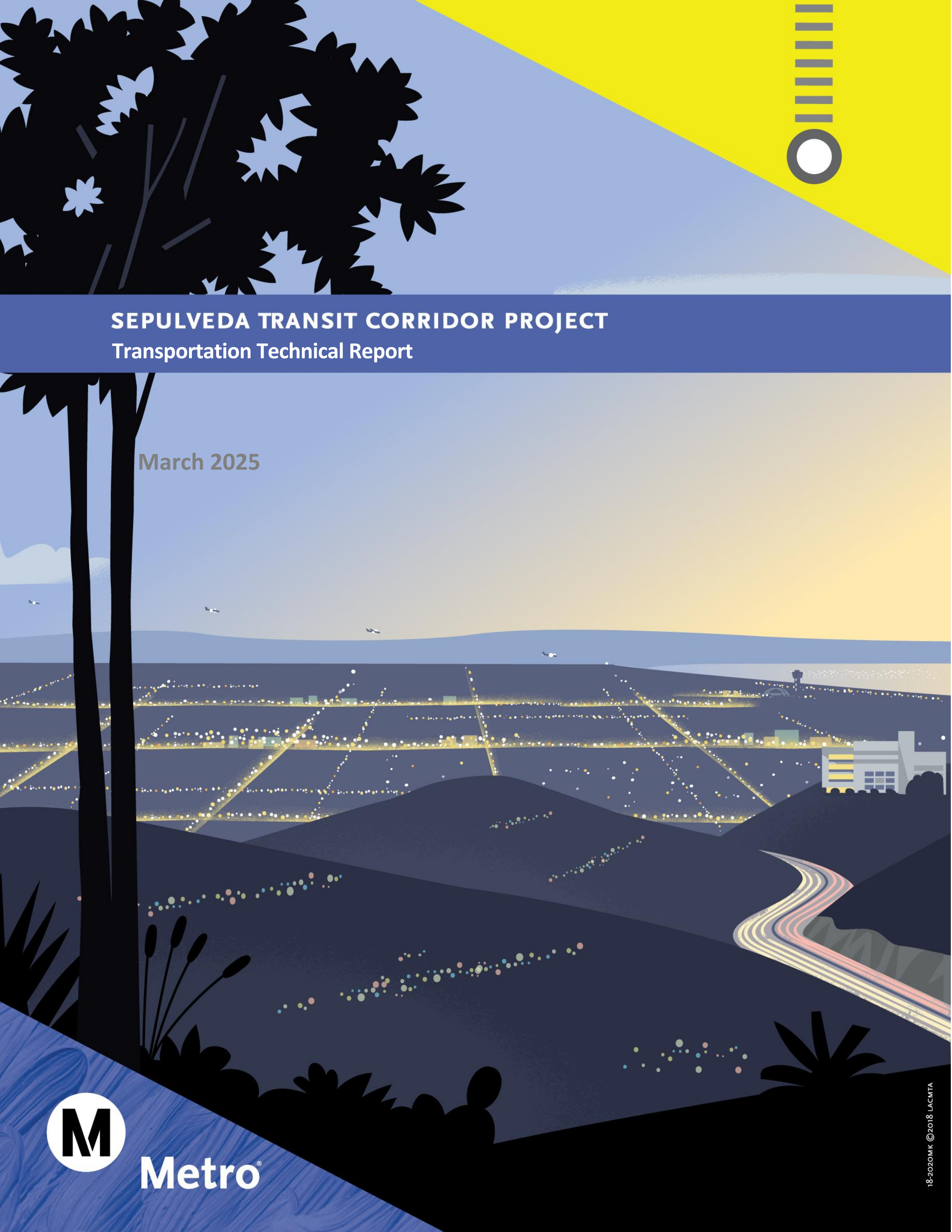
Appendix S. Transportation Technical Report

SEPULVEDA TRANSIT CORRIDOR PROJECT

Transportation Technical Report

March 2025



SEPULVEDA TRANSIT CORRIDOR PROJECT

Contract No. AE67085000

Transportation Technical Report

Task 5.24.11

Prepared for:

Metro

Los Angeles County
Metropolitan Transportation Authority

Prepared by:

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Attachments

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Abbreviations and Acronyms

ABC	Accelerated Bridge Construction
ADA	Americans with Disabilities Act
AM	ante meridiem (before noon)
APM	automated people mover
AVTA	Antelope Valley Transit Authority
BBB	Santa Monica Big Blue Bus
BRT	bus rapid transit
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CCB	Culver CityBus
CEQA	California Environmental Quality Act
CIDH	cast-in-drilled-hole
DCP	City of Los Angeles Department of City Planning
EFC	Equity Focus Communities
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESFV	East San Fernando Valley
FLM	First/Last Mile
FTIP	Federal Transportation Improvement Program
HOV	high-occupancy vehicle
HRT	heavy rail transit
HTA	HTA Partners
I-10	Interstate 10
I-405	Interstate 405
I-5	Interstate 5
LA	Los Angeles
LABOE	Los Angeles Bureau of Engineering
LADOT	Los Angeles Department of Transportation
LADPW	Los Angeles County Department of Public Works
LADWP	City of Los Angeles Department of Water and Power
LASRE	LA SkyRail Express
LAX	Los Angeles International Airport
LBT	Long Beach Transit
LOSSAN	Los Angeles-San Diego-San Luis Obispo
LRT	light rail transit
LRTP	Long Range Transportation Plan

MBS	Moving Beyond Sustainability
Metro	Los Angeles County Metropolitan Transportation Authority
MOW	maintenance-of-way
MRDC	Metro Rail Design Criteria
MRT	monorail transit
MSF	maintenance and storage facility
n.d.	no date
NEN	Neighborhood Enhanced Network
NOP	Notice of Preparation
OPR	Governor’s Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PM	post meridiem (after noon or midday)
Project	Sepulveda Transit Corridor Project
ROW	right-of-way
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SAV	stand-alone validators
SCAG	Southern California Association of Governments
SCEA	Sustainable Communities Environmental Assessment
SCORE	Southern California Optimized Rail Expansion
SCT	Santa Clarita Transit
SR	State Route
STCP	Sepulveda Transit Corridor Partners
TBM	tunnel boring machine
TIA	transportation impact assessment
TMP	Transportation Management Plan
TOC	Transit Oriented Communities
TPSS	traction power substation
UCLA	University of California, Los Angeles
U.S.	United States
US-101	U.S. Highway 101
VA	U.S. Department of Veterans Affairs
Valley	San Fernando Valley
VMT	vehicle miles traveled
WLA TIMP	West Los Angeles Transportation Improvement and Mitigation Specific Plan

1 INTRODUCTION

1.1 Project Background

The Sepulveda Transit Corridor Project (Project) is intended to provide a high-capacity rail transit alternative to serve the large and growing travel market and transit needs currently channeled through the Sepulveda Pass and nearby canyon roads between the San Fernando Valley (Valley) and the Westside of Los Angeles. The Project would have a northern terminus with a connection to the Van Nuys Metrolink/Amtrak Station and a southern terminus with a connection to the Los Angeles County Metropolitan Transportation Authority's (Metro) E Line. In addition to providing local and regional connections to the existing and future Metro rail and bus network, the Project is anticipated to improve access to major employment, educational, and cultural centers in the greater Los Angeles area.

In 2019, Metro completed the Sepulveda Transit Corridor Feasibility Study and released the Project's *Final Feasibility Report* (Metro, 2019a), which documented the transportation conditions and travel patterns in the Sepulveda corridor; identified mobility problems affecting travel between the Valley and the Westside; and defined the Purpose and Need, goals, and objectives of the Project. Using an iterative evaluation process, the Feasibility Study identified feasible transit solutions that met the Purpose and Need, goals, and objectives of the Project. The Feasibility Study determined that a reliable, high-capacity, fixed guideway transit system connecting the Valley to the Westside could be constructed along several different alignments. Such a transit system, operated as either heavy rail transit (HRT) or monorail transit (MRT), would serve the major travel markets in the Sepulveda Transit corridor and would provide travel times competitive with the automobile.

1.2 Project Alternatives

In November 2021, Metro released a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act, for the Project that included six alternatives (Metro, 2021a). Alternatives 1 through 5 included a southern terminus station at the Metro E Line Expo/Sepulveda Station, and Alternative 6 included a southern terminus station at the Metro E Line Expo/Bundy Station. The alternatives were described in the NOP as follows:

- Alternative 1: Monorail with aerial alignment in the Interstate 405 (I-405) corridor and an electric bus connection to the University of California, Los Angeles (UCLA)
- Alternative 2: Monorail with aerial alignment in the I-405 corridor and an aerial automated people mover connection to UCLA
- Alternative 3: Monorail with aerial alignment in the I-405 corridor and underground alignment between the Getty Center and Wilshire Boulevard
- Alternative 4: Heavy rail with underground alignment south of Ventura Boulevard and aerial alignment generally along Sepulveda Boulevard in the San Fernando Valley
- Alternative 5: Heavy rail with underground alignment including along Sepulveda Boulevard in the San Fernando Valley
- Alternative 6: Heavy rail with underground alignment including along Van Nuys Boulevard in the San Fernando Valley and a southern terminus station on Bundy Drive

The NOP also stated that Metro is considering a No Project Alternative that would not include constructing a fixed guideway line. Metro established a public comment period of 74 days, extending from November 30, 2021 through February 11, 2022. Following the public comment period, refinements to the alternatives were made to address comments received. Further refinements to optimize the designs and address technical challenges of the alternatives were made in 2023 following two rounds of community open houses.

In July 2024, following community meetings held in May 2024, Alternative 2 was removed from further consideration in the environmental process because it did not provide advantages over the other alternatives, and the remaining alternatives represent a sufficient range of alternatives for environmental review, inclusive of modes and routes (Metro, 2024a). Detailed descriptions of the No Project Alternative and the five remaining "build" alternatives are presented in Sections 5 through 10.

1.3 Project Study Area

Figure 1-1 shows the Project Study Area. It generally includes Transportation Analysis Zones from Metro's travel demand model that are within 1 mile of the alignments of the four "Valley-Westside" alternatives from the *Sepulveda Transit Corridor Project Final Feasibility Report* (Metro, 2019a). The Project Study Area represents the area in which the transit concepts and ancillary facilities are expected to be located. The analysis of potential impacts encompasses all areas that could potentially be affected by the Project, and the EIR will disclose all potential impacts related to the Project.

1.4 Purpose of this Report and Structure

This technical report examines the environmental impacts of the Project as it relates to transportation. It describes existing transportation conditions in the Project Study Area, the regulatory setting, methodology for impact evaluation, and potential impacts from operation and construction of the project alternatives, including maintenance and storage facility site options.

The report is organized according to the following sections:

- Section 1 Introduction
- Section 2 Regulatory and Policy Framework
- Section 3 Methodology
- Section 4 Future Background Projects
- Section 5 No Project Alternative
- Section 6 Alternative 1
- Section 7 Alternative 3
- Section 8 Alternative 4
- Section 9 Alternative 5
- Section 10 Alternative 6
- Section 11 Preparers of the Technical Report
- Section 12 References

Figure 1-1. Sepulveda Transit Corridor Project Study Area

Source: HTA, 2024

2 REGULATORY AND POLICY FRAMEWORK

Federal, state, regional, and local regulations concerning transportation are discussed in the following sections. The programs, plans, ordinances, and policies described in this section were used to evaluate the potential impacts of the Project under the California Environmental Quality Act (CEQA).

2.1 Federal

2.1.1 Americans with Disabilities Act

The Americans with Disabilities Act (ADA) prohibits discrimination on the basis of disability in public spaces and establishes minimum standards for accessibility when designing and constructing new public facilities. Public transit providers must meet ADA requirements set by the U.S. Department of Transportation for transit facilities, rail stations, intermodal centers, vehicles, and platforms. Accessibility standards regulate paths of travel, boarding ramps, bus stops and shelters, curb ramps, doors, elevators, escalators, emergency alarms, fare collection box placement, gates and turnstiles, parking areas, passenger drop-off areas, platform edges, rescue assistance areas, restrooms, signs, stairs, public telephones, water fountains, and wheelchair spaces. ADA requires fixed-route services to provide accessible vehicles, including lifts and ramps so that a passenger using a wheelchair or mobility device can reach a securement location onboard; illuminations, contrast, and slip-resistant surfaces at doorways and stepwells; turning and maneuvering room for wheelchairs; accessible handrails, stanchions, and stop controls (such as pull cords); stop announcements; and legible destination information on vehicles in large font. Additionally, public transit providers must provide rider information in multiple formats, such as large print or braille, assistance equipment and accessible features, adequate boarding time, priority seating and signs, and training for operators on how to assist individuals with disabilities and allowing service animals on board.

2.1.2 U.S. Department of Veterans Affairs West Los Angeles Campus Master Plan

The 2022 U.S. Department of Veterans Affairs (VA) *West Los Angeles Campus Master Plan* completes a decades-long planning effort by the VA Greater Los Angeles Healthcare System to reshape facilities and capital assets on its 388+ acre campus in West Los Angeles, covering a variety of construction, redevelopment, and leasing activities (U.S. Department of Veterans Affairs, 2022). The master plan's Circulation & Access Element evaluates opportunities and constraints for various mobility modes and facilities both within the campus and in the surrounding area. The plan promotes cooperation with public transit agencies, including Metro, to create accessible and efficient public transportation to and from the campus. The master plan's mobility strategies strive to transform the campus' multimodal transportation network toward more active transportation modes in an effort to reduce greenhouse gas emissions.

2.2 State

2.2.1 Senate Bill 375, Section 4 – Sustainable Communities Environmental Assessment Criteria and Transit Priority Project Consistency Analysis

Section 4 of California Senate Bill 375 (codified in Public Resources Code Section 21155 in 2008) establishes specific criteria for projects to be eligible for the Sustainable Communities Environmental Assessment, or as transit priority projects, both of which streamline the CEQA environmental review process. Projects that quality for Sustainable Communities Environmental Assessment are consistent with a region's Sustainable Communities Strategy or Alternative Planning Strategy that outline how a region will meet its greenhouse gas reduction targets set by the California Air Resources Board. For projects to qualify as transit priority projects, they must meet certain criteria, such as being in proximity to major transit stops, providing a certain percent of affordable housing, or meeting specific density requirements. These classifications promote transit-oriented development and support California's broader climate and environmental goals, such as reducing greenhouse gas emissions.

2.2.2 Senate Bill 743 – CEQA Transportation Impacts

California Senate Bill 743 (codified in Public Resources Code Section 21099 in 2013) and Section 15604.3 of the CEQA Guidelines establish vehicles miles traveled (VMT) as the most appropriate measure of transportation impacts rather than vehicle delay and level of service. The overall guidance for transit and active transportation projects is that they generally reduce VMT and therefore are presumed to have a less than significant impact on transportation (OPR, 2018). The presumption applies to bus and bus rapid transit (BRT) projects, bicycle and pedestrian infrastructure projects, and passenger rail projects, which would include the Project. Section 3.1 describes the methodology for assessing VMT for the Project.

2.2.3 Assembly Bill 1358 – Complete Streets Act

As of January 1, 2011, Assembly Bill 1358 requires cities and counties updating the circulation element of their General Plan to ensure that roadways are designed to safely accommodate all users, including bicyclists, pedestrians, transit riders, children, elderly, disabled people, and motorists. The California Department of Transportation (Caltrans) enacted a supporting Complete Streets directive in October 2008 (Deputy Directive 64) directing agency staff to fully consider the needs of non-motorized travelers in all programming, planning, maintenance, construction, operations and project development activities and products (Caltrans, 2008).

2.2.4 California Transportation Plan

The *California Transportation Plan* (Caltrans, 2021) provides a common framework and set of recommendations for guiding transportation decisions and investments by all levels of government and the private sector in California. This plan also provides analysis and policy recommendations regarding transportation issues and future trends, which include:

- Expand access to safe and convenient active transportation options.
- Improve transit, rail, and shared mobility options.
- Expand access to jobs, goods, services, and education.
- Advance transportation equity.
- Enhance transportation system resiliency.
- Enhance transportation safety and security.
- Expand protection of natural resources and ecosystems.

2.2.5 California Manual on Uniform Traffic Control Devices

The *California Manual on Uniform Traffic Control Devices* (CA MUTCD) (Caltrans, 2024a) provides guidelines and standards for traffic control devices (such as signs, signals, and pavement markings) used on California roads and highways. The CA MUTCD is based on the Federal Highway Administration MUTCD but includes specific provisions tailored to California's traffic laws and regulations. The CA MUTCD ensures consistency in traffic control devices across the state, thereby enhancing safety on California roadways.

2.2.6 California Highway Design Manual

The 7th Edition Caltrans *Highway Design Manual* (Caltrans, 2022a) establishes uniform standards for roadways in the state. The *Highway Design Manual* aims to ensure safe, efficient, and environmentally sensitive design of highways while considering factors such as traffic flow, accessibility, and sustainability.

2.2.7 UCLA Long Range Development Plan

The 2002 UCLA *Long Range Development Plan* is the comprehensive land use plan that guides the physical development of the UCLA campus to support its teaching, research, and public service mission (UCLA, 2002). Relevant policies include maintaining parking and vehicle trip caps set in the 1990 *Long Range Development Plan* (UCLA, 1990) and enhancing wayfinding to strengthen pedestrian and vehicle circulation and promote safety.

2.2.8 UCLA Sustainable Transportation Plan

Completed in January 2014, the UCLA *Sustainable Transportation Plan* describes the goals and objectives of the university's efforts to maintain sustainable transportation programs and reduce greenhouse gas emissions from mobile sources (UCLA, 2014). Relevant policies include working with local agencies and municipalities to align transit near campus, promote first/last mile (FLM) improvements near campus, and improve safety on bike and walk pathways proximate to campus and UCLA health facilities.

2.2.9 UCLA Active Transportation Plan

The 2019 *UCLA Active Transportation Plan* provides a framework to improve campus livability and safety by detailing policy and infrastructure initiatives that increase walking, biking, and other forms of active transportation (UCLA, 2019). Relevant policies include prioritizing the safety of active transportation users and developing the campus to become more people-centric and less vehicle-centric to enhance the health and wellness of UCLA students, employees, and visitors.

2.2.10 California Green Building Standards Code

The California Green Building Standards Code (Title 24, Part 11) includes regulations for energy, water, and resource efficiency and conservation, mandatory provisions for residential and other buildings, and additional voluntary provisions for hospitals, schools, and residential and commercial buildings.

2.3 Regional

2.3.1 Southern California Association of Governments RTP/SCS

As the metropolitan planning organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial) and 191 cities, the Southern California Association of Governments (SCAG) is responsible for developing plans for regional transportation, land use and growth management, and air quality. SCAG adopted the *Connect SoCal, 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy* (2024-2050 RTP/SCS) (SCAG, 2024) as the tool used for identifying the transportation priorities in the SCAG region. Only projects and programs included in the RTP/SCS are eligible for federal funding. The Project is included in the 2024-2050 RTP/SCS as the "Sepulveda Pass Transit Corridor (Phase 2)."

The 2024-2050 RTP/SCS goals are divided into four core categories to help achieve SCAG's overall vision of further investment in the transportation system and development of communities to meet the needs of the region both today and in the future. These goals include the following:

- Mobility: Build and maintain an integrated multimodal transportation network.
- Communities: Develop, connect, and sustain communities that are livable and thriving.
- Environment: Create a healthy region for the people of today and tomorrow.
- Economy: Support a sustainable, efficient, and productive regional economic environment that provides opportunities for all residents.

2.3.2 OurCounty – Los Angeles Countywide Sustainability Plan

OurCounty is a regional sustainability plan for Los Angeles, and an effort to outline an inclusive vision for the future that balances values of environment, equity, and economy (Los Angeles County Chief Sustainability Office, 2019). The plan is organized around 12 cross-cutting goals that describe a shared vision for a sustainable Los Angeles County. Goal 8 of the plan calls for "a convenient, safe, clean and affordable transportation system that expands mobility while reducing car dependency." By developing programs that reduce the number of miles people travel in private vehicles, the County of Los Angeles aims to expand residents' mobility, especially for residents whose limited automobile access translates to stifled economic opportunity.

2.3.3 Los Angeles County Metropolitan Transportation Authority Plans

2.3.3.1 Long Range Transportation Plan

Metro's 2020 *Long Range Transportation Plan* (LRTP) (Metro, 2020a) provides a detailed road map for how Metro will plan, build, operate, maintain, and partner toward improved mobility through the year 2047. The Project is included in Metro's 2020 LRTP as a major project for Westside Cities and the San Fernando Valley with operations beginning in 2033.

2.3.3.2 Measure M Expenditure Plan

Los Angeles County voters passed sales tax Measure M in 2016 to improve regional transportation and fund transit infrastructure expansion throughout Los Angeles County. Metro prepared the *Measure M Expenditure Plan* (Metro, 2016) to specify the projects and programs to be implemented by the sales tax fund. The Project is included in the *Measure M Expenditure Plan* as the "Sepulveda Pass Transit Corridor" and provides for operations of the Project between the San Fernando Valley and the Westside to begin in 2033-2035.

2.3.3.3 Transit Oriented Communities Implementation Plan

Metro's *Transit Oriented Communities Policy* in 2018 (Metro, 2018a) and *Transit Oriented Communities Implementation Plan* in 2020 (Metro, 2020b) promote land use planning and community development policies that maximize access to transit as a key organizing principle and acknowledge mobility as an integral part of the urban fabric. The *Transit Oriented Communities Implementation Plan* seeks to build partnerships with the community to realize five goals, which include:

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

5. Capture value created by transit.

2.3.3.4 Metro Rail Design Criteria

The Metro Rail Design Criteria (MRDC) outline standards and guidelines for the construction and operation of a Metro rail project. This document ensures consistency and quality across rail projects by providing detailed specifications for various aspects of rail operation. The MRDC identifies Metro's recommended methods to construct, maintain, and monitor the relative safety of fixed-rail facilities. Alternative 6 would utilize the MRDC as the basis of design. Alternatives 1, 3, 4, and 5 would use equivalent criteria appropriate for the technological and operational differences of each alternative. Each alternative would adhere to the Adjacent Construction Design Manual component of the MRDC. Section 2 of the MRDC on Environmental Considerations establishes the environmental compliance requirements for the designer of Metro projects to take into consideration unique environmental conditions of Los Angeles County, including the targets and measurements outlined in Metro's Board-approved *Moving Beyond Sustainability* (Metro, 2020c). Section 9 of the MRDC on Systems describes the general requirements and standards for systems such as fare collection, train control and communications, emergency systems, and traction power and distribution systems, among others.

2.3.3.5 I-405 Comprehensive Multimodal Corridor Plan

Adopted in September 2022, the *I-405 Comprehensive Multimodal Corridor Plan* (Metro, 2022a) creates a guiding vision for getting around one of the most congested corridors in the country. The plan's study area covers the entire length of Interstate 405 (I-405) in Los Angeles County from the San Fernando Valley to the Orange County Line. The Project is listed under "Key Existing Projects" with significant potential to improve multimodal mobility across the I-405 corridor. Relevant strategies from the plan include investing in high-quality transit options, connecting communities along the corridor, reducing racial and economic disparities in transportation benefits and burdens, leveraging emerging technologies, and providing a safe, resilient, and well-maintained multimodal transportation system.

2.3.3.6 NextGen Bus Plan

Adopted in October 2020, Metro's *NextGen Bus Plan* (Metro, 2020d) proposes major bus service changes across the Metro service area to provide more fast, frequent, reliable, and accessible service to meet the needs of current and future riders. The *NextGen Bus Plan* was rolled out in phases from December 2020 through December 2021.

2.3.3.7 First Last Mile Plans and Guidelines

The 2014 Metro *First Last Mile Strategic Plan* (Metro, 2014a) promotes an infrastructure improvement strategy to improve access, safety, and user experience for people on foot, bike, or other rolling modes. The Metro Board adopted Motions 14.1 and 14.2 in 2016 to create a Countywide FLM Priority Network to facilitate the build-out of infrastructure for this network and specify a process framework for local contribution to FLM supportive projects. To further integrate FLM planning, the 2021 *First/Last Mile Guidelines* (Metro, 2021b) serve as a key resource for Metro staff when undertaking FLM planning and design efforts and provide a coordination tool and resource for Metro, Los Angeles County, municipalities, community groups, and private institutions.

In addition to the 2014 Metro *First Last Mile Strategic Plan* (Metro, 2014a) and 2021 *First/Last Mile Guidelines* (Metro, 2021b), Metro has established FLM plans for existing and planned rail and BRT stations that guide station access and safety improvements. The relevant FLM plans for the Study Area include:

- *Purple Line Extension First/Last Mile Plan, Sections 2 & 3* (Metro, 2020e)
- *G Line (Orange) Sepulveda Station First/Last Mile Plan* (Metro, 2021c)
- *East San Fernando Valley Light Rail Transit First/Last Mile Plan* (Metro, 2020f)

2.3.3.8 Active Transportation Strategic Plan

Metro's 2016 *Active Transportation Strategic Plan* sets goals and objectives for implementing active transportation improvements across Los Angeles County (Metro, 2023a). Relevant goals of the plan include the following:

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

2.3.3.9 Vision 2028 Plan

The *Metro Vision 2028 Strategic Plan* lays the foundation for transforming mobility across the county over the 10-year period ending in 2028 (Metro, 2018b). The plan seeks to increase mobility across Los Angeles County by reducing the number of people who drive alone and increasing the number of trips people take by transit, walking, rolling modes such as biking and scootering, shared rides, and carpooling. It also seeks to improve the customer experience by reducing maximum wait times for any transit trip to 15 minutes or less, even during off-peak periods, improving bus travel speeds by 30 percent, and providing reliable, convenient options for users to bypass congestion.

2.3.3.10 Moving Beyond Sustainability – Sustainability Strategic Plan 2020

Metro's 2020 *Moving Beyond Sustainability* (MBS Plan) (Metro, 2020c) outlines a comprehensive sustainability strategy for the next 10 years that addresses environmental, social, and economic considerations in Metro's decision-making and operations, while also prioritizing community resilience and equity. The MBS Plan includes quantitative targets across seven categories to achieve its sustainability goals: Water Quality and Conservation, Solid Waste, Emissions and Pollution Control, Resilience and Climate Adaptation, Materials, Construction and Operations, Energy Resource Management, and Economic and Workforce Development. The MBS Plan will be updated every five years.

Relevant guiding principles from Metro's MBS Plan include:

- Implement sustainable practices and initiatives that advance and enhance the goals of Metro's *Vision 2028 Strategic Plan* (Metro, 2018b).

- Align sustainability projects and initiatives to support Metro's LRTP.
- Achieve our sustainability goals through transparent and authentic engagement with our stakeholders and community members.
- Encourage innovation in strategic planning and sustainable practice through adaptation and resilience.
- Strengthen sustainability efforts through leadership and collaboration with regional partners and agencies.

2.3.3.11 Equity Platform and Equity Focus Communities

In February 2018, Metro adopted the Equity Platform Framework to guide how Metro will work to address disparities in access to opportunities, including jobs, housing, community resources, healthy communities, and mobility options (Metro, 2018c). The platform is not a singular task or process that will be complete, but rather is designed to inform, shape, and guide every facet of the agency's business on a continuing basis. The platform includes four main pillars of action, including:

- Define and Measure: Define equity and develop performance metrics that allow us to determine whether equity, as defined, is being meaningfully achieved as part of Metro's actions.
- Listen and Learn: Establish the crucial connection and communication between Metro and the larger Los Angeles County community in carrying out and determining Metro's actions.
- Focus and Deliver: Implement actions and programs that achieve measurable, equitable outcomes and carry out Equity Platform Framework objectives and principles.
- Train and Grow: Recognize that significant commitments will be needed from within the Metro organization to understand, embrace and maximize equity advancements.

In June 2019, the Metro Board adopted Equity Focus Communities (EFC) as a working definition under the first pillar of the Equity Platform Framework to address a lack of clear performance metrics (Metro, 2019b). EFCs establish where transportation needs are greatest based on the concentration of low-income households, non-white residents, and households with no access to a car.

In 2022, Metro updated EFC designations by implementing a new Metro Equity Need Index that allows for a more nuanced understanding of equity needs across the county. It includes five tiers of equity need (Very High Need, High Need, Moderate Need, Low Need, and Very Low Need). Within this index, the top two tiers (High Need and Very High Need) are designated as EFCs.

2.3.3.12 Complete Streets Policy

Metro's *Complete Streets Policy* (Metro, 2014b) lays the groundwork for better multimodal street design that considers all users, including pedestrians, users and operators of public transit, bicyclists, persons with disabilities, seniors, children, motorists, movers of commercial goods, and others. The *Complete Streets Policy* is a high-level direction that helps redefine streets and highways through incremental changes in capital projects, regular maintenance, and operations work, so that the transportation system becomes safer and more accessible for travelers of all ages and abilities.

2.3.3.13 Metro Transit Service Policy

Metro's *Transit Service Policy* (Metro, 2022c) establishes criteria and guidelines to ensure that the transit system is developed and managed consistent with directives from the Metro Board of Directors, including a formal process for evaluating services, service design guidelines, and a process for implementing service charges. The following three goals outlined in the *Transit Service Policy* particularly relate to the Project:

- Goal 1: Provide high-quality mobility options that enable people to spend less time traveling
- Goal 2: Deliver outstanding trip experiences for all users of the transportation system
- Goal 3: Enhance communities and lives through mobility and access to opportunity

2.3.3.14 Rail Fleet Management Plan

Metro's *Rail Fleet Management Plan FY2025-2042* (Metro, 2024b) includes information regarding vehicle requirements and service requirements for long-term financial and operational planning. The *Rail Fleet Management Plan* describes existing Metro rail services and facilities, identifies rail vehicle fleet and facility requirements, and includes information required for rail budget preparation. This plan only applies to alternatives developed by Metro.

2.3.4 County of Los Angeles Bicycle Master Plan

In 2012, the Los Angeles County Department of Public Works (LADPW) adopted an update to its *Bicycle Master Plan* (LADPW, 2012) originally published in 1975. The purpose of the *Bicycle Master Plan* is to 1) guide the development of countywide bicycle infrastructure, policies, and programs that improve the bicycle network; 2) reduce the number of bicycle related collisions; 3) provide a safe, equitable, and accessible bicycle network; and 4) provide a system of bikeways that is consistent with the *Los Angeles County General Plan*. The *Bicycle Master Plan* provides a framework for enhancing countywide bicycle infrastructure and encouraging bicycle ridership within the county by expanding the existing bikeway network, improving safety, and providing improved local and regional connectivity. The plan proposes to install approximately 831 miles of new bikeways over the next 20 years. The goals of the *Bicycle Master Plan* were incorporated into the Mobility Element of the *Los Angeles County General Plan*.

2.4 Local

2.4.1 City of Los Angeles Mobility Plan 2035

The City of Los Angeles *Mobility Plan 2035 – An Element of the General Plan* (Mobility Plan 2035) lays out a policy foundation for achieving a transportation system that balances the needs of all users (DCP, 2016). The plan establishes land use and transportation considerations that reflect the City of Los Angeles Department of City Planning's (DCP) commitment to equity and environmental justice and strive toward improved safety, public health, and access. Relevant priorities of *Mobility Plan 2035* include:

- Focusing on safety, education, and enforcement
- Increasing access through greater community connections
- Investing in the construction of Complete Streets Networks
- Tackling issues related to the overall health and sustainability of Los Angeles' neighborhoods

2.4.2 City of Los Angeles 2010 Bicycle Plan

In March 2011, the Los Angeles City Council adopted the *2010 Bicycle Plan – A Component of the City of Los Angeles Transportation Element* (*2010 Bicycle Plan*) (DCP, 2011). Developed after years of community meetings throughout Los Angeles, the plan designates an ambitious 1,684-mile network of bicycle facilities made up of backbone, neighborhood, and greenway facilities throughout the city. Policies and programs in the plan are organized around the "Six E's" of bicycle planning – equity, engineering, education, enforcement, encouragement, and evaluation – with two additional E's added – environment and economics. The goals, objectives, policies, and programs of the *2010 Bicycle Plan* were incorporated into the *Mobility Plan 2035*, with a few modifications to reflect the latest community input, as well as further refinements of the bikeway system.

2.4.3 City of Los Angeles Community Plans

The City of Los Angeles has 35 community plans that make up the General Plan's Land Use Element, The City of Los Angeles has 35 Community Plans that make up the General Plan's Land Use Element, which plays an important role in bolstering housing and job opportunities and conserving open space and natural resources. While General Plans are traditionally the primary guide for growth and development of a city, Community Plans focus on the unique characteristics of a smaller area and establish neighborhood-specific goals and implementation strategies. The following Community Plans in the Study Area are currently undergoing updates:

- Palms-Mar Vista-Del Rey (DCP, 1997b)
- West Los Angeles (DCP, 1999b)
- Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass (DCP, 1998c)
- Encino-Tarzana (DCP, 1998b)
- Reseda-West Van Nuys (DCP, 1999e)
- Van Nuys-North Sherman Oaks Community Plan (DCP, 1998d)
- North Hollywood-Valley Village Community Plan (DCP, 1996a)

The following community plans were last updated between 1995 and 1999:

- Westwood (DCP, 1999c)
- Brentwood-Pacific Palisades (DCP, 1998a)
- Bel Air-Beverly Crest (DCP, 1996b)
- Sun Valley-La Tuna Canyon Community Plan (DCP, 1999d)
- Mission Hills-Panorama City-North Hills Community Plan (DCP, 1999a)

2.4.4 Bureau of Engineering Standard Plans and Street Design Manual

The City of Los Angeles Bureau of Engineering (LABOE) Standard Plans (LABOE, n.d.(a)) and *Street Design Manual* (LABOE, n.d.(b)) provide design guidelines for structures that are built repeatedly where design and construction do not vary greatly from site to site. These documents are relevant for any new construction or modification of pedestrian and roadway facilities. LABOE Sidewalks Standard Plan S-444-0 (LABOE, 2014) states that sidewalk widths of less than 5 feet shall require approval by the City Engineer. A minimum 5-foot by 5-foot square passing space is required at intervals of no greater than 200 feet.

2.4.5 City of Los Angeles Complete Streets Design Guide

The *City of Los Angeles Complete Streets Design Guide* (DCP, 2010) provides design concepts and best practices for achieving safe, accessible, and vibrant streets in Los Angeles. City departments overseeing the implementation of street improvement projects use this guide to ensure all projects are designed with Complete Streets principles in mind.

2.4.6 City of Los Angeles Supplemental Street Design Guide

The *Supplemental Street Design Guide* (LABOE, 2020) is meant to build upon LABOE Standard Plans (LABOE, n.d.(a)), *Street Design Manual* (LABOE, n.d.(b)), and the *City of Los Angeles Complete Streets Design Guide* (DCP, 2010) to provide guidance on treatments not covered by these previous documents.

Such treatments include raised crosswalks, crossing islands, bus bulbs, and neighborhood traffic circles, among others.

2.4.7 City of Los Angeles Municipal Code

The City of Los Angeles Municipal Code establishes regulations and laws pertaining to several aspects of city governance, including zoning, building and safety, transportation, and more. Sections 62.105, 62.106, and 62.107 of the Los Angeles Municipal Code establish permitting requirements for modifications to streets, sidewalks, and other improvements, as well as standards for construction and traffic control.

2.4.8 West Los Angeles Transportation Improvement and Mitigation Specific Plan

Adopted in 1997, the *West Los Angeles Transportation Improvement and Mitigation Specific Plan* (WLA TIMP) established a transportation impact assessment fee on new developments within the WLA TIMP area to fund transportation improvements stemming from the projected transportation impacts of new developments (DCP, 1997a). While the WLA TIMP mostly establishes the mechanisms for the transportation impact assessment fee, relevant policies listed in the WLA TIMP include:

- Encourage Caltrans to widen the San Diego Freeway for high-occupancy vehicle lanes.
- Promote areawide transit enhancement through additional transit lines, shuttles, transit centers and facilities which expedite transit flow.

2.4.9 City of Santa Monica Land Use & Circulation Element

The *Santa Monica Land Use & Circulation Element* reflects the City of Santa Monica community's vision for the future (City of Santa Monica, 2010). The plan is designed to maintain the City of Santa Monica's character, protect its neighborhoods, manage its transportation systems, and encourage additional housing to ensure a high quality of life for all Santa Monicans now and in the future. Among the major goals of the *Santa Monica Land Use & Circulation Element*, "Manage Transportation and Reduce Congestion" can be achieved by treating the city as an integrated transportation management sphere, leveraging a combination of transit enhancements, pedestrian and bike improvements, and transportation demand management programs that reduce automobile travel demand.

2.4.10 Antelope Valley Transit Authority Service Standards and Policies

As part of Antelope Valley Transit Authority's (AVTA) Title VI Program Update for FY2021 (AVTA, 2020), which supports the equitable distribution of transit required under Title VI of the Civil Right Act of 1964, the agency has established quantitative standards for fixed bus routes to relieve potential overcrowding. For commuter bus routes, vehicle loads are not to exceed "75% of seated capacity."

2.4.11 City of Santa Monica Bike Action Plan

The City of Santa Monica *Bike Action Plan* (City of Santa Monica, 2011) was originally adopted in 2011. A technical amendment to the *Bike Action Plan* with a limited scope of introducing a new facility type into the plan was adopted in 2020 (City of Santa Monica, 2020). The amendment to the plan does not revisit the baseline policy and bike network established by the 2011 *Bike Action Plan*. This plan serves as a guide for implementation of programs, policies, and infrastructure supportive of cycling in the City of Santa Monica. The *Bike Action Plan Amendment* prioritizes the expansion of the existing bike network and provides more information regarding the addition of protected bike lanes to Santa Monica's cycling infrastructure network.

2.4.12 City of Santa Monica Pedestrian Action Plan

In 2016, the City of Santa Monica published the *Pedestrian Action Plan* (City of Santa Monica, 2016) to provide a comprehensive strategy for improving pedestrian safety and accessibility within the City of Santa Monica. The *Pedestrian Action Plan* is modeled after the city's successful *Bike Action Plan* and incorporates lessons learned from it to enhance pedestrian infrastructure and safety measures. The implementation of the plan is ongoing, with opportunities for community input as specific projects are developed and executed.

3 METHODOLOGY

This section describes the impact evaluation methodologies for vehicle miles traveled (VMT), transit, roadway, active transportation, and construction. Consistent with CEQA, local policies, and industry practices, the following impact criteria and thresholds of significance were developed.

3.1 Vehicle Miles Traveled

In accordance with Senate Bill 743, CEQA requires projects to be analyzed based on their impacts to VMT rather than vehicle delay and level of service. The Office of Planning and Research (OPR) has developed a *Technical Advisory on Evaluating Transportation Impacts in CEQA* that contains recommendations on VMT calculation methodology, thresholds of significance, and mitigation measures (OPR, 2018). Section F of OPR's Technical Advisory specifies that "transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less than significant impact on transportation."

VMT forecasts for the No Project Alternative and the project alternatives are extracted from Metro's Transportation Analysis Model 2018 (CBM18B). The model represents the six-county SCAG region (Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial Counties), which was used as the basis for the evaluation of VMT. CBM18B uses demographic data and projections, and assumptions regarding regional socioeconomic and transportation network characteristics to develop trip estimates occurring between different locations in the region, the market share of each transportation mode, and the routing of these trips over the highway and transit networks. To calculate the No Project Alternative VMT, the length of each roadway segment in the Study Area was multiplied by the forecast daily volume on that segment. VMT reduction for each project alternative was calculated by multiplying the number of trips on the project for each alternative by the length of each trip.

3.2 Transit

Future transit ridership is based on output from Metro's CBM18B travel demand model. Transit networks in CBM18B reflect proposed bus and rail transit services operating in Los Angeles County and neighboring jurisdictions in the year 2045, including Metro's *NextGen Bus Plan* (Metro, 2020d). In addition to anticipated 2045 services, coordination with transit agencies as part of the development of the Project led to the identification of further changes to local and regional transit services that would be expected to be implemented with each alternative. The proposed changes, which are described in detail in the Existing Conditions – Transit Conditions section of each alternative, were incorporated into CBM18B. For more information on the transit network changes in the Metro Transportation Analysis Model, refer to the *Transit Network Assumptions* in Attachment 1 of this technical report. Implementation of the transit service recommendations will be subject to each transit agency's standard review and approval process, including the Federal Transit Administration's Title VI equity analyses (FTA, 2012).

The following indicators derived from CBM18B are presented to compare the performance of the Project under each alternative:

- Daily trips on the Project – the total number of people using any part of the Project
- Daily new transit trips – the number of new systemwide linked transit trips compared to the No Project Alternative
- Total daily boardings by station and mode

3.2.1 Vehicle Loading Standards

A peak load analysis was completed to compare the greatest number of passengers expected on a transit route against vehicle capacities and agency loading standards. The analysis was completed for rail and bus rapid transit (BRT) lines in the Study Area, as well as for Metro and municipal bus routes. For rail and BRT, the greatest number of passengers carried between two stations during the peak hour was evaluated against the specific transit modes' vehicle capacity. For bus routes, expected daily passenger trips were evaluated against vehicle loading standards.

3.2.2 Transit Queueing at Stations on Connecting Lines

A queueing analysis was completed to evaluate the safety of transferring passengers at the fare gates of Metro stations on other fixed-guideway transit lines where the available queueing area is limited. The queueing analysis considers the length of the queue of transit riders transferring from a project station to another Metro line, including the Metro D Line, E Line, G Line, and East San Fernando Valley Light Rail Transit (ESFV LRT) Line. The analysis has been applied to all cases where a project station would provide a connection to another fixed-guideway transit station outside the fare-paid zone, meaning that passengers must travel through fare gates to reach the transfer station platform.

Although Alternative 6 is the only project alternative to use the MRDC as the basis of design, the transit queueing standards in the MRDC are relevant to the analysis of all project alternatives since the transit queueing analysis evaluates conditions at other Metro stations to which the MRDC is applicable. Consistent with MRDC Section 9.2.6, the queueing analysis has been performed for the 2-minute "peak surge demand," with the assumption that all passengers transferring from a project train to another station will arrive at the fare gates of the transfer station within 2 minutes of each other. To find the maximum number of non-project passengers arriving in the two busiest minutes of the peak hour, forecasts of the number of passengers accessing the transfer station during the peak hour by all modes except rail (walk, bus, park & ride, kiss & ride) were divided by 30. This number was added to the number of passengers arriving per peak-hour train for connecting rail modes, including the Project, ESFV LRT Line, and Metrolink Ventura County Line trains. In cases where transferring passengers would be expected to use multiple different entrances at the transfer station, transfer volumes were assigned to each entrance based on the proximity of each station entrance to the exits of the project stations. The total number of passengers in the busiest 2-minute surge was divided by the number of fare gates at the transfer station to calculate the number of passengers expected to queue at each fare gate. MRDC Section 9.2.6 assumes that queueing passengers take up 3 feet of queueing space. These assumptions were used to develop forecast maximum queue lengths.

