Conglomeratic sandstone of the Topanga Group conglomerate (Ttcg) was encountered in the Eagle Rock Valley (i.e., intersections of Colorado Boulevard and Figueroa Street with SR-134). Granitic rock (Mzbhd) was encountered at shallow depths at the intersection of Arroyo Seco and the SR-134.

Faulting

Special Publication 42 defines a fault as a shear or zone of closely associated shears across which earth materials on one side have been displaced with respect to those on the other side because of tectonic forces.⁵ A fault is distinguished from those fractures or shears caused by landsliding or other gravity-driven surficial failures. The Proposed Project is located in a seismically active region containing several historic (<200 years), numerous Holocene (<11,700 years), and potentially active (<1.6 million years) faults.

The three active faults in the Project Area are the Verdugo Fault, the Raymond Fault, and the Hollywood Fault. The Verdugo Fault intersects and parallels the Proposed Project along the SR-134 from mid of Route Options E3 to its transition into the Eagle Rock and San Rafael Faults. The Raymond Fault, along with the Hollywood Fault described next, lies within the Santa Monica-Hollywood-Raymond Fault system of oblique, reverse and left-lateral faults. The fault does not intersect the Proposed Project, running roughly parallel and approximately 1.4 to 1.7 miles to the south. The Hollywood Fault trends east-northeast for about 10.5 miles. The fault does not intersect the Proposed Project, running roughly parallel and approximately 1.8 to 3.5 miles to the south. Refer to the Geology and Soils Technical Report (Appendix H) for additional details and maps related to faults.

⁵ CGS, 2018.

Seismic Hazards

Primary seismic hazards include ground shaking and surface fault rupture. Secondary seismic effects resulting from soil responses to ground shaking includes liquefaction. These hazards may cause deformation of man-made structures.

Earthquake-induced ground-shaking is a seismic hazard that can result in liquefaction, lurching and lateral spreading of soils, and landslide of soil and rock as well as dynamic oscillation of man-made structures. Differential settlements can occur at the ground surface due to subsurface liquefaction and densification caused by strong ground-shaking.

Surface rupture occurs when the ground surface is broken due to fault movement during an earthquake. The location of surface rupture generally can be assumed to be along an active major fault trace. Refer to the Geology and Soils Technical Report (Appendix H) for additional details and maps related to Earthquake Fault Zones.

Liquefaction

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary but essentially total loss of shear strength under the reversing, cyclic shear stresses associated with earthquake shaking. Submerged cohesionless sands and silts of low relative density are the type of soils which usually are susceptible to liquefaction. Clays are generally not susceptible to liquefaction. According to the Van Nuys(a), Burbank(b), Pasadena(c), and Mount Wilson(d) 7.5-minute Quadrangle Seismic Hazard Zone maps (CGS, 2005a, 2006b, 2006c, and 2006d), with the exception of Route Options E1, E2, H1, H2, and H3, most of the Project corridor is located within or adjacent to liquefaction-prone designated areas.

Lateral Spreading

One of the consequences of seismic liquefaction in sloping ground areas is lateral spreading, which refers to the translation of ground laterally after the loss of support due to liquefaction. For this to occur, the liquefied area must be relatively near a free face, a vertical, or sloping face such as a road cut or stream/riverbank. Considering that the liquefaction potential hazard for the Project Area is low due to the absence of groundwater, and if liquefaction occurred, that the potential liquefied area must be relatively near to a free face, a vertical, or sloping face such as a road cut or stream/riverbank, the potential for lateral spreading is low along the Project corridor.

Seismically-Induced Slope Failure

Slope failure can occur when the force of gravity overcomes the strength of the soil or rock within a hillside or built embankment. The primary factors influencing the stability of a slope are the nature of the underlying soil or bedrock, slope geometry (height and steepness), rainfall, and groundwater. Excavation or erosion of material at the toe of a slope can destabilize the slope above it. Slope failure can be initiated or exacerbated by seismic movements. Earthquake-induced ground-shaking can cause activation of new or previously existing landslides and other slope instabilities, especially during periods of high groundwater. According to the Van Nuys,

Burbank, Pasadena, and Mount Wilson 7.5-minute Quadrangle Seismic Hazard Zone maps prepared by California Geological Survey (CGS), small areas of the Project corridor east of SR-2 are located within earthquake-induced landslide areas. Most specifically along Route Options F1/F2, F3, G1, and G2.

Groundwater

Groundwater depth in the Project Area varies between 10 and 30 feet below ground surface (bgs) along Route Options A1, A2, B, C, and a portion of D; between 40 and 80 feet bgs at the easternmost portion of Route Option D and along Route Options E1, E2, and E3; about 20 feet bgs along Route Options F1/F2 and F3; and about 100 feet bgs along Route Options G1, G2, H1, H2, and H3. Groundwater is not expected within the upper 50 feet below ground surface in the Project Area, with localized exceptions within the Eagle Rock Valley (i.e., intersection of Figueroa Street and SR-134) along Route Options F1, F2, and F3. There is potential for perched water can be encountered at discrete locations along the Project corridor. Also, groundwater depths may vary due to irrigation, season, and anthropogenic and natural influences.

Expansive Soils

The shrink-swell potential is a reflection of the ability of some soils with high clay content to change in volume with a change in moisture content. Shrink-swell potential poses a less significant hazard where soil moisture is relatively constant (either always wet or always dry). Shrink-swell potential poses a significant hazard to sites, which undergo seasonal variation in soil moisture content, such as on hillsides or flatlands with a seasonally fluctuating water table. Most of the Proposed Project lies within low expansion prone areas. Localized areas of the Proposed Project south of the San Rafael Hills and within the alluvial plain of Pasadena are located within low to moderate expansion prone areas.

Collapsible Soils

Collapsible soils are soils that undergo volume reduction or settlement upon the addition of water, which weakens or destroys soil particle bonds of loosely packed structure, reducing the bearing capacity of the soil. Other mechanisms for soil collapse include the sudden closure of voids in a soil, whereby the sudden decrease in volume results in loss of the soil's internal structure, causing the soil to collapse. Specific soil types, such as loess and other fine-grained aeolian soils, are most susceptible to collapse, although certain coarser-grained, rapidly deposited alluvial soils can also be susceptible. The Project Area includes coarser-grained and rapidly deposited alluvial soils.

Erodible Soils

The National Engineering Handbook defines erosion as a series of complex and interrelated natural processes that loosen or dissolve and move earth or rock material. The land surface is worn away through the detachment and transport of soil and rock materials by moving water, wind, or other geologic agents. Erosion can be divided into two categories according to the conditions under which it occurs. The first category is normal (geologic) erosion, which has been

occurring at variable rates, depending on climatic and terrestrial conditions, since the first solid materials formed on earth. The second category is accelerated erosion caused by the activities of man. The Proposed Project is underlain by mostly coarse-grained cohesionless soils (sand, silty sand, gravel) with cobbles and boulders, which can be susceptible to erosion. However, the majority of the Proposed Project is to be constructed within urbanized areas covered by impervious surfaces.

Consolidation Settlement

Consolidation settlement occurs when a fine-grained soil (silt or clay) is loaded with the weight of new fill or of improvements such as structures or fills. New loads cause increases in soil pore water pressure. As the excess pore pressures dissipate, the soil volume decreases, and water is expelled slowly. Settlement rate depends on the soil permeability and layer thickness. Thick layers of clay with low permeability can take years for pore pressures to fully dissipate. There is no evidence of thick clay layers in the Project Area. It is expected that most of the sporadic cohesive soil lenses underlying the Project Area be normally consolidated under the load of the structures and buildings.

Shallow Landslides

Shallow landslides are a common and widespread phenomenon during periods of intense winter rainfall in Southern California. Debris flows can occur as isolated flows, in small numbers or can number in the tens of thousands during a single rainfall event. Areas susceptible to shallow landslides and debris flows include the southern San Rafael Hills in Route Options E, F1, F2, G1, and G2.

Natural Slope Instability

Landslides occur when shear stress in a soil or rock mass exceeds their shear strength. Landslide movements often result in significant deformation of ground surfaces, producing open cracks with vertical and horizontal displacements measured in a few inches to multiple feet. An analysis of one-meter resolution digital elevation data obtained from the USGS indicates that the majority of the Project Area lies on areas with a slope of less than one degree. The SR-134 runs adjacent to slopes varying from about 25 to 40 degrees.

Land Subsidence

Land subsidence is a form of ground settlement that usually results from change in fluid content within soil or rock. The volume change can result from localized dewatering of peat, organic soils, or soft silts and clay. This type of ground settlement is often associated with construction activities when groundwater is lowered to allow construction below the groundwater table. The other form of land subsidence is from a regional withdrawal of groundwater, petroleum, or geothermal resources. Regional subsidence can also result from vertical fault movement. Although the mechanism is different, another cause of land subsidence is the ongoing decomposition of organic-rich soils. There is little susceptibility of large-scale land subsidence in the Project Area. There is, however, a moderate susceptibility of small, localized areas of subsidence, or settlement, from construction-related dewatering of excavations.

3.7.3 Significance Thresholds and Methodology

3.7.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to Geology and Soils if it would:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:
 - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to division of Mines and Geology Special Publication 42.
 - ii. Strong seismic ground shaking.
 - iii. Seismic-related ground failure, including liquefaction.
 - iv. Landslides.
- b) Result in substantial soil erosion or the loss of topsoil;
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potential result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- d) Be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code (UBC, 1994), creating substantial direct or indirect risks to life or property;
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water; and/or
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.7.3.2 Methodology

The methodology used to evaluate the potential environmental impacts associated with geology, soils, and seismicity included a review of published maps, professional publications, and reports pertaining to the geology, soils, and seismicity of the Project Area. The analysis focuses on the potential of the Proposed Project to increase the risk of personal injury, loss of life, and damage to property as a result of existing geologic conditions in the Project Area. The information was researched from State and federal agencies as well as information compiled and evaluated by the Cities of Los Angeles, Burbank, Glendale, and Pasadena.

The methodology used to evaluate the potential environmental impacts associated with paleontological resources included an analysis of existing data consisting of a geologic map review, a review of literature and online databases, and a record search conducted at the Natural History Museum of Los Angeles County. The literature review included published and unpublished scientific papers and database searches.

3.7.4 Impact Analysis

This section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation (if applicable). The potential for the Proposed Project to result in an impact to Geology and Soils is independent of the specific alignment and components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact 3.7-1) Would the Proposed Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to division of Mines and Geology Special Publication 42.
- ii. Strong seismic ground shaking?
- iii. Seismic-related ground failure, including liquefaction?
- iv. Landslides?

Construction

No Impact. The impact analysis involves assessing if the location of the Proposed Project would result in impacts related to seismic activities, including landslides. Other than potential risks of landslides, the potential for an impact is not related to construction activities. The Proposed Project with route options crosses earthquake-induced landslide areas in Eagle Rock and western Pasadena. Construction activities, including staging, would not involve substantial earthmoving along slopes, such that existing landslide risks would be worsened or exacerbated. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

Surface Fault Rupture

No Impact. It is possible for surface lurching as a result of earthquakes generated from nearby faults to occur in the Project Area. However, the Proposed Project is not intersected by designated Alquist-Priolo Earthquake Fault Zones and surface rupture is not expected to occur across local roadways. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Strong Seismic Ground Shaking

Less-Than-Significant Impact with Mitigation. The Proposed Project is located within the seismically active Southern California region. Hence, ground shaking as a result of earthquake generated from nearby faults is anticipated. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact related to operational activities. Implementation of

Mitigation Measure **GEO-1** would reduce this impact to less than significant by ensuring that the latest federal, state, local, and Metro seismic and environmental requirements are implemented for the Proposed Project. As required by Mitigation Measure **GEO-1**, the final design of the Project would comply with the latest versions of local and State building codes and regulations in order to construct seismically-resistant structures that help counteract the adverse effects of ground shaking and reduce this potential impact to less than significant.

Liquefaction

Less-Than-Significant Impact with Mitigation. Liquefaction is unlikely to happen in the Project Area due to the deep groundwater (50 feet bgs and deeper) and may only occur at isolated areas (i.e., within the Eagle Rock Valley, along the Project Route and route options). However, seismically-induced settlements (dry settlements) are a potential hazard due to mostly granular soil deposits, deep groundwater, and expected high peak ground acceleration in the Project Area. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact related to operational activities. Implementation of Mitigation Measure **GEO-1** would reduce this impact to less than significant by ensuring that seismic risk solutions shall be incorporated into final design (e.g., deep foundations, ground improvement, remove and replace, among others) for those areas where liquefaction potential may be experienced. This measure would also ensure the Project is designed to satisfy the most recent latest federal, state, local and Metro seismic environmental requirements.

Seismically-Induced Slope Failure and Landslides

Less-Than-Significant Impact with Mitigation. The Proposed Project with route options crosses earthquake-induced landslide areas in Eagle Rock and western Pasadena. Slope failure could affect surface streets associated with the Proposed Project. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact related to operational activities. Implementation of Mitigation Measure **GEO-1** would reduce this impact to less than significant by requiring, during final design, stability analyses of slopes located within earthquake-induced landslides areas and requiring appropriate slope stabilization measures (e.g., retaining walls, slopes with shotcrete faces, slopes re-grading, among others) and ensuring the Project is designed to satisfy the most recent latest federal, state, local and Metro environmental requirements.

Mitigation Measures

Ground Shaking, Liquefaction, and Seismically-Induced Slope Failure

GEO-1: The Proposed Project shall be designed based on the latest versions of local and State building codes and regulations in order to construct seismically-resistant structures that help counteract the adverse effects of ground shaking. During final design, site-specific geotechnical investigations shall be performed at the sites where structures are proposed within liquefaction-prone designated areas. The investigations shall include exploratory soil borings with groundwater measurements. The exploratory soil borings shall be advanced, as a minimum, to

the depths required by local and State jurisdictions to conduct liquefaction analyses. Similarly, the investigations shall include earthquake-induced settlement analyses of the dry substrata (i.e., above the groundwater table). The investigations shall also include seismic risk solutions to be incorporated into final design (e.g., deep foundations, ground improvement, remove and replace, among others) for those areas where liquefaction potential may be experienced. The investigation shall include stability analyses of slopes located within earthquake-induced landslides areas and provide appropriate slope stabilization measures (e.g., retaining walls, slopes with shotcrete faces, slopes re-grading, among others). The geotechnical investigations and design solutions shall follow the "Guidelines for Evaluating and Mitigating Seismic Hazards in California" Special Publication 117A of the California Geologic Service, as well as Metro's Design Criteria and the latest federal and State seismic and environmental requirements.

Surface Fault Rupture

No mitigation measures are required.

Significance of Impacts after Mitigation

Mitigation Measure **GEO-1** would ensure that the Proposed Project is designed to limit potential impacts related to ground shaking, liquefaction, lateral spreading, and seismically-induced slope failure. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact 3.7-2) Would the Proposed Project result in substantial soil erosion or the loss of topsoil?

Construction

No Impact. The majority of the Proposed Project would be constructed within urbanized areas covered by impervious surfaces. The BRT would operate on existing paved roadways and construction activities, including staging, would involve minimal work around exposed soils. The Proposed Project would be designed based on the latest versions of local and State building codes and regulations in order to counteract erosion. During construction, earthwork activities for street lanes, stations, and utility trenches would be conducted based on local and State regulations and appropriate permits, and during the period of the year designated for those activities to be undertaken. There is no potential for the surface-running BRT to result in substantial soil erosion or the loss of topsoil. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

No Impact. The surface-running BRT would operate on existing roadways. There is no potential for operations to result in substantial soil erosion or loss of topsoil. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact 3.7-3) Would the Proposed Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potential result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Construction

No Impact. The impact evaluation involves assessing if unstable soils would impact the Proposed Project. The potential for impact is related to permanent conditions and is considered in the operational analysis. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

Landslide

Less-Than-Significant Impact with Mitigation. There is potential for landslides and debris flows in the Project Area. Areas most susceptible to shallow landslides and debris flows include the southern San Rafael Hills in the eastern Glendale, Eagle Rock, and western Pasadena portions of the Project Area. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact on shallow landslides related to operational activities. Implementation of Mitigation Measure **GEO-1** would reduce this impact to less than significant by requiring final design to include appropriate slope stabilization measures (e.g., retaining walls, slopes with shotcrete faces, slopes re-grading, among others) and by ensuring that the Proposed Project is designed in a manner that meets all federal, state, local, and Metro seismic and environmental requirements. .

Lateral Spreading

Less-Than-Significant Impact. The Proposed Project is not expected to experience lateral spreading since liquefaction is not likely to occur in the Project Area. Furthermore, the liquefied area must be relatively near a free face, a vertical or sloping face such as a road cut or stream/riverbank, which is unlikely to occur (or may be limited to very specific areas) in the Project Area. Therefore, the Proposed Project would result in a less-than-significant impact on lateral spreading related to operational activities.

Subsidence

No Impact. The Proposed Project is not located within the areas of subsidence. Therefore, the Proposed Project would result in a less-than-significant impact on land subsidence related to operational activities.

Liquefaction

Less-Than-Significant Impact. The potential for liquefaction is related to water-saturated soils. Deep groundwater is expected in the Project Area (50 feet bgs and deeper) with isolated cases of shallower groundwater depth (i.e., between 24 and 42 feet bgs) within the Eagle Rock Valley. Shallow groundwater (i.e., less than 10 feet bgs) is not expected in the Project Area. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Collapse

Less-Than-Significant Impact. The Proposed Project would be located on existing roadways that do not have a history of collapsible soils. The relatively deep groundwater conditions substantially reduce the potential for collapse. There is low potential for the Proposed Project to encounter collapsible soil. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Mitigation Measures

Landslides

Refer to Mitigation Measure **GEO-1**.

Lateral Spreading, Subsidence, Liquefaction, and Collapse

No mitigation measures are required.

Significance of Impacts after Mitigation

Mitigation Measure **GEO-1** would ensure that the Proposed Project would be designed to limit potential impacts related to landslides. Therefore, the Proposed Project would result in a less-than-significant impact with implementation of Mitigation Measure **GEO-1**.

Impact 3.7-4) Would the Proposed Project be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Construction

No Impact. The Impact Statement involves assessing the potential risk to life or property related to operating the Proposed Project on expansive soils. The potential for an impact is not related to construction activities. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

No Impact. The surface-running BRT would operate on existing roadways. Soils in the Project Area are mostly granular in nature and lay within “low expansion” and “low to moderate expansion” prone areas. The roadway network in the Project Area is not prone to expansive soil. Field research indicates that the existing roadway network to be utilized by the Proposed Project is not affected by expansive soils. In addition, the final design would be performed in accordance with Metro’s Design Criteria, the latest federal and state seismic and environmental requirements, and State and local building codes. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact 3.7-5) Would the Proposed Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. Neither construction nor operation of the BRT would require use of a septic tank or alternative wastewater disposal systems. Therefore, the Proposed Project would not result in a significant impact related to construction or operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact 3.7-6) Would the Proposed Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Construction

Less-Than-Significant Impact. One paleontological locality was recorded from Pleistocene-age deposits within the western portion of the Project Area from a depth of 60 to 80 feet and additional localities were recorded from the Pleistocene-age deposits and Miocene-age Topanga Formation. Furthermore, it is possible that buried paleontological resources or buried unique geological features are present within native, undisturbed sediments of high paleontological potential Pleistocene-age older sedimentary deposits (Qoa, Qof) or Miocene-age Topanga Formation (Ttsc, Ttqdb) in the subsurface of the Project Area. However, the excavations would be within previously disturbed sediments in the upper three feet of the site. These shallow excavations would not result in impacts to significant paleontological resources.

Therefore, there is a low likelihood of uncovering significant paleontological or unique geologic resources during tree removal. In the unanticipated event that fossil resources are discovered, they should be protected from further excavation, destruction, or removal as required by the California PRC. Therefore, construction of the Proposed Project would result in a less-than-significant impact to paleontological or unique geologic features.

Operations

No Impact. The surface-running BRT would operate on existing roadways. There is no potential for operations to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

3.8 GREENHOUSE GAS EMISSIONS

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to greenhouse gas (GHG) emissions. Refer to the Greenhouse Gas Emissions Technical Report (Appendix I) for additional details related to applicable regulations and the existing setting.

3.8.1 Regulatory Framework

3.8.1.1 Federal Regulations

Clean Air Act (CAA). Congress passed CAA in 1970 (42 USC Sections 7401 et seq.). The CAA gives the USEPA broad responsibility for regulating motor vehicle emissions from many sources of air pollution from mobile to stationary sources. Pursuant to the CAA, the USEPA is authorized to regulate air emissions from mobile sources like heavy-duty trucks, agricultural and construction equipment, locomotives, lawn and garden equipment, and marine engines; stationary sources such as power plants, industrial plants, and other facilities are also within USEPA jurisdiction.

The *U.S. Supreme Court ruled in Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that GHGs contribute to global climate change are pollutants under the federal CAA, which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. The U.S. Supreme Court did not mandate that the USEPA enact regulations to reduce global warming emissions. Instead, the Court found that the USEPA could avoid taking action if it found that global warming emissions do not contribute to climate change or if it offered a “reasonable explanation” for not determining that such emissions contribute to climate change.

U.S. Environmental Protection Agency Endangerment Findings. On April 17, 2009, the USEPA issued a proposed finding that GHG emissions contribute to air pollution that may endanger public health or welfare. The USEPA stated that high atmospheric levels of GHG emissions, “are the unambiguous result of human emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes.” USEPA further found that, “atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act.”¹

Heavy-Duty Vehicle Program. The USEPA and NHTSA adopted regulations governing Medium- and Heavy-Duty Greenhouse Gas Emissions and Fuel Efficiency (Title 40, Code of Federal Regulations, Chapter I) on September 15, 2011 (most recently amended on August 16, 2013) to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014 through model year 2018. On February 18, 2014, the

¹ USEPA, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Final Rule*.

President directed agencies to set the next round of fuel efficiency standards for medium- and heavy-duty vehicles (beyond model year 2018) to build on the prior standards to further reduce fuel consumption through the application of advanced cost-effective technologies and continue to improve the efficiency of moving goods across the United States. In October 2016, USEPA and NHTSA adopted Phase 2 GHG and fuel efficiency standards for medium- and heavy-duty engines and vehicles.

Corporate Average Fuel Economy (CAFE) Standards. In 2010, President Obama issued a memorandum directing the USEPA and other federal agencies to establish standards regarding fuel efficiency and GHG emissions reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG emissions and fuel economy standards for model years 2017 to 2025 light-duty vehicles. On August 2, 2018, NHTSA announced plans to revise adopted standards for model years 2022 to 2025 in a future rulemaking. In 2011 the USEPA and the NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 to 2018. Building on the success of the first phase of standards, in August 2016, the USEPA and the NHTSA finalized Phase 2 standards for medium and heavy-duty vehicles through model year 2027 to improve fuel efficiency and cut carbon pollution.

Safe Affordable Fuel-Efficient (SAFE) Vehicles. On September 19, 2019, the NHTSA and USEPA issued a final action entitled the “One National Program Rules” to provide nationwide uniform fuel economy and GHG emission standards for automobile and light duty trucks. This action finalizes the SAFE Vehicles Rule and clarifies that federal law preempts state and local tailpipe GHG emissions standards as well as zero emission vehicle (ZEV) mandates. The SAFE Vehicle Rule also withdraws the CAA waiver granted to the State of California that allowed the state to enforce its own Low Emission Vehicle program.² On March 31, 2020, Part II of the SAFE Vehicles was issued and sets carbon dioxide emissions and CAFE standards for passenger vehicles and light duty trucks, covering model years 2021 to 2026.³

3.8.1.2 State Regulations

Executive Order (EO) S-3-05. On June 1, 2005, Governor Arnold Schwarzenegger issued EO S-3-05 that set goals to reduce GHG emissions to 2000 levels by 2010, reduce GHG emissions to 1990 levels by 2020, and reduce GHG emissions to 80 percent below 1990 levels by 2050.

² U.S. Department of Transportation and USEPA. 2019. *One National Program Rule on Federal Preemption of State Fuel Economy Standards*, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-one-national-program-federal-preemption-state#:~:text=In%20this%20action%20NHTSA%20is,and%20local%20programs%20are%20preempted.>

³ U.S. Department of Transportation. 2020. *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks*, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_preamble_web_version_200330.pdf.

Executive Order S-1-07. On January 18, 2007, Governor Arnold Schwarzenegger issued EO S-1-07 mandating that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and that a Low Carbon Fuel Standard for transportation fuels be established in California.

Executive Order B-30-15. On April 29, 2015, Governor Jerry Brown issued EO B-30-15, which established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 (subsequently codified in SB 32), ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets, and directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e.)

Assembly Bill 32, the Global Warming Solutions Act of 2006. On September 27, 2006, Governor Arnold Schwarzenegger signed into law the Global Warming Solutions Act of 2006 (AB 32). AB 32 represents the first enforceable statewide program to limit GHG emissions from all major sectors with penalties for noncompliance. AB 32 requires the State of California to reduce its emissions to 1990 levels by 2020. The Act establishes key deadlines for certain actions the state must take in order to achieve the reduction target. AB 32 also required the CARB to develop a Scoping Plan to detail California's approach to reduce GHG emissions in order to meet this goal. AB 32 codified EO S-3-05 into law.

Assembly Bill 1439 (Pavley Regulations). In September 2002, AB 1493 (Chapter 200, Statutes of 2002) (referred to as Pavley I) was enacted, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "Low Emission Vehicle (LEV) III GHG" will cover 2017 to 2025 (13 California Code Regulations Section 1900 *et seq.*).

Senate Bill 97. In October 2007, Governor Arnold Schwarzenegger signed SB 97, which amended CEQA to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. SB 97 directs the Governor's Office of Planning and Research (OPR) to prepare CEQA Guidelines for the mitigation and effects of GHG emissions.

Senate Bill 375, Sustainable Communities and Climate Protection Act of 2008. SB 375 was adopted in 2008 and seeks to coordinate land use planning, house planning, regional transportation planning, and GHG reductions. By coordinating these efforts, vehicle congestion and travel can be reduced resulting in a corresponding reduction in emissions. SB 375 directed CARB to set regional targets to reduce emissions; regional transportation plans are required to identify how they will meet these targets.

Chapter 585, 2009 California Transportation Plan. This requires the long-range transportation plan to help meet California's climate change goals under AB 32.

Senate Bill 32. On September 8, 2016, Governor Jerry Brown signed into law SB 32, which adds Section 38566 to the Health and Safety Code and requires a commitment to reducing statewide GHG emissions by 2020 to 1990 levels and by 2030 to 40 percent less than 1990 levels. SB 32 codified EO B-30-15 into law.

Climate Change Scoping Plan. CARB is responsible for implementing the state's goals outlined in AB 32 and SB 32. In December 2008, CARB adopted the Climate Change Scoping Plan indicating how emission reductions will be achieved from significant sources of GHGs via regulations, market mechanisms, and other actions. CARB's initial Scoping Plans contained strategies to reduce the projected 2020 Business-as-Usual emissions to 1990 levels, as required by AB 32. In November 2017, CARB adopted the most recent Scoping Plan, California's 2017 Climate Change Scoping Plan, which outlines the proposed framework of action for achieving SB 32 2030 GHG target: a 40 percent reduction in GHG emissions by 2030 relative to 1990 levels. The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by EO S-3-05 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels.

3.8.1.3 Regional Regulations

Regional agencies, such as the SCAQMD, SCAG, and Metro, have implemented plans on policies to support the GHG reduction goals established by the State.

South Coast Air Quality Management District (SCAQMD). The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. The policy supports the adoption of a California GHG emission reduction goal in addition to other items that are unrelated to the Proposed Project.

Southern California Association of Governments (SCAG). SCAG adopted the 2020 RTP/SCS, on May 7, 2020 to implement SB 375 and reduce GHG emissions by correlating land use and transportation planning. The RTP/SCS provides a long-term investment framework for addressing the region's transportation and growth challenges. SCAG's RTP/SCS recognizes that transportation investments and future land use patterns are inextricably linked, and continued recognition of this relationship will help the region make choices that sustain existing resources and expand efficiency, mobility, and accessibility for people across the region. The RTP/SCS draws a closer connection between where people live and work, and it offers a blueprint for how Southern California can grow more sustainably.

The RTP/SCS also includes strategies focused on compact infill development and economic growth by building the infrastructure the region needs to promote the smooth flow of goods and easier access to jobs, services, educational facilities, healthcare, and more. The RTP/SCS encourages development in priority growth areas which include job centers, transit priority areas, high quality transit areas, neighborhood mobility areas, livable corridors, and spheres of influence. The RTP/SCS is expected to reduce per capita transportation emissions by 8 percent by 2020 and 19 percent by 2035. This level of reduction would meet the region's GHG targets set by CARB of 8 percent per capita by 2020 and 19 percent per capita by 2035. Although there

are no per capita GHG emission reduction targets for passenger vehicles set by CARB for the Plan's horizon year (2045), the projects and policies proposed by SCAG will reduce GHG emissions through transit improvements, traffic congestion management, emerging technology, and active transportation.

Los Angeles County Metropolitan Transportation Authority (Metro). Approved by the Metro Board of Directors on September 24, 2020, the Moving Beyond Sustainability Plan establishes agency-wide sustainability goals, targets, and strategies for the next ten years. The Plan includes energy, water, emissions and pollution control, materials and construction/operations, climate adaptation and resiliency, livable neighborhoods, equity, and economic and workforce development goals. Metro has also prepared the Climate Action and Adaptation Plan 2019 that commits the agency to reducing greenhouse gas emissions by 79 percent relative to 2017 levels by 2030 and 100 percent by 2050. The Climate Action and Adaptation Plan identified a goal of reducing Metro's GHG emissions per boarding by 5 percent from 2010 to 2020. The 2019 Climate Action and Adaptation Plan updated the agency's commitment to reducing operational greenhouse gas emissions by 79 percent relative to 2017 levels by 2030 and 100 percent by 2050. Operational emissions are broken down into three sources, or scopes. Scope 1 emissions include direct GHG emissions from equipment and facilities owned and/or operated by Metro. Scope 2 includes indirect GHG emissions from electricity purchases. Scope 3 includes all other Metro activities from sources owned or controlled by another company or entity, including: business travel, embodied emission in material goods purchased and service contracted by Metro, emissions from landfilled solid waste, and emissions from Metro employee commute patterns. The Plan includes thirteen mitigation measures to reduce GHG emissions, most of which are aimed at reducing Scope 1 and Scope 2 emissions.

Metro adopted a Green Construction Policy in August 2011 and is committed to using more sustainable construction equipment and vehicles as well as implementing best practices, to reduce harmful diesel emissions from all Metro construction projects performed on Metro properties and in Metro ROWs. The Green Construction Policy encourages the use of construction equipment with technologies such as hybrid drives and specific fuel economy standards, both of which are methods to reduce GHG emissions during the construction period. From January 2015 onwards, the Green Construction Policy has required all off-road, diesel-powered construction equipment greater than 50 horsepower shall meet Tier 4 off-road emission standards at a minimum.

3.8.1.3 Local Regulations

City of Los Angeles

Green LA Action Plan/Climate LA Plan. The City of Los Angeles began addressing the issue of global climate change by publishing Green LA, An Action Plan to Lead the Nation in Fighting Global Warming (LA Green Plan) in 2007. This document outlines the goals and actions the City has established to reduce the generation and emission of GHG emissions from both public and private activities. According to the LA Green Plan, the City is committed to the goal of reducing emissions of CO₂ to 35 percent below 1990 levels by year 2030. To achieve this, the City LA

Green Plan a policy to change transportation and land use patterns to reduce dependence on automobiles.⁴

Mobility Plan 2035. In February 2015, the City of Los Angeles released the City’s Mobility Plan 2035 as an addition to the Air Quality Element of the General Plan. The Plan identifies goals, objectives, policies, and action items (programs and projects) that serve as guiding tools for making sound transportation decisions as the City evolves.

The Mobility Plan 2035 includes many policies related to the Proposed Project, including:

- Consider the strong link between land use and transportation
- Embed equity into the transportation policy framework and into project implementation
- Target greenhouse gas reductions through a more sustainable transportation system
- Promote “first mile-last mile” connections
- Increase the use of technology (applications, real time transportation information) and wayfinding to expand awareness and access to parking options and a host of multi-modal options (car share, bicycle share, car/van pool, bus and rail transit, shuttles, walking, bicycling, driving)

The Sustainable City pLAN. In April 2015, Mayor Eric Garcetti released the City of Los Angeles’ Sustainable City pLAN as a roadmap to achieve short-term (2017) and longer term (by 2025 and 2035) targets in 14 categories that will advance the City’s commitment to a cleaner environment, stronger economy, and equity. The Green New Deal, released in 2019, provided an update to the Sustainable City pLAN.

Green New Deal. In April 2019, Mayor Eric Garcetti announced Los Angeles’ Green New Deal to set goals for the City’s sustainable future. Los Angeles’ Green New Deal commits to uphold the Paris Climate Agreement and deliver environmental justice through an inclusive green economy, plans to ensure every City resident has the ability to join the green economy, and sets a determination to lead by example within City government. The Green New Deal aims to reach a 50 percent reduction in GHG emissions by 2025 and reach net neutrality by 2050. The Green New Deal builds upon the City’s Sustainable City pLAN, in which the City met or exceeded 90 percent of the pLAN’s long-term goals on time or early, resulting in a reduction of GHG emissions by 11 percent in a single year.

City of Burbank

In February 2013, the City of Burbank adopted the Greenhouse Gas Reduction Plan (GGRP) which is designed to implement the City’s General Plan, Burbank 2035, and comply with recent revisions to CEQA Guidelines. The GGRP aims to reduce GHG emissions from the following sources: buildings and energy, transportation, water, and waste. The GGRP aims to reduce 2010 jurisdictional emissions levels by 15 percent by 2020 and 30 percent by 2035.

⁴ City of Los Angeles, *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming*, May 2007.

City of Glendale

In 2010, the City of Glendale adopted a resolution to address sustainability and climate change. As a result, the City prepared a sustainability plan to address how the City can reduce GHG emissions, entitled the Greener Glendale Plan. The Greener Glendale Plans includes many objectives and strategies aimed at reducing GHG emissions. Refer to the GHG Emissions Technical Report for specific objectives and strategies, including the objective of facilitating the provision of alternative transportation infrastructure.

City of Pasadena

In 2018, the City of Pasadena prepared a climate action plan with the goal to reduce community-wide GHG emissions 27 percent below 2009 levels by 2020, 49 percent below 2009 levels by 2030, 59 percent below 2009 levels by 2035, and 83 percent below 2009 levels by 2050. In order to achieve these reduction goals, the City of Pasadena identified five climate strategies and associated measures. Refer to the GHG Emissions Technical Report for specific strategies, including promoting public transit and decreasing the use of single-occupancy vehicles.

3.8.2. Existing Setting

GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases, and other less environmentally prevalent gases. CO₂ enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, through respiration, and as a result of other chemical reactions. CH₄ is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock, agricultural practices, and by the decay of organic waste in municipal solid waste landfills. N₂O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. Fluorinated Gases are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but due to their potency, are known as High Global Warming Potential gases. These include chlorofluorocarbons, perfluorocarbons, sulfur hexafluoride, hydrochlorofluorocarbons, and hydrofluorocarbons.

3.8.2.1 State GHG Emissions

In 2017, California emitted 424 MMTCO₂e GHG emissions. The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. **Table 3.8-1** provides a summary of GHG emissions reported in California in 2000 and 2017 by category.

Table 3.8-1 – GHG Emissions in California

Source Category	2000 (MMTCO ₂ e)	Percent of Total	2017 (MMTCO ₂ e)	Percent of Total
ENERGY	413.8	87.84%	348.9	82.27%
Energy Industries	159.12	38.45%	109.66	31.43%
Manufacturing Industries & Construction	22.75	5.50%	19.88	5.70%
Transport	179.13	43.29%	168.93	48.42%
Other Sectors (Residential/Commercial/Institutional)	44.67	10.80%	41.24	11.82%
Fugitive Emissions from Solid Fuels	0.04	0.01%	0.02	0.01%
Fugitive Emissions from Oil & Natural Gas	6.89	1.67%	8.2	2.35%
Fugitive Emissions from Geothermal Energy Production	1.13	0.27%	0.93	0.27%
Pollution Control Devices	0.11	0.03%	0.05	0.01%
INDUSTRIAL PROCESSES & PRODUCT USE	19.6	4.16%	33.6	7.92%
Mineral Industry	5.6	28.57%	4.93	14.67%
Chemical Industry	0.06	0.31%	0	0.00%
Non-Energy Products from Fuels & Solvent Use	3.3	16.84%	1.88	5.60%
Electronics Industry	0.2	1.02%	0.17	0.51%
Substitutes for Ozone Depleting Substances	5.57	28.42%	19.64	58.45%
Other Product Manufacture and Use	1.52	7.76%	1.18	3.51%
Other	3.31	16.89%	5.81	17.29%
AGRICULTURE, FORESTRY, & OTHER LAND USE	28.4	6.03%	30.7	7.24%
Livestock	19.12	67.32%	22.68	73.88%
Aggregate Sources & Non-CO ₂ Sources on Land	9.27	32.64%	8.07	26.29%
WASTE	9.3	1.97%	10.8	2.55%
Solid Waste Disposal and Biological Treatment	7.22	77.63%	8.54	79.07%
Biological Treatment of Solid Waste	0.13	1.40%	0.35	3.24%
Wastewater Treatment & Discharge	1.93	20.75%	1.94	17.96%
EMISSIONS SUMMARY				
Gross California Emissions	471.1		424.1	

SOURCE: CARB, *California Greenhouse Gas Emissions Inventory*, 2019.

According to CARB, the potential impact in California due to global climate change will affect the health of Californians. Climate change may result in: loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; more large forest fires; more drought years; increased erosion of California’s coastlines and sea water intrusion into the Sacramento and San Joaquin Delta and associated levee systems; and increased pest infestation.

3.8.2.2 Regional GHG Emissions

SCAG provides estimates of the regional GHG emissions through implementation of the RTP/SCS. The RTP/SCS has a horizon year of 2045. **Table 3.8-2** demonstrates that from 2019 to 2045, the regional on-road emissions are anticipated to decrease by 17.4 percent from 77.4 MMTCO₂e to 64.0 MMTCO₂e by 2045.

Table 3.8-2 – GHG Emissions from Transportation Source in the SCAG Region

On-Road Vehicles	2019 (MMT/year)			2045 (MMT/year)		
	CO ₂	CH ₄	NO ₂	CO ₂	CH ₄	NO ₂
Light and Medium Duty Vehicles	59.43	0.002	0.0009	38.08	0.001	0.0002
Heavy Duty Vehicles	15.46	0.000	0.002	24.16	0.001	0.0009
Buses	1.50	0.001	0.0002	1.38	0.0003	0.00004
On-Road Vehicles (Subtotal) in CO ₂	76.4	0.004	0.003	63.6	0.002	0.001
On-Road Vehicles (Subtotal) in CO ₂ e	76.4	0.078	0.9	63.6	0.04	0.4
Total GHG Emissions from On-Road Vehicles in CO₂e	77.4			64.0		

SOURCE: SCAG, RTP/SCS *Final PEIR and SCAG Modeling*, 2020.

In addition, SCAG provides the total regional GHG emissions from the three primary sources of GHG emissions within the region: transportation, building energy, and water related energy. **Table 3.8-3** shows that GHG emissions across the region are anticipated to decrease by approximately 15.9 percent from 2019 to 2045.

Table 3.8-3 – GHG Emissions for the SCAG Region from Three Primary Sectors

Area	MMTCO ₂ e/year				2019 vs 2045
	2019	2030	2035	2045	
Transportation	77.4	61.3	60.0	64.0	-17.3%
Building Energy	35.8	34.6	35.5	31.3	-12.6%
Water-related energy	3.1	2.8	2.8	2.5	-19.4%
Total	116.3	98.7	98.3	97.8	-15.9%

SOURCE: SCAG, RTP/SCS *Final PEIR and SCAG Modeling*, 2020.

3.8.2.3 Metro GHG Emissions

Metro provides annual estimates of the net GHG emissions. As illustrated in **Table 3.8-4**, Metro system operations produced a net displacement in GHG emissions of 591,123 MTCO₂e across all modes of transit provided in 2019. The year to year reduction in GHG emissions is associated with the shift from compressed natural gas (CNG) to a renewable natural gas bus fleet. Additionally, the use of diesel fuel in Metro buses was entirely phased out in 2019.

Table 3.8-4 – GHG Emissions from Metro Operations in 2019

Category	2019
Greenhouse Gas Emissions (pounds CO ₂ e per Vehicle Revenue Mile)	5.78
Greenhouse Gas Displacement (Metric Tons CO ₂ e)	-918,076
Net Greenhouse Gas Emissions (Metric Tons CO ₂ e)	-591,123

SOURCE: Metro, *Performance Metrics Summary*, 2020.