Since the Project's evaluation of impacts relies on a future operational condition – the transfer of passengers from a project station to another Metro station at which comparable transfers do not currently occur – comparing future conditions to a baseline of existing physical conditions was determined to not be appropriate for the transit queueing analysis. The determination of a transit queueing impact relies on whether a safety hazard is created when passengers transfer from a project station to another Metro line, which does not depend on existing conditions at the station. The Project would result in a potentially significant impact due to a safety hazard if the forecast maximum physical queue length exceeds the available queueing area at the fare gates of a transfer station resulting in transit riders standing in an unsafe area.

3.3 Roadway

The methodology for assessing impacts to roadways involves a review of roadway modifications proposed by the project alternatives for potential conflicts with programs, plans, policies, and ordinances related to the roadway network. A potentially significant impact to roadways would occur if the Project would conflict with the designation of an existing or planned roadway facility in a local program, plan, policy, or ordinance, resulting in a physical change to the environment. The Resource Study Area (RSA) used to assess roadway impacts relied on the Study Area defined in Section 1.3.

3.4 Active Transportation

The Project would have a potentially significant impact if it would conflict with a program, plan, ordinance, or policy addressing the circulation system. A potentially significant impact to active transportation would occur if the Project would conflict with an existing or planned active transportation facility. Active transportation facilities refer to infrastructure that allows for the movement of people and goods via non-motorized modes, such as walking and cycling. Additionally, a potentially significant impact would occur if the Project were to create potentially hazardous conditions for bicyclists or pedestrians or otherwise interfere or create unsafe conditions for active transportation accessibility in the Study Area.

The methodology for assessing impacts to active transportation involves a qualitative assessment of the project alternatives' designs, roadway improvement plans, and local active transportation plans, including *Mobility Plan 2035* and Metro FLM plans. The RSA used to assess active transportation impacts relied on the Study Area defined in Section 1.3. Project improvements were compared with existing and planned active transportation networks to determine if an alternative would preclude planned facilities and/or impact existing facilities.

3.5 Construction

Impacts to the transportation system could result during the construction of the project alternatives. Construction impacts could include lane reductions, full or partial road closures, increased traffic from workers and equipment accessing construction sites, and issues related to traffic diversion, transit operation, and disruptions to pedestrian and bicycle circulation. Construction impacts are temporary in nature and would occur only during the time of Project construction.

The methodology for assessing impacts from construction involves a qualitative assessment of affected streets and active transportation facilities, including high-level descriptions of workers relative to total traffic volume. The RSA used to assess construction impacts relied on the Study Area defined in Section 1.3. Temporary changes to traffic circulation, haul truck routes, as well as parking and transit detours are discussed. The impacts of construction activities are evaluated using the significance criteria related to each transportation topic discussed in this section.

3.6 CEQA Thresholds of Significance

For the purposes of the Environmental Impact Report, impacts are considered significant if the Project would:

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

4 FUTURE BACKGROUND PROJECTS

This section describes planned improvements to highway, transit, and regional rail facilities within the Project Study Area and the region that would occur whether or not the Project is constructed. These improvements are relevant to the analysis of the No Project Alternative and the project alternatives because they are part of the future regional transportation network within which the Project would be incorporated. These improvements would not be considered reasonably foreseeable consequences of not approving the Project as they would occur whether or not the Project is constructed.

The future background projects include all existing and under-construction highway and transit services and facilities, as well as the transit and highway projects scheduled to be operational by 2045 according to the *Measure R Expenditure Plan* (Metro, 2008), the *Measure M Expenditure Plan* (Metro, 2016), the Southern California Association of Governments (SCAG) *Connect SoCal, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS) (SCAG, 2020a, 2020b), and the Federal Transportation Improvement Program (FTIP), with the exception of the Sepulveda Transit Corridor Project (Project). The year 2045 was selected as the analysis year for the Project because it was the horizon year of SCAG's adopted RTP/SCS at the time Metro released the NOP for the Project.

4.1 Highway Improvements

The only major highway improvement in the Project Study Area included in the future background projects is the Interstate 405 (I-405) Sepulveda Pass ExpressLanes project (ExpressLanes project). This would include the ExpressLanes project as defined in the *2021 FTIP Technical Appendix, Volume II of III* (SCAG, 2021a), which is expected to provide for the addition of one travel lane in each direction on I-405 between U.S. Highway 101 (US-101) and Interstate 10 (I-10). Metro is currently studying several operational and physical configurations of the ExpressLanes project, which may also be used by commuter or rapid bus services, as are other ExpressLanes in Los Angeles County.

4.2 Transit Improvements

Table 4-1 lists the transit improvements that would be included in the future background projects. This list includes projects scheduled to be operational by 2045 as listed in the *Measure R and Measure M Expenditure Plans* (with the exception of the Project) as well as the Inglewood Transit Connector and the Los Angeles International Airport (LAX) automated people mover (APM). In consultation with the Federal Transit Administration, Metro selected 2045 as the analysis year to provide consistency across studies for Measure M transit corridor projects. The Inglewood Transit Connector, a planned APM, which was added to the FTIP with *Consistency Amendment #21-05* in 2021, would also be included in the future background projects (SCAG, 2021b). These projects would also include the LAX APM, currently under construction by Los Angeles World Airports. The APM will extend from a new Consolidated Rent-A-Car Center to the Central Terminal Area of LAX and will include four intermediate stations. In addition, the new Airport Metro Connector Transit Station at Aviation Boulevard and 96th Street will also serve as a direct connection from the Metro K Line and Metro C Line to LAX by connecting with one of the APM stations.

During peak hours, heavy rail transit (HRT) services would generally operate at 4-minute headways (i.e., the time interval between trains traveling in the same direction), and light rail transit (LRT) services would operate at 5- to 6-minute headways. During off-peak hours, HRT services would generally operate at 8-minute headways and LRT services at 10- to 12-minute headways. Bus rapid transit (BRT) services would generally operate at peak headways between 5 and 10 minutes and off-peak headways between 10 and 14 minutes. The Inglewood Transit Connector would operate at a headway of 6 minutes, with more frequent service during major events. The LAX APM would operate at 2-minute headways during peak and off-peak periods.

Table 4-1. Fixed Guideway Transit System in 2045

Transit Line	Mode	Alignment Description[a]
Metro A Line	LRT	Claremont to downtown Long Beach via downtown Los Angeles
Metro B Line	HRT	Union Station to North Hollywood Station
Metro C Line	LRT	Norwalk to Torrance
Metro D Line	HRT	Union Station to Westwood/VA Hospital Station
Metro E Line	LRT	Downtown Santa Monica Station to Lambert Station (Whittier) via downtown Los Angeles
Metro G Line	BRT	Pasadena to Chatsworth[b]
Metro K Line	LRT	Norwalk to Expo/Crenshaw Station
East San Fernando Valley Light Rail Transit Line	LRT	Metrolink Sylmar/San Fernando Station to Metro G Line Van Nuys Station
Southeast Gateway Line	LRT	Union Station to Artesia
North San Fernando Valley Bus Rapid Transit Network Improvements	BRT	North Hollywood to Chatsworth[c]
Vermont Transit Corridor	BRT	Hollywood Boulevard to 120th Street
Inglewood Transit Connector	APM	Market Street/Florence Avenue to Prairie Avenue/Hardy Street
Los Angeles International Airport APM	APM	Aviation Boulevard/96th Street to LAX Central Terminal Area

Source: HTA, 2024

[a]Alignment descriptions reflect the project definition as of the date of the Project's Notice of Preparation (Metro, 2021a).

[b]As defined in Metro Board actions of July 2018 and May 2021, the Metro G Line will have an eastern terminus near Pasadena City College and will include aerial stations at Sepulveda Boulevard and Van Nuys Boulevard.

[c]The North San Fernando Valley network improvements are assumed to be as approved by the Metro Board in December 2022.

4.3 Regional Rail Projects

The future background projects would include the Southern California Optimized Rail Expansion (SCORE) program, which is Metrolink's Capital Improvement Program that will upgrade the regional rail system (including grade crossings, stations, and signals) and add tracks as necessary to be ready in time for the 2028 Olympic and Paralympic Games. The SCORE program will also help Metrolink to move toward a zero emissions future. The following SCORE projects planned at Chatsworth and Burbank Stations will upgrade station facilities and allow 30-minute all-day service in each direction by 2045 on the Metrolink Ventura County Line:

1. Chatsworth Station: This SCORE project will include replacing an at-grade crossing and adding a new pedestrian bridge and several track improvements to enable more frequent and reliable service.
2. Burbank Station: This SCORE project will include replacing tracks, adding a new pedestrian crossing, and realigning tracks to achieve more frequency, efficiency, and shorter headways.

In addition, the Link Union Station project will provide improvements to Los Angeles Union Station that will transform the operations of the station by allowing trains to arrive and depart in both directions, rather than having to reverse direction to depart the station. Link Union Station will also prepare Union Station for the arrival of California High-Speed Rail, which will connect Union Station to other regional multimodal transportation hubs such as Hollywood Burbank Airport and the Anaheim Regional Transportation Intermodal Center.

5 NO PROJECT ALTERNATIVE

The only reasonably foreseeable transportation project under the No Project Alternative would be improvements to Metro Line 761, which would continue to serve as the primary transit option through the Sepulveda Pass with peak-period headways of 10 minutes in the peak direction and 15 minutes in the other direction. Metro Line 761 would operate between the Metro E Line Expo/Sepulveda Station and the Metro G Line Van Nuys Station, in coordination with the opening of the East San Fernando Valley Light Rail Transit (ESFV LRT) Line, rather than to its current northern terminus at the Sylmar Metrolink Station.

5.1 Existing Conditions

5.1.1 Vehicle Miles Traveled

Table 5-1 shows the regional vehicle miles traveled (VMT) under existing conditions for the base year and under the No Project Alternative for the forecast horizon year. Ambient population and employment growth would occur in the region between the base year and horizon year.

Table 5-1. Existing and No Project Alternative Vehicle Miles Traveled

Project Alternative	Total Vehicle Miles Traveled
Existing Conditions (2019 Base Year)	456,869,300
No Project Alternative (2045 Horizon Year)	568,557,200

Source: HTA, 2024

Note: 2019 is used as the base year for the VMT analysis because it is the most recent year for which Metro's CBM18B Transportation Analysis Model has been calibrated.

5.1.2 Roadway Network

The roadway network within the Study Area includes a wide range of facilities including three freeways that provide regional access throughout Los Angeles County and Southern California, as well as multiple arterials, local roads, and intersections.

5.1.2.1 Freeways

The freeways within the Study Area include:

- **I-405 (San Diego Freeway):** I-405 is the major north-south freeway traversing the Study Area in its entirety between Sylmar in the northern San Fernando Valley and Irvine in Orange County. This freeway provides regional access between San Fernando and Irvine. Within the Study Area, I-405 provides five to seven lanes in each direction, including carpool lanes and auxiliary lanes. The direction of peak traffic demand varies over the course of the day, with the greatest travel occurring from the San Fernando Valley to the Westside during the morning commute period and the reverse pattern during the evening commute period. This freeway connects with the US-101 and I-10 freeways inside the Study Area that provide regional east-west access. On an average weekday, I-405 carries 353,000 vehicles on the Westside, 301,000 in the Sepulveda Pass, and 209,000 in the San Fernando Valley (Caltrans, 2022b).

- **I-10 (Santa Monica Freeway):** I-10 is an east-west freeway that crosses the southern end of the Study Area for 3.5 miles. Within the Study Area, I-10 consists of four general-purpose lanes in each direction, with no high-occupancy vehicle (HOV) lanes. Ramps within the Study Area include the Cloverfield Boulevard, Centinela Avenue, Bundy Drive, and Overland Avenue on- and off-ramps. I-10 connects to State Route (SR) 1 in the City of Santa Monica, I-405 in West Los Angeles, and I-110/SR-110, US-101, and Interstate 5 (I-5) near downtown Los Angeles. On an average weekday, I-10 carries 215,000 vehicles through the Study Area (Caltrans, 2022b).
- **US-101 (Ventura Freeway):** US-101 is an east-west freeway within the Study Area that crosses the northern end of the Study Area for 5 miles. US-101 has five general-purpose lanes in each direction, with auxiliary lanes near the I-405 interchange and does not have any HOV lanes in either direction within the Study Area. Ramps within the Study Area include the Woodman Avenue, Van Nuys Boulevard, Sepulveda Boulevard, Haskell Avenue, Hayvenhurst Avenue, and Balboa Boulevard on- and off-ramps, and the White Oak Avenue off-ramp. US-101 connects with SR-134 and SR-170 in the San Fernando Valley and I-10, SR-110, and I-5 near downtown Los Angeles. On an average weekday, US-101 carries 323,000 vehicles through the Study Area (Caltrans, 2022b).

5.1.2.2 Major Arterial Network

Figure 5-1 shows the major roadways in the Study Area and Table 5-2 lists their classification under *Mobility Plan 2035*. Classifications are based on roadway and right-of-way (ROW) widths and include the following types in the Study Area:

- Boulevard II facilities have roadway widths of 80 feet and total ROW widths of 110 feet.
- Avenue I facilities have roadway widths of 70 feet and total ROW widths of 100 feet.
- Avenue II facilities have roadway widths of 56 feet and total ROW widths of 86 feet.
- Collector streets have roadway widths of 40 feet and total ROW widths of 66 feet.
- Local streets have roadway widths between 30 and 36 feet and total ROW widths between 50 and 60 feet.

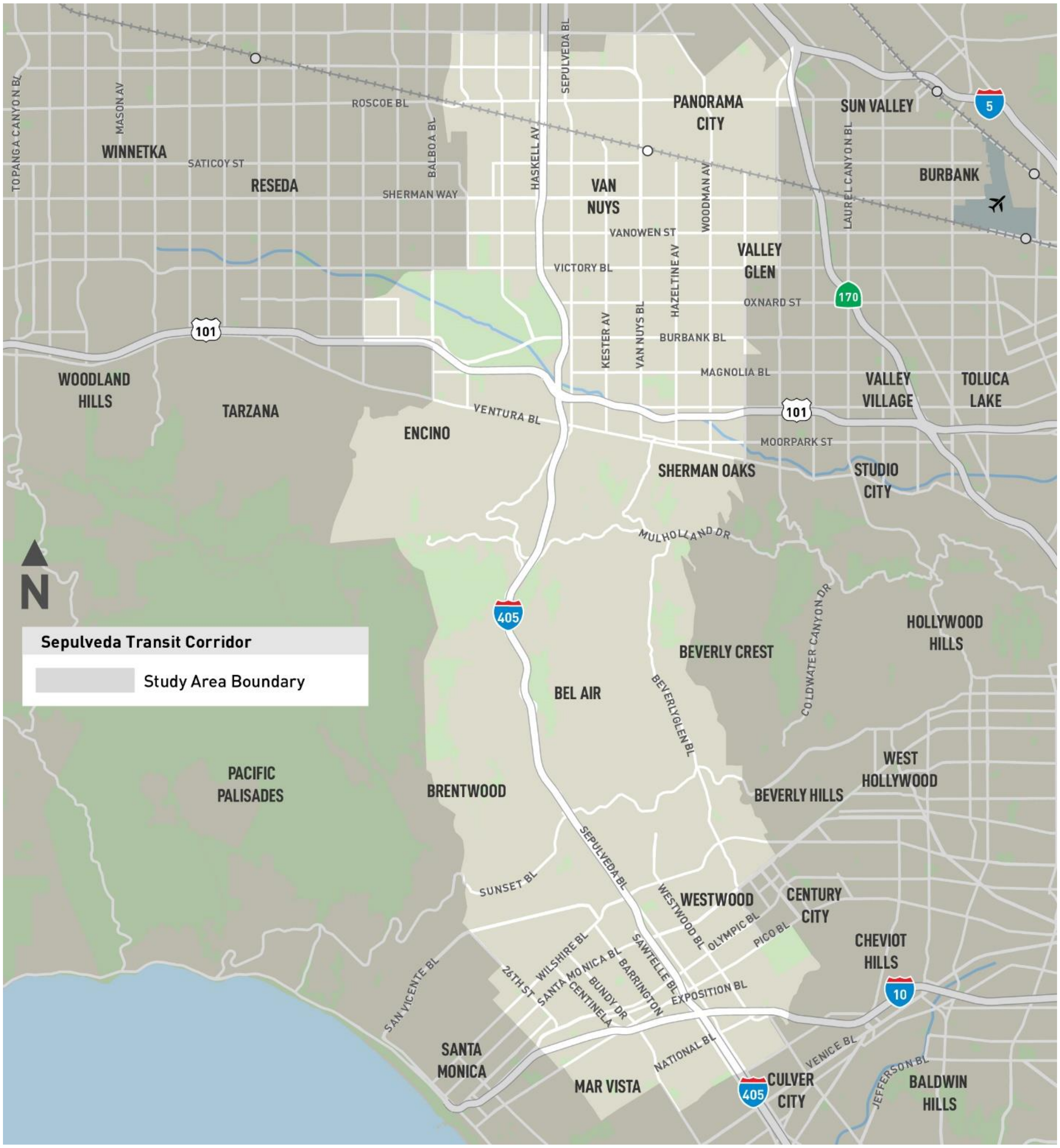
Table 5-2. Existing Major Arterials within the Study Area

Name	Mobility Plan 2035 Classification
Major North–South Arterials (listed from west to east)	
Centinela Avenue	Avenue I
Bundy Drive	Avenue I
Barrington Avenue	Avenue I (south of Pico Boulevard) Avenue II (north of Pico Boulevard)
Haskell Avenue	Avenue II
Sawtelle Boulevard	Avenue I
Sepulveda Boulevard	Boulevard II
Kester Avenue	Avenue II
Van Nuys Boulevard	Boulevard II
Westwood Boulevard	Avenue II (south of Wilshire Boulevard) Boulevard II (north of Wilshire Boulevard) Avenue I (between Le Conte Avenue and Wilshire Boulevard)
Beverly Glen Boulevard	Avenue I (south of Wilshire Boulevard) Avenue II (between Sunset Boulevard and Wilshire Boulevard and between Ventura Boulevard and Mulholland Drive)
Hazeltine Avenue	Avenue II

Name	Mobility Plan 2035 Classification
Woodman Avenue	Avenue I
Major East–West Arterials (listed from south to north)	
National Boulevard	Avenue I
Exposition Boulevard	Collector Street (east of Sepulveda Boulevard) Local/Other Street (west of I-405)
Pico Boulevard	Avenue I
Olympic Boulevard	Boulevard II
Santa Monica Boulevard	Boulevard II
Wilshire Boulevard	Boulevard II
San Vincente Boulevard	Avenue II
Sunset Boulevard	Avenue I
Mulholland Drive	Local/Other Street
Ventura Boulevard	Boulevard II
Magnolia Boulevard	Avenue II
Burbank Boulevard	Boulevard II
Oxnard Street	Avenue II
Victory Boulevard	Boulevard II
Vanowen Street	Avenue II
Sherman Way	Boulevard II
Saticoy Street	Avenue II
Roscoe Boulevard	Boulevard II

Source: DCP, 2016; HTA, 2024

Figure 5-1. Existing Freeway and Arterial Network within the Study Area



Source: HTA, 2024

5.1.3 Transit Network

The Study Area is served by several local and regional transit agencies, including Metro, Los Angeles Department of Transportation (LADOT), Metrolink commuter rail, Amtrak intercity rail, Santa Monica Big Blue Bus (BBB), Culver CityBus (CCB), Santa Clarita Transit (SCT), Antelope Valley Transit Authority (AVTA), and University of California, Los Angeles (UCLA) BruinBus. Transit service types within the Study Area include rapid bus, express/commuter bus, commuter rail, intercity rail, light rail transit (LRT), bus rapid transit (BRT), shuttles and circulators, and local bus lines. In addition, nine Metro bus routes operate 24 hours a day and offer half-hour or hour headways during owl service hours (12:00am to 4:00am).

Table 5-3 summarizes the fixed-route transit lines that serve the Study Area (as of October 2022).

Table 5-3. Existing Fixed-Route Transit Service within the Study Area

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Rail				
Metro	E	3:43am-12:46am	10	12
Metrolink	Ventura County	5:02am-8:15pm	30 (in peak direction)	4 off-peak trains
Amtrak	Pacific Surfliner	7:47am-9:09pm	Five daily trains in each direction	
Amtrak	Coast Starlight	NA	One daily train in each direction	
Bus Rapid Transit				
Metro	901 (G Line)	24 hours (hourly owl service)	6	10
Rapid Bus				
BBB	Rapid 7	6:05am-8:09pm	20	20
BBB	Rapid 12	5:30am-10:00pm	10-12	12
CCB	6R	6:28am-7:56pm	15	15
Metro	720	5:00am-1:00am	8	11
Metro	761	3:57am-11:13pm	15	15
Local Bus				
BBB	1	5:20am-10:20pm	10-12	10-12
BBB	2	6:50am-10:42pm	20	20
BBB	5	7:20am-7:00pm	30	30
BBB	Local 7	4:50am-11:58pm	15	15
BBB	Express 7	6:05am-8:09pm	20	20
BBB	8	6:30am-10:34pm	25-27	25-27
BBB	14	5:15am-8:20pm	12-15	12-15
BBB	15	6:45am-7:00pm	20	20
BBB	16	6:20am-7:04pm	25	30
BBB	17	5:45am-8:00pm	15	20
BBB	18	6:45am-8:30pm	30	30
BBB	43	6:25am-5:50pm	30	NA
CCB	3	6:00am-9:45pm	20-30	30-40
CCB	6	5:00am-12:07am	15-20	15-20
Metro	2	24 hours (hourly owl service)	7.5	10
Metro	4	24 hours (half-hourly owl service)	7.5	7.5

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Metro	20	24 hours (half-hourly owl service)	10-15	12
Metro	150	24 hours (hourly owl service)	20	20
Metro	152	3:41am-1:46am	15	15
Metro	154	5:11am-8:25pm	60	60
Metro	155	4:18am-9:29pm	60	60
Metro	158	5:20am-9:02pm	60	60
Metro	162	24 hours (hourly owl service)	15	15
Metro	164	4:41am-10:54pm	15	15
Metro	165	4:29am-11:35pm	15	15
Metro	166	4:36am-10:34pm	15	15
Metro	167	4:36am-10:44pm	50-60	50
Metro	169	4:53am-7:46pm	60	60
Metro	233	24 hours (hourly owl service)	10	10
Metro	234	24 hours (hourly owl service)	10	10
Metro	236	4:55am-10:25pm	60	60
Metro	237	5:09am-10:17pm	60	60
Metro	240	24 hours (half-hourly owl service)	10	10
Metro	602	5:31am-1:23am	45	45
Express/Commuter Bus				
AVTA	786	4:00am – 5:20am, 2:50pm – 4:05pm	4 one-way trips	NA
BBB	R10	6:00am – 8:04am, 3:35pm – 6:05pm	3 one-way trips	NA
LADOT	422	4:55am – 8:00am, 1:55pm – 6:00pm	12 one-way trips	NA
LADOT	423	5:00am – 6:45am, 3:30pm – 6:35pm	9 one-way trips (AM), 10 one-way trips (PM)	NA
LADOT	431	6:15am – 7:35am, 4:25pm – 5:55pm	4 one-way trips	NA
LADOT	534	6:50am – 8:10am, 3:43pm – 5:13pm	4 one-way trips	NA
LADOT	549	5:55am – 7:45am, 3:45pm – 6:05pm	5 one-way trips in both directions (AM), 5 one-way trips in both directions (PM)	NA
LADOT	573	5:30am – 9:30am, 2:10pm – 6:45pm	15 southbound and 1 northbound trip (AM), 14 northbound and 1 southbound trip (PM)	NA
LADOT	574	5:20am – 7:10am, 3:35pm – 6:00pm	5 one-way trips	NA

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
LBT	405	5:17am – 6:50am, 3:30pm – 5:30pm	3 one-way trips	NA
SCT	792	6:50am – 7:47am, 2:59pm – 5:25pm	3 one-way trips	NA
SCT	797	5:00am – 6:46am, 3:45pm – 7:45pm	5 one-way trips	NA
Shuttles and Circulators				
LADOT	PC/VN DASH	6:00am-8:00pm	15	20
LADOT	VN/SC DASH	6:00am-7:30pm	15	20
BruinBus	U1	7:25am-5:55pm	15	15
BruinBus	U2	7:00am-6:15pm	15-30	15-30
BruinBus	U3	10:00am-5:00pm	30	30
BruinBus	U5	6:45am-10:10pm	25	25

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

5.1.3.1 Metrolink/Amtrak

Metrolink operates commuter rail service in Southern California with seven routes serving an average of 12,900 weekday riders (Metrolink, 2022). Metrolink directly serves the Study Area at the Van Nuys Metrolink/Amtrak Station on the Ventura County Line. With 20 weekday trains serving an average of 1,100 daily riders, the Ventura Line provides rail service from Ventura to Los Angeles Union Station (Metrolink, 2022).

The Van Nuys Metrolink/Amtrak Station is also served by Amtrak's Coast Starlight and Pacific Surfliner routes, which have daily trains that provide service up and down the West Coast.

5.1.3.2 Metro Rail

As of October 2022, Metro operates seven rail transit lines in Los Angeles County serving an average of 183,000 weekday riders (Metro, 2022b). The Metro E Line serves the Study Area with four stations: Westwood/Rancho, Expo/Sepulveda, Expo/Bundy, and 26th St/Bergamot. The Metro E Line provides LRT service between downtown Los Angeles[1] and the City of Santa Monica and serves an average of 30,400 weekday riders (Metro, 2022b). Four other Metro lines (A, B, D, and K Lines) provide direct transfers to the Metro E Line for access to the Study Area.

Generally, existing rail lines run at 10-minute headways during peak hours and 12-minute headways during off-peak hours.

[1] After the opening of the Regional Connector in 2023, the Metro E Line provides service past downtown LA to East LA.

Metro is currently planning and building several additional rail lines scheduled to be in operation by the 2045 horizon year. Within the Study Area, the Metro D Line Extension Project and East San Fernando Valley (ESFV) Light Rail Transit (LRT) Line will provide new rail service. Planned stations along the Metro D Line within the Study Area include Westwood/UCLA and Westwood/VA Hospital. Planned stations along the ESFV LRT Line within the Study Area include Nordhoff, Roscoe, Van Nuys/Metrolink, Sherman Way, Vanowen, Victory, and Van Nuys/G Line. Figure 5-2 shows existing and planned fixed guideway service (including Metrolink/Amtrak) within the Study Area.

Figure 5-2. Existing and Planned Fixed Guideway Service within the Study Area

Source: HTA, 2024

5.1.3.3 Metro Bus

Metro operates several types of bus services throughout its service area, including BRT, rapid bus, and local bus lines. The Metro bus system serves an average of 687,000 weekday riders (Metro, 2022b). Table 5-4 summarizes the Metro bus routes serving the Study Area along with ridership data for the entire route.

Table 5-4. Existing Metro Bus Routes within the Study Area

Route	Description	Weekday Ridership (October 2022)
Bus Rapid Transit		
901 (G Line)	Chatsworth-Canoga Park-North Hollywood	14,392
Rapid Bus		
720	Santa Monica-Downtown Los Angeles via Wilshire Boulevard	20,846
761	Sylmar Station-E Line via Van Nuys Boulevard-Sepulveda Boulevard	6,695
Local Bus		
2	University of Southern California (USC)-Westwood via Sunset Boulevard	18,662
4	Downtown Los Angeles-Santa Monica via Santa Monica Boulevard	21,124
20	Downtown Los Angeles-Westwood/Santa Monica via Wilshire Boulevard	6,773
150	Chatsworth-Canoga Park-Tarzana via Topanga Canyon Boulevard –Ventura Boulevard	2,579
152	West Hills Medical Center-North Hollywood Station via Roscoe Boulevard	8,416
154	Sepulveda Boulevard-Burbank Station via Oxnard Street-Burbank Boulevard	549
155	Sherman Oaks-Burbank Station via Riverside Drive-Olive Street	1,061
158	Chatsworth Station-Sherman Oaks via Devonshire-Woodman	1,392
162	Woodland Hills-West Hills-North Hollywood via Sherman Way-Vineland	8,422
164	West Hills-Burbank via Victory Boulevard	4,895
165	West Hills-Burbank via Vanowen Street	7,766
166	Canoga Avenue-Sun Valley via Nordhoff Street-Osborne Street	5,272
167	Chatsworth Station-Studio City via Plummer-Coldwater Canyon	1,649
169	Warner Center-Burbank Airport via Valley Circle-Saticoy Street	2,153
233	Lake View Terrace-Sherman Oaks via Van Nuys Boulevard (+ Westside Owl Service)	11,823
234	Mission College-Sylmar Station-Sherman Oaks via Sepulveda Boulevard	7,804
236	Sylmar-Encino via Balboa Boulevard-Glenoaks Boulevard	1,826
237	Encino-Granada Hill-Mission Hills-North Hollywood via White Oak Avenue-Woodley Avenue-Chandler	1,565
240	Northridge-Universal City via Reseda Boulevard-Ventura Boulevard	9,881
602	Westwood-Pacific Palisades via Sunset Boulevard	1,099

Source: Metro, 2023b

5.1.3.4 Municipal and Local Operators

Apart from Metro, seven transit providers operate bus service within the Study Area, including LADOT, BBB, CCB, SCT, AVTA, Long Beach Transit, and BruinBus. Transit service types by these operators include rapid bus, express/commuter bus, shuttles and circulators, and local bus lines. Table 5-5 summarizes municipal operator bus routes serving the Study Area along with ridership data for the entire route. Figure 5-3 shows existing bus services — including Metro, municipal, and local operators — that provide service to the Study Area.

Table 5-5. Existing Municipal and Local Operator Bus Routes within the Study Area

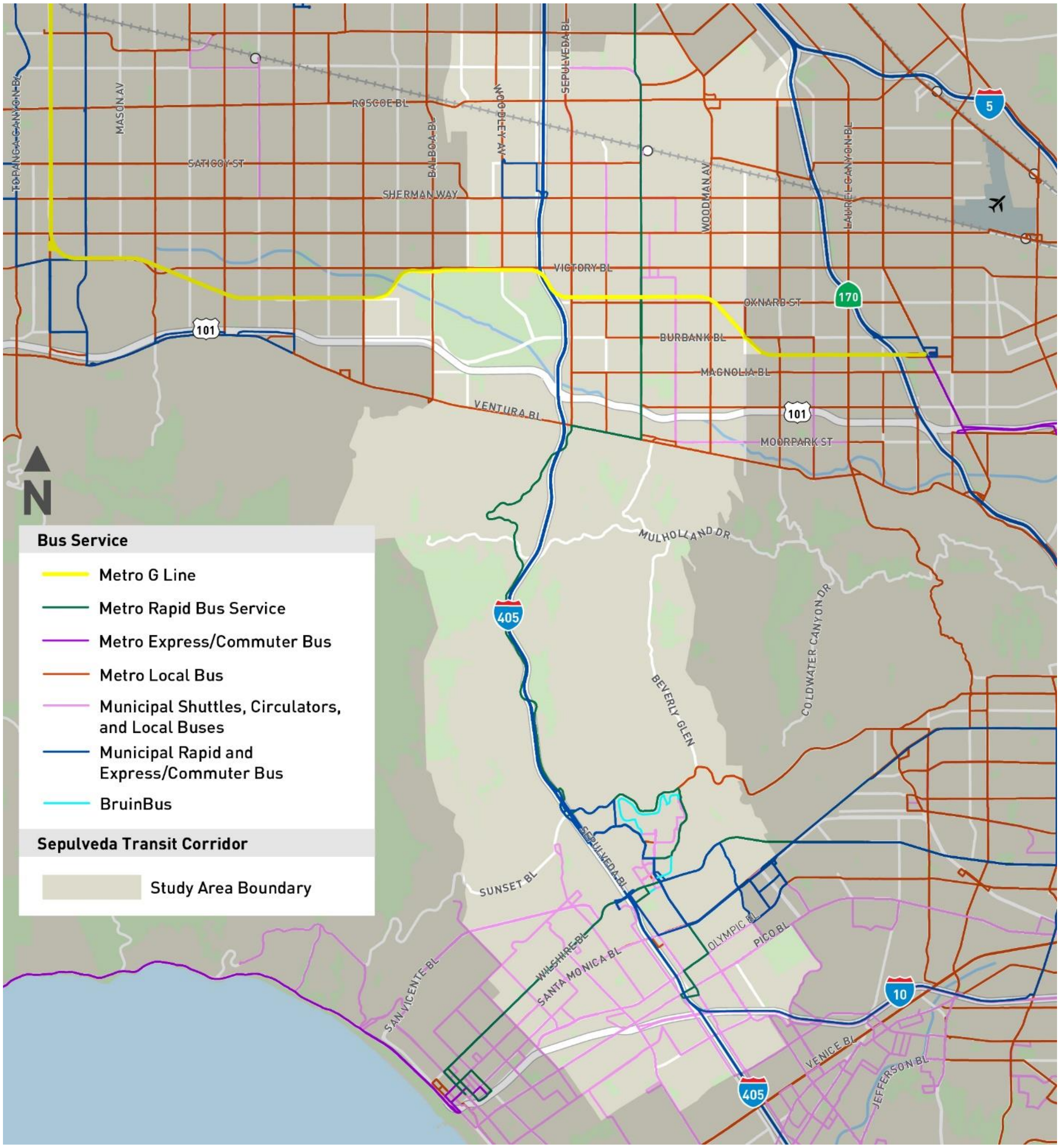
Operator	Route	Description	Weekday Ridership (October 2022)
Rapid Bus			
BBB	R7	Pico Boulevard Rapid	1,956
BBB	R12	UCLA/Westwood to Expo Rapid	2,267
CCB	6R	Sepulveda Boulevard Rapid	976
Express/Commuter Bus			
AVTA	786	Century City/West Los Angeles	160
BBB	R10	Downtown Los Angeles Freeway Express	85
LADOT	422	Downtown/Hollywood/San Fernando Valley/Agoura Hills/ Thousand Oaks	495
LADOT	423	Encino/Calabasas and/or Agoura Hills/Thousand Oaks	172
LADOT	431	Downtown Los Angeles-Westwood	45
LADOT	534	Downtown Los Angeles-West Los Angeles	105
LADOT	549	Burbank/Glendale Pasadena to Glendale/Burbank/Encino	196
LADOT	573	Encino/Mission Hills-Westwood/Century City	511
LADOT	574	Encino/Granada Hills-LAX/El Segundo	111
LBT	405	UCLA/Westwood Commuter Express	160
SCT	792/797	Century City, UCLA, and Westwood	175
Shuttles and Circulators			
LADOT	DASH Van Nuys/ Studio City	Van Nuys/Studio City	748
LADOT	DASH Panorama City/ Van Nuys	Panorama City/Van Nuys	1,627
BruinBus	U1	Weyburn Terrace-Wyton	1,246
BruinBus	U2	Wilshire Center-Wyton	818
BruinBus	U3	Weyburn Terrace-Gateway Plaza	214
BruinBus	U5	Evening/SafeRide Loop	127
Local Bus			
BBB	1	Main Street and Santa Monica Boulevard	4,202
BBB	2	Wilshire Boulevard	1,178
BBB	5	Olympic Boulevard	190
BBB	7	Pico Boulevard	4,333
BBB	8	Ocean Park Boulevard	1,282
BBB	14	Bundy Drive Centinela Avenue	1,715
BBB	15	Barrington Avenue	156
BBB	16	Wilshire Boulevard/Bundy Drive-Marina del Rey	405
BBB	17	UCLA-VA Medical Center-Palms	1,475
BBB	18	UCLA-Abbott Kinney-Marina del Rey	850
BBB	43	San Vicente Boulevard and 26th Street	220

Operator	Route	Description	Weekday Ridership (October 2022)
CCB	3	Crosstown-Overland Avenue	913
CCB	6	Sepulveda Boulevard	4,386

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
SCT = Santa Clarita Transit

Figure 5-3. Existing Bus Service within the Study Area



Source: HTA, 2024

5.1.4 Active Transportation

5.1.4.1 Pedestrian Facilities

Pedestrian facilities vary across the Study Area, depending on the density, mix of land uses and roadway facilities. In the San Fernando Valley and on the Westside, sidewalks are well-connected and follow the grid pattern of roadway facilities. In the Bel Air and Brentwood neighborhoods adjacent to the

Sepulveda Pass, sidewalks are sparse and disconnected given roadway slopes and topography. Figure 5-4 shows the distribution of sidewalks across the Study Area.

Figure 5-4. Existing Sidewalks within the Study Area

Source: HTA, 2024

5.1.4.2 Bicycle Facilities

Existing bicycle facilities in the Study Area consist of a network of approximately 123 miles of Class I, II, and III bicycle facilities, including 29.4 miles of Class I bicycle paths. Planned bicycle facilities in the Study Area includes 180 miles of additional bicycle facilities, including 21.1 miles of Class I paths (SCAG, 2024).

Figure 5-5 shows existing and planned bicycle facilities, which are classified using the California Department of Transportation *Highway Design Manual* (Caltrans, 2022a). These facility classifications include the following:

- Class I Bikeways are also known as bicycle paths, shared-use paths, or bicycle trails. They provide a completely separated travel facility for the exclusive use of bicycles and pedestrians with cross flow by vehicles minimized.
- Class II Bikeways are also known as bicycle lanes. These facilities provide a striped lane for one-way bike travel on a street or highway.
- Class III Bikeways are also known as bicycle routes. They provide for shared use with pedestrian or motor vehicle traffic typically demarcated by signage or surface markings such as Sharrows.
- Class IV Bikeways are protected bike lanes that are physically separated from the vehicle travel lane by more than the white stripe. Separation may be accomplished with flexible bollards or permanent barriers.

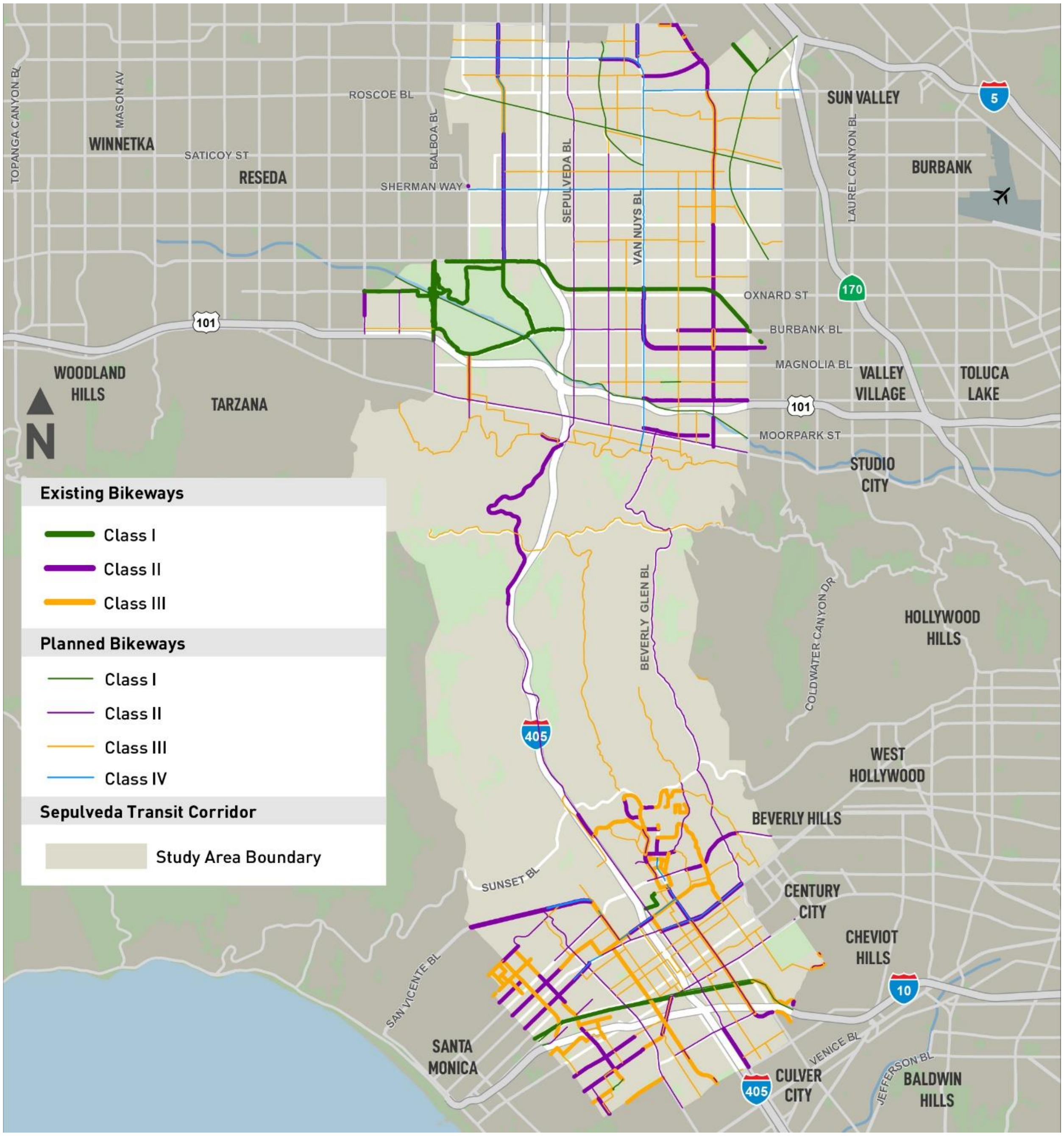
Table 5-6 lists the lengths of existing bicycle facilities in miles by classification within the Study Area. There are no existing Class IV bicycle facilities in the Study Area.

Table 5-6. Existing and Planned Bicycle Facility Miles within the Study Area

Class	Existing Facility Miles	Planned Facility Miles
I	29.4	21.1
II	53.2	51.3
III	40.7	80.6
IV	0	26.9
Total	**123.3**	**179.9**

Source: SCAG, 2022; HTA, 2024

Figure 5-5. Existing and Planned Bicycle Facilities within the Study Area



Source: SCAG, 2022; HTA, 2024

5.2 Impact Evaluation

5.2.1 Impact TRA-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?

This section evaluates the consistency of the No Project Alternative with existing transportation plans and policies. Attachment 2 of this technical report identifies the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that the No Project Alternative was compared against. Relevant design guidelines from the regulatory framework, such as the Americans with Disabilities Act or Los Angeles Bureau of Engineering (LABOE) Standard Plans (LABOE, n.d.(a)), are addressed under the evaluation of geometric hazards in Section 5.2.3.