3.8.2.4 City of Los Angeles GHG Emissions

According to the City of Los Angeles’ Green New Deal, the City emitted approximately 27 MMTCO₂e in 2017. The land use sector (i.e., residential, commercial, institutional) accounted for 41 percent of emissions followed by the industrial sector at 31 percent, the transportation sector at 21 percent, and the waste sector at 7 percent. The City has reduced its GHG emissions 25 percent below 1990 levels, and per capita GHG emissions are one-third the national average.

3.8.2.5 City of Burbank GHG Emissions

According to the City of Burbank’s GGRP, the City generated an estimated 2.0 MMTCO₂e in 2010. The transportation sector represented the largest GHG contributor across city-wide emissions, accounting for approximately 61 percent of total GHG emissions. The energy sector contributed approximately 36 percent of total GHG emissions. Solid waste, wastewater, and water compromised the remaining 3 percent. The GGRP determined that in order to meet state reduction goals, the City would need to reduce emissions to 1.4 MMTCO₂e/year by 2020 (15 percent below 2010 jurisdictional emissions levels). Additionally, the City would need to reduce emissions to 1.2 MMTCO₂e/year by 2035 (30 percent below 2010 jurisdictional levels).

3.8.2.6 City of Glendale GHG Emissions

According to the Greener Glendale Plan, in 2009, the City of Glendale emitted a total of 1.6 MMTCO₂e. The transportation and energy (commercial and residential) sectors represent the largest contributors of GHG emissions, representing approximately 48 percent and 46 percent of the total emissions, respectively. Waste generation, landfill, and water transport represent the remainder of the GHG emissions in 2009.

3.8.2.6 City of Pasadena GHG Emissions

According to the City of Pasadena’s CAP, the City generated an estimated 1.9 MMTCO₂e in 2013. The transportation and energy sectors represent the largest contributors of GHG emissions, approximately 52 percent and 43 percent of the total emissions, respectively. GHG emissions from waste and water represent the remaining emissions.

3.8.3 Significance Thresholds and Methodology

3.8.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to GHG emissions if it would:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The State CEQA Guidelines include Section 15064.4, which states that, when making a determination with respect to the significance of a project's GHG emissions, a lead agency shall have discretion to determine whether to: (1) Use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; and/or (2) Rely on a qualitative analysis or performance-based standards. Section 15064.4 also states that a lead agency should consider the following factors when assessing the significance of the impact of GHG emissions on the environment: (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting; (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Although SCAQMD has a regulatory role in the SCAB, it has not adopted or proposed any quantitative thresholds that would be applicable to the Proposed Project's BRT corridor. Neither CARB, OPR, SCAQMD, nor Metro has officially promulgated specific thresholds for analyzing GHG emissions under CEQA. CARB and OPR acknowledge that transforming public transit systems and reducing VMT is an effective climate adaptation strategy. As a transit project, the Proposed Project is assessed using a net-zero GHG emissions threshold. In addition, the analysis assesses consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions.

3.8.3.2 Methodology

OPR has noted that lead agencies "should make a good-faith effort, based on available information, to calculate, model, or estimate... GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities."⁵ The Proposed Project would generate construction-related and operational emissions. GHG emissions emitted during project construction are temporary, while operational emissions would be generated continually throughout the life of the Proposed Project. The methodology used to evaluate construction and operational effects is described below. The

⁵ OPR, *Technical Advisory CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*, p. 5, 2008.

analysis of the Proposed Project GHG emissions is particularly conservative in that it assumes all of the GHG emissions are new additions to the atmosphere.

Construction

Project construction would be a source of GHG emissions. Such emissions would result from activities that could include but not be limited to demolition, roadway striping, and station construction. These activities could involve the use of heavy-duty construction equipment (e.g., dozers) and smaller equipment (e.g., rollers, forklifts, concrete saws, paving equipment) in order to construct BRT stations over a period of up to 30-months. GHG emissions would also be produced from heavy-duty haul trucks removing debris during the demolition phase, as well as vendor and contractor trucks and worker passenger car trips. Construction emissions were modeled in the CalEEMod⁶ and worker trip emissions were adjusted consistent with CARB’s Off-Model Adjustment Factors to account for the SAFE Vehicles Rule. Consistent with SCAQMD-recommended methodology, total construction-period emissions are amortized over a 30-year period, then added to the design-year GHG emissions total to arrive at the annual tons per year estimate that accounts for construction and operations emissions.

Operations

Long-term changes in GHG emissions would result from operating more Metro transit service, the shifting of travelers from auto vehicles to more Metro transit (vehicle) services, as well as indirect GHG emissions from charging the bus fleet. Metro may rely on CNG-powered buses when the Proposed Project opens in 2024. If required, the use of CNG-powered buses during operation would be a temporary condition until 2030 and any additional impacts posed by CNG-powered buses would be short-term and negligible. Because Metro is expected to operate ZEV buses along the route in the long-term, mobile-source emissions from ZEV buses were calculated by applying the LADWP carbon intensity factors from LADWP’s Power Strategic Long-Term Resource Plan to the annual estimate of electrical demand (**Table 3.8-5**). For example, CH₄ emissions were multiplied by 25 to account for the fact that CH₄ is 25 more times potent of a GHG than CO₂.

Table 3.8-5 – Carbon Intensity Factors

Pollutant	LADWP Carbon Intensity (lb./MWh)	Global Warming Potential
CO ₂	834	1
CH ₄	0.029	25
N ₂ O	0.00617	298
Aggregate lbCO₂e/MWh	836.6	-

SOURCE: LADWP, *Power Strategic Long-Term Resource Plan*, 2017.

⁶ California Air Pollution Control Officers Association, *California Emissions Estimator Model, CalEEModTM*, www.caleemod.com.

Total electrical demand was established by determining the average per-mile electrical use per bus and applying that consumption rate to the annual VMT. Consistent with Metro's Climate Action and Adaptation Plan 2019, it was assumed that ZEV buses have a fuel economy of 2.2 kWh/mile. Refer to Section 3.1, Transportation of the Draft EIR for a decision of the methodology for estimating bus revenue miles.

The fleet will also generate emissions from "deadhead" travel as buses travel to and from one or more of the following Metro Divisions for service, fueling, and storage: El Monte, Sun Valley, and Cypress Park.

To account for these differences, emissions for "deadhead" travel were calculated assuming that each of the buses would travel the average distance from the route to the division on a daily basis. The average distance from the route to the Metro Division was measured at three stations along the route, including: (1) West Glenoaks Boulevard and North Pacific Avenue in Glendale; (2) Chandler Boulevard and Lankershim Boulevard in North Hollywood; and (3) South Hill Street and East Colorado Boulevard in Pasadena. The average distance from the Proposed Project route to the Metro El Monte Division is approximately 18.3 miles. Therefore, each bus was assumed to travel 36.6 "deadhead" miles daily. All charging is expected to be centralized at a Metro Division, any impacts to the Metro Division or enhancements to support the Proposed Project would be minor.

Because the BRT service will attract auto users, and would shift mode share from auto to public transit, GHG emissions were based on changes in VMT and roadway travel speeds. These estimates were derived using a travel demand model that applies project relevant traffic data and EMFAC2017 emissions factors to determine running GHG emissions. In order to account for the SAFE Vehicles Rule Part I, CARB has issued Off-Model Adjustment factors for CO₂ emissions from light duty automobiles and trucks which were applied to the EMFAC2017 results. The CO₂ adjustment factor for 2042 is 1.1207.

Regional VMT is shown in **Table 3.8-6**. The change in total daily VMT from the 2042 Baseline to Proposed Project is a reduction of 0.017 percent in regional VMT. Transportation modeling was also completed for the Route Options. Year 2017 was used as the Baseline condition in this analysis to ensure consistency with the regional transportation model. There is a marginal difference (less than 0.1 percent) in regional VMT between 2017 and 2019 and the difference would have no effect to the impact conclusions presented in this analysis. The regional VMT for implementing the design options differed marginally from the Proposed Project by approximately 0.003 percent. Therefore, it is reasonable to only quantify GHG emissions associated with the Proposed Project.

Table 3.8-6 – Regional Vehicle Miles Traveled

Scenario	Daily VMT	Annual VMT	Percent Decrease from No Project
Existing (2017)	428,792,499	148,791,691,153	-
Existing + Project	428,721,905	148,766,500,989	0.017%
2042 Baseline	511,871,989	177,619,580,183	-
Proposed Project	511,785,330	177,589,509,510	0.017%

SOURCE: Kimley-Horn, *North Hollywood to Pasadena BRT Project Transportation Technical Report*, 2020.

3.8.4 Impact Analysis

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable).

Impact 3.8-1) Would the Proposed Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction

No Impact. Construction under the Proposed Project would involve sidewalk modifications as well as the installation of up to 43 station platforms along the route. Emissions sources include but are not limited to equipment, truck trips for debris disposal and material delivery, and worker commute trips. Consistent with Metro’s Green Construction Policy, construction activities would require Tier 4-certified construction equipment. Construction activities would result in approximately 910 MTCO₂e emissions over the course of the overall construction period, and an annual average of 364 MT CO₂e/year. Consistent with SCAQMD-recommended methodology, construction-period emissions were amortized over a 30-year period, resulting in an annual equivalent of approximately 30.3 MTCO₂e/year. The SCAQMD recommends that construction emissions be assessed together with operational emissions rather than as an independent emissions process. As shown below, the reduction in operational emissions would offset annual construction emissions. Therefore, the Proposed Project would not result in a significant impact. Bus charging is expected to be centralized at a Metro Division or possibly at Pasadena City College. Coaches would likely be serviced at one maintenance division, likely the El Monte Metro Division. Coaches may be CNG-fueled in the opening years and use existing fueling facilities. As Metro’s fleet is expected to use electricity by 2030, the BRT coaches would utilize charging facilities already planned for this and other maintenance and storage facilities. Any upgrades needed to substations, transformers, conduits, and charging facilities would be programmed into Metro’s capital improvement plans for the entire bus fleet and developed over time.

Operations

No Impact. Operation of the Proposed Project would result in GHG emissions from charging the bus fleet and the use of Metro fleet service motor-vehicles along the corridor. The Proposed Project would employ a fleet of approximately 20 electric buses (ZEV). While the fleet would not generate GHG emissions directly through the operation of ZEV buses, battery charging would generate indirect emissions related to electricity consumption. This electrical demand would

indirectly generate GHG emissions at off-site power plants. Under the Proposed Project, the ZEV buses are expected to travel 1,348,500 annual revenue miles in 2042. Implementation of Metro’s NextGen service and implementation of the Proposed Project would reduce service from existing bus lines that overlap with the proposed BRT route. Metro Line 180 connects Hollywood with Pasadena and will be restructured to reduce service along the route by approximately 303,124 annual revenue miles. Metro anticipates having a 100 percent electric fleet by 2042, which is accounted for in the emissions analysis. GHG emissions generated from the bus operations along the BRT alignment as well as the GHG emissions no longer being emitted from Metro Line 180’s service reduction are provided in **Table 3.8-7**.

Table 3.8-7 – Annual GHG Emissions

Emissions Source	CO ₂ e (metric tons)
2042 BASELINE EMISSIONS	
Regional Traffic Emissions	54,268,110
2042 BASELINE EMISSIONS	
Construction Activities (annual amortized)	30
ZEV Bus Operation on Route	1,126
ZEV Bus Operation to Metro Division (Non-Revenue)	223
Displaced Metro Line 180 Operations	-253
Regional Traffic Emissions	54,258,923
<i>Total Proposed Project-Related Emissions</i>	54,260,049
NET PROJECT EMISSIONS	
<i>Net GHG Emissions</i>	-8,061
Change Compared to 2042 Baseline	-0.015%

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Greenhouse Gas Emissions Technical Report*, 2020.

The implementation of BRT service in this corridor would also reduce GHG emissions emitted by vehicles traveling within the study area, as mode share shifts away from auto use to public transit. Specifically, the BRT service would reduce 30,070,673 VMT annually as compared to baseline conditions (without BRT service). As summarized in **Table 3.8-7**, the Proposed Project would result in an annual net decrease of approximately 8,061 MTCO₂e compared with future (2042) baseline conditions, a decrease of 0.015 percent of GHG emissions.

Metro is committed to a 100 percent ZEV fleet by 2030. Buses associated with the Proposed Project may operate on compressed natural gas until electric buses are available to operate the service. The regional decrease in VMT associated with the Proposed Project results in a large reduction in GHG emissions. The operation of CNG buses instead of electric buses would not offset the reduction to the extent that it would cause a net annual increase in emissions. For comparison to the Existing condition, the existing annual VMT in the Project area is approximately 148,791,691,153 and would be reduced by 0.017 percent to 148,766,500,989 annual VMT in the Existing plus Project condition. This is a VMT reduction of 25,190,164. Therefore, due to the reduction in daily VMT, GHG emissions would be reduced in the Existing plus Project condition and would offset any emissions generated from the operation of CNG buses.

When compared to Existing conditions, the Proposed Project would also reduce overall emissions in the Project area. BRT services would reduce 25,190,164 VMT annually when compared to Existing plus Project conditions. This would also result in reductions in GHG emissions from the vehicle fleet in the Project area. There would be some GHG emissions from the initial use of CNG buses at the start of service in 2024. Specifically, the operation of 20 CNG buses would emit 3,068 lbs/day of CO₂e. When considering overall fleet emissions reductions associated with mode shift from passenger vehicles to public transit, initial BRT service would result in a reduction of approximately 9,418 lbs/day of CO₂e.

Including the amortized construction emissions, total GHG emissions resulting from the implementation of the Proposed Project in 2042 would be 0.015 percent lower than under the 2042 Baseline Conditions. There would be a similar reduction from the Existing plus Project condition to the Existing Condition. This represents a benefit to regional GHG emissions and there is no potential for the Proposed Project to result in an impact. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact 3.8-2) Would the Proposed Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Construction and Operations

No Impact. A significant GHG impact may occur if the Proposed Project could conflict with applicable GHG reductions plans, policies or regulations. Transportation projects would be subject to comply with SB 375, SB 32, SCAG's RTP/SCS, and CARB's 2017 Scoping Plan. The Proposed Project would travel through Los Angeles, Burbank, Glendale, and Pasadena and would also be subject to comply with each city's GHG reduction plan.

SCAG's RTP/SCS identifies improved accessibility and mobility as one of its goals. The Proposed Project would introduce BRT service capable of increasing transit capacity, which would support the SCS' goal of improved accessibility and mobility than under the future (2042) baseline condition, it would not conflict with the goals of SB 375 and the SCAG RTP/SCS in that it would provide new transit service that would contribute to a larger rapid transit network. Such rapid transit systems are a recognized method of achieving transportation-related GHG emissions reductions.

CARB's 2017 Scoping Plan provides a blueprint for the state to reduce GHG emissions in order to meet the reduction goals set under SB 32. The 2017 Scoping Plan includes goals to reduce GHG emissions across all sectors, including transportation emissions. The Scoping Plan's GHG reductions from the transportation sector will come from new technologies, low carbon fuels, and reducing VMT. The Proposed Project will encourage the use of transit and reduce the VMT

as compared to the future (2042) baseline scenario. Furthermore, the Proposed Project will operate 20 electric, zero-emission buses, further reducing GHG emissions. As a result, the Proposed Project would not conflict with CARB's 2017 Scoping Plan.

The Metro Climate Action and Adaptation Plan 2019 identified the goal of achieving zero net emissions by 2050. The Proposed Project will utilize a fleet of 20 zero-emissions electric buses, which will emit significantly less emissions as compared to diesel or compressed natural gas-powered buses. Therefore, the Proposed Project will not interfere with the Metro Climate Action and Adaptation Plan 2019. The Proposed Project will also comply with the Metro Green Construction Policy.

The City of Los Angeles' Green New Deal outlines targets to reduce GHG emissions including from transportation and public transit emissions. These goals include increasing the percentage of all trips made by walking, biking, micro-mobility/matched rides, or transit to at least 35 percent by 2025, 50 percent by 2035, and maintain at least 50 percent by 2050 and reducing VMT per capita by at least 13 percent by 2025, 39 percent by 2035, and 45 percent by 2050. The City of Burbank GGRP sets the goal of reducing GHG emissions to 30 percent below 2010 jurisdictional levels by 2035. The Greener Glendale Plan is an adopted resolution with strategies aimed at reducing GHG emissions, including policies to increase public transit. The City of Pasadena's CAP aims to reduce GHG emissions to 27 percent below 2009 levels by 2020, 49 percent below 2009 levels by 2030, 59 percent below 2009 levels by 2035, and 83 percent below 2009 levels by 2050. Operation of the Proposed Project would result in new transit trips, thereby contributing to reductions in VMT per capita and increases in the percentage of trips made by transit. Because of the mode-shift from cars to more efficient public transit vehicles, the Proposed Project would not conflict with any of the cities' greenhouse gas reduction plans.

Overall, the Proposed Project does not conflict with AB 32, SB 32, or SB 375 or Metro or City goals to reduce GHG emissions by providing transportation infrastructure necessary to enable mode-shifts and encourage transit use within the community. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

3.9. NOISE

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to noise and vibration. Refer to the Noise and Vibration Technical Report (Appendix N) for additional details related to applicable regulations and the existing setting.

Sound can be described in terms of its loudness (amplitude) and frequency (pitch). The standard unit of measurement for sound is the decibel (i.e., dB). Because the human ear is not equally sensitive to sound at all frequencies, the A-weighted scale (dBA) is used to reflect the normal hearing sensitivity range. This noise analysis discusses sound levels in terms of equivalent noise level (L_{eq}), day-night average noise level (L_{dn}), and the Community Noise Equivalent Level (CNEL).

Equivalent Noise Level (L_{eq}). L_{eq} represents the average noise level on an energy basis for a specific time period. Average noise level is based on the energy content (acoustic energy) of sound. For example, the L_{eq} for one hour is the energy average noise level during that hour. L_{eq} can be thought of as a continuous noise level of a certain period equivalent in energy content to a fluctuating noise level of that same period. L_{eq} is expressed in units of dBA.

Day-Night Average Noise Level (L_{dn}). L_{dn} is an adjusted noise measurement scale of average sound level during a 24-hour period. Events from 10:00 p.m. to 7:00 a.m. are increased by 10 dB to account for humans' greater sensitivity to noise during this period. L_{dn} is used to assess transit noise for residential uses.

Community Noise Equivalent Level (CNEL). CNEL is an adjusted noise measurement scale of average sound level during a 24-hour period. Due to increased noise sensitivities during evening and night hours, human reaction to sound between 7:00 p.m. and 10:00 p.m. is as if it were actually 5 dBA higher than had it occurred between 7:00 a.m. and 7:00 p.m. From 10:00 p.m. to 7:00 a.m., humans perceive sound as if it were 10 dBA higher. To account for these sensitivities, CNEL figures are obtained by adding an additional 5 dBA to evening noise levels between 7:00 p.m. and 10:00 p.m. and 10 dBA to nighttime noise levels between 10:00 p.m. and 7:00 a.m.

3.9.1 Regulatory Framework

3.9.1.1 Federal Regulations

Federal Transit Administration (FTA). Federal methodologies for assessing noise impacts are defined in the FTA's *Transit Noise and Vibration Impact Assessment Manual* (Assessment Manual). The Assessment Manual provides impact criteria to evaluate transit projects. The criteria include procedures for evaluating transit projects like BRT facilities.

Table 3.9-1 shows guidelines for evaluating the impact of operational noise on sensitive land uses. Historic sites, parks, indoor-only uses, and undeveloped land can be considered noise-sensitive under special circumstances.

Table 3.9-1 – FTA Land Use Categories and Metrics for Transit Noise Impact Criteria

Land Use Category	Land Use Type	Noise Metric, dBA	Description of Land Use Category
1	High Sensitivity	Outdoor L_{eq} (1-hour)*	Land where quiet is an essential element of its intended purpose. Example land uses include preserved land for serenity and quiet, outdoor amphitheaters and concert pavilions, and national historic landmarks with considerable outdoor use. Recording studios and concert halls are also included in this category.
2	Residential	Outdoor L_{dn}	This category is applicable to all residential land uses and buildings where people normally sleep, such as hotels and hospitals.
3	Institutional	Outdoor L_{eq} (1-hour)*	This category is applicable to institutional land uses with primarily daytime and evening use. Example land uses include schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds, and recreational facilities are also included in this category.

* L_{eq} (1-hour)* for the loudest hour of project-related activity during hours of noise sensitivity.

SOURCE: FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

The Assessment Manual provides guidance on how to evaluate the impact of noise levels from transit projects (**Table 3.9-2**). The levels of impact reflect a comparison of future project noise with existing noise and consider land use type. Noise sensitivity is a function of activity and time period of concern. The higher ambient noise levels are, the lower tolerance there is to any increase in noise.

The Assessment Manual also provides guidelines for evaluating the vibration impacts related to the construction and operation of transit projects. This guidance includes criteria for a General Vibration Impact Analysis that focuses on overall operational vibration velocity level. These criteria do not account for existing vibration, as it is rare than roadway traffic generates perceptible groundborne vibration in the absence of irregularities in the road surface. The Assessment Manual also includes impact thresholds to assess the risk of damage from construction activities to off-site structures.

Table 3.9-2– FTA Levels of Impact

Level of Impact	Description
No Impact	Project-generated noise is not likely to cause community annoyance. Noise projections in this range are considered acceptable by FTA and mitigation is not required.
Moderate Impact	Project-generated noise in this range is considered to cause impact at the threshold of measurable annoyance. Moderate impacts serve as an alert to project planners for potential adverse impacts and complaints from the community. Mitigation should be considered at this level of impact based on project specifics and details concerning the affected properties.
Severe Impact	Project-generated noise in this range is likely to cause a high level of community annoyance. The project sponsor should first evaluate alternative locations/alignments to determine whether it is feasible to avoid severe impacts altogether. In densely populated urban areas, evaluation of alternative locations may reveal a trade-off of affected groups, particularly for surface rail alignments. If it is not practical to avoid severe impacts by changing the location of the project, mitigation measures must be considered.

SOURCE: FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

3.9.1.2 State Regulations

California General Plan Guidelines. The 2017 General Plan Guidelines establish county and city standards for acceptable exterior noise levels based on land use. These standards are incorporated into land use planning processes to prevent or reduce noise and land use incompatibilities.

California Government Code Section 65302. California Government Code Section 65302 requires each county and city to prepare and adopt a comprehensive long-range general plan for its physical development. Section 65302(f) requires a noise element to be included in the general plan. This noise element must identify and appraise noise problems in the community, recognize Office of Noise Control Guidelines, and analyze and quantify current and projected noise levels.

3.9.1.3 Regional Regulations

There are no applicable regional regulations.

3.9.1.4 Local Regulations

City of Los Angeles

General Plan. The City of Los Angeles General Plan includes a Noise Element that includes policies and standards in order to guide the control of noise to protect residents, workers, and visitors. Its primary goal is to regulate long-term noise impacts to preserve acceptable noise environments for all types of land uses. There are also references to programs applicable to construction projects that call for protection of noise sensitive uses and use of best practices to minimize short-term noise impacts. However, the Noise Element contains no quantitative or

other thresholds of significance for evaluating a project's noise or vibration impacts. Instead, it adopts the State's guidance on noise and land use compatibility "to help guide determination of appropriate land use and mitigation measures vis-à-vis existing or anticipated ambient noise levels."

Los Angeles Municipal Code. Los Angeles Municipal Code contains regulations that would regulate temporary construction activities and operational activities. Section 41.40(a) prohibits specific construction activities from occurring between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday. Subdivision(c) would further prohibit such activities from occurring before 8:00 a.m. or after 6:00 p.m. on any Saturday or national holiday, or at any time on any Sunday. These restrictions serve to limit specific construction activities to Monday through Friday 7:00 a.m. to 9:00 p.m., and 8:00 a.m. to 6:00 p.m. on Saturdays or national holidays. The City can issue a variance from these Municipal Code requirements on a case-by-case basis.

Section 112.05 of the Los Angeles Municipal Code establishes noise limits for powered equipment and hand tools operated in a residential zone or within 500 feet of any residential zone. Of particular importance to construction activities is subdivision (a), which institutes a maximum noise limit of 75 dBA as measured at a distance of 50 feet from the activity for construction vehicles and equipment. However, the Los Angeles Municipal Code notes that these limitations are not necessarily applicable if it can be proven that compliance would be technically infeasible despite the use of noise-reducing means or methods.

Section 111.02 discusses the measurement procedure and criteria regarding the sound level of "offending" noise sources. A noise source causing a 5 dBA increase over the existing average ambient noise levels of an adjacent property is considered to create a noise violation. However, Section 111.02(b) provides a 5 dBA allowance for noise sources lasting more than five but less than 15 minutes in any 1-hour period, and a 10 dBA allowance for noise sources causing noise lasting 5 minutes or less in any 1-hour period. In accordance with these regulations, a noise level increase from certain City-regulated noise sources of 5 dBA over the existing or presumed ambient noise level at an adjacent property is considered a violation.

The Los Angeles Municipal Code also provides regulations regarding vehicle-related noise, including Sections 114.02, 114.03, and 114.06. Section 114.02 prohibits the operation of any motor driven vehicles upon any property within the City in a manner that would cause the noise level on the premises of any occupied residential property to exceed the ambient noise level by more than 5 dBA. Section 114.03 prohibits loading and unloading causing any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building between the hours of 10:00 p.m. and 7:00 a.m. Section 114.06 requires vehicle theft alarm systems to be silenced within five minutes.

City of Burbank

General Plan. The City's 2035 General Plan Noise Element provides a policy framework for the control of noise sources in the City. Its noise standards are codified here and provide guidance on how to site land uses that are compatible with the local noise environment. The General Plan Noise Element also contains the City's land use compatibility guidelines.

Burbank Municipal Code. The City's noise standards are codified in the Burbank Municipal Code Chapter 9-3-208 and Chapter 9-1-1-105.8. These set forth sound measurement criteria, maximum ambient noise levels for different land use zoning classifications, sound emission levels for specific uses, hours of operation for certain uses, standards for determining when noise is deemed to be a disturbance, and legal remedies for violations. The Noise Regulation establishes acceptable ambient sound levels to regulate intrusive noises (e.g., stationary mechanical equipment) within specific land use zones.

Chapter 9-1-1-105.8 of the Burbank Municipal Code prohibits construction activity which would create disturbing, excessive, or offensive noise between 7:00 p.m. and 7:00 a.m. Monday through Friday, between 5:00 p.m. and 8:00 a.m. on Saturdays, and at any time on Sundays or national holidays. The Community Development Director, Planning Board, or City Council may grant exceptions pursuant to land use entitlements or wherever there are practical difficulties involved in carrying out the provisions of the abovementioned chapter or other specific on-site activity that warrants unique consideration.

Section 9-3-208 of the Burbank Municipal Code prohibits any person from operating any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in such a manner to cause the ambient noise levels to be exceeded by more than 5 dBA.

City of Glendale

General Plan. The City of Glendale's General Plan is a comprehensive, long-range declaration of purposes, policies, and programs. The Noise Element contains goals and policies to minimize noise impacts in the community.

Glendale Municipal Code. The Glendale Municipal Code includes an adopted Noise Ordinance, Chapter 8.36 Noise Control, Articles I and II, which identifies noise standards for amplified noise sources, specific noise restrictions, noise insulation standards, and construction noise limits. Noise limits are regulated through the assessment of the offending noise sources, which influence the existing ambient noise environment. In order to assess potential noise impacts.

Section 8.36.080, Construction on Buildings, prohibits construction activity from occurring during the "prohibited hours" that have been established in the Glendale Municipal Code. "Prohibited hours" refers to any time after the hour of 7:00 p.m. of any day; any time before the hour of 7:00 a.m. of any day; any time on Sunday; and any time on holidays. The City can issue a variance from these Municipal Code requirements on a case-by-case basis.

Section 8.36.210 prohibits operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at 150 feet from the source, if on a public space or public right-of-way.

Section 8.36.290 contains a list of activities that are exempted from the provisions of Glendale Municipal Code Chapter 8.36. The ordinance also exempts any activity, operation or noise which cannot feasibly be brought into compliance when it is technically infeasible to do so. The party responsible for the exceedance is also responsible to prove that compliance cannot be achieved despite use of mufflers, shields, sound barriers, and/or any other noise reduction device or techniques during the operation of the offending equipment.

City of Pasadena

General Plan. The City of Pasadena General Plan contains policies and programs to achieve and maintain noise levels compatible with various types of land uses. The Noise Element contains objectives and policies to minimize noise impacts from various noise sources.

Pasadena Municipal Code. The City has jurisdiction over noise regulation, as stated in the City of Pasadena Municipal Code, Title 9, Chapter 36 Noise Restrictions (Noise Ordinance). The Noise Ordinance is intended to enforce the City's policy to prohibit "unnecessary, excessive, and annoying noises from all sources." The Noise Ordinance generally limits the generation of noise that exceeds the actual measured existing ambient noise level by 5 dB(A) at neighboring properties, with adjustments made for steady audible tones, repeated impulsive noise, and noise occurring for limited periods. Section 9.36.060 sets interior noise level standards for multifamily residential development at 60 dB(A) during daytime hours (7:00 a.m. to 10:00 p.m.) and 50 dB(A) during nighttime hours (10:00 p.m. to 7:00 a.m.).

The City's noise ordinance includes provisions regarding construction noise. Section 9.36.070 of the Pasadena Municipal Code prohibits the operation of construction equipment and construction activity except from 7:00 a.m. to 7:00 p.m. Monday through Friday, and from 8:00 a.m. to 5:00 p.m. on Saturday in or within 500 feet of a residential district. Operation of construction equipment is prohibited on Sunday and on defined holidays. Section 9.36.080 of the Municipal Code prohibits the operation of powered construction equipment that generates a noise level of 85 dB(A) when measured at 100 feet. The City can issue a variance from these Municipal Code requirements on a case-by-case basis.

The City of Pasadena also regulates vibration levels that could adversely affect its citizens. Section 17.40.090 of the Pasadena Municipal Code prohibits the use, activity, or process that produces vibrations that causes the discomfort or annoyance to reasonable persons of normal sensitivity, or which endangers the comfort, repose, health, or peace of residents.

3.9.2. Existing Setting

3.9.2.1 Existing Noise Levels

Due to public health restrictions associated with the COVID-19 pandemic, field measurements of ambient noise were not possible in early 2020, primarily due to lower traffic volumes on arterials along the BRT corridor. Instead, the existing noise environment was modeled using the FTA’s Traffic Noise Model (version 3.0) methodologies via the SoundPLAN Essential software package (version 5.0). This approach utilized traffic volumes and other activity data from the transportation analysis to estimate how traffic-based noise propagates over the urban environment.

Ambient noise levels were predicted for sensitive receptor locations throughout the 18-mile corridor. These locations were selected to represent average noise conditions in each jurisdiction representing a range of land uses that address FTA’s three land use categories. **Table 3.9-3** show existing noise levels for Category 1 sensitive receptors. **Table 3.9-4** shows existing noise levels at Category 2 sensitive receptors and **Table 3.9-5** shows existing noise level at Category 3 sensitive receptors.

Table 3.9-3 – Existing Ambient Noise Levels at Category 1: Sensitive Receptors

Location	Jurisdiction	FTA Land Use Category	dBA L _{eq} (1-Hour)
Burbank Studios 3000 W. Alameda Ave.	Burbank	1	71.1
Hollywood Production Center 225 E. Broadway	Glendale	1	71.8
School of Rock 1240 E. Colorado Blvd.	Pasadena	1	72.8

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Noise and Vibration Technical Report*, 2020.

Table 3.9-4 – Existing Ambient Noise Levels at Category 2: Sensitive Receptors

Location	Jurisdiction	FTA Land Use Category	dBA L _{dn} (24-Hour)
Gallery at NoHo Commons 5416 Fair Ave.	Los Angeles	2	64.1
Multi-Family Residences 112 Buena Vista St.	Burbank	2	70.2
Multi-Family Residences 3205 W. Alameda Ave.	Burbank	2	70.1
Multi-Family Residences 114 Sparks St.	Burbank	2	63.8
Multi-Family Residences 150 San Fernando Blvd.	Burbank	2	66.0
Multi-Family Residences 1112 Alameda Ave.	Burbank	2	67.8

Location	Jurisdiction	FTA Land Use Category	dBA L _{dn} (24-Hour)
Single-Family Residence 1068 Willard Ave.	Glendale	2	62.5
Eleve Lofts and Skydeck Apts 200 E. Broadway	Glendale	2	73.7
Multi-Family Residences 5116 Rockland Ave.	Los Angeles	2	61.3
385 Western Asset Plaza 385 Colorado Blvd.	Pasadena	2	71.8
Hill and Colorado Hotel 1336 E. Colorado Blvd.	Pasadena	2	70.2

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Noise and Vibration Technical Report*, 2020.

Table 3.9-5 – Existing Ambient Noise Levels at Category 3: Sensitive Receptors

Location	Jurisdiction	FTA Land Use Category	dBA L _{eq} (1-Hour)
East Valley High School 5525 Vineland Ave.	Los Angeles	3	72.1
Gray Studio 5250 Vineland Ave.	Los Angeles	3	72.0
Saint Finbar School 2120 W. Olive Ave.	Burbank	3	75.3
Burbank Central Library 110 N. Glenoaks Blvd.	Burbank	3	71.2
Thomas Jefferson Elementary 1540 5 th St.	Glendale	3	62.0
John Marshall Elementary 1201 E. Broadway	Glendale	3	72.6
Center for the Arts Eagle Rock 2225 Colorado Blvd.	Los Angeles	3	61.7
Dahlia Heights Elementary School 5063 Floristan Ave.	Los Angeles	3	68.9
Southern California Children's Museum 459 E. Colorado Blvd.	Pasadena	3	72.2
Holliston United Methodist Church 1305 E. Colorado Blvd.	Pasadena	3	71.6

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Noise and Vibration Technical Report*, 2020.

3.9.2.1 Existing Vibration Levels

Vibration levels in the Project Area are driven largely by vehicular traffic. The Assessment Manual states that it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Because ambient vibration levels are often too low to be noticed, FTA recommends a limited survey of conditions where there are sources of perceptible vibration. Site visits indicate that roadway vibration is not typically perceptible outside of the surface street right-of-way.

3.9.3 Significance Thresholds and Methodology

3.9.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to noise and vibration if it would:

- a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- b) Generation of excessive groundborne vibration or groundborne noise levels; and/or
- c) For a project located within-the vicinity of a private airstrip or-an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

The CEQA Guidelines do not provide a definition for “substantial increase” in noise and they do not provide a threshold of significance for potential noise or vibration impacts. There are no federal significance thresholds for construction noise that are applicable to the Proposed Project. As such, this analysis relies on local thresholds to determine significance. The following thresholds of significance were developed for this noise analysis based upon the General Plan Noise Elements for the Cities of Los Angeles, Burbank, Glendale, and Pasadena discussed above. However, the FTA impact criteria are used to identify potential operational impacts when quantitative local thresholds do not exist.

Noise

City of Los Angeles

Construction Noise Thresholds. Construction noise impacts would be significant if:

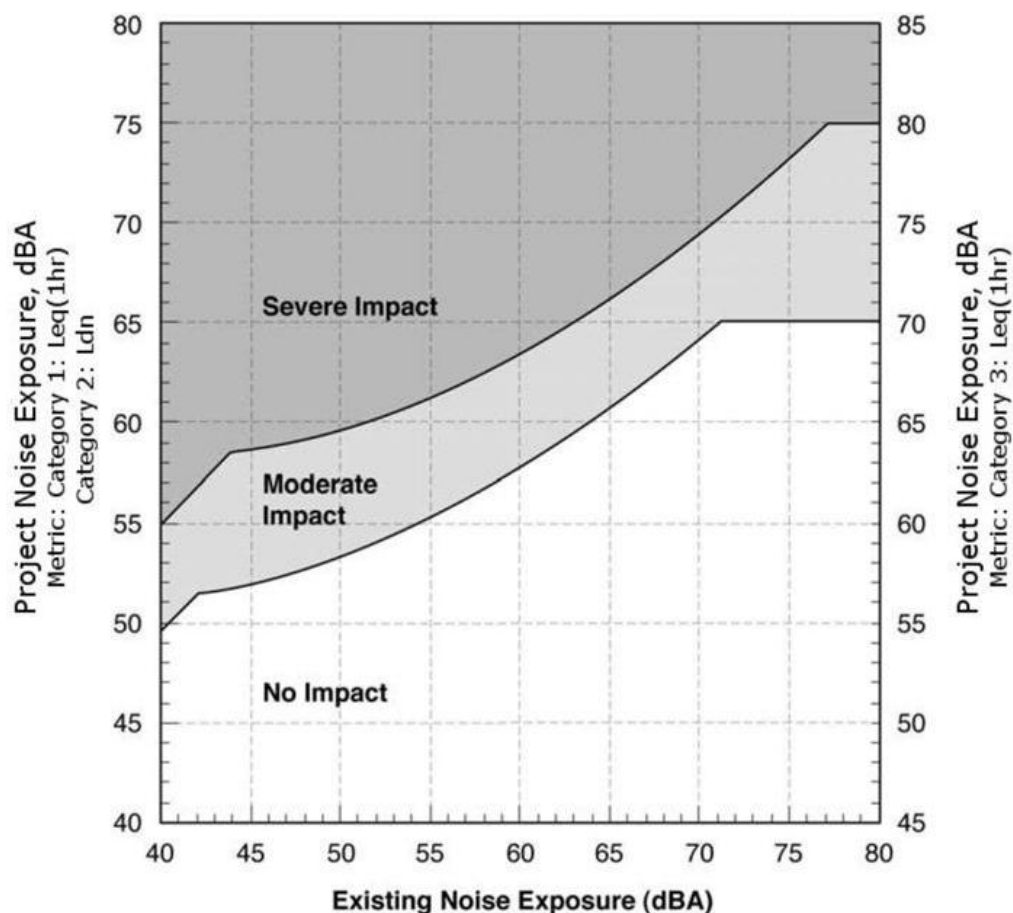
- Construction activities lasting more than one day would exceed existing ambient exterior sound levels by 10 dBA (hourly L_{eq}) or more at a noise-sensitive use;
- Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use; and/or
- Construction activities of any duration would exceed the ambient noise level by 5 dBA (hourly L_{eq}) at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

Operational Noise Thresholds. Operational noise impacts would be significant if:

- Project operations would cause ambient noise levels at off-site locations to increase by 3 dBA CNEL or more to or within “normally unacceptable” or “clearly unacceptable” noise/land use compatibility categories, as defined by the State’s 2017 General Plan Guidelines. This threshold would apply at residential uses and schools where the predicted future noise level is at least 70 dBA L_{dn} .
- Project operations would cause any 5 dBA CNEL or greater noise increase.

The FTA Assessment Manual identifies noise significance thresholds which are a function of existing ambient noise levels and the land use category of sensitive receptors. As illustrated in **Figure 3.9-1**, the thresholds at which a moderate or severe impact would occur vary as the existing noise environment changes.

Figure 3.9-1 – FTA Noise Impact Criteria for Transit Projects



SOURCE: FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

City of Burbank

Construction Noise Threshold. Construction noise impacts would be considered significant if:

- Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use; or
- Construction activities of any duration would exceed the ambient noise level by 5 dBA (hourly L_{eq}) at a noise-sensitive use between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 5:00 p.m. on Saturday, or at any time on Sunday.

Operational Noise Threshold. In addition to applicable City standards and guidelines that would regulate or otherwise moderate operational noise impacts, this analysis uses the following criteria:

- Operations activities would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use; or
- Operations would exceed noise levels specified in the Assessment Manual (see **Figure 3.9-1**).

City of Glendale

Construction Noise Threshold. Construction noise impacts would be considered significant if:

- Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use; or
- Construction activities would exceed the ambient noise level by 5 dBA (hourly L_{eq}) at a noise-sensitive use between the hours of 7:00 p.m. and 7:00 a.m. Monday through Saturday, or at any time on Sunday.

Operational Noise Threshold. In addition to applicable City standards and guidelines that would regulate or otherwise moderate operational noise impacts, this analysis uses the following criteria:

- Operations activities would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use; or
- Operations would exceed noise levels specified in FTA's Assessment Manual (see **Figure 3.9-1**).

City of Pasadena

Construction Noise Threshold. Construction noise impacts would be considered significant if:

- Construction equipment would exceed 85 dBA L_{eq} at 100 feet of distance; and/or
- Construction activities of any duration would exceed the ambient noise level by 5 dBA (hourly L_{eq}) at a noise-sensitive use between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 5:00 p.m. on Saturday, or at any time on Sunday.

Operational Noise Threshold. In addition to applicable City standards and guidelines that would regulate or otherwise moderate operational noise impacts, this analysis uses the criteria from the Assessment Manual (see **Figure 3.9-1**).