5.2.1.1 Operational Impacts

Transit Policies

The Project is included in Metro's 2020 *Long Range Transportation Plan* (Metro, 2020c), with funding programmed through Measure M (Metro, 2016), and in SCAG's *Connect SoCal, 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy* (SCAG, 2020) as the "Sepulveda Pass Transit Corridor (Phase 2)." Under the No Project Alternative, the Project would not be constructed. Therefore, this conflict with an adopted plan is considered a significant and unavoidable impact.

Transit Ridership

Table 5-7 shows the daily number of bus transit, fixed guideway, and total transit trips in the region. The total regional transit mode share under the No Project Alternative would be 2.20 percent of all trips.

Table 5-7. No Project Alternative: 2045 Regional Transit Performance Metrics

Performance Metric	No Project Alternative
Daily Project Trips	NA
Daily New Transit Trips (Regional)	NA
Daily Fixed Guideway Trips (Rail + Bus Rapid Transit)	746,604
Daily Bus Trips	969,689
Daily Transit Trips (All Transit Trips)	1,716,293
Daily Trips (Total All Modes)	78,175,000
Total Transit Mode Share (Daily Transit Trips/Daily Trips)	2.20%

Source: HTA, 2024

NA = not applicable

Table 5-8 shows the projected number of daily boardings (total ridership on the entire line) for urban rail and BRT lines in 2045 under the No Project Alternative.

Table 5-8. No Project Alternative: Daily Boardings on Urban Rail and Bus Rapid Transit Lines in the Study Area

Line	Daily Boardings
Metro E Line	110,578
Metro D Line	221,766
Metro G Line (BRT)	53,599
East San Fernando Valley Light Rail Transit Line	49,988
Total	**435,931**

Source: HTA, 2024

Table 5-9 shows the peak-hour load on rail and BRT lines in the Study Area under the No Project Alternative. The capacities of heavy rail (Metro D Line) and light rail modes (Metro E Line and ESFV LRT Line) are approximately 12,000 and 4,800 passengers per hour, respectively, based on design headways and vehicle capacity. Capacity on the Metrolink Ventura County Line is approximately 2,240 passengers per hour, assuming 8-car trains at 30-minute headways. Metro G Line capacity is approximately 960 passengers per hour assuming 5-minute headways. It is expected that Metro would accommodate the additional demand on the Metro G Line by implementing operational improvements and would also update its short- and long-range transit plans and increase service on parallel routes as needed, consistent with its usual service planning processes. Therefore, the No Project Alternative would not conflict with a program, plan, ordinance, or policy related to transit ridership and would result in no impact.

Table 5-9. No Project Alternative: Peak Loads on Rail and Bus Rapid Transit Lines in the Study Area

Line	Peak Load	Location
Metro E Line	2,530	Between Expo/La Brea and La Cienega/Jefferson
Metro D Line	11,870	Between Wilshire/La Brea and Wilshire/Fairfax
Metro G Line (BRT)	2,500	Between Van Nuys and Sepulveda
East San Fernando Valley Light Rail Transit Line	2,470	Between Vanowen and Victory
Metrolink Ventura County Line	1,760	Between Union Station and Glendale

Source: HTA, 2024

Table 5-10 shows the projected ridership for bus routes serving the Study Area aggregated by transit operator under No Project Alternative conditions. Under the No Project Alternative, the forecast ridership on AVTA 786 would exceed the existing capacity of the route. This would constitute a conflict with an existing policy because AVTA has a passenger loading standard not to exceed 75 percent of seated capacity on commuter bus routes (AVTA, 2020). Conflicts with loading standards can generally be avoided via modifications to the relevant transit operator's service plans without a physical impact on the environment and are typically considered a less than significant impact. Therefore, this conflict with an existing loading standard under the No Project Alternative is considered a less than significant impact.

The No Project Alternative includes development that would reasonably be expected to occur in the foreseeable future if the Project were not approved. Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass and is forecast to see increased demand in the absence of the Project. Metro Line 761 would operate between the Metro E Line Expo/Sepulveda Station and the Metro G Line Van Nuys Station with improved peak-period headways of 10 minutes in the peak direction and 15 minutes in the other direction to connect with the

ESFV LRT Line, rather than maintaining its current northern terminus at the Sylmar Metrolink Station. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. The forecast ridership on Metro Line 761 would exceed the existing capacity of the route under the No Project Alternative. Conflicts with loading standards can generally be avoided via modifications to the relevant transit operator's service plans without a physical impact on the environment and are typically considered a less than significant impact. Therefore, this is considered a less than significant impact.

Table 5-10. No Project Alternative: Projected Bus Ridership by Transit Operator

Operator	Route(s)[a]	Daily Boardings[b]
Metro	2, 4, 20, 150, 152, 154, 155, 158, 164, 165, 166, 167, 169, 233, 234, 236, 602, 761, G Line	237,137
AVTA	786	4,981
BBB	1, 2, 5, Local 7, Rapid 7, 8, 10, Rapid 12, 14/15, 16, 17, 18	45,404
CCB	3, 6/6R	24,685
LADOT	422, 423, 431, 534, 549, 573, 574, PC/VN DASH, VN/SC DASH	12,516
SCT	792/797	<250
BruinBus	U1, U2, U3, U5	9,380

Source: HTA, 2024

[a]Routes listed intersect the Study Area.
[b]Daily boardings represent total ridership on all routes listed.

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

Roadways

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Operation of Metro Line 761 would not require the removal or modification to a roadway facility that is addressed in a program, plan, ordinance, or policy. Therefore, operation of Metro Line 761 under the No Project Alternative would not conflict with a program, plan, ordinance or policy and would result in no impact.

Bicycle and Pedestrian Circulation

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Operation of Metro Line 761 would not require the removal or modification to a bicycle or pedestrian facility that is addressed in a program, plan, ordinance, or policy. Therefore, operation of Metro Line 761 under the No Project Alternative would not conflict with a program, plan, ordinance or policy and would result in no impact.

5.2.1.2 Construction Impacts

Transit Facilities

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Future construction activities would be temporary and may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane closures, and use of temporary easements. Construction of Metro Line 761 service improvements would occur in accordance with applicable ADA, LABOE, and Metro design standards. Therefore, construction of Metro Line 761 under the No Project Alternative would not conflict with a program, plan, ordinance, or policy related to transit facilities and would result in no impact.

Roadways

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Future construction activities would be temporary and may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane closures, and use of temporary easements. Construction of Metro Line 761 service improvements would occur in accordance with applicable ADA, LABOE, and Metro design standards. Therefore, construction of Metro Line 761 under the No Project Alternative would not conflict with a program, plan, ordinance, or policy related to roadway facilities and would result in no impact.

Bicycle and Pedestrian Circulation

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Future construction activities would be temporary and may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane closures, and use of temporary easements. Construction of Metro Line 761 service improvements would occur in accordance with applicable ADA, LABOE, and Metro design standards. Therefore, construction of Metro Line 761 under the No Project Alternative would not conflict with a program, plan, ordinance, or policy related to bicycle and pedestrian facilities and would result in no impact.

5.2.2 Impact TRA-2: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

5.2.2.1 Operational Impacts

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Metro Line 761 would operate between the Metro E Line Expo/Sepulveda Station and the Metro G Line Van Nuys Station with improved peak-period headways of 10 minutes in the peak direction and 15 minutes in the other direction to connect with the ESFV LRT Line, rather than maintaining its current northern terminus at the Sylmar Metrolink Station. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Under CEQA Guidelines Section 15064.3, subdivision (b), transportation projects that reduce, or have no impact on, VMT are presumed to cause a less than significant impact on transportation. OPR's *Technical*

Advisory on Evaluating Transportation Impacts in CEQA (OPR, 2018) states that transit and active transportation projects generally reduce VMT. Therefore, operation of Metro Line 761 under the No Project Alternative would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Ambient population and employment growth would occur between the base year and horizon year. This ambient growth would result in increased VMT compared to existing conditions, as listed in Table 5-11. However, this growth would not be the result of the additional transit service included in the No Project Alternative. Therefore, operation of the No Project Alternative would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Table 5-11. Vehicle Miles Traveled – No Project Alternative

Project Alternative	Total Vehicle Miles Traveled
Existing Conditions (2019 Base Year)	456,869,300
No Project Alternative (2045 Horizon Year)	568,557,200

Source: HTA, 2024

Note: 2019 is used as the base year for the VMT analysis because it is the most recent year for which Metro's CBM18B Transportation Analysis Model has been calibrated.

5.2.2.2 Construction Impacts

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Metro Line 761 would operate between the Metro E Line Expo/Sepulveda Station and the Metro G Line Van Nuys Station with improved peak-period headways of 10 minutes in the peak direction and 15 minutes in the other direction to connect with the ESFV LRT Line, rather than maintaining its current northern terminus at the Sylmar Metrolink Station. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Construction activities associated with Metro Line 761 improvements would be temporary and may include construction staging, materials stockpiling, hauling of dirt and materials, temporary roadway and lane closures, and use of temporary easements. These construction activities would temporarily generate additional VMT. This additional VMT would terminate upon completion of construction. The temporary nature of construction-related VMT and construction-related traffic circulation changes (e.g., detours) would generally be localized to the work areas and construction staging locations. As a result, construction activities would not result in a substantial or long-term change in regional travel patterns. Therefore, construction of Metro Line 761 under the No Project Alternative would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

5.2.3 Impact TRA-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?

5.2.3.1 Operational Impacts

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Metro Line 761 would operate between the Metro E Line Expo/Sepulveda Station and the Metro G Line Van Nuys Station with improved peak-period headways of 10 minutes in the peak direction and 15 minutes in the other direction to connect with the ESFV LRT Line, rather than maintaining its current northern terminus at the Sylmar Metrolink Station. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Construction of additional bus stops would occur in accordance with applicable ADA, LABOE, and Metro design standards and would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of Metro Line 761 under the No Project Alternative would result in no impact.

5.2.3.2 Construction Impacts

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Construction activities associated with Metro Line 761 improvements would be temporary and may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including Occupational Safety and Health Administration (OSHA), California OSHA (Cal/OSHA), and *California Manual on Uniform Traffic Control Devices* (Caltrans, 2024a) to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Therefore, construction of Metro Line 761 under the No Project Alternative would result in no impact.

5.2.4 Impact TRA-4: Would the project result in inadequate emergency access?

5.2.4.1 Operational Impacts

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Metro Line 761 would operate between the Metro E Line Expo/Sepulveda Station and the Metro G Line Van Nuys Station with improved peak-period headways of 10 minutes in the peak direction and 15 minutes in the other direction to connect with the ESFV LRT Line, rather than maintaining its current northern terminus at the Sylmar Metrolink Station. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Service improvements to Metro Line 761 would not create inadequate emergency access and would operate in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. Therefore, operation of Metro Line 761 under the No Project Alternative would result in no impact.

5.2.4.2 Construction Impacts

Service improvements to Metro Line 761 would be the only reasonably foreseeable transit improvement under the No Project Alternative. Metro Line 761 would continue serving as the primary transit option through the Sepulveda Pass. Additional bus stops for Metro Line 761 may be constructed to facilitate route changes under the No Project Alternative. Construction activities associated with Metro Line 761 improvements would be temporary and may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would maintain adequate emergency access in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. Therefore, construction of Metro Line 761 under the No Project Alternative would result in no impact.

5.3 Mitigation Measures

5.3.1 Operational Impacts

No feasible mitigation measures exist.

5.3.2 Construction Impacts

No mitigation measures are required.

5.3.3 Impacts After Mitigation

The Project is included in Metro's 2020 *Long Range Transportation Plan* (Metro, 2020c), with funding programmed through Measure M (Metro, 2016), and in SCAG's *Connect SoCal, 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy* (SCAG, 2020) as the "Sepulveda Pass Transit Corridor (Phase 2)." Under the No Project Alternative, the Project would not be constructed. Therefore, this conflict with an adopted plan is considered a significant and unavoidable impact.

6 ALTERNATIVE 1

6.1 Alternative Description

Alternative 1 is an entirely aerial monorail alignment that would run along the Interstate 405 (I-405) corridor and would include eight aerial monorail transit (MRT) stations and a new electric bus route from the Los Angeles County Metropolitan Transportation Authority's (Metro) D Line Westwood/VA Hospital Station to the University of California, Los Angeles (UCLA) Gateway Plaza via Wilshire Boulevard and Westwood Boulevard. This alternative would provide transfers to five high-frequency fixed guideway transit and commuter rail lines, including the Metro E, Metro D, and Metro G Lines, the East San Fernando Valley Light Rail Transit (ESFV LRT) Line, and the Metrolink Ventura County Line. The length of the alignment between the terminus stations would be approximately 15.1 miles. The length of the bus route would be 1.5 miles.

The eight aerial MRT stations and three bus stops would be as follows:

1. Metro E Line Expo/Sepulveda Station (aerial)
2. Santa Monica Boulevard Station (aerial)
3. Wilshire Boulevard/Metro D Line Station (aerial)
    a. Wilshire Boulevard/VA Medical Center bus stop
    b. Westwood Village bus stop
    c. UCLA Gateway Plaza bus stop
4. Getty Center Station (aerial)
5. Ventura Boulevard/Sepulveda Boulevard Station (aerial)
6. Metro G Line Sepulveda Station (aerial)
7. Sherman Way Station (aerial)
8. Van Nuys Metrolink Station (aerial)

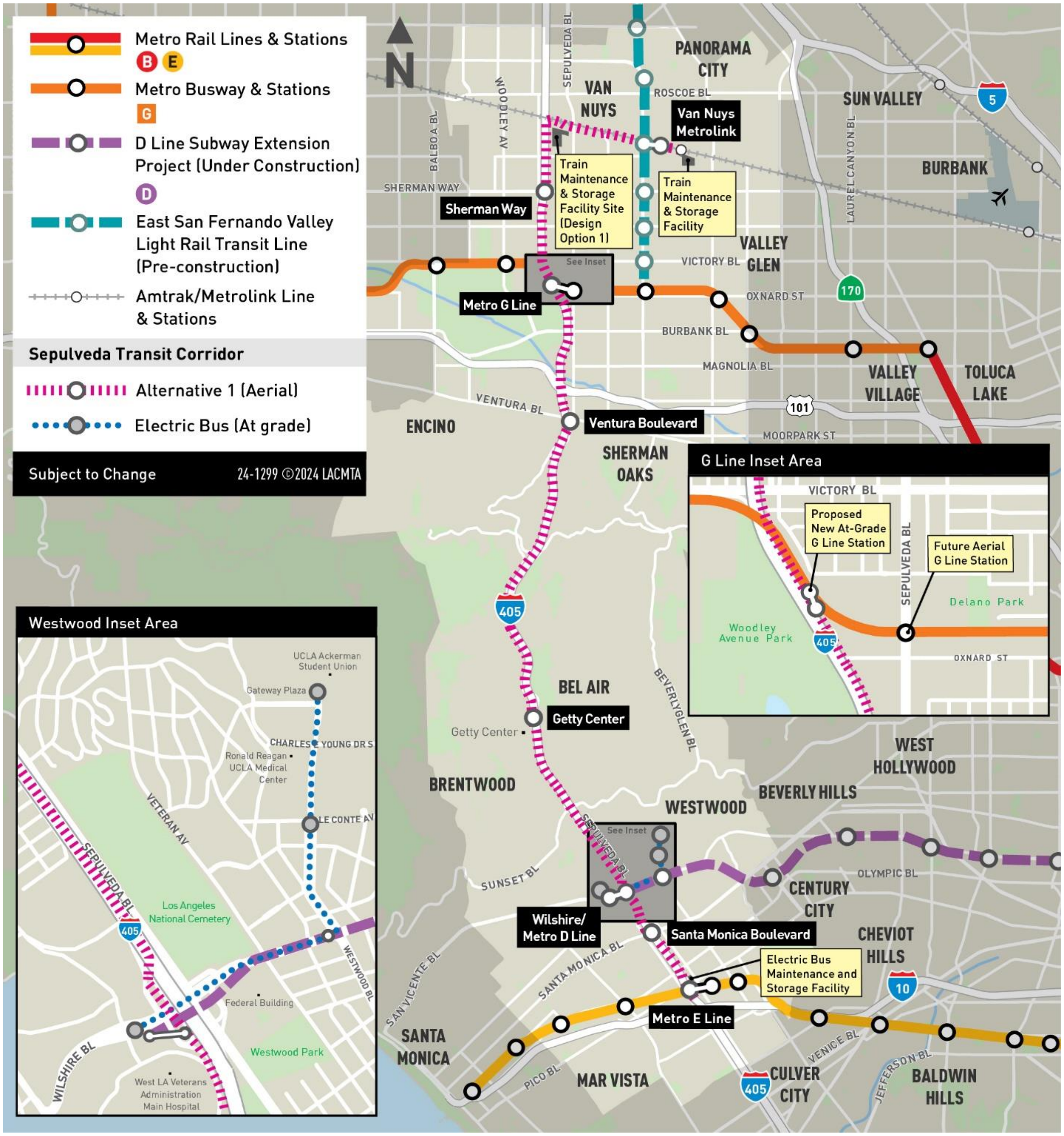
6.1.1 Operating Characteristics

6.1.1.1 Alignment

As shown on Figure 6-1, from its southern terminus at the Metro E Line Expo/Sepulveda Station, the alignment of Alternative 1 would generally follow I-405 to the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor near the alignment's northern terminus at the Van Nuys Metrolink Station. At several points, the alignment would transition from one side of the freeway to the other or to the median. North of U.S. Highway 101 (US-101), the alignment would be on the east side of the I-405 right-of-way (ROW) and would then curve eastward along the south side of the LOSSAN rail corridor to Van Nuys Boulevard.

The proposed southern terminus station would be located west of the existing Metro E Line Expo/Sepulveda Station and east of I-405 between Pico Boulevard and Exposition Boulevard. Tail tracks would extend just south of the station adjacent to the eastbound Interstate 10 (I-10) to northbound I-405 connector over Exposition Boulevard. North of the Metro E Line Expo/Sepulveda Station, a storage track would be located off the main alignment north of Pico Boulevard between I-405 and Cotner Avenue. The alignment would continue north along the east side of I-405 until just south of Santa Monica Boulevard, where a proposed station would be located between the I-405 northbound travel lanes and Cotner Avenue. The alignment would cross over the northbound and southbound freeway lanes north of Santa Monica Boulevard and travel along the west side of I-405, before reaching a proposed station within the I-405 southbound-to-eastbound loop off-ramp to Wilshire Boulevard, near the Metro D Line Westwood/VA Hospital Station.

Figure 6-1. Alternative 1: Alignment



Source: LASRE, 2024; HTA, 2024

An electric bus would serve as a shuttle between the Wilshire Boulevard/Metro D Line Station and UCLA Gateway Plaza. From the Wilshire Boulevard/Metro D Line Station, the bus would travel east on Wilshire Boulevard and turn north on Westwood Boulevard to UCLA Gateway Plaza and make an intermediate stop in Westwood Village near the intersection of Le Conte Avenue and Westwood Boulevard.

North of Wilshire Boulevard, the monorail alignment would transition over the southbound I-405 freeway lanes to the freeway median, where it would continue north over the Sunset Boulevard overcrossing. The alignment would remain in the median to Getty Center Drive, where it would cross over the southbound freeway lanes to the west side of I-405, just north of the Getty Center Drive undercrossing, to the proposed Getty Center Station located north of the Getty Center tram station. The alignment would return to the median for a short distance before curving back to the west side of I-405, south of the Sepulveda Boulevard undercrossing north of the Getty Center Drive interchange. After crossing over Bel Air Crest Road and Skirball Center Drive, the alignment would return to the median and run under the Mulholland Drive Bridge, then continue north within the I-405 median to descend into the San Fernando Valley.

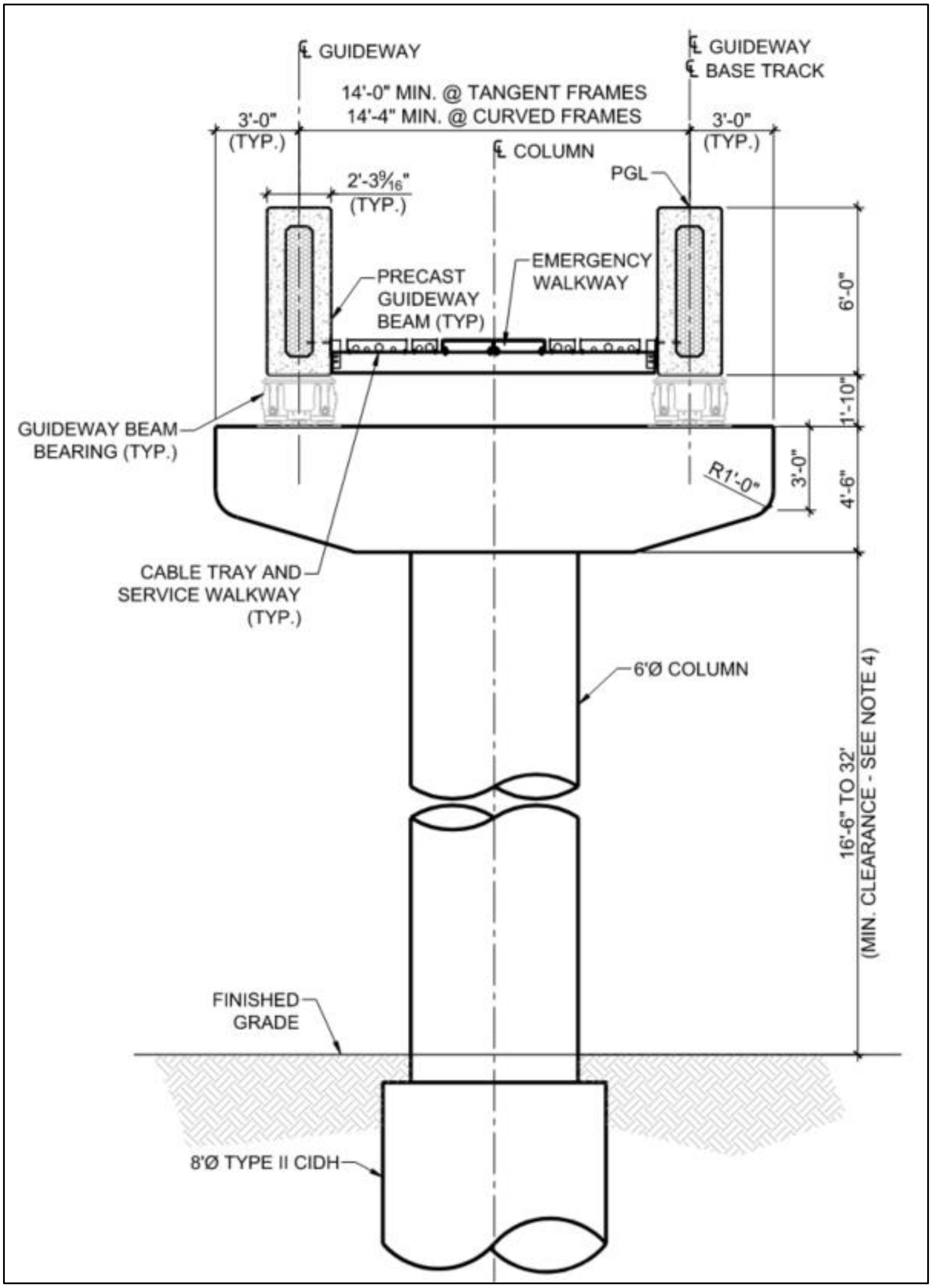
Near Greenleaf Street, the alignment would cross over the northbound freeway lanes and northbound on-ramps toward the proposed Ventura Boulevard Station on the east side of I-405. This station would be located above a transit plaza and would replace an existing segment of Dickens Street adjacent to I-405, just south of Ventura Boulevard. Immediately north of the Ventura Boulevard Station, the alignment would cross over northbound I-405 to the US-101 connector and continue north between the connector and the I-405 northbound travel lanes. The alignment would continue north along the east side of I-405 — crossing over US-101 and the Los Angeles River — to a proposed station on the east side of I-405 near the Metro G Line Busway. A new at-grade station on the Metro G Line would be constructed for Alternative 1 adjacent to the proposed monorail station. These proposed stations are shown on the Metro G Line inset area on Figure 6-1.

The alignment would then continue north along the east side of I-405 to the proposed Sherman Way Station. The station would be located inside the I-405 northbound loop off-ramp to Sherman Way. North of the station, the alignment would continue along the eastern edge of I-405, then curve to the southeast parallel to the LOSSAN rail corridor. The alignment would remain aerial along Raymer Street east of Sepulveda Boulevard and cross over Van Nuys Boulevard to the proposed terminus station adjacent to the Van Nuys Metrolink/Amtrak Station. Overhead utilities along Raymer Street would be undergrounded where they would conflict with the guideway or its supporting columns. Tail tracks would be located southeast of this terminus station.

6.1.1.2 Guideway Characteristics

The monorail alignment of Alternative 1 would be entirely aerial, utilizing straddle-beam monorail technology, which allows the monorail vehicle to straddle a guide beam that both supports and guides the vehicle. Northbound and southbound trains would travel on parallel beams supported by either a single-column or a straddle-bent structure. Figure 6-2 shows a typical cross-section of the aerial monorail guideway.

Figure 6-2. Typical Monorail Guideway Cross-Section

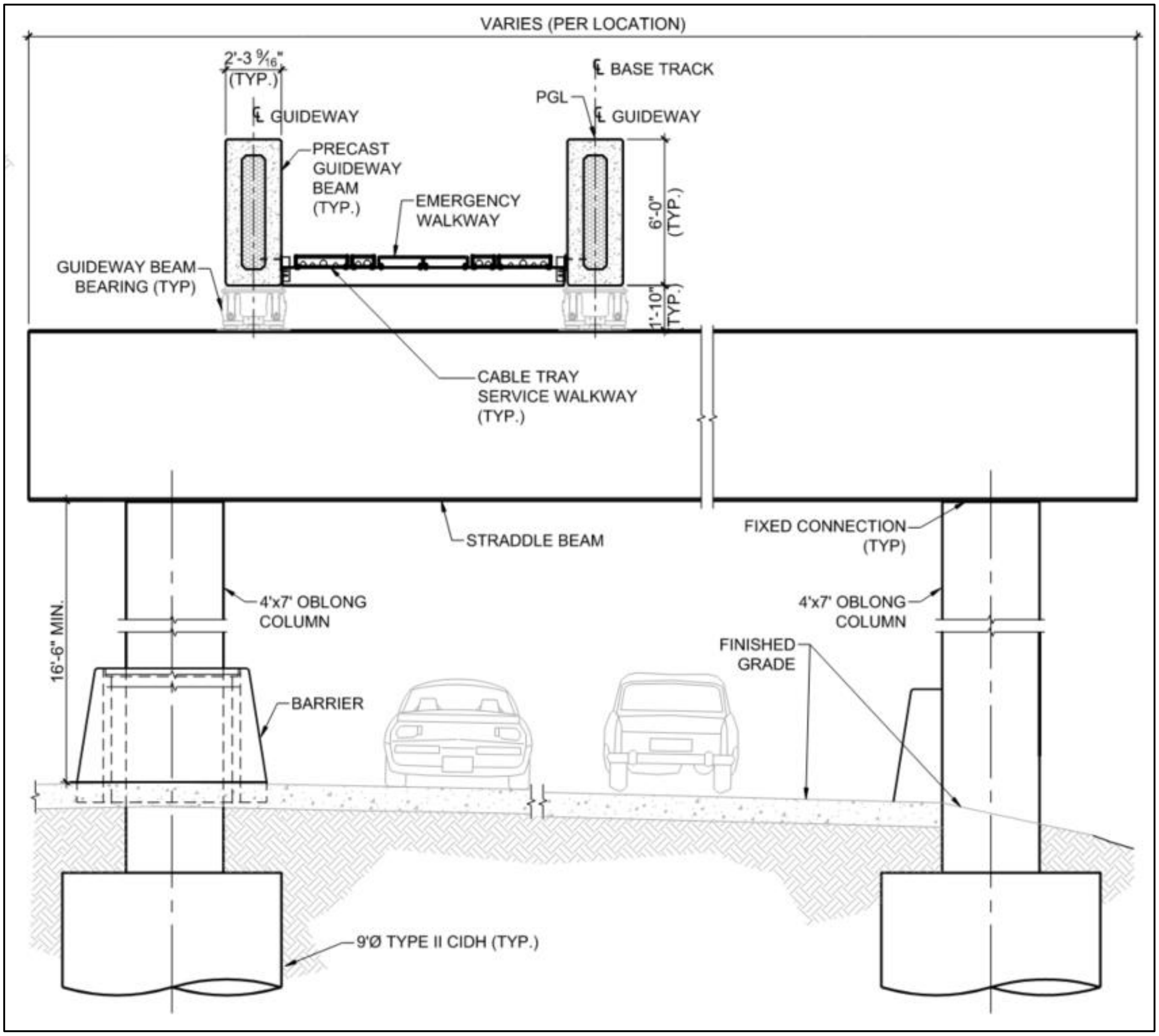


Source: LASRE, 2024

On a typical guideway section (i.e., not at a station), guide beams would rest on 20-foot-wide column caps (i.e., the structure connecting the columns and the guide beams), with typical spans (i.e., the distance between columns) ranging from 70 to 190 feet. The bottom of the column caps would typically be between 16.5 feet and 32 feet above ground level.

Over certain segments of roadway and freeway facilities, a straddle-bent configuration, as shown on Figure 6-3, consisting of two concrete columns constructed outside of the underlying roadway would be used to support the guide beams and column cap. Typical spans for these structures would range between 65 and 70 feet. A minimum 16.5-foot clearance would be maintained between the underlying roadway and the bottom of the column caps.

Figure 6-3. Typical Monorail Straddle-Bent Cross-Section



Source: LASRE, 2024

Structural support columns would vary in size and arrangement by alignment location. Columns would be 6 feet in diameter along main alignment segments adjacent to I-405 and be 4 feet wide by 6 feet long in the I-405 median. Straddle-bent columns would be 4 feet wide by 7 feet long. At stations, six rows of dual 5-foot by- 8-foot columns would support the aerial guideway. Beam switch locations and long-span structures would also utilize different sized columns, with dual 5-foot columns supporting switch locations and 9-foot- or 10-foot-diameter columns supporting long-span structures. Crash protection barriers would be used to protect the columns. Columns would have a cast-in-drilled-hole (CIDH) pile foundation extending 1 foot in diameter beyond the column width with varying depths for appropriate geotechnical considerations and structural support.

6.1.1.3 Vehicle Technology

Alternative 1 would utilize straddle-beam monorail technology, which allows the monorail vehicle to straddle a guide beam that both supports and guides the vehicle. Rubber tires would sit both atop and on each side of the guide beam to provide traction and guide the train. Trains would be automated and powered by power rails mounted to the guide beam, with planned peak-period headways of 166 seconds and off-peak-period headways of 5 minutes. Monorail trains could consist of up to eight cars. Alternative 1 would have a maximum operating speed of 56 miles per hour; actual operating speeds would depend on the design of the guideway and distance between stations.

Monorail train cars would be 10.5 feet wide, with two double doors on each side. End cars would be 46.1 feet long with a design capacity of 97 passengers, and intermediate cars would be 35.8 feet long and have a design capacity of 90 passengers.

The electric bus connecting the Wilshire Boulevard/Metro D Line Station, Westwood Village, and UCLA Gateway Plaza would be a battery electric, low-floor transit bus, either 40 or 60 feet in length. The buses would run with headways of 2 minutes during peak periods. The electric bus service would operate in existing mixed-flow travel lanes.

6.1.1.4 Stations

Alternative 1 would include eight aerial MRT stations with platforms approximately 320 feet long, elevated 50 feet to 75 feet above the existing ground level. The Metro E Line Expo/Sepulveda, Santa Monica Boulevard, Ventura Boulevard/Sepulveda Boulevard, Sherman Way, and Van Nuys Metrolink Stations would be center-platform stations where passengers would travel up to a shared platform that would serve both directions of travel. The Wilshire Boulevard/Metro D Line, Getty Center, and Metro G Line Sepulveda Stations would be side-platform stations where passengers would select and travel up to one of two station platforms, depending on their direction of travel. Each station, regardless of whether it has side or center platforms, would include a concourse level prior to reaching the train platforms. Each station would have a minimum of two elevators, two escalators, and one stairway from ground level to the concourse.

Station platforms would be approximately 320 feet long and would be supported by six rows of dual 5-foot by 8-foot columns. Station platforms would be covered, but not enclosed. Side-platform stations would be 61.5 feet wide to accommodate two 13-foot-wide station platforms with a 35.5-foot-wide intermediate gap for side-by-side trains. Center-platform stations would be 49 feet wide, with a 25-foot-wide center platform.

Monorail stations would include automatic, bi-parting fixed doors along the edges of station platforms. These doors would be integrated into the automatic train control system and would not open unless a train is stopped at the platform.

The following information describes each station, with relevant entrance, walkway, and transfer information. Bicycle parking would be provided at each station.

Metro E Line Expo/Sepulveda Station

- This aerial station would be located near the existing Metro E Line Expo/Sepulveda Station, just east of I-405 between Pico Boulevard and Exposition Boulevard.
- A transit plaza and station entrance would be located on the east side of the station.
- An off-street passenger pick-up/drop-off loop would be located south of Pico Boulevard west of Cotner Avenue.
- An elevated pedestrian walkway would connect the concourse level of the proposed station to the Metro E Line Expo/Sepulveda Station within the fare paid zone.
- Passengers would be able to park at the existing Metro E Line Expo/Sepulveda Station parking facility, which provides 260 parking spaces. No additional automobile parking would be provided at the proposed station.

Santa Monica Boulevard Station

- This aerial station would be located just south of Santa Monica Boulevard, between the I-405 northbound travel lanes and Cotner Avenue.
- Station entrances would be located on the southeast and southwest corners of Santa Monica Boulevard and Cotner Avenue. The entrance on the southeast corner of the intersection would be connected to the station concourse level via an elevated pedestrian walkway spanning Cotner Avenue.
- No dedicated station parking would be provided at this station.

Wilshire Boulevard/Metro D Line Station

- This aerial station would be located west of I-405 and south of Wilshire Boulevard within the southbound I-405 loop off-ramp to eastbound Wilshire Boulevard.
- An elevated pedestrian walkway spanning the adjacent I-405 ramps would connect the concourse level of the proposed station to a station plaza adjacent to the Metro D Line Westwood/VA Hospital Station within the fare paid zone. The station plaza would be the only entrance to the proposed station.
- The station plaza would include an electric bus stop and provide access to the Metro D Line Station via a new station entrance and concourse constructed using a knock-out panel provided in the Metro D Line Station.
- The passenger pick-up/drop-off facility at the Metro D Line Station would be reconfigured, maintaining the original capacity.
- No dedicated station parking would be provided at this station.

Getty Center Station

- This aerial station would be located on the west side of I-405 near the Getty Center, approximately 1,000 feet north of the Getty Center tram station.

- An elevated pedestrian walkway would connect the concourse level of the proposed station to the Getty Center tram station. The proposed connection would occur outside the fare paid zone.
- The pedestrian walkway would provide the only entrance to the proposed station.
- No dedicated station parking would be provided at this station.

Ventura Boulevard/Sepulveda Boulevard Station

- This aerial station would be located east of I-405, just south of Ventura Boulevard.
- A transit plaza, including two station entrances, would be located on the east side of the station. The plaza would require the closure of a 0.1-mile segment of Dickens Street between Sepulveda Boulevard and Ventura Boulevard, with a passenger pick-up/drop-off loop and bus stops provided south of the station, off Sepulveda Boulevard.
- No dedicated station parking would be provided at this station.

Metro G Line Sepulveda Station

- This aerial station would be located near the Metro G Line Sepulveda Station, between I-405 and the Metro G Line Busway.
- Entrances to the MRT station would be located on both sides of a proposed new Metro G Line bus rapid transit (BRT) station.
- An elevated pedestrian walkway would connect the concourse level of the proposed station to the proposed new Metro G Line BRT station outside of the fare paid zone.
- Passengers would be able to park at the existing Metro G Line Sepulveda Station parking facility, which has a capacity of 1,205 parking spaces. Currently, only 260 parking spaces are used for transit parking. No additional automobile parking would be provided at the proposed station.

Sherman Way Station

- This aerial station would be located inside the I-405 northbound loop off-ramp to Sherman Way.
- A station entrance would be located on the north side of Sherman Way.
- An on-street passenger pick-up/drop-off area would be provided on the north side of Sherman Way west of Firmament Avenue.
- No dedicated station parking would be provided at this station.

Van Nuys Metrolink Station

- This aerial station would be located on the east side of Van Nuys Boulevard, just south of the LOSSAN rail corridor, incorporating the site of the current Amtrak ticket office.
- A station entrance would be located on the east side of Van Nuys Boulevard just south of the LOSSAN rail corridor. A second entrance would be located north of the LOSSAN rail corridor with an elevated pedestrian walkway connecting to both the concourse level of the proposed station and the platform of the Van Nuys Metrolink/Amtrak Station.
- Existing Metrolink station parking would be reconfigured, maintaining approximately the same number of spaces, but 180 parking spaces would be relocated north of the LOSSAN rail corridor. Metrolink parking would not be available to Metro transit riders.

6.1.1.5 Station-to-Station Travel Times

Table 6-1 presents the station-to-station distance and travel times for Alternative 1. The travel times include both run times and dwell times. Dwell times would be 30 seconds per station. Northbound and southbound travel times would vary slightly because of grade differentials and operational considerations at end-of-line stations.

Table 6-1. Alternative 1: Station-to-Station Travel Times and Station Dwell Times

From Station	To Station	Distance (miles)	Northbound Station-to-Station Travel Time (seconds)	Southbound Station-to-Station Travel Time (seconds)	Dwell Time (seconds)
Metro E Line Station					*30*
Metro E Line	Santa Monica Boulevard	0.9	122	98	—
Santa Monica Boulevard Station					*30*
Santa Monica Boulevard	Wilshire/Metro D Line	0.7	99	104	—
Wilshire/Metro D Line Station					*30*
Wilshire/Metro D Line	Getty Center	2.9	263	266	—
Getty Center Station					*30*
Getty Center	Ventura Boulevard	4.7	419	418	—
Ventura Boulevard Station					*30*
Ventura Boulevard	Metro G Line	2.0	177	184	—
Metro G Line Station					*30*
Metro G Line	Sherman Way	1.5	135	134	—
Sherman Way Station					*30*
Sherman Way	Van Nuys Metrolink	2.4	284	284	—
Van Nuys Metrolink Station					*30*

Source: LASRE, 2024

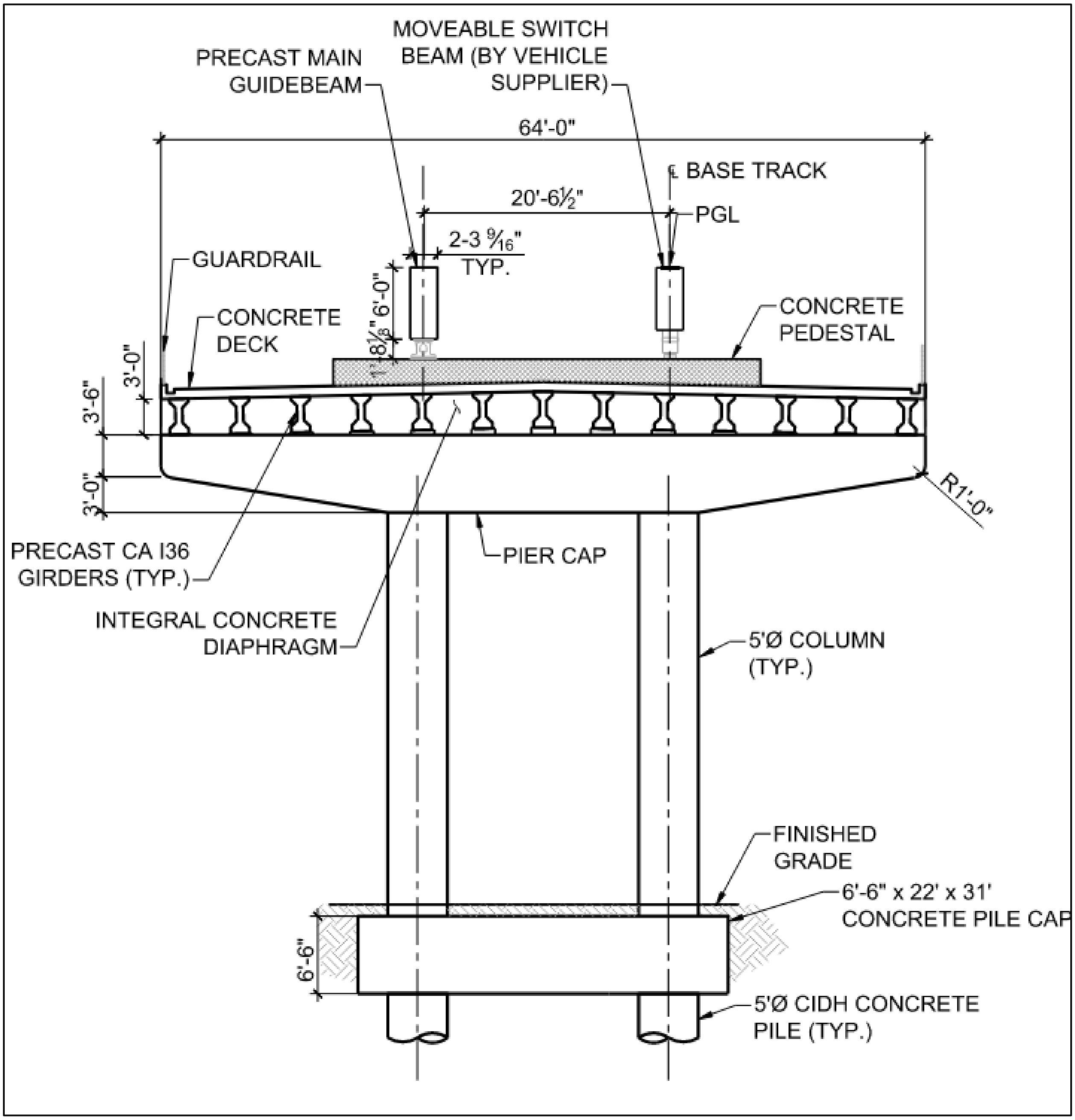
— = no data

6.1.1.6 Special Trackwork

Alternative 1 would include five pairs of beam switches to enable trains to cross over to the opposite beam. From south to north, the first pair of beam switches would be located just north of the Metro E Line Expo/Sepulveda Station. The second pair of beam switches would be located near the Wilshire Boulevard/Metro D Line Station on the north side of Wilshire Boulevard, within the Wilshire Boulevard westbound to I-405 southbound loop on-ramp. A third pair of beam switches would be located in the Sepulveda Pass just south of Mountaingate Drive and Sepulveda Boulevard. A fourth pair of beam switches would be located south of the Metro G Line Station between the I-405 northbound lanes and the Metro G Line Busway. The final pair would be located near the Van Nuys Metrolink Station.