Vibration

Construction Vibration Threshold. The Cities of Los Angeles, Burbank, Glendale, or Pasadena do not identify numerical thresholds of significance at which a vibration impact is deemed significant. This analysis uses criteria from the Assessment Manual to determine when construction impacts are considered significant. The Assessment Manual includes impact thresholds to assess the risk of damage from construction activities to off-site structures. As shown in **Table 3.9-6**, the guidance includes thresholds for four building categories that are presented in Peak Particle Velocity (PPV). PPV is commonly used to describe and quantify vibration impacts to buildings and other structures. PPV levels represent the maximum instantaneous peak of a vibration signal and are usually measured in inches per second.

Table 3.9-6 – FTA Construction Vibration Damage Criteria

Building Category	Peak Particle Velocity (in/sec)
I. Reinforced concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

The FTA Assessment Manual also includes impact thresholds to assess the risk of annoyance to humans. As show in **Table 3.9-7**, this includes thresholds for five types of land uses that are measured in decibel notation (VdB).

Table 3.9-7 – FTA Land Use Disruption Vibration Thresholds

Land Use	Significance Thresholds (VdB)		
	Frequent Events	Occasional Events	Infrequent Events
Buildings where vibration would interfere with interior operations.	65	65	65
Residences and buildings where people normally sleep.	72	75	80
Institutional land uses with primarily daytime use	75	78	83
Concert halls, TV studios, and recording studios	65	65	65
Auditoriums and theaters	72	80	80

SOURCE: FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018

Operational Vibration. The Cities of Los Angeles, Burbank, Glendale, or Pasadena do not identify numerical thresholds of significance at which a vibration impact is deemed significant. This analysis uses criteria from the FTA Assessment Manual to determine when operational

impacts are considered significant. This guidance includes criteria for a General Vibration Impact Analysis that focuses on overall vibration velocity level. These criteria do not account for existing vibration, as it is rare that roadway traffic generates perceptible groundborne vibration in the absence of irregularities in the road surface.

3.9.3.2 Methodology

This analysis is consistent with the Detailed Noise Assessment Guidelines outlined in the Assessment Manual and City Guidelines, where applicable.

Construction Noise

To evaluate construction noise, construction equipment was identified for a typical worksite. This includes equipment needed for restriping of lanes on major arterials along the alignment, curb-and-gutter/sidewalk reconstruction, ROW clearing, pavement improvements, station/loading platform construction, landscaping, and lighting and traffic signal modifications. The analysis assumes construction equipment could include, but not be limited to, asphalt milling machines, asphalt pavers, excavators and backhoes, loaders, bulldozers, dump trucks, compactors, rollers, and concrete trucks. Smaller equipment may also include compactors, compact excavators and tractors, and small hydraulic equipment. Reference noise levels were obtained from the Assessment Manual and adjusted by projected equipment usage factor. Logarithmic noise propagation formulae were used to estimate projected noise impacts at nearby receptors. The analysis included construction of improvements around sidewalks associated with curb-running operations and the presence of residential and/or non-residential sensitive receptors within ten feet of a construction site. The analysis does not quantify combined noise levels from multiple station sites because noise generated at two sites would not be audible to a person given the distance between stations. Short-term (1-hour) L_{eq} estimates were made to represent existing noise levels during the day as the basis for analyzing noise impacts for sensitive uses. Construction activities would be limited to the daytime hours of operations as dictated by local noise ordinances.

Construction Vibration

The analysis of vibration impacts during the construction of BRT improvements was performed pursuant to the Assessment Manual. Based on FTA's four-step screening process, a qualitative construction vibration analysis was performed, as prolonged annoyance or damage is not expected. The predicted construction vibration levels are based on hypothetical scenarios and equipment mixes developed from similar projects.

Operational Noise

Operational noise was analyzed pursuant to the Assessment Manual. Sensitive receptors were identified within the four jurisdictions to provide a representative sample of noise levels throughout the BRT corridor. Sensitive receptors were categorized as one of three FTA sensitive Land Use Categories: Category 1 (High Sensitivity), Category 2 (Residential), and Category 3 (Institutional). Refer to **Tables 3.9-3** through **Table 3.9-5** for additional details. Existing and future noise levels were modeled using the TNM version 3.0 methodologies using

the SoundPLAN Essential modeling package (version 5.0). Twenty-four-hour average traffic volumes were extrapolated using peak hour traffic volumes obtained from the transportation analysis. Traffic volumes were input into the SoundPLAN model to predict existing and future noise conditions along the corridor in the Existing conditions, as well as the Project Design year of 2042. Year 2017 was used as the Baseline condition in this analysis to ensure consistency with the regional transportation model. There is a marginal difference (less than 0.1 percent) in regional VMT between 2017 and 2019 and the difference would have no effect to the impact conclusions presented in this analysis. Predictions for each receptor were compared to the applicable FTA noise impact criteria and local jurisdictional thresholds to identify potential noise impacts.

Using the FTA TNM 3.0 model, the operational analysis included the following key assumptions:

- As 24-hour ambient noise measurements were not possible because of unusual conditions from the COVID-19 pandemic, average daily trip volumes were estimated by converting peak AM and PM hourly traffic volumes in 2042. This included an estimate of daytime, evening, and nighttime traffic volumes.
- The posted speed limit on arterials used for BRT service was assumed for the analyses. This ensures that noise levels would reflect faster travel speeds and the elevated noise associated with faster travel on paved roads.
- Noise propagated from all lanes of arterials to reflect the dynamic nature of travel on local arterials as they shift from center- and median-running operations to mixed-flow, side-, and curbside-running operations.
- Vehicle fleet mixed derived from California Air Resources Board (CARB) EMFAC2017 estimates for Los Angeles County.
- Average 30 percent of vehicles on an arterial with traffic light control devices constrained by red lights.

Operational Vibration

Pursuant to the FTA Assessment Manual, BRT projects that rely on rubber-tire vehicles do not require a detailed analysis provided they do not meet the following conditions:

- Roadway irregularity. Expansion joints, speed bumps, or other design features that result in unevenness in the road surface can result in perceptible ground-borne vibration at distances up to 75 feet away.
- Operation close to vibration-sensitive buildings. Buses, trucks, or other heavy vehicles operating close to a vibration-sensitive building (within approximately 100 ft from the property line) may impact vibration-sensitive activities, such as research that uses electron microscopes or manufacturing of computer chips.
- Vehicles operating within buildings. Special considerations are often required for shared use facilities where vehicles operate inside or directly underneath buildings such as bus stations located inside an office building complex.

3.9.4 Impact Analysis

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable).

Impact 3.9-1) Would the Proposed Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

Less-Than-Significant Impact with Mitigation. Construction activities would require the use of heavy equipment, pneumatic tools, generators, concrete pumps, and similar equipment. **Table 3.9-8** shows the equipment likely to be used during the noisiest periods of construction, the typical noise generated by this equipment, estimated usage factors (percent of time the equipment is operating under full load), and the predicted L_{eq} noise levels.

Table 3.9-8 – Construction Noise Levels for Proposed Project

Equipment	Typical Noise Level dBA L_{eq} (1-Hour) at 50 Feet	Usage Factor (% of Time Under Full Load)	Adjusted Noise Level dBA L_{eq} (1-Hour) at 50 Feet
Concrete Saw	76 dBA	30%	72 dBA
Loader/Backhoe	80 dBA	30%	74 dBA
Dozer	85 dBA	30%	80 dBA
Rough Terrain Forklift	80 dBA	20%	72 dBA
Skid Steer Loader	80 dBA	30%	74 dBA
Roller	85 dBA	30%	80 dBA
Paver	85 dBA	30%	80 dBA
Paving Equipment	85 dBA	30%	80 dBA
Combined			87 dBA

Note: This is a worst-case scenario for noise levels at 50 feet, as some local ordinances will require equipment to operate at lower noise levels (e.g., the City of Los Angeles sets 75 dBA limit at 50 feet per Municipal Code section 112.05).

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Noise and Vibration Technical Report*, 2020; FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

The predicted noise level from a typical construction project is 87 dBA L_{eq} at 50 feet, though adherence to local ordinance restrictions on powered equipment would likely reduce the cumulative noise level for this mix of equipment. For example, the City of Los Angeles restricts construction equipment to emitting no more than 75 dBA L_{eq} at 50 feet of distance. When added to existing ambient noise levels along the corridor that range from 60.1 to 74.1 dBA L_{eq} , construction activities that generate 65.5 and 79.5 dBA L_{eq} at 50 feet of distance, respectively, could increase ambient noise levels by 5 dBA L_{eq} or more. These increases would exceed local thresholds of significance for all four jurisdictions. Activity at staging areas typically results in

less noise as there is less equipment operations, although there would still be a potential for threshold exceedance.

The actual increases in ambient noise would depend on several factors, including:

- Existing ambient noise levels;
- The scope of construction at a given station location (e.g., full BRT station with shelters and other improvements vs. reduced improvements);
- Location of station improvements. Construction projects that support median or center-running segments would potentially be 40 to 60 feet further from noise-sensitive land uses than projects build on sidewalk ROWs;
- Location of sensitive receptors; and
- Any attenuation from the built environment or other factors between a construction site and nearby receptors.

The Proposed Project relies mostly on existing surface streets, where buses would operate in all lanes of arterials depending on operational circumstances and ROW availability. When local service is based on curb-running, side-running, or mixed-flow service, construction of improvements would be closer to sensitive receptors, potentially resulting in significant short-term impacts. Approximately six stations would be constructed at center-running or median-running segments while the remainder are built on sidewalk ROWs or curb extensions.

In the North Hollywood end of the alignment, service would be a blend of mixed-flow and side-running service on Lankershim and Chandler Boulevards, with curbside stations to support this service. An increase of 15 dBA L_{eq} or more given the proximity of receptors along Chandler Boulevard would exceed the City of Los Angeles significance threshold of 5 dBA (hourly L_{eq}). Service on Vineland Avenue would be center-running, requiring construction of median-based stations at key intersections. Impacts here would be lesser given the approximately 100 feet of distance from the centerline of Vineland Avenue and residences that flank this street.

Within the City of Burbank, stations would be built curbside on sidewalks to accommodate curbside-running operations on Olive Avenue and Glenoaks Boulevard. Construction activities would likely exceed the significance threshold of 5 dBA (hourly L_{eq}). Construction of stations along median-running segments of Glenoaks Boulevard are approximately 45 feet further from sensitive receptors than stations constructed along the curb, given the very wide center medians. Toward the eastern end of Burbank, stations would be built in the median along Glenoaks Boulevard to serve median-running service.

Within the City of Glendale, the Proposed Project would include stations on median islands to accommodate median-running bus lanes along Glenoaks Boulevard, creating substantial distance from receptors along this corridor. Construction activities would likely exceed the significance threshold of 5 dBA (hourly L_{eq}). Along Central Avenue and Broadway, stations would be built on sidewalks to support side-running bus lanes and curbside-running operations.

In the Eagle Rock area, side-running service on Colorado Boulevard would require construction of curbside stations that are closer to existing receptors. An increase of 15 dBA L_{eq} or more given the proximity of receptors along Colorado Boulevard would exceed the City of Los Angeles significance threshold of 5 dBA (hourly L_{eq}).

Within Pasadena, buses would operate exclusively in mixed-flow lanes on Fair Oaks Avenue, Walnut Street, Raymond Avenue, and Colorado Boulevard. As such, the proximity of sensitive receptors built to the sidewalk would increase the potential for noise impacts. For example, the proposed station at Colorado Boulevard and Los Robles Avenue in Pasadena would be built on existing right-of-way in front of housing developments (e.g., 385 Western Asset Plaza). At this and other curbside construction sites, noise could exceed the City's threshold of 85 dBA L_{eq} at 100 feet of distance for construction activities. Construction noise could generate 87 dBA L_{eq} at 50 feet. As noise attenuates approximately 6 dB per doubling of distance for point sources, construction activities could produce noise levels of approximately 81 dBA L_{eq} at a distance of 100 feet and not exceed the threshold of 85 dBA L_{eq} at 100 feet. However, the City also has a 5 dBA incremental threshold (hourly L_{eq}) which would likely be exceeded by an increase of 15 dBA L_{eq} .

Given the ambient noise levels along the corridor, construction activities are likely to generate noise impacts that could increase ambient noise levels by 5 dBA L_{eq} or more. This level of noise increase would likely exceed local significance thresholds within one or more jurisdictions along the BRT alignment. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact related to construction activities. Implementation of Mitigation Measure **NOI-1** would reduce this impact to a less-than-significant level by requiring the construction contractor to prepare and implement a Noise Control Plan, to be approved by Metro, which would require monitoring noise levels and implementation of noise reduction methods to ensure construction noise levels do not exceed the standards established by the four affected jurisdictions.

Nighttime activities are not anticipated to be needed to construct the Proposed Project. However, at this stage of the planning process and without a construction contractor, it cannot be confirmed if nighttime construction would be necessary for specialized construction tasks. Nighttime activities could result in a significant impact should those activities involve heavy equipment or pneumatic tools. Implementation of Mitigation Measure **NOI-1** would reduce this impact to a less-than-significant level by requiring the construction contractor to prepare and implement a Noise Control Plan, to be approved by Metro, which would require monitoring noise levels and implementation of noise reduction methods to ensure construction noise levels do not exceed the standards established by the four affected jurisdictions. In addition, should nighttime construction be necessary, the construction contractor would be required to coordinate with the jurisdictions to obtain necessary permits, such as a variance to the Noise Ordinance in the City of Los Angeles.

Route Options

This analysis evaluates the noise impacts of route options to the Proposed Project. The route options would have noise impacts similar to the Proposed Project, with slight variations due to the number of stations, location of the route segments, and location of the stations. Construction equipment used during construction of the route options would be similar to the Proposed Project. Differences in the route alignments and station locations for the route options are described below.

In North Hollywood, a route option would shift construction activities from Vineland Avenue to Lankershim Boulevard. This would generally increase construction noise exposure, as Lankershim service would be either side-running or curb-running. This would place construction closer to more receptors than the median-based construction that would occur on Vineland Avenue.

Through Glendale, construction noise impacts for any route options would be similar to those for the Proposed Project. For example, a route option through central Glendale that shifts station construction from East Broadway to Colorado Street two blocks to the south would have similar impacts, as both would have side-running service. A route option using Central Avenue, Goode Avenue, and Sanchez Drive would also require construction of curbside stations that support mixed-flow bus service.

Through Eagle Rock, a route option that would include some center-running service at the transition between Ellenwood Drive and El Rio Avenue would not alter the location of stations that service the largely side-running service on Colorado Boulevard.

Within the City of Pasadena, route options proposed on Figueroa Street, Colorado Boulevard, Union Street, and Green Street would not change the nature of construction noise impacts, as all service in the City would operate in mixed-flow lanes that require curbside construction.

This level of noise increase would likely exceed local significance thresholds within one or more jurisdictions along the BRT alignment. Therefore, without mitigation, the similar to the Proposed Project, the route options would result in a potentially significant impact related to construction activities. As with the Proposed Project, implementation of Mitigation Measure NOI-1 would reduce this impact to less than significant.

Operations

Less-Than-Significant Impact. The Proposed Project would impact the noise environment along the corridor in two key-ways. First, it would increase the number of buses traveling in the study area, with 90,200 annual revenue hours and 1,348,500 annual revenue miles in 2042. However, Metro would reduce service from its Line 501 service, the Metro NoHo to Pasadena Express service that mirrors the BRT alignment while using the SR-134 more often to provide rapid service. This would reduce 52,353 annual revenue hours and 488,565 annual revenue miles, resulting in a net increase of 37,847 annual revenue hours and 859,935 revenue miles. This service would operate during daytime (6:00 a.m. to 6:00 p.m.), evening (6:00 p.m. to 10:00 p.m.) and into nighttime hours (after 10:00 p.m.) seven days a week. This additional bus-

related volume on local arterials would not audibly elevate ambient noise levels, as it takes a doubling of traffic volumes on arterials and/or freeways to increase ambient noise levels by 3 dBA L_{eq} . When buses transition to freeway operations on the SR-134, the impact of adding up to 220 daily trips on a freeway that carries 240,000 average annual daily trips at the Brand Boulevard exits, for example, would be negligible.

Second, the service would shift drivers from personal vehicles to BRT services, reducing 86,659 vehicle miles of travel throughout the region by 2042, of which 13,339 miles would be entirely reduced within the study area and 68,278 miles would be reduced from trips that start or end in the study area. This would reduce ambient noise levels from traffic on local streets. It should be noted that over time, traffic patterns shift with development and transportation infrastructure, changing how traffic is distributed over local roadways. Implementation of BRT service would further reduce traffic volumes on many roadways along the alignment, though some trips could be diverting to parallel roadways based on any reduction in capacity along the BRT alignment.

Table 3.9-9 summarizes the changes in traffic-related noise at Category 1 sensitive receptors along arterial segments. **Table 3.9-10** summarizes the changes in traffic-related noise at Category 2 residential receptors along arterial segments throughout the BRT corridor. These selected segments are consistent with FTA guidance on evaluating operational impacts of bus transit services and represent a cross-section of local jurisdictions, proximity to Category 2 land uses, and service to stations in both the medians and curbs along the alignment. **Table 3.9-11** illustrates changes at Category 3 institutional uses along these same segments.

Ambient noise levels along the surface streets used for BRT service would increase by no more than 2 dBA L_{dn} for Category 2 residences along the alignment. This impact accounts for traffic volumes throughout a 24-hour cycle and the “penalties” associated with noise generated by traffic during evening and night hours. These L_{dn} noise levels also capture the anticipated span of service, which ranges from 21 to 23 hours per day. These increases of no more than 1 dBA are inaudible, as 3 dBA increases are generally recognized as the threshold at which the most sensitive ears can detect changes in the noise environment. These increases are also below the thresholds of significance established by the City of Los Angeles that ranges from a 3 to 5 dBA CNEL increase in ambient noise levels.

The Cities of Burbank, Glendale, and Pasadena do not have applicable quantitative thresholds and the FTA noise impact criteria are used to assess the significance of operational noise impacts. In all cases, the Proposed Project would not result in Moderate or Severe impacts under FTA noise impact criteria.

The Proposed Project would increase noise levels for Category 1 sensitive uses by no more than 1 dBA L_{eq} during the day and three Category 3 institutional uses along the corridor by no more than 2 dBA L_{eq} during the day. As with the 24-hour land uses, these increases would be inaudible and would not exceed any local thresholds of significance for operational noise.

Table 3.9-9 – Predicted Noise Levels for Proposed Project, Category 1 (High Sensitivity) Receivers

Key	Segment	Jurisdiction	Existing Noise Level (dBA L _{eq})	FTA Impact Assessment				Local Jurisdiction Impact Assessment			
				Predicted Project Noise (dBA L _{eq})	FTA Moderate Impact Threshold (dBA L _{eq})	FTA Severe Impact Threshold (dBA L _{eq})	FTA Level Impact Before Mitigation	Predicted Future Noise Level (dBA L _{eq})	Predicted Increase (dBA L _{eq})	Local Jurisdiction Impact Threshold (dBA CNEL)	Local Jurisdiction Impact Before Mitigation
C (Proposed Project)	Olive Ave. from California and Alameda	Burbank	71	62	71	75	--	72	1	N/A	--
E1 (Proposed Project)	Broadway from Brand to Louise	Glendale	72	62	71	76	--	72	0	N/A	--
H1 (Proposed Project)	Colorado Blvd. from Michigan to Chester	Pasadena	73	64	71	76	--	73	1	N/A	--

NOTES: N/A: City does not have its own quantitative threshold.

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Noise and Vibration Technical Report*, 2020.

Table 3.9-10 – Predicted Noise Levels for Proposed Project, Category 2 (Residential) Receivers

Key	Segment	Jurisdiction	Existing Noise Level (dBA L _{dn})	FTA Impact Assessment				Local Jurisdiction Impact Assessment			
				Predicted Project Noise (dBA L _{dn})	FTA Moderate Impact Threshold (dBA L _{dn})	FTA Severe Impact Threshold (dBA L _{dn})	FTA Level Impact Before Mitigation	Predicted Future Noise Level (dBA L _{dn})	Predicted Increase (dBA L _{dn})	Local Jurisdiction Impact Threshold (dBA CNEL)	Local Jurisdiction Impact Before Mitigation
A1 (Proposed Project)	Chandler Blvd. from Lankershim and Blakeslee	Los Angeles	66	57	62	67	--	66	1	5	--
C (Proposed Project)	Olive Ave. from Myers to Keystone	Burbank	75	66	66	73	--	74	1	N/A	--
	Olive Ave. from California to Alameda Ave.	Burbank	72	64	66	72	--	73	1	N/A	--
	Olive Ave. from Buena Vista to Brighton	Burbank	72	64	66	71	--	73	1	N/A	--
	Olive Ave. from Sparks to Beachwood	Burbank	66	47	62	67	--	66	0	N/A	--
	Olive Ave. from San Fernando to 3 rd	Burbank	68	59	63	68	--	68	1	N/A	--
D (Proposed Project)	Glenoaks Blvd. from Alameda to Spazier	Glendale	70	60	63	68	--	70	1	N/A	--
	Glenoaks Blvd. from Willard to Grandview	Glendale	64	53	61	65	--	65	0	N/A	--
E1 (Proposed Project)	Broadway from Brand to Louise	Glendale	76	66	66	74	--	76	0	N/A	--

Key	Segment	Jurisdiction	Existing Noise Level (dBA L _{dn})	FTA Impact Assessment				Local Jurisdiction Impact Assessment			
				Predicted Project Noise (dBA L _{dn})	FTA Moderate Impact Threshold (dBA L _{dn})	FTA Severe Impact Threshold (dBA L _{dn})	FTA Level Impact Before Mitigation	Predicted Future Noise Level (dBA L _{dn})	Predicted Increase (dBA L _{dn})	Local Jurisdiction Impact Threshold (dBA CNEL)	Local Jurisdiction Impact Before Mitigation
F2 (Proposed Project)	Colorado Blvd. from Rockland to Eagle Rock	Los Angeles	61	60	59	64	--	64	2	5	--
H1 (Proposed Project)	Colorado Blvd. from Euclid to Los Robles	Pasadena	74	66	66	70	--	75	1	N/A	--
	Colorado Blvd. from Holliston to Hill	Pasadena	75	64	65	69	--	65	0	N/A	--

NOTE: There is a marginal difference between L_{dn} and CNEL (CNEL is typically 0.5 dBA higher than L_{dn}) and there would not be a difference in the impact determinations.
N/A: City does not have its own quantitative threshold.

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Noise and Vibration Technical Report*, 2020

Table 3.9-11 – Predicted Noise Levels for Proposed Project, Category 3 (Institutional) Receivers

Key	Segment	Jurisdiction	Existing Noise Level (dBA L _{eq})	FTA Impact Assessment				Local Jurisdiction Impact Assessment			
				Predicted Project Noise (dBA L _{eq})	FTA Moderate Impact Threshold (dBA L _{eq})	FTA Severe Impact Threshold (dBA L _{eq})	FTA Level Impact Before Mitigation	Predicted Future Noise Level (dBA L _{eq})	Predicted Increase (dBA L _{eq})	Local Jurisdiction Impact Threshold (dBA CNEL)	Local Jurisdiction Impact Before Mitigation
A1 (Proposed Project)	Chandler Blvd. from Blakeslee to Vineland	Los Angeles	70	59	70	74	--	71	0	3 ¹	--
	Vineland Ave. from Weddington to Magnolia	Los Angeles	70	50	71	76	--	70	0	3 ¹	--
D (Proposed Project)	Glenoaks Blvd. from Olive to Angeleno	Glendale	69	59	69	74	--	70	0	N/A	--
	Glenoaks Blvd. from Justin to Ruberta	Glendale	60	48	63	68	--	60	0	N/A	--
E1 (Proposed Project)	Broadway between Chevy Chase and Verdugo	Glendale	71	61	71	75	--	71	0	N/A	--
F2 (Proposed Project)	Colorado Blvd. from Rockland and Eagle Rock	Los Angeles	61	53	63	68	--	61	2	5	--
	Colorado Blvd. from Townsend to Floristan	Los Angeles	67	53	68	72	--	67	0	5	--
H1 (Proposed Project)	Colorado Blvd. from Los Robles to Oakland	Pasadena	70	61	70	74	--	70	1	N/A	--
	Colorado Blvd. from Chester to Holliston	Pasadena	67	56	67	72	--	67	0	N/A	--

N/A: City does not have its own quantitative threshold.

¹ This threshold would apply at residential uses and schools where the predicted future noise level is at least 70 dBA L_{dn} in the City of Los Angeles.

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Noise and Vibration Technical Report*, 2020

It should be noted that when the alignment uses the SR-134 in two locations, bus service would operate on freeway mixed-flow lanes, where noise impacts would be negligible given the volume of traffic on the freeway. In addition, the SR-134 is generally elevated or depressed compared to land uses along this alignment, reducing the potential for line-of-sight propagation of noise impacts at sensitive receptors.

The Proposed Project includes electric charging infrastructure. Charging is a passive use that would not generate audible noise past the property line of the charging location. There would no potential for a noise impact related to charging.

Based on the above detailed analysis, the Proposed Project would result in a less than significant impact related to operational activities.

Route Options

Any route options would shift noise from electric-powered buses to other streets, but like the Proposed Project, would not result in any significant noise impacts. Actual impacts would be a function of the location of stations, proximity of sensitive receptors to the street, and other localized factors.

The North Hollywood route option would use Lankershim Boulevard instead of Vineland Avenue, shifting bus operations to side-running service, as opposed to the center-running segment along Vineland Avenue. This portion of the Lankershim corridor is mostly commercial retail and office uses, but more residential uses are being built that would be considered sensitive receptors.

At the intersection of Lankershim Boulevard and Weddington Avenue, there are sensitive uses that would be impacted by noise from traffic over time. However, as shown in **Table 3.9-12**, noise levels along Lankershim Boulevard near Weddington Avenue would increase by less than 1 dBA L_{eq} at Category 3 receptors near the street.

After traveling on the SR-134 from North Hollywood to the curb-running segment along Olive Avenue in the City of Burbank, a route option would skip a station at the Olive Avenue/Verdugo Avenue intersection and at the Glenoaks Boulevard/Grandview Avenue intersection. Instead, this option would stop at a side-running station at Central Avenue and Lexington Drive in Glendale. Here, this route option would deviate from the Proposed Project by continuing south along Central Avenue, with a station at the intersection of Central Avenue and American Way.

This route option would head east along Colorado Street, making station stops at the Colorado Street/Brand Avenue, Colorado Street/Glendale Avenue, and Colorado Street/Verdugo Road intersections. The route would continue east along Colorado Street in Glendale until the station at the Eagle Rock Plaza, located within the boundaries of the City of Los Angeles.

Table 3.9-12 – Predicted Noise Levels for Route Options

Key	Segment	Jurisdiction	Existing Noise Level (dBA Leq)	Predicted Project Noise (dBA Leq)	FTA Moderate Impact Threshold (dBA Leq)	FTA Severe Impact Threshold (dBA Leq)	FTA Level Impact Before Mitigation	Predicted Future Noise Level (dBA Leq)	Predicted Increase (dBA Leq)	Local Jurisdiction Impact Threshold (dBA Leq)	Local Jurisdiction Impact Before Mitigation
A2 (Route Option)	Lankershim Blvd. from Chandler Ave. to Weddington Ave.	Los Angeles	72	63	71	76	--	72	1	31	--
E2 (Route Option)	Colorado St. from Central Ave. to Brand Blvd.	Glendale	68	61	63	67	--	68	1	N/A	--

¹ This threshold would apply at residential uses and schools where the predicted future noise level is at least 70 dBA Ldn within the City of Los Angeles.

SOURCE: Impact Sciences, *North Hollywood to Pasadena BRT Project Noise and Vibration Technical Report*, 2020

This route option would take Colorado Boulevard through Eagle Rock. This route option would primarily have center-running bus lanes through this segment as opposed to side-running lanes under the Proposed Project. Therefore, the two stations (Colorado Boulevard/Eagle Rock Boulevard and Colorado Boulevard/Townsend Avenue intersections) would be constructed in the median in contrast to stations constructed in the curb under the Proposed Project.

The route would then use SR-134 and the Colorado Boulevard interchange to enter the City of Pasadena. On Colorado Boulevard in Pasadena, this route would have a station at three intersections; Colorado Boulevard/Arroyo Parkway, Colorado Boulevard/Lake Avenue, and Colorado Boulevard/Hill Avenue. With the exception of a different location for the Colorado Boulevard/Arroyo Parkway station, which would be used only for the Colorado Boulevard interchange, the stations for this route option would be the same as under the Proposed Project. Like under the Proposed Project, stations would be along the curb, due to the mixed-flow alignment along Colorado Boulevard.

Another route option would start from North Hollywood and use Lankershim Boulevard instead of Vineland Avenue, as under the Proposed Project. A station would be located at Lankershim Boulevard and Hesby Avenue, which would be side-running along this portion of Lankershim Boulevard.

Like under the Proposed Project, this route option would use SR-134 from North Hollywood to the curb-running segment along Olive Avenue in the City of Burbank. However, along this route option, there would not be a station at the Olive Avenue/Verdugo Avenue intersection. This route option would continue along Glenoaks Boulevard traveling between the City of Burbank and Glendale, which would be curb-running and median-running as under the Proposed Project. However, this would not include the optional station at Glenoaks Boulevard/Grandview Avenue intersection as under the Proposed Project.

This route option would then deviate from the Proposed Project route by locating a station at SR-134 at Brand Boulevard in Glendale. It would take SR-134 through Glendale and Eagle Rock, exiting at Figueroa Street in Eagle Rock to stop at a station located at Colorado Boulevard and Figueroa Street. The route option then east along Colorado Boulevard before reentering SR-134 and taking the Fair Oaks Avenue interchange into the City of Pasadena.

After exiting the Fair Oaks Avenue interchange, this route option would stop at the Raymond Avenue/Holly Street station as under the Proposed Project route. However, this service would head south to Green Street and head east, stopping at station located at the intersections of Green Street/Los Robles Avenue and Green Street/Lake Avenue. It would then turn north on Hill Avenue, making a station stop at Hill Avenue/Colorado Boulevard. Continuing north, this route option would head west at Union Street, stopping at 2 more stations located at the intersections of Union Street/Lake Avenue and Union Street/Los Robles Avenue.

Similar to the Proposed Project, the route options would result in a less than significant impact for operational noise.

Mitigation Measures

NOI-1: Where construction cannot be performed in accordance with the FTA 1-hour L_{eq} construction noise standards, elevates existing ambient noise levels by 5 dBA L_{eq} or more, or exceeds other applicable noise thresholds of significance, The construction contractor shall develop a Noise Control Plan demonstrating how noise criteria would be achieved during construction. The Noise Control Plan shall be designed to follow Metro requirements, include construction noise control measures, measurements of existing noise, a list of the major pieces of construction equipment that would be used, and predictions of the noise levels at the closest noise-sensitive receivers (residences, hotels, schools, churches, temples, and similar facilities). The Noise Control Plan shall be approved by Metro prior to initiating localized construction activities.

The Noise Control Plan shall require weekly noise monitoring at land used adjacent to construction activities. Noise reducing measures shall be required should the following performance standards be exceeded within the following jurisdictions:

- City of Los Angeles: Construction noise levels that exceed the existing ambient exterior noise level at a noise sensitive use by 10 dBA L_{eq} within one hour for construction lasting more than one day, 5 dBA L_{eq} for construction lasting more than 10 days in a three-month period, and any exceedance of 5 dBA during the hours of 9:00 p.m. to 7:00 a.m. Monday through Friday and between 6:00 p.m. to 8:00 a.m. on Saturday or any time Sunday.
- City of Burbank: Construction noise levels that exceed the existing ambient exterior noise level between 7:00 a.m. and 7:00 p.m. at a noise sensitive use by 5 dBA L_{eq} for construction lasting more than 10 days in a three-month period. Construction noise levels of any duration that exceed existing ambient exterior noise levels by 5 dBA L_{eq} at a noise sensitive use between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 5:00 p.m. on Saturday, or at any time on Sunday.
- City of Glendale: Construction noise levels that exceed the existing ambient exterior noise level between 7:00 a.m. and 7:00 p.m. at a noise sensitive use by 5 dBA L_{eq} for construction lasting more than 10 days in a three-month period. Construction noise levels of any duration that exceed existing ambient exterior noise levels by 5 dBA L_{eq} at a noise sensitive use between 7:00 p.m. and 7:00 a.m. Monday through Saturday or at any time on Sunday.
- City of Pasadena: Construction noise levels that exceed 85 dBA L_{eq} at 100 feet of distance or any duration of noise levels that exceeds existing ambient exterior noise levels by 5 dBA L_{eq} at a noise sensitive use between 7:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 5:00 p.m. on Saturday, or at any time on Sunday.

Noise-reducing methods that may be implemented include:

- Where construction occurs near noise sensitive land uses, specialty equipment with enclosed engines, acoustically attenuating shields, and/or high-performance mufflers shall be used.
- Limit unnecessary idling of equipment.
- Install temporary noise barriers or noise-control curtains, where feasible and desirable.
- Reroute construction-related truck traffic away from local residential streets and/or sensitive receivers.
- Use electric instead of diesel-powered equipment and hydraulic instead of pneumatic tools where feasible.

Significance of Impacts after Mitigation

Mitigation Measure **NOI-1** includes noise monitoring and performance standards that ensure construction noise levels would not exceed the significance thresholds and would not elevate ambient noise levels above standards. If monitoring indicates an exceedance, noise levels would be mandated to be reduced through a variety of control measures. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to construction activities.

Impact 3.9-2) Would the Proposed Project result in generation of excessive groundborne vibration or groundborne noise levels?

The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations that are on surface streets. There would no potential for a vibration impact on SR-134 segments, which includes B, E3, G1, and the portions of F1, F2, and F3 on the SR-134 in the City of Los Angeles.

Construction

Less-Than-Significant Impact with Mitigation. Construction activities would require the use of heavy equipment, pneumatic tools, generators, concrete pumps, and similar equipment. Activity at staging areas typically results in less vibration as there is less equipment operations, although there would still be a potential for vibration. As shown in **Table 3.9-13**, most equipment operating near buildings and structures would not exceed the FTA's recommended limit of 0.2 in/sec PPV for any non-engineered timber and masonry buildings within 25 feet of construction activity. In addition, buildings are commonly more sturdy engineered structures and less sensitive to vibration than non-engineered timber and masonry buildings. Regardless, the use of vibratory rollers or more impactful equipment could exceed this limit based on the specific equipment and the proximity and condition of nearby structures. Therefore, without mitigation, the Proposed Project would result in a potentially significant impact related to construction activities.

Table 3.9-13 – Construction Vibration Impacts

Equipment	PPV at 25 feet (in/sec)	VdB at 25 feet
Vibratory Roller	0.21	94
Large Bulldozer	0.09	87
Loaded Trucks	0.08	86
Jackhammer	0.04	79
Small Bulldozer	0.003	58

SOURCE: FTA, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

Implementation of Mitigation Measure **NOI-2** would reduce this impact to less than significant by requiring a Construction Vibration Plan that ensures the contractor minimizes the use for tracked vehicles, avoids vibratory compaction within 25 feet of buildings, and ensures that construction vibration levels near sensitive receivers during activities that generate high vibration levels do not exceed the 0.2 PPV inches per second vibration damage risk threshold.

Construction activities could also disrupt land uses near the proposed station construction sites. While proposed construction equipment is anticipated to generate little ground vibration (e.g., light trucks, hydraulic loaders, air compressors), actual vibration levels would depend on the means and methods decided upon by the contractor, which are not available at this time. Many stations would involve construction in the median of streets, where any sources of vibration would be set back substantially from residences and other sensitive receptors. In case where construction sites are located on curbs near adjacent residences, however, vibration from bulldozers and similar equipment could annoy those in institutional uses (e.g., schools, churches) during the day, and residents at any time during the day or evening. As illustrated in **Table 3.9-13**, equipment such as large bulldozers could generate 87 VdB of vibration at 25 feet, which would exceed the 75 VdB significance threshold for occasional events impacting residences and the 78 VdB threshold for institutional daytime land uses. While vibration impacts would generally be occasional or infrequent, construction activities could exceed the FTA’s land use disruption thresholds. Implementation of Mitigation Measure **NOI-3** would reduce this impact to less than significant by requiring a Construction Vibration Plan that ensures the contractor minimizes the use for tracked vehicles, avoids vibratory compaction within 25 feet of buildings, and ensures that construction vibration levels near sensitive receivers during activities that generate high vibration levels do not exceed the 75 VdB vibration annoyance threshold.

Operations

Less-Than-Significant Impact. The Proposed Project would use rubber-tired buses to provide transportation options on local arterials and freeways. The FTA Transit Noise and Vibration Impact Assessment Manual states that projects that rely on rubber-tire vehicles do not require a detailed analysis if they meet certain conditions regarding roadway irregularity, operations close to vibration sensitive buildings, and vehicles operating within buildings. The Proposed Project and route options do not include substantial infrastructure irregularities like expansion joints, speed bumps, or other design features that create unevenness in the road surface. Electric

charging infrastructure would not generate perceptible vibration. As all the FTA conditions would be met, the Proposed Project does not require a detailed operational vibration analysis as impacts would be unlikely. The absence of internal combustion engines on the electric-powered coaches would further reduce any vibration from idling or moving buses. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Mitigation Measures

NOI-2: Where equipment such as a vibratory roller, that produces high levels of vibration is used within 25 feet of buildings or typical equipment such as large bulldozer is used within 15 feet of buildings, the 0.2 PPV inches per second vibration damage risk threshold would be exceeded. The Construction Vibration Control Plan shall include mitigation measures to minimize vibration impacts during construction. Recommended construction vibration mitigation measures shall, at a minimum, include:

- The contractor shall minimize the use of tracked vehicles.
- The contractor shall avoid vibratory compaction within 25 feet of buildings.
- The contractor shall monitor vibration levels near sensitive receivers during activities that generate high vibration levels to ensure thresholds are not exceeded.

NOI-3: Where equipment such as a vibratory roller that produces high levels of vibration is used within 105 feet of residences or institutional daytime land uses or equipment such as large bulldozers are used within 65 feet of such uses, the 75 VdB vibration threshold for human annoyance could be exceeded at residences of the 75 VdB threshold at institutional uses. The Construction Vibration Control Plan shall include mitigation measures to minimize vibration impacts during construction. Recommended construction vibration mitigation measures that shall be considered and implemented where feasible include:

- The contractor shall minimize the use of tracked vehicles and vibratory equipment.
- The contractor shall avoid vibratory compaction.
- The contractor shall monitor vibration levels near sensitive receivers during activities that generate high vibration levels to ensure thresholds are not exceeded.

Significance of Impacts after Mitigation

Mitigation Measure **NOI-2** would reduce potential groundborne vibration impacts by requiring a quantitative performance standard and control measures to ensure buildings and structures are not damaged during the construction of the Proposed Project. Further, Mitigation Measure **NOI-3** would reduce potential groundborne vibration impacts by requiring best practices to minimize disruption of persons living, working, or staying nearby during the construction of the Proposed Project. If monitoring indicates an exceedance, vibration levels would be mandated to be

reduced through a variety of control measures. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to construction activities.

Impact 3.9-3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Construction and Operations

No Impact. The Proposed Project would operate no closer than approximately 1.9 miles south of the nearest runway associated with the Hollywood Burbank Airport. The Project would be located outside of the Airport Influence Area and Runway Protection Zone of the Hollywood Burbank Airport. The Proposed Project would not expose people residing or working in the Project Area to excessive noise levels (i.e., 65 dBA CNEL noise levels). Therefore, the Proposed Project would not result in a significant impact related to construction and operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant.

3.10. TRIBAL CULTURAL RESOURCES

The following summarizes the applicable regulations and the existing setting and provides a detailed impact assessment related to Tribal Cultural Resources. Refer to the Archaeological and Tribal Cultural Resources Technical Report (Appendix E) for additional details related to applicable regulations and the existing setting.

3.10.1 Regulatory Framework

3.10.1.1 Federal Regulations

There are no federal laws relevant to the Proposed Project and CEQA.

3.10.1.2 State Regulations

AB 52 establishes that “a substantial adverse change to a tribal cultural resource has a significant effect on the environment” and that tribal cultural resources must be considered under CEQA. AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the Project Area, including tribes that may not be federally recognized, prior to the release of notice of intent to adopt a negative declaration or mitigated negative declaration or notice of preparation of an environmental impact report. Furthermore, it provides examples of mitigation measures that may be considered to mitigate an impact to a tribal cultural resource.

3.10.1.3 Local Regulations

The Cities of Los Angeles, Burbank, Glendale, and Pasadena along with the County of Los Angeles have plans that support conservation of Tribal Cultural Resources. The goals and policies support the identification, evaluation, and mitigation of impacts to archaeological resources.

City of Los Angeles

The Conservation Element of the City of Los Angeles General Plan contains goals and policies in regard to the identification, evaluation, and mitigation of impacts to archaeological resources. The primary relevant objective is to protect the City’s archaeological and paleontological resources for historical, cultural, research, and/or educational purposes.

City of Burbank

The Open Space and Conservation Element of the City of Burbank’s General Plan contains resource management goals and policies. The primary relevant policy is to recognize and maintain cultural, historical, archeological, and paleontological structures and sites essential for community life and identity.

City of Glendale

The Historic Preservation Element of the City of Glendale's General Plan contains resource management goals and policies. The primary relevant goal is to preserve historic resources in Glendale which define community character.

City of Pasadena

The City of Pasadena's General Plan specifies guidelines toward the treatment of cultural and historic buildings, landscapes, streets and districts in the Land Use Element. The primary relevant objective is for the preservation and enhancement of Pasadena's cultural and historic buildings, landscapes, streets and districts as valued assets and important representations of its past and a source of community identity, and social, ecological, and economic vitality.

3.10.2. Existing Setting

The Project Area is situated on lands that were once inhabited by the Gabrieleno (also known as the Tongva) and to the south of lands that were once inhabited by the Tataviam. A typical Gabrieleno settlement would have had a variety of structures used for daily living, recreation, and rituals. Sweathouses, cemeteries, and clearings for dancing and ceremonies were also common in larger settlements (McCawley 1996:32–33). The Gabrieleno had many forms of cultural materials, including beads, baskets, bone and stone tools and weapons, shell ornaments, wooden bowls and paddles, and steatite ornament and cooking vessels. These items were also traded frequently, particularly with the neighboring Chumash and Serrano, in exchange for Olivella shell beads, acorns, seeds, deerskins, and obsidian (Bean and Smith 1978:547). The Tataviam lived primarily in the area along the upper Santa Clara River drainage and the Transverse Range in the Tejon Pass area. Ethnographic evidence indicates that the Tataviam resided in villages ranging in size from 10 to 15 to as many as 200 people. The culture is largely enigmatic because of their small size and few Tataviam people surviving into the early twentieth century. There are no data on Tataviam social organization that differentiates them from the neighboring Kitanemuk, Chumash, and Gabrieleño-Tongva cultural groups (Johnson and Earle 1990; King and Blackburn 1978).

The potential for the presence of existing tribal cultural resources on the Project Site was identified through a records search completed with the South Central California Information Center (SCCIC), a field investigation, and consultation with Native American groups conducted pursuant to AB 52. The findings are summarized below; refer to the Archaeological and Tribal Cultural Resources Technical Report in Appendix E for additional details.

The SCCIC records search was conducted in July 2019 and February 2020 to identify previously recorded cultural resources within the Project Area and within a 0.25-mile radius. The records search indicated that 271 previously recorded resources are located within the 0.25-mile radius, none of which are archaeological resources. No pre-historic or historic-age archaeological resources have been previously recorded within the Project Area.

The Project Area consists of existing roadways and developed parcels. A windshield survey was completed in September 2019, consisting of driving the entire alignment and options and documenting current conditions. The windshield survey and a review of historic and current aerial photographs and maps has indicated that no exposed native ground surface is present. Because there are no areas of exposed native ground surface, pedestrian survey was not warranted. No prehistoric or historic-age archaeological resources were observed during the survey.

In compliance with AB 52, Metro is conducting consultation with Native American Tribes. To initiate the identification of tribal cultural resources that could be affected by the Proposed Project, a search of the Sacred Lands File (SLF) from the Native American Heritage Commission (NAHC) was requested on March 4, 2019. The NAHC responded on June 10, 2019 and reported the search of the SLF revealed positive results for the relevant United States Geological Survey quadrangles. No additional information on the location or nature of the positive finding was provided; however, the NAHC recommended that Metro contact the Gabrieleño Band of Mission Indians – Kizh Nation (Kizh Nation) for more information. Notification letters were sent on July 3, 2019, by Metro to eight tribes or tribal representatives based on the list provided by the NAHC with an invitation to consult under AB 52. Follow-up emails were sent April 24, 2020, and phone calls were made May 19, 2020. Four responses have been received to date. These include Mr. Andrew Salas of the Kizh Nation, Mr. Jairo Avila of the Fernandeno Tataviam, Mr. Robert Dorame of the Gabrielino Tongva Indians of California Tribal Council, and Mr. Anthony Morales of the Gabrieleno/Tongva San Gabriel Band of Mission Indians.

During consultation discussions regarding the positive NAHC results, Mr. Andrew Salas of the Kizh Nation explained that the Project alignment followed a corridor of trade routes and villages heavily utilized by Native Americans and was considered highly sensitive for cultural materials by the Kizh Nation. After an explanation of the types of excavation activities associated with the Proposed Project, however, Mr. Salas stated he was not concerned about archaeological or tribal cultural resources being impacted. Mr. Jairo Avila of the Fernandeno Tataviam expressed concern with the location of ground disturbance, particularly within Glendale and the area to the north. Mr. Dorame stated that he would review previously sent documents. Mr. Morales explained that the area along the alignment was sensitive to the Gabrieleno/Tongva San Gabriel Band of Mission Indians and recommended Native American monitoring. AB 52 consultation is ongoing and has yet to identify any Tribal Cultural Resources impacts that would occur as a result of implementing the Proposed Project.

3.10.3 Significance Thresholds and Methodology

3.10.3.1 Significance Thresholds

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to Tribal Cultural Resources if it would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k); and/or
- b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.10.3.2 Methodology

Archaeological sites are usually adversely affected only by physical destruction or damage. The CEQA Guidelines contain specific standards for determining the significance of impacts to archaeological sites (PRC Section 21083.2; 14 CCR Section 15064.5(c)). If the lead agency determines that the Project may have a significant effect on unique archaeological resources, the EIR must address those archaeological resources (PRC Section 21083.2(a)).

The analysis of archaeological resources was based on a cultural resource records search and literature review at the SCCIC, a SLF file search, windshield survey, and AB 52 consultation results. No archaeological resources were identified within the alignment and options as a result of those efforts. It is possible that buried archaeological resources exist within native, undisturbed sediments, if any are present in the alignment. Therefore, this analysis examines the possibility of encountering unrecorded Tribal Cultural Resources during construction.

3.10.4 Impact Analysis

This section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation (if applicable). The potential for the Proposed Project to result in an impact to Tribal Cultural Resources is independent of the specific alignment and components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations. This is because the precise location of tribal cultural resources is unknown and could occur along any portion of the alignment and options.

Impact 3.10-1) Would the Proposed Project cause a substantial adverse change in the significance of a tribal cultural resource, listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations that are on surface streets. There would no potential for a Tribal Cultural Resources impact on SR-134 segments, which includes B, E3, G1, and the portions of F1, F2, and F3 on the SR-134 in the City of Los Angeles.

Construction

Less-Than-Significant Impact with Mitigation. The Kizh Nation, Fernandeno Tataviam, and Gabrieleno/Tongva San Gabriel Band of Mission Indians tribal representatives identified areas of high sensitivity within the Project Area; however, no known tribal cultural resources have been identified through the AB 52 consultation process. As discussed in Section 3.5, Cultural Resources, numerous resources were identified that are listed or eligible for listing in the California Register of Historical Resources and various local registers. However, none of the identified resources are tribal cultural resources as they are all associated with development that occurred following the arrival of European descendants to the region, which was generally built between 1880 and 1940.

The Proposed Project is located within an urbanized area and has been subject to disruption by development activities. As a result of previous development activities, surficial archaeological resources and any above-ground tribal cultural resources that may have existed have likely been displaced or destroyed. There is, however, the possibility that ground-disturbing activities could impact previously undiscovered buried tribal cultural resources of historical significance. Therefore, without mitigation, construction of the Proposed Project would result in a potentially significant impact related to Tribal Cultural Resources. With Implementation of Mitigation Measure **CUL-2**, set forth in Section 3.5, Cultural Resources of this Draft EIR, the Proposed Project's construction-related impact to Tribal Cultural resources would be reduced to less than significant.

Operations

No Impact. The surface-running BRT would have no potential to disturb tribal cultural resources. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

Refer to Mitigation Measure **CUL-2** in Section 3.5, Cultural Resources of the Draft EIR.

Significance of Impacts after Mitigation

Mitigation Measure **CUL-2** would mitigate inadvertent impacts to potential historic Tribal Cultural Resources. It requires a Qualified Archeologist, meeting the Secretary of the Interior's Standards for professional archaeology and tribal cultural resources, to be retained and remain on call during all ground-disturbing activities. Mitigation Measure **CUL-2** also established a treatment plan following the discovery of tribal cultural resources. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to construction activities.

Impact 3.10-2) Would the Proposed Project cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No prehistoric archaeological resources or tribal cultural resources have been recorded within the Project Area or a 0.25-mile radius. The NAHC reported the search of the SLF revealed positive results for the relevant United States Geological Survey quadrangles. No additional information on the location or nature of the positive finding was provided; however, the NAHC recommended contacting the Kizh Nation for more information. Notification letters were sent to eight tribes or tribal representatives, including the Kizh Nation, with an invitation to consult under AB 52. Follow-up emails were sent April 24, 2020, and phone calls were made May 19, 2020. Four responses have been received to date. These include Mr. Andrew Salas of the Kizh Nation, Mr. Jairo Avila of the Fernandeno Tataviam, Mr. Robert Dorame of the Gabrielino Tongva Indians of California Tribal Council, and Mr. Anthony Morales of the Gabrieleno/Tongva San Gabriel Band of Mission Indians. AB 52 consultation is ongoing and has yet to identify any Tribal Cultural Resources impacts that would occur as a result of implementing the Proposed Project.

The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations that are on surface streets. There would no potential for a Tribal Cultural Resources impact on SR-134 segments, which includes B, E3, G1, and the portions of F1, F2, and F3 on the SR-134 in the City of Los Angeles.

Construction

Less-Than-Significant Impact with Mitigation. The Proposed Project is located within a fully built-out, urbanized area. As a result of previous development activities, surficial archaeological resources that may have existed have likely been displaced or destroyed. There is, however, the possibility that ground-disturbing activities could impact previously undiscovered prehistoric archaeological or buried tribal cultural resources. Construction activities associated with the establishment of dedicated bus lanes would be limited to minor roadway construction or widening. Excavation activities would be limited to two to three feet below ground surface, within soils previously impacted during initial road and sidewalk construction.

Construction activities associated with station platforms include the placement and relocation of vertical elements. Element placement activities include shelters, seating, monument signs, electronic displays and bicycle racks. Excavation associated with these vertical elements will be limited to two to three feet below ground surface, within soils previously impacted during initial road and sidewalk construction. Vertical element relocation activities, such as trees, signs, parking meters and streetlights, may extend to a depth of 12 feet below ground surface, below the currently disturbed soils. There is the possibility that previously undiscovered and undocumented resources could be adversely affected or otherwise altered by ground disturbing activities during construction. Therefore, without mitigation, construction of the Proposed Project could result in a potentially significant impact related to Tribal Cultural Resources. With implementation of Mitigation Measure CUL-2, set forth in Section 3.5, Cultural Resources, of this EIR, this potential impact would be reduced to less than significant.

Operations

No Impact. The surface-running BRT would have no potential to disturb tribal cultural resources. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

Refer to Mitigation Measure **CUL-2** in Section 3.5, Cultural Resources of the Draft EIR.

Significance of Impacts after Mitigation

Mitigation Measure **CUL-2** would mitigate inadvertent impacts to potential subsurface archaeological deposits during construction activities. It requires a Qualified Archeologist, meeting the Secretary of the Interior's Standards for professional archaeology, to be retained and remain on call during all ground-disturbing activities. Mitigation Measure **CUL-2** also established a treatment plan following the discovery of tribal cultural resources. Therefore, with mitigation, the Proposed Project would result in a less-than-significant impact related to construction activities.

4. Other Environmental Considerations

Section 15126 of the CEQA Guidelines identifies the subjects that shall be discussed in an EIR including: effects determined not to be significant, irreversible environmental changes, and growth-inducing effects. Effects determined not to be significant, growth-inducing effects, and significant irreversible environmental changes are discussed in the following sections. This chapter also summarizes significant and unavoidable impacts identified in Chapter 3.

4.1 EFFECTS DETERMINED NOT TO BE SIGNIFICANT

Metro has determined that the Proposed Project would not have the potential to cause significant impacts related to the resource areas listed below. Similarly, there is no potential for the Proposed Project to combine with past, present, and reasonably probable future projects to create a cumulative impact to these resources. These resource areas are briefly addressed in this section. Each resource area was assessed using Appendix G of the CEQA Guidelines.

- Agriculture and Forestry Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems
- Wildfire

The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations that are on surface streets. There would no potential for the above resources to be impacted on SR-134 segments, which includes B, E3, G1, and the portions of F1, F2, and F3 on the SR-134 in the City of Los Angeles.

4.1.1 Agriculture and Forestry Resources

Impact a) Would the Proposed Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The Proposed Project is located in a densely developed urban area. The California Resources Agency does not identify any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the Study Area.¹ Due to its urban setting, the Project Area is not included in the Farmland Mapping and Monitoring Program of the California Department of Conservation.² Implementation of the Proposed Project would not result in the conversion of farmland to non-agricultural uses. No loss of farmland would result from the implementation of the Proposed Project. Therefore, no impact would occur during construction or operational activities.

Impact b) Would the Proposed Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. There are no identified agricultural resources in the Project Area, nor does the Project Area contain areas zoned for agricultural use. Los Angeles County does not participate in the Williamson Act program and the Project Area is not under a Williamson Act Contract.³ Therefore, no impact would occur during construction or operational activities.

Impact c) Would the Proposed Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. The Proposed Project is located in a densely developed urban area. There are no areas of forest land as defined in PRC Section 12220(g) or timberland as defined in PRC Section 4526 within the Project area. Therefore, the Proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, no impact would occur during construction or operational activities.

¹ California Department of Conservation, *California Important Farmland Finder*, <https://maps.conservation.ca.gov/DLRP/CIFF/>, accessed March 2020.

² California Department of Conservation, *Farmland Mapping & Monitoring Program*, <https://www.conservation.ca.gov/dlrp/fmmp>, accessed March 2020.

³ California Department of Conservation, *The Williamson Act of 2016-17*, https://www.conservation.ca.gov/dlrp/wa/Documents/stats_reports/2018%20WA%20Status%20Report.pdf.

Impact d) Would the Proposed Project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Proposed Project is located in a densely developed urban area. There is no forest land identified within the Project Area. Therefore, the Proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact would occur during construction or operational activities.

Impact e) Would the Proposed Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. There is no farmland or forestland located in the Project Area. The Proposed Project would not change the existing environment in a manner that would result in the conversion of farmland or forestland to other kinds of land uses. Therefore, no impact would occur during construction or operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to agricultural resources. In addition, an existing cumulative impact to agricultural resources has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

4.1.2 Hazards and Hazardous Materials

The methodology used to identify potential impacts consisted of locating potentially hazardous sites or sites with hazardous materials and comparing their locations with the route of the proposed project. An analysis was completed to evaluate whether potential sources or indications of hazardous substance contamination are present in the areas of right-of-way and construction for the proposed project. The analysis included of a site visit and visual inspection of exterior of the project vicinity; a review of previous EIRs, project background, and available agency records; and a computer database government record search of hazardous waste sites within one-mile band along a corridor defining the project limits. The Hazards and Hazardous Materials Technical Report is included as Appendix J to the Draft EIR.

The potential for the Proposed Project to result in an impact to hazardous and hazardous materials is independent of the specific alignment and components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) Would the Proposed Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction

Less-Than-Significant Impact. The Proposed Project would repurpose existing travel lanes and parking delineations with limited roadway reconstruction or widening. Construction would be generally limited to minor roadway modifications and bus stop amenities/improvements. Construction activities would involve the temporary use of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids for on-site construction equipment. Environmental areas of concern were not readily identified during the site reconnaissance in construction areas. The following hazardous materials could be disturbed, excavated or removed, and transported on public roads and highways:

- Lead Based Paint/Yellow Paint Striping
- Aerially Deposited Lead in Soil
- Asbestos Containing Materials (ACMs)
- Herbicides
- Petroleum hydrocarbons associated with gas stations
- Polychlorinated Biphenyls
- Known, Potential, and Historical Concern Sites (impacted soil and/or groundwater)
- Residual soil impacts associated with historical gas station contamination

The handling, transport, and disposal of all hazardous materials encountered during construction would be done according to federal, State, and local regulations. For example, the SCAQMD regulates asbestos through Rule 1403, Asbestos Emissions from Renovation/Demolition Activities. The SCAQMD also regulates volatile organic compound emissions from contaminated soil through Rule 1166. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operation

Less-Than-Significant Impact. Vehicle maintenance activities would require the use of detergents and cleansers. The potential for exposure to these hazards and hazardous materials would be limited to the existing Metro facilities. Metro facilities are staffed with personnel trained in hazardous materials emergencies. Metro staff is available 24-hours a day through the Quality Assurance Department to respond to hazardous materials releases, and Metro sites frequently undergo emergency response drills. There would be no hazardous emissions associated with operations of the Proposed Project. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact b) Would the Proposed Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction

Less-Than-Significant Impact. Construction activities would not involve the use of significantly hazardous materials. Excavation work associated with utility relocations and station platform construction would be unlikely to result in the accidental release of methane, oil, gas, or other subsurface hazardous materials. The handling, transport, and disposal of all hazardous materials encountered during construction would be done according to federal, State, and local regulations. Construction vehicles would use diesel fuel, although the accidental release of construction fuel would not significantly endanger the public or the environment through reasonably foreseeable upset or accident conditions. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operation

Less-Than-Significant Impact. Operational activities would not involve the use of significantly hazardous materials. Vehicle maintenance activities would require the use of detergents and cleansers. These are not hazardous materials that could endanger the public or the environment through reasonably foreseeable upset and accident conditions. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact c) Would the Proposed Project be reasonably anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Construction

Less-Than-Significant Impact. Potentially hazardous surface and subsurface materials, including ACM, lead based paint, and aerial deposited lead, could be released during project construction resulting in a health or safety hazard to students or school employees. There are many schools located within one-quarter mile of the 18-miles alignment. Construction activities would involve minimal ground disturbance and excavation. Construction would be unlikely to result in the accidental release of methane, oil, gas, or other subsurface hazardous materials. The handling, transport, and disposal of all hazardous materials encountered during construction would be done according to federal, State, and local regulations. For example, the SCAQMD regulates asbestos through Rule 1403, Asbestos Emissions from Renovation/Demolition Activities. The SCAQMD also regulates volatile organic compound emissions from contaminated soil through Rule 1166. Therefore, it is not reasonably anticipated that the Proposed Project would emit hazardous air emissions, or handle an extremely hazardous substance or a mixture containing an extremely hazardous substance within one-quarter mile of a school. As such, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operation

Less-Than-Significant Impact. Vehicle maintenance activities would require the use of detergents and cleansers. The potential for exposure to these hazards and hazardous materials would be limited to the existing Metro facilities. Metro facilities are staffed with personnel trained in hazardous materials emergencies. Metro staff is available 24-hours a day through the Quality Assurance Department to respond to hazardous materials releases, and Metro sites frequently undergo emergency response drills. There would be no hazardous emissions associated with operations of the Proposed Project. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact d) Would the Proposed Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Construction

Less-Than-Significant Impact. Database searches revealed 469 environmental concern sites within one mile of the Proposed Project route, including 115 permitted underground storage tanks, 331 cleanup sites, and 23 sites of historical concerns. This includes two sites in the Cortese database of hazardous sites maintained by the Department of Toxic Substances Control. It is not anticipated that any of the environmental concern sites would be disturbed by construction activities. Construction activities would involve minimal ground disturbance and excavation. Construction activities could result in the discovery of unanticipated contamination at known release sites, potential environmental concern sites, or historical environmental concern sites. The handling, transport, and disposal of all hazardous materials encountered during construction would be done according to federal, State, and local regulations. As previously discussed, the SCAQMD regulates disposal of asbestos (Rule 1403) and contaminated soils (Rule 1166). Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operation

Less-Than-Significant Impact. The Proposed Project would repurpose existing travel lanes and would not operate on an existing hazardous materials site pursuant to Government Code Section 65962.5. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact e) Would the Proposed Project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Construction

No Impact. Construction workers active in the North Hollywood portion of the Proposed Project would be located approximately 1.9 miles south of the Hollywood Burbank Airport. No component of the Proposed Project would be located within the associated Airport Land Use Plan. In addition, the Proposed Project would be approximately 0.8 miles outside of the Airport Influence Area and would not be subjected to substantial noise levels from the Hollywood Burbank Airport. Construction activities would not interfere with the operation of the airport, nor would they result in a safety hazard or excessive noise for people residing or working in the Project Area. Therefore, no impact would occur related to construction activities.

Operation

No Impact. The Proposed Project does not include a residential component or any other element that would directly result in additional residents in the Project Area. Operational activities would not expose additional residents to safety hazards or excess noises within the Project Area. The Proposed Project would create employment opportunities for bus system operations, maintenance, and administration. None of these jobs would be adversely affected by the activities of the Hollywood Burbank Airport. Therefore, no impact would occur related to operational activities.

Impact f) Would the Proposed Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Construction

Less-Than-Significant Impact. The Proposed Project would be constructed along or near several emergency/disaster routes, including the SR-134 Freeway, Colorado Boulevard, Glenoaks Boulevard, Olive Avenue, and Lankershim Boulevard.⁴ Los Angeles County and each of the cities affected by the Proposed Project have developed emergency response plans. Temporary lane closures may be required, and emergency routes may be temporarily disrupted during construction activities. The Project Area is a fully built roadway network with parallel streets in every direction. Detour routes, of which there are multiple options, would be established in consultation with emergency service providers. Although lane closures are anticipated, full street closures are not anticipated and roadway access would be maintained to accommodate emergencies. Construction activities would not impede public access to emergency/disaster routes and would not interfere with an adopted emergency response plan or

⁴ LA County Department of Water and Power, *Disaster Route Maps (by City)*, <https://dpw.lacounty.gov/dsg/DisasterRoutes/city.cfm>, accessed April 2020.

emergency evacuation plan. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operation

Less-Than-Significant Impact. The Proposed Project would operate on existing roadways and would not affect the ability of emergency routes to serve the Project Area in the event of an emergency or disaster. Bus-only lanes would be open to emergency vehicles, which could improve response plans. During emergencies, the bus-only lanes would be open to all evacuating vehicles. Operational activities would not impede public access to emergency/disaster routes and would not interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact g) Would the Proposed Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Construction

Less-Than-Significant Impact. The Cities of Los Angeles, Burbank, Glendale, and Pasadena are Very High Fire Hazard Severity Zone according to the California Department of Forestry and Fire Protection database. However, the Project Area is also highly urbanized and well protected by existing emergency response. In the event of a wildland fire outbreak during the construction phase of the Proposed Project, the construction manager would comply with the emergency response procedures of the local fire and police departments to ensure the safe evacuation of on-site workers and to ensure that construction staging would not interfere with emergency services. While construction of the stations and roadway modifications would install non-residential structures in areas prone to wildfires, these structures would not result in impacts to wildland fires, nor would they exacerbate risk of loss, injury, or death involving wildland fires. Therefore, the Proposed Project would result in less-than-significant impact related to construction activities.

Operation

Less-Than-Significant Impact. The Proposed Project would operate on existing roadways and in a highly developed urbanized area that is adequately served by fire emergency services. In the event of a wildland fire outbreak during operation of the Proposed Project, bus operators would comply with local fire and police department emergency procedures to ensure that riders and operators are safely evacuated. In addition, there are already substantial numbers of people residing and working in the Project Area who are exposed to fire risks and the Proposed Project would not worsen or otherwise exacerbate these risks. Therefore, the Proposed Project would result in less-than-significant impact related to operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to hazards or hazardous materials. In addition, an existing cumulative impact to utilities has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

4.1.3 Hydrology and Water Quality

The following analysis is included in the Water Resources and Hydrology Technical Report (Appendix T). Refer to that document for detailed discussion of applicable regulations and the existing setting. The potential for the Proposed Project to result in an impact to hydrology and water resources is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) Would the Proposed Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Construction

Less-Than-Significant Impact. Construction would include paving, striping, and reconstruction of sidewalks, which would result in an increase in surface water pollutants such as sediment, oil and grease, and miscellaneous wastes. Water quality would be temporarily affected if disturbed sediments were discharged via existing stormwater collection systems. Increased turbidity and other pollutants resulting from construction-related discharges can ultimately introduce compounds toxic to aquatic organisms, increase water temperature, and stimulate the growth of algae.

The delivery, handling, and storage of construction materials and wastes, along with use of construction equipment, could also introduce the risk of stormwater contamination. Staging areas or building sites can be sources of pollution because of the storage and use of paints, solvents, cleaning agents, and concrete during construction. Larger pollutants, such as trash, debris, and organic matter, are additional pollutants that could be associated with construction activities.

Because construction activities would disturb more than one acre, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) would be required, in accordance with the statewide National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activity (Order No. 2009-0009-DWQ, NPDES No. CAR000002) (Construction General Permit). The SWPPP would list Best Management Practices (BMPs) that would be implemented to protect stormwater runoff and include monitoring of the BMPs effectiveness.

The SWPPP would specify BMPs to ensure that water quality standards or waste discharge requirements are not violated. BMPs selected would be designed to comply with the requirements of the Regional Water Quality Control Board (RWQCB) and may be subject to

review and approval by each city. BMPs during construction may include, but not be limited to, the following:

- Silt fences
- Fiber rolls
- Street sweeping and vacuuming
- Stockpile management
- Vehicle and equipment maintenance
- Erosion control mats and spray-on applications
- Desilting basins
- Gravel bag berms
- Sandbag barriers
- Spill prevention and control
- Concrete waste management
- Water conservation practices

Such measures are routinely developed for construction sites and are proven to be effective in reducing pollutant discharges from construction activities. Implementation of the SWPPP during construction would ensure that water quality objectives, standards, and wastewater discharge thresholds would not be violated. The SWPPP would be prepared by the construction contractor and approved by each city prior to commencement of construction activities (i.e., approval of grading plans). The Proposed Project would not violate any water quality standards or waste discharge requirements. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

Less-Than-Significant Impact. The Proposed Project would result in a negligible change in impervious area and there would be no major sources of new pollutants. Because the Study Area is currently a transportation corridor, the water runoff from roadway surfaces would contain the same types of pollutants as expected under existing conditions. However, enhanced bus frequencies could result in small increases in potential pollutants from bus operations. Typical water quality pollutants associated with transportation corridors include: fallout from air pollution (e.g., nitrous oxides, hydrocarbons, lead, particulates), heavy metals from brake pads, oils, greases, and other vehicle lubricants. Because the project would replace 5,000 square feet or more of impervious surface area on an already developed site, per the County's Standard Urban Stormwater Mitigation Plan (SUSMP) requirements, as part of the stormwater program, SUSMP and Site-Specific Stormwater Mitigation Plans must be incorporated into the Project. Compliance with these regulations would require the inclusion of post-construction stormwater measures and low-impact development measures designed to minimize runoff flows and water quality degradation. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact b) Would the Proposed Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Construction

No Impact. Existing utilities that would interfere with construction of the corridor improvements would be removed and relocated for continuing service. It is unlikely that groundwater would be encountered during construction because minimal ground disturbance is necessary for the surface-based BRT. It is unlikely that shallow excavation for utility improvements would result in contact with groundwater. Should dewatering be necessary, a General Dewatering Permit would be obtained from the RWQCB. Residual contaminated groundwater could be encountered during dewatering activities. Groundwater extracted during dewatering activities would either be treated prior to discharge or disposed of at a wastewater treatment facility. Local groundwater is one of several sources of regional water supplies. If groundwater is used during construction (e.g., dust control or concrete pouring), the amount would be minimal and temporary, and therefore would not result in substantial depletion of groundwater supplies. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The existing area that would be occupied by the Proposed Project facilities is primarily impervious and does not contribute substantially to groundwater recharge. The Proposed Project would result in a negligible change to impervious surface area. It is not anticipated that operations would require new water use at Metro facilities. Therefore, no impact would occur related to operational activities.

Impact c) Would the Proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

- (i) result in substantial erosion or siltation on- or off-site;
- (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Construction

No Impact. Construction activities, such as grading and excavation, could result in increased erosion. Minor modifications to street storm drains could be required for median-running and curb-running treatments. However, these modifications would not include culvert widening or conversion of open channels to closed conduits and drainage patterns would remain approximately the same as existing conditions. Additionally, construction would not alter the course of any streams or rivers. A SWPPP would be prepared prior to starting construction. The Proposed Project would not alter the course of any water bodies and urban runoff would be

collected by the existing stormwater drainage system. As previously discussed, the SWPPP would control and minimize erosion and siltation. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project is located in a highly urbanized area and the existing right-of-way is impermeable. The Proposed Project would maintain viable drainage patterns currently existing at the Project site. Operation of the Proposed Project will not use water, so the operations will not impact erosion, flooding, or the stormwater drainage system. In addition, a SWPPP would be prepared prior to starting construction. The Project would not alter the course of any water bodies and urban runoff would be collected by the existing stormwater drainage system. Refer to Subsection 4.1.11(c) for additional storm drain details.

New stations would be constructed mainly on existing developed or paved surfaces already having a high amount of runoff. Water quality impacts to nearby channels and surface water features associated with operation of the project alternatives will be minor or negligible. The watersheds within the San Fernando and San Gabriel Valleys are primarily urban, and the net area of new impervious area as a result of the Proposed Project will be minor. Locally, the change in total runoff from the proposed (post-project) condition as compared to the existing (pre-project) condition is thus minor. Across the watershed, the net change in runoff volume due to this project will be negligible. Locally, the existing drainage pattern will be maintained in the proposed design to the maximum extent possible in order to minimize any changes to the flooding potential. Therefore, no impact would occur related to operational activities.

Impact d) Would the Proposed Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Construction

No Impact. The Proposed Project is not within the limits of a flood hazard, tsunami, or seiche zone. The potential for a catastrophic seiche event at the Devil's Gate Dam is low. The West Olive Avenue bridge crosses over the Western Burbank Channel and Federal Emergency Management Agency (FEMA) Zone AE. The existing bridge is elevated above the base flood elevations, so it is not expected to have significant risk of a 100-year flood. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project is not within the limits of a flood hazard, tsunami, or seiche zone. The potential for a catastrophic seiche event at the Devil's Gate Dam is low. The Proposed Project crosses through the Special Flood Hazard Area at a single location along its alignment; the West Olive Avenue bridge crosses over the Western Burbank Channel and FEMA Zone AE. The existing bridge is elevated above the base flood elevations, so it is not expected to have any significant risk of a 100-year flood. Therefore, no impact would occur related to operational activities.

Impact e) Would the Proposed Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Construction

No Impact. Construction activities would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Proposed Project would implement a SWPPP and several BMPs to control run-off during construction activities. The Proposed Project would use water during construction activities (e.g., for dust control). This short-term use would require minimal water supplies. Construction-related water use would not necessitate new water deliveries to the region. If groundwater is used during construction (e.g., dust control or concrete pouring), the amount would be minimal and temporary, and therefore would not result in substantial depletion of groundwater supplies. The Proposed Project would not conflict with the management of groundwater basins. Therefore, no impact would occur related to construction activities.

Operations

No Impact. Operational activities of the Proposed Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Operation of the Proposed Project will not use water, so it will not deplete or interfere with the management of the groundwater basin. The Proposed Project would result in a negligible change in impervious area and there would be no major sources of new pollutants. Because the project area is currently a transportation corridor, the water runoff from roadway surfaces would contain the same types of pollutants as expected under existing conditions. However, enhanced bus frequencies could result in small increases in potential pollutants from bus operations. Typical water quality pollutants associated with transportation corridors include heavy metals from brake pads, oils, greases, and other vehicle lubricants. Per the County's SUSMP requirements as part of the stormwater program, Site-Specific Stormwater Mitigation Plans must be incorporated into the Project. This would ensure consistency with water quality control plans and that the Proposed Project would not conflict with the management of groundwater basins. Therefore, no impact would occur related to operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to hydrology and water quality. In addition, an existing cumulative impact to water resources and hydrology has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

4.1.4 Land Use and Planning

The following analysis is included in the Land Use and Planning Technical Report (Appendix L). Refer to that document for detailed discussion of applicable regulations and the existing setting. The potential for the Proposed Project to result in an impact to land use and planning is

independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) **Would the Proposed Project physically divide an established community?**

Construction

Less-Than-Significant Impact. Construction activities would require temporary road, lane, and sidewalk closures, which would reduce pedestrian and vehicle mobility and access within and between local communities throughout the Project Area. These closures would be temporary and are not expected to substantially divide or diminish access to existing communities or neighborhoods. The ability for cars and pedestrians to travel from one area of a community to another would be maintained by standard Metro construction policies, such as traffic management and construction staging plans. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

Less-Than-Significant Impact. The Proposed Project would operate entirely within existing transportation corridors and would not cause a change in land uses. Although there would be some turn restrictions and pedestrian crossing restrictions depending on the bus lane configuration, the Proposed Project would not physically divide an established community. Specific project components are discussed below.

Center-running bus lanes would operate within the median of the roadway. Crossing and left-turning traffic would be allowed at major intersections. To maintain access to adjacent properties, vehicles would be able to make left turns at major intersections. In addition, pedestrian access would be maintained or provided via crosswalks at signalized intersections.

Median-running bus lanes would operate in the inside travel lane adjacent to a raised median. Openings for cross-street traffic would be provided at major intersections where signalized left-turn bays are provided to the outside of the bus lanes to control conflicts between left-turning vehicles and buses. In addition, pedestrian access would be maintained or provided via crosswalks at signalized intersections.

Side-running busses would operate in the outside travel lane adjacent to midblock parking and/or bike lanes. Approaching intersections, right-turning vehicles either merge with the bus lane adjacent to the curb or where a dedicated right-turn bay is provided, right-turning vehicles weave across the bus lane into the right-turn pocket. The sidewalk area would accommodate station features while maintaining pedestrian circulation and access to adjacent parcels.

Curb-running busses operate in the outside lane adjacent to the curb. Approaching intersections, right-turning vehicles merge with the bus lane, so the bus lane is shared with right-turns at intersections. The sidewalk area would accommodate station features while maintaining pedestrian circulation and access to adjacent parcels.

Mixed-flow buses would utilize existing traffic lanes shared with general-purpose traffic. Vehicle and pedestrian access to adjacent parcels would be maintained.

By providing improved bus transit service, the Proposed Project would increase mobility and connectivity within the Proposed Project corridor. There is no component that would permanently physically divide an established community. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Impact b) Would the Proposed Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project adopted for the purpose of avoiding or mitigating an environmental effect?

Construction

Less-Than-Significant Impact. Construction activities would be conducted in compliance with local land use plans and codes. It is anticipated that construction activities would take place between the hours of 7:00 a.m. and 9:00 p.m. on weekdays and 8:00 a.m. and 6:00 p.m. on Saturdays within the City of Los Angeles, in accordance with the Los Angeles Municipal Code. Within the City of Burbank, City of Glendale, and City of Pasadena, in accordance with the City Codes construction would typically occur between 7:00 a.m. and 7:00 p.m. on weekdays and 8:00 a.m. and 5:00 p.m. on Saturdays. Nighttime activities are not anticipated to be needed to construct the Proposed Project. However, at this stage of the planning process and without a construction contractor, it cannot be confirmed if nighttime construction would be necessary for specialized construction tasks. Please refer to the Section 3.9 Noise of the Draft EIR for the nighttime construction noise analysis. Should nighttime construction be necessary, the construction contractor would be required to coordinate with the jurisdictions to obtain necessary permits, such as a variance to the Noise Ordinance in the City of Los Angeles. The Proposed Project would not conflict with local land use plans. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

Less-Than-Significant Impact. The Proposed Project is a transportation project that would operate entirely within existing transportation corridors and would not impact land uses, as no acquisitions or other changes in existing land use are anticipated. While there would be some modifications to the corridor (e.g., changes in bicycle lanes, on-street parking, and turning movements), the Proposed Project corridor is an existing transportation route with ongoing bus service, and therefore, the Proposed Project operations would be compatible with existing land uses. This Proposed Project would be consistent with SCAG regional goals which focus upon land use and growth patterns that encourage transit and non-motorized transportation use by focusing growth along major transportation corridors in the region.

The City of Los Angeles is preparing the G (Orange) Transit Neighborhood Plan, which includes the North Hollywood BRT station. The Transit Neighborhood Plan is part of the City of Los Angeles Transit Neighborhood Plans initiative, which encourages livable communities and employment centers around the region's expanding transit network. The Los Angeles

Department of City Planning is focusing land use planning around transit to create complete neighborhoods. Planning regulations adjacent to transit neighborhoods typically encourage building design and a mix of uses that foster transit use. This pattern of development is intended to expand mobility options for greater numbers of people; improve the livability of the City; reduce vehicle-miles travelled and related greenhouse gas emissions consistent with regional and state policies; reinforce neighborhood character and identity; and generate greater economic opportunity for all residents. Although not available for public review, is anticipated that the Proposed Project would be consistent with the G (Orange) Transit Neighborhood Plan.

The Proposed Project could indirectly affect development in the Project Area by focusing growth in housing, employment, and commercial development within walking distance of the proposed transit stations along the project corridor. This development pattern would be consistent with regional goals.

The local land use plans for the jurisdictions along the project corridor include several goals and policies centered around establishing transit centers, maximizing transit service, accommodating future traffic demands, reducing reliance on the automobile, decreasing congestion, minimizing environmental impacts, increasing transit ridership, and developing compact pedestrian-oriented, mixed-use neighborhoods with accommodations for bicyclists. The Proposed Project would be consistent with or supportive of many of the goals and policies of the applicable jurisdictions along the corridor. The Proposed Project would not conflict with local land use plans. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Cumulative Impacts

Refer to Chapter 5.0, Cumulative Impacts for a discussion of potential cumulative impacts related to land use.

4.1.5 Mineral Resources

The following analysis is included in the Mineral Resources Technical Report (Appendix M). Refer to that document for detailed discussion of applicable regulations and the existing setting. The potential for the Proposed Project to result in an impact to mineral resources is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) Would the Proposed Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Construction

No Impact. Construction activities may result in ground disturbance related to roadway reconstruction and installation of Proposed Project components, including transit stations. Ground disturbing activities would be shallow and typically limited to within a few feet of the surface. Existing land uses and development do not allow for the extraction of mineral

resources, and resource recovery does not occur within the Project corridor. Although there is a possibility that significant mineral resources could be located within certain areas, mining would not be feasible. For example, the mineral resource zone along the Arroyo Seco canyon is currently developed with the SR-134, and the Proposed Project would not disturb land along this portion of the alignment. The mineral resource zone in the North Hollywood community in the City of Los Angeles is heavily urbanized and the Proposed Project would not interfere with a mineral resource at this location. Construction activities would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, no impact would occur related to construction activities.

Operations

No Impact. Operational activities would not result in the extraction of sand, gravel, or oil resources or further preclude the extraction of such resources and would not introduce new oil districts or oil producing uses. Operational activities would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, no impact would occur related to operational activities.

Impact b) Would the Proposed Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Construction

No Impact. No mineral resource recovery sites have been identified in the Project Area. Construction activities would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, no impact would occur related to construction activities.

Operations

No Impact. Operational activities would not result in the extraction of sand, gravel, or oil resources or further preclude the extraction of such resources and would not introduce new oil districts or oil producing uses. Operational activities would not result in the loss of availability of a mineral resource recovery site delineated on a local general plan, specific land or other land use plan. Therefore, no impact would occur related to operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to mineral resources. In addition, an existing cumulative impact to mineral resources has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

4.1.6 Population and Housing

The following analysis is included in the Population and Housing Technical Report (Appendix Q). Refer to that document for detailed discussion of applicable regulations and the existing setting. The potential for the Proposed Project to result in an impact to population and housing is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) Would the Proposed Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Construction

No Impact. The Proposed Project would be constructed within the curb lanes of an existing roadway and would not result in the displacement of any existing housing units. The Proposed Project would not require any right-of-way acquisitions that would impact existing housing. In addition, the Proposed Project would not require the construction or expansion of a maintenance and storage facility. As a result, no housing displacement would result from the Proposed Project. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project would not require the acquisition of residential properties or the displacement of existing housing units. Operation and maintenance activities would be focused on physical improvements including the BRT route and stations/platforms which would also not require the displacement of any housing units. Accordingly, no housing displacement impacts would occur as result of the Proposed Project. Therefore, no impact would occur related to operational activities.