At beam switch locations, the typical cross-section of the guideway would increase in column and column cap width. The column cap at these locations would be 64 feet wide, with dual 5-foot-diameter columns. Underground pile caps for additional structural support would also be required at beam switch locations. Figure 6-4 shows a typical cross-section of the monorail beam switch.

Figure 6-4. Typical Monorail Beam Switch Cross-Section



Source: LASRE, 2024

6.1.1.7 Monorail Maintenance and Storage Facility

MSF Base Design

In the maintenance and storage facility (MSF) Base Design for Alternative 1, the MSF would be located on City of Los Angeles Department of Water and Power (LADWP) property east of the Van Nuys Metrolink Station. The MSF Base Design site would be approximately 18 acres and would be designed to accommodate a fleet of 208 monorail vehicles. The site would be bounded by the LOSSAN rail corridor to the north, Saticoy Street to the south, and property lines extending north of Tyrone and Hazeltine Avenues to the east and west, respectively.

Monorail trains would access the site from the main alignment's northern tail tracks at the northwest corner of the site. Trains would travel parallel to the LOSSAN rail corridor before curving southeast to maintenance facilities and storage tracks. The guideway would remain in an aerial configuration within the MSF Base Design, including within maintenance facilities.

The site would include the following facilities:

- Primary entrance with guard shack
- Primary maintenance building that would include administrative offices, an operations control center, and a maintenance shop and office
- Train car wash building
- Emergency generator
- Traction power substation (TPSS)
- Maintenance-of-way (MOW) building
- Parking area for employees

MSF Design Option 1

In the MSF Design Option 1, the MSF would be located on industrial property, abutting Orion Avenue, south of the LOSSAN rail corridor. The MSF Design Option 1 site would be approximately 26 acres and would be designed to accommodate a fleet of 224 monorail vehicles. The site would be bounded by I-405 to the west, Stagg Street to the south, the LOSSAN rail corridor to the north, and Orion Avenue and Raymer Street to the east. The monorail guideway would travel along the northern edge of the site.

Monorail trains would access the site from the monorail guideway east of Sepulveda Boulevard, requiring additional property east of Sepulveda Boulevard and north of Raymer Street. From the northeast corner of the site, trains would travel parallel to the LOSSAN rail corridor before turning south to maintenance facilities and storage tracks parallel to I-405. The guideway would remain in an aerial configuration within the MSF Design Option 1, including within maintenance facilities.

The site would include the following facilities:

- Primary entrance with guard shack
- Primary maintenance building that would include administrative offices, an operations control center, and a maintenance shop and office
- Train car wash building
- Emergency generator
- TPSS
- MOW building
- Parking area for employees

Figure 6-5 shows the locations of the MSF Base Design and MSF Design Option 1 for Alternative 1.

Figure 6-5. Alternative 1: Maintenance and Storage Facility Options

Source: LASRE, 2024; HTA, 2024

6.1.1.8 Electric Bus Maintenance and Storage Facility

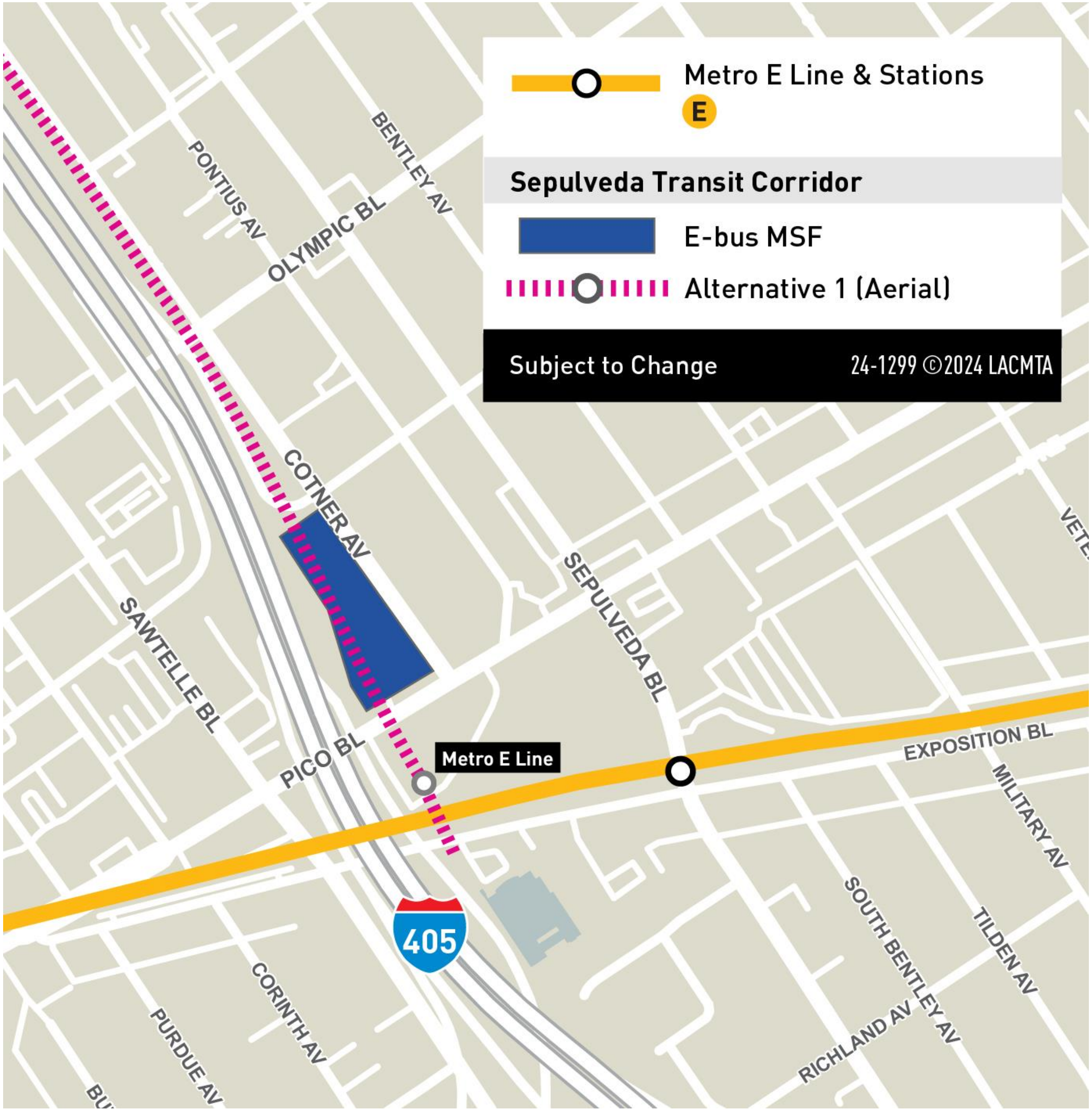
An electric bus MSF would be located on the northwest corner of Pico Boulevard and Cotner Avenue and would be designed to accommodate 14 electric buses. The site would be approximately 2 acres and would comprise six parcels bounded by Cotner Avenue to the east, I-405 to the west, Pico Boulevard to the south, and the I-405 northbound on-ramp to the north.

The site would include approximately 45,000 square feet of buildings and include the following facilities:

- Maintenance shop and bay
- Maintenance office
- Operations center
- Bus charging equipment
- Parts storeroom with service areas
- Parking area for employees

Figure 6-6 shows the location of the proposed electric bus MSF.

Figure 6-6. Alternative 1: Electric Bus Maintenance and Storage Facility



Source: LASRE, 2024; HTA, 2024

6.1.1.9 Traction Power Substations

TPSSs transform and convert high voltage alternating current supplied from power utility feeders into direct current suitable for transit operation. A TPSS on a site of approximately 8,000 square feet would be located approximately every 1 mile along the alignment. Table 6-2 lists the TPSS locations proposed for Alternative 1.

Figure 6-7 shows the TPSS locations along the Alternative 1 alignment.

Table 6-2. Alternative 1: Traction Power Substation Locations

TPSS No.	TPSS Location Description	Configuration
1	TPSS 1 would be located east of I-405, just south of Exposition Boulevard and the monorail guideway tail tracks.	At-grade
2	TPSS 2 would be located west of I-405, just north of Wilshire Boulevard, inside the Westbound Wilshire Boulevard to I-405 Southbound Loop On-Ramp.	At-grade
3	TPSS 3 would be located west of I-405, just north of Sunset Boulevard, inside the Church Lane to I-405 Southbound Loop On-Ramp.	At-grade
4	TPSS 4 would be located east of I-405 and Sepulveda Boulevard, just north of the Getty Center Station.	At-grade
5	TPSS 5 would be located west of I-405, just east of the intersection between Promontory Road and Sepulveda Boulevard.	At-grade
6	TPSS 6 would be located between I-405 and Sepulveda Boulevard, just north of the Skirball Center Drive Overpass.	At-grade
7	TPSS 7 would be located east of I-405, just south of Ventura Boulevard Station, between Sepulveda Boulevard and Dickens Street.	At-grade
8	TPSS 8 would be located east of I-405, just south of the Metro G Line Sepulveda Station.	At-grade
9	TPSS 9 would be located east of I-405, just east of the Sherman Way Station, inside the I-405 Northbound Loop Off-Ramp to Sherman Way westbound.	At-grade
10	TPSS 10 would be located east of I-405, at the southeast quadrant of the I-405 overcrossing with the LOSSAN rail corridor.	At-grade
11	TPSS 11 would be located east of I-405, at the southeast quadrant of the I-405 overcrossing with the LOSSAN rail corridor.	At-grade (within MSF Design Option)
12	TPSS 12 would be located between Van Nuys Boulevard and Raymer Street, south of the LOSSAN rail corridor.	At-grade
13	TPSS 13 would be located south of the LOSSAN rail corridor, between Tyrone Avenue and Hazeltine Avenue.	At-grade (within MSF Base Design)

Source: LASRE, 2024; HTA, 2024

Figure 6-7. Alternative 1: Traction Power Substation Locations

Source: LASRE, 2024; HTA, 2024

6.1.1.10 Roadway Configuration Changes

Table 6-3 lists the roadway changes necessary to accommodate the guideway of Alternative 1. Figure 6-8 shows the location of these roadway changes in the Sepulveda Transit Corridor Project (Project) Study Area, except for I-405 configuration changes, which would occur throughout the corridor.

Table 6-3. Alternative 1: Roadway Changes

Location	From	To	Description of Change
Cotner Avenue	Nebraska Avenue	Santa Monica Boulevard	Roadway realignment to accommodate aerial guideway columns and station access
Beloit Avenue	Massachusetts Avenue	Ohio Avenue	Roadway narrowing to accommodate aerial guideway columns
I-405 Southbound On-Ramp, Southbound Off-Ramp, and Northbound On-Ramp at Wilshire Boulevard	Wilshire Boulevard	I-405	Ramp realignment to accommodate aerial guideway columns and I-405 widening
Sunset Boulevard	Gunston Drive	I-405 Northbound Off-Ramp at Sunset Boulevard	Removal of direct eastbound to southbound on-ramp to accommodate aerial guideway columns and I-405 widening. Widening of Sunset Boulevard bridge with additional westbound lane
Sunset Boulevard	Gunston Drive	I-405 Northbound Off-Ramp at Sunset Boulevard	Removal of direct southbound on-ramp to accommodate aerial guideway columns and I-405 widening. Widening of Sunset Boulevard bridge with additional westbound lane
I-405 Southbound On-Ramp and Off-Ramp at Sunset Boulevard and North Church Lane	Sunset Boulevard	Not Applicable	Ramp realignment to accommodate aerial guideway columns and I-405 widening
I-405 Northbound On-Ramp and Off-Ramp at Sepulveda Boulevard near I-405 Exit 59	Sepulveda Boulevard near I-405 Northbound Exit 59	Sepulveda Boulevard / I-405 Undercrossing (near Getty Center)	Ramp realignment to accommodate aerial guideway columns and I-405 widening
Sepulveda Boulevard	I-405 Southbound Skirball Center Drive Ramps (north of Mountaingate Drive)	Skirball Center Drive	Roadway realignment into existing hillside to accommodate aerial guideway columns and I-405 widening
I-405 Northbound On-Ramp at Mulholland Drive	Mulholland Drive	Not Applicable	Roadway realignment into the existing hillside between the Mulholland Drive Bridge pier and abutment to accommodate aerial guideway columns and I-405 widening
Dickens Street	Sepulveda Boulevard	Ventura Boulevard	Vacation and permanent removal of street for Ventura Boulevard Station construction. Pick-up/drop-off area would be provided along Sepulveda Boulevard at the truncated Dickens Street
Sherman Way	Haskell Avenue	Firmament Avenue	Median improvements, passenger drop-off and pick-up areas, and bus pads within existing travel lanes

Location	From	To	Description of Change
Raymer Street	Sepulveda Boulevard	Van Nuys Boulevard	Curb extensions and narrowing of roadway width to accommodate aerial guideway columns
I-405	Sunset Boulevard	Bel Terrace	I-405 widening to accommodate aerial guideway columns in the median
I-405	Sepulveda Boulevard Northbound Off-Ramp (Getty Center Drive interchange)	Sepulveda Boulevard Northbound On-Ramp (Getty Center Drive interchange)	I-405 widening to accommodate aerial guideway columns in the median
I-405	Skirball Center Drive	I-405 Northbound On-Ramp at Mulholland Drive	I-405 widening to accommodate aerial guideway columns in the median

Source: LASRE, 2024; HTA, 2024

Figure 6-8. Alternative 1: Roadway Changes

Source: LASRE, 2024; HTA, 2024

In addition to the changes made to accommodate the guideway, as listed in Table 6-3, roadways and sidewalks near stations would be reconstructed, which would result in modifications to curb ramps and driveways.

6.1.1.11 Fire/Life Safety – Emergency Egress

Continuous emergency evacuation walkways would be provided along the guideway. The walkways would typically consist of structural steel frames anchored to the guideway beams to support non-slip walkway panels. The walkways would be located between the two guideway beams for most of the alignment; however, where the beams split apart, such as entering center-platform stations, short portions of the walkway would be located on the outside of the beams.

6.1.2 Construction Activities

Construction activities for Alternative 1 would include constructing the aerial guideway and stations, widening I-405, and constructing ancillary facilities. Construction of the transit through substantial completion is expected to have a duration of 6½ years. Early works, such as site preparation, demolition, and utility relocation, could start in advance of construction of the transit facilities.

Aerial guideway construction would begin at the southern and northern ends of the alignment and connect in the middle. Constructing the guideway would require a combination of freeway and local street lane closures throughout the work limits to provide sufficient work area. The first stage of I-405 widening would include a narrowing of adjacent freeway lanes to a minimum width of 11 feet (which would eliminate shoulders) and placing K-rail on the outside edge of the travel lanes to create outside work areas. Within these outside work zones, retaining walls, drainage infrastructure, and outer pavement widenings would be constructed to allow for I-405 widening. The reconstruction of on- and off-ramps would be the final stage of I-405 widening.

A median work zone along I-405 for the length of the alignment would be required for erection of the guideway structure. In the median work zone, demolition of the existing median and drainage infrastructure would be followed by the installation of new K-rail and installation of guideway structural components, which would include full directional freeway closures when guideway beams must be transported into the median work areas during late-night hours. Additional night and weekend directional closures would be required for installation of long-span structures over I-405 travel lanes where the guideway would transition from the median.

Aerial station construction is anticipated to last the duration of construction activities for Alternative 1 and would include the following general sequence of construction:

- Site clearing
- Utility relocation
- Construction fencing and rough grading
- CIDH pile drilling and installation
- Elevator pit excavation
- Soil and material removal
- Pile cap and pier column construction
- Concourse level and platform level falsework for cast-in-place structural concrete
- Guideway beam installation
- Elevator and escalator installation
- Completion of remaining concrete elements such as pedestrian bridges
- Architectural finishes and mechanical, electrical, and plumbing installation

Alternative 1 would require construction of a concrete casting facility for columns and beams associated with the elevated guideway. A specific site has not been identified; however, it is expected that the facility would be located on industrially zoned land adjacent to a truck route in either the Antelope Valley or Riverside County. When a site is identified, the contractor would obtain all permits and approvals necessary from the relevant jurisdiction, the appropriate air quality management entity, and other regulatory entities.

TPSS construction would require additional lane closures. Large equipment including transformers, rectifiers, and switchgears would be delivered and installed through prefabricated modules where possible in at-grade TPSSs. The installation of transformers would require temporary lane closures on Exposition Boulevard, Beloit Avenue, Sepulveda Boulevard just north of Cashmere Street, and the I-405 northbound on-ramp at Burbank Boulevard.

Table 6-4 and Figure 6-9 show the potential construction staging areas for Alternative 1. Staging areas would provide the necessary space for the following activities:

- Contractors' equipment
- Receiving deliveries
- Storing materials
- Site offices
- Work zone for excavation
- Other construction activities (including parking and change facilities for workers, location of construction office trailers, storage, staging and delivery of construction materials and permanent plant equipment, and maintenance of construction equipment)

Table 6-4. Alternative 1: Construction Staging Locations

No.	Location Description
1	Public Storage between Pico Boulevard and Exposition Boulevard, east of I-405
2	South of Dowlen Drive and east of Greater LA Fisher House
3	At 1400 N Sepulveda Boulevard
4	At 1760 N Sepulveda Boulevard
5	East of I-405 and north of Mulholland Drive Bridge
6	Inside of I-405 Northbound to US-101 Northbound Loop Connector, south of US-101
7	ElectroRent Building south of Metro G Line Busway, east of I-405
8	Inside the I-405 Northbound Loop Off-Ramp at Victory Boulevard
9	Along Cabrito Road east of Van Nuys Boulevard

Source: LASRE, 2024; HTA, 2024

Figure 6-9. Alternative 1: Construction Staging Locations

Source: LASRE, 2024; HTA, 2024

6.2 Existing Conditions

6.2.1 Vehicle Miles Traveled

Table 6-5 shows the regional vehicle miles traveled (VMT) under existing conditions for the base year and under the No Project Alternative for the forecast horizon year. Ambient population and employment growth would occur in the region between the base year and horizon year.

Table 6-5. Existing and No Project Alternative Vehicle Miles Traveled

Project Alternative	Total Vehicle Miles Traveled
Existing Conditions (2019 Base Year)	456,869,300
No Project Alternative (2045 Horizon Year)	568,557,200

Source: HTA, 2024

Note: 2019 is used as the base year for the VMT analysis because it is the most recent year for which Metro's CBM18B Transportation Analysis Model has been calibrated.

6.2.2 Roadway Network

The roadway network within the Study Area includes a wide range of facilities, including three freeways that provide regional access throughout Los Angeles County and Southern California, as well as multiple arterials, local roads, and intersections.

6.2.2.1 Freeways

The freeways within the Study Area include:

- **I-405 (San Diego Freeway):** I-405 is the major north-south freeway traversing the Study Area in its entirety. This freeway provides regional access between San Fernando and Irvine. Within the Study Area, I-405 provides five to seven lanes in each direction, including carpool lanes and auxiliary lanes. The direction of peak traffic demand varies over the course of the day, with the greatest travel occurring from the San Fernando Valley to the Westside during the morning commute period and the reverse pattern during the evening commute period. Ramps within the Study Area include National Boulevard, Olympic and Pico Boulevards, Santa Monica Boulevard, Wilshire Boulevard, Sunset Boulevard, Moraga Drive, Getty Center Drive (via Sepulveda Boulevard), Skirball Center Drive, Ventura Boulevard, Burbank Boulevard, Victory Boulevard, Sherman Way, and Roscoe Boulevard on- and off-ramps. I-405 connects with US-101 and I-10 within the Study Area which provide regional east-west connectivity. On an average weekday, I-405 carries 353,000 vehicles on the Westside, 301,000 in the Sepulveda Pass, and 209,000 in the San Fernando Valley (Caltrans, 2022b).
- **I-10 (Santa Monica Freeway):** I-10 is an east-west freeway that crosses the southern end of the Study Area for 3.5 miles. Within the Study Area, I-10 consists of four general-purpose lanes in each direction, with no high-occupancy vehicle (HOV) lanes. Ramps within the Study Area include the Cloverfield Boulevard, Centinela Avenue, Bundy Drive, and Overland Avenue on- and off-ramps. I-10 connects to State Route (SR) 1 in the City of Santa Monica, I-405 in West Los Angeles, and I-110/SR-110, US-101, and Interstate 5 (I-5) near downtown Los Angeles. On an average weekday, I-10 carries 215,000 vehicles through the Study Area (Caltrans, 2022b).
- **US-101 (Ventura Freeway):** US-101 is an east-west freeway within the Study Area that crosses the northern end of the Study Area for 5 miles. US-101 has five general-purpose lanes in each direction, with auxiliary lanes near the I-405 interchange and does not have any HOV lanes in either direction within the Study Area. Ramps within the Study Area include the Woodman Avenue, Van Nuys Boulevard, Sepulveda Boulevard, Haskell Avenue, Hayvenhurst Avenue, and Balboa Boulevard on- and off-ramps, and the White Oak Avenue off-ramp. US-101 connects with SR-134 and SR-170 in the San Fernando Valley and I-10, SR-110, and I-5 near downtown Los Angeles. On an average weekday, US-101 carries 323,000 vehicles through the Study Area (Caltrans, 2022b).

6.2.2.2 Major Arterial Network

Table 6-6 lists and Figure 6-10 shows the major arterials in the Study Area and their classification under *Mobility Plan 2035*. Classifications are based on roadway and ROW widths and include the following types in the Study Area:

- Boulevard II facilities have roadway widths of 80 feet and total ROW widths of 110 feet.
- Avenue I facilities have roadway widths of 70 feet and total ROW widths of 100 feet.
- Avenue II facilities have roadway widths of 56 feet and total ROW widths of 86 feet.
- Collector streets have roadway widths of 40 feet and total ROW widths of 66 feet.
- Local streets have roadway widths between 30 and 36 feet and total ROW widths between 50 and 60 feet.

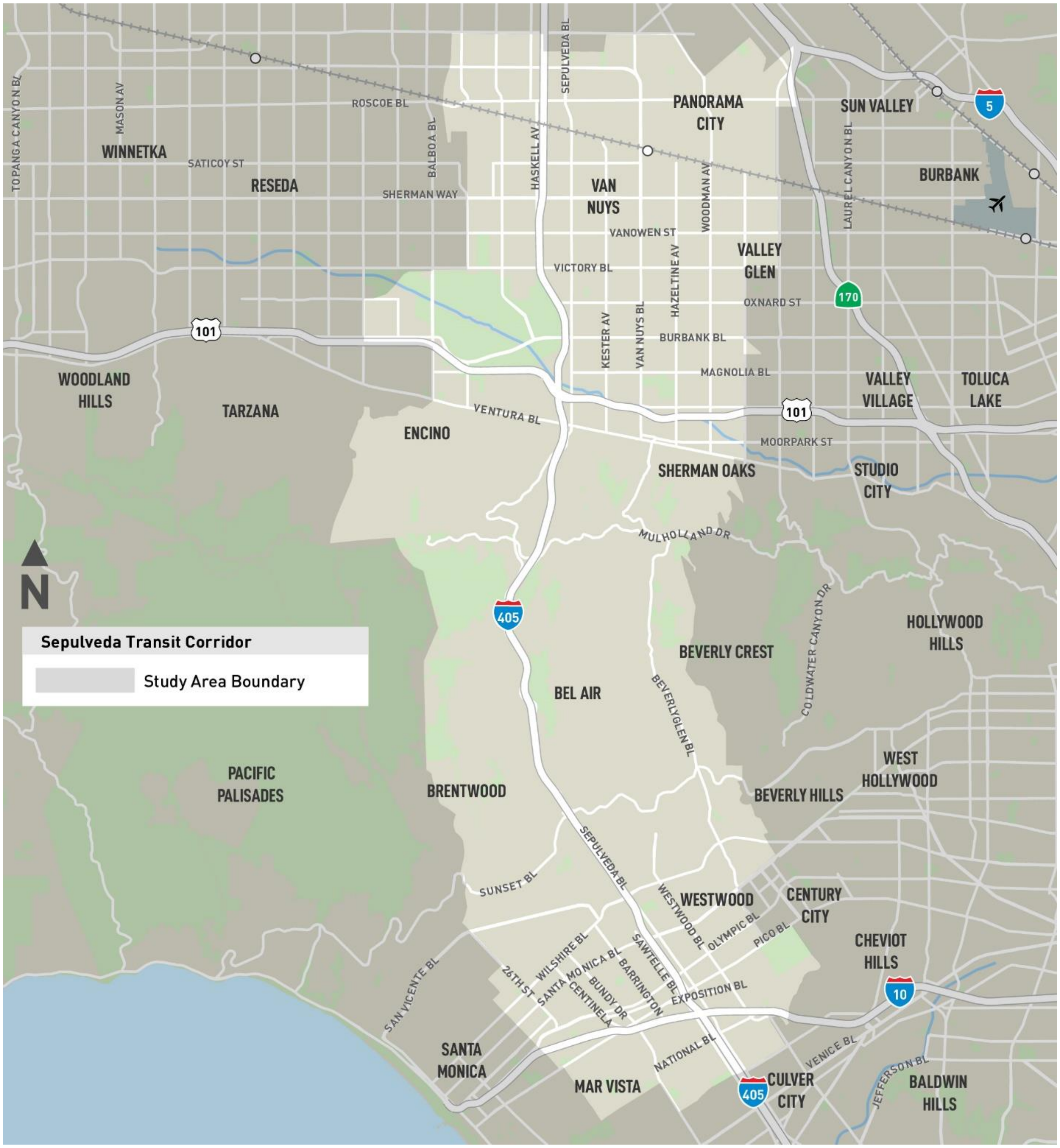
Table 6-6. Existing Major Arterials within the Study Area

Name	Mobility Plan 2035 Classification
Major North-South Arterials (listed from west to east)	
Centinela Avenue	Avenue I
Bundy Drive	Avenue I
Barrington Avenue	Avenue I (south of Pico Boulevard) Avenue II (north of Pico Boulevard)
Haskell Avenue	Avenue II
Sawtelle Boulevard	Avenue I
Sepulveda Boulevard	Boulevard II
Kester Avenue	Avenue II
Van Nuys Boulevard	Boulevard II
Westwood Boulevard	Avenue II (south of Wilshire Boulevard) Boulevard II (north of Wilshire Boulevard) Avenue I (between Le Conte Avenue and Wilshire Boulevard)
Beverly Glen Boulevard	Avenue I (south of Wilshire Boulevard) Avenue II (between Sunset Boulevard and Wilshire Boulevard, and between Ventura Boulevard and Mulholland Drive)
Hazeltine Avenue	Avenue II
Woodman Avenue	Avenue I
Major East-West Arterials (listed from south to north)	
National Boulevard	Avenue I
Exposition Boulevard	Collector Street (east of Sepulveda Boulevard) Local/Other Street (west of I-405)
Pico Boulevard	Avenue I
Olympic Boulevard	Boulevard II
Santa Monica Boulevard	Boulevard II
Wilshire Boulevard	Boulevard II
San Vincente Boulevard	Avenue II
Sunset Boulevard	Avenue I
Mulholland Drive	Local/Other Street
Ventura Boulevard	Boulevard II
Magnolia Boulevard	Avenue II
Burbank Boulevard	Boulevard II
Oxnard Street	Avenue II
Victory Boulevard	Boulevard II

Name	Mobility Plan 2035 Classification
Vanowen Street	Avenue II
Sherman Way	Boulevard II
Saticoy Street	Avenue II
Roscoe Boulevard	Boulevard II

Source: DCP, 2016; HTA, 2024

Figure 6-10. Existing Freeway and Arterial Network within the Study Area



Source: HTA, 2024

6.2.3 Transit Network

Several local and regional transit agencies — including Metro, Los Angeles Department of Transportation (LADOT), Amtrak, Metrolink commuter rail, Santa Monica Big Blue Bus (BBB), Culver CityBus (CCB), Santa Clarita Transit (SCT), Antelope Valley Transit Authority (AVTA), Long Beach Transit (LBT), and BruinBus — serve the Study Area. Transit service types within the Study Area include rapid bus, express/commuter bus, commuter rail, light rail transit (LRT), BRT, shuttles and circulators, and local bus lines. In addition, nine Metro bus routes operate 24 hours and offer half-hour or hour headways during owl service hours (12:00am to 4:00am).

Table 6-7 summarizes the fixed-route transit lines that serve the Study Area (as of October 2022).

Table 6-7. Existing Fixed-Route Transit Service within the Study Area

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Rail				
Metro	E	3:43am-12:46am	10	12
Metrolink	Ventura County	5:02am-8:15pm	30 (in peak direction)	4 off-peak trains
Amtrak	Pacific Surfliner	7:47am-9:09pm	Five daily trains in each direction	
Amtrak	Coast Starlight	NA	One daily train in each direction	
Bus Rapid Transit				
Metro	901 (G Line)	24 hours (hourly owl service)	6	10
Rapid Bus				
BBB	Rapid 7	6:05am-8:09pm	20	20
BBB	Rapid 12	5:30am-10:00pm	10-12	12
CCB	6R	6:28am-7:56pm	15	15
Metro	720	5:00am-1:00am	8	11
Metro	761	3:57am-11:13pm	15	15
Local Bus				
BBB	1	5:20am-10:20pm	10-12	10-12
BBB	2	6:50am-10:42pm	20	20
BBB	5	7:20am-7:00pm	30	30
BBB	Local 7	4:50am-11:58pm	15	15
BBB	Express 7	6:05am-8:09pm	20	20
BBB	8	6:30am-10:34pm	25-27	25-27
BBB	14	5:15am-8:20pm	12-15	12-15
BBB	15	6:45am-7:00pm	20	20
BBB	16	6:20am-7:04pm	25	30
BBB	17	5:45am-8:00pm	15	20
BBB	18	6:45am-8:30pm	30	30
BBB	43	6:25am-5:50pm	30	NA
CCB	3	6:00am-9:45pm	20-30	30-40
CCB	6	5:00am-12:07am	15-20	15-20
Metro	2	24 hours (hourly owl service)	7.5	10
Metro	4	24 hours (half-hourly owl service)	7.5	7.5
Metro	20	24 hours (half-hourly owl service)	10-15	12
Metro	150	24 hours (hourly owl service)	20	20
Metro	152	3:41am-1:46am	15	15
Metro	154	5:11am-8:25pm	60	60

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Metro	155	4:18am-9:29pm	60	60
Metro	158	5:20am-9:02pm	60	60
Metro	162	24 hours (hourly owl service)	15	15
Metro	164	4:41am-10:54pm	15	15
Metro	165	4:29am-11:35pm	15	15
Metro	166	4:36am-10:34pm	15	15
Metro	167	4:36am-10:44pm	50-60	50
Metro	169	4:53am-7:46pm	60	60
Metro	233	24 hours (hourly owl service)	10	10
Metro	234	24 hours (hourly owl service)	10	10
Metro	236	4:55am-10:25pm	60	60
Metro	237	5:09am-10:17pm	60	60
Metro	240	24 hours (half-hourly owl service)	10	10
Metro	602	5:31am-1:23am	45	45
Express/Commuter Bus				
AVTA	786	4:00am – 5:20am, 2:50pm – 4:05pm	4 one-way trips	NA
BBB	R10	6:00am – 8:04am, 3:35pm – 6:05pm	3 one-way trips	NA
LADOT	422	4:55am – 8:00am, 1:55pm – 6:00pm	12 one-way trips	NA
LADOT	423	5:00am – 6:45am, 3:30pm – 6:35pm	9 one-way trips (AM), 10 one-way trips (PM)	NA
LADOT	431	6:15am – 7:35am, 4:25pm – 5:55pm	4 one-way trips	NA
LADOT	534	6:50am – 8:10am, 3:43pm – 5:13pm	4 one-way trips	NA
LADOT	549	5:55am – 7:45am, 3:45pm – 6:05pm	5 one-way trips in both directions (AM), 5 one-way trips in both directions (PM)	NA
LADOT	573	5:30am – 9:30am, 2:10pm – 6:45pm	15 southbound and 1 northbound trip (AM), 14 northbound and 1 southbound trip (PM)	NA
LADOT	574	5:20am – 7:10am, 3:35pm – 6:00pm	5 one-way trips	NA
LBT	405	5:17am – 6:50am, 3:30pm – 5:30pm	3 one-way trips	NA
SCT	792	6:50am – 7:47am, 2:59pm – 5:25pm	3 one-way trips	NA
SCT	797	5:00am – 6:46am, 3:45pm – 7:45pm	5 one-way trips	NA
Shuttles and Circulators				
LADOT	PC/VN DASH	6:00am-8:00pm	15	20
LADOT	VN/SC DASH	6:00am-7:30pm	15	20
BruinBus	U1	7:25am-5:55pm	15	15
BruinBus	U2	7:00am-6:15pm	15-30	15-30

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
BruinBus	U3	10:00am-5:00pm	30	30
BruinBus	U5	6:45am-10:10pm	25	25

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

6.2.3.1 Metrolink/Amtrak

Metrolink operates commuter rail service in Southern California with seven routes serving an average of 12,900 weekday riders (Metrolink, 2022). Metrolink directly serves the Study Area at the Van Nuys Metrolink/Amtrak Station on the Ventura County Line. With 20 weekday trains serving an average of 1,100 daily riders, the Ventura Line provides rail service from Ventura to Los Angeles Union Station (Metrolink, 2022).

The Van Nuys Metrolink/Amtrak Station is also served by Amtrak's Coast Starlight and Pacific Surfliner routes, which have daily trains that provide service up and down the West Coast.

6.2.3.2 Metro Rail

As of October 2022, Metro operates seven rail transit lines in Los Angeles County serving an average of 183,000 weekday riders (Metro, 2022b). The Metro E Line serves the Study Area with four stations: Westwood/Rancho, Expo/Sepulveda, Expo/Bundy, and 26th St/Bergamot. The Metro E Line provides LRT service between downtown Los Angeles[2] and the City of Santa Monica and serves an average of 30,400 weekday riders (Metro, 2022b). Four other Metro lines (A, B, D, and K lines) provide direct transfers to the Metro E Line for access to the Study Area.

Generally, existing rail lines run at 10-minute headways during peak hours and 12-minute headways during off-peak hours.

Metro is currently planning and building several additional rail lines scheduled to be in operation by the 2045 horizon year. Within the Study Area, the Metro D Line Extension Project and ESFV LRT Line will provide new rail service. Planned stations along the Metro D Line within the Study Area include Westwood/UCLA and Westwood/VA Hospital. Planned stations along the ESFV LRT Line within the Study Area include Nordhoff, Roscoe, Van Nuys/Metrolink, Sherman Way, Vanowen, Victory, and Van Nuys/G Line. Figure 6-11 shows existing and planned fixed guideway service (including Metrolink/Amtrak) within the Study Area.

[2] After the opening of the Regional Connector in 2023, the Metro E Line provides service past downtown LA to East LA.

Figure 6-11. Existing and Planned Fixed Guideway Service within the Study Area

Source: HTA, 2024

6.2.3.3 Metro Bus

Metro operates several types of bus services throughout its service area, including BRT, rapid bus, and local bus lines. The Metro bus system serves an average of 687,000 weekday riders (Metro, 2022b). Table 6-8 summarizes the Metro bus routes serving the Study Area along with ridership data for the entire route.

Table 6-8. Existing Metro Bus Routes within the Study Area

Route	Description	Weekday Ridership (October 2022)
Bus Rapid Transit		
901 (G Line)	Chatsworth-Canoga Park-North Hollywood	14,392
Rapid Bus		
720	Santa Monica-Downtown Los Angeles via Wilshire Boulevard	20,846
761	Sylmar Station-E Line via Van Nuys Boulevard-Sepulveda Boulevard	6,695
Local Bus		
2	University of Southern California (USC)-Westwood via Sunset Boulevard	18,662
4	Downtown Los Angeles-Santa Monica via Santa Monica Boulevard	21,124
20	Downtown Los Angeles-Westwood/Santa Monica via Wilshire Boulevard	6,773
150	Chatsworth-Canoga Park-Tarzana via Topanga Canyon Boulevard –Ventura Boulevard	2,579
152	West Hills Medical Center-North Hollywood Station via Roscoe Boulevard	8,416
154	Sepulveda Boulevard-Burbank Station via Oxnard Street-Burbank Boulevard	549
155	Sherman Oaks-Burbank Station via Riverside Drive-Olive Street	1,061
158	Chatsworth Station-Sherman Oaks via Devonshire-Woodman	1,392
162	Woodland Hills-West Hills-North Hollywood via Sherman Way-Vineland	8,422
164	West Hills-Burbank via Victory Boulevard	4,895
165	West Hills-Burbank via Vanowen Street	7,766
166	Canoga Avenue-Sun Valley via Nordhoff Street-Osborne Street	5,272
167	Chatsworth Station-Studio City via Plummer-Coldwater Canyon	1,649
169	Warner Center-Burbank Airport via Valley Circle-Saticoy Street	2,153
233	Lake View Terrace-Sherman Oaks via Van Nuys Boulevard (+ Westside Owl Service)	11,823
234	Mission College-Sylmar Station-Sherman Oaks via Sepulveda Boulevard	7,804
236	Sylmar-Encino via Balboa Boulevard-Glenoaks Boulevard	1,826
237	Encino-Granada Hill-Mission Hills-North Hollywood via White Oak Avenue-Woodley Avenue-Chandler	1,565
240	Northridge-Universal City via Reseda Boulevard-Ventura Boulevard	9,881
602	Westwood-Pacific Palisades via Sunset Boulevard	1,099

Source: Metro, 2023b

6.2.3.4 Municipal and Local Operators

Apart from Metro, six transit providers operate bus service within the Study Area: LADOT, BBB, CCB, SCT, AVTA, LBT, and BruinBus. Transit service types by these operators include rapid bus, express/commuter bus, shuttles and circulators, and local bus lines. Table 6-9 summarizes municipal operator bus routes serving the Study Area along with ridership data for the entire route. Figure 6-12 shows existing bus services — including Metro, municipal, and local operators — that provide service to the Study Area.

Table 6-9. Existing Municipal and Local Operator Bus Routes within the Study Area

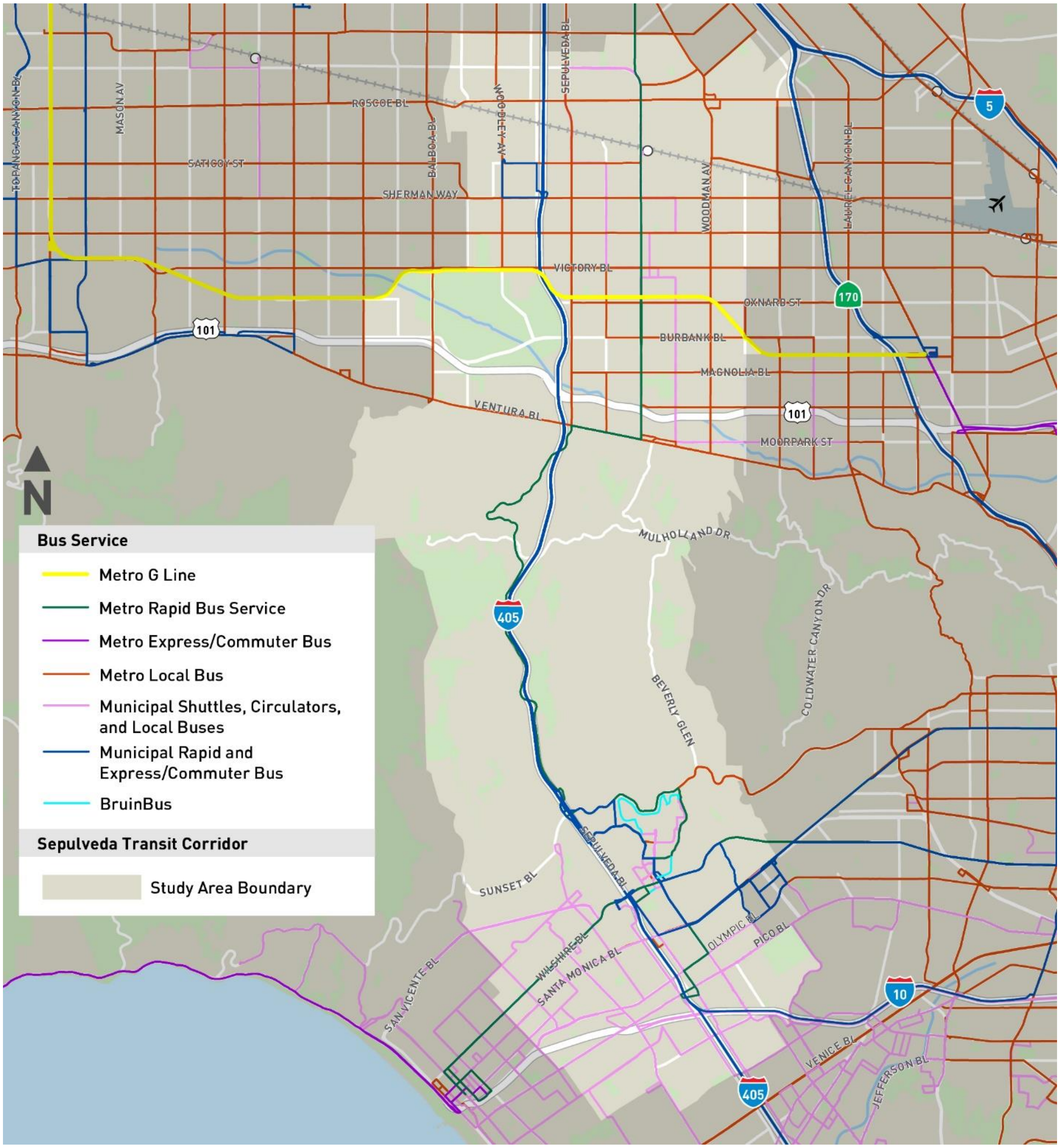
Operator	Route	Description	Weekday Ridership (October 2022)
Rapid Bus			
BBB	R7	Pico Boulevard Rapid	1,956
BBB	R12	UCLA/Westwood to Expo Rapid	2,267
CCB	6R	Sepulveda Boulevard Rapid	976

Operator	Route	Description	Weekday Ridership (October 2022)
Express/Commuter Bus			
AVTA	786	Century City/West Los Angeles	160
BBB	R10	Downtown Los Angeles Freeway Express	85
LADOT	422	Downtown/Hollywood/San Fernando Valley/Agoura Hills/Thousand Oaks	495
LADOT	423	Encino/Calabasas and/or Agoura Hills/Thousand Oaks	172
LADOT	431	Downtown Los Angeles-Westwood	45
LADOT	534	Downtown Los Angeles-West Los Angeles	105
LADOT	549	Burbank/Glendale Pasadena to Glendale/Burbank/Encino	196
LADOT	573	Encino/Mission Hills-Westwood/Century City	511
LADOT	574	Encino/Granada Hills-LAX/El Segundo	111
LBT	405	UCLA/Westwood Commuter Express	160
SCT	792/797	Century City, UCLA, and Westwood	175
Shuttles and Circulators			
LADOT	DASH Van Nuys/ Studio City	Van Nuys/Studio City	748
LADOT	DASH Panorama City/ Van Nuys	Panorama City/Van Nuys	1,627
BruinBus	U1	Weyburn Terrace-Wyton	1,246
BruinBus	U2	Wilshire Center-Wyton	818
BruinBus	U3	Weyburn Terrace-Gateway Plaza	214
BruinBus	U5	Evening/SafeRide Loop	127
Local Bus			
BBB	1	Main Street and Santa Monica Boulevard	4,202
BBB	2	Wilshire Boulevard	1,178
BBB	5	Olympic Boulevard	190
BBB	7	Pico Boulevard	4,333
BBB	8	Ocean Park Boulevard	1,282
BBB	14	Bundy Drive Centinela Avenue	1,715
BBB	15	Barrington Avenue	156
BBB	16	Wilshire Boulevard/Bundy Drive-Marina del Rey	405
BBB	17	UCLA-VA Medical Center-Palms	1,475
BBB	18	UCLA-Abbott Kinney-Marina del Rey	850
BBB	43	San Vicente Boulevard and 26th Street	220
CCB	3	Crosstown-Overland Avenue	913
CCB	6	Sepulveda Boulevard	4,386

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
SCT = Santa Clarita Transit

Figure 6-12. Existing Bus Service within the Study Area



Source: HTA, 2024

6.2.4 Active Transportation

6.2.4.1 Pedestrian Facilities

Pedestrian facilities within the Study Area — including sidewalks, walkways, crosswalks, trails, underpasses, and pedestrian bridges — are designed to enhance mobility and accessibility for pedestrians. Pedestrian facilities vary across the Study Area, depending on the density, mix of land uses,

and roadway facilities. In the San Fernando Valley and on the Westside, sidewalks are well-connected and follow the grid pattern of roadway facilities. In the Bel Air and Brentwood neighborhoods adjacent to the Sepulveda Pass, sidewalks are sparse and disconnected given roadway slopes and topography. Figure 6-13 shows the distribution of sidewalks across the Study Area.