Impact b) Would the Proposed Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Construction

No Impact. The Proposed Project would be constructed within the curb lanes of an existing roadway and would not result in the displacement of any people or businesses. The Proposed Project would not require any right-of-way acquisitions for the proposed routes or stations/platforms that would necessitate construction of replacement housing or relocation of existing businesses. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project would not displace any people or businesses since the proposed transportation facilities would operate entirely within the existing transportation ROW. No physical barriers would be introduced that would displace people or businesses. Therefore, no impact would occur related to operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to population or housing. In addition, an existing cumulative impact to population or housing has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

4.1.7 Public Services

The following analysis is included in the Public Services Technical Report (Appendix R). Refer to that document for detailed discussion of applicable regulations and the existing setting. The potential for the Proposed Project to result in an impact to public services is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) For fire protection, would the Proposed Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Construction

No Impact. Construction would not result in increased demand for fire protection services due to changes to the existing population in the region. Construction jobs are temporary in nature and the employment opportunities resulting from construction are not anticipated to result in population growth. A substantial employment base and residential population currently exist in the Cities of Los Angeles, Burbank, Glendale and Pasadena and within commuting distance of the corridor. Accordingly, employment opportunities to support construction of the Proposed Project would not be expected to result in a substantial migration of additional residents or otherwise induce substantial population growth in communities and neighborhoods such that new fire protection facilities would be required to serve the area.

The Proposed Project would require temporary sidewalk, lane, and road closures, to construct stations, restripe roadways, and reconfigure existing curbs. Emergency vehicle access may be impeded during construction. Lane and/or road closures would be scheduled to minimize disruptions. The nearest local fire responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing. There would be no need for new or physically altered fire protection facilities. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project would not include the development of new housing or businesses that would directly induce population growth. While the Proposed Project would generate additional employment opportunities for bus drivers and maintenance personnel, the

number of jobs would be relatively few, and a substantial employment base and residential population currently exist within the region to meet the future employment needs.

The Proposed Project would not require the physical acquisition, displacement, or relocation of fire protection facilities; therefore, there would be no need to replace or physically alter existing fire protection facilities. Conversion of existing mixed-flow lanes to dedicated BRT lanes could result in additional roadway congestion due to the decreased roadway capacity for mixed-flow traffic. This increased roadway congestion could reduce access for emergency vehicle response. However, with enhanced transit services, the Curb-Running BRT Alternative may result in higher transit ridership, which would reduce traffic congestion over the long-term operation of the project and facilitate faster response times for police and fire protection services. In addition, emergency vehicles would be allowed to utilize the dedicated bus lanes to respond to emergencies. Additionally, Project facilities would be designed in accordance with Metro Design Criteria including Fire/Life Safety Design Criteria. Accordingly, the Proposed Project is likely to improve emergency vehicle access. Therefore, no impact would occur related to operational activities.

Impact b) For police protection, would the Proposed Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Construction

No Impact. Construction would not result in increased demand for police services due to changes to the existing population in the region. Construction jobs are temporary in nature and the employment opportunities resulting from construction are not anticipated to result in population growth. A substantial employment base and residential population currently exist in the Cities of Los Angeles, Burbank, Glendale and Pasadena within commuting distance of the corridor. Accordingly, employment opportunities to support construction would not be expected to result in a substantial migration of additional residents to the region or otherwise induce substantial population growth in communities and neighborhoods such that new police protection facilities would be required to maintain acceptable service ratios and response times.

The Proposed Project would require temporary sidewalk, lane, and road closures, to construct stations, restripe roadways, and reconfigure existing curbs. Emergency vehicle access may be impeded during construction. Lane and/or road closures would be scheduled to minimize disruptions. The nearest local police responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing. There would be no need for new or physically altered police protection facilities. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project would not include the development of new housing or businesses that would directly induce population growth. While the Proposed Project would generate additional employment opportunities for bus drivers and bus maintenance personnel, the number of jobs would be relatively few and a substantial employment base and residential population currently exist within the region to meet the future employment needs.

The Proposed Project would not require the physical acquisition, displacement, or relocation of police protection facilities; therefore, there would be no need to replace or physically alter existing police protection facilities. Conversion of existing mixed-flow lanes to dedicated BRT lanes could result in additional roadway congestion due to the decreased roadway capacity for mixed-flow traffic at certain locations. This increased roadway congestion would not reduce emergency vehicle response times because fire and police vehicles would be allowed to utilize the dedicated bus lanes to respond to emergencies. In addition, with enhanced transit services, the Proposed Project may result in higher transit ridership, which would reduce traffic congestion over the long-term operation of the project and facilitate faster response times for police and fire protection services. It is not anticipated that the provision of new bus stations and platforms would lead to an increase in police service calls or the local jurisdiction service ratio. Metro's transit policing strategy includes Transit Services Bureau officers and contracted police services dedicated to serving the Metro system, which includes the provision of the system expansion. BRT system riders would be subject to Metro guidelines and requirements pertaining to safety and crime prevention and all Metro facilities (e.g., bus stops and stations) would be designed in accordance with Metro Design Criteria including Fire/Life Safety Design Criteria including security lighting, open visibility, and security information. Design of each BRT station and development of operating plans would be coordinated with each local jurisdictions' fire and police service providers to ensure adequate emergency access and safety design. Accordingly, the Proposed Project is likely to improve emergency vehicle access. Therefore, no impact would occur related to operational activities.

Impact c) For schools, would the Proposed Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Construction

No Impact. Construction would not result in substantial changes to the existing population in the region as construction jobs are temporary and there is a substantial employment base and residential population in the region to fill any construction-related jobs resulting from the Proposed Project. Portions of the Pasadena City College parking lot may be inaccessible while the terminal station is under construction. If needed, temporary parking spaces would be made available to ensure adequate parking for City College staff and students; no physical alterations or construction of replacement parking facilities would be needed to address the temporary loss

of parking based on existing supply. In addition, it is common for Metro to schedule construction activities to minimize school disruption such as conducting the heaviest period of construction during summer months when fewer students are present. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project would not require the physical acquisition, displacement, or relocation of school facilities; therefore, there would be no need to replace or physically alter existing school facilities. The Project does not include residential or commercial uses that would result in an increase in demand for need for new school facilities. Metro and Pasadena City College are discussing a bus terminal on campus along with electric charging infrastructure. Pasadena City College is in the process of updating the Facilities Master Plan, which considers the potential for a bus terminal. Project-related improvements would be coordinated with Pasadena City College to avoid unplanned educational displacement. If the bus terminal on Pasadena City College's campus is constructed as part of the Proposed Project, it is not anticipated that Project facilities would displace or relocate classroom facilities. While the Project would not lead to increased demand for primary school facilities, the new transit service would improve access to Pasadena City College. The anticipated increase in demand for City College facilities is not anticipated to be substantial as the Proposed Project is unlikely to result in a substantial number of new students to the college, but rather an alternative transportation mode for commuting students. Therefore, no impact would occur related to operational activities.

Impact d) For parks, would the Proposed Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Construction

No Impact. The Proposed Project would not require the physical acquisition, displacement, or relocation of parks or other recreational facilities. Construction activities would likely require temporary sidewalk and lane closures, which could inhibit access to park facilities. Metro standard practices include timing closures to minimize disruptions. There would be no need for new, expanded, or temporary park facilities to meet existing demand for parkland. Additionally, construction would not increase use of the parks and recreational facilities or otherwise generate increased demand for such facilities through population growth as a result of construction job opportunities. Construction jobs are temporary in nature and the employment opportunities resulting from construction are not anticipated to result in population growth that would increase existing demand for park facilities. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project would be constructed and would operate within the existing transportation ROW and would not impact parks nor have long-term effects. The Proposed Project would not require the physical acquisition, displacement, or relocation of park facilities; therefore, there would be no need to replace or physically alter existing park facilities. The Project does not include residential or commercial uses that would result in a need for new parks and recreational facilities. Indirectly, the Project would increase access to parks and recreational facilities, which may result in increased usage of these facilities and the need for expansion or new construction. However, local residents are the primary users of parks and other recreational facilities within the corridor and the Project would not induce a substantial number of new visitors such that new or physically altered park facilities would be required to meet demand. Therefore, no impact would occur related to operational activities.

Impact e) For other public facilities, would the Proposed Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Construction

No Impact. Construction would not result in substantial changes to the existing population in the region as construction jobs are temporary and there is a substantial employment base and residential population in the region to fill any construction-related jobs resulting from the Proposed Project. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project would not require the physical acquisition, displacement, or relocation of libraries or other public facilities; therefore, there would be no need to replace or physically alter existing libraries or other public facilities. The Project does not include residential or commercial uses that would result in a need for new libraries or other public facilities. Indirectly, the Project would increase access to facilities, which may result in increased usage of these facilities and the need for expansion or new construction. However, local residents are the primary users of these facilities within the corridor and the Project would not induce a substantial number of new visitors such that new or physically altered parks, libraries or other public facilities would be required to meet demand. Therefore, no impact would occur related to operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to public services. In addition, an existing cumulative impact to public services has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

4.1.8 Recreation

The following analysis is included in the Parks and Other Recreational Facilities Technical Report (Appendix P). Refer to that document for detailed discussion of applicable regulations and the existing setting. The potential for the Proposed Project to result in an impact to parks and other recreational facilities is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) Would the Proposed Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Construction

No Impact. The Proposed Project would not require the physical acquisition, displacement, or relocation of parks or other recreational facilities during construction. Construction activities associated with the Proposed Project would result in temporary nuisances associated with noise, dust, odors, and traffic delays, which could affect the use and physical quality of adjacent parks and recreational facilities. Construction activities would likely require temporary sidewalk and lane closures, which could inhibit access to recreational facilities. Metro standard practices include timing closures to minimize disruptions. Additionally, construction of the Proposed Project would not increase use of the parks and recreational facilities through population growth as a result of construction job opportunities. Construction jobs are temporary in nature and the employment opportunities resulting from construction are not anticipated to result in population growth that would increase the use and physical deterioration of park and recreational facilities. Construction activities would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project does not include residential or commercial uses that would result in increased use of parks and recreational facilities, and therefore operational activities would not directly lead to the substantial physical deterioration of parks and recreational facilities. An indirect impact may occur because access to parks and other recreational facilities would be increased as a result of the Proposed Project. Local residents are the primary users of parks and other recreational facilities adjacent to the routes and it is not anticipated that the Proposed Project would induce a substantial number of new visitors to parks and recreational facilities. Furthermore, the Proposed Project is anticipated to primarily be used by daytime commuters who are unlikely to utilize parks and recreational facilities during the work week.

The Proposed Project may require additional Metro employees associated with more frequent bus service and additional buses for maintenance. The number of new jobs would be small, and a substantial employment base and residential population currently exists in the region. During operations, the Proposed Project is anticipated to increase the daytime bus commuters but is

not expected to result in substantial migration or substantial increase in the construction of residential projects.

Operational activities would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, no impact would occur related to construction activities.

Impact b) Does the Proposed Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Construction

No Impact. The Proposed Project does not include any recreational facilities, nor would it require the construction or expansion of recreational facilities. The Proposed Project would not include the construction of residential uses or approval of a tentative map or parcel map, which would require the construction of new recreational facilities in accordance with the Quimby Act of 2015. Construction workers are unlikely to utilize local parks and are more likely to utilize parks near their places of residence. Furthermore, construction jobs are temporary in nature and the employment opportunities resulting from construction are not anticipated to result in population growth that would necessitate the need for more recreational facilities. Construction activities would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project does not include residential or commercial uses that would result in increased use of parks and recreational facilities and the need for new parks and recreational facilities. Indirectly, the Proposed Project would increase access to parks and recreational facilities, which may result in increased usage of these facilities and the need for expansion or new construction. However, local residents are the primary users of parks and other recreational facilities within the corridor and it is not anticipated that the Proposed Project would induce a substantial number of new visitors to parks and recreational facilities. Furthermore, the Proposed Project is anticipated to primarily be used by daytime commuters who are unlikely to utilize parks and recreational facilities during the work week. As such, the Proposed Project would not result in the need for construction or expansion of recreational facilities which would have a physical effect on the environment. Operational activities would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Therefore, no impact would occur related to operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to recreation. In addition, an existing cumulative impact to recreation has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

4.1.9 Utilities and Service Systems

The following analysis is included in the Utilities and Service Systems Technical Report (Appendix S). Refer to that document for detailed discussion of applicable regulations and the existing setting. The potential for the Proposed Project to result in an impact to utilities and service systems is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) Would the Proposed Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Construction

No Impact. Utility companies have not been contacted at this time in the planning process. During Advanced Conceptual Engineering, the Project team would coordinate with utility companies to request information. These companies would be contacted to ensure they are aware of the Proposed Project and provide mark-ups, as-builts or confirmation of owner exhibits. A utility composite basemap would be developed to outline the utilities within the Project boundary. The basemap would be used to identify conflict locations with Proposed Project work and existing utility facilities. Each utility company would need to be contacted on a periodic basis to determine if there are any new plans for their facilities. The utility composite basemap would be updated as new information becomes available.

Utility coordination meetings would be set up with each utility company with potentially affected facilities to help determine if relocation would be required or the facility could be protected-in-place. The utility coordination meetings would help to ensure all the utility companies are engaged early during Project development. Preliminary relocation concepts would be developed and presented to each utility owner with affected facilities. Utility agreements would be finalized to ensure the designs are prepared by third party utility owners. An example of the utility notification letter can be found in the Utilities and Service Systems Technical Report (Appendix S).

Water Facilities. The Proposed Project would not include a new source of potable water consumption. Water appurtenances such as fire hydrants and water meters could be relocated and/or adjusted to accommodate project elements such as BRT stations. These facilities would be relocated in close proximity to existing facilities, typically within a few feet of existing locations. Relocations would require minimal ground disturbance and would be finished within a few days. Construction activities would not require the construction or relocation of water

facilities which could cause significant environmental effects. Therefore, no impact would occur related to construction activities.

Wastewater Treatment or Storm Water Drainage Facilities. Construction activities, such as earthwork, could result in increased erosion. In addition, the Proposed Project could require minor modifications to storm drains. Catch basins, manholes and to a certain extent laterals may be relocated and/or adjusted where conflicts exist. These modifications would not include culvert widening or conversion of open channels to closed conduits and drainage patterns would remain approximately the same as currently exists. Construction activities would not alter the course of any streams or rivers. Construction activities would not require the construction or relocation of wastewater treatment or storm water facilities which could cause significant environmental effects. Therefore, no impact would occur related to construction activities.

Electric Power Facilities. The Proposed Project would not require new or relocated distribution infrastructure such as transmission lines from power facilities and transformers. BRT station lighting and electric bus charging stations would receive power from existing electricity lines. Sidewalk light poles may need to be relocated at various locations, although the few feet of movement would not require new distribution infrastructure. Project-related buses would be electrically powered and no new infrastructure would be needed to provide electricity to the buses. The location of charging stations for electric buses would be analyzed and located where sufficient capacity is available. Typically, a transformer, conduit, and charging station are required. Space requirements should be accommodated depending on the current electrical charging technology and infrastructure available at the time of design and construction. Bus charging infrastructure is being constructed along the G Line (Orange) terminus at Metro North Hollywood Station and will be completed and available for use by this Project. The Proposed Project would not require the construction or relocation of electric power facilities which could cause significant environmental effects. Therefore, no impact would occur related to construction activities.

Natural Gas Facilities. The Proposed Project would not require new natural gas facilities. The majority of the Project would be constructed in the existing ROW and no natural gas facilities have been identified in the construction zone outside of the ROW. At this time, no natural gas lines have been identified that would require relocation. Therefore, construction activities would not require the construction or relocation of natural gas facilities which could cause significant environmental effects. Therefore, no impact would occur related to construction activities.

Telecommunication Facilities. The Proposed Project would not require new telecommunication facilities. The majority of the Project would be constructed in the existing right-of-way and no telecommunication facilities have been identified in the construction zone outside of the ROW. Therefore, no impact would occur related to construction activities.

Operations

No Impact. This potential impact relates to significant environmental effects associated with the construction or relocation of utilities. There is no nexus for assessing the potential for operational impacts. Therefore, no impact would occur related to operational activities.

Impact b) Would the Proposed Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Construction

No Impact. The Proposed Project would use water during construction activities (e.g., for dust control). This short-term use would require minimal water supplies when compared to regional water use associated with land use developments. Construction-related water use would not necessitate new water deliveries to the region. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project does not include a long-term, permanent source of water use. Therefore, no impact would occur related to operational activities.

Impact c) Would the Proposed Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Construction

No Impact. The Proposed Project would generate wastewater during construction through the use of temporary worker restrooms. The Proposed Project would utilize the existing construction worker pool in the Los Angeles County as opposed to importing new workers that would increase wastewater generation. In addition, wastewater generation would be negligible in relation to the size and capacity of the wastewater treatment system and would not overburden the system. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project does not include a source of wastewater. Restrooms would not be provided at BRT stations. Therefore, no impact would occur related to operational activities.

Impact d) Would the Proposed Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Construction

No Impact. The Proposed Project would require the removal of soil, asphalt and concrete to accommodate various construction activities, including station construction and curb cuts. The anticipated amount of construction debris has not been estimated at this time in the planning process, although minimal debris is anticipated from construction of the surface-running BRT primarily in the existing right-of-way. The construction contractor would comply with AB 939,

which requires a Solid Waste Diversion Program and diversion of at least 50 percent of the solid waste from landfills to recycling facilities. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project does not include a direct operational source of solid waste. Indirectly, solid waste would be generated by transit users. Stations would include waste bins that would be emptied at least one time per week. The solid waste from one waste bin at each station would have no potential to affect landfill capacity of solid waste reduction goals. Therefore, no impact would occur related to operational activities.

Impact e) Would the Proposed Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Construction

No Impact. The Proposed Project would be required to comply with all applicable federal, state, and local statutes and regulations pertaining to solid waste disposal. There is no element of construction activities that would be outside of compliance. Therefore, no impact would occur related to construction activities.

Operations

No Impact. The Proposed Project would be required to comply with all applicable federal, state, and local statutes and regulations pertaining to solid waste disposal. There is no element of operational activities that would be outside of compliance. Therefore, no impact would occur related to operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to utilities. In addition, an existing cumulative impact to utilities has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

4.1.10 Wildfire

The following Wildfire Impact Statements relate to projects located in or near State responsibility areas or lands classified as very high fire hazard severity zones. The Board of Forestry and Fire Protection is a Governor-appointed body, whose mission is to lead California in developing policies and programs that serve the public interest in environmentally, economically and socially sustainable forest and rangeland management; and a fire protection system that protects and serves the people of the state. One of its statutory responsibilities are to provide direction and guidance to the Department of California of Forestry and Fire Protection (CAL FIRE). CAL FIRE's mission emphasizes the management and protection of California's natural resources; a goal that is accomplished through ongoing assessment and study of the State's natural resources and an extensive CAL FIRE Resource Management Program. CAL FIRE maintains a list of cities that are

considered Very High Fire Hazard Severity Zones (VHFHSZ).⁵ The Cities of Los Angeles, Glendale, Burbank, and Pasadena are all currently on the VHFHSZ list. Additionally, CAL FIRE maintains a database containing Fire Hazard Severity Zones, which identifies State Responsibility Area and Local Responsibility Area (LRA). Cities and Counties are required by law to adopt a comprehensive general plan with a safety element. Land use planning incorporates safety element requirements for State Responsibility Areas and VHFHSZs. A search conducted found that the Project Area contains two LRAs and no State Responsibility Areas.

The potential for the Proposed Project to result in an impact from wildfires is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) Would the Proposed Project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The Proposed Project would operate along or near several emergency/disaster routes, including the SR-134 Freeway, Colorado Boulevard, Glenoaks Boulevard, Olive Avenue, and Lankershim Boulevard.⁶ Los Angeles County and each of the cities affected by the Proposed Project have developed emergency response plans. The Proposed Project would not impede public access to emergency/disaster routes and would not interfere with an adopted emergency response plan or emergency evacuation plan, including the Los Angeles County Operational Area Emergency Response Plan. Operations would not affect emergency evacuation plans and would potentially provide a community benefit. Bus-only lanes would be open to emergency vehicles, which could improve response plans. During emergencies, the bus-only lanes would be open to all evacuating vehicles. The Project Area is a fully built roadway network with parallel streets in every direction. Detour routes, of which there are multiple options, would be established in consultation with emergency service providers. Although lane closures are anticipated, full street closures are not anticipated and roadway access would be maintained to accommodate emergencies. Therefore, no impact would occur related to construction or operational activities.

⁵ California Department of Forestry and Fire Protection, *Cities for which CAL FIRE has made recommendations on Very High Fire Hazard Severity Zones (VHFHSZ)*, <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>, accessed March 2020.

⁶ Los Angeles County Department of Public Works, *Disaster Route Maps*, <https://dpw.lacounty.gov/dsg/DisasterRoutes/city.cfm>, accessed March 2020.

Impact b) Would the Proposed Project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The Proposed Project does not include a land use development with occupants (e.g., residential or commercial developments). Buses are mobile vehicles that can maneuver to avoid rider and driver exposure to wildfire risk. There is no potential for the Proposed Project to expose people to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire. Therefore, no impact would occur related to construction or operational activities.

Impact c) Would the Proposed Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. The Proposed Project would not require the installation or maintenance of new infrastructure such as roads, fuel breaks, emergency water sources, power lines, or other utilities. Construction activities would include the installation of additional bus stations and bulb-outs that would likely require the slight relocation of some utilities. Such activities would occur in highly developed, urbanized areas and would not exacerbate fire risk and would not result in temporary or ongoing impacts to the environment. Therefore, no impact would occur related to construction or operational activities.

Impact d) Would the Proposed Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Proposed Project is located in a densely developed urban area that is not prone to wildfires. The topography of the Project Area is relatively flat, and the Proposed Project is not located in an area with known landslide activity.⁷ The roadways affected by the Proposed Project are also not known to be adjacent to post-fire slope instabilities. The proposed Project would not result in drainage changes or increased runoff in the Project Area. However, proximity to the Verdugo Mountains and San Rafael Hills creates the potential for the affected roadways to be exposed to post-fire flooding. Numerous debris basins are located at the foot of these mountains that would protect affected roadways from damage due to post-fire slope instability or debris flows. Therefore, no impact would occur related to construction or operational activities.

Cumulative Impacts

The Proposed Project would not result in significant impacts to wildfires. In addition, an existing cumulative impact to wildfires has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

⁷ USGS, *U.S. Landslide Inventory*, <https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=ae120962f459434b8c904b456c82669d>, accessed March 20, 2020.

4.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

No significant and unavoidable impacts have been identified in the Draft EIR.

4.3 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires that the EIR consider growth-inducing impacts of the Proposed Project. Growth-inducing impacts are characteristics of a project that could directly or indirectly foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. According to the CEQA Guidelines, such projects include those that would remove obstacles to population growth (e.g., a major expansion of a wastewater treatment plant). In addition, as set forth in the CEQA Guidelines, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Projects that are growth-inducing are typically located in more isolated or underdeveloped areas because these areas are more likely to require the additional infrastructure (e.g., housing, roads, utilities, schools) to support any growth that would accompany the project. Generally, these impacts are considered significant if a project would directly or indirectly lead to substantial population or employment growth in the project area that would exceed growth projections and planned capacities, or otherwise lead to a degradation of environmental quality such as increased noise or air quality.

The Proposed Project would not construct new homes or new commercial land uses and therefore would not directly result in any growth. Transit infrastructure projects within urban areas generally do not result in substantial growth inducement because the areas being served do not have vacant land available for new development. Cities within the Project Area are established communities that have generally experienced relatively stable population and housing growth with a mix of gains and losses in employment depending on the national and regional economy. The Proposed Project would be located within a densely developed region and would not extend into previously undeveloped areas. Additional permanent employment opportunities in the form of bus drivers and bus maintenance personnel may occur under the Proposed Project. However, this potential increase would be relatively minor and would not result in a significant increase in population. Therefore, the Proposed Project would not directly induce substantial residential or employment population growth.

While the Project would not directly induce substantial growth in the sub-region, it would have the potential to indirectly influence growth by stimulating new transit-oriented development surrounding the proposed BRT stations. This growth may occur from the implementation of regional and local policies that encourage growth opportunities for transit-orientated development around new stations; intensification of land uses at potential station areas and along the corridor; alternatives to automobile travel; and the planning for residents, visitors, and employees within the vicinity of the areas. The Proposed Project would be consistent with the growth management goals of each of the affected cities by providing mobility improvements and connections to activity centers where local jurisdictions have planned for growth to be focused. For example, the existing Burbank Media District Specific Plan, Glendale Downtown Specific

Plan, and Pasadena Central District Specific Plan all seek to concentrate housing and employment growth in these districts due to their centralized locations and regional transit connectivity. Similarly, there are a number of regional and local plans and policies which encourage and incentivize development near transit stations, such as the City of Los Angeles' Affordable Housing Incentive Program (TOC Guidelines). Such programs incentivize development by providing density bonuses, allowances, and other benefits to developers to encourage development of compact communities surrounding transit stations.

There are a number of factors that influence growth related to transit improvements including: public policies to encourage development, station area demographics, high transit reliability and effective service and design, strong real estate market trends, assembly of parcels, and station area/neighborhood design. To the extent that the Project improves transit reliability and overall service in the region, it would incentivize some degree of development consistent with planning efforts to develop compact communities in centralized areas that are well served by transit. The North Hollywood and Pasadena portions of the Project Area are already well served by transit and have seen some degree of transit-oriented development surrounding the Metro B/G Line (Red/Orange) North Hollywood Station and the Pasadena L Line (Gold) Memorial Park Station; however, the other portions of the Project Area have not experienced the same degree of transit investment and related new development. As such, portions of the Cities of Burbank and Glendale as well as the Eagle Rock community of the City of Los Angeles may be subject to new development opportunities surrounding the proposed BRT stations by triggering development incentives associated with TOC policies and programs in the respective jurisdictions. With the implementation of the Proposed Project, the opportunities for such growth would be enhanced and facilitated while helping to reduce reliance on personal automobiles in the region. In this regard, the Proposed Project would not only support the growth management goals of the affected cities, but it would also help to reduce potential environmental impacts associated with foreseeable growth. Growth that may indirectly result from implementation of the Project would not be unplanned but rather would be consistent with local and regional planning efforts to manage growth. It is not anticipated that the level of development that could be stimulated by the Project would exceed any regional growth projections given the already densely developed condition of the Project Area. Potential growth inducement impacts associated with the Proposed Project is less than significant.

4.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126.2(d) requires a discussion of any significant irreversible environmental changes that would be caused by a proposed project should it be implemented. The CEQA Guideline state that uses of nonrenewable resources during the initial and continued phases of a project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with a project. Irrecoverable commitments of resources should be evaluated to assure that such current consumption is justified.

Construction of the Build Alternatives would entail the one-time irreversible and irretrievable commitment of nonrenewable resources, such as energy (fossil fuels used for construction equipment) and construction materials (such as lumber, sand, gravel, metals, and water). Additionally, labor and natural resources would be used to produce construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect upon continued availability of these resources. Any construction would also require a substantial onetime expenditure of both local and Federal funds, which are not retrievable. Land used to construct the proposed facilities is considered an irreversible commitment during the period the land is used. After construction is completed, land used for construction staging would be available for other uses. The Proposed Project would commit land at stations. Stations and aboveground elements would be located on sidewalks or medians adjacent to existing commercial, retail, and industrial uses and would not require a substantial land commitment. This commitment of long-term land resources is consistent with the policies of the jurisdictions in the Project Area to promote transit-oriented uses.

The consumption of nonrenewable resources related to Proposed Project includes water, petroleum products, and electricity. Water would be used to control fugitive dust emissions and clean buses. In addition, fossil fuels would be used for transporting workers and materials during construction, and electricity and/or natural gas fuel would be used for buses, stations, and worker vehicles for maintenance and operation during the life of the project. The consumption amount and rate of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of such resources, because they would increase transit use (which increases energy efficiency) and decrease automobile dependence (which uses fossil fuels).

Benefits from the Proposed Project would include improved mobility, transit accessibility, and energy and time savings. The resources commitment and consumption are considered appropriate because regional and local area residents and visitors would benefit from improved transit services, which, in turn, would result in an overall decrease in the irreversible and irretrievable commitment of nonrenewable resources. The Proposed Project would remove passenger cars from the regional roadway network, easing the increase in VMT and the usage of fossil fuels. As discussed within the Draft EIR, the Proposed Project would reduce regional VMT and reduce mobile source energy consumption. Therefore, the project can substantially decrease the irreversible and irretrievable commitment of resources.

Maintenance of the buses would primarily use household-type cleaning materials, such as detergents and cleansers. Oil, solvents, and other materials would be used for train maintenance in relatively small volumes and are not considered acutely hazardous materials according to the National Institute of Health. There is the potential for hazardous materials/waste spills to occur; however, the storage and disposal of hazardous materials/waste will be conducted in accordance with all federal and State requirements in order to prevent or manage hazards. In the unlikely event that a spill does occur, remediation would be conducted accordingly. Therefore, there would be minimal risk of irreversible damage caused by an environmental accident associated with hazardous or acutely hazardous materials.

5. CUMULATIVE IMPACTS

CEQA Guidelines Section 15355 defines cumulative impacts as two or more individual effects resulting from a project or a number of projects that, when considered together, are considerable or will compound other environmental impacts. CEQA Guidelines Section 15130(a) requires that an EIR shall discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." As set forth in CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Thus, the cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions to more accurately gauge the effects of multiple projects.

CEQA Guidelines Section 15130(b) further provides that the discussion of cumulative impacts reflects "the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone." Rather, the discussion is to "be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute." Pursuant to CEQA Guidelines Section 15130, subdivision (a), the analysis of cumulative impacts is only necessary if the impact is significant and the project's incremental effect is cumulatively considerable. If the lead agency determines that a project's incremental effect is not cumulatively considerable, the EIR need only briefly describe the basis for its findings.

CEQA Guidelines Sections 15130(b)(1)(A) and (B) include two methodologies for assessing cumulative impacts. One method is a list of past, present, and probable future projects producing related or cumulative impacts. The other method is 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. Such plans may include a general plan, regional transportation plan, or plans for reducing greenhouse gas emissions.

5.1 METHODOLOGY

The assessment presented below addresses the potential effect of the Proposed Project in combination with the Related Projects or in combination with adopted growth projections. Cumulative impacts for each environmental resource are assessed using the following approach:

- Decide if the Related Projects list or Plans/Projections method is more appropriate for each environmental resource.
- Identify the study area for the cumulative impact analysis for each environmental resource.

- Determine whether the Proposed Project’s incremental effects in combination with Related Projects’ effects or Plans/Projections growth and development would result in a significant cumulative impact.
- Determine whether the Proposed Project’s incremental contribution to the cumulative impact is considerable.
- If the Proposed Project’s incremental contribution to a significant cumulative impact is cumulatively considerable, determine whether the Proposed Project’s contribution would be less than cumulatively considerable due to implementation of proposed mitigation measures.

Except for GHG emissions, which is inherently a cumulative impact, cumulative impacts for each resource are determined by assessing if there is an existing cumulative impact and, if so, whether the Proposed Project’s incremental contribution to that significant impact is cumulatively considerable. If it is determined that the Proposed Project combined with the Related Projects could result in a significant cumulative impact, then the Proposed Project’s incremental contribution is evaluated to determine whether it would be cumulatively considerable. If the combined impact of the Proposed Project with the Related Projects would not be significant, no analysis of the Proposed Project’s incremental contribution is necessary. GHG emissions are assessed using consistency with projections in planning documents.

Table 5-1 shows the significance of the Proposed Project’s impacts on each environmental topic evaluated in the Draft EIR.

Table 5-1 – Impact Summary for Cumulative Analysis

Environmental Topic	Project-Specific Impact?	Potential for Cumulative Impact?
Agricultural and Forestry Resources Hydrology and Water Quality Mineral Resources Population and Housing Public Services Recreation Utilities and Service Systems Wildfire	None	No
Greenhouse Gas Emissions	No	Yes (Existing Cumulative Impact) – Further Assessed Below
Air Quality Energy Resources Land Use and Planning	Less-Than-Significant	Yes – Further Assessed Below
Aesthetics Biological Resources Geology and Soils Hazards and Hazardous Materials Noise Cultural Resources Transportation Tribal Cultural Resources	Less-Than-Significant with Mitigation	Yes – Further Assessed Below

SOURCE: Terry A. Hayes Associates Inc., 2020.

5.2 RELATED PROJECTS

Related Projects that are considered in the cumulative impact analysis are those projects that may occur in the Project vicinity within the same timeframe as the Proposed Project. In this context, “Related Projects” includes past, present, and reasonably probable future projects. Related Projects associated with this growth and located within half a mile of the Project are depicted graphically in **Figure 5-1a** through **Figure 5-1c** and listed in **Table 5-2**. The figures do not show Eagle Rock as no related projects have been identified in the Project Area. Related projects of particular relevance to the Proposed Project are discussed below.

North San Fernando Valley (SFV) Bus Rapid Transit (BRT) Project. The North SFV BRT Project is a proposed new 18-mile BRT line that is intended to serve the portions of the San Fernando Valley that are north of the Metro G Line (Orange) service area. The project would provide a new, high-quality bus service between the communities of Chatsworth to the west and North Hollywood to the east. The project would enhance existing bus service and increase transit system connectivity.

Joint Development - North Hollywood Station Project. The Joint Development - North Hollywood Station project would construct facilities at the North Hollywood B/G Line (Red/Orange) Station that could be shared by the Proposed Project, if the Metro Board approves the Proposed Project. The project has been identified in the Measure M Expenditure Plan, with a projected opening date between Fiscal Year 2023-25 and \$180 million of funding. The Joint Development would be constructed without the Proposed Project and has independent utility as a land use development project.

NextGen Bus Plan. In January 2018, Metro began the NextGen Bus Plan aimed at reimagining the bus network to be more relevant, reflective of, and attractive to the diverse customer needs within Los Angeles County. The NextGen Bus Plan will realign Metro’s bus network based upon data of existing ridership and adjust bus service routes and schedules to improve the overall network. The Proposed Project would be included in the Plan and replace some select bus services in the region. The NextGen Bus Plan is anticipated to begin implementation in the beginning of 2021.

East SFV Light Rail Transit (LRT) Project. The East SFV LRT Project will be a 9-mile LRT line that will extend north from the Van Nuys Metro G Line (Orange) station to the Sylmar/San Fernando Metrolink Station. Light rail trains will operate in the median of Van Nuys Boulevard for 6.7 miles to San Fernando Road. From San Fernando Road, the trains will transition onto the existing railroad right-of-way that’s adjacent to San Fernando Road, which it will share with Metrolink for 2.5 miles to the Sylmar/San Fernando Metrolink Station. The project includes 14 at-grade stations. The Draft EIR/Environmental Impact Statement (EIR/EIS) was published in August 2017 and the Final EIR/EIS is currently being prepared by Metro.

Figure 5-1a - Related Projects

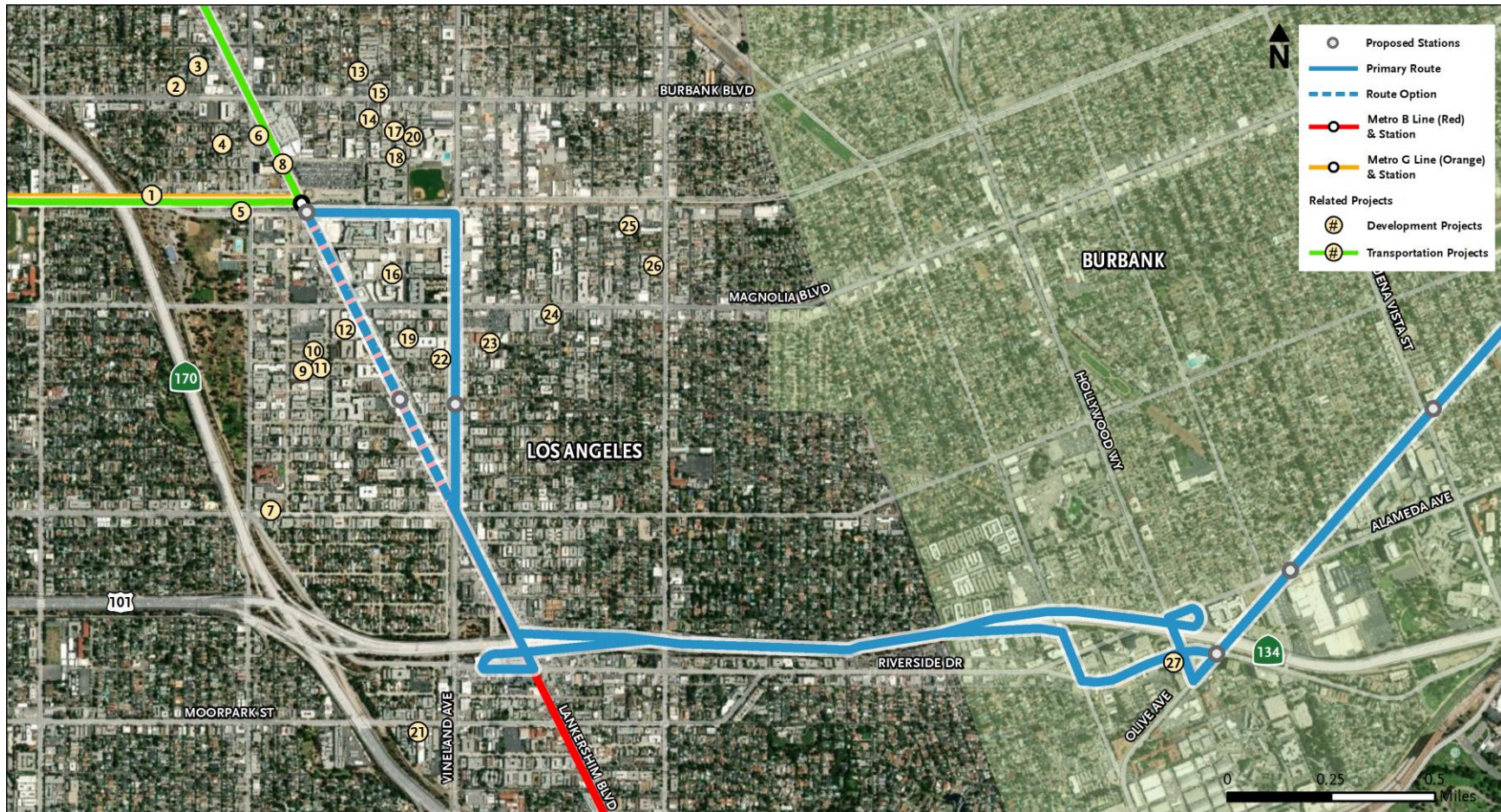


Figure 5-1b - Related Projects

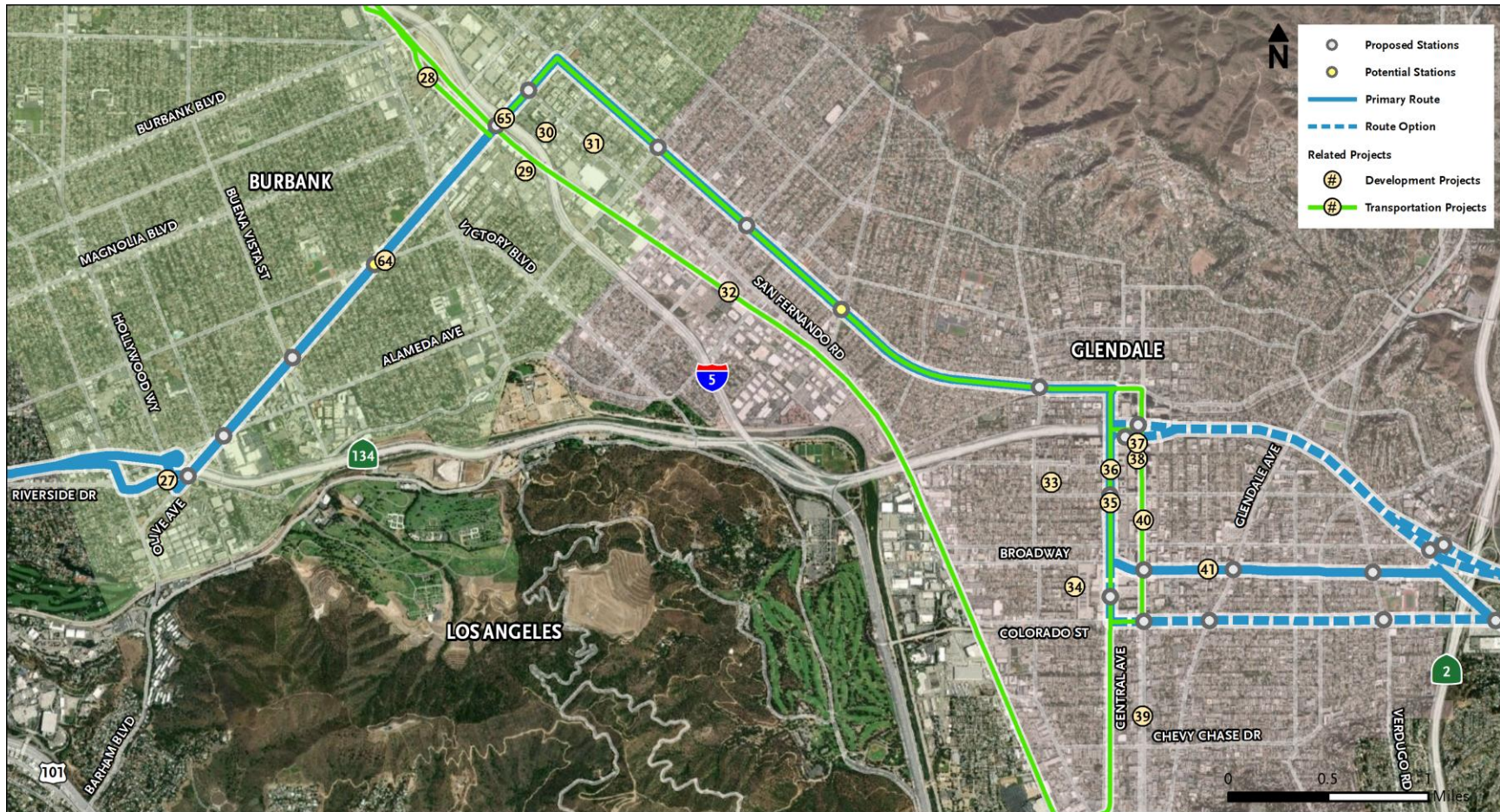


Figure 5-1c - Related Projects

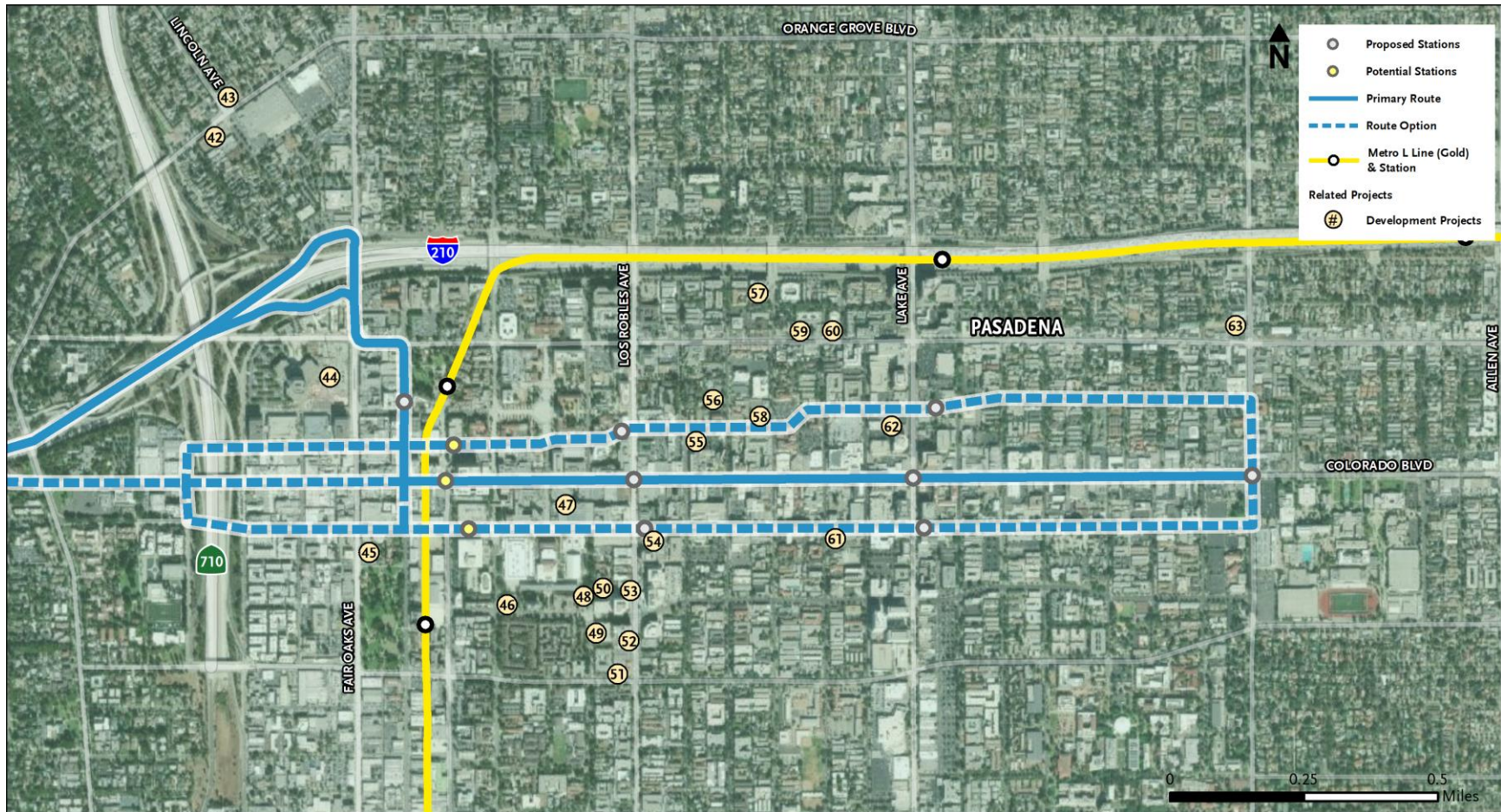


Table 5-2 - Related Projects

Map ID	Project Name	Location	Description	Status
REGIONAL				
N/A	NextGen Bus Plan	Los Angeles County	The NextGen Bus Plan will revise the existing Metro bus network to improve ridership and make bus use more attractive to current and future riders. The Plan will adjust bus routes and schedules based upon existing origin/destination ridership data with a phased approach to future infrastructure investments in transit convenience, safety, and rider experience.	Implementation early 2021
N/A	East San Fernando Valley LRT Project	San Fernando Valley	New 9-mile LRT line that will extend north from the Van Nuys Metro G Line (Orange) station to the Sylmar/San Fernando Metrolink Station.	Planning
8	North San Fernando Valley BRT Project	San Fernando Valley	New 18-mile BRT line from North Hollywood B/G Line (Red/Orange) Station to Chatsworth.	Planning
32	Los Angeles – Glendale-Burbank Feasibility Study	Amtrak corridor from Los Angeles Union Station to Bob-Hope Airport	Metro is studying a 13-mile transit corridor between Los Angeles Union Station and the Hollywood Burbank Airport. A range of options are under study including both light rail and enhanced commuter rail.	Planning and feasibility
BURBANK				
27	Mixed-Use Development	3700 Riverside Dr.	49-unit residential condominium and 2,000 sq. ft. of retail	Active Project Submission
28	San Fernando Bikeway	San Fernando Blvd. Corridor	Three-mile Class I bike path along San Fernando Blvd. near the Downtown Metrolink Station in the City of Burbank. This project will complete a 12-mile long regional bike path extending from Sylmar to the Downtown Burbank Metrolink Station along the San Fernando Blvd. rail corridor	Planning
29	Commercial Development	411 Flower St.	Commercial building (size unknown)	Active Project Submission
30	Mixed-Use Development	103 Verdugo Ave.	Two mixed-use buildings (size unknown)	Active Project Submission
31	Mixed-Use Development	624 San Fernando Blvd.	42-unit, 4-story mixed-use building with 14,800 sq. ft. of ground-floor commercial	Active Project Submission

Map ID	Project Name	Location	Description	Status
64	Olive Ave./Sparks St./Verdugo Ave. Intersection Improvements	Olive Ave./Sparks St./Verdugo Ave.	Various intersection improvements.	Planning
65	Olive Ave. Overpass Rehabilitation	Olive Ave. over Interstate 5	Improvements to operational efficiency, pedestrian safety, and bicycle connections.	Planning
GLENDALE				
33	Multi-Family Development	452 Milford St.	15-unit building	Active Project Submission
34	Multi-Family Development	401 Hawthorne St.	23-unit building	Active Project Submission
35	Commercial Development	340 Central Ave.	14,229 sq. ft. office	Active Project Submission
36	Multi-Family Development	520 Central Ave.	98-unit building	Active Project Submission
37	Commercial Development	611 Brand Blvd.	Hotel (857 hotel rooms and 7,500 sq. ft. of restaurant/retail)	Active Project Submission
38	Multi-Family Development	601 Brand Blvd.	604 units in 3 buildings	Active Project Submission
39	Commercial Development	901 Brand Blvd.	34,228 sq. ft. parking structure for car dealership	Active Project Submission
40	Glendale Streetcar	Downtown Glendale	Streetcar connecting the Larry Zarian Transportation Center with Downtown Glendale	Planning and feasibility
41	Commercial Development	517 Broadway	Medical/office/retail building (size unknown)	Active Project Submission
LOS ANGELES				
N/A	Orange Line Transit Neighborhood Plan	North Hollywood, Van Nuys, and Sepulveda BRT Stations	Develop regulatory tools and strategies for the areas around these three G Line (Orange) stations to encourage transit ridership, enhance the urban built environment, and focus new growth and housing in proximity to transit and along corridors	Undergoing Environmental Review
N/A	Take Back The Boulevard Initiative	Colorado Blvd.	The mission of the Take Back the Boulevard initiative is to serve as a catalyst for the community-driven revitalization of Colorado Boulevard in Eagle Rock. The Take Back the Boulevard initiative seeks to utilize broad community feedback and involvement to make this central corridor through Eagle Rock a safe, sustainable, and vibrant street in order to stimulate economic growth, increase public safety, and enhance community pride and wellness.	Active Initiative

Map ID	Project Name	Location	Description	Status
N/A	Colorado Blvd. Specific Plan	Colorado Blvd.	It is the purpose of this Specific Plan to ensure that future development in the Specific Plan area occurs in a manner which is compatible with the surrounding residential community and with the capacity of the circulation system.	Active Plan
1	Multi-Family Development	11525 Chandler Blvd.	60-unit building	Active Building Permit
2	Multi-Family Development	5610 Camellia Ave.	62-unit building	Active Building Permit
3	Multi-Family Development	5645 Farmdale Ave.	44-unit building	Active Building Permit
4	Multi-Family Development	11433 Albers St.	59-unit building	Active Building Permit
5	Mixed-Use Development	11405 Chandler Blvd.	Mixed-use building with residential and commercial components (size unknown).	Active Building Permit
6	North Hollywood Station Joint Development	5530 Lankershim Blvd.	15-acre joint development at the North Hollywood Metro Station. Includes 1,275-1,625 residential units, 125,000-150,000 sq. ft. of retail, and 300,000-400,000 sq. ft. of office space	Active Project Submission
7	Mixed-Use Development	11311 Camarillo St.	Mixed-use building (size unknown)	Active Building Permit
9	Multi-Family Development	11262 Otsego St.	49-unit building	Active Building Permit
10	Multi-Family Development	11241 Otsego St.	42-unit building	Active Building Permit
11	Multi-Family Development	11246 Otsego St.	70-unit building	Active Building Permit
12	Mixed-Use Development	5101 Lankershim Blvd.	297 units in a mixed-use housing complex	Active Building Permit
13	Multi-Family Development	5630 Fair Ave.	15-unit building	Active Building Permit
14	Multi-Family Development	5550 Bonner Ave.	48-unit building	Active Building Permit
15	Commercial Development	11135 Burbank Blvd.	4-story hotel with 70 guestrooms	Active Building Permit
16	Commercial Development	11115 McCormick St.	Apartment/Office building (size unknown)	Active Building Permit
17	Multi-Family Development	5536 Fulcher Ave.	36-unit building	Active Building Permit
18	Multi-Family Development	11111 Cumpston St.	41-unit building	Active Building Permit
19	Multi-Family Development	11050 Hartsook St.	48-unit building	Active Building Permit
20	Multi-Family Development	5525 Case Ave.	98-unit building	Active Building Permit
21	Multi-Family Development	11036 Moorpark St.	96-unit building	Active Building Permit
22	Multi-Family Development	11011 Otsego St.	144-unit building	Active Building Permit
23	Multi-Family Development	10925 Hartsook St.	42-unit building	Active Building Permit
24	Multi-Family Development	10812 Magnolia Blvd.	31-unit building	Active Building Permit

Map ID	Project Name	Location	Description	Status
25	Multi-Family Development	5338 Cartwright Ave.	21-unit building	Active Building Permit
26	Multi-Family Development	5252 Willow Crest Ave.	25-unit building	Active Building Permit
PASADENA				
42	Mixed-Use Development	690 Orange Grove Blvd.	48-unit building with commercial space	Active Project Submission
43	Multi-Family Development	745 Orange Grove Blvd.	35-unit building	Active Project Submission
44	Mixed-Use Development	100 Walnut St.	Mixed-use planned development: office building, 93-unit apartment building, and a 139-unit building	Active Building Permit
45	Multi-Family Development	86 Fair Oaks Ave.	87-unit building with commercial space	Active Project Submission
46	Commercial Development	190 Marengo Ave.	7-story hotel with 200 guestrooms	Active Project Submission
47	Multi-Family Development	39 Los Robles Ave.	Residential units above commercial space (size unknown)	Active Building Permit
48	Mixed-Use Development	178 Euclid Ave.	42-unit building with 940 sq. ft. of office space	Active Building Permit
49	Multi-Family Development	380 Cordova St.	48-unit building	Active Building Permit
50	Mixed-Use Development	170 Euclid Ave.	42-unit building with 10,000 sq. ft. of commercial space	Active Project Submission
51	Multi-Family Development	399 Del Mar Blvd.	55-unit building	Active Building Permit
52	Multi-Family Development	253 Los Robles Ave.	92-unit building	Active Project Submission
53	Mixed-Use Development	171 Los Robles Ave.	8-unit building	Active Project Submission
54	Commercial Development	98 Los Robles Ave.	school of medicine building	Active Building Permit
55	Multi-Family Development	530 Union St.	55-unit building with retail space	Active Building Permit
56	Multi-Family Development	119 Madison Ave.	81-unit building	Active Building Permit
57	Multi-Family Development	289 El Molino Ave.	105-unit building	Active Building Permit
58	Multi-Family Development	99 El Molino Ave.	40-unit building	Active Building Permit
59	Commercial Development	711 Walnut St.	Mixed-use building with condominiums, commercial space, food facility, parking structure (size unknown)	Active Building Permit
60	Commercial Development	737 Walnut St.	42-unit building with commercial space	Active Project Submission
61	Mixed-Use Development	740 Green St.	273-unit building	Active Project Submission
62	Mixed-Use Development	83 Lake Ave.	54-unit building with office space	Active Project Submission
63	Multi-Family Development	231 Hill Ave.	59-unit building	Active Project Submission

SOURCE: Terry A. Hayes Associates Inc., 2020.

5.3 CUMULATIVE IMPACT ANALYSIS

Aesthetics

There is an existing cumulative impact in the Project Area related to aesthetics and visual resources. The cumulative setting is the Project Area and existing views from the affected roadways. Past projects have resulted in a highly urbanized landscape from the construction of buildings, transportation infrastructure, and other structures that have adversely affected scenic vistas, scenic resources, and visual character and quality. In addition, other present or reasonably foreseeable future projects could result in the loss of visual resources, particularly street trees and historic buildings, though this is unlikely as the related projects mostly consist of infill development projects that would not drastically change the existing setting. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction activities, the presence of construction vehicles, equipment, visual signs of construction, and personnel would present visually disruptive elements but would be temporary. Construction activities could include station construction, street reconstruction, tree removal, and street restriping. Effects to visual resources (e.g., scenic vistas, visual character and light/glare) would be temporary and not significant given the nature of construction activities and general lack of high-quality vistas within the Project Area. Therefore, the Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operational activities, the primary visual elements of the Proposed Project include the addition of BRT vehicles, changes to existing parking and vehicle lanes, bus stations and platforms, curb and sidewalk modifications, and changes to street configurations including bus-only lanes, new or relocated bus stops, and modifications to existing medians. The Proposed Project would result in permanent alterations to the street where bus lanes are proposed and along sidewalks and medians at the locations of station platforms. Mitigation Measures **VIS-1** and **VIS-2** would reduce potential visual impacts by requiring site-specific public art and streetscape beautification. Effects to visual resources (e.g., scenic vistas, visual character and light/glare) would not be significant with mitigation. Therefore, the Proposed Project operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Air Quality

There is an existing cumulative impact in the Project Area related to air quality. The cumulative setting is the SCAB. The Los Angeles County portion of the SCAB is currently designated nonattainment of the NAAQS for eight-hour average O₃ and 24-hour average PM_{2.5} and the CAAQS for O₃, PM₁₀, and PM_{2.5}. Therefore, consideration should be given to emissions of particulate matter and ozone precursors in the context of the existing cumulative conditions. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction activities, the SCAQMD has promulgated guidance that if daily emissions generated by construction or operation of a project remain below the regional mass daily thresholds, those emissions would not result in a significant air quality impact either at the project level or under regionally cumulative considerations. Conversely, if construction or operation of the project would generate emissions exceeding the project-level mass daily thresholds, and would remain above the thresholds with mitigation, those emissions would be considered cumulatively significant in addition to being significant at the project level. Regarding construction, as discussed in Section 3.3, Air Quality, the Proposed Project would not generate emissions that would exceed SCAQMD localized or regional significance thresholds. Therefore, the Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operational activities, the Proposed Project would not generate emissions that would exceed SCAQMD localized or regional construction emissions. The Proposed Project would reduce VMT and associated transportation criteria air pollutant emissions in the Project Area (with a slight increase in PM₁₀ emissions). Automobile trips would be replaced with zero-emissions, electric buses. The Proposed Project would be consistent with the 2016 AQMP as well as each city's General Plan. Therefore, the Proposed Project operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Biological Resources

There is an existing cumulative impact in the Project Area related to biological resources. The cumulative setting for special-status plants is Coastal Sage Scrub community. The cumulative setting for bat species is considered bat roosting habitat within California because some of the bat species with potential to be in the Project Area are migratory and could be found in various counties throughout the State. The cumulative setting for bird species is considered nesting and foraging habitat within trees within the North Hollywood to Pasadena BRT Corridor. Existing and continuing development contributes to cumulative impacts on plants, bats, and bird species. Habitat removal from current and future development in the Project Area is the biggest threat to plants, bats, and bird species. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction activities, the Proposed Project would include creating bus stops, restriping existing roadway, and other roadway modifications (i.e. removal of existing medians) and would not contribute to development in the Project Area. The Proposed Project could result in temporary impacts on plants, bats, and bird species through the removal of street trees to construct stations. Mitigation Measure **BIO-1** would mitigate inadvertent impacts to biological resources during construction activities by ensuring compliance with the Migratory Bird Treaty Act and California Fish and Game Code (Sections 2126, 3503, 3513, and 3800). Effects to biological resources (e.g., plant and wildlife species) would not be significant with mitigation. Therefore, the Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operational activities, the Proposed Project would not affect the Coastal Sage Scrub community along SR-134. In addition, there is already a high level of human activity, night lighting, and noise in the BSA and the Proposed Project would not increase levels of human activity, night lighting, or noise in the BSA. Therefore, operation of the Proposed Project would not result in impacts on any species identified as a candidate, sensitive, or special-status. Once construction is complete, no additional removal of trees would be required; therefore, project operation would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Therefore, the Proposed Project operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Cultural Resources

Historic Resources. There is an existing cumulative impact in the Project Area related to historic resources. The cumulative setting is the public right-of-way for the length of the entire alignment, except at possible station platform locations, where the survey area was increased to include properties abutting the right-of-way within approximately 100 feet of the proposed station platform footprint. There was a total of 23 designated properties (listed in the National, California, and/or local register), including 16 contributors to historic districts, and 29 properties previously surveyed and evaluated as potentially eligible (for listing in the National, California, and/or local Register), including eight that are contributors to a potential historic district. An additional six potentially significant properties were identified through site reconnaissance efforts conducted for the Proposed Project.

During construction and operational activities, the Proposed Project has the potential to affect historic streetlights on Central Avenue and Broadway in the City of Glendale that are within proposed station platform footprints and historic buildings in the Cities of Los Angeles, Burbank, Glendale, and Pasadena that are immediately adjacent to proposed station platform footprints. Mitigation Measure **CUL-1** would mitigate impacts to historic resources by ensuring that the Proposed Project design would be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties Rehabilitation Standards. Effects to historic resources would not be significant with mitigation. Therefore, the Proposed Project construction and operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Archaeological and Paleontological Resources. There is an existing cumulative impact in the Project Area related to archaeological and paleontological resources. The cumulative setting is the areas of potential disturbance. Most of the Related Projects are development or transportation projects, whose construction could include excavation that could disturb buried archaeological resources, paleontological resources, and human remains, if extant. Although much of the Project Area is developed and paved, there is a potential for buried archaeological and paleontological deposits to exist. The potential for an individual project to impact significant archaeological and paleontological resources is unknown but it is possible that cumulative growth and development in the Project Area could have impacts on significant archaeological

and paleontological resources. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction activities, earthwork activities could result in the finding of buried archaeological and paleontological resources. Mitigation Measure **CUL-2** would mitigate inadvertent impacts to potential subsurface archaeological deposits during construction activities. Paleontological resources have been recorded from the subsurface of the Project Area and Project Vicinity. However, due to the minimal amount of deep excavation with the potential to encounter native sediments with high paleontological potential (i.e., Pleistocene-age older sedimentary deposits [Qoa, Qof] and Miocene-age Topanga Formation [Ttsc, Ttqdb]), the Proposed Project would not significantly impact paleontological resources. Effects to archaeological and paleontological resources (e.g., plant and wildlife species) would not be significant with mitigation. Therefore, the Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operational activities, the potential to disturb archaeological and paleontological resources is only possible during construction activities. There is no potential for the surface-running BRT to encounter archaeological or paleontological resources. Therefore, the Proposed Project operational activities would not contribute to the existing cumulative impact.

Energy Resources

There is an existing cumulative impact in the Project Area related to energy resources. The cumulative setting is both regional and statewide. State, regional, and local agencies and jurisdictions have published a wide range of documents intended to reduce energy consumption and increase the use of renewable energy. The intent is typically to reduce the use of nonrenewable energy to reduce pollution that contributes to global warming. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction activities, the Proposed Project would consume approximately 1,091,350 gallons of diesel fuel through off-road equipment engine combustion, approximately 3,875 gallons of diesel fuel through on-road truck engine combustion, and approximately 14,331 gallons of gasoline through on-road worker vehicle engine combustion. Annual average petroleum-based fuels consumption during construction activities would be approximately 438,090 gallons of diesel fuel and 5,733 gallons of motor gasoline. Los Angeles County retail sales of diesel fuel and gasoline in 2018 were approximately 253 million gallons and 3,658 million gallons, respectively. Relative to existing petroleum-based transportation fuels consumption in Los Angeles County, construction of the Project would temporarily increase annual diesel fuel consumption within the County by approximately 0.17 percent and would temporarily increase annual gasoline fuel consumption by approximately 0.0002 percent. All equipment and vehicles that would be used in construction activities would comply with applicable CARB regulations, the Pavley and Low Carbon Fuel Standards, and the Corporate Average Fuel Economy Standards. The Proposed Project would adhere to the provisions of the Metro Green Construction Policy to control and minimize emissions to the maximum extent

feasible. Adherence to the energy reduction policies and the relatively low use of energy resources for construction ensure that the Proposed Project would not result in a significant impact. The Proposed Project would also be consistent with GHG reduction plans. Therefore, the Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operational activities, the Proposed Project would result in changes (net benefits) to energy resources consumption through direct electricity demand for ZEV bus propulsion and indirect, reduction of transportation fuels combustion from passenger vehicles on the regional roadway network. Using Metro's electric bus fuel economy of 2.2 kWh per mile, annual electricity consumption would be approximately 3,554.5 MWh in 2042. Metro 2019 system operations consumed 323,391 MWh of electricity. Based on 2019 Metro usage, operations would increase systemwide electricity consumption by 1.1 percent. The annual electricity consumption of 3,554.5 MWh would equal approximately 12,796,186 MJ of electrical power demand. In addition to direct energy consumption, implementation of the Proposed Project would reduce on-road regional VMT. Implementation of the Proposed Project would reduce annual VMT by over 30 million, and would decrease regional gasoline and diesel fuels consumption by 755,140 gallons and 168,608 gallons, respectively. The effects of Proposed Project operations would reduce regional petroleum-based energy consumption and would improve regional transportation energy efficiency. Therefore, the Proposed Project operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Geology and Soils

There is an existing cumulative impact in the Project Area related to geology and soils as the entire Southern California region is subject to risks associated with seismic activity and any past, present, or reasonably foreseeable development in the region carries potential risk of seismic-related impacts. The cumulative setting is the Southern California region which includes the Cities along the Project corridor. The seismic context is an important consideration because the ground shaking forces are regional in nature. The potential for a seismic event including landslide is the primary cumulative consideration for geology and soils. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction activities, the Proposed Project would not involve substantial earthmoving along slopes, such that existing landslide risks would be worsened or exacerbated. Therefore, no construction impact would occur related to seismic activities, including landslides. The Proposed Project would be designed based on the latest versions of local and State building codes and regulations in order to counteract erosion. There is no potential for the surface-running BRT to result in substantial soil erosion or the loss of topsoil or risk from expansive soils. Therefore, the Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operational activities, the Proposed Project would be located in a seismically active region. There is potential for operational activities to be influenced by earthquakes and related effects, such as ground shaking and liquefaction. Mitigation Measure **GEO-1** would mitigate inadvertent impacts to geology and soils during construction activities by ensuring the Proposed Project is designed to limit potential seismic impacts. Effects to geology and soils would not be significant with mitigation. Therefore, the Proposed Project operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Greenhouse Gas Emissions

There is an existing cumulative impact in the Project Area related to GHG emissions. The cumulative setting is both regional and statewide. The State of California, through AB 32 and SB 32, has acknowledged that GHG emissions are a statewide impact. Emissions generated by the Proposed Project combined with past, present, and reasonably probable 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 OPR 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.

Per guidance from the SCAQMD, construction amortized annually and operational emissions are considered together over a 30-year period. The Proposed Project would reduce VMT and associated transportation GHG emissions in the Project Area. CO₂e emissions would be reduced by approximately 54 million metric tons per year. Automobile trips would be replaced with zero-emissions, electric buses. The Proposed Project and Route design options would be consistent with the goals and policies of applicable GHG reduction plans in the Plan Area including SCAG's RTP/SCS, CARB's 2017 Scoping Plan, Metro Climate Action and Adaptation Plan 2019, Los Angeles Green New Deal, City of Burbank GGRP, Greener Glendale Plan, and the City of Pasadena CAP. Each of these plans is, in and of itself, a GHG reduction plan aimed to reduce cumulative GHG emissions at the local level and beyond. Therefore, the Proposed Project would not have a cumulatively considerable contribution to the existing cumulative impact.

Hazards and Hazardous Materials

There is an existing cumulative impact in the Project Area related to hazards and hazardous materials. The cumulative setting is a one-mile band along the corridor. There are known hazardous sites in the Project Area and associated remediation efforts. Database searches revealed 469 environmental concern sites within one mile of the Proposed Project route, including 115 permitted underground storage tanks, 331 cleanup sites, and 23 sites of historical concerns. This includes two sites in the Cortese database of hazardous sites maintained by the Department of Toxic Substances Control. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction, it is not anticipated that any of the environmental concern sites would be disturbed by construction activities. Construction activities would involve minimal ground disturbance and excavation. Construction activities could result in the discovery of unanticipated contamination at known release sites, potential environmental concern sites, or historical environmental concern sites. The handling, transport, and disposal of all hazardous materials encountered during construction would be done according to federal, State, and local regulations. As previously discussed, the SCAQMD regulates disposal of asbestos (Rule 1403) and contaminated soils (Rule 1166). Therefore, the Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operations, vehicle maintenance activities would require the use of detergents and cleansers. The potential for exposure to these hazards and hazardous materials would be limited to the existing Metro facilities. Metro facilities are staffed with personnel trained in hazardous materials emergencies. Metro staff is available 24-hours a day through the Quality Assurance Department to respond to hazardous materials releases, and Metro sites frequently undergo emergency response drills. There would be no hazardous emissions associated with operations of the Proposed Project. Therefore, the Proposed Project operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Land Use and Planning

There is no existing cumulative impact in the Project Area related to land use and planning. The existing setting does not include a significant physically divided community and existing land uses are consistent with current land use plans. The Cities of Los Angeles, Burbank, Glendale, and Pasadena regulate land uses along the alignment. The Land Use Plans are updated as necessary to reflect current land use and planning policies supported by State, regional, and local jurisdictions. Therefore, there is no cumulative impact related to land use and planning resulting from past, present, and reasonably foreseeable projects.

The Proposed Project would not physically divide an established community. In addition, the Proposed Project would be compatible with the land use plans, goals, and policies adopted by the regional and local jurisdictions within the Project Area. While it is anticipated that land uses in the Project Area will change over time to address growing population and regional demands for infrastructure and services, individual City jurisdictions and metropolitan planning organizations such as SCAG are responsible for planning such development. Land uses surrounding the Proposed Project stations may intensify due to TOD pressures and zoning initiatives that have been planned and encouraged by the Project Area cities including the Cities of Los Angeles, Glendale, Burbank, and Pasadena. This growth pattern would be consistent with regional planning efforts to focus future growth in areas served by transit to address environmental concerns related to climate change and availability of services and infrastructure to meet future demand. Accordingly, the Proposed Project would be consistent with regional and local plans aimed at improving regional mobility and focusing growth in areas well served by transit. Therefore, the Proposed Project would not have no potential to create or contribute to a cumulative impact related to land use and planning.

Noise

There is an existing cumulative impact in the Project Area related to noise as existing noise levels adjacent to roadways exceed the State Land Use and Noise Compatibility Guidelines. The cumulative setting for noise is adjacent to the right-of-way. State, regional, and local agencies and jurisdictions have published a wide range of documents intended to control noise levels and reduce community exposure. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction, the Proposed Project could increase ambient noise levels by approximately 15 dBA L_{eq} near any of the potential 23 station construction sites along the alignment, generating significant increases before mitigation measures are applied. Mitigation Measure **NOI-1** would reduce the impact to less than significant by requiring noise monitoring and control measures when levels exceed allowable standards. Therefore, Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operations, the Proposed Project would reduce VMT and associated transportation noise from operation of motor vehicles in the Project Area as people shift to public transit. As a result, even with the addition of BRT service, permanent increases in noise would be minimal and not significant. Therefore, the Proposed Project operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

There is no cumulative vibration impact in the Project Area and the Proposed Project would not result in a significant vibration impact with implementation of Mitigation Measure **NOI-2** for construction activities. There is no potential for the Proposed Project to contribute to a cumulative impact.

Transportation

There is an existing cumulative impact in the Project Area related to transportation. The cumulative setting is the regional and local roadway network in addition to the transit network. Future growth and development in the region would generate additional traffic on roadways along the primary alignment, which would adversely affect traffic flow and bus transit service operating in mixed-flow travel lanes. The additional traffic on roadways generated by cumulative projects would increase the temporary construction impacts on circulation. Other projects such as the North Hollywood Station Joint Development (Project I.D. No. 6) could be constructed concurrently with the Proposed Project and impact traffic flow and bus transit. Two projects in the City of Burbank, the Olive Ave./Sparks St./Verdugo Ave. Intersection Improvements (Project I.D. 64) and the Olive Avenue Overpass Rehabilitation (Project I.D. 65) propose roadway improvements along the BRT route on Olive Avenue. The Proposed Project proposes spot widening to add a curb-running bus lane through the Olive Avenue/Sparks Street/Verdugo Avenue intersection. It is anticipated that the Proposed Project would be integrated with additional improvements being considered by the City of Burbank. Regarding the Olive Avenue Overpass Rehabilitation, the Proposed Project would designate the outside lane in each

direction for bus-only operation at this location and would add a stop with a signalized crosswalk providing access to the existing Burbank Metrolink station. It is anticipated that the proposed bus lanes and station would be retained should the bridge be improved or replaced as part of the Olive Avenue Overpass Rehabilitation. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction activities, the Proposed Project construction would shift along the corridor and construction activities should be of relatively short duration within each segment. Mitigation Measures **TRA-1** through **TRA-4** would ensure that the Proposed Project would not interfere with transit, traffic circulation and access, pedestrian operations and circulation, or bicycle operations and circulation during construction. Mitigation Measure **TRA-6** would reduce potential construction impacts on emergency vehicle access by requiring early notification and coordination with emergency service providers as part of the Traffic Management Plan. Cumulative impacts on pedestrian circulation could occur during construction from temporary closure of sidewalks along the corridor and near and adjacent to the proposed BRT stations. It is unlikely that the construction phase would result in considerable cumulative impacts on pedestrian facilities. Cumulative impacts on bicycle circulation could occur during construction due to temporary closure or rerouting of bicycle facilities along the corridor. Additionally, since a Traffic Management Plan, consistent with Mitigation Measures **TRA-1** through **TRA-4** and **TRA-6**, would be required for the Proposed Project to address potential construction-related traffic impacts, it is anticipated that there would be no remaining impacts. Therefore, the Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operational activities, the Proposed Project would generally include a combination of dedicated bus lanes (running along the center, median, side or curb lane) and mixed traffic operations. It is not expected that the cumulative projects would substantially diminish pedestrian circulation along the corridor and result in significant cumulative impacts. The related projects, independent of the Proposed Project, are not expected to result in the removal of bicycle lanes or any other operational adverse cumulative impacts on bicycle lanes. The Proposed Project is expected to decrease VMT and is also aligned with long-term environmental goals and relevant plans for the region and municipalities. Since the Proposed Project has a finding of less-than-significant for VMT, the Project would also imply a less than significant cumulative impact for VMT. Cumulative impacts from the implementation of other projects are not expected to substantially increase hazards due to a geometric design feature or incompatible uses, as other projects would be expected to adhere to applicable design criteria and standards and be subject to regulatory permitting. The future cumulative growth and resulting increase in traffic and congestion along the corridor could increase emergency response times. However, because the dedicated bus lanes would be free of most vehicular traffic and emergency vehicles will be permitted to use the dedicated bus lanes, emergency response time under cumulative conditions would be no worse than under current conditions and would likely be improved. Mitigation Measure **TRA-5** would ensure that the Proposed Project is designed in a manner that is consistent with Mobility Plan 2035 avoiding potential conflicts between the Proposed Project operations and bicycles. Therefore, the Proposed

Project would not have a cumulatively considerable contribution in a significant cumulative impact on emergency access.

Tribal Cultural Resources

There is an existing cumulative impact in the Project Area related to tribal cultural resources. The cumulative setting is the areas of potential disturbance. The Kizh Nation, Fernandeno Tataviam, and Gabrieleno/Tongva San Gabriel Band of Mission Indians tribal representatives identified areas of high sensitivity within the Project Area; however, no known tribal cultural resources were identified through the AB 52 consultation process. Most of the Related Projects are development or transportation projects, whose construction could include excavation that could disturb buried tribal cultural resources, if extant. Although much of the Project Area is developed and paved, there is a potential for buried tribal cultural resources deposits to exist. The potential for an individual project to impact significant tribal cultural resources is unknown but it is possible that cumulative growth and development in the Project Area could have impacts on significant tribal cultural resources. The Proposed Project combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

Regarding construction activities, earthwork activities could result in the finding of buried tribal cultural resources. Mitigation Measure **CUL-1** would mitigate inadvertent impacts to potential subsurface tribal cultural resources during construction activities by ensuring proper treatments. Effects to tribal cultural resources would not be significant with mitigation. Therefore, Proposed Project construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

Regarding operational activities, the potential to disturb tribal cultural resources is only possible during construction activities. There is no potential for the surface-running BRT to encounter tribal cultural resources. Therefore, the Proposed Project operational activities would not contribute to the existing cumulative impact.

6. Alternatives

6.1 INTRODUCTION

CEQA requires an analysis of alternatives to the Proposed Project to reduce or eliminate significant impacts associated with project development. Section 15126.6(a) of the CEQA Guidelines states:

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

The range of feasible alternatives is selected and discussed in a manner intended to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to an alternative location.

An EIR must briefly describe the rationale for selection and rejection of alternatives. The Lead Agency may make an initial determination as to which alternatives are feasible, and, therefore, merit in-depth consideration. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects.

6.2 PROJECT-LEVEL IMPACTS

As addressed in this Draft EIR, the Proposed Project would not create significant and unavoidable impacts. The Proposed Project would create potentially significant impacts, which could be mitigated to less-than-significant levels with implementation of feasible mitigation measures, on the following environmental issue areas:

Transportation

Construction and Operations. The Proposed Project was developed to improve mobility and regional transit system access while supporting community plans and transit-oriented community goals. Accordingly, the Proposed Project is generally consistent with applicable programs, plans, ordinances and policies addressing the circulation system related to transit,

roadways, bicycles, and pedestrians. The Proposed Project would result in construction effects like those experienced for a typical roadway project. These construction effects could include inconveniences associated with temporary disruptions to existing travel patterns and temporary access limitations. Mitigation Measures **TRA-1** through **TRA-4** would reduce potential construction impacts on transit, traffic, bicycle, and pedestrian circulation by requiring a Traffic Management Plan. In addition, lane closures, traffic detours, and designated truck routes associated with construction could temporarily result in decreased access and delayed response times for emergency services. Mitigation Measure **TRA-6** would reduce potential construction impacts on emergency vehicle access by requiring early notification and coordination with emergency service providers as part of the Traffic Management Plan.

Operation of the Proposed Project would not result in significant impacts related to transit, traffic circulation or pedestrian facilities. The Proposed Project would improve transit operations by providing a new BRT service with connections to other transit services and modes in the region resulting in higher transit ridership. Similarly, the Proposed Project is anticipated to result in an overall VMT reduction over existing conditions and in the future resulting in modest improvements in regional traffic conditions benefiting the circulation system as a whole. While lane configurations along the Proposed Project route would be reconfigured to provide dedicated bus lanes along various segments of the Project route as well as other lane conversions, the overall circulation network is anticipated to improve. Emergency vehicle access would not be affected as the bus lanes would be available to emergency vehicles possibly allowing for improved response times. The Proposed Project would provide enhancements to pedestrian circulation by installing signalized marked crosswalks and reconstructing sidewalks to accommodate new stations/platforms while also serving pedestrian movements.

Regarding bicycle facilities, the Proposed Project would generally enhance bicycle facilities while also incorporating BRT facilities in the street ROW. At certain locations existing bicycle lanes would be removed (i.e., Broadway in Glendale), rerouted behind BRT station areas to avoid conflicts (i.e., Colorado Boulevard in Eagle Rock), or converted into shared bus/bicycle lanes (i.e., Colorado Boulevard in Eagle Rock). Generally, bicycles would be allowed to utilize dedicated bus lanes resulting in overall safety improvements for bicyclists travelling as there are lower volumes of buses in dedicated bus lanes as there are vehicles in general purpose lanes thus reducing potential bicycle/vehicle conflicts. However, the conversion of the existing Class II bicycle lanes on Colorado Boulevard in Eagle Rock would degrade the travel experience and may not be consistent with the City of Los Angeles Mobility Plan 2035. Mitigation Measure **TRA-5** would ensure that the Proposed Project is designed in a manner that is consistent with Mobility Plan 2035 avoiding potential conflicts between the Proposed Project operations and bicycles. Examples of specific design provisions include: (1) maintaining minimum standard sizing of traffic handling features, (2) configuring transition zones to provide adequate length for maneuvering and maintaining adequate sight distance at conflict points, (3) routing of bicycles behind sidewalk station loading zones where applicable, (4) use of colored pavement markings to minimize intrusion into the bus and bicycle lanes where applicable, and (5) provision of appropriate warning and regulatory signage.

Aesthetics

Operations. The Proposed Project would result in permanent alterations to the street where bus lanes are proposed and along sidewalks and medians where station platforms are proposed. Landscaped medians along Glenoaks Boulevard would undergo modifications as a result of the Proposed Project. Portions of the median along Glenoaks Boulevard would be removed to allow for station platforms and transition lanes for BRT station approaches as well as left turn pockets. Some trees within the landscaped median as well as existing landscaping would be removed as a result; however, the majority of the median and associated landscaping would remain unaffected by the Project. In addition, the Proposed Project would install additional landscaping and median extension/jersey barriers at left-turn approaches to ensure safety but also to compensate for the loss of portions of the median. Mitigation Measure **CUL-1** would reduce potential visual impacts related to the removal or relocation of the potentially historic Central Avenue and Broadway streetlights by ensuring that the Proposed Project design would be consistent with Rehabilitation Standards for historic resources damaged or relocated within the Project Area.

The Colorado Boulevard Hybrid Side-and-Center Running Configuration Option in the Eagle Rock community would replace the existing median with the proposed center-running bus lanes and associated station platforms at Caspar Avenue and Townsend Avenue. While the existing median and associated landscaping would be removed as a result of the Configuration Option, new median and center lane landscaping amenities would be installed for safety purposes but would also offset some of the loss in visual resources. Given the Eagle Rock community's expressed sensitivity to the loss of the median and associated visual resources and the substantial degree to which visual resources in would be affected, without mitigation, the Proposed Project with the Colorado Boulevard Hybrid Side-and-Center Running Configuration Option (Route Option F1) would result in a significant impact related to operational activities. Mitigation Measures **VIS-1** and **VIS-2** would reduce potential visual impacts by requiring landscaping and streetscape beautification.