Figure 6-13. Existing Sidewalks in the Study Area

Source: HTA, 2024

6.2.4.2 Bicycle Facilities

Existing bicycle facilities in the Study Area consist of a network of approximately 123 miles of Class I, II, and III bicycle facilities, including 29.4 miles of Class I bicycle paths. Planned bicycle facilities in the Study Area includes 180 miles of additional bicycle facilities, including 21.1 miles of Class I paths (SCAG, 2024).

Figure 6-14 shows the existing and planned bicycle facilities, which are classified using the California Department of Transportation (Caltrans) *Highway Design Manual* (Caltrans, 2022a). These facility classifications include the following:

- Class I Bicycle Facilities are also known as bicycle paths, shared-use paths, or bicycle trails. They provide a travel facility for the exclusive use of bicycles and pedestrians that is completely separated (by a physical barrier or open space) from roadways with cross flow by vehicles minimized.
- Class II Bicycle Facilities are also known as bicycle lanes. These facilities provide a striped lane for one-way bike travel on a street or highway.
- Class III Bicycle Facilities are also known as bicycle routes. They provide for shared use with pedestrian or motor vehicle traffic typically demarcated by signage or surface markings such as Sharrows.
- Class IV Bicycle Facilities are protected bike lanes that are physically separated from the vehicle travel lane by more than the white stripe. Separation may be accomplished with flexible delineators or permanent barriers.

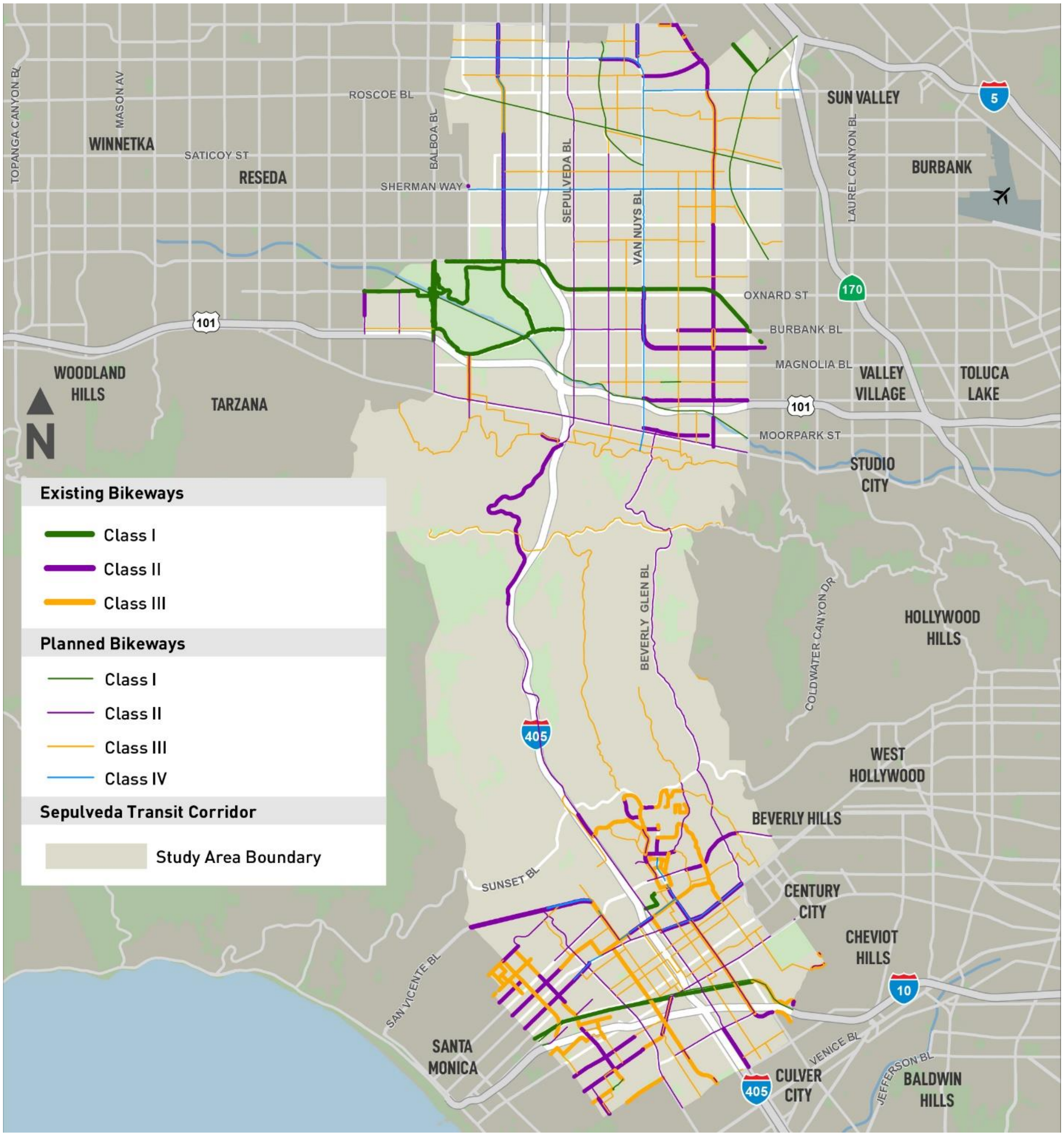
Table 6-10 lists the lengths of existing bicycle facilities in miles by classification within the Study Area. There are no existing Class IV bicycle facilities in the Study Area.

Table 6-10. Existing and Planned Bicycle Facility Miles within the Study Area

Class	Existing Facility Miles	Planned Facility Miles
I	29.4	21.1
II	53.2	51.3
III	40.7	80.6
IV	0	26.9
Total	**123.3**	**179.9**

Source: SCAG, 2022; HTA, 2024

Figure 6-14. Existing and Planned Bicycle Facilities within the Study Area



Source: SCAG, 2022; HTA, 2024

6.3 Transit Network Assumptions

The transit network under Alternative 1 assumes a baseline of 2045 NextGen service (Metro, 2020f). In addition, as described in Section 3.2, coordination with transit agencies for the purposes of ridership forecasting led to changes in local and regional transit for each alternative. The rail network, except for the Project, would be the same under Alternative 1 as under the No Project Alternative. Changes to the bus transit network under Alternative 1 meant to minimize duplicated service include the following:

- AVTA 786: Truncate service at Van Nuys Metrolink Station
- LADOT 573: Truncate service at Ventura Boulevard Station
- Metro 233: Operate only in the San Fernando Valley only
- Metro Line 761: Eliminate
- SCT 792 and 797: Truncate service at Sherman Way Station
- BruinBus U1, U2, and U5: Add eastbound stop at Charles E. Young Drive and Westwood Plaza

6.4 Impact Evaluation

6.4.1 Impact TRA-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?

This section evaluates the consistency of Alternative 1 with plans and policies. Attachment 2 of this technical report identifies all the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that each alternative was evaluated against for consistency. Relevant design guidelines from the regulatory framework, such as the Americans with Disabilities Act (ADA) or Los Angeles Bureau of Engineering (LABOE) Standard Plans (LABOE, n.d.(a)), are addressed under the evaluation of geometric hazards in Section 6.4.3.

6.4.1.1 Operational Impacts

Transit Policies

Attachment 2 identifies the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that the alternative was evaluated against for consistency. Alternative 1 would support several regional and local plans and policies and would not conflict with adopted policies or plans related to transit facilities. Therefore, operation of Alternative 1 would not conflict with a program, plan, ordinance, or policy and would result in no impact.

Transit Ridership

Table 6-11 presents the projected number of regional transit trips for the No Project Alternative and for Alternative 1. The total regional transit mode share includes an increase in daily fixed guideway trips and a decrease in daily bus trips, which would increase the total number of daily trips by 0.02 percent with Alternative 1. A total of 62,510 daily project trips are forecast for Alternative 1, which would increase regional transit travel by 20,051 daily new transit trips in the horizon year 2045 compared to the No Project Alternative.

Table 6-11. Alternative 1: 2045 Regional Transit Performance Metrics

Performance Metric	No Project Alternative	Alternative 1	Change from No Project Alternative
Daily Project Trips	NA	62,510	NA
Daily New Transit Trips (Regional)	NA	20,051	NA
Daily Fixed Guideway Trips (Rail + BRT)	746,604	780,471	4.54%
Daily Bus Trips	969,689	955,873	-1.42%
Daily Transit Trips (All Transit Trips)	1,716,293	1,736,344	1.17%
Daily Trips (Total All Modes)	78,175,000	78,175,000	0%
Total Transit Mode Share (Daily Transit Trips/Daily Trips)	2.20%	2.22%	0.02%

Source: HTA, 2024

NA = not applicable

Table 6-12 and Table 6-13 summarize ridership and mode of access by station for Alternative 1. Mode of access data illustrates how passengers access project stations, whether via bus, rail, walking/biking, driving and parking, or being dropped off (kiss & ride). As listed in Table 6-12 and Table 6-13, Alternative 1 is forecast to have 61,590 weekday boardings on the monorail and 3,164 on the electric bus. Since some passengers would ride both the monorail and the electric bus, the total number of riders (project trips) on Alternative 1 would be less than the sum of the riders on each of its components. For Alternative 1, rail would comprise the highest mode share for station access followed by bus transit, walking/biking, park & ride, and kiss & ride.

Table 6-12. Alternative 1: Average Weekday Station Boardings by Mode

Station	Walk/Bike	Bus	Park & Ride	Kiss & Ride	Rail	Total Station Boardings
Metro E Line Expo/Sepulveda	1,193 (11%)	1,251 (12%)	104 (1%)	59 (1%)	7,767 (75%)	10,374
Santa Monica Boulevard	2,895 (91%)	254 (8%)	0 (0%)	42 (1%)	0 (0%)	3,190
Wilshire Boulevard/Metro D Line	747 (4%)	1,012 (6%)	0 (0%)	38 (1%)	16,404 (89%)	18,200
Getty Center	1,349 (99%)	0 (0%)	0 (0%)	18 (1%)	0 (0%)	1,366
Ventura Boulevard/Sepulveda Boulevard	3,812 (66%)	1,690 (30%)	0 (0%)	225 (4%)	0 (0%)	5,727
Metro G Line Sepulveda	1,525 (17%)	6,624 (74%)	672 (8%)	100 (1%)	0 (0%)	8,920
Sherman Way	1,358 (87%)	0 (0%)	0 (0%)	195 (13%)	0 (0%)	1,553
Van Nuys Metrolink	901 (7%)	2,605 (21%)	0 (0%)	73 (1%)	8,684 (71%)	12,262
Total	**13,778 (22%)**	**13,436 (22%)**	**776 (1%)**	**747 (1%)**	**32,855 (54%)**	**61,590**

Source: HTA, 2024

Table 6-13. Alternative 1: Electric Bus Stop Boardings

Station	Daily Boardings
Wilshire Boulevard/VA Medical Center	1,439
Westwood Village	1,501
UCLA Gateway Plaza	224
Total	**3,164**

Source: HTA, 2024

Table 6-14. compares the projected number of daily boardings (total ridership on the entire line) for urban rail and BRT lines in 2045 under Alternative 1 to No Project Alternative conditions.

Table 6-14. Alternative 1: Daily Boardings on Urban Rail and Bus Rapid Transit Lines Serving the Study Area

Line	Daily Boardings		Change from No Project Alternative
	No Project Alternative	Alternative 1	
Metro E Line	110,578	118,452	7.1%
Metro D Line	221,766	240,948	8.6%
Metro G Line (BRT)	53,599	56,275	5.0%
East San Fernando Valley Light Rail Transit Line	49,988	62,192	24.4%
Total	**435,931**	**477,867**	**9.6%**

Source: HTA, 2024

Table 6-15 shows the peak-hour load on rail and BRT lines in the Study Area under Alternative 1 compared to the No Project Alternative. The capacities of heavy rail (Metro D Line) and light rail modes (Metro E Line and East San Fernando Valley) are approximately 12,000 and 4,800 passengers per hour, respectively, based on design headways and vehicle capacity. Capacity on the Metrolink Ventura County Line is approximately 2,240 passengers per hour, assuming 8-car trains at 30-minute headways. Metro G Line capacity is approximately 960 passengers per hour at 5-minute headways. While Alternative 1 would increase peak loads on the Metro E Line and ESFV LRT Line, peak loads would remain under capacity. For the Metro G Line, peak loads would exceed capacity under Alternative 1 similar to the No Project Alternative. It is expected that Metro would accommodate the additional demand on the Metro G Line by implementing operational improvements and would also update its short- and long-range transit plans and increase service on parallel routes as needed, consistent with its usual service planning processes. Therefore, operation of Alternative 1 would not conflict with a program, plan, ordinance, or policy related to transit ridership and would result in no impact.

Table 6-15. Alternative 1: Peak Loads on Rail and Bus Rapid Transit Lines within the Study Area

Line	No Project Alternative		Alternative 1	
	Peak Load (Passengers)	Location	Peak Load (Passengers)	Location
Sepulveda Transit Corridor	NA	NA	3,430	Between Ventura Boulevard and Getty Center
Metro E Line	2,530	Between Expo/La Brea and La Cienega/Jefferson	2,990	Between La Cienega/Jefferson and Culver City
Metro D Line	11,870	Between Wilshire/ La Brea and Wilshire/Fairfax	11,800	Between Wilshire/La Brea and Wilshire/Fairfax

Line	No Project Alternative		Alternative 1	
	Peak Load (Passengers)	Location	Peak Load (Passengers)	Location
Metro G Line (BRT)	2,500	Between Van Nuys and Sepulveda	2,510	Between Proposed New Sepulveda Station and Woodley
East San Fernando Valley Light Rail Transit Line	2,470	Between Vanowen and Victory	2,680	Between Roscoe and Van Nuys/Metrolink
Metrolink Ventura County Line	1,760	Between Union Station and Glendale	1,600	Between Union Station and Glendale

Source: HTA, 2024

NA = not applicable

Table 6-16 compares the projected ridership under Alternative 1 to No Project Alternative conditions for bus routes serving the Study Area, aggregated by transit operator. For all agencies, including Metro, bus ridership would decrease because passengers would have the option to use the Project with faster and more reliable service. Ridership on AVTA 786 would decrease by the greatest proportion because the combination of Metrolink, the ESFV LRT Line, and the Project would provide a faster travel time to the Westside from Antelope Valley. Therefore, operation of Alternative 1 would not conflict with an existing loading standard and would result in no impact.

Table 6-16. Alternative 1: Projected Bus Ridership by Transit Operator

Operator	Route(s)[a]	Daily Boardings[b]		Change from No Project Alternative
		No Project Alternative	Alternative 1	
Metro	2, 4, 20, 150, 152, 154, 155, 158, 164, 165, 166, 167, 169, 233, 234, 236, 602, G Line	237,137	228,340	-3.7%
AVTA	786	4,981	3,381	-32.1%
BBB	1, 2, 5, Local 7, Rapid 7, 8, 10, Rapid 12, 14/15, 16, 17, 18	45,404	44,310	-2.4%
CCB	3, 6/6R	24,685	23,810	-3.5%
LADOT	422, 423, 431, 534, 549, 573, 574, PC/VN DASH, VN/SC DASH	12,516	12,043	-3.8%
SCT	792/797	<250	<250	NA
BruinBus	U1, U2, U3, U5	9,380	9,230	-1.6%

Source: HTA, 2024

[a]Routes listed intersect the Study Area.
[b]Daily boardings represent total ridership on all routes listed.

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

Roadways

Alternative 1 would include various changes to roadway facilities, including widening of I-405 and realignment of some adjacent roadways. Roadway segments that would be removed are not included in the City of Los Angeles *Mobility Plan 2035 – An Element of the General Plan* (Mobility Plan 2035) circulation system since they are classified as collector or local streets (DCP, 2016). Therefore, modifications to these roadways would not conflict with *Mobility Plan 2035*. The modifications to I-405 and adjacent roadways would not preclude the construction of Metro's I-405 ExpressLanes Project, which is also included in the *Measure M Expenditure Plan* (Metro, 2016). Metro is currently preparing a Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the I-405 ExpressLanes Project with an anticipated release in 2025. Any non-standard features proposed by Alternative 1 within Caltrans ROW, such as reduced lane or shoulder widths, would be approved in accordance with Caltrans' *Project Development Procedures Manual* (Caltrans, 2024b). Therefore, the operation of Alternative 1 would not conflict with a program, plan, ordinance, or policy related to roadway facilities and would result in no impact.

Bicycle and Pedestrian Circulation

Alternative 1 would enhance bicycle and pedestrian access in the immediate station areas, such as bike parking and connections to existing nearby bike facilities, for improved bicycle-to-transit connections. At some locations along the alignment, sidewalks would be widened or replaced where needed to accommodate the aerial guideway and station infrastructure. Design of Alternative 1 would ensure that adequate sidewalk widths are maintained at station locations and along the aerial alignment. Additional enhancements, including crosswalk and ADA-compliant sidewalk improvements, would further improve pedestrian circulation and non-motorized access to transit stations.

A majority of the Alternative 1 alignment would be located within or adjacent to the I-405 corridor and the LOSSAN rail corridor, which would reduce the need for modifications to existing City of Los Angeles roadways where active transportation facilities exist or are planned. Aerial stations within the West Los Angeles, Sherman Oaks, and Van Nuys communities would be located adjacent to major roadway intersections. Generally, Alternative 1 would be supportive of adopted active transportation plans and policies set forth by *Mobility Plan 2035* (DCP, 2016), the City of Los Angeles *2010 Bicycle Plan* (DCP, 2011), Metro's *First/Last Mile Guidelines* (Metro, 2021a), the 2019 *UCLA Active Transportation Plan* (UCLA, 2019), and City of Los Angeles community plans (DCP, 1996a, 1996b, 1997b, 1998a, 1998b, 1998c, 1998d, 1999a, 1999b, 1999c, 1999d, 1999e) described in Section 2. Station area improvement elements — including increased sidewalk widths, improved pedestrian crossings, bicycle parking, wayfinding signs, and implementation of planned bicycle facilities — would align with Metro's *First/Last Mile Guidelines* (Metro, 2021a) and facilitate pedestrian and cyclist accessibility to the Alternative 1 stations.

Along the Alternative 1 alignment, pedestrian and bicycle circulation would be maintained where the aerial guideway would cross roadways that serve as I-405 or LOSSAN rail corridor underpasses. The height of the aerial guideway would provide sufficient vertical clearance so that pedestrian and bicycle movement would not be inhibited underneath the structure. Additionally, the supporting columns would have sufficient horizontal span (distance between column to column) so that columns would generally be located outside of the sidewalk. Pedestrian mobility at signalized intersections would be maintained via crosswalks.

While Alternative 1 would be generally supportive of adopted plans and policies, some potential conflicts with the existing and planned bicycle facilities identified in *Mobility Plan 2035* (DCP, 2016) would occur due to roadway improvements as a result of station construction. Within the San Fernando Valley, columns supporting aerial stations would be constructed outside of the existing roadway and sidewalks which would not preclude any planned bicycle or pedestrian facilities nor alter any existing bicycle facilities at station areas. However, the Alternative 1 Ventura Boulevard Station would reconfigure Dickens Street from a through street into a kiss & ride facility. The reconfiguration of Dickens Street would eliminate an existing through street that connects Sepulveda Boulevard to Ventura Boulevard and would alter existing pedestrian circulation. However, due to station area improvements, these modifications would ultimately benefit pedestrian and cyclist circulation.

Additionally, potential conflicts with existing and planned bicycle facilities identified in *Mobility Plan 2035* (DCP, 2016) would occur due to roadway improvements as a result of guideway construction. Alternative 1 would install supporting columns along Raymer Street and necessitate roadway reconfigurations for the aerial guideway. Columns would be placed in proposed curb extensions within the westbound parking lane and within an extended sidewalk on the southern side of Raymer Street. The City of Los Angeles *Mobility Plan 2035* identifies Raymer Street as a Class III bicycle route. Roadway improvements under Alternative 1 along Raymer Street would maintain this Class III bicycle route and would not conflict with *Mobility Plan 2035*. The sidewalk on the southern side of Raymer Street between Kester Avenue and Ventura Boulevard would be extended to accommodate the aerial guideway columns. In compliance with minimum sidewalk width requirements under the ADA, LABOE Standard Plans (LABOE, n.d.(a)), and California Building Code 11B-403.5.1, the supporting aerial guideway columns would be located in areas with adequate sidewalk width. Therefore, operation of Alternative 1 would not conflict with a program, plan, ordinance, or policy for bicycle and pedestrian facilities and would result in no impact.

6.4.1.2 Construction Impacts

Given the temporary nature of construction, it is not expected that construction of the Alternative 1 would preclude any programs, plan ordinances, or policies addressing the circulation system. The following sections describe construction impacts on transit facilities, roadways, and active transportation.

Transit Facilities

Temporary full or partial closures of some intersections, lanes, or sidewalks may be necessary during construction, which may result in disruptions to bus service. Temporary re-routing and relocation of bus stops may be needed for the following transit lines:

- Metro 4, 155, 162, 169, 233, 234, 240, 602, 761
- AVTA 786
- BBB 1, 7/7R, 17
- CCB 6/R6
- LADOT 549 and DASH Panorama City/Van Nuys
- Amtrak Thruway

In addition to impacts to on-street bus service, construction at existing fixed guideway stations would temporarily impact rail and BRT service operations. At the existing Metro E Line Expo/Sepulveda Station, the construction of tail tracks and a pedestrian bridge connecting to the project station would result in temporary nighttime and weekend service impacts on the Metro E Line. The construction of a pedestrian bridge connecting the Metro G Line project station with new Metro G Line platforms would result in temporary nighttime and weekend service impacts to the Metro G Line. In addition, construction of the guideway would require temporary nighttime Metro G Line Busway closures. Temporary impacts to Amtrak and Metrolink rail operations and passenger experience at the Van Nuys Metrolink/Amtrak Station would also occur as a result of the construction of a new pedestrian bridge crossing the LOSSAN rail corridor at the station. Construction activities would occur within the vicinity of the ESFV LRT Van Nuys Metrolink Station for the construction of the aerial alignment and Alternative 1 Van Nuys Metrolink Station which may temporarily affect passenger experience; however, disruptions to rail service or MSF operations are not anticipated.

Construction of a new entrance at the east end of the Metro D Line Westwood/VA Hospital Station and a new concourse over the Metro D Line tracks and platform within the station would result in temporary impacts to Metro D Line rail operations and passenger experience. Metro D Line trains would operate between Union Station and the Metro D Line Century City Station during this period of construction as there would be no crossovers on the Metro D Line that would allow for service to operate past that station.

Although temporary, the potential disruptions to the transit network under Alternative 1 is considered a potentially significant impact to transit facilities due to temporary road or lane closures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4, to provide a Transportation Management Plan (TMP) that specifies measures to limit disruption during construction, and MM TRA-5, to provide temporary bus service at rail stations taken out of passenger service, would reduce impacts to less than significant during construction of Alternative 1.

Roadways

Construction vehicles would primarily use major arterials and freeways to comply with Policy 1.8 from *Mobility Plan 2035* that "truck movement should be limited to the arterial street network as much as possible since these streets have the lanes and wider turning radii to accommodate these heavy large vehicles" (DCP, 2016). Figure 6-9 and Table 6-17 identify construction staging locations and roadway facilities that would be used for construction haul routes.

Table 6-17. Alternative 1: Construction Staging Locations and Haul Routes

No.	Construction Staging Location Description	Haul Route
1	Public Storage between Pico Boulevard and Exposition Boulevard, east of I-405	Pico Boulevard, Cotner Avenue, I-405
2	South of Dowlen Drive and east of Greater LA Fisher House	Dowlen Drive, Sawtelle Boulevard, Santa Monica Boulevard, I-405
3	At 1400 N Sepulveda Boulevard	Sepulveda Boulevard, I-405
4	At 1760 N Sepulveda Boulevard	Sepulveda Boulevard, I-405
5	East of I-405 and north of Mulholland Drive Bridge	Mulholland Drive, Skirball Center Drive, I-405
6	Inside of I-405 Northbound to US-101 Northbound Loop Connector, south of US-101	I-405 or US-101
7	ElectroRent Building south of Metro G Line Busway, east of I-405	Oxnard Street, Sepulveda Boulevard, Burbank Boulevard, I-405
8	Inside the I-405 Northbound Loop Off-Ramp at Victory Boulevard	Victory Boulevard, I-405
9	Along Cabrito Road east of Van Nuys Boulevard	Cabrito Road, N Van Nuys Boulevard W, Arminta Street, Van Nuys Boulevard, Roscoe Boulevard, I-405

Source: LASRE, 2024; HTA, 2024

Guideway construction along I-405 would require limited duration off-peak median lane closures. Nighttime lane closures may be necessary to accommodate the movement of construction equipment and transportation of guideway components into the median work areas. Additional nighttime freeway ramp closures may be necessary where modifications to existing ramps are proposed. Temporary lane and ramp closures on I-405 would be coordinated and permitted through Caltrans in coordination with LADOT, Los Angeles County, and the California Highway Patrol. Guideway construction TPSS transformer installation affecting local streets on the Westside, along Raymer Street and the I-405 northbound on-ramp at Burbank Boulevard in the San Fernando Valley would be coordinated and permitted through Caltrans and LADOT's Citywide Temporary Traffic Control Division. Traffic control measures necessary to complete construction of Alternative 1 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would further reduce temporary impacts due traffic control measures. Therefore, construction of Alternative 1 is considered a less than significant impact related to a conflict with a program, plan, ordinance, for policy on roadway facilities.

Bicycle and Pedestrian Circulation

Construction of the aerial guideway, retaining walls, I-405 ramps, and local street improvements would require temporary roadway and sidewalk detours that would temporarily impact bicycle and pedestrian circulation. A majority of the aerial guideway would be constructed within the I-405 median where bicycle and pedestrian circulation does not exist and would not be impacted. However, in locations where the alignment is adjacent to I-405 or the LOSSAN rail corridor and where the I-405 corridor widening or local street improvements would be necessitated, temporary roadway detours and sidewalk closures would inhibit the circulation of pedestrian and bicycle facilities.

Temporary sidewalk closures would be required during construction in areas where sidewalk improvements or construction access and staging activities occur. Construction activities requiring temporary sidewalk closures would include installation of temporary falsework and replacement of sidewalk sections surrounding Alternative 1 stations. Additionally, temporary sidewalk closures would be required in areas where roadway reconfiguration or local street improvements require replacement of the existing sidewalk. Construction of the aerial guideway would temporarily impact underpasses that serve I-405 and the LOSSAN rail corridor (e.g., Santa Monica Boulevard, Constitution Avenue, Montana Avenue, Church Lane, Getty Center Drive, Bel Air Crest Road, Sepulveda Boulevard, Sherman Way, and Ventura Boulevard), thus temporarily impacting pedestrian and bicycle sidewalk access at each underpass.

In addition, Alternative 1 would require temporary lane or road closures during construction that would affect existing and planned bicycle facilities. Bicycle through-access underneath existing underpasses and within areas of local street improvements or construction staging where existing bike facilities are present would require detours for the affected bike facilities, thereby inhibiting the flow of active transportation users. Additionally, roadway reconfiguration locations, would require temporary closure of existing bicycle facilities to complete construction. As a result, affected bicycle facilities would be temporarily decommissioned and bicycle movements would require temporary detours.

Although temporary, the potential disruptions to bicycle and pedestrian circulation would result in a potentially significant impact during project construction. In addition to compliance with all local, state, and federal standards on construction, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would minimize temporary impacts due to traffic control measures. Alternative 1 detour routes would be identified in the TMP, and bicyclists and pedestrians would be informed of such closures and detours through signage and online postings that would be consistent with Policy 1.6 from *Mobility Plan 2035* that states, "Design detour facilities to provide safe passage for all modes of travel during construction" (DCP, 2016). Therefore, implementation of MM TRA-4 would reduce impacts to less than significant during construction of Alternative 1.

6.4.1.1 Maintenance and Storage Facilities

MSF Base Design

The MSF Base Design for Alternative 1 would be located on LADWP property east of the Van Nuys Boulevard and south of the LOSSAN rail corridor. Operation and construction of the MSF Base Design would not require the removal or modification of an element of the circulation system that is addressed in a program, plan, ordinance, or policy. Therefore, operation and construction of the MSF Base Design for Alternative 1 would not conflict with a program, plan, ordinance or policy and would result in no impact.

MSF Design Option 1

The MSF Base Design Option 1 for Alternative 1 would be located on LADWP property east of the Van Nuys Boulevard and south of the LOSSAN rail corridor. Operation and construction of the MSF Base Design Option 1 would not require the removal or modification of an element of the circulation system that is addressed in a program, plan, ordinance, or policy. Therefore, operation and construction of the MSF Base Design for Alternative 1 would not conflict with a program, plan, ordinance or policy and would result in no impact.

Electric Bus MSF

The electric bus MSF for Alternative 1 would be located on the northwest corner of Pico Boulevard and Cotner Avenue. Operation and construction of the electric bus MSF would not require the removal or modification of an element of the circulation system that is addressed in a program, plan, ordinance, or policy. Therefore, operation and construction of the electric bus MSF for Alternative 1 would not conflict with a program, plan, ordinance or policy and would result in no impact.

6.4.2 Impact TRA-2: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

6.4.2.1 Operational Impacts

Under CEQA Guidelines Section 15064.3, subdivision (b), transportation projects that reduce, or have no impact on, VMT are presumed to cause a less than significant impact on transportation. OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018) states that transit and active transportation projects generally reduce VMT. As listed in Table 6-18, Alternative 1 would result in reduced VMT (341,800 daily) compared to the No Project Alternative. Therefore, operation of Alternative 1 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Table 6-18. Alternative 1: Vehicle Miles Traveled

Project Alternative	Total VMT	Change in VMT Relative to the No Project Alternative
No Project Alternative (2045 Horizon Year)	568,557,200	NA
Alternative 1 (2045 Horizon Year)	568,215,400	-341,800

Source: HTA, 2024

NA = not applicable

6.4.2.2 Construction Impacts

Construction of Alternative 1 would temporarily generate additional VMT related to construction workers commuting to the construction site, construction work activities, construction labor trips, and the transport of excavated materials, construction equipment, and supplies. This additional VMT would terminate upon completion of construction and would not be in effect during operation of Alternative 1. The temporary nature of construction-related VMT and construction-related traffic circulation changes (e.g., detours) would generally be localized to the work areas and construction staging locations listed in Table 6-17.

In addition, there would be minor impacts to traffic operations associated with construction staging areas and haul routes. Vehicles and trucks related to construction activities entering and exiting these areas would increase traffic and VMT on local streets. All construction trucks would use designated haul routes, as listed in Table 6-17, to access the regional freeway system. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of Alternative 1 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

6.4.2.3 Maintenance and Storage Facilities

MSF Base Design

The MSF Base Design for Alternative 1 would be part of a transit project that is presumed to have a less than significant impact on VMT (OPR, 2018). Therefore, operation of the MSF Base Design would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Construction of the MSF Base Design would result in a minor increase in traffic volumes as construction vehicles enter and exit the site. Construction vehicles entering and exiting the construction site would temporarily increase VMT on local streets. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction-related traffic would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of the MSF Base Design for Alternative 1 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

MSF Design Option 1

The MSF Design Option 1 for Alternative 1 would be part of a transit project that is presumed to have a less than significant impact on VMT (OPR, 2018). Therefore, operation of MSF Design Option 1 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Construction of the MSF Design Option 1 would result in a minor increase in traffic volumes as construction vehicles enter and exit the site. Construction vehicles entering and exiting the construction site would temporarily increase VMT on local streets. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction-related traffic would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of MSF Design Option 1 for Alternative 1 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Electric Bus MSF

The electric bus MSF for Alternative 1 would be part of a transit project that is presumed to have a less than significant impact on VMT (OPR, 2018). Therefore, operation of the electric bus MSF would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Construction of the electric bus MSF would result in a minor increase in traffic volumes as construction vehicles enter and exit the site. Construction vehicles entering and exiting the construction site would temporarily increase VMT on local streets. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction-related traffic would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of electric bus MSF for Alternative 1 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

6.4.3 Impact TRA-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?

This section discusses the potential increase in hazards due to a geometric design feature of Alternative 1. The potential increase for hazards generally relates to unsafe design of Project facilities/structures, the degradation of pedestrian, bicycle, or vehicle safety conditions, or the introduction of obstructions that result in decreased visibility of other road users or key roadway infrastructure, such as traffic signals. These impacts are evaluated for permanent conditions during project operation as well as temporary conditions during project construction.

6.4.3.1 Operational Impacts

Alternative 1 — including its guideway, vehicles, stations, MSFs, TPSSs, and fire/life safety systems — would be designed to meet all relevant and applicable standards including ADA, LABOE, and Metro safety design standards. Modifications within the Caltrans ROW would be designed in accordance with Caltrans standards. Any non-standard features, such as reduced lane or shoulder widths, would be approved in accordance with Caltrans' *Project Development Procedures Manual* (Caltrans, 2024b).

Alternative 1 proposes a new passenger pick-up/drop-off area located on the east side of the Metro E Line Expo/Sepulveda Station. This area would be accessed via a new driveway off Pico Boulevard. The proximity of the driveway to the intersection of Pico Boulevard and Cotner Avenue would not allow for a westbound left-turn lane into the driveway, creating a risk of rear-end collisions if left-turning vehicles are queueing in the westbound through lane, resulting in a potentially significant impact due to a safety hazard. Implementation of MM TRA-2 — to design the driveway access as right-in/right-out only — would minimize impacts related to safety on Pico Boulevard by preventing vehicles from queueing in the westbound through lane. The driveway would be designed in coordination and with approval of LADOT. Therefore, implementation of MM TRA-2 would reduce impacts to less than significant during operation of Alternative 1.

Alternative 1 also proposes a passenger pick-up/drop-off location on the north side of Sherman Way just west of the proposed Sherman Way Station. The pick-up/drop-off area would use part of an existing travel lane, creating a risk of rear-end collisions resulting in a potentially significant impact due to a safety hazard. Implementation of MM TRA-3 — to provide advanced warning signage to ensure pedestrian safety and facilitate traffic flow on Sherman Way — would minimize impacts related to safety on Sherman Way by notifying drivers of the pick-up/drop-off area to reduce the potential for rear-end collisions. Therefore, implementation of MM TRA-3 would reduce impacts to less than significant during operation of Alternative 1.

An analysis of passenger queues at fare gates was conducted to evaluate the safety of transferring passengers as described in Section 3.2.2. As shown on Figure 6-15, under Alternative 1, passengers would have the ability to transfer to the ESFV LRT Line from the Alternative 1 Van Nuys Metrolink Station via a sidewalk connection on the east side of Van Nuys Boulevard. Passengers transferring to the ESFV LRT Line are anticipated to enter the station from the north entrance because the north entrance would be the closest ESFV LRT Line station entrance to the Alternative 1 Van Nuys Metrolink Station.

Figure 6-15. Alternative 1: Transfer Paths at the Van Nuys Metrolink Station

Source: LASRE, 2024; HTA, 2024

Table 6-19 presents the results of the peak-hour queueing analysis at the ESFV LRT Van Nuys Metrolink Station north entrance fare gates. During the busiest 2 minutes of the peak hour, 99 passengers are forecast to transfer to the ESFV LRT Line across all station modes of access. The queues resulting from the peak-hour passenger flow into the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Based on the results of the peak-hour queueing analysis in Table 6-19, the maximum forecast queue length in the peak hour at the ESFV LRT Van Nuys Metrolink Station under Alternative 1 would be 148 feet, while the available queueing area between the fare gates and the crosswalk used to access the station would be 30 feet. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a safety hazard to passengers. Therefore, operation of Alternative 1 would result in a potentially significant impact due to the queue length exceeding the available queueing area creating a safety hazard as described in Section 3.2.2. Implementation of MM TRA-1 would require a pedestrian flow microsimulation analysis to evaluate passenger movements when transferring to the ESFV LRT Van Nuys Metrolink Station from the Alternative 1 Van Nuys Metrolink Station. This analysis shall evaluate passenger flows into the ESFV LRT Van Nuys Metrolink Station from other modes, including Amtrak, Metrolink, bus, active transportation, park & ride, and kiss & ride. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with stand-alone validators (SAV), at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street. Therefore, implementation of MM TRA-1 would reduce impacts to less than significant during operation of Alternative 1.

Table 6-19. Alternative 1: Queueing Analysis at the East San Fernando Valley Light Rail Transit Line Van Nuys Metrolink Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into North Entrance	Peak 2-minute Passenger Flow into North Entrance
Walk/bus/park & ride/kiss & ride	718	359	12
Metrolink	6	6	3
Alternative 1	1,816	1,816	84
Total 2-minute Passenger Flow into North Entrance			99
2-minute Passenger Flow per Fare Gate			49
Maximum Peak-Hour Queue Length (feet)			**148**
Available Queueing Distance at Station (feet)			30

Source: HTA, 2024

Note: Analysis assumed half of walk/bus/park & ride/kiss & ride passengers would use this entrance, all Metrolink and Alternative 1 transfers would use this entrance, walk/bus/park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, Metrolink trains would arrive every 30 minutes (2 trains per hour), and project trains would arrive every 2.77 minutes (22 trains per hour).

6.4.3.2 Construction Impacts

Temporary modifications of existing transportation facilities under Alternative 1 would include full or partial road closures, lane reductions or modifications, and detour routes. Beyond the I-405 ROW, construction of Alternative 1 would include temporary modifications to segments of Cotner Avenue, Beloit Avenue, and Dowlen Drive in the Westside, Sepulveda Boulevard in the Sepulveda Pass, and Dickens Street and Raymer Street in the San Fernando Valley. Construction worksites would be fenced, and lane closures and associated lane tapers, temporary advance warning signs, and detour signs would be implemented in accordance with Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (Cal/OSHA), *and California Manual on Uniform Traffic Control Devices* (CA MUTCD) (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Safety for pedestrians, bicyclists, and motorists would be maintained during construction using signage, partial lane closures, construction barriers, and supervision by safety and security personnel at access points and throughout construction sites. Traffic control measures necessary to complete construction of Alternative 1 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic control measures to ensure hazards are not introduced during construction. Therefore, construction of Alternative 1 would not substantially increase hazards due to a geometric design feature or incompatible use and is considered a less than significant impact.

6.4.3.3 Maintenance and Storage Facilities

MSF Base Design

The MSF Base Design for Alternative 1 would be designed to meet all relevant and applicable standards, including ADA, LABOE, and Metro safety design standards. Operation of the MSF Base Design would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of the MSF Base Design for Alternative 1 would result in no impact.

Construction of the MSF Base Design may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including OSHA, Cal/OSHA, and CA MUTCD (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Thus, construction of the MSF Base Design would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, construction of the MSF Base Design for Alternative 1 would result in no impact.

MSF Design Option 1

The MSF Design Option 1 for Alternative 1 would be designed to meet all relevant and applicable standards, including ADA, LABOE, and Metro safety design standards. Operation of MSF Design Option 1 would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of MSF Design Option 1 for Alternative 1 would result in no impact.

Construction of MSF Design Option 1 may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including OSHA, Cal/OSHA, and CA MUTCD (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Thus, construction of MSF Design Option 1 would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, construction of MSF Design Option 1 for Alternative 1 would result in no impact.

Electric Bus MSF

The electric bus MSF for Alternative 1 would be designed to meet all relevant and applicable standards, including ADA, LABOE, and Metro safety design standards. Operation of the electric bus MSF would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of the electric bus MSF for Alternative 1 would result in no impact.

Construction of the electric bus MSF may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including OSHA, Cal/OSHA, and CA MUTCD (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Thus, construction of the electric bus MSF under Alternative 1 would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, construction of the electric bus MSF for Alternative 1 would result in no impact.

6.4.4 Impact TRA-4: Would the project result in inadequate emergency access?

6.4.4.1 Operational Impacts

All project facilities — including the guideway, stations, and transit vehicles — would include emergency evacuation routes, emergency systems, and emergency service access in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. Permanent road closures or alterations would modify roadway geometry while maintaining adequate emergency service access. The permanent closure of Dickens Street between Sepulveda Boulevard and Ventura Boulevard would not create inadequate emergency access for emergency response vehicles as alternative routes exist within the vicinity of the closure. In addition, roadway improvements under Alternative 1 would allow for emergency access to the Alternative 1 Ventura Boulevard Station. Therefore, operation of Alternative 1 is considered to have a less than significant impact on emergency access.

6.4.4.2 Construction Impacts

Project construction would include temporary lane reductions, road closures, and detours affecting local roadways and I-405. Construction on Dowlen Drive near the VA Medical Center would result in inadequate access for emergency service vehicles due to increased construction traffic and road closures during construction, resulting in a potentially significant impact. Implementation of MM TRA-6 would require coordination with the VA Medical Center to ensure adequate emergency access is maintained during construction. In addition, MM TRA-4 would be implemented in accordance with Metro standard practice, to require coordination with first responders during final design to further reduce temporary impacts on emergency access during construction. Therefore, implementation of MM TRA-4 and MM TRA-6 would reduce impacts to less than significant during construction of Alternative 1.

6.4.4.3 Maintenance and Storage Facilities

MSF Base Design

The MSF Base Design for Alternative 1 would include emergency evacuation routes and systems during operation in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. The MSF Base Design would be constructed in accordance with applicable Metro standards and design criteria for providing adequate emergency service access during operation. Therefore, operation of the MSF Base Design for Alternative 1 would result in no impact.

Construction of the MSF Base Design would result in temporary impacts to traffic operations due to a minor increase in traffic volumes as construction vehicles enter and exit the site. Traffic control measures necessary to complete construction of the MSF Base Design would be temporary in nature and are considered a less than significant impact. In accordance with standard Metro practice, implementation of MM TRA-4 would ensure adequate emergency access is maintained within and surrounding the site during construction to further reduce temporary impacts. Therefore, construction of the MSF Base Design for Alternative 1 is considered to have a less than significant impact.

MSF Design Option 1

The MSF Design Option 1 for Alternative 1 would include emergency evacuation routes and systems during operation in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. The MSF Design Option 1 would be constructed in accordance with applicable Metro standards and design criteria for providing adequate emergency service access during operation. Therefore, operation of MSF Design Option 1 for Alternative 1 would result in no impact.

Construction of MSF Design Option 1 would result in temporary impacts to traffic operations due to a minor increase in traffic volumes as construction vehicles enter and exit the site. Traffic control measures necessary to complete construction of MSF Design Option 1 would be temporary in nature and are considered a less than significant impact. In accordance with standard Metro practice, implementation of MM TRA-4 would ensure adequate emergency access is maintained within and surrounding the site during construction to further reduce temporary impacts. Therefore, construction of MSF Design Option 1 for Alternative 1 is considered to have a less than significant impact.

Electric Bus MSF

The electric bus MSF for Alternative 1 would include emergency evacuation routes and systems during operation in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. The electric bus MSF would be constructed in accordance with applicable Metro standards and design criteria for providing adequate emergency service access during operation. Therefore, operation of the electric bus MSF for Alternative 1 would result in no impact.

Construction of the electric bus MSF would result in temporary impacts to traffic operations due to a minor increase in traffic volumes as construction vehicles enter and exit the site. Traffic control measures necessary to complete construction of the electric bus MSF would be temporary in nature and are considered a less than significant impact. In accordance with standard Metro practice, implementation of MM TRA-4 would ensure adequate emergency access is maintained within and surrounding the site during construction to further reduce temporary impacts. Therefore, construction of the electric bus MSF for Alternative 1 is considered to have a less than significant impact.

6.5 Mitigation Measures

The following mitigation measures would be implemented under Alternative 1.

6.5.1 Operational Impacts

MM TRA-1: *During final design, Metro shall complete a detailed pedestrian flow microsimulation analysis to evaluate passenger movements when transferring between the Project Van Nuys Metrolink Station and the East San Fernando Valley (ESFV) Light Rail Transit (LRT) Van Nuys Metrolink Station. This analysis shall assess passenger flow into the ESFV LRT Van Nuys Metrolink Station and potential areas of congestion at the fare gates during peak and off-peak hours. In addition to passengers transferring from the Project Van Nuys Metrolink Station, this analysis shall include passengers arriving at the ESFV LRT Van Nuys Metrolink Station via Amtrak, Metrolink, bus, active transportation, park and ride, and kiss and ride. The results of this analysis shall inform design to determine necessary measures, such as removal of fare gates or installation of stand-alone validators at the ESFV LRT Van Nuys Metrolink Station, to eliminate the safety concern of passengers queueing into the street. Any necessary adjustments to station layouts, signage, pedestrian transfer paths, or fare gate configurations shall be incorporated into final design prior to commencement of operations.*

MM TRA-2: *During final design, the project contractor shall coordinate with the Los Angeles Department of Transportation to limit vehicular access to the pick-up/drop-off area at the Metro E Line Expo/Sepulveda Station to only right-in/right-out traffic.*

MM TRA-3: *Before commencing revenue service, advance warning signs, in accordance with the California Manual on Uniform Traffic Control Devices standards, shall be installed at the pick-up/drop-off location on Sherman Way to facilitate traffic flow and ensure pedestrian safety.*

6.5.2 Construction Impacts

MM TRA-4: *The project contractor shall prepare a Transportation Management Plan to facilitate the flow of traffic and transit service in and around construction zones. The Transportation Management Plan shall include, at a minimum, the following measures:*

- *Where feasible, schedule construction-related travel (i.e., deliveries, hauling, and worker trips) during off-peak hours and maintain two-way traffic circulation along affected roadways during peak hours. Avoid the closure of two major adjacent streets where feasible.*
- *Designated routes for project haul trucks shall primarily utilize the I-405, I-10, and US-101 corridors. Throughout the construction process, these routes shall be coordinated with the City of Los Angeles and U.S. Department of Veterans Affairs to ensure consistency with land use and mobility plans. Additionally, the routes shall be situated to minimize noise, vibration, and other possible impacts.*
- *Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas.*
- *Where construction encroaches on the Los Angeles-San Diego-San Luis Obispo rail corridor right-of-way, coordinate construction activities with Union Pacific, Metrolink, and Amtrak to limit disruptions to service and coordinate on outreach to inform passengers of service impacts. Provide temporary parking and drop-off facilities at the Van Nuys Metrolink/Amtrak Station to minimize passenger impacts.*
- *Develop and implement an outreach program and public awareness campaign in coordination with Caltrans, the City of Los Angeles, the City of Santa Monica, and the County of Los Angeles to inform the general public about the construction process and planned roadway closures, potential impacts, and mitigation measures, including temporary bus stop relocation.*
- *Where feasible, temporarily restripe roadways to maximize the vehicular capacity at locations affected by construction closures.*
- *Provide wayfinding signage, lighting, and access to specify pedestrian safety amenities (such as handrails, fences, and alternative walkways) during construction.*
- *Where construction encroaches on pedestrian facilities, special pedestrian safety measures shall be used, such as detour routes and temporary pedestrian barricades.*
- *Where construction encroaches onto the University of California, Los Angeles campus, the project contractor shall ensure that access to campus buildings is*

maintained through temporary decking and the construction of temporary stairs and ramps.

- *During final design, the project contractor shall coordinate with Metro Operations to minimize construction impacts on existing Metro rail operations in and around existing stations. Where construction results in the interruption of Metro rail operations, buses shall provide temporary service between rail stations.*
- *Provide on-street bicycle detour routes and signage to address temporary effects to bicycle circulation and minimize inconvenience (e.g., lengthy detours) as to minimize users potentially choosing less safe routes if substantially rerouted.*
- *During final design, the project contractor shall coordinate with first responders and emergency service providers to minimize impacts on emergency response. Coordination efforts shall include the development of detour routes and notification procedures to facilitate and ensure safe and efficient traffic movement. The nearest local first responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing.*
- *Maintain customer and delivery access to all operating businesses near construction work areas. Access shall be maintained to allow for reasonable business operations, including clear signage for alternate routes, temporary driveways, or entry points as necessary. Coordination with businesses shall be conducted to address specific access needs and limit disruptions, ensuring that any restrictions are communicated in advance and alternative arrangements are provided as appropriate.*

MM TRA-5: *Where construction results in the interruption of Metro rail operations, the Project shall provide temporary bus service at rail stations taken out of passenger service. Temporary bus service may consist of either dedicated bus shuttles or extensions of other Metro bus service. Temporary bus service during closures of the Metro D Line Westwood/UCLA Station and/or Metro D Line Westwood/VA Hospital Station shall operate on Bonsall Avenue, Wilshire Boulevard, Santa Monica Boulevard, Century Park East, Avenue of the Stars, Century Park West, and/or Constellation Drive.*

MM TRA-6: *During final design, the project contractor shall coordinate with University of California, Los Angeles (UCLA) and the Veterans Affairs (VA) Medical Center to ensure adequate emergency access to the Ronald Reagan UCLA Medical Center and the VA Medical Center during construction.*

6.5.3 Impacts After Mitigation

6.5.3.1 Operational Impacts

Operation of Alternative 1 would result in a potentially significant impact under Impact TRA-3 due to a safety hazard. Alternative 1 proposes a new passenger pick-up/drop off area located on the east side of the Metro E Line Expo/Sepulveda Station that would be accessed by a new driveway off of Pico Boulevard. The proximity of the driveway to the intersection of Pico Boulevard and Cotner Avenue would not allow for a westbound left-turn lane into the driveway, creating a risk of rear-end collisions.

With implementation of MM TRA-2, the driveway would be designed as a right-in/right-out only to minimize the risk of rear-end collisions, thus reducing this impact to less than significant.

Operation of Alternative 1 would result in an additional potentially significant impact under Impact TRA-3 due to a safety hazard. Alternative 1 proposes a new passenger pick-up/drop off area located on the north side of Sherman Way just west of the proposed Sherman Way Station. The pick-up/drop-off area would use part of an existing travel lane, creating a risk of rear-end collisions. With implementation of MM TRA-3, advanced warning signage would be provided to ensure pedestrian safety and facilitate traffic flow on Sherman Way to minimize the risk of rear-end collisions, thus reducing this impact to less than significant.

Operation of Alternative 1 would result in an additional potentially significant impact under Impact TRA-3 due to a safety hazard. Under Alternative 1, the queues resulting from the peak-hour passenger flow from the Alternative 1 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a safety hazard as passenger queues would extend into Van Nuys Boulevard. Therefore, operation of Alternative 1 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard. With implementation of MM TRA-1, a pedestrian flow microsimulation analysis would be required to evaluate passenger movements from the Alternative 1 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with SAVs, at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street, thus reducing this impact to less than significant.

6.5.3.2 Construction Impacts

Construction of Alternative 1 would result in a potentially significant impact under Impact TRA-1 due to temporary traffic control measures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4 would reduce impacts to less than significant by requiring a TMP to minimize temporary disruptions associated with construction activities. Implementation of MM TRA-5 would reduce this impact to less than significant by providing temporary bus service at rail stations taken out of passenger service during construction.

Construction of Alternative 1 would result in a potentially significant impact under Impact TRA-4 due to temporary traffic control measures that would result in inadequate emergency access during construction. Implementation of MM TRA-4 and MM TRA-6 would reduce this impact to less than significant by requiring coordination with first responders and the VA Medical Center during final design to maintain adequate emergency access during construction.

7 ALTERNATIVE 3

7.1 Alternative Description

Alternative 3 is an aerial monorail alignment that would run along the Interstate 405 (I-405) corridor and would include seven aerial monorail transit (MRT) stations and an underground tunnel alignment between the Getty Center and Wilshire Boulevard with two underground stations. This alternative would provide transfers to five high-frequency fixed guideway transit and commuter rail lines, including the Los Angeles County Metropolitan Transportation Authority's (Metro) E, Metro D, and Metro G Lines, the East San Fernando Valley Light Rail Transit (ESFV LRT) Line, and the Metrolink Ventura County Line. The length of the alignment between the terminus stations would be approximately 16.1 miles, with 12.5 miles of aerial guideway and 3.6 miles of underground configuration.

The seven aerial and two underground MRT stations would be as follows:

1. Metro E Line Expo/Sepulveda Station (aerial)
2. Santa Monica Boulevard Station (aerial)
3. Wilshire Boulevard/Metro D Line Station (underground)
4. UCLA Gateway Plaza Station (underground)
5. Getty Center Station (aerial)
6. Ventura Boulevard/Sepulveda Boulevard Station (aerial)
7. Metro G Line Sepulveda Station (aerial)
8. Sherman Way Station (aerial)
9. Van Nuys Metrolink Station (aerial)

7.1.1 Operating Characteristics

7.1.1.1 Alignment

As shown on Figure 7-1, from its southern terminus at the Metro E Line Expo/Sepulveda Station, the alignment of Alternative 3 would generally follow I-405 to the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor, except for an underground segment between Wilshire Boulevard and the Getty Center.

The proposed southern terminus station would be located west of the existing Metro E Line Expo/Sepulveda Station, east of I-405 between Pico Boulevard and Exposition Boulevard. Tail tracks would extend just south of the station adjacent to the eastbound Interstate 10 to northbound I-405 connector over Exposition Boulevard. North of the Metro E Line Expo/Sepulveda Station, a storage track would be located off of the main alignment north of Pico Boulevard between I-405 and Cotner Avenue. The alignment would continue north along the east side of I-405 until just south of Santa Monica Boulevard, where a proposed station would be located between the I-405 northbound travel lanes and Cotner Avenue. The alignment would cross over the northbound and southbound freeway lanes north of Santa Monica Boulevard and travel along the west side of I-405. Once adjacent to the U.S. Department of Veterans Affairs (VA) Hospital site, the alignment would cross back over the I-405 lanes and Sepulveda Boulevard, before entering an underground tunnel south of the Federal Building parking lot.

Figure 7-1. Alternative 3: Alignment

Source: LASRE, 2024; HTA, 2024

The alignment would proceed east underground and turn north under Veteran Avenue toward the proposed Wilshire Boulevard/Metro D Line Station located under the University of California, Los Angeles (UCLA) Lot 36 on the east side of Veteran Avenue north of Wilshire Boulevard. North of this station, the underground alignment would curve northeast parallel to Weyburn Avenue before curving north and traveling underneath Westwood Plaza at Le Conte Avenue. The alignment would follow Westwood Plaza until the underground UCLA Gateway Plaza Station in front of the Luskin Conference

Center. The alignment would then continue north under the UCLA campus until Sunset Boulevard, where the tunnel would curve northwest for approximately 2 miles to rejoin I-405.

The Alternative 3 alignment would transition from an underground configuration to an aerial guideway structure after exiting the tunnel portal located at the northern end of the Leo Baeck Temple parking lot. The alignment would cross over Sepulveda Boulevard and the I-405 lanes to the proposed Getty Center Station on the west side of I-405, just north of the Getty Center tram station. The alignment would return to the median for a short distance before curving back to the west side of I-405 south of the Sepulveda Boulevard undercrossing north of the Getty Center Drive interchange. After crossing over Bel Air Crest Road and Skirball Center Drive, the alignment would again return to the median and run under the Mulholland Drive Bridge, then continue north within the I-405 median to descend into the San Fernando Valley.

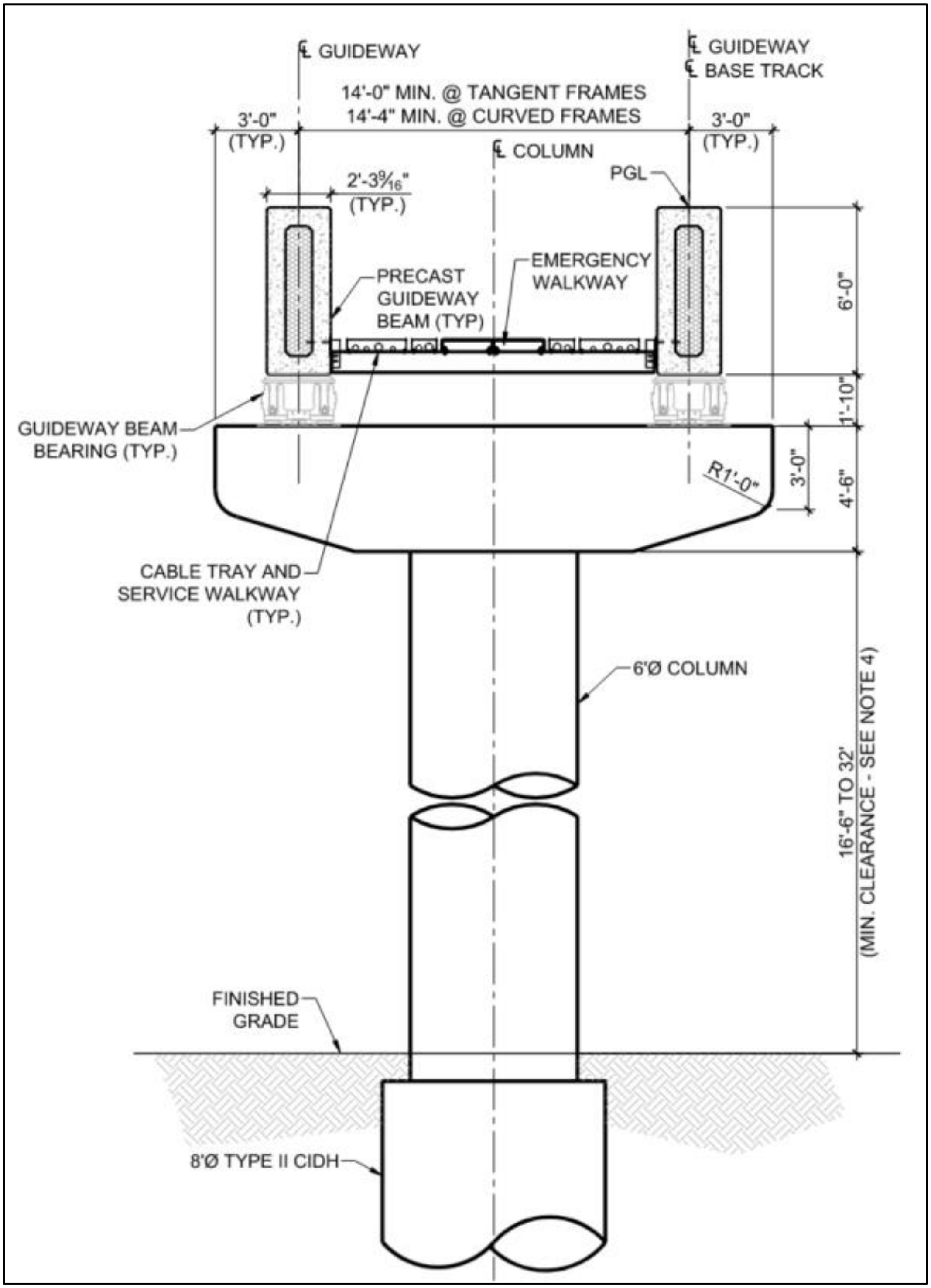
Near Greenleaf Street, the alignment would cross over the northbound freeway lanes and on-ramps toward the proposed Ventura Boulevard Station on the east side of I-405. This station would be located above a transit plaza and replace an existing segment of Dickens Street adjacent to I-405, just south of Ventura Boulevard. Immediately north of the Ventura Boulevard Station, the alignment would cross over the northbound I-405 to U.S. Highway 101 (US-101) connector and continue north between the connector and the I-405 northbound travel lanes. The alignment would continue north along the east side of I-405 — crossing over US-101 and the Los Angeles River — to a proposed station on the east side of I-405 near the Metro G Line Busway. A new at-grade station on the Metro G Line would be constructed for Alternative 3 adjacent to the proposed station. These proposed stations are shown on the Metro G Line inset area on Figure 7-1.

The alignment would then continue north along the east side of I-405 to the proposed Sherman Way Station. The station would be located inside the I-405 northbound loop off-ramp to Sherman Way. North of the station, the alignment would continue along the eastern edge of I-405, then curve to the southeast parallel to the LOSSAN rail corridor. The alignment would run elevated along Raymer Street east of Sepulveda Boulevard and cross over Van Nuys Boulevard to the proposed terminus station adjacent to the Van Nuys Metrolink/Amtrak Station. Overhead utilities along Raymer Street would be undergrounded where they would conflict with the guideway or its supporting columns. Tail tracks would be located southeast of this terminus station.

7.1.1.2 Guideway Characteristics

Alternative 3 would utilize straddle-beam monorail technology, which allows the monorail vehicle to straddle a guide beam that both supports and guides the vehicle. Alternative 3 would operate on aerial and underground guideways with dual-beam configurations. Northbound and southbound trains would travel on parallel beams either in the same tunnel or supported by a single-column or straddle-bent aerial structure. Figure 7-2 shows a typical cross-section of the aerial monorail guideway.

Figure 7-2. Typical Aerial Monorail Guideway Cross-Section

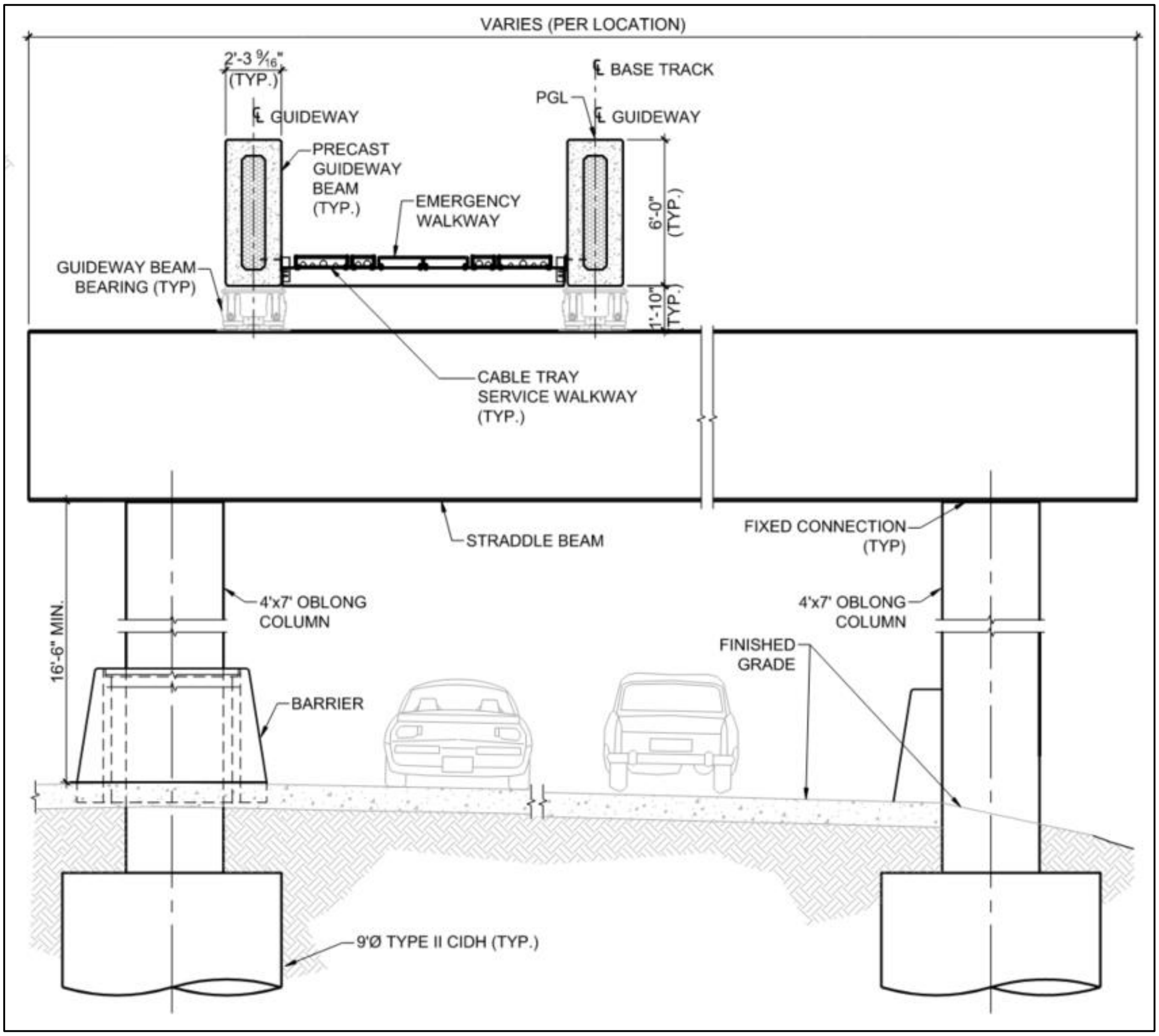


Source: LASRE, 2024

On a typical guideway section (i.e., not at a station), guide beams would rest on 20-foot-wide column caps (i.e., the structure connecting the columns and the guide beams), with typical spans (i.e., the distance between columns) ranging from 70 to 190 feet. The bottom of the column caps would typically be between 16.5 feet and 32 feet above ground level.

Over certain segments of roadway and freeway facilities, a straddle-bent configuration, as shown on Figure 7-3, consisting of two concrete columns constructed outside of the underlying roadway would be used to support the guide beams and column cap. Typical spans for these structures would range between 65 and 70 feet. A minimum 16.5-foot clearance would be maintained between the underlying roadway and the bottom of the column caps.

Figure 7-3. Typical Monorail Straddle-Bent Cross-Section

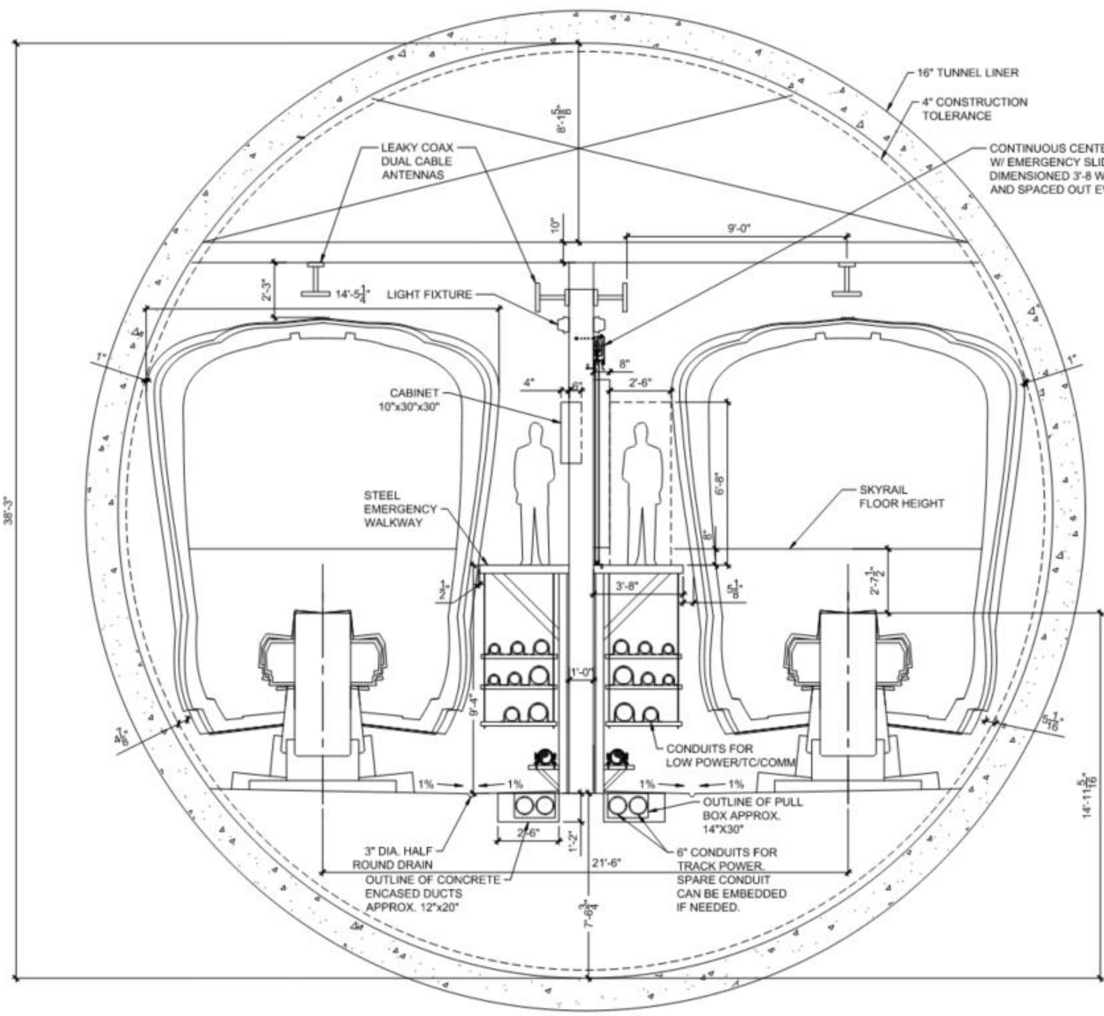


Source: LASRE, 2024

Structural support columns would vary in size and arrangement by alignment location. Columns would be 6 feet in diameter along main alignment segments adjacent to I-405 and be 4 feet wide by 6 feet long in the I-405 median. Straddle-bent columns would be 4 feet wide by 7 feet long. At stations, six rows of dual 5-foot by-8-foot columns would support the aerial guideway. Beam switch locations and long-span structures would also utilize different sized columns, with dual 5-foot columns supporting switch locations and either 9-foot or 10-foot-diameter columns supporting long-span structures. Crash protection barriers would be used to protect the columns. All columns would have a cast-in-drilled-hole (CIDH) pile foundation extending 1 foot in diameter beyond the column width with varying depths for appropriate geotechnical considerations and structural support.

For underground sections, a single 40-foot-diameter tunnel would be needed to accommodate dual-beam configuration. The tunnel would be divided by a 1-foot-thick center wall dividing two compartments with a 14.5-foot-wide space for trains and a 4-foot-wide emergency evacuation walkway. The center wall would include emergency sliding doors placed every 750 to 800 feet. A plenum within the crown of the tunnel, measuring 8 feet tall from the top of the tunnel, would allow for air circulation and ventilation. Figure 7-4 illustrates these components at a typical cross-section of the underground monorail guideway.

Figure 7-4. Typical Underground Monorail Guideway Cross-Section



Source: LASRE, 2024

7.1.1.3 Vehicle Technology

Alternative 3 would utilize straddle-beam monorail technology, which allows the monorail vehicle to straddle a guide beam that both supports and guides the vehicle. Rubber tires would sit both atop and on each side of the guide beam to provide traction and guide the train. Trains would be automated and powered by power rails mounted to the guide beam, with planned peak-period headways of 166 seconds and off-peak-period headways of 5 minutes. Monorail trains could consist of up to eight cars. Alternative 3 would have a maximum operating speed of 56 miles per hour; actual operating speeds would depend on the design of the guideway and distance between stations.

Monorail train cars would be 10.5 feet wide, with two double doors on each side. End cars would be 46.1 feet long with a design capacity of 97 passengers, and intermediate cars would be 35.8 feet long and have a design capacity of 90 passengers.

7.1.1.4 Stations

Alternative 3 would include seven aerial and two underground MRT stations with platforms approximately 320 feet long. Aerial stations would be elevated 50 feet to 75 feet above the ground level, and underground stations would be 80 feet to 110 feet underneath the existing ground level. The Metro E Line Expo/Sepulveda, Santa Monica Boulevard, Ventura Boulevard/Sepulveda Boulevard, Sherman Way, and Van Nuys Metrolink Stations would be center-platform stations where passengers would travel up to a shared platform that would serve both directions of travel. The Wilshire Boulevard/Metro D Line, UCLA Gateway Plaza, Getty Center, and Metro G Line Sepulveda Stations would be side-platform stations where passengers would select and travel up or down to station platforms depending on their direction of travel. Each station, regardless of whether it has side or center platforms, would include a concourse level prior to reaching the train platforms. Each station would have a minimum of two elevators, two escalators, and one stairway from ground level to the concourse.

Aerial station platforms would be approximately 320 feet long and would be supported by six rows of dual 5-foot by- 8-foot columns. The platforms would be covered, but not enclosed. Side-platform stations would be 61.5 feet wide to accommodate two 13-foot-wide station platforms with a 35.5-foot-wide intermediate gap for side-by-side trains. Center-platform stations would be 49 feet wide, with a 25-foot-wide center platform.

Underground side platforms would be 320 feet long and 26 feet wide, separated by a distance of 31.5 feet for side-by-side trains.

Monorail stations would include automatic, bi-parting fixed doors along the edges of station platforms. These doors would be integrated into the automatic train control system and would not open unless a train is stopped at the platform.

The following information describes each station, with relevant entrance, walkway, and transfer information. Bicycle parking would be provided at each station.

Metro E Line Expo/Sepulveda Station

- This aerial station would be located near the existing Metro E Line Expo/Sepulveda Station, just east of I-405 between Pico Boulevard and Exposition Boulevard.
- A transit plaza and station entrance would be located on the east side of the station.
- An off-street passenger pick-up/drop-off loop would be located south of Pico Boulevard west of Cotner Avenue.
- An elevated pedestrian walkway would connect the concourse level of the proposed station to the Metro E Line Expo/Sepulveda Station within the fare paid zone.

- Passengers would be able to park at the existing Metro E Line Expo/Sepulveda Station parking facility, which provides 260 parking spaces. No additional automobile parking would be provided at the proposed station.

Santa Monica Boulevard Station

- This aerial station would be located just south of Santa Monica Boulevard, between the I-405 northbound travel lanes and Cotner Avenue.
- Station entrances would be located on the southeast and southwest corners of Santa Monica Boulevard and Cotner Avenue. The entrance on the southeast corner of the intersection would be connected to the station concourse level via an elevated pedestrian walkway spanning Cotner Avenue.
- No dedicated station parking would be provided at this station.

Wilshire Boulevard/Metro D Line Station

- This underground station would be located under UCLA Lot 36 on the east side of Veteran Avenue north of Wilshire Boulevard.
- A station entrance would be located on the northeast corner of the intersection of Veteran Avenue and Wilshire Boulevard.
- An underground pedestrian walkway would connect the concourse level of the proposed station to the Metro D Line Westwood/UCLA Station using a knock-out panel provided in the Metro D Line Station box. This connection would occur within the fare paid zone.
- No dedicated station parking would be provided at this station.

UCLA Gateway Plaza Station

- This underground station would be located beneath Gateway Plaza.
- Station entrances would be located on the northern end and southeastern end of the plaza.
- No dedicated station parking would be provided at this station.

Getty Center Station

- This aerial station would be located on the west side of I-405 near the Getty Center, approximately 1,000 feet north of the Getty Center tram station.
- An elevated pedestrian walkway would connect the proposed station's concourse level with the Getty Center tram station. The proposed connection would occur outside the fare paid zone.
- An entrance to the walkway above the Getty Center's parking lot would be the proposed station's only entrance.
- No dedicated station parking would be provided at this station.

Ventura Boulevard/Sepulveda Boulevard Station

- This aerial station would be located east of I-405, just south of Ventura Boulevard.
- A transit plaza, including two station entrances, would be located on the east side of the station. The plaza would require the closure of a 0.1-mile segment of Dickens Street between Sepulveda

Boulevard and Ventura Boulevard, with a passenger pick-up/drop-off loop and bus stops provided south of the station, off Sepulveda Boulevard.

- No dedicated station parking would be provided at this station.

Metro G Line Sepulveda Station

- This aerial station would be located near the Metro G Line Sepulveda Station, between I-405 and the Metro G Line Busway.
- Entrances to the MRT station would be located on both sides of the new proposed Metro G Line bus rapid transit (BRT) station.
- An elevated pedestrian walkway would connect the concourse level of the proposed station to the proposed new Metro G Line BRT station outside of the fare paid zone.
- Passengers would be able to park at the existing Metro G Line Sepulveda Station parking facility, which has a capacity of 1,205 parking spaces. Currently, only 260 parking spaces are used for transit parking. No additional automobile parking would be provided at the proposed station.

Sherman Way Station

- This aerial station would be located inside the I-405 northbound loop off-ramp to Sherman Way.
- A station entrance would be located on the north side of Sherman Way, directly across the street from the I-405 northbound off-ramp to Sherman Way East.
- An on-street passenger pick-up/drop-off area would be provided on the north side of Sherman Way west of Firmament Avenue.
- No dedicated station parking would be provided at this station.

Van Nuys Metrolink Station

- This aerial station would be located on the east side of Van Nuys Boulevard, just south of the LOSSAN rail corridor, incorporating the site of the current Amtrak ticket office.
- A station entrance would be located on the east side of Van Nuys Boulevard just south of the LOSSAN rail corridor. A second entrance would be located to the north of the LOSSAN rail corridor with an elevated pedestrian walkway connecting to both the concourse level of the proposed station and the platform of the Van Nuys Metrolink/Amtrak Station.
- Existing Metrolink Station parking would be reconfigured, maintaining approximately the same number of spaces, but 180 parking spaces would be relocated north of the LOSSAN rail corridor. Metrolink parking would not be available to Metro transit riders.

7.1.1.5 Station-to-Station Travel Times

Table 7-1 presents the station-to-station distance and travel times for Alternative 3. The travel times includes both running time and dwelling time. The travel times differ between northbound and southbound trips because of grade differentials and operational considerations at end-of-line stations.

Table 7-1. Alternative 3: Station-to-Station Travel Times and Station Dwell Times

From Station	To Station	Distance (miles)	Northbound Station- to-Station Travel Time (seconds)	Southbound Station- to-Station Travel Time (seconds)	Dwell Time (seconds)
Metro E Line Station					*30*
Metro E Line	Santa Monica Boulevard	0.9	123	97	—
Santa Monica Boulevard Station					*30*
Santa Monica Boulevard	Wilshire/Metro D Line	1.1	192	194	—
Wilshire/Metro D Line Station					*30*
Wilshire/Metro D Line	UCLA Gateway Plaza	0.9	138	133	—
UCLA Gateway Plaza Station					*30*
UCLA Gateway Plaza	Getty Center	2.6	295	284	—
Getty Center Station					*30*
Getty Center	Ventura Boulevard	4.7	414	424	—
Ventura Boulevard Station					*30*
Ventura Boulevard	Metro G Line	2.0	179	187	—
Metro G Line Station					*30*
Metro G Line	Sherman Way	1.5	134	133	—
Sherman Way Station					*30*
Sherman Way	Van Nuys Metrolink	2.4	284	279	—
Van Nuys Metrolink Station					*30*

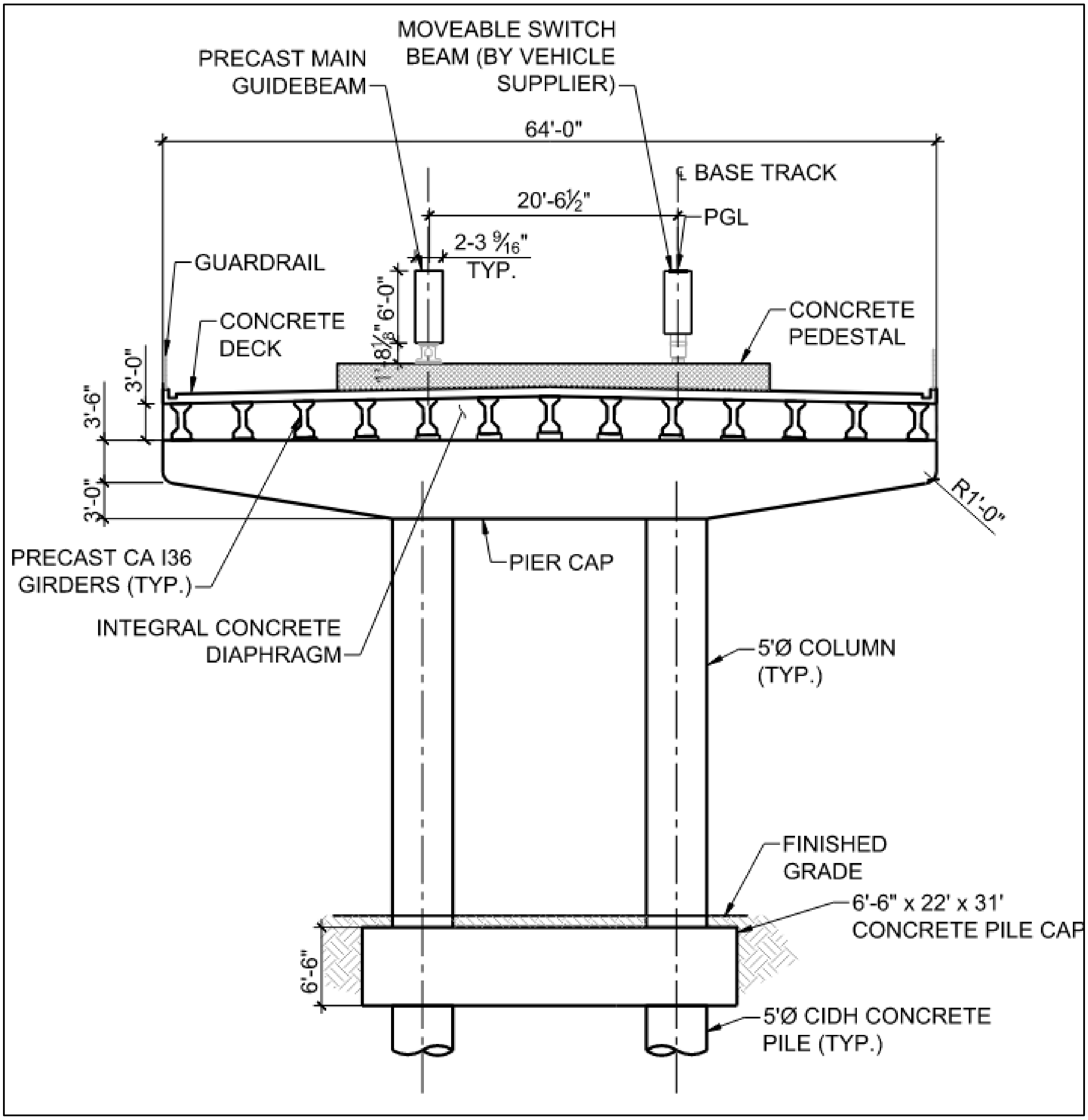
Source: LASRE, 2024

7.1.1.6 Special Trackwork

Alternative 3 would include five pairs of beam switches to enable trains to cross over and reverse direction on the opposite beam. All beam switches would be located on aerial portions of the alignment of Alternative 3. From south to north, the first pair of beam switches would be located just north of the Metro E Line Expo/Sepulveda Station. A second pair of beam switches would be located on the west side of I-405, directly adjacent to the VA Hospital site, south of the Wilshire Boulevard/Metro D Line Station. A third pair of beam switches would be located in the Sepulveda Pass just south of Mountaingate Drive and Sepulveda Boulevard. A fourth pair of beam switches would be located south of the Metro G Line Station between the I-405 northbound lanes and the Metro G Line Busway. The final pair would be located near the Van Nuys Metrolink Station.

At beam switch locations, the typical cross-section of the guideway would increase in column and column cap width. The column cap width at these locations would be 64 feet, with dual 5-foot-diameter columns. Underground pile caps for additional structural support would also be required at these locations. Figure 7-5 shows a typical cross-section of the monorail beam switch.