Biological Resources

Construction. Construction activities would include vegetation removal, pedestrian and vehicle movement, staging, and paving within the biological study area, which could result in direct and indirect impacts on special-status wildlife species if these activities were to be conducted while wildlife species are within or adjacent to the affected areas. Special-status birds and mammals are known to use the trees and open areas in the biological study area for foraging and roosting. Removal of trees and habitat and increased noise, vibration, carbon dioxide, and human activity could result in direct and indirect impacts to special-status wildlife species. Therefore, without mitigation, the Proposed Project would result in a less-than-significant impact related to construction activities. Mitigation Measure **BIO-1** would mitigate inadvertent impacts to biological resources during construction activities by ensuring compliance with the MBTA and California Fish and Game Code (Sections 2126, 3503, 3513, and 3800).

Cultural Resources

Construction and Operations. Along Central Avenue and Broadway, the Proposed Project would be side or curb-running and proposed station platform footprints may result in the removal or relocation of potentially historic streetlights currently within the existing sidewalk. Conceptual engineering plans developed to support the Draft EIR show proposed station platform footprints that appear to conflict with the placement of approximately three potentially historic streetlights on Central Avenue and approximately three on Broadway. These include two streetlights at the northeast corner and one streetlight at the southwest corner of Central Avenue at Lexington Drive, one streetlight at the northwest corner of Broadway at Glendale Avenue, and two at the southeast corner of Broadway at Brand Boulevard. These six streetlights are similar in appearance to historic streetlights elsewhere on the street, although research suggests some may have been recently installed (or reinstalled) as early as 2007 or as recent as 2014, depending on the location. Regardless, at this time in the planning process, it is possible that the Proposed Project would interfere with potentially historic streetlights. Therefore, without mitigation, the Proposed Project would result in a significant impact related to construction activities. Mitigation Measure **CUL-1** would ensure that the Proposed Project design would be consistent with Rehabilitation Standards.

The Proposed Project would operate within the existing public ROW and would not directly affect historic resources. However, components of the Proposed Project would be constructed within the setting of known and potential historical resources. These components, such as stations and signs, have the potential to visually affect historic resources. Potential impacts to historical resources would primarily be limited to changes in setting at the location of station platforms, where shade structures and other vertical features would be constructed. It is anticipated that station platforms would be designed in a manner that is consistent with the Rehabilitation Standards. However, a qualified architectural historian would be needed to confirm if the appearance and placement of new features would not materially alter in an adverse manner those physical characteristics of a historical resource that conveys its historical significance. Therefore, without mitigation, the Proposed Project would result in a significant impact related to operational activities. Mitigation Measure **CUL-1** would ensure that the Proposed Project design would be consistent with Rehabilitation Standards.

Construction activities associated with the establishment of dedicated bus lanes would involve minimal ground disturbance and excavation. Excavation activities would primarily be limited to two to three feet below ground surface, within soils previously impacted during initial road and sidewalk construction. Relocation activities, such as trees, signs, parking meters and streetlights, may extend to a depth of 12 feet below ground surface, below the currently disturbed soils. The potential exists for previously undiscovered and undocumented archaeological resources to be encountered during construction activities. Therefore, without mitigation, the Proposed Project would result in a significant impact related to construction activities. Mitigation Measure **CUL-2** would mitigate inadvertent impacts to subsurface archaeological deposits during construction.

Geology and Soils

Operations. The Proposed Project is located in a geologically active region prone to earthquakes, liquefaction, seismically-induced slope failure, and landslides. Liquefaction is unlikely to happen in the Project Area due to the deep groundwater (50 feet bgs and deeper) and may only occur at isolated areas (i.e., within the Eagle Rock Valley, along the Project Route and route options). However, seismically-induced settlements (dry settlements) are a potential hazard due to mostly granular soil deposits, deep groundwater, and expected high peak ground acceleration in the Project Area. The Proposed Project with route options crosses earthquake-induced landslide hazard areas in Eagle Rock and western Pasadena. Slope failure could affect surface streets associated with the Proposed Project. Therefore, without mitigation, the Proposed Project would result in a significant impact related to operational activities. Mitigation Measure **GEO-1** would ensure that the Proposed Project is designed to limit potential impacts related to ground shaking, liquefaction, lateral spreading, and seismically-induced slope failure.

Noise

Construction. Construction would require the use of heavy equipment, pneumatic tools, generators, concrete pumps, and similar equipment. The predicted noise level from typical construction activities is 87 dBA L_{eq} at 50 feet, though adherence to local ordinance restrictions on powered equipment would likely reduce the cumulative noise level for this mix of equipment. When added to existing ambient noise levels along the corridor that range from 60.1 to 74.1 dBA L_{eq} , construction activities could increase ambient noise levels by 10 dBA L_{eq} or more. This level of noise increase would likely exceed local significance thresholds within one or more jurisdictions along the BRT alignment. Therefore, without mitigation, the Proposed Project would result in a significant impact related to construction activities. Mitigation Measure **NOI-1** includes noise monitoring and performance standards that ensure construction noise levels would not exceed the significance thresholds. If monitoring indicates an exceedance, noise levels would be mandated to be reduced through a variety of control measures.

Implementing bus service would require construction of stations along the service corridor that could generate groundborne vibration or elevate groundborne noise levels. These activities could include, but not be limited to, breaking concrete, trenching for utilities, erecting station improvements, and repaving surfaces. Equipment such as rollers, pavers, dozers, backhoes, rough terrain forklifts, and skid steer loaders could generate marginal groundborne vibration. Most equipment operating near buildings and structures would not exceed the FTA's recommended limit of 0.2 in/sec PPV for any non-engineered timber and masonry buildings within 25 feet of construction activity. However, any use of vibratory rollers or more impactful equipment could exceed this limit based on the mix of equipment used and the proximity and condition of any nearby structures. Therefore, without mitigation, the Proposed Project would result in a significant impact related to construction activities. Mitigation Measures **NOI-2** and **NOI-3** would reduce potential groundborne vibration impacts by requiring best management practices to ensure buildings and structures are not damaged and to limit annoyance during the construction of the Proposed Project.

Tribal Cultural Resources

Construction. The Kizh Nation, Fernandeno Tataviam, and Gabrieleno/Tongva San Gabriel Band of Mission Indians tribal representatives identified areas of high sensitivity within the Project Area. The Proposed Project is located within an urbanized area and has been subject to disruption by previous development. As a result of previous development activities, surficial archaeological resources and any above-ground tribal cultural resources that may have existed have likely been displaced or destroyed. There is, however, the possibility that ground-disturbing activities could impact previously undiscovered buried tribal cultural resources of historical significance. Therefore, without mitigation, the Proposed Project would result in a significant impact related to construction activities. Mitigation Measure **CUL-2** would mitigate inadvertent impacts to potential historic Tribal Cultural Resources. It requires a Qualified Archeologist, meeting the Secretary of the Interior’s Standards for professional archaeology, to be retained and remain on call during all ground-disturbing activities. Mitigation Measure **CUL-2** also established a treatment plan following the discovery of resources.

6.3 PROJECT OBJECTIVES

Per the CEQA Guidelines, the achievement of project objectives should influence the selection of alternatives analyzed in a Draft EIR. Specifically, the “range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects.” (CEQA Guidelines Section 15126.6(c)). The Proposed Project would provide improved and reliable transit service to meet the mobility needs of residents, employees, and visitors who travel within the corridor. In addition to advancing the goals of Metro’s Vision 2028 Strategic Plan, objectives include:

- Advance a premium transit service that is more competitive with auto travel.
- Improve accessibility for disadvantaged communities.
- Improve transit access to major local and regional activity and employment centers.
- Enhance connectivity to Metro and other regional transit services.
- Provide improved passenger comfort and convenience.
- Support community plans and transit-oriented community goals.

6.4 ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA statute, the CEQA Guidelines, and related court cases do not specify a precise number of alternatives to be evaluated in an EIR. Rather, “the range of alternatives required in an EIR is governed by the rule of reason that sets forth only those alternatives necessary to permit a reasoned choice.” At the same time, CEQA Guidelines Section 15126.6(b) requires that “...the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project” and Section 15126.6(f) requires that “[t]he alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.” Accordingly, alternatives that

would not address potentially significant effects are not considered herein. However, the CEQA Guidelines require that a No Project alternative must be included in the EIR. Other alternatives may involve modifying project elements.

Alternatives should be selected on the basis of their ability to attain all or most of the basic objectives of the project, while reducing the project's potentially significant environmental effects. The CEQA Guidelines state that "...[t]he EIR should briefly describe the rationale for selecting alternatives to be discussed [and]...shall include sufficient information to allow meaningful evaluation, analysis and comparison with the proposed project." The feasibility of the alternatives is another consideration in the selection of alternatives. The CEQA Guidelines state that "[a]mong the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations [and] jurisdictional boundaries. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making." Alternatives that are considered remote or speculative, or whose effects cannot be reasonably predicted, do not require consideration. Therefore, feasibility, the potential to mitigate significant project-related impacts, and reasonably informing the decision-maker are the primary considerations in the selection and evaluation of alternatives.

The Proposed Project includes options for the BRT route. This was necessary due to public feedback during the completion of the Alternatives Analysis and EIR scoping feedback. It was not possible to reach a consensus on one route preferred by Metro, the cities, stakeholders, and general public. Metro determined that stakeholders and decision-makers would best be informed about the Proposed Project by equally evaluating the potential environmental impacts of multiple routes. Therefore, what would traditionally be assessed as new routes in this Alternatives chapter are included as part of the analysis of the Proposed Project. For a comparison of the Proposed Project and the route options, please refer to Executive Summary, Section ES.14, and Executive Summary, **Table ES-5**. The following analysis includes two alternatives, neither of which involves alternative routes. The two alternatives are a No Project and an Improved Bus Service Alternative.

Alternative 1 – No Project Alternative

The No Project Alternative is required by CEQA Guidelines Section 15126.6 (e)(2) and assumes that the Proposed Project would not be implemented by Metro. The No Project Alternative allows decision-makers to compare the impacts of approving the Proposed Project with the impacts of not approving the Proposed Project. The No Project Alternative is evaluated in the context of the existing transportation facilities in the Project Area and other capital transportation improvements and/or transit and highway operational enhancements that are reasonably foreseeable.

The No Project Alternative would include the North San Fernando Valley (SFV) BRT Project and the NextGen Bus Plan, in addition to other transportation and land use projects listed in Chapter 5 Cumulative Impact Analysis. The North SFV BRT Improvements Project is a proposed new

18-mile BRT line that is intended to serve the portions of the San Fernando Valley that are north of the Metro Orange G Line (Orange) service area. This project would provide a new, high-quality bus service between the communities of Chatsworth to the west and North Hollywood to the east. The Proposed Project connection to the Metro Orange G Line (Orange) would enhance existing bus service and increase transit system connectivity. The Joint Development - North Hollywood Station project would construct facilities at the North Hollywood B/G Line (Red/Orange) Station that would be shared by the Proposed Project, if it is approved. The project has been identified in the Measure M Expenditure Plan, with a projected opening date between FY 2023-25 and \$180 million of funding.

The NextGen Bus Study reimagines the bus network to be more relevant, reflective of, and attractive to the diverse customer needs within Los Angeles County. NextGen will realign Metro's bus network based upon data of existing ridership and adjust bus service routes and schedules to improve the overall network. The service plan is anticipated to begin implementation in 2021. With the implementation of NextGen, resources from Metro's Rapid bus service (existing 700 route series) are reinvested in consolidated local service operating on the same corridors. In this corridor, Metro Rapids 762, 780, and 794 will be replaced by reconstructed and more frequent service on Metro local Lines 260, 180, and 94, respectively. Reconfigured Metro 180 comes the closest to addressing the Proposed Project corridor, linking Pasadena, Eagle Rock and Glendale via Colorado Boulevard and Broadway, before continuing to Hollywood Boulevard and south on Fairfax Avenue to terminate at the La Cienega/Jefferson Station on the E (Expo) Line. In addition, an express Line 501 also would continue operation between North Hollywood, Burbank, Glendale, and Pasadena, with improved stops in downtown Glendale to be implemented as part of the NextGen improvements.

Alternative 2 – Improved Existing Bus Service Alternative

Alternative 2 would implement improved existing bus service instead of BRT. The bus line would be a local express service with some BRT characteristics. The service may be as frequent as that proposed for BRT, though its ability to attract as much ridership may be less due to less travel time savings and amenities, meaning a slightly less frequent service would be operated compared to that proposed for the BRT Project. The buses would operate in mixed-flow traffic with TSP systems. Stops would be more frequent than the BRT line but less frequent than local bus lines (typically every 0.6 miles on average). Travel times would be faster than for local service but slower than the travel times expected from the BRT Project. Stops would occur at existing bus stations and there would be no median-running, center-running, or side-running configuration. Physical improvements would be limited to new signs at bus stops as well as a shelter with solar lighting, bench and trash receptacle as a minimum level of bus stop amenity. Alternative 2 would not include curb extensions, elimination of parking, or changes to bicycle lanes. Like the Proposed Project, this alternative would not require a Maintenance and Storage Facility, as buses would be maintained at existing Metro facilities. Similar to BRT buses, buses would have low-floor design to allow for faster and easier boarding and alighting. The fleet would be equipped for all door boarding.

6.5 ALTERNATIVES ANALYSIS

Under CEQA Guidelines Section 15126.6(d), each alternative is evaluated in sufficient detail to allow meaningful evaluation, analysis, and comparison with the Proposed Project (including the route options). The alternatives analysis addresses the same environmental topics that were evaluated in Chapter 3 (i.e., aesthetics, air quality, biological resources, cultural resources, energy resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise and vibration, transportation, and tribal cultural resources). Potentially significant impacts and the mitigation measures proposed to reduce them to less-than-significant levels are described in Chapter 3, Environmental Impact Analysis. Environmental resources to which the Proposed Project would not have the potential to cause significant impacts or would have a less-than-significant impact with regulatory compliance are addressed in Section 4.1, Effects Determined Not to Be Significant. An alternatives analysis is not warranted for environmental resources to which the Proposed Project was determined to not have potential significant impacts. These include agriculture and forestry resources, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, utilities and service systems, and wildfire.

Analysis of No Project Alternative

Aesthetics

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect aesthetics and views. This alternative would not result in permanent alterations to the street where bus lanes are proposed and along sidewalks and medians where station platforms are proposed. The No Project Alternative would not affect potential historic streetlights on Central Avenue and Broadway. In addition, this alternative would not introduce features that would obstruct or damage scenic resources such as trees, rock outcroppings, and historic buildings within a state scenic highway. The No Project Alternative would not include development that would impact scenic vistas and would not include a significant new source of substantial light or glare which would adversely affect daytime or nighttime views. The No Project Alternative would not result in a significant impact related to aesthetics. Impacts would be less than those of the Proposed Project, which were determined to be less-than-significant with mitigation measures.

Air Quality

The No Project Alternative includes the existing transportation network and land use developments that generate air pollutant emissions. Without the Proposed Project, mobile sources and land uses would continue to generate pollution. However, there is no specific action associated with the No Project Alternative that would cause an impact. There would be no potential to conflict or obstruct air quality plans, result in a cumulatively considerable net increase of a criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions such as odors that could adversely affect a substantial number of people. The No Project Alternative would not result in a significant impact

related to construction or operational activities. Construction impacts would be less than those of the Proposed Project, which were determined to be less than significant.

A consequence of the No Project Alternative would be that Metro would not be able to improve regional transit ridership. It is anticipated that improved bus service between North Hollywood and Pasadena would reduce regional vehicle miles traveled by making the Metro system a more desirable mode of transportation, thereby indirectly reducing passenger vehicle emissions. This benefit would not be realized under the No Project Alternative.

Biological Resources

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect biological resources. This alternative would not result in the removal of trees from sidewalks or medians along the Proposed Project route or route options. The No Project Alternative would not impact terrestrial habitat, riparian habitat, or wetlands. This alternative would not impact candidate, sensitive, or special status species or impede the movement of wildlife. There would be no potential to conflict with policies or ordinances protecting biological resources or conflict with conservation plans. The No Project Alternative would not result in a significant impact related to biological resources. Impacts would be less than or equal to those of the Proposed Project, which were determined to be less than significant with mitigation for construction activities and no impact for operational activities.

Cultural Resources

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect cultural resources. This alternative would not result in ground disturbance, acquisition, and/or modification of cultural resources along the Proposed Project route and route options. There would be no potential for construction or operational activities to disturb historic or archaeological resources. The No Project Alternative would not result in a significant impact related to cultural resources. This impact would be less than what was identified for the Proposed Project, which was determined to be less-than-significant with mitigation.

Energy

The No Project Alternative includes the existing transportation network and land use developments that consume transportation fuels, electricity, and natural gas. Without the Proposed Project, mobile sources and land uses would continue to use transportation fuels. However, there is no specific action associated with the No Project Alternative that would cause an impact. There would be no potential to create impacts related to fuel consumption or conflicts with renewable energy or energy efficiency plans. The No Project Alternative would not result in a significant impact related to construction or operational activities. Construction impacts would be less than those of the Proposed Project, which were determined to be less than significant for construction.

A consequence of the No Project Alternative would be that Metro would not be able to improve regional transit ridership. It is anticipated that improved bus service between North Hollywood and Pasadena would reduce regional vehicle miles traveled by making the Metro system a more desirable mode of transportation, thereby indirectly reducing transportation-related energy use. This benefit would not be realized under the No Project Alternative.

Geology and Soils

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect geology and soils. This alternative would not result in ground disturbance, acquisition, and/or modification of geology and soils from construction or operations of the Proposed Project. There would be no potential for construction or operational activities to result in impacts from seismic events, landslides, erosion, lateral spreading, subsidence, liquefaction, collapse, alternative wastewater systems, or paleontological resources. The No Project Alternative would not result in a significant impact related to geology and soils. This impact would be less than what was identified for the Proposed Project, which was determined to be less-than-significant for construction activities and less-than-significant with mitigation for operational activities.

Greenhouse Gas Emissions

The No Project Alternative includes the existing transportation network and land use developments that generate GHG emissions. Without the Proposed Project, mobile sources and land uses would continue to generate pollution. However, there is no specific action associated with the No Project Alternative that would cause an impact. There would be no potential to generate significant GHG emissions or conflict with GHG reduction plans. The No Project Alternative would not result in a significant impact related to construction or operational activities. Construction impacts would be or less than those of the Proposed Project, which were determined to not be significant.

A consequence of the No Project Alternative would be that Metro would not be able to improve regional transit ridership. It is anticipated that improved bus service between North Hollywood and Pasadena would reduce regional vehicle miles traveled by making the Metro system a more desirable mode of transportation, thereby indirectly reducing passenger vehicle emissions. This benefit would not be realized under the No Project Alternative. The No Project Alternative would have no potential to create impacts related to GHG emissions. Similar to the Proposed Project, there would be no potential for operational impacts.

Hazards and Hazardous Materials

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect hazards and hazardous materials. This alternative would not result in impacts to hazardous materials, airports, emergency response plans, or wildland fires. The No Project Alternative would not result in a significant impact related to hazards and hazardous materials. This impact would be less than what was identified for the Proposed Project, which was determined to be less-than-significant with implementation of

mitigation measures. This impact would be less than what was identified for the Proposed Project, which was determined to be less than significant.

Land Use and Planning

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect land use and planning. There would be no potential for construction activities to physically divide an established community or conflict with land use plans, policies, or regulations. Regarding long-term planning and land use, the No Build Alternative would not physically divide an established community. This alternative would not interfere with regional and local plans (e.g., SCAG 2020-2045 RTP/SCS), policies, or regulations of encouraging land use and growth patterns that facilitate transit and non-motorized transportation and focusing growth along major transportation corridors in the region, but as a consequence, would also do nothing to further those goals. This impact would be less than what was identified for the Proposed Project, which was determined to be less than significant.

Noise

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect noise and vibration. There would be no construction activities and no new noise or vibration exposure associated with heavy-duty equipment or construction trucks. There would be no potential to increase ambient noise levels, generate excessive vibration, or expose people to excessive aircraft noise. Impacts would be less than those of the Proposed Project, which were determined to be less than significant with mitigation.

The No Project Alternative includes the existing transportation network and land use developments that generate operational noise. Without the Proposed Project, mobile sources and land uses would continue to generate operational noise. However, there is no specific action associated with the No Build Alternative that would cause an impact. Impacts would be less than those of the Proposed Project, which were determined to be less than significant.

Transportation

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect the transportation system. There would be no construction activities and associated lane closures and/or traffic hazards. There would be no potential to conflict with programs, plans, ordinance, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. There would also be no potential for increased hazards due to design features or incompatible land uses or inadequate emergency access. The No Project Alternative would not result in a significant impact related to construction activities. Construction impacts would be less than those of the Proposed Project, which were determined to be less than significant with mitigation.

The No Project Alternative would not change existing operating conditions on local roadways. There would be no operational activities and transportation effects. There would be no potential to conflict with programs, plans, ordinance, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. There would also be no potential for

increased hazards due to design features or incompatible land uses or inadequate emergency access. Operational impacts would be less than those of the Proposed Project, which were determined to be less than significant with mitigation.

Tribal Cultural Resources

The No Project Alternative would not include physical changes to the existing Proposed Project route and route options that could affect tribal cultural resources. There would be no potential for construction or operational activities to disturb tribal cultural resources. The No Project Alternative would not result in a significant impact related to tribal cultural resources. Impacts would be less than or equal to those of the Proposed Project, which were determined to be less than significant with mitigation for construction activities and no impact for operational activities.

Analysis of Alternative 2

Aesthetics

Alternative 2 would operate entirely within the existing roadway ROW without significant physical improvements. This alternative would not affect existing medians or historic streetlights. Stops would occur at existing bus stations and there would be no median-running, center-running, or side-running configuration. New signs would be installed at stops to identify the Metro buses. These signs would be visually similar to existing Metro signs. Alternative 2 would not introduce features that would obstruct or damage scenic resources such as trees, rock outcroppings, and historic buildings within a state scenic highway. Alternative 2 would have no potential to create impacts to scenic vistas during construction or operations. This alternative would also have no potential to create a new source of substantial light or glare which would adversely affect day or nighttime views. Alternative 2 would not result in significant impacts related to construction or operational activities. Impacts would be less than those of the Proposed Project, which were determined to be less-than-significant with mitigation.

Air Quality

Alternative 2 would not include substantial construction activities. Minor construction may be needed to install information signs and benches. There would be no potential for Alternative 2 to generate significant construction emissions that would exceed SCAQMD significance thresholds. This alternative would not conflict or obstruct air quality plans, result in a cumulatively considerable net increase of a criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions such as odors that could adversely affect a substantial number of people. Similar to the Proposed Project, Alternative 2 would result in less-than-significant impacts related to construction activities. However, the quantity of construction emissions associated with Alternative 2 would be less than those of the Proposed Project.

Similar to the Proposed Project, Alternative 2 would use electric buses and would not generate direct emissions. Also similar to the Proposed Project, indirect emissions related to electricity use to charge bus batteries would not be significant. There would be no potential to conflict or obstruct air quality plans, result in a cumulatively considerable net increase of a criteria

pollutant, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions such as odors that could adversely affect a substantial number of people. Similar to the Proposed Project, Alternative 2 would result in less-than-significant impacts related to operational activities. However, it is anticipated that Alternative 2 would result in less ridership than the Proposed Project, as the Proposed Project would have dedicated bus lanes, station amenities, and other features that will boost its attractiveness and reliability relative to the Alternative 2 services. As a result, this alternative would not reduce VMT and associated pollutant emissions as much as the Proposed Project.

Biological Resources

Alternative 2 would not include physical changes to the existing environment that could affect biological resources. This alternative would not result in the removal of trees from sidewalks or medians. There would be no change to the existing natural environment associated with construction or operational activities. Alternative 2 would not affect terrestrial habitats, riparian habitats, or wetlands. This alternative would not impact candidate, sensitive, or special status species or impede the movement of wildlife. There would be no potential to conflict with policies or ordinances protecting biological resources or conflict with conservation plans. Alternative 2 would not result in significant impacts related to construction activities. Construction impacts would be less than those of the Proposed Project, which were determined to be less-than-significant with mitigation. Similar to the Proposed Project, operational activities would not result in a significant impact.

Cultural Resources

Alternative 2 would not include physical changes to the existing environment that could affect cultural resources. This alternative would not require substantial ground disturbing activities. Minor digging near the surface may be required to install information signs and benches. There would be no potential for construction or operational activities to disturb archaeological resources or the potentially historic streetlights. Construction impacts would be less than those of the Proposed Project, which were determined to be less-than-significant with mitigation. Similar to the Proposed Project, operational activities would not result in a significant impact.

Energy

Alternative 2 would not include substantial construction activities. Minor construction may be needed to install information signs and benches. There would be no potential for Alternative 2 to use significant energy resources for construction activities. In addition, this alternative would not conflict with energy conservation plans. Similar to the Proposed Project, Alternative 2 would result in less-than-significant impacts related to construction activities. However, the quantity of construction-related energy use associated with Alternative 2 would be less than those of the Proposed Project.

Similar to the Proposed Project, Alternative 2 would use electric buses and would not generate direct emissions. Also similar to the Proposed Project, indirect emissions related to electricity use to charge bus batteries would not be significant. There would be no potential to conflict with

energy conservation plans. Similar to the Proposed Project, Alternative 2 would not result in a significant impact related to operational activities. However, it is anticipated that Alternative 2 would result in less ridership than the Proposed Project. As a result, this alternative would not reduce VMT and associated transportation energy use as much as the Proposed Project. Alternative 2 would result in less of a permanent energy benefit than the Proposed Project.

Geology and Soils

Alternative 2 would not include physical changes to the existing environment that could affect geology and soils. Minor construction may be needed to place information signs and benches. This alternative would not result in substantial ground disturbance, acquisition, and/or modification of geology and soils from construction or operational activities. There would be no potential for construction or operational activities to result in impacts from seismic events, landslides, erosion, lateral spreading, subsidence, liquefaction, collapse, alternative wastewater systems, or paleontological resources. Alternative 2 would not result in a significant impact related to geology and soils. Construction impacts would be less than those of the Proposed Project, which were determined to be less-than-significant with mitigation. Similar to the Proposed Project, operational activities would not result in a significant impact.

Greenhouse Gas Emissions

Alternative 2 would not include substantial construction activities. Minor construction may be needed to install information signs and benches. There would be no potential for Alternative 2 to generate substantial construction emissions. Per SCAQMD guidance, GHG construction emissions are considered together with operational emissions to assess significance. Similar to the Proposed Project, Alternative 2 would use electric buses and would not generate direct emissions. Also similar to the Proposed Project, indirect emissions related to electricity use to charge bus batteries would not be significant. It is anticipated that Alternative 2 would increase ridership on the Metro system thereby reducing regional VMT. However, the VMT reduction would be less than that of the Proposed Project but would still result in a reduction of transportation-related energy use. As a result, Alternative 2 would not conflict with GHG reduction plans. Similar to the Proposed Project, Alternative 2 would not result in a significant impact related to construction or operational activities. However, Alternative 2 would result in less of a permanent GHG benefit than the Proposed Project.

Hazards and Hazardous Materials

Alternative 2 would not include physical changes to the existing environment that could affect hazards and hazardous materials. Minor construction may be needed to place information signs and benches. This alternative would not result in substantial ground disturbance, acquisition, and/or modification from construction or operational activities resulting in disturbance of hazardous sites. Alternative 2 would operate in the existing roadway ROW and there would be no change to existing emergency response plans. There would be no new hazardous situation related to airports or wildland fires. Alternative 2 would not result in a significant impact related to hazards and hazardous materials. Impacts would be less than those of the Proposed Project, which were determined to be less-than-significant.

Land Use and Planning

Alternative 2 would not include physical changes to the existing environment could affect land use and planning. There would be no potential for construction activities to physically divide an established community or conflict with land use plans, policies, or regulations. Regarding long-term planning and land use, Alternative 2 would not physically divide an established community. This alternative would not interfere with regional and local plans (e.g., SCAG 2020-2045 RTP/SCS), policies, or regulations of encouraging land use and growth patterns that facilitate transit and non-motorized transportation and focusing growth along major transportation corridors in the region but would also do less to further those goals than the Proposed Project because of reduced ridership. Alternative 2 would not result in a significant impact related to land use and planning. Impacts would be less than those of the Proposed Project, which were determined to be less-than-significant.

Noise

Alternative 2 would not include physical changes to the existing environment affecting noise or vibration. Minor construction may be needed to install information signs and benches. It is not anticipated that these activities would require equipment that would generate noise or vibration levels in excess of significance thresholds. Alternative 2 would result in a less-than-significant noise and vibration impact related to construction activities. Impacts would be less than those of the Proposed Project, which were determined to be less-than-significant with mitigation.

Alternative 2 would operate within the existing roadway and would not move travel lanes closer to land uses. Headways would be less than or equal to the Proposed Project. As a result, operational noise levels would be less than or equal to those estimated for the Proposed Project, which did not exceed significance thresholds. Similar to the Proposed Project, Alternative 2 would result in less-than-significant impacts related to operational activities.

Transportation

Alternative 2 would operate within the existing roadway and would not include physical changes to the existing transportation system. There would be no construction activities and associated lane closures and/or traffic hazards. There would be no potential for construction to conflict with programs, plans, ordinance, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. There would also be no potential for increased hazards due to design features or incompatible land uses or inadequate emergency access. Alternative 2 would not result in a significant construction impact related to transportation. Impacts would be less than those of the Proposed Project, which were determined to be less-than-significant with mitigation.

Alternative 2 would not change existing operating conditions on local roadways. There would be no operational activities and transportation effects. There would be no potential to conflict with programs, plans, ordinance, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. There would also be no potential for increased hazards due to design features or incompatible land uses or inadequate emergency access. It can reasonably be assumed that Alternative 2 would result in some decrease in regional VMT though the improvement would be less than the Proposed Project, as BRT service would be expected to attract more ridership than Alternative 2 services due to convenience and attractiveness associated

with frequent service, faster travel times, and more reliable travel times resulting from the BRT service operating in dedicated bus lanes along much of the route. Operational impacts would be less than those of the Proposed Project, which were determined to be less than significant.

Tribal Cultural Resources

Alternative 2 would not include physical changes to the existing environment that could affect tribal cultural resources. This alternative would not require substantial ground disturbing activities. Minor digging near the surface may be required to install information signs and benches. There would be no potential for construction or operational activities to disturb tribal cultural resources. Construction impacts would be less than those of the Proposed Project, which were determined to be less-than-significant with mitigation. Similar to the Proposed Project, operational activities would not result in a significant impact.

6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6 requires that an “environmentally superior” alternative be selected among the alternatives that are evaluated in the Draft EIR. The environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. A summary of the impacts of the No Project Alternative (Alternative 1) and Alternative 2 relative to the Proposed Project and route options is shown **Table 6-1**.

The No Project Alternative is considered the environmentally superior alternative because there would be no physical changes to the existing environment resulting in construction or operational impacts. Other transit projects would be constructed to enhance the regional network, although improvements within the Project corridor would be limited and minor related to increased ridership. The No Project Alternative would include the North SFV BRT Project and the NextGen Bus Plan, in addition to other transportation and land use projects listed in Chapter 5 Cumulative Impact Analysis. The North SFV BRT Improvements Project would provide a new, high-quality bus service between the communities of Chatsworth to the west and North Hollywood to the east. Not constructing and operating the Proposed Project would eliminate the potentially significant impacts associated with the Proposed Project related to transportation (construction), aesthetics (operations), biological resources (construction), cultural resources (construction and operations), geology and soils (operations), noise (construction), and tribal cultural resources (construction). However, the regional transit network within the Project corridor would not be substantially enhanced by the other transit projects.

If the No Project Alternative is identified as the environmentally superior, CEQA requires selection of the environmentally superior alternative other than the No Project Alternative from among the Proposed Project and the other alternatives evaluated in the Draft EIR. Alternative 2 is the environmentally superior alternative because, as compared to the Proposed Project and route options, it avoids or reduces all construction impacts related to transportation, biological resources, cultural resources, noise, and tribal cultural resources. It also avoids or reduces operational impacts related to transportation, aesthetics, cultural resources, and geology and soils.

Table 6-1 – Comparison of Alternatives to the Proposed Project and Route Options

Proposed Project/Alternative		Environmental Resource										
District	Options	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Energy Resources	Geology and Soils	GHG	Noise	Transportation	Tribal	
Proposed Project and Route Options	North Hollywood	A1 (Proposed Project)	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-6	LTSM CUL-2
		A2	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
	Glendale	E1 (Proposed Project)	LTSM CUL-1	LTS	LTSM BIO-1	LTSM CUL-1 CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-6	LTSM CUL-2
		E2	LTSM CUL-1	LTS	LTSM BIO-1	LTSM CUL-1 CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-6	LTSM CUL-2
		E3	NI	LTS	NI	NI	LTS	LTSM GEO-1	NI	LTS	LTSM TRA-1 TRA-2 TRA-3 TRA-6	NI

Proposed Project/Alternative		Environmental Resource										
District	Options	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Energy Resources	Geology and Soils	GHG	Noise	Transportation	Tribal	
Proposed Project and Route Options	Eagle Rock	F1	LTSM VIS-1 VIS-2	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-5 TRA-6	LTSM CUL-2
		F2 (Proposed Project)	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-4 TRA-6	LTSM CUL-2
		F3	LTS	LTS	NI	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTS	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
	Pasadena	G1 (Proposed Project)	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
		G2	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2

Proposed Project/Alternative		Environmental Resource									
District	Options	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Energy Resources	Geology and Soils	GHG	Noise	Transportation	Tribal
Pasadena	H1 (Proposed Project)	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
	H2	LTS	LTS	LTSM BIO-1	LTSM CUL-2	LTS	LTSM GEO-1	NI	LTSM NOI-1 NOI-2	LTSM TRA-1 TRA-2 TRA-3 TRA-6	LTSM CUL-2
No Project Alternative		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Alternative 2		NI	LTS	LTS	LTS	LTS	NI	NI	LTS	LTS	NI

Note: NI= No Impact, LTS = Less Than Significant, LTSM = Less Than Significant with Mitigation

SOURCE: Terry A. Hayes Associates Inc., 2020.

7. Public and Agency Outreach

Metro initiated a comprehensive outreach program for the Proposed Project. The outreach program focused on increasing awareness and education, disseminating information, garnering public input, and supporting the technical and legal environmental processes. To encourage the submittal of comments during the Public Scoping period, legal advertisement notices were published in ten newspapers and 178,198 notices were mailed to occupants, property and business owners located within 500 feet of the route and route options or within 0.25 mile of proposed stations. Metro received 2,584 comments during the Public Scoping period. All Public Scoping comments are available in their entirety in **Appendix V**. Comments were received through the following methods: the Proposed Project website; a special Proposed Project email address and telephone number; U.S. Mail; Metro social media and blogs; or by submitting a written or oral comment at the five Public Scoping Meetings and one Community Open House meeting. During the Public Scoping period, comments were also received through a set of transit rider intercept surveys conducted at major transit stops along the BRT Corridor. This section summarizes both the Public Scoping efforts and comments received during the 60-day Public Scoping Period. Metro extended the original 45-day Public Scoping Period by 15 days to ensure all stakeholders had sufficient time to submit comments between June 17, 2019 and August 15, 2019.

Additional community engagement activities were implemented after the Public Scoping process that included sharing information at key community events, presenting at community group meetings and hosting a round of community workshops where participants provided feedback on amenities and features of the proposed Bus Rapid Transit project through facilitated activities. Appendix V provides a full report of the community workshops, participants and comments received.

7.1 SCOPING PROCESS

The scoping process included the following activities:

- Filing the NOP with the County Clerk/Recorder of Los Angeles County and with the State Clearinghouse Office of Planning and Research to formally initiate the CEQA process.
- Placing NOP notices in newspapers for public circulation.
- Mailing the NOP to potentially affected government agencies, Native American tribes, residents, and businesses to advise them of Project initiation and to invite participation in scoping meetings.
- Holding meetings with potentially affected and/or interested parties in the Project Area.
- Recording comments that were received during and after the scoping meetings.

The comments and questions received during the Public Scoping process were reviewed and considered by Metro and were used in determining the appropriate scope of issues to be addressed in the Draft EIR. The comments are part of the public record for the Proposed Project.

7.2 PUBLIC PARTICIPATION PLAN

In accordance with Metro’s Public Participation Plan, targeted community outreach efforts were completed in various cities throughout the study area to ensure participation of Limited English Proficiency (LEP), Environmental Justice (EJ), and Equity Focused Communities (EFC). Information booths were staffed at various community events shown in **Table 7-1** by bilingual personnel to share and elicit feedback from LEP individuals as well as to broaden the dialogue with the general public.

Table 7-1 - Pop-Up Events

Event	Date
North Hollywood Food Truck Collective	Thursday, June 27, 2019
North Hollywood Summer Nights	Saturday, June 29, 2019
Eagle Rock Annual Concerts in the Park and Fireworks	Sunday, June 30, 2019

SOURCE: Metro, *Public Scoping Summary Report*, 2020.

7.3 GOVERNMENT AND OTHER AGENCY CONSULTATION

Per CEQA requirements, Metro notified federal, State, county, city agencies and Native American tribes within the Project Area, including responsible agencies, public agencies that have legal jurisdiction with respect to the Proposed Project, and other organizations or individuals that requested notice. Additionally, a copy of the NOP was filed with the Los Angeles County Clerk and State Clearinghouse.

Prior to the initiation of the five Public Scoping Meetings, a meeting with the Technical Working Group (TWG), which includes city and agency members from cities along the corridor, was held on July 9, 2019, at Metro Headquarters. The purpose of the meeting was to provide the cities and agencies with an update and to inform them of the scoping period and upcoming meetings. During the meeting, staff shared information and materials similar to the Public Scoping Meetings. The agencies included:

- Caltrans
- City of Burbank
- City of Los Angeles Department of Transportation
- City of Los Angeles Department of City Planning
- City of Pasadena
- City of Glendale
- Foothill Transit

- Metrolink (Southern California Regional Rail Authority)
- Burbank-Glendale-Pasadena Airport Authority

As shown in **Table 7-2**, a total of eight agencies submitted comments during the 60-day comment period.

Table 7-2 - Agency Comments

No.	Agency	Date Submitted
1.	City of Los Angeles Bureau of Engineering	July 8, 2019
2.	South Coast Air Quality Management District	July 9, 2019
3.	California Department of Transportation (Caltrans) District 7	July 17, 2019
4.	Southern California Regional Rail Authority (Metrolink)	July 25, 2019
5.	City of Pasadena	July 26, 2019
6.	City of Los Angeles Department of City Planning	August 12, 2019
7.	City of Burbank	August 12, 2019
8.	City of Los Angeles Department of Transportation	August 13, 2019

SOURCE: Metro, *Public Scoping Summary Report*, 2020.

7.4 TRIBAL COORDINATION

In accordance with AB 52, Metro notified and consulted with Native American tribes traditionally and culturally affiliated with the geographic area of the Proposed Project. Consultation with an affiliated tribe is required within 30 days of receiving a request for consultation. Metro consulted with Gabrieleno Band of Mission Indians – Kizh Nation and Fernandeño Tataviam Band of Mission Indians. Further discussion of the tribal consultation process is provided in Section 3.11, Tribal Cultural Resources.

7.5 COMMUNITY OUTREACH

7.5.1 Community Notification Methods

To maximize public awareness, a variety of noticing methods were implemented in advance of the Public Scoping Meetings. These included:

- Mailing bi-lingual (English/Spanish) notices;
- Distributing multi-lingual (English/Armenian/Tagalog/Spanish) electronic noticing to the Proposed Project database of contacts;
- Distributing flyers door-to-door within the community of Eagle Rock;
- Purchasing geo-targeted social media advertisements on Facebook;

- Posting meeting information at the Eagle Rock Plaza mall – where the Eagle Rock scoping meeting was held.
- Posting meeting information on Nextdoor within Eagle Rock and Highland Park;
- Sharing Proposed Project information and scoping meeting flyers at various community events, via staffed information booths;
- Presenting to various community groups, business groups, councils of governments, elected officials, and neighborhood councils throughout the Project Area;
- Reaching transit-riders at key transit stations in North Hollywood, Burbank, Eagle Rock, Highland Park and Pasadena; and
- Placing paid media advertisements and earned media through organic publicly gained media, including stories from local blogs, print, and online newspapers advertising the meetings.

All forms of noticing provided meeting details (dates, times, locations, and in-language services) as well as contact information for accessing additional details. Additionally, each notice provided information on the public comment period deadline and the various ways the public could submit comments for consideration in the Draft EIR.