Figure 7-5. Typical Monorail Beam Switch Cross-Section



Source: LASRE, 2024

7.1.1.7 Maintenance and Storage Facility

MSF Base Design

In the maintenance and storage facility (MSF) Base Design for Alternative 3, the MSF would be located on City of Los Angeles Department of Water and Power (LADWP) property east of the Van Nuys Metrolink Station. The MSF Base Design site would be approximately 18 acres and would be designed to accommodate a fleet of 208 monorail vehicles. The site would be bounded by the LOSSAN rail corridor to the north, Saticoy Street to the south, and property lines extending north of Tyrone and Hazeltine Avenues to the east and west, respectively.

Monorail trains would access the site from the main alignment's northern tail tracks at the northwest corner of the site. Trains would travel parallel to the LOSSAN rail corridor before curving southeast to maintenance facilities and storage tracks. The guideway would remain in an aerial configuration within the MSF Base Design, including within maintenance facilities.

The site would include the following facilities:

- Primary entrance with guard shack
- Primary maintenance building that would include administrative offices, an operations control center, and a maintenance shop and office
- Train car wash building
- Emergency generator
- Traction power substation (TPSS)
- Maintenance-of-way (MOW) building
- Parking area for employees

MSF Design Option 1

In the MSF Design Option 1, the MSF would be located on industrial property, abutting Orion Avenue, south of the LOSSAN rail corridor. The MSF Design Option 1 site would be approximately 26 acres and would be designed to accommodate a fleet of 224 monorail vehicles. The site would be bounded by I-405 to the west, Stagg Street to the south, the LOSSAN rail corridor to the north, and Orion Avenue and Raymer Street to the east. The monorail guideway would travel along the northern edge of the site.

Monorail trains would access the site from the monorail guideway east of Sepulveda Boulevard, requiring additional property east of Sepulveda Boulevard and north of Raymer Street. From the northeast corner of the site, trains would travel parallel to the LOSSAN rail corridor before turning south to maintenance facilities and storage tracks parallel to I-405. The guideway would remain in an aerial configuration within the MSF Design Option 1, including within maintenance facilities.

The site would include the following facilities:

- Primary entrance with guard shack
- Primary maintenance building that would include administrative offices, an operations control center, and a maintenance shop and office
- Train car wash building
- Emergency generator
- TPSS
- MOW building
- Parking area for employees

Figure 7-6 shows the locations of the MSF Base Design and MSF Design Option 1 for Alternative 3.

Figure 7-6. Alternative 3: Maintenance and Storage Facility Options

Source: LASRE, 2024; HTA, 2024

7.1.1.8 Traction Power Substations

TPSSs transform and convert high voltage alternating current supplied from power utility feeders into direct current suitable for transit operation. A TPSS on a site of approximately 8,000 square feet would be located approximately every 1 mile along the alignment. Table 7-2 lists the TPSS locations proposed for Alternative 3.

Figure 7-7 shows the TPSS locations along the Alternative 3 alignment.

Table 7-2. Alternative 3: Traction Power Substation Locations

TPSS No.	TPSS Location Description	Configuration
1	TPSS 1 would be located east of I-405, just south of Exposition Boulevard and the monorail guideway tail tracks.	At-grade
2	TPSS 2 would be located east of I-405 and Sepulveda Boulevard, just north of the Getty Center Station.	At-grade
3	TPSS 3 would be located west of I-405, just east of the intersection between Promontory Road and Sepulveda Boulevard.	At-grade
4	TPSS 4 would be located between I-405 and Sepulveda Boulevard, just north of the Skirball Center Drive Overpass.	At-grade
5	TPSS 5 would be located east of I-405, just south of Ventura Boulevard Station, between Sepulveda Boulevard and Dickens Street.	At-grade
6	TPSS 6 would be located east of I-405, just south of the Metro G Line Sepulveda Station.	At-grade
7	TPSS 7 would be located east of I-405, just east of the Sherman Way Station, inside the I-405 Northbound Loop Off-Ramp to Sherman Way westbound.	At-grade
8	TPSS 8 would be located east of I-405, at the southeast quadrant of the I-405 overcrossing with the LOSSAN rail corridor.	At-grade
9	TPSS 9 would be located east of I-405, at the southeast quadrant of the I-405 overcrossing with the LOSSAN rail corridor.	At-grade (within MSF Design Option)
10	TPSS 10 would be located between Van Nuys Boulevard and Raymer Street, south of the LOSSAN rail corridor.	At-grade
11	TPSS 11 would be located south of the LOSSAN rail corridor, between Tyrone Avenue and Hazeltine Avenue.	At-grade (within MSF Base Design)
12	TPSS 12 would be located southwest of Veteran Avenue at Wellworth Avenue.	Underground
13	TPSS 13 would be located within the Wilshire Boulevard/Metro D Line Station.	Underground (adjacent to station)
14	TPSS 14 would be located underneath UCLA Gateway Plaza.	Underground (adjacent to station)

Source: LASRE, 2024; HTA, 2024

Figure 7-7. Alternative 3: Traction Power Substation Locations

Source: LASRE, 2024; HTA, 2024

7.1.1.9 Roadway Configuration Changes

Table 7-3 lists the roadway changes necessary to accommodate the guideway of Alternative 3. Figure 7-8 shows the location of these roadway changes in the Sepulveda Transit Corridor Project (Project) Study Area, except for the I-405 configuration changes, which occur throughout the corridor.

Table 7-3. Alternative 3: Roadway Changes

Location	From	To	Description of Change
Cotner Avenue	Nebraska Avenue	Santa Monica Boulevard	Roadway realignment to accommodate aerial guideway columns
Beloit Avenue	Massachusetts Avenue	Ohio Avenue	Roadway narrowing to accommodate aerial guideway columns
Sepulveda Boulevard	Getty Center Drive	Not Applicable	Southbound right turn lane to Getty Center Drive shortened to accommodate aerial guideway columns
I-405 Northbound On-Ramp and Off-Ramp at Sepulveda Boulevard near I-405 Exit 59	Sepulveda Boulevard near I-405 Northbound Exit 59	Sepulveda Boulevard/I-405 Undercrossing (near Getty Center)	Ramp realignment to accommodate aerial guideway columns and I-405 widening
Sepulveda Boulevard	I-405 Southbound Skirball Center Drive Ramps (north of Mountaingate Drive)	Skirball Center Drive	Roadway realignment into existing hillside to accommodate aerial guideway columns and I-405 widening
I-405 Northbound On-Ramp at Mulholland Drive	Mulholland Drive	Not Applicable	Roadway realignment into the existing hillside between the Mulholland Drive Bridge pier and abutment to accommodate aerial guideway columns and I-405 widening
Dickens Street	Sepulveda Boulevard	Ventura Boulevard	Permanent removal of street for Ventura Boulevard Station construction Pick-up/drop-off area would be provided along Sepulveda Boulevard at the truncated Dickens Street
Sherman Way	Haskell Avenue	Firmament Avenue	Median improvements, passenger drop-off and pick-up areas, and bus pads within existing travel lanes
Raymer Street	Sepulveda Boulevard	Van Nuys Boulevard	Curb extensions and narrowing of roadway width to accommodate aerial guideway columns
I-405	Sepulveda Boulevard Northbound Off-Ramp (Getty Center Drive interchange)	Sepulveda Boulevard Northbound On-Ramp (Getty Center Drive interchange)	I-405 widening to accommodate aerial guideway columns in the median
I-405	Skirball Center Drive	U.S. Highway 101	I-405 widening to accommodate aerial guideway columns in the median

Source: LASRE, 2024; HTA, 2024

Figure 7-8. Alternative 3: Roadway Changes

Source: LASRE, 2024; HTA, 2024

In addition to the changes made to accommodate the guideway, as listed in Table 7-3, roadways and sidewalks near stations would be reconstructed, which would result in modifications to curb ramps and driveways.

7.1.1.10 Ventilation Facilities

For ventilation of the monorail's underground portion, a plenum within the crown of the tunnel would provide a separate compartment for air circulation and allow multiple trains to operate between stations. Vents would be located at the southern portal near the Federal Building parking lot, Wilshire/Metro D Line Station, UCLA Gateway Plaza Station, and at the northern portal near the Leo Baeck Temple parking lot. Emergency ventilation fans would be located at the UCLA Gateway Plaza Station and at the northern and southern tunnel portals.

7.1.1.11 Fire/Life Safety – Emergency Egress

Continuous emergency evacuation walkways would be provided along the guideway. Walkways along the alignment's aerial portions would typically consist of structural steel frames anchored to the guideway beams to support non-slip walkway panels. The walkways would be located between the two guideway beams for most of the aerial alignment; however, where the beams split apart, such as entering center-platform stations, short portions of the walkway would be located on the outside of the beams. For the underground portion of Alternative 3, 3.5-foot-wide emergency evacuation walkways would be located on both sides of the beams. Access to tunnel segments for first responders would be through stations.

7.1.2 Construction Activities

Construction activities for Alternative 3 would include constructing the aerial guideway and stations, underground tunnel and stations, and ancillary facilities, and widening I-405. Construction of the transit facilities through substantial completion is expected to have a duration of 8 ½ years. Early works, such as site preparation, demolition, and utility relocation, could start in advance of construction of the transit facilities.

Aerial guideway construction would begin at the southern and northern ends of the alignment and connect in the middle. Constructing the guideway would require a combination of freeway and local street lane closures throughout the working limits to provide sufficient work area. The first stage of I-405 widening would include a narrowing of adjacent freeway lanes to a minimum width of 11 feet (which would eliminate shoulders) and placing K-rail on the outside edge of the travel lanes to create outside work areas. Within these outside work zones, retaining walls, drainage, and outer pavement widenings would be constructed to allow for I-405 widening. The reconstruction of on- and off-ramps would be the final stage of I-405 widening.

A median work zone along I-405 for the length of the alignment would be required for erection of the guideway structure. In the median work zone, demolition of existing median and drainage infrastructure would be followed by the installation of new K-rails and installation of guideway structural components, which would include full directional freeway closures when guideway beams must be transported into the median work areas during late-night hours. Additional night and weekend directional closures would be required for installation of long-span structures over I-405 travel lanes where the guideway would transition from the median.

Aerial station construction is anticipated to last the duration of construction activities for Alternative 3 and would include the following general sequence of construction:

- Site clearing
- Utility relocation
- Construction fencing and rough grading
- CIDH pile drilling and installation
- Elevator pit excavation
- Soil and material removal

- Pile cap and pier column construction
- Concourse level and platform level falsework and cast-in-place structural concrete
- Guideway beam installation
- Elevator and escalator installation
- Completion of remaining concrete elements such as pedestrian bridges
- Architectural finishes and mechanical, electrical, and plumbing installation

Underground stations, including the Wilshire Boulevard/Metro D Line Station and the UCLA Gateway Plaza Station, would use a “cut-and-cover” construction method whereby the station structure would be constructed within a trench excavated from the surface that is covered by a temporary deck and backfilled during the later stages of station construction. Traffic and pedestrian detours would be necessary during underground station excavation until decking is in place and the appropriate safety measures are taken to resume cross traffic.

A tunnel boring machine (TBM) would be used to construct the underground segment of the guideway. The TBM would be launched from a staging area on Veteran Avenue south of Wilshire Boulevard, and head north toward an exit portal location north of Leo Baeck Temple. The southern portion of the tunnel between Wilshire Boulevard and the Bel Air Country Club would be at a depth between 80 to 110 feet from the surface to the top of the tunnel. The UCLA Gateway Plaza Station would be constructed using cut-and-cover methods. Through the Santa Monica Mountains, the tunnel would range between 30 to 300 feet deep.

Alternative 3 would require construction of a concrete casting facility for columns and beams associated with the elevated guideway. A specific site has not been identified; however, it is expected that the facility would be located on industrially zoned land adjacent to a truck route in either the Antelope Valley or Riverside County. When a site is identified, the contractor would obtain all permits and approvals necessary from the relevant jurisdiction, the appropriate air quality management entity, and other regulatory entities.

TPSS construction would require additional lane closures. Large equipment, including transformers, rectifiers, and switchgears would be delivered and installed through prefabricated modules where possible in at-grade TPSSs. The installation of transformers would require temporary lane closures on Exposition Boulevard, Beloit Avenue, and the I-405 northbound on-ramp at Burbank Boulevard.

Table 7-4 and Figure 7-9 show the potential construction staging areas for Alternative 3. Staging areas would provide the necessary space for the following activities:

- Contractors’ equipment
- Receiving deliveries
- Storing materials
- Site offices
- Work zone for excavation
- Other construction activities (including parking and change facilities for workers, location of construction office trailers, storage, staging and delivery of construction materials and permanent plant equipment, and maintenance of construction equipment)

Table 7-4. Alternative 3: Construction Staging Locations

No.	Location Description
1	Public Storage between Pico Boulevard and Exposition Boulevard, east of I-405
2	South of Dowlen Drive and east of Greater LA Fisher House
3	Federal Building Parking Lot
4	Kinross Recreation Center and UCLA Lot 36
5	North end of the Leo Baeck Temple Parking Lot (tunnel boring machine retrieval)
6	At 1400 N Sepulveda Boulevard
7	At 1760 N Sepulveda Boulevard
8	East of I-405 and north of Mulholland Drive Bridge
9	Inside of I-405 Northbound to US-101 Northbound Loop Connector, south of US-101
10	ElectroRent Building south of Metro G Line Busway, east of I-405
11	Inside the I-405 Northbound Loop Off-Ramp at Victory Boulevard
12	Along Cabrito Road east of Van Nuys Boulevard

Source: LASRE, 2024; HTA, 2024

Figure 7-9. Alternative 3: Construction Staging Locations

Source: LASRE, 2024; HTA, 2024

7.2 Existing Conditions

7.2.1 Vehicle Miles Traveled

Table 7-5 shows the regional vehicle miles traveled (VMT) under existing conditions for the base year and under the No Project Alternative for the forecast horizon year. Ambient population and employment growth would occur in the region between the base year and horizon year.

Table 7-5. Existing and No Project Alternative Vehicle Miles Traveled

Project Alternative	Total Vehicle Miles Traveled
Existing Conditions (2019 Base Year)	456,869,300
No Project Alternative (2045 Horizon Year)	568,557,200

Source: HTA, 2024

Note: 2019 is used as the base year for the VMT analysis because it is the most recent year for which Metro's CBM18B Transportation Analysis Model has been calibrated.

7.2.2 Roadway Network

The roadway network within the Study Area includes a wide range of facilities including three freeways that provide regional access throughout Los Angeles County and Southern California, as well as multiple arterials, local roads, and intersections.

7.2.2.1 Freeways

The freeways within the Study Area include:

- **I-405 (San Diego Freeway):** I-405 is the major north-south freeway traversing the Study Area in its entirety. This freeway provides regional access between San Fernando and Irvine. Within the Study Area, I-405 provides five to seven lanes in each direction, including carpool lanes and auxiliary lanes. The direction of peak traffic demand varies over the course of the day, with the greatest travel occurring from San Fernando Valley to the Westside during the morning commute period and the reverse pattern during the evening commute period. Ramps within the Study Area include National Boulevard, Olympic and Pico Boulevards, Santa Monica Boulevard, Wilshire Boulevard, Sunset Boulevard, Moraga Drive, Getty Center Drive (via Sepulveda Boulevard), Skirball Center Drive, Ventura Boulevard, Burbank Boulevard, Victory Boulevard, Sherman Way, and Roscoe Boulevard on- and off-ramps. I-405 connects with US-101 and I-10 within the Study Area, which provide regional east-west connectivity. On an average weekday, I-405 carries 353,000 vehicles on the Westside, 301,000 in the Sepulveda Pass, and 209,000 in the San Fernando Valley (Caltrans, 2022b).
- **I-10 (Santa Monica Freeway):** I-10 is an east-west freeway that crosses the southern end of the Study Area for 3.5 miles. Within the Study Area, I-10 consists of four general-purpose lanes in each direction, with no high-occupancy vehicle (HOV) lanes. Ramps within the Study Area include the Cloverfield Boulevard, Centinela Avenue, Bundy Drive, and Overland Avenue on- and off-ramps. I-10 connects to State Route (SR) 1 in the City of Santa Monica, I-405 in West Los Angeles, and I-110/SR-110, US-101, and Interstate 5 (I-5) near downtown Los Angeles. On an average weekday, I-10 carries 215,000 vehicles through the Study Area (Caltrans, 2022b).
- **US-101 (Ventura Freeway):** US-101 is an east-west freeway within the Study Area that crosses the northern end of the Study Area for 5 miles. US-101 has five general-purpose lanes in each direction, with auxiliary lanes near the I-405 interchange and does not have any HOV lanes in either direction within the Study Area. Ramps within the Study Area include the Woodman Avenue, Van Nuys Boulevard, Sepulveda Boulevard, Haskell Avenue, Hayvenhurst Avenue, and Balboa Boulevard on- and off-ramps, and the White Oak Avenue off-ramp. US-101 connects with SR-134 and SR-170 in the San Fernando Valley and I-10, SR-110, and I-5 near downtown Los Angeles. On an average weekday, US-101 carries 323,000 vehicles through the Study Area (Caltrans, 2022b).

7.2.2.2 Major Arterial Network

Table 7-6 lists and Figure 7-10 shows major arterials in the Study Area and their classification under *Mobility Plan 2035*. Classifications are based on roadway and right-of-way (ROW) widths and include the following types in the Study Area:

- Boulevard II facilities have roadway widths of 80 feet and total ROW widths of 110 feet.
- Avenue I facilities have roadway widths of 70 feet and total ROW widths of 100 feet.
- Avenue II facilities have roadway widths of 56 feet and total ROW widths of 86 feet.
- Collector streets have roadway widths of 40 feet and total ROW widths of 66 feet.
- Local streets have roadway widths between 30 and 36 feet and total ROW widths between 50 and 60 feet.

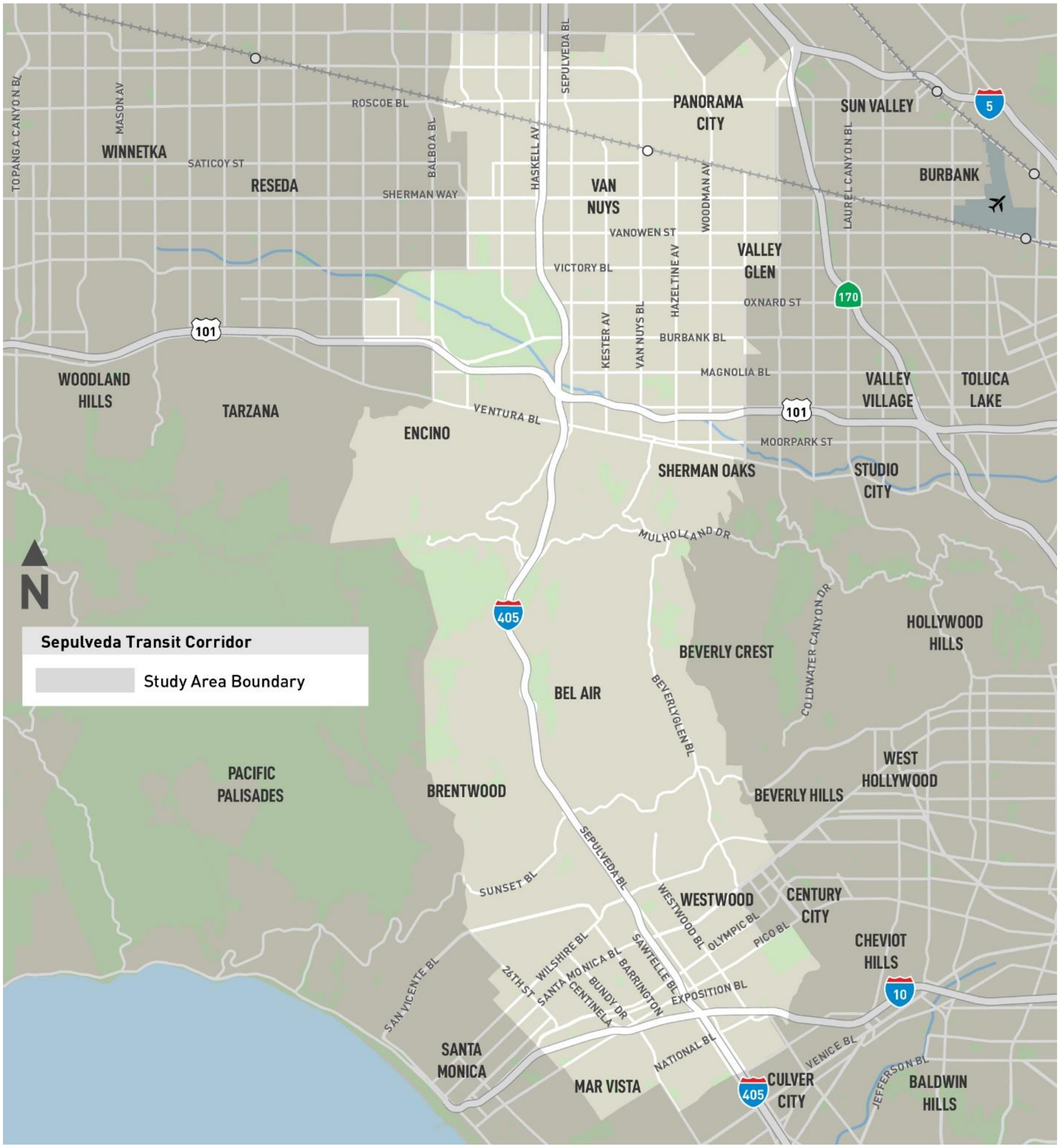
Table 7-6. Existing Major Arterials within the Study Area

Name	Mobility Plan 2035 Classification
Major North-South Arterials (listed from west to east)	
Centinela Avenue	Avenue I
Bundy Drive	Avenue I
Barrington Avenue	Avenue I (south of Pico Boulevard) Avenue II (north of Pico Boulevard)
Haskell Avenue	Avenue II
Sawtelle Boulevard	Avenue I
Sepulveda Boulevard	Boulevard II
Kester Avenue	Avenue II
Van Nuys Boulevard	Boulevard II
Westwood Boulevard	Avenue II (south of Wilshire Boulevard) Boulevard II (north of Wilshire Boulevard) Avenue I (between Le Conte Avenue and Wilshire Boulevard)
Beverly Glen Boulevard	Avenue I (south of Wilshire Boulevard) Avenue II (between Sunset Boulevard and Wilshire Boulevard, and between Ventura Boulevard and Mulholland Drive)
Hazeltine Avenue	Avenue II
Woodman Avenue	Avenue I
Major East-West Arterials (listed from south to north)	
National Boulevard	Avenue I
Exposition Boulevard	Collector Street (east of Sepulveda Boulevard) Local/Other Street (west of I-405)
Pico Boulevard	Avenue I
Olympic Boulevard	Boulevard II
Santa Monica Boulevard	Boulevard II
Wilshire Boulevard	Boulevard II
San Vincente Boulevard	Avenue II
Sunset Boulevard	Avenue I
Mulholland Drive	Local/Other Street
Ventura Boulevard	Boulevard II
Magnolia Boulevard	Avenue II
Burbank Boulevard	Boulevard II
Oxnard Street	Avenue II
Victory Boulevard	Boulevard II

Name	Mobility Plan 2035 Classification
Vanowen Street	Avenue II
Sherman Way	Boulevard II
Saticoy Street	Avenue II
Roscoe Boulevard	Boulevard II

Source: DCP, 2016; HTA, 2024

Figure 7-10. Existing Freeway and Arterial Network within the Study Area



Source: HTA, 2024

7.2.3 Transit Network

Several local and regional transit agencies — including Metro, Los Angeles Department of Transportation (LADOT), Amtrak, Metrolink commuter rail, Santa Monica Big Blue Bus (BBB), Culver CityBus (CCB), Santa Clarita Transit (SCT), Antelope Valley Transit Authority (AVTA), Long Beach Transit (LBT), and BruinBus — serve the Study Area. Transit service types within the Study Area include rapid bus, express/commuter bus, commuter rail, light rail transit (LRT), BRT, shuttles and circulators, and local bus lines. In addition, five Metro bus routes operate 24 hours and offer half-hour or hour headways during owl service hours (12:00am to 4:00am). Table 7-7 summarizes the fixed-route transit lines that serve the Study Area (as of October 2022).

Table 7-7. Existing Fixed-route Transit Service within the Study Area

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Rail				
Metro	E	3:43am-12:46am	10	12
Metrolink	Ventura County	5:02am-8:15pm	30 (in peak direction)	4 off-peak trains
Amtrak	Pacific Surfliner	7:47am-9:09pm	Five daily trains in each direction	
Amtrak	Coast Starlight	NA	One daily train in each direction	
Bus Rapid Transit				
Metro	901 (G Line)	24 hours (hourly owl service)	6	10
Rapid Bus				
BBB	Rapid 7	6:05am-8:09pm	20	20
BBB	Rapid 12	5:30am-10:00pm	10-12	12
CCB	6R	6:28am-7:56pm	15	15
Metro	720	5:00am-1:00am	8	11
Metro	761	3:57am-11:13pm	15	15
Local Bus				
BBB	1	5:20am-10:20pm	10-12	10-12
BBB	2	6:50am-10:42pm	20	20
BBB	5	7:20am-7:00pm	30	30
BBB	Local 7	4:50am-11:58pm	15	15
BBB	Express 7	6:05am-8:09pm	20	20
BBB	8	6:30am-10:34pm	25-27	25-27
BBB	14	5:15am-8:20pm	12-15	12-15
BBB	15	6:45am-7:00pm	20	20
BBB	16	6:20am-7:04pm	25	30
BBB	17	5:45am-8:00pm	15	20
BBB	18	6:45am-8:30pm	30	30
BBB	43	6:25am-5:50pm	30	NA
CCB	3	6:00am-9:45pm	20-30	30-40
CCB	6	5:00am-12:07am	15-20	15-20
Metro	2	24 hours (hourly owl service)	7.5	10
Metro	4	24 hours (half-hourly owl service)	7.5	7.5
Metro	20	24 hours (half-hourly owl service)	10-15	12
Metro	150	24 hours (hourly owl service)	20	20
Metro	152	3:41am-1:46am	15	15
Metro	154	5:11am-8:25pm	60	60

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Metro	155	4:18am-9:29pm	60	60
Metro	158	5:20am-9:02pm	60	60
Metro	162	24 hours (hourly owl service)	15	15
Metro	164	4:41am-10:54pm	15	15
Metro	165	4:29am-11:35pm	15	15
Metro	166	4:36am-10:34pm	15	15
Metro	167	4:36am-10:44pm	50-60	50
Metro	169	4:53am-7:46pm	60	60
Metro	233	24 hours (hourly owl service)	10	10
Metro	234	24 hours (hourly owl service)	10	10
Metro	236	4:55am-10:25pm	60	60
Metro	237	5:09am-10:17pm	60	60
Metro	240	24 hours (half-hourly owl service)	10	10
Metro	602	5:31am-1:23am	45	45
Express/Commuter Bus				
AVTA	786	Peak Only	4 one-way trips	NA
BBB	R10	Peak Only	3 one-way trips	NA
LADOT	422	Peak Only	12 one-way trips	NA
LADOT	423	Peak Only	9 one-way trips (AM), 10 one-way trips (PM)	NA
LADOT	431	Peak Only	4 one-way trips	NA
LADOT	534	Peak Only	4 one-way trips	NA
LADOT	549	Peak Only	5 one-way trips in both directions (AM), 5 one-way trips in both directions (PM)	NA
LADOT	573	Peak Only	15 southbound and 1 northbound trip (AM), 14 northbound and 1 southbound trip (PM)	NA
LBT	405	Peak Only	3 one-way trips	NA
LADOT	574	Peak Only	5 one-way trips	NA
SCT	792	Peak Only	3 one-way trips	NA
SCT	797	Peak Only	5 one-way trips	NA
Shuttles and Circulators				
LADOT	PC/VN DASH	6:00am-8:00pm	15	20
LADOT	VN/SC DASH	6:00am-7:30pm	15	20
BruinBus	U1	7:25am-5:55pm	15	15
BruinBus	U2	7:00am-6:15pm	15-30	15-30
BruinBus	U3	10:00am-5:00pm	30	30
BruinBus	U5	6:45am-10:10pm	25	25

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit

NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

7.2.3.1 Metrolink/Amtrak

Metrolink operates commuter rail service in Southern California with seven routes serving an average of 12,900 weekday riders (Metrolink, 2022). Metrolink directly serves the Study Area at the Van Nuys Metrolink/Amtrak Station on the Ventura County Line. With 20 weekday trains serving an average of 1,100 daily riders, the Ventura Line provides rail service from Ventura to Los Angeles Union Station (Metrolink, 2022).

The Van Nuys Metrolink/Amtrak Station is also served by Amtrak's Coast Starlight and Pacific Surfliner routes which have daily trains that provide service up and down the West Coast.

7.2.3.2 Metro Rail

As of October 2022, Metro operates seven rail transit lines in Los Angeles County serving an average of 183,000 weekday riders (Metro, 2022b). The Metro E Line serves the Study Area with four stations: Westwood/Rancho, Expo/Sepulveda, Expo/Bundy, and 26th St/Bergamot. The Metro E Line provides LRT service between downtown Los Angeles[3] and the City of Santa Monica and serves an average of 30,400 weekday riders (Metro, 2022b). Four other Metro lines (A, B, D, and K lines) provide direct transfers to the Metro E Line for access to the Study Area.

Generally, existing rail lines run at 10-minute headways during peak hours and 12-minute headways during off-peak hours.

Metro is currently planning and building several additional rail lines scheduled to be in operation by the 2045 horizon year. Within the Study Area, the Metro D Line Extension Project and ESFV LRT Line will provide new rail service. Planned stations along the Metro D Line within the Study Area include Westwood/UCLA and Westwood/VA Hospital. Planned stations along the ESFV LRT Line within the Study Area include Nordhoff, Roscoe, Van Nuys/Metrolink, Sherman Way, Vanowen, Victory, and Van Nuys/G Line. Figure 7-11 shows existing and planned fixed guideway service (including Metrolink/Amtrak) within the Study Area.

[3] After the opening of the Regional Connector in 2023, the Metro E Line provides service past downtown LA to East LA.

Figure 7-11. Existing and Planned Fixed Guideway Service in the Study Area

Source: HTA, 2024

7.2.3.3 Metro Bus

Metro operates several types of bus services throughout its service area, including BRT, rapid bus, and local bus lines. The Metro bus system serves an average of 687,000 weekday riders (Metro, 2022b). Table 7-8 summarizes the Metro bus routes serving the Study Area along with ridership data for the entire route.

Table 7-8. Existing Metro Bus Routes within the Study Area

Route	Description	Weekday Ridership (October 2022)
Bus Rapid Transit		
901 (G Line)	Chatsworth-Canoga Park-North Hollywood	14,392
Rapid Bus		
720	Santa Monica-Downtown Los Angeles via Wilshire Boulevard	20,846
761	Sylmar Station-E Line via Van Nuys Boulevard-Sepulveda Boulevard	6,695
Local Bus		
2	University of Southern California (USC)-Westwood via Sunset Boulevard	18,662
4	Downtown Los Angeles-Santa Monica via Santa Monica Boulevard	21,124
20	Downtown Los Angeles-Westwood/Santa Monica via Wilshire Boulevard	6,773
150	Chatsworth-Canoga Park-Tarzana via Topanga Canyon Boulevard –Ventura Boulevard	2,579
152	West Hills Medical Center-North Hollywood Station via Roscoe Boulevard	8,416
154	Sepulveda Boulevard-Burbank Station via Oxnard Street-Burbank Boulevard	549
155	Sherman Oaks-Burbank Station via Riverside Drive-Olive Street	1,061
158	Chatsworth Station-Sherman Oaks via Devonshire-Woodman	1,392
162	Woodland Hills-West Hills-North Hollywood via Sherman Way-Vineland	8,422
164	West Hills-Burbank via Victory Boulevard	4,895
165	West Hills-Burbank via Vanowen Street	7,766
166	Canoga Avenue-Sun Valley via Nordhoff Street-Osborne Street	5,272
167	Chatsworth Station-Studio City via Plummer-Coldwater Canyon	1,649
169	Warner Center-Burbank Airport via Valley Circle-Saticoy Street	2,153
233	Lake View Terrace-Sherman Oaks via Van Nuys Boulevard (+ Westside Owl Service)	11,823
234	Mission College-Sylmar Station-Sherman Oaks via Sepulveda Boulevard	7,804
236	Sylmar-Encino via Balboa Boulevard-Glenoaks Boulevard	1,826
237	Encino-Granada Hill-Mission Hills-North Hollywood via White Oak Avenue-Woodley Avenue-Chandler	1,565
240	Northridge-Universal City via Reseda Boulevard-Ventura Boulevard	9,881
602	Westwood-Pacific Palisades via Sunset Boulevard	1,099

Source: Metro, 2023b

7.2.3.4 Municipal and Local Operators

Apart from Metro, six transit providers operate bus service within the Study Area, including LADOT, BBB, CCB, SCT, AVTA, LBT, and BruinBus. Transit service types by these operators include rapid bus, express/commuter bus, shuttles and circulators, and local bus lines. Table 7-9 summarizes municipal operator bus routes serving the Study Area along with ridership data for the entire route. Figure 7-12 shows existing bus services — including Metro, municipal, and local operators — that provide service to the Study Area.

Table 7-9. Existing Municipal and Local Operator Bus Routes within the Study Area

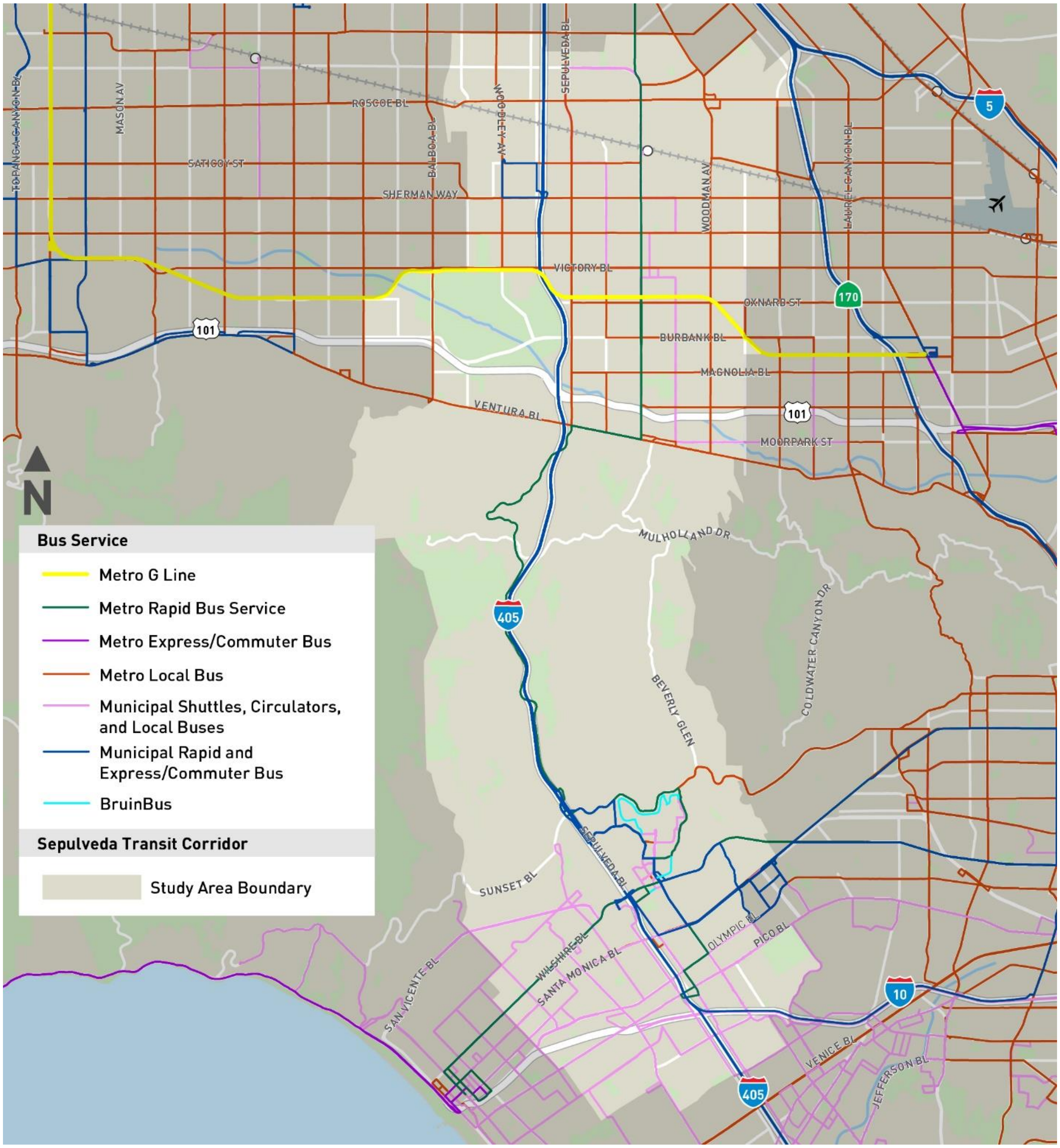
Operator	Route	Description	Weekday Ridership (October 2022)
Rapid Bus			
BBB	R7	Pico Boulevard Rapid	1,956
BBB	R12	UCLA/Westwood to Expo Rapid	2,267
CCB	6R	Sepulveda Boulevard Rapid	976
Express/Commuter Bus			
AVTA	786	Century City/West Los Angeles	160
BBB	R10	Downtown Los Angeles Freeway Express	85
LADOT	422	Downtown/Hollywood/San Fernando Valley/Agoura Hills/Thousand Oaks	495
LADOT	423	Encino/Calabasas and/or Agoura Hills/Thousand Oaks	172
LADOT	431	Downtown Los Angeles-Westwood	45
LADOT	534	Downtown Los Angeles-West Los Angeles	105
LADOT	549	Burbank/Glendale Pasadena to Glendale/Burbank/Encino	196
LADOT	573	Encino/Mission Hills-Westwood/Century City	511
LADOT	574	Encino/Granada Hills-LAX/El Segundo	111
LBT	405	UCLA/Westwood Commuter Express	160
SCT	792/797	Century City, UCLA, and Westwood	175
Shuttles and Circulators			
LADOT	DASH Van Nuys/ Studio City	Van Nuys/Studio City	748
LADOT	DASH Panorama City/ Van Nuys	Panorama City/Van Nuys	1,627
BruinBus	U1	Weyburn Terrace-Wyton	1,246
BruinBus	U2	Wilshire Center-Wyton	818
BruinBus	U3	Weyburn Terrace-Gateway Plaza	214
BruinBus	U5	Evening/SafeRide Loop	127
Local Bus			
BBB	1	Main Street and Santa Monica Boulevard	4,202
BBB	2	Wilshire Boulevard	1,178
BBB	5	Olympic Boulevard	190
BBB	7	Pico Boulevard	4,333
BBB	8	Ocean Park Boulevard	1,282
BBB	14	Bundy Drive Centinela Avenue	1,715
BBB	15	Barrington Avenue	156
BBB	16	Wilshire Boulevard/Bundy Drive-Marina del Rey	405
BBB	17	UCLA-VA Medical Center-Palms	1,475
BBB	18	UCLA-Abbott Kinney-Marina del Rey	850
BBB	43	San Vicente Boulevard and 26th Street	220
CCB	3	Crosstown-Overland Avenue	913
CCB	6	Sepulveda Boulevard	4,386

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation

LBT = Long Beach Transit
SCT = Santa Clarita Transit

Figure 7-12. Existing Bus Service in the Study Area



Source: HTA, 2024

7.2.4 Active Transportation

7.2.4.1 Pedestrian Facilities

Pedestrian facilities within the Study Area — including sidewalks, walkways, crosswalks, trails, underpasses, and pedestrian bridges — are designed to enhance mobility and accessibility for pedestrians. Pedestrian facilities vary across the Study Area, depending on the density, mix of land uses and roadway facilities. In the San Fernando Valley and on the Westside, sidewalks are well-connected and follow the grid pattern of roadway facilities. In the Bel Air and Brentwood neighborhoods adjacent to the Sepulveda Pass, sidewalks are sparse and disconnected given roadway slopes and topography. Figure 7-13 shows the distribution of sidewalks across the Study Area.

Figure 7-13. Existing Sidewalks in the Study Area

Source: HTA, 2024

7.2.4.2 Bicycle Facilities

Existing bicycle facilities in the Study Area consist of a network of approximately 123 miles of Class I, II, and III bicycle facilities, including 29.4 miles of Class I bicycle paths. Planned bicycle facilities in the Study Area includes 180 miles of additional bicycle facilities, including 21.1 miles of Class I paths (SCAG, 2024).

Figure 7-14 shows the existing and planned bicycle facilities, which are classified using the California Department of Transportation (Caltrans) *Highway Design Manual* (Caltrans, 2022a). These facility classifications include the following:

- Class I Bicycle Facilities are also known as bicycle paths, shared-use paths, or bicycle trails. They provide a travel facility for the exclusive use of bicycles and pedestrians that is completely separated (by a physical barrier or open space) from roadways with cross flow by vehicles minimized.
- Class II Bicycle Facilities are also known as bicycle lanes. These facilities provide a striped lane for one-way bike travel on a street or highway.
- Class III Bicycle Facilities are also known as bicycle routes. They provide for shared use with pedestrian or motor vehicle traffic typically demarcated by signage or surface markings such as Sharrows.
- Class IV Bicycle Facilities are protected bike lanes that are physically separated from the vehicle travel lane by more than the white stripe. Separation may be accomplished with flexible delineators or permanent barriers.

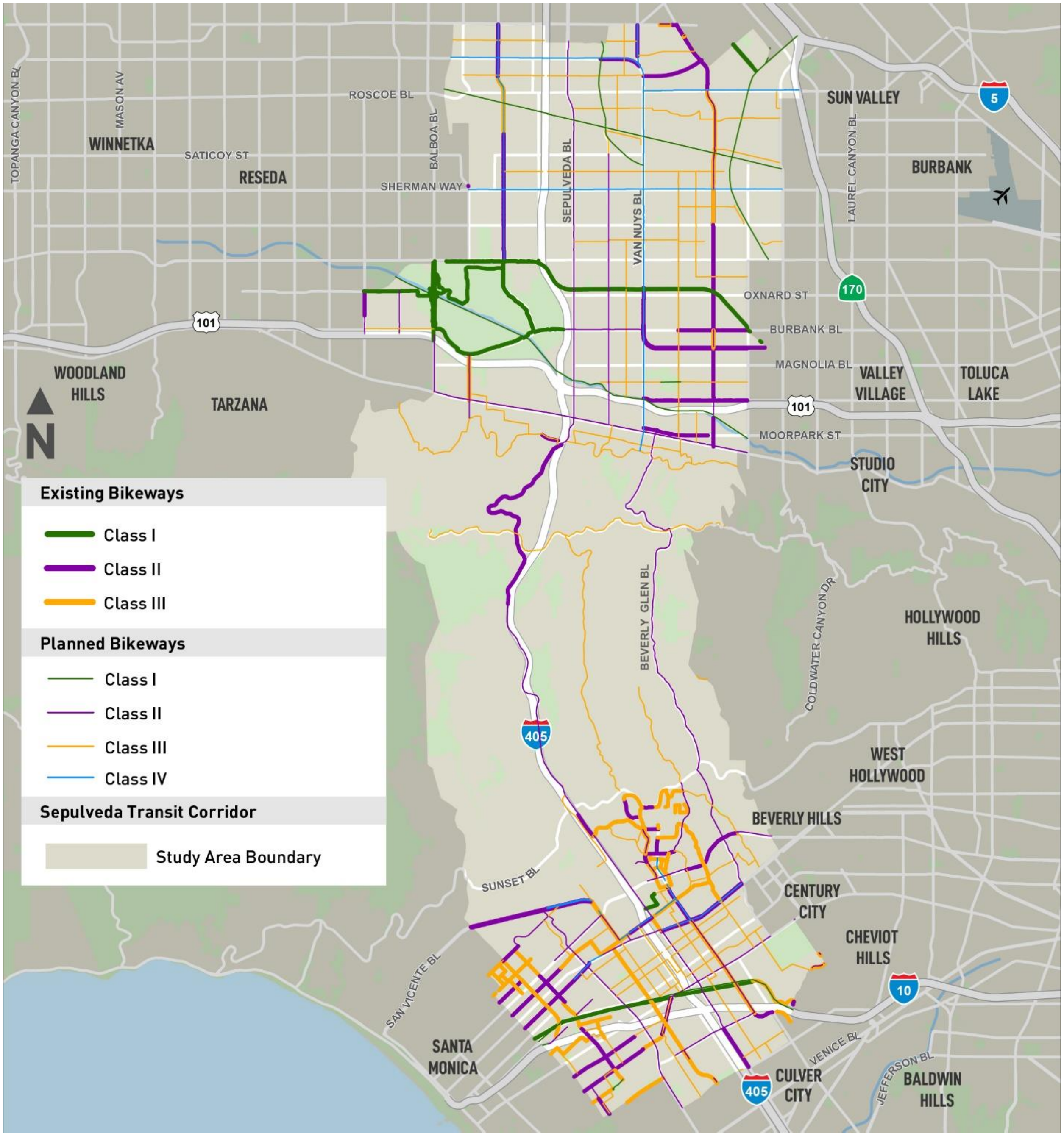
Table 7-10 lists the lengths of existing bicycle facilities in miles by classification within the Study Area. There are no existing Class IV bicycle facilities in the Study Area.

Table 7-10. Existing and Planned Bicycle Facility Miles within the Study Area

Class	Existing Facility Miles	Planned Facility Miles
I	29.4	21.1
II	53.2	51.3
III	40.7	80.6
IV	0	26.9
Total	**123.3**	**179.9**

Source: SCAG, 2022; HTA, 2024

Figure 7-14. Existing and Planned Bicycle Facilities in the Study Area



Source: SCAG, 2022; HTA, 2024

7.3 Transit Network Assumptions

The transit network under Alternative 3 assumes a baseline of 2045 NextGen service (Metro,2020f). In addition, as described in Section 3.2, coordination with transit agencies for the purposes of ridership forecasting led to changes in local and regional transit for each alternative. The rail network, except for the Project, would be the same under Alternative 3 as under the No Project Alternative. Changes to the bus transit network under Alternative 3 meant to minimize duplicated service include the following:

- AVTA 786: Truncate service at Van Nuys Metrolink Station
- LADOT 573: Truncate service at Ventura Boulevard Station
- Metro 233: Operate in the San Fernando Valley only
- Metro 761: Eliminate
- SCT 792 and 797: Truncate service at Sherman Way Station
- BruinBus U1, U2, and U5: Add eastbound stop at Charles E. Young Drive and Westwood Plaza

7.4 Impact Evaluation

7.4.1 Impact TRA-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?

This section evaluates the consistency of Alternative 3 with plans and policies. Attachment 2 of this technical report identifies all the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that each alternative was evaluated against for consistency. Relevant design guidelines from the regulatory framework, such as the Americans with Disabilities Act (ADA) or Los Angeles Bureau of Engineering (LABOE) Standard Plans (LABOE, n.d.(a)), are addressed under the evaluation of geometric hazards in Section 7.4.3.

7.4.1.1 Operational Impacts

Transit Policies

Attachment 2 identifies the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that the alternative was evaluated against for consistency. Alternative 3 would support several regional and local plans and policies and would not conflict with adopted policies or plans related to transit facilities. Therefore, operation of Alternative 3 would not conflict with a program, plan, ordinance, or policy and would result in no impact.

Transit Ridership

Table 7-11 presents the projected number of regional trips for the No Project Alternative and Alternative 3. The total regional transit mode share includes an increase in daily fixed guideway trips and a decrease in daily bus trips, which would increase the total number of daily trips by 0.03 percent with Alternative 3. A total of 81,842 daily trips are forecast for Alternative 3, which would increase regional transit travel by 26,071 new transit trips daily in horizon year 2045 compared to the No Project Alternative.

Table 7-11. Alternative 3: 2045 Regional Transit Performance Metrics

Performance Metric	No Project Alternative	Alternative 3	Change from No Project Alternative
Daily Project Trips	NA	81,842	NA
Daily New Transit Trips (Regional)	NA	26,071	NA
Daily Fixed Guideway Trips (Rail + BRT)	746,604	787,635	5.50%
Daily Bus Trips	969,689	954,729	-1.51%
Daily Transit Trips (All Transit Trips)	1,716,293	1,742,364	1.52%
Daily Trips (Total All Modes)	78,175,000	78,175,000	0%
Total Transit Mode Share (Daily Transit Trips/Daily Trips)	2.20%	2.23%	0.03%

Source: HTA, 2024

Table 7-12 summarizes ridership and mode of access by station for Alternative 3. Mode of access data illustrates how passengers would access project stations, whether via bus, rail, walking/biking, driving and parking, or being dropped off (kiss & ride). As listed in Table 7-12, Alternative 3 is forecast to have 81,842 total weekday boardings. For Alternative 3, rail would comprise the highest mode share for station access followed by bus transit, walking/biking, kiss & ride, and park & ride.

Table 7-12. Alternative 3: Average Weekday Station Boardings by Mode

Station	Walk/Bike	Bus	Park & Ride	Kiss & Ride	Rail	Total Station Boardings
Metro E Line Expo/Sepulveda	1,181 (10%)	1,086 (10%)	104 (1%)	74 (1%)	8,517 (78%)	10,962
Santa Monica Boulevard	3,130 (92%)	227 (7%)	0 (0%)	49 (1%)	0 (0%)	3,405
Wilshire Boulevard/Metro D Line	1,752 (8%)	1,1 (6%)	0 (0%)	70 (1%)	16,813 (85%)	19,812
UCLA Gateway Plaza	15,988 (91%)	1,452 (8%)	0 (0%)	19 (1%)	0 (0%)	17,459
Getty Center	1,282 (99%)	0 (0%)	0 (0%)	19 (1%)	0 (0%)	1,301
Ventura Boulevard/Sepulveda Boulevard	3,885 (65%)	1,804 (31%)	0 (0%)	249 (4%)	0 (0%)	5,937
Metro G Line Sepulveda	1,477 (17%)	6,477 (75%)	629 (7%)	100 (1%)	0 (0%)	8,683
Sherman Way	1,330 (87%)	0 (0%)	0 (0%)	194 (13%)	0 (0%)	1,523
Van Nuys Metrolink	909 (7%)	2,750 (21%)	0 (0%)	75 (1%)	9,029 (71%)	12,762
Total	**30,932 (38%)**	**14,972 (18%)**	**733 (1%)**	**846 (1%)**	**34,359 (42%)**	**81,842**

Source: HTA, 2024

Table 7-13 presents the projected number of daily boardings (total ridership on the entire line) for urban rail and BRT lines in 2045 under Alternative 3 with a comparison to No Project Alternative ridership.

Table 7-13. Alternative 3: Daily Boardings on Urban Rail and Bus Rapid Transit Lines Serving the Study Area

Line	Daily Boardings		Change from No Project Alternative
	No Project Alternative	Alternative 3	
Metro E Line	110,578	120,623	9.1%
Metro D Line	221,766	228,116	2.9%
Metro G Line	53,599	56,565	5.5%
East San Fernando Valley Light Rail Transit Line	49,988	62,980	26.0%
Total	**435,931**	**468,284**	**7.4%**

Source: HTA, 2024

Table 7-14 shows the peak-hour load on rail and BRT lines in the Study Area under Alternative 3 compared to the No Project Alternative. The capacities of heavy rail (Metro D Line) and light rail modes (Metro E Line and ESFV LRT Line) are approximately 12,000 and 4,800 passengers per hour, respectively, based on design headways and vehicle capacity. Capacity on the Metrolink Ventura County Line is approximately 2,240 passengers per hour assuming 8-car trains at 30-minute headways. Metro G Line capacity is approximately 960 passengers per hour at 5-minute headways. While Alternative 3 would increase peak loads on the Metro E Line, D Line, and ESFV LRT Line, peak loads would remain under capacity. For the Metro G Line, peak loads would exceed capacity under Alternative 3 similar to the No Project Alternative. It is expected that Metro would accommodate the additional demand on the Metro G Line by implementing operational improvements and would also update its short- and long-range transit plans and increase service on parallel routes as needed, consistent with its usual service planning processes. Therefore, operation of Alternative 3 would not conflict with a program, plan, ordinance, or policy related to transit ridership and would result in no impact.

Table 7-14. Alternative 3: Peak Loads on Rail and Bus Rapid Transit Lines within the Study Area

Line	No Project Alternative		Alternative 3	
	Peak Load (Passengers)	Location	Peak Load (Passengers)	Location
Sepulveda Transit Corridor	NA	NA	3,410	Between Metro G Line and Ventura Boulevard
Metro E Line	2,530	Between Expo/La Brea and La Cienega/Jefferson	3,140	Between Rancho Park and Expo/Sepulveda
Metro D Line	11,870	Between Wilshire/La Brea and Wilshire/Fairfax	11,960	Between Wilshire/La Brea and Wilshire/Fairfax
Metro G Line (BRT)	2,500	Between Van Nuys and Sepulveda	2,480	Between Proposed New Sepulveda Station and Woodley
East San Fernando Valley Light Rail Transit Line	2,470	Between Vanowen and Victory	2,720	Between Roscoe and Van Nuys/Metrolink
Metrolink Ventura County Line	1,760	Between Union Station and Glendale	1,630	Between Union Station and Glendale

Source: HTA, 2024

NA = not applicable

Table 7-15 compares the projected ridership under Alternative 3 to No Project Alternative conditions for bus routes serving the Study Area, aggregated by transit operator. For all agencies, except UCLA BruinBus, bus ridership would decrease because passengers would have the option to use the Alternative 3 with faster and more reliable service. Ridership on AVTA 786 would decrease by the greatest proportion because the combination of Metrolink, the ESFV LRT Line, and the Project would provide a faster travel time to the Westside from the Antelope Valley. Because ridership on AVTA 786 would decrease significantly from the No Project Alternative and there would be minor changes to other operators, operation of Alternative 3 would not conflict with an existing loading standard and would result in no impact.

Table 7-15. Alternative 3: Projected Bus Ridership by Transit Operator

Operator	Route(s)[a]	Daily Boardings[b]		Change from No Project Alternative
		No Project Alternative	Alternative 3	
Metro	2, 4, 20, 150, 152, 154, 155, 158, 164, 165, 166, 167, 169, 233, 234, 236, 602, G Line	237,137	228,642	-3.6%
AVTA	786	4,981	3,344	-32.9%
BBB	1, 2, 5, Local 7, Rapid 7, 8, 10, Rapid 12, 14/15, 16, 17, 18	45,404	45,149	-0.6%
CCB	3, 6/6R	24,685	24,625	-0.2%
LADOT	422, 423, 431, 534, 549, 573, 574, PC/VN DASH, VN/SC DASH	12,516	12,040	-3.8%
SCT	792/797	<250	<250	NA
BruinBus	U1, U2, U3, U5	9,380	9,956	6.1%

Source: HTA, 2024

[a]Routes listed intersect the Study Area
[b]Daily boardings represent total ridership on all routes listed.

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

Roadways

Alternative 3 would include various changes to roadway facilities, including widening of I-405 and realignment of some adjacent roadways. Roadway segments that would be removed are not included in the City of Los Angeles *Mobility Plan 2035 – An Element of the General Plan* (Mobility Plan 2035) circulation system since they are classified as collector or local streets (DCP, 2016). The modifications to I-405 and adjacent roadways would not preclude the construction of Metro's I-405 ExpressLanes Project, which is also included in the *Measure M Expenditure Plan (*Metro, 2016*)*. Metro is currently preparing a Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the I-405 ExpressLanes Project with an anticipated release in 2025. Any non-standard features proposed by Alternative 3, such as reduced lane or shoulder widths, would be approved in accordance with Caltrans' *Project Development Procedures Manual* (Caltrans, 2024b). Therefore, the operation of Alternative 3 would not conflict with a program, plan, ordinance, or policy related to roadway facilities and would result in no impact.

Bicycle and Pedestrian Circulation

Alternative 3 would enhance bicycle and pedestrian access in the immediate station areas, such as bike parking and connections to existing nearby bike facilities, for improved bicycle-to-transit connections. At some locations along the alignment, sidewalks would be widened or replaced where needed to accommodate the aerial guideway and station infrastructure. The design of Alternative 3 would ensure that adequate sidewalk widths are maintained at station locations and along the aerial alignment. Additional enhancements, including crosswalk and ADA-compliant sidewalk improvements, would further improve pedestrian circulation and non-motorized access to transit stations.

A majority of the Alternative 3 alignment would be located within or adjacent to the I-405 corridor and the LOSSAN rail corridor, which would reduce the need for modifications to existing City of Los Angeles roadways where active transportation facilities exist or are planned. Aerial stations within the West Los Angeles, Sherman Oaks, and Van Nuys communities would be located adjacent to major roadway intersections. Generally, Alternative 3 would be supportive of adopted active transportation plans and policies set forth by *Mobility Plan 2035* (DCP, 2016), the City of Los Angeles *2010 Bicycle Plan* (DCP, 2011), Metro's *First/Last Mile Guidelines* (Metro, 2021a), the 2019 *UCLA Active Transportation Plan* (UCLA, 2019), and City of Los Angeles community plans (DCP, 1996a, 1996b, 1997b, 1998a, 1998b, 1998c, 1998d, 1999a, 1999b, 1999c, 1999d, 1999e) described in Section 2. Station area improvement elements — including increased sidewalk widths, improved pedestrian crossings, bicycle parking, wayfinding signs, and implementation of planned bicycle facilities — would align with Metro's *First/Last Mile Guidelines* (Metro, 2021a) and facilitate pedestrian and cyclist accessibility to the Alternative 3 stations.

Along the Alternative 3 alignment, pedestrian and bicycle circulation would be maintained where the aerial viaduct would cross I-405 and LOSSAN rail corridor underpasses. The height of the aerial guideway would provide sufficient vertical clearance so that pedestrian and bicycle movement would not be inhibited underneath the structure. Additionally, the supporting columns would have sufficient horizontal span (distance between columns) so that columns would generally be located outside of the sidewalk. Pedestrian mobility at signalized intersections would be maintained via crosswalks.

While Alternative 3 would be generally supportive of adopted plans and policies, some potential conflicts with the existing and planned bicycle facilities identified in *Mobility Plan 2035* (DCP, 2016) would occur due to roadway improvements as a result of station construction. Within the San Fernando Valley, supporting columns for the aerial stations would be constructed outside of the existing roadway and sidewalks which would not preclude any planned bicycle or pedestrian facilities nor alter any existing bicycle facilities at station areas. However, the Alternative 3 Ventura Boulevard Station would reconfigure Dickens Street from a through street into a kiss & ride facility. The reconfiguration of Dickens Street would eliminate an existing through street that connects Sepulveda Boulevard to Ventura Boulevard and therefore would alter existing pedestrian circulation. However, due to station area improvements, pedestrian and cyclist circulation would ultimately benefit from these modifications.

Additionally, potential conflicts with existing and planned bicycle facilities identified in *Mobility Plan 2035* (DCP, 2016) would occur due to roadway improvements as a result of guideway construction. Alternative 3 would install supporting columns along Raymer Street and necessitate roadway reconfigurations for the aerial guideway. Columns would be placed in proposed curb extensions within the southern parking lane and within an extended sidewalk on the southern side of Raymer Street. The

City of Los Angeles *Mobility Plan 2035* identifies Raymer Street as a Class III bicycle route. Alternative 3's roadway improvements along Raymer Street would maintain this Class III bicycle route and would not conflict with *Mobility Plan 2035*. The sidewalk on the southern side of Raymer Street between Kester Avenue and Ventura Boulevard would be extended to accommodate the aerial guideway columns. In compliance with minimum sidewalk width requirements under ADA, LABOE Standard Plans (LABOE, n.d.(a)), and California Building Code 11B-403.5.1, the supporting aerial guideway columns would be located in areas with adequate sidewalk width. The elimination of existing buildings for the Ventura Boulevard Station would add to the pedestrian circulation underneath the aerial station and guideway. Therefore, operation of Alternative 3 would not conflict with a program, plan, ordinance, or policy for bicycle and pedestrian facilities and would result in no impact.

7.4.1.2 Construction Impacts

Given the temporary nature of construction, it is not expected that construction of Alternative 3 would preclude any programs, plan ordinances, or policies addressing the circulation system. The following sections describe construction impacts on transit facilities, roadways, and active transportation.

Transit Facilities

Temporary full or partial closures of some intersections, lanes, or sidewalks may be necessary during construction, which may result in disruptions to bus service. Temporary re-routing and relocation of bus stops may be needed for the following transit lines:

- Metro 4, 155, 162, 169, 233, 234, 240, 761
- BBB 1, 2, 7/R7, R12, 17, 18
- CCB 6/R6
- LADOT 549 and DASH Panorama City/Van Nuys
- LBT 405
- Amtrak Thruway
- BruinBus U1, U2, U3, U5

In addition to impacts to on-street bus service, construction at existing fixed guideway stations would temporarily impact rail and BRT service operations. At the existing Metro E Line Expo/Sepulveda Station, the construction of tail tracks and a pedestrian bridge connecting to the new project station would result in temporary nighttime and weekend service impacts on the Metro E Line. The construction of a new entrance and concourse level connection at the Metro D Line Westwood/UCLA Station would result in temporary impacts to Metro D Line rail operations and passenger experience. The construction of a pedestrian bridge connecting the Metro G Line project station with new Metro G Line platforms would result in temporary nighttime and weekend service impacts to the Metro G Line. In addition, construction of the guideway would require temporary nighttime Metro G Line Busway closures. Temporary impacts to Amtrak and Metrolink rail operations and passenger experience at the Van Nuys Metrolink/Amtrak Station would also occur as a result of the construction of a new pedestrian bridge crossing the LOSSAN rail corridor at the station. Construction activities would occur within the vicinity of the ESFV LRT Van Nuys Metrolink Station for the construction of the aerial alignment and Alternative 3 Van Nuys Metrolink Station which may temporarily affect passenger experience; however, disruptions to rail service or MSF operations are not anticipated.

Although temporary, the potential disruptions to the transit network under Alternative 3 would result in a potentially significant impact to transit facilities due to temporary road or lane closures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4, to provide a Transportation Management Plan (TMP) that specifies measures to limit disruption during construction, and MM TRA-5, to provide temporary bus service at rail stations taken out of passenger service, would reduce impacts to less than significant during construction of Alternative 3.

Roadways

Construction vehicles would primarily use major arterials and freeways to comply with Policy 1.8 from *Mobility Plan 2035* that "truck movement should be limited to the arterial street network as much as possible since these streets have the lanes and wider turning radii to accommodate these heavy large vehicles" (DCP, 2016). Figure 7-9 and Table 7-16 identify construction staging locations and roadway facilities that would be used for construction haul routes.

Table 7-16. Alternative 3: Construction Staging Locations and Haul Routes

No.	Construction Staging Location Description	Haul Route
1	Public Storage between Pico Boulevard and Exposition Boulevard, east of I-405	Pico Boulevard, Cotner Avenue, I-405
2	South of Dowlen Drive and east of Greater LA Fisher House	Dowlen Drive, Sawtelle Boulevard, Santa Monica Boulevard, I-405
3	Federal Building Parking Lot	Veteran Avenue, Wilshire Boulevard, I-405
4	Kinross Recreation Center and UCLA Lot 36	Veteran Avenue, Wilshire Boulevard, I-405
5	North end of the Leo Baeck Temple Parking Lot (TBM retrieval)	Sepulveda Boulevard, I-405
6	At 1400 N Sepulveda Boulevard	Sepulveda Boulevard, I-405
7	At 1760 N Sepulveda Boulevard	Sepulveda Boulevard, I-405
8	East of I-405 and north of Mulholland Drive Bridge	Mulholland Drive, Skirball Center Drive, I-405
9	Inside of I-405 Northbound to US-101 Northbound Loop Connector, south of US-101	I-405 or US-101
10	ElectroRent Building south of Metro G Line Busway, east of I-405	Oxnard Street, Sepulveda Boulevard, Burbank Boulevard, I-405
11	Inside the I-405 Northbound Loop Off-Ramp at Victory Boulevard	Victory Boulevard, I-405
12	Along Cabrito Road east of Van Nuys Boulevard	Cabrito Road, N Van Nuys Boulevard W, Arminta Street, Van Nuys Boulevard, Roscoe Boulevard, I-405

Source: LASRE, 2024; HTA, 2024

TBM = tunnel boring machine

Guideway construction along I-405 would require limited duration off-peak median lane closures. Additional nighttime lane closures may be necessary to accommodate the movement of construction equipment and transportation of guideway components into the median work areas. Lane closures on I-405 would be coordinated and permitted through Caltrans in coordination with LADOT, Los Angeles County, and the California Highway Patrol. Guideway construction and TPSS transformer installation impacting local streets on the Westside, along Raymer Street and the I-405 northbound on-ramp at Burbank Boulevard in the San Fernando Valley would be coordinated and permitted through Caltrans and LADOT's Citywide Temporary Traffic Control Division. Traffic control measures necessary to complete construction of Alternative 3 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would further reduce temporary impacts due traffic control measures.

Therefore, construction of Alternative 3 is considered a less than significant impact related to a conflict with a program, plan, ordinance, for policy on roadway facilities.

Bicycle and Pedestrian Circulation

Construction of the aerial guideway, retaining walls, I-405 ramps, and local street improvements would require roadway detours that would temporarily impact bicycle and pedestrian circulation. A majority of the aerial guideway would be constructed within the I-405 median where bicycle and pedestrian circulation does not exist and would not be impacted. However, in locations where the alignment would be adjacent to I-405 or the LOSSAN rail corridor and where the I-405 corridor widening or local street improvements would be necessitated, temporary roadway detours and sidewalk closures would inhibit the circulation of pedestrian and bicycle facilities.

Temporary sidewalk closures would be required during construction in areas where sidewalk improvements or construction access and staging activities occur. Construction activities requiring temporary sidewalk closures would include installation of temporary falsework and replacement of sidewalk sections surrounding Alternative 3 stations. Additionally, temporary sidewalk closures would be required in areas where roadway reconfiguration or local street improvements require replacement of the existing sidewalk. Construction of the aerial guideway would temporarily impact underpasses that serve I-405 or the LOSSAN rail corridor underpass, (e.g., Sepulveda Boulevard, Bel Air Crest, Sherman Way, Ventura Boulevard), thus temporarily impacting pedestrian and bicycle sidewalk access at each underpass.

In addition, Alternative 3 would require temporary lane or road closures during construction that would affect existing and planned bicycle facilities. Bicycle through-access underneath existing underpasses and within areas of local street improvements or construction staging where existing bike facilities are present would require detours for the affected bike facilities, thereby inhibiting the flow of active transportation users. As the Alternative 3 alignment approaches the proposed Wilshire Boulevard/Metro D Line Station, sidewalks and bicycle movements surrounding the Federal Building would require detours during the construction of the aerial guideway and proposed station. Furthermore, bicycle facility detours would be anticipated at the proposed Wilshire Boulevard/Metro D Line and UCLA Gateway Plaza Stations to support cut-and-cover cast-in-drilled-hole installation and decking. Additionally, roadway reconfiguration locations, as defined in Section 6.1.1.10, would require temporary closure of existing bicycle facilities to complete construction. As a result, affected bicycle facilities would be temporarily decommissioned and bicycle movements would require temporary detours.

Although temporary, the potential disruptions to bicycle and pedestrian circulation would result in a potentially significant impact during project construction. In addition to compliance with all local, state, and federal standards on construction, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would minimize temporary impacts due to traffic control measures. Alternative 3 detour routes would be identified in the TMP, and bicyclists and pedestrians would be informed of such closures and detours through signage and online postings that would be consistent with Policy 1.6 from *Mobility Plan 2035* that states, “Design detour facilities to provide safe passage for all modes of travel during construction” (DCP, 2016). Therefore, implementation of MM TRA-4 would reduce impacts to less than significant during construction of Alternative 3.

7.4.1.3 Maintenance and Storage Facilities

MSF Base Design

The MSF Base Design for Alternative 3 would be located on LADWP property east of the Van Nuys Boulevard and south of the LOSSAN rail corridor. Operation and construction of the MSF Base Design would not require the removal or modification of an element of the circulation system that is addressed in a program, plan, ordinance, or policy. Therefore, operation and construction of the MSF Base Design for Alternative 3 would not conflict with a program, plan, ordinance or policy and would result in no impact.

MSF Design Option 1

The MSF Base Design Option 1 for Alternative 3 would be located on LADWP property east of the Van Nuys Boulevard and south of the LOSSAN rail corridor. Operation and construction of the MSF Base Design Option 1 would not require the removal or modification of an element of the circulation system that is addressed in a program, plan, ordinance, or policy. Therefore, operation and construction of the MSF Base Design Option 1 for Alternative 3 would not conflict with a program, plan, ordinance or policy and would result in no impact.

7.4.2 Impact TRA-2: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

7.4.2.1 Operational Impacts

Under CEQA Guidelines Section 15064.3, subdivision (b), transportation projects that reduce, or have no impact on, VMT are presumed to cause a less than significant impact on transportation. OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018) states that transit and active transportation projects generally reduce VMT. As listed in Table 7-17, Alternative 3 would result in reduced VMT (451,100 daily) compared to the No Project Alternative. Therefore, operation of Alternative 3 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Table 7-17. Alternative 3: Vehicle Miles Traveled

Project Alternative	Total VMT	Change in VMT Relative to the No Project Alternative
No Project Alternative (2045 Horizon Year)	568,557,200	NA
Alternative 3 (2045 Horizon Year)	568,106,100	-451,100

Source: HTA, 2024

NA = not applicable

7.4.2.2 Construction Impacts

Construction of Alternative 3 would temporarily generate additional VMT related to construction workers commuting to the construction site, construction work activities, construction labor trips, and the transport of excavated materials, construction equipment, and supplies. This additional VMT would terminate upon completion of construction and would not be in effect during operation of Alternative 3The temporary nature of construction-related VMT and construction-related traffic circulation changes (e.g., detours) would generally be localized to the work areas and construction staging locations listed in Table 7-16.

In addition, there would be minor impacts to traffic operations associated with construction staging areas and haul routes. Vehicles and trucks related to construction activities entering and exiting these areas would increase traffic and VMT on local streets. All construction trucks would use designated haul routes, as listed in Table 7-16, to access the regional freeway system. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of Alternative 3 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

7.4.2.3 Maintenance and Storage Facilities

MSF Base Design

The MSF Base Design for Alternative 3 would be part of a transit project that is presumed to have a less than significant impact on VMT (OPR, 2018). Therefore, operation of the MSF Base Design would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Construction of the MSF Base Design would result in a minor increase in traffic volumes as construction vehicles enter and exit the site. Construction vehicles entering and exiting the construction site would temporarily increase VMT on local streets. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction-related traffic would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of the MSF Base Design for Alternative 3 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

MSF Design Option 1

The MSF Design Option 1 for Alternative 3 would be part of a transit project that is presumed to have a less than significant impact on VMT (OPR, 2018). Therefore, operation of MSF Design Option 1 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Construction of the MSF Design Option 1 would result in a minor increase in traffic volumes as construction vehicles enter and exit the site. Construction vehicles entering and exiting the construction site would temporarily increase VMT on local streets. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction-related traffic would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4

— to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of MSF Design Option 1 for Alternative 3 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

7.4.3 Impact TRA-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?

This section discusses the potential increase in hazards due to a geometric design feature of Alternative 3. The potential increase for hazards generally relates to unsafe design of Project facilities/structures, the degradation of pedestrian, bicycle, or vehicle safety conditions, or the introduction of obstructions that result in decreased visibility of other road users or key roadway infrastructure, such as traffic signals. These impacts are evaluated for permanent conditions during project operation as well as temporary conditions during project construction.

7.4.3.1 Operational Impacts

Alternative 3 — including its guideway, vehicles, stations, MSF, TPSSs, and fire/life safety systems — would be designed to meet all relevant and applicable standards including ADA, LABOE, and Metro safety design standards. Modifications within the Caltrans ROW would be designed in accordance with Caltrans standards. Any non-standard features, such as reduced lane or shoulder widths, would be approved in accordance with Caltrans' *Project Development Procedures Manual* (Caltrans, 2024b).

Alternative 3 proposes a new passenger pick-up/drop-off area located on the east side of the Metro E Line Expo/Sepulveda Station. This area would be accessed via a new driveway off Pico Boulevard. The proximity of the driveway to the intersection of Pico Boulevard and Cotner Avenue would not allow for a westbound left-turn lane into the driveway, creating a risk of rear-end collisions if left-turning vehicles are queueing in the westbound through lane, resulting in a potentially significant impact due to a safety hazard. Implementation of MM TRA-2 — to design the driveway access as right-in/right-out only — would minimize impacts related to safety on Pico Boulevard by preventing vehicles from queueing in the westbound through lane. The driveway would be designed in coordination and with approval of LADOT. Therefore, implementation of MM TRA-2 would reduce impacts to less than significant during operation of Alternative 3.

Alternative 3 also proposes a passenger pick-up/drop-off location on the north side of Sherman Way just west of the proposed Sherman Way Station. The pick-up/drop-off area would use part of an existing travel lane, creating a risk of rear-end collisions, resulting in a potentially significant impact due to a safety hazard. Implementation of MM TRA-3 — to provide advanced warning signage to ensure pedestrian safety and facilitate traffic flow on Sherman Way — would minimize impacts related to safety on Sherman Way by notifying drivers of the pick-up/drop-off area to reduce the potential for rear-end collisions. Therefore, implementation of MM TRA-3 would reduce impacts to less than significant during operation of Alternative 3.

An analysis of passenger queues at fare gates was conducted to evaluate the safety of transferring passengers as described in Section 3.2.2. As shown on Figure 7-15, under Alternative 3, passengers would have the ability to transfer to the Metro D Line Westwood/UCLA Station from the Alternative 3 Wilshire Boulevard/Metro D Line Station via a direct underground connection. Passengers transferring to the Metro D Line are anticipated to enter the station at the west station entrance via the direct underground connection from the Alternative 3 Wilshire Boulevard/Metro D Line Station.

Figure 7-15. Alternative 3: Transfer Paths at Metro D Line Westwood/UCLA Station

Source: LASRE, 2024; HTA, 2024

Table 7-18 presents the results of the peak-hour queueing analysis at the Metro D Line Westwood/UCLA Station west entrance fare gates. During the busiest 2 minutes of the peak hour, 139 passengers are forecast to transfer to the Metro D Line across all station modes of access. Based on the results of the peak-hour queueing analysis in Table 7-18, the queues resulting from the peak-hour passenger flow into the Metro D Line Westwood/UCLA Station are not forecast to exceed the available queueing area at the fare gates as the maximum forecast queue length of 52 feet would be below the available queueing area of 570 feet. Therefore, the peak-hour passenger flow into the Metro D Line Westwood/UCLA Station under Alternative 3 would not increase hazards due to a geometric design feature and would result in no impact.

Table 7-18. Alternative 3: Queueing Analysis at Metro D Line Westwood/UCLA Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into West Entrance	Peak 2-minute Passenger Flow into West Entrance
Walk/bus/park & ride/ kiss & ride	3,192	1,053	35
Alternative 3	2,241	2,241	103
Total 2-minute Passenger Flow into Gayley (West) Entrance			139
2-minute Passenger Flow per Fare Gate			17
Maximum Peak-Hour Queue Length (feet)			**52**
Available Queueing Distance at Station (feet)			570

Source: HTA, 2024

Note: Analysis assumed one-third of walk/bus/park & ride/kiss & ride passengers would use this entrance, all Alternative 3 transfers would use this entrance, walk/bus/park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, and project trains would arrive every 2.77 minutes (22 trains per hour).

As shown on Figure 7-16, under Alternative 3, passengers would have the ability to transfer to the ESFV LRT Line from the Alternative 3 Van Nuys Metrolink Station via a sidewalk connection on the east side of Van Nuys Boulevard. Passengers transferring to the ESFV LRT Line are anticipated to enter the station from the north entrance because the north entrance would be the closest ESFV LRT station entrance to the Alternative 3 station exit.

Figure 7-16. Alternative 3: Transfer Paths at the Van Nuys Metrolink Station

Source: LASRE, 2024; HTA, 2024

Table 7-19 presents the results of the peak-hour queueing analysis at the ESFV LRT Van Nuys Metrolink Station north entrance fare gates. During the busiest 2 minutes of the peak hour, 101 passengers are forecast to transfer to the ESFV LRT Line across all station modes of access. The queues resulting from the peak-hour passenger flow into the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Based on the results of the peak-hour queueing analysis in Table 7-19, the maximum forecast queue length in the peak hour at the ESFV LRT Van Nuys Metrolink Station under Alternative 3 would be 151 feet long, while the available queueing area between the fare gates and the crosswalk used to access the station would be 30 feet. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a safety hazard to passengers. Therefore, operation of Alternative 3 would result in a potentially significant impact due to the queue length exceeding the available queueing area creating a safety hazard as described in Section 3.2.2. Implementation of MM TRA-1 would require a pedestrian flow microsimulation analysis to evaluate passenger movements when transferring to the ESFV LRT Van Nuys Metrolink Station from the Alternative 3 Van Nuys Metrolink Station. This analysis shall evaluate passenger flows into the ESFV LRT Van Nuys Metrolink Station from other modes including, Amtrak, Metrolink, bus, active transportation, park & ride, and kiss & ride. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with stand-alone validators (SAV), at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street. Therefore, implementation of MM TRA-1 would reduce impacts to less than significant during operation of Alternative 3.

Table 7-19. Alternative 3: Queueing Analysis at East San Fernando Valley Light Rail Transit Line Van Nuys Metrolink Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into North Entrance	Peak 2-minute Passenger Flow into North Entrance
Walk/bus/park & ride/kiss & ride	732	366	12
Metrolink	6	6	3
Alternative 3	1,848	1,848	85
Total 2-minute Passenger Flow into North Entrance			101
2-minute Passenger Flow per Fare Gate			50
Maximum Peak-Hour Queue Length (feet)			**151**
Available Queueing Distance at Station (feet)			30

Source: HTA, 2024

Note: Analysis assumed half of walk/bus/park & ride/kiss & ride passengers would use this entrance, all Metrolink and Sepulveda Transit Corridor transfers would use this entrance, walk/bus/park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, Metrolink trains would arrive every 30 minutes (2 trains per hour), and Alternative 3 trains would arrive every 2.77 minutes (22 trains per hour).

7.4.3.2 Construction Impacts

Temporary modifications of existing transportation facilities under Alternative 3 would include full or partial road closures, lane reductions or modifications, and detour routes. Beyond the I-405 ROW, construction of Alternative 3 would include temporary modifications to segments of Cotner Avenue, Beloit Avenue, Dowlen Drive, Wilshire Boulevard, Veteran Avenue, and Westwood Plaza in the Westside, Sepulveda Boulevard in the Sepulveda Pass, and Dickens Street and Raymer Street in the San Fernando Valley. Construction worksites would be fenced, and lane closures, associated lane tapers, temporary advance warning signs, and detour signs would be implemented in accordance with Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (Cal/OSHA), and *California Manual on Uniform Traffic Control Devices* (CA MUTCD) (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Safety for pedestrians, bicyclists, and motorists would be maintained during construction using signage, partial lane closures, construction barriers, and supervision by safety and security personnel at access points and throughout construction sites. Traffic control measures necessary to complete construction of Alternative 3 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic control measures to ensure hazards are not introduced during construction. Therefore, construction of Alternative 3 would not substantially increase hazards due to a geometric design feature or incompatible use and is considered a less than significant impact.

7.4.3.3 Maintenance and Storage Facilities

MSF Base Design

The MSF Base Design for Alternative 3 would be designed to meet all relevant and applicable standards, including ADA, LABOE, and Metro safety design standards. Operation of the MSF Base Design would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of the MSF Base Design for Alternative 3 would result in no impact.

Construction of the MSF Base Design may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including OSHA, Cal/OSHA, and CA MUTCD (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Thus, construction of the MSF Base Design would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, construction of the MSF Base Design for Alternative 3 would result in no impact.

MSF Design Option 1

The MSF Design Option 1 for Alternative 3 would be designed to meet all relevant and applicable standards, including ADA, LABOE, and Metro safety design standards. Operation of MSF Design Option 1 would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of MSF Design Option 1 for Alternative 3 would result in no impact.

Construction of MSF Design Option 1 may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including OSHA, Cal/OSHA, and CA MUTCD (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Thus, construction of MSF Design Option 1 would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, construction of MSF Design Option 1 for Alternative 3 would result in no impact.

7.4.4 Impact TRA-4: Would the project result in inadequate emergency access?

7.4.4.1 Operational Impacts

All project facilities — including the guideway, stations, and transit vehicles — would include emergency evacuation routes, emergency systems, and emergency service access in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. Permanent road closures or alterations would modify roadway geometry while maintaining adequate emergency service access. The permanent closure of Dickens Street between Sepulveda Boulevard and Ventura Boulevard would not create inadequate emergency access for emergency response vehicles as alternative routes exist within the vicinity of the closure. In addition, roadway improvements under Alternative 3 would allow for emergency access to the Alternative 3 Ventura Boulevard Station. Therefore, operation of Alternative 3 is considered to have a less than significant impact on emergency access.

7.4.4.2 Construction Impacts

Project construction would include temporary lane reductions, road closures, and detours affecting local roadways and I-405. Construction on Dowlen Drive near the VA Medical Center and on Gayley Avenue and Westwood Plaza near the Ronald Reagan UCLA Medical Center would result in inadequate access for emergency service vehicles due to increased construction traffic and road closures during construction, resulting in a potentially significant impact. Implementation of MM TRA-6 would require coordination with the VA Medical Center and Ronald Reagan UCLA Medical Center to ensure adequate emergency access is maintained during construction. In addition, MM TRA-4 would be implemented in accordance with Metro standard practice, to require coordination with first responders during final design to further reduce temporary impacts on emergency access during construction. Therefore, implementation of MM TRA-4 and MM TRA-6 would reduce impacts to less than significant during construction of Alternative 3.

7.4.4.3 Maintenance and Storage Facilities

MSF Base Design

The MSF Base Design for Alternative 3 would include emergency evacuation routes and systems during operation in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. The MSF Base Design would be constructed in accordance with applicable Metro standards and design criteria for providing adequate emergency service access during operation. Therefore, operation of the MSF Base Design for Alternative 3 would result in no impact.

Construction of the MSF Base Design would result in temporary impacts to traffic operations due to a minor increase in traffic volumes as construction vehicles enter and exit the site. Traffic control measures necessary to complete construction of the MSF Base Design would be temporary in nature and are considered a less than significant impact. In accordance with standard Metro practice, implementation of MM TRA-4 would ensure adequate emergency access is maintained within and surrounding the site during construction to further reduce temporary impacts. Therefore, construction of the MSF Base Design for Alternative 3 is considered to have a less than significant impact.

MSF Design Option 1

The MSF Design Option 1 for Alternative 3 would include emergency evacuation routes and systems during operation in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. The MSF Design Option 1 would be constructed in accordance with applicable Metro standards and design criteria for providing adequate emergency service access during operation. Therefore, operation of MSF Design Option 1 for Alternative 3 would result in no impact.

Construction of MSF Design Option 1 would result in temporary impacts to traffic operations due to a minor increase in traffic volumes as construction vehicles enter and exit the site. Traffic control measures necessary to complete construction of MSF Design Option 1 would be temporary in nature and are considered a less than significant impact. In accordance with standard Metro practice, implementation of MM TRA-4 would ensure adequate emergency access is maintained within and surrounding the site during construction to further reduce temporary impacts. Therefore, construction of MSF Design Option 1 for Alternative 3 is considered to have a less than significant impact.

7.5 Mitigation Measures

The following mitigation measures would be implemented under Alternative 3.

7.5.1 Operational Impacts

MM TRA-1: *During final design, Metro shall complete a detailed pedestrian flow microsimulation analysis to evaluate passenger movements when transferring between the Project Van Nuys Metrolink Station and the East San Fernando Valley (ESFV) Light Rail Transit (LRT) Van Nuys Metrolink Station. This analysis shall assess passenger flow into the ESFV LRT Van Nuys Metrolink Station and potential areas of congestion at the fare gates during peak and off-peak hours. In addition to passengers transferring from the Project Van Nuys Metrolink Station, this analysis shall include passengers arriving at the ESFV LRT Van Nuys Metrolink Station via Amtrak, Metrolink, bus, active transportation, park and ride, and kiss and ride. The results of this analysis shall inform design to determine necessary measures, such as removal of fare gates or installation of stand-alone validators at the ESFV LRT Van Nuys Metrolink Station, to eliminate the safety concern of passengers queueing into the street. Any necessary adjustments to station layouts, signage, pedestrian transfer paths, or fare gate configurations shall be incorporated into final design prior to commencement of operations*.

MM TRA-2: *During final design, the project contractor shall coordinate with the Los Angeles Department of Transportation to limit vehicular access to the pick-up/drop-off area at the Metro E Line Expo/Sepulveda Station to only right-in/right-out traffic.*

MM TRA-3: *Before commencing revenue service, advance warning signs, in accordance with the California Manual on Uniform Traffic Control Devices standards, shall