All meeting notices were produced in English and Spanish, with a request to provide meeting flyers in Tagalog for distribution within the Eagle Rock community. Notices were mailed to a total of 178,198 property owners, business owners, and non-owner-occupied residents, located within 500 feet from each of the alignment alternatives and 0.25 mile from each proposed station. Notification efforts also included communicating via email with over 5,000 interested contacts in the Proposed Project database that included contact names, organizations (if any), mailing addresses, email addresses and also included contact information for all federal, State and local elected offices and city staff within the Project Area.

7.5.2 Notice of Preparation

The first step in the Draft EIR or scoping process was the filing of an NOP. The NOP was filed with both the Los Angeles County Clerk and State Clearinghouse on June 17, 2019. The NOP was mailed to responsible agencies (the four cities along the corridor and Caltrans) and members of the public to transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 60 days of receipt of the NOP from the lead agency. As the Lead Agency for the Proposed Project, Metro is responsible for preparing an EIR.

7.6 PUBLIC SCOPING MEETINGS

Metro conducted one TWG Meeting; five Public Scoping Meetings in North Hollywood, Burbank, Glendale, Eagle Rock and Pasadena; and one Community Open House Meeting in Eagle Rock during the extended 60-day scoping period. These meetings were held in each of the five communities of the proposed project area with an additional meeting added at Occidental

College in Eagle Rock, to provide an additional forum to accommodate a larger volume of community members within this community. The additional scoping meeting allowed an opportunity for one-on-one dialogue with the project team and included various options to provide public comment. Notification of the meetings was conducted in compliance with CEQA Guidelines. Representatives that attended public scoping meetings from government agencies, elected officials, and special districts are shown in **Table 7-3**. A total of 818 people attended the Public Scoping Meetings and Community Open House Meeting in July and August 2019. A total of 792 comments were received during the public scoping meetings. **Table 7-4** provides the number of participants and comments submitted at each meeting.

Table 7-3 - Government Agencies, Elected Officials, and Special Districts Represented at Public Scoping Meetings

Meeting	Stakeholder Organization
Public Scoping Meeting #1 – North Hollywood	<ul style="list-style-type: none"> • Los Angeles Council District 2 - Paul Krekorian • Los Angeles Council District 4 - David E. Ryu • City of Los Angeles Department of City Planning
Public Scoping Meeting #2 – Pasadena	<ul style="list-style-type: none"> • Office of Los Angeles County Supervisor Kathryn Barger 5th District • Pasadena Department of Transportation • Los Angeles Council District 2 – Paul Krekorian
Public Scoping Meeting #3 – Eagle Rock	<ul style="list-style-type: none"> • Los Angeles County Supervisor Hilda Solis 1st District • Los Angeles City Mayor’s Office Eric Garcetti • Los Angeles Council District 14 - Jose Huizar • Los Angeles Council District 2 – Paul Krekorian • Los Angeles Unified School District
Public Scoping Meeting #4 – Burbank	<ul style="list-style-type: none"> • Burbank Mayor Emily Gabel-Luddy • Burbank Councilmember Sharon Springer • Office of Los Angeles County Supervisor Kathryn Barger 5th District • Office of Senator Bob Hertzberg 18th Senate District • Office of Senator Anthony Portantino 25th Senate District • City of Burbank • Los Angeles Council District 2 – Paul Krekorian • Burbank Transportation Commission • City of Burbank Planning
Public Scoping Meeting #5 – Glendale	<ul style="list-style-type: none"> • Glendale City Mayor and Metro Board member Ara Najarian • Los Angeles County Supervisor Kathryn Barger 5th District • Office of Assemblymember Laura Friedman 43rd State Assembly District • City of Glendale Planning • City of Glendale Public Works • Los Angeles Council District 2- Paul Krekorian
Community Open House Meeting #6 – Eagle Rock	<ul style="list-style-type: none"> • Los Angeles County Supervisor Hilda Solis First District • Assemblymember Wendy Carrillo 51st State Assembly District • Glendale City Mayor and Metro Board member Ara Najarian • Los Angeles City Mayor Eric Garcetti • Los Angeles Council District 14 - Jose Huizar

SOURCE: Metro, *Public Scoping Summary Report*, 2020.

Table 7-4 - Public Participation by Meeting

Meeting	Date	No. of Attendees	No. of Comments
Public Scoping Meeting #1 North Hollywood	Tuesday, July 9, 2019	51	<ul style="list-style-type: none"> • Speakers: 18 • Written Comments: 19
Public Scoping Meeting #2 Pasadena	Wednesday, July 10, 2019	80	<ul style="list-style-type: none"> • Speakers: 29 • Written Comments: 26
Public Scoping Meeting #3 Eagle Rock	Saturday, July 13, 2019	226	<ul style="list-style-type: none"> • Speakers: 91 • Written Comments: 217
Public Scoping Meeting #4 Burbank	Monday, July 15, 2019	90	<ul style="list-style-type: none"> • Speakers: 22 • Written Comments: 30
Public Scoping Meeting #5 Glendale	Wednesday, July 17, 2019	84	<ul style="list-style-type: none"> • Speakers: 29 • Written Comments: 23
Community Open House Meeting #6 Eagle Rock	Wednesday, August 7, 2019	287	<ul style="list-style-type: none"> • Oral Comments: 66 • Written Comments: 222
Total		818	792

SOURCE: Metro, *Public Scoping Summary Report*, 2020.

7.7 ACCOMMODATIONS FOR MINORITY, LOW-INCOME, AND PERSONS WITH DISABILITIES

During the Public Scoping process, LEP accommodations were made in order to expand access for participants. Bi-lingual scoping notices were developed and distributed through several different methods, including mail delivery, email, and geo-targeted social media. Meetings were held in facilities that accommodated Americans with Disabilities Act (ADA) requirements and that were easily accessible via public transit.

Materials were developed in English, Spanish, Armenian, and Tagalog, and translation request forms were made available at each of the five Public Scoping Meetings and the one Community Open House Meeting to ensure all language needs were met. Additionally, scoping meeting notices included the Metro LEP phone number, which gives stakeholders the ability to make Metro aware of any language or ADA accommodations required for attendance at any of the Public Scoping Meetings. A Spanish-language interpreter with simultaneous interpretation equipment was present at each of the five Public Scoping Meetings and the Community Open House Meeting held during the scoping period. An Armenian-language interpreter with simultaneous interpretation equipment was present at the Glendale meeting and a Tagalog-language interpreter with simultaneous interpretation equipment was present at the Eagle Rock meetings, given the demographics suggesting the need for these services.

7.8 SUMMARY OF SCOPING COMMENTS

Metro received a total of 2,584 comments during the Public Scoping Period, which are summarized below. Public comments were received through seven primary means including: 255 oral comments; 1,023 received electronically through email or website comment form; five through U.S. Mail; 537 through written comments submitted at scoping and open house meetings; 580 received electronically through Metro's Facebook posts, advertisements and blogs; 154 comments from transit stop intercept surveys; and 30 transcribed comments received on the Proposed Project telephone line. The following provides a breakdown of comments received by source, environmental concerns raised, and agency/elected offices comments.

7.8.1 Agency Comments

City of Los Angeles Bureau of Engineering

- Recommendations to consider historic properties along the corridor when developing the Draft EIR.

South Coast Air Quality Management District

- Recommendations to consider alternatives and use mitigation measures beyond what is required by law during construction and operation if the Proposed Project generates significant adverse air quality impacts.

Caltrans – District 7

- The primary street-running alignment will help Caltrans meet its statewide goals, will achieve the highest ridership, greatest mode-shift, and highest connectivity to activity centers, and will improve mobility.
- Recommendations to study freeway weaving, merging and number of buses added during peak hour for the segments on the SR-134 freeway.
- No significant impacts anticipated for either the primary street-running alignment or freeway-running alignment.

Metrolink

- Recommendations to include an emphasis on connections to the regional rail network, particularly Metrolink in Downtown Burbank.
- Recommendations to examine pedestrian connections, safety, and access to stations and transfers to other modes of travel and public transit.

City of Pasadena

- Supports mixed-flow BRT configurations in the Pasadena street network.
- Recommendations to ensure that the Proposed Project takes into consideration the City's long-range plans when developing the study. Recommendations to include the following evaluations and assessments in the study: vehicular travel time, impacts on parking demand and supply, redistribution of vehicular trips and other transit services, station design, amenities and wayfinding, first/last mile plans, construction and operational impacts, roadway maintenance, monitoring and reporting of buses, emergency response, and hazardous materials.

City of Los Angeles Department of City Planning

- The Los Angeles Department of City Planning is currently developing a Transportation Neighborhood Plan along three G Line (Orange) Stations, including North Hollywood, that would encourage higher densities and land use intensities within a half-mile of transit stations and stops.
- Recommendations to encourage transit ridership for working class and moderate-income individuals.
- Recommendations to develop incentives to foster multi-family housing developers and commercial developers to provide transit benefits to employees and residents.
- Recommendations to evaluate the gradual development and improvement of BRT stations and related infrastructure within a facilities/assets master plan, including impacts on traffic flow, and first/last mile potential.

City of Burbank

- Recommendations to include the following evaluations and assessments in the study: biological resources, land use, employment centers, station locations, ridership projections, noise impacts, impacts of police protection and services, existing Burbank transportation impacts, existing Burbank transportation and community plans, and utilities and service system impacts.

7.8.2 Stakeholder Comments

California State Polytechnic University, Pomona

- Cited a Los Angeles Times article regarding reducing smog. Consider incentives to encourage drivers to take public transit and include first/last mile elements in the study. The street-running alignment will be more accessible and more environmentally friendly than the freeway-running alignment.

Eagle Rock Chamber of Commerce

- The Eagle Rock Chamber would like to retract a letter written in 2016 to Metro regarding the Proposed Project. The Chamber supports the study of a route along Colorado Boulevard in mixed-flow traffic and the SR-134 freeway alignment.

Investing in Place

- Supports BRT service on dedicated bus lanes, including on Colorado Boulevard in Eagle Rock. Consider the following priorities for the Proposed Project: faster and more efficient transit service, resources and assistance to protect residents and businesses from displacement, accessible and comfortable transit stops, first/last mile connections, streetscape improvements, maintain as much of the Colorado Boulevard medians as possible, consider station at Caspar Avenue, include a parking study, and provide mitigation measures for cut-through traffic on adjacent and parallel streets. Consider the City of Los Angeles' Mobility Element with this study and determine whether a Level of Service or Vehicle Miles Traveled metric will meet the adopted goals of the City of Los Angeles and Metro.

Los Angeles River Communities for Environmental Equity

- Supports the street-running alignment on Colorado Boulevard in Eagle Rock. Recommendations to improve pedestrian safety and access.

North Hollywood Business Improvement District

- Supports the Proposed Project that utilizes Vineland/Chandler to connect to the Metro B/G Line (Red/Orange).

Old Pasadena Management District

- Recommendations to include stops on Union and Green with stations on Arroyo Parkway. Consider the historic streetscape and architecture of Old Pasadena in the study.

The Eagle Rock Association

- Supports BRT for a better connected, accessible, small business friendly, landscaped and sustainable, enhanced Colorado Boulevard in Eagle Rock.
- Ensure Metro complies with Take Back The Boulevard Colorado Vision Plan

Sierra Club

- Supports a street-running alignment on Colorado Boulevard in Eagle Rock and a street alignment in Glendale. Consider landscaping and trees in the design.

UCLA Institute of Transportation Studies

- Expresses disagreement with the use of a Los Angeles Times article citing individuals against BRT.

7.8.3 Community Comments

North Hollywood

- *Lankershim Route Option vs Chandler-Vineland Route Option:* Although some stakeholders expressed a preference for the Lankershim route option, more stakeholders expressed a preference for the Chandler-Vineland route option, which many identified as having a lot of space and strong potential to be a high quality corridor for transit and pedestrians.

Burbank

- *Olive Route Option:* Some community members expressed concerns with the use of Olive and the potential associated negative effects on traffic and parking with dedicated bus lanes; some comments expressed the need to study an alternative to Olive; however, the majority of the comments received for Burbank were in support of the Proposed Project on Olive, with many mentioning the benefit of a high quality transit connection to Olive's activity centers.
- Additionally, some community members wanted to preserve parking and/or reconfigure parking on Olive.

Glendale

- *Broadway Route Option vs. Colorado Route Option:* Stakeholders appeared split between the Broadway route option and the Colorado route option. Nevertheless, the majority of the comments received for Glendale were in general support of the Proposed Project along the Broadway route option; many identified potential connections to several key activity centers that would benefit the community.

Eagle Rock

- *Colorado Route Option vs. SR-134 Option:* Overall, the comments reflected a slightly higher preference for a street-running / Colorado Boulevard option through Eagle Rock; Metro received 692 comments in support of Colorado Boulevard vs. 579 comments supporting the SR-134 route option and/or expressing a need to revisit and evaluate the SR-134 freeway-running option in the Draft EIR. Commenters favoring the SR-134 identified concerns with traffic and changes to community character, among others, while commenters who preferred a street-running Colorado Boulevard option identified the benefits of introducing high-quality transit service in the community.

- Additionally, Metro received several petitions from area groups within Eagle Rock that shared positions for or against a Colorado Boulevard alignment; there were approximately 944 signatures supporting the Colorado route option and 592 signatures for a SR-134 route option; another 629 signatures expressed nonsupport for the Proposed Project but were not specific about either of the two alignments; another 230 signatures were submitted from out of State or out of country and could not be verified that they had any local stake in the Proposed Project.
- Several community members expressed the need to bypass Eagle Rock completely to preserve its community character.

Pasadena

- *Colorado Route Option vs. Green/Union Route Option:* Although there was some preference expressed for the Colorado route option, there were also some who expressed concerns with its use and the potential associated increase of traffic and negative effects on businesses with dedicated bus lanes (even though it was communicated that the BRT would operate in mixed flow lanes through Pasadena); some others commented on the need for a Green/Union route option and the need for a connection to Pasadena City College.
- Some community members had questions and/or concerns regarding any effects the BRT might have on the Rose Parade should it operate on Colorado Boulevard.
- Some community members expressed a preference for the BRT to exit the SR-134 at Fair Oaks to allow for better connection to the Memorial Park L Line (Gold) station.

Comments Related to Potential Bus Lane Configurations

- *Dedicated Bus Lanes:* Many expressed the need for the Proposed Project to include dedicated bus lanes, expressly to reduce travel times and increase speed and reliability of the Proposed Project; some comments included the need for enforcement of dedicated lanes to ensure unauthorized vehicles do not have access; additionally, some community members wanted to ensure that emergency vehicles would be able to use the dedicated lanes.
- *Median Running:* Several comments expressed the need for median-running bus lanes, specifically on Colorado Boulevard in Eagle Rock.
- *Side Running:* Several community members expressed a preference for a side-running configuration; some community members wanted the inclusion of parking and bike lanes along with the side-running configuration.

Environmental and Other Issues

Other comments received focused on specific environmental resources including the following:

- *Traffic*: Stakeholders were concerned about potential circulation impacts on streets that are already highly congested, such as increased congestion, diversion of traffic onto adjoining neighborhoods, and concerns that emergency vehicles and evacuation routes would be negatively impacted. Most of these comments were related to the loss of a travel lane with the implementation of dedicated bus lanes.
- *Aesthetics*: Stakeholders were concerned about potential impacts to green space or landscaping due to median removal and/or street reconfigurations. Additionally, stakeholders expressed concern that implementation of BRT could negatively affect overall community aesthetics and sense of community character.
- *Zoning Changes*: Residents are concerned that the implementation of BRT would trigger an “upzoning” or change in zoning requirements that potentially could lead to further development and/or displacement.
- *Removal of Lanes*: Many stakeholders expressed concerns regarding the loss of parking, travel, or bicycle lanes to accommodate dedicated bus lanes; several stakeholders expressed the need for mixed-flow BRT along certain segments of the corridor, specifically along Colorado Boulevard in Eagle Rock.

Some comments focused on other issues related to environmental resources and community issues including the following:

- *Businesses and Parking*: Many stakeholders expressed concerns that the implementation of BRT could negatively affect businesses and storefronts along the corridor with the removal of any parking spaces. Stakeholders were concerned about the loss of parking and indicated that parking should be replaced; additionally, they also express the need to consider parking at the BRT stations.
- *Stations and Connectivity*: Comments related to station placement and connectivity were also received. Some of the comments related to this topic included the need or desire to have stations and/or connectivity at the following locations:
 - Hollywood-Burbank Airport
 - Pasadena City College
 - Caltech
 - Metro L Line (Gold)
 - Harvey Drive, Figueroa Street, and Townsend Avenue in Eagle Rock
 - Universal City
 - Occidental College
 - Eagle Rock Plaza
- *First/Last Mile*: Comments received related to first/last mile strategies included the need to consider bike lanes as part of the Proposed Project and/or coordination with the existing or future planned bike lanes along the corridor.

- *Frequency and Reliability:* Several comments stressed the need to ensure that any alignment chosen increases the frequency and reliability of the Proposed Project. Additionally, comments mentioned the need to increase the frequency and reliability of existing bus services in the study area.
- *Ridership:* A few comments were received that questioned the projected ridership for the Proposed Project and whether the Proposed Project would be beneficial overall.

7.9 POST-SCOPING COMMUNITY WORKSHOPS

Metro conducted a series of public workshops consisting of a brief presentation, followed by several interactive activities including a virtual polling survey, priority pyramid, and street design activity. Some activities were tailored to each of the five communities. For example, in Pasadena, a different street activity showing the various route options and a focus on station amenities was conducted given the proposed mixed-traffic configuration of bus lanes. The activities’ purpose was to gain additional feedback on the street and station design considerations, understand priorities within each community and importance of amenities.

Noticing for the workshops included a series of eight email blasts to the Project database, consisting of over 5,000 contacts, social media advertisements on Facebook, meeting flyers distributed at public venues in the Project Area. Meeting notices were mailed to 11,599 discrete addresses. A total of 328 people attended the Post-Scoping Meetings in November 2019. **Table 7-5** provides the number of participants at each meeting.

Table 7-5 – Post-Scoping Community Workshops

Meeting	Number of Attendees
Pasadena Workshop Session 1: Wednesday, November 6	73 (Combined)
Pasadena Workshop Session 2: Wednesday, November 6	
Glendale Workshop: Tuesday, November 12	22
Burbank Workshop, Wednesday, November 13	17
Eagle Rock Workshop: Saturday, November 16	195
North Hollywood Workshop: Tuesday November 19	21

SOURCE: Metro, *Workshop Summary Report*, 2020.

The majority of local community members supported and/or were not opposed to the project. Many attendees had specific comments regarding the different route alignment options and configurations, station amenities, transit service needs and within the Eagle Rock community, a study and design consideration for an SR-134 Freeway option. The results of the priority pyramid activity are shown below:

- 1st Tier Priority: Transit Service and Amenities
- 2nd Tier Priority: Traffic Movement and Safety
- 3rd Tier Priority: Pedestrian Experience, Aesthetics/Sense of Place, and Green Initiative/Sustainability.

Virtual and online surveys conducted indicate the concerns and wishes of the respondents. The virtual survey was conducted during the community workshops and the online survey included an additional 428 respondents. A summary of survey responses is shown in **Table 7-6**, which includes the most frequently occurring answers and the percentage of respondents who provided the answer.

Table 7-6 – Virtual and Online Survey Results

Question	Virtual Survey Answer	Virtual Survey Answer Percentage	Online Survey Answer	Online Survey Answer Percentage
Which streetscape amenity around BRT stations is most important to you?	Street trees	52%	Street trees	50%
Which corresponding street improvements around BRT stations would you be most excited to see?	Crosswalk improvements for enhanced safety	46%	Bike lane improvements	41%
Which station amenity is most important to you?	Weather protection/shading	42%	Real-time bus arrival displays	41%
What aspects of the BRT would encourage you to use transit more often?	Clean vehicles and transit stops	47%	Clean vehicles and transit	54%
When taking transit, which is most important to you?	Transit stops near where I live and where I'm going	48%	Transit stops to where I live and where I want to go	40%
If additional landscaping is possible, where would you prefer to see it focused?	Along sidewalks	48%	Along sidewalks	56%
What currently discourages you from taking transit more often?	Limited schedule flexibility (train/bus schedule)	37%	Limited schedule flexibility	50%
If you were to use this BRT, what would you use it for?	To get to activity centers	42%	To travel to activity centers such as shopping and entertainment	51%
How often do you take transit?	Only on special occasions	26%	Regularly	25%
Which of the following describes you?	I live within the study area	51%	I live within the study area	57%

SOURCE: Metro, *Workshop Summary Report*, 2020.

8. Lead Agency and List of Preparers

This chapter provides the Lead Agency and contributors to the Draft EIR.

8.1 LEAD AGENCY

Los Angeles County Metropolitan Transportation Authority

James de la Loza, Chief Planning Officer
David Mieger, AICP, Executive Officer, Transit Corridor Planning
Cory Zelmer, Deputy Executive Officer
Martha Butler, Senior Director, Regional Transit Planning
Fulgene Asuncion, Transportation Planning Manager
Scott Hartwell, Manager, Transportation Planning, Mobility Corridors
Gary Byrne, Senior Transportation Planner
Nathan Serafin, Transportation Associate
Pablo Lujan Garcia, Transportation Associate
Milind Joshi, Senior Director, Project Engineering
Brad Owen, Executive Officer, Operations
Wayne Wassell, Transportation Planning Manager
Lilian De Loza-Gutierrez, Director, Community Relations
Tito Corona, Principal Community Relations Officer, Local Government & External Affairs

8.2 LIST OF PREPARERS

Kimley-Horn

Brent Ogden, CE PTOE, Regional Vice President
Greg S. Kyle, AICP, Senior Vice President
Chelsey Cooper, AICP, Project Planner
Tanaya Bell, PE-CO, ENV-SP, Project Engineer
Tim Brown, PE, CFM, Project Engineer
Lupita Contreras, EIT, QSP, QISP, Project Engineer
Patrick Wong, CPSWQ, QSP/D, ENVSP, Project Planner
Aaron So, EIT, LEED GA, ENVSP, Project Engineer
Sowmya Chandrasekhar P.E. (CA, TX), T.E., PTOE, Project Engineer
Laura Forinash, P.E., T.E., Project Engineer
Gyan Sinha, P.E., Project Engineer
Matt Gibson, Project Engineer

Terry A. Hayes Associates Inc.

Terry A. Hayes, AICP, Chief Executive Officer
Sam Silverman, Senior Associate, Project Manager
Peter Feldman, Senior Planner, Deputy Project Manager
Anders Sutherland, Environmental Scientist
Kieran Bartholow, Planner
Blair Frei, Planner
Henry Haprov, Assistant Planner
Andy Uk, Assistant Planner
Natasha Mapp, Word Processing

GPA Consulting

Jenna Kachour, Senior Preservation Planner
Allison Lyons, Senior Architectural Historian
Elysha Paluszek, Associate Architectural Historian
Amanda Yoder Duane, Associate Architectural Historian
Audrey von Ahrens, Architectural Historian II
Jennifer Johnson, Senior Biologist
Stan Glowacki, Senior Biologist
Joseph Vu, Associate Biologist
Hannah Hart, Biologist

Paleo Solutions Inc

Evelyn Chandler, Cultural Resources Director
Courtney Richards, Principal Paleontologist
Liz Denniston, RPA, Principal Investigator
Elisa Barrios, GIS Specialist

Impact Sciences, Inc.

Jessica Kirchner Flores, AICP, Managing Principal
Doug Kim, AICP, Associate Principal
Kaitlyn Heck, Air Quality & Greenhouse Gas Technical Specialist
Raul Castillo; Noise and Vibration Technical Specialist

PARIKH Consultants, Inc.

Gary Parikh, PE, GE, Senior Principal
Jorge Turbay, PE, Senior Project Engineer
Craig Langbein, PG, Project Geologist
Mohammed Bazargani, CH, Senior Staff Engineer

The Robert Group

Clarissa Filgioun, Managing Director
Isaiah Ford, Project Manager
Translink Consulting, LLC
Lisa M. Young, Principal Planner
Yolanda DeLong, Senior Planner
Rebecca Wicks, Senior Writer

Connetics Transportation Group

Susan Rosales, President
Tanaya Malhotra, Planner
Matt Orenchuk, P.E., AICP, Transit Service Planner

Resource Systems Group

Maren Outwater, P.E., Vice President
Hannah Carson, Ridership Forecasting
Margaret Campbell, Ridership Forecasting

9. Organizations and Persons Consulted

This chapter provides the organizations, agencies and persons consulted as part of the development of the Draft EIR.

9.1 STATE AND FEDERAL ELECTED OFFICE AND STAFF BRIEFINGS

Office of U.S. Senator Dianne Feinstein
Office of Congressman Adam Schiff
Office of California Senator Bob Hertzberg
Office of California Senator Anthony Portantino
Office of Assemblymember Luz Rivas
Assemblymember Wendy Carrillo
Office of Assemblymember Wendy Carrillo
Office of Assemblymember Jimmy Gomez
Office of Assemblymember Laura Friedman
Office of Assemblymember Jesse Gabriel
Office of Assemblymember Chris Holden

9.2 CITY OF LOS ANGELES ELECTED OFFICE AND STAFF BRIEFINGS

David Somers
Conni Pallini-Tipton
Diana Kitching
Jonathon Ayon
Cameron Phillips
Emily Gable-Luddy
Eddie Guerrero
Kevin Minne
Abbass Vajar
Vicente Cordero
Edward Yu
Tim Fremaux
Charlie Ho
Jesus Serrano
Shirley Zamora Vasquez
Sheila Ahoraian
Clare Eberle
Feng Li
Sunil Rajpal
Amanda Potchanatayparuk
Los Angeles City Councilmember Paul Krekorian
Office of Los Angeles City Council District 2
Office of Los Angeles City Council District 14
Office of Los Angeles City Mayor

9.3 CITY OF BURBANK ELECTED OFFICE AND STAFF BRIEFINGS

David Kriske
Hannah Woo
Daniel Rynn
Jonathan Yee
Justin Hess
Vikki Davtian
Ken Berkman
Daniel Villa
Fred Ramirez
Scott Plambaek
Burbank City Council

9.4 CITY OF GLENDALE ELECTED OFFICE AND STAFF BRIEFINGS

Yazdan Emrani
Edward Hitti
Philip Lanzafame
Arezoo Kamali
Erik Krause
Fred Zohrehvand
Pastor Casanova
Katheryn Engel
Glendale Transportation Commission
Glendale City Council

9.5 CITY OF PASADENA ELECTED OFFICE AND STAFF BRIEFINGS

Fred Dock
Bahman Janka
Conrad Viana
Sebastian Hernandez
Joaquin Siques
Jon Hamblen
Valerie Gibson
Laura Cornejo
Julie Gutierrez
Steve Mermell
Mike Bagheri
Pasadena Municipal Services Committee

9.6 COMMUNITY STAKEHOLDER BRIEFINGS

American Heart Association
Arroyo Verdugo Communities Joint Powers Authority
Boulevard Sentinel
Burbank TMO
Caltech
Disney
Downtown Glendale Association
Eagle Rock Chamber of Commerce
Eagle Rock Neighborhood Council
Fixing Angelenos Stuck in Traffic
Greater Toluca Lake Neighborhood Council
Glendale Chamber of Commerce
Glendale Community College
Glendale Galleria
Glendale TMO
Go Glendale
Investing in Place
KCRW
Los Angeles Unified School District
Metro San Fernando Valley Service Council
Metro San Gabriel Valley Service Council
NoHo Neighborhood Council
North Hollywood Business Improvement District
Occidental College
Old Pasadena Management District
Pasadena City College
Pasadena City College Neighborhood
Pasadena Transportation Advisory Committee
Playhouse District Association
San Fernando Valley Council of Governments
San Gabriel Valley Council of Governments
San Gabriel Valley Economic Partnership
Sierra Club
South Lake Avenue District
Southern California News Group
Streetsblog LA
Sustainable Burbank
The Americana
The Eagle Rock Association
Toluca Lake Homeowners Association
Toluca Lake Chamber of Commerce
Valley Industry Commerce Association
Warner Bros

9.7 NATIVE AMERICAN CONSULTATION

Andy Salas, Chairman of the Gabrieleno Band of Mission Indians - Kizh Nation

Jairo Avila of the Fernandeno Tataviam

Robert Dorame of the Gabrielino Tongva Indians of California Tribal Council

Anthony Morales of the Gabrieleno/Tongva San Gabriel Band of Mission Indians

10. References

- California Air Resources Board (CARB), *Ambient Air Quality Standards*, 2016. Available: <https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf>.
- California Air Resources Board (CARB), *California Greenhouse Gas Emissions Inventory*, 2019.
- California Department of Fish and Wildlife (CDFW), *BIOS Habitat Connectivity Viewer*, July 8, 2019. Available: <https://www.wildlife.ca.gov/Data/BIOS>.
- California Department of Fish and Wildlife (CDFW), *CDFW QuickView Tool for the San Fernando, Sunland, Condor Peak, Chilao Flat, Mt. Wilson, EL Monte, Van Nuys, Burbank, Pasadena, Beverly Hills, Hollywood, and Los Angeles 7.5-foot topographic quadrangles for Unprocessed Data*, January 16, 2020. Available: <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data#43018410-cnddb-quickview-tool>.
- California Department of Fish and Wildlife (CDFW), *CNDDDB RareFind 5*, January 16, 2020. Available: <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>.
- California Department of Fish and Wildlife (CDFW), *Metadata Descriptions of CNDDDB Fields*, April 6, 2020. Available: https://map.dfg.ca.gov/rarefind/view/RF_FieldDescriptions.htm.
- California State Legislature, Assembly Bill No. 1358, 2008.
- California State Legislature, California Code of Regulations Section 4852
- California State Legislature, Senate Bill No. 743, 2013.
- California State Legislature, *The California Environmental Quality Act (CEQA)*, 1970.
- City of Burbank, *Bicycle Master Plan*, Adopted December 15, 2009, <https://www.burbankca.gov/home/showdocument?id=5371>.
- City of Burbank, *Burbank 2035 General Plan*, February 19, 2013, <https://www.burbankca.gov/home/showdocument?id=23448>.
- City of Burbank, *Burbank Media District Specific Plan*, Adopted January 8, 1991.
- City of Burbank, *The Burbank Municipal Code*, April 18, 2014. <https://www.codepublishing.com/CA/Burbank/?burbank07/Burbank0704.html&?f>.
- City of Glendale Planning Division, *City of Glendale General Plan: Open Space and Conservation Element*, January 1993, <https://www.glendaleca.gov/home/showdocument?id=4563>.

- City of Glendale, *Air Quality Element*, 1994,
<https://www.glendaleca.gov/government/departments/community-development/planning-division/city-wide-plans/air-quality-element>.
- City of Glendale, *Bicycle Transportation Plan*, September 2012.
- City of Glendale, *Comprehensive Design Guidelines*, Adopted November 29, 2011.
- City of Glendale, *Downtown Specific Plan*, 2019.
- City of Glendale, *General Plan, Circulation Element, 1998*.
- City of Glendale, *General Plan, Historic Preservation Element, 1993*.
- City of Glendale, *General Plan, Land Use Element, 1986*.
- City of Glendale, *General Plan, Open Space Conservation Element, 1993*.
- City of Glendale, *Glendale Municipal Code - Chapter 12.40 City Street Trees*, 2004,
http://qcode.us/codes/glendale/view.php?topic=12-12_40&showAll=1&frames=on.
- City of Glendale, *Glendale Municipal Code 12.44 Indigenous Trees*, December 7, 2010,
http://qcode.us/codes/glendale/view.php?topic=12-12_44&frames=on.
- City of Glendale, *Glendale Municipal Code, Historic Preservation Ordinance (Number 15.20, 15.22, 15.25, 2.76)*, 1996.
- City of Glendale, *Glendale Town Center Specific Plan*, April 27, 2004.
- City of Glendale, *Greater Downtown Strategic Plan*, 1996.
- City of Glendale, *Indigenous Tree Program*, July 16, 2019, <https://www.glendaleca.gov/government/departments/public-works/indigenous-tree-program/i-am-a-developer-or-planner>.
- City of Glendale, *Safety Element of the Glendale General Plan*, 2003.
- City of Los Angeles Community Redevelopment Agency, *Amended Redevelopment Plan for the North Hollywood Redevelopment Project*, October 2, 1997.
- City of Los Angeles Department of City Planning, *2010 Bicycle Plan – A Component of the City of Los Angeles Transportation Element*, March 1, 2011,
http://clkrep.lacity.org/onlinedocs/2010/10-2385-S2_MISC_07-11-2011.pdf.
- City of Los Angeles Department of City Planning, *Conservation Element of Los Angeles General Plan*, September 26, 2001, https://planning.lacity.org/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf.
- City of Los Angeles Department of City Planning, *Land Use/Transportation Policy*, 1993,
http://media.metro.net/images/Land_Use-Transportation_Policy.pdf.

- City of Los Angeles Department of City Planning, *Los Angeles General Plan – Framework Element*, 1974, https://planning.lacity.org/odocument/513c3139-81df-4c82-9787-78f677da1561/Framework_Element.pdf.
- City of Los Angeles Department of City Planning, *Los Angeles General Plan - Open Space Plan*, June 1973, https://planning.lacity.org/odocument/01ea5f66-3281-488a-930b-f523712fef07/Open_Space_Element.pdf.
- City of Los Angeles Department of City Planning, *Mobility Plan 2035 – An Element of the General Plan*, September 7, 2016, https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.
- City of Los Angeles Department of City Planning, *Protected Tree Relocation and Replacement Ordinance #177404*, April 23, 2006, https://cityplanning.lacity.org/Code_Studies/Other/ProtectedTreeOrd.pdf.
- City of Los Angeles Municipal Code, *Cultural Heritage Ordinance (Number 178,402)*, 2007.
- City of Los Angeles, *Conservation Element of the City of Los Angeles General Plan*, 2001.
- City of Los Angeles, Department of City Planning, *Air Quality Element: An Element of the General Plan of the City of Los Angeles*, 1992, https://planning.lacity.org/odocument/0ff9a9b0-0adf-49b4-8e07-0c16f6ea70bc/Air_Quality_Element.pdf.
- City of Los Angeles, *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming*, May 2007.
- City of Los Angeles, *North Hollywood-Valley Village Community Plan*, 1995.
- City of Los Angeles, *Northeast Los Angeles Community Plan*, 1999.
- City of Los Angeles, *Safety Element of the Los Angeles General Plan*, 1996.
- City of Pasadena Municipal Code, *Historic Preservation Ordinance (Number 17.62)*, 2007.
- City of Pasadena, *Bicycle Transportation Action Plan*, August 17, 2015
- City of Pasadena, *Citywide Design Principles and Design Guidelines*, 2002.
- City of Pasadena, *Code of Ordinances: City Trees and Tree Protection Ordinance*, May 5, 2002, https://www.cityofpasadena.net/wp-content/uploads/sites/29/TPO_2-Pasadena-Tree-Ordinance-Municipal-Code-8.52.pdf.
- City of Pasadena, *Design Guidelines for Historic Districts*, 2002.
- City of Pasadena, *General Plan Update: Draft Open Space and Conservation Element*, January 2012, <https://ww5.cityofpasadena.net/planning/wp-content/uploads/sites/56/2017/07/General-Plan-Open-Space-and-Conservation-Element-2012.pdf>.

- City of Pasadena, *Historic and Landmark Districts Map*, May 2018.
- City of Pasadena, *Land Use Element of the City of Pasadena General Plan*, 2015, amended 2016.
- City of Pasadena, *Pasadena General Plan Draft EIR*, 2015.
- City of Pasadena, *Safety Element of the Pasadena General Plan*, 2002.
- County of Los Angeles, *Conservation and Natural Resources Element*, July 15, 2019, http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf.
- County of Los Angeles, *County of Los Angeles Code of Ordinances*, July 16, 2019,: https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO_DIV1PLZO_CH22.56COUSPEVANOUSTEUSDIRE_PT16OATRPE.
- County of Los Angeles, *Los Angeles River Watershed*, July 8, 2019, <https://dpw.lacounty.gov/wmd/watershed/LA/>.
- Federal Highway Administration (FHWA), *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*, 2016.
- Federal Highway Administration (FHWA), *Visual Impact Assessment for Highway Projects*, March 1981.
- Federal Register, *Environmental Protection Agency: California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles; Notice*, 2009, <https://www.govinfo.gov/content/pkg/FR-2009-07-08/pdf/E9-15943.pdf>.
- Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment Manual*, September 2018.
- Los Angeles County Department of Regional Planning, *Significant Ecological Areas*, July 15, 2019, <http://planning.lacounty.gov/sea/faqs>.
- Los Angeles County Metropolitan Transportation Authority (Metro), *Active Transportation Strategic Plan*, April 2016, <https://www.dropbox.com/s/wjsbprvwlvza6gr/ATSP%20Volume%20I,%20II,III.pdf?dl=0>.
- Los Angeles County Metropolitan Transportation Authority (Metro), *Draft NextGen Bus Plan*, July 2020.
- Los Angeles County Metropolitan Transportation Authority (Metro), *Performance Metrics Summary*, <https://sustainabilityreporting.metro.net/sustainabilitydashboard/>.

Los Angeles Department of Transportation, *City of Los Angeles Transportation Assessment Guidelines*, July 2020.

Los Angeles Water and Power, *2017 Final Power Strategic Long-Term Resource Plan*, https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power/a-p-integratedresourceplanning/a-p-irp-documents?_afLoop=32994282926924&_afWindowMode=0&_afWindowId=1avu8u4wjt_1#%40%3F_afWindowId%3D1avu8u4wjt_1%26_afLoop%3D32994282926924%26_afWindowMode%3D0%26_adf.ctrl-state%3Dt1qshqdx9_4, accessed August 13, 2020.

Office of Planning and Research (OPR), *Technical Advisory CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*, 2008.

Pasadena Department of Transportation, *Mobility Element of the Pasadena General Plan*, 2015, <https://ww5.cityofpasadena.net/planning/wp-content/uploads/sites/56/2017/07/Adopted-Mobility-Element-2015-08-18.pdf>.

South Coast Air Quality Management District (SCAQMD), *Air Quality Modeling*, <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-modeling>.

South Coast Air Quality Management District (SCAQMD), *Appendix C Mass Rate Look Up Table*, <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-1st-look-up-tables.pdf?sfvrsn=2>.

South Coast Air Quality Management District (SCAQMD), *Final 2016 AQMD*, 2019, <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>.

South Coast Air Quality Management District (SCAQMD), *National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin*, <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caoqs-feb2016.pdf>.

South Coast Air Quality Management District (SCAQMD), Rule 1113. Architectural Coatings, 2016, <https://ww3.arb.ca.gov/drdb/sc/curhtml/r1113.pdf>.

South Coast Air Quality Management District (SCAQMD), Rule 402. Nuisance, 1976, <https://ww3.arb.ca.gov/drdb/sc/curhtml/r402.pdf>.

South Coast Air Quality Management District (SCAQMD), Rule 403. Fugitive Dust, 2005, <https://ww3.arb.ca.gov/drdb/sc/curhtml/r403.pdf>.

South Coast Air Quality Management District (SCAQMD), *SCAQMD Ambient Air Quality Thresholds*, 2019, www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2.

- Southern California Association of Governments (SCAG), *Connect SoCal - 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*, May 7, 2020, <<https://www.connectsocial.org/Documents/Adopted/fConnectSoCal-Plan.pdf>>
- U.S. Department of the Interior, National Park Service, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*, https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf, 5.
- U.S. Department of the Interior, National Park Service, Title 36 Code of Federal Regulations Part 60.
- U.S. Department of Transportation and U.S. Environmental Protection Agency (USEPA), *One National Program Rule on Federal Preemption of State Fuel Economy Standards*, 2019, <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P100XI4W.pdf>.
- U.S. Department of Transportation, *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks*, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_preamble_web_version_200330.pdf.
- U.S. Environmental Protection Agency (USEPA), *eGRID2018*, 2018, https://www.epa.gov/sites/production/files/2020-01/documents/egrid2018_summary_tables.pdf.
- U.S. Environmental Protection Agency (USEPA), *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Final Rule*.
- U.S. Environmental Protection Agency (USEPA), *Monitor Values Report*, <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>.
- United States Department of Agriculture, Natural Resources Conservation Service, *Supplement to the soil survey of Los Angeles County, California, Southeastern Part, 2017*, http://soils.usda.gov/survey/printed_surveys/.
- United States Fish and Wildlife Service Information for Planning and Consultation, *Information for Planning and Consultation*, January 16, 2020, <https://ecos.fws.gov/ipac/>.
- United States Fish and Wildlife Service, *Birds Protected*, September 26, 2018, <https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>.
- United States Fish and Wildlife Service, *Migratory Bird Treaty Act Protected Species (10.13 List)*, December 2, 2013, <https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php>.
- United States Fish and Wildlife Service, *Wetlands Mapper*, July 8, 2019, <https://www.fws.gov/wetlands/data/mapper.html>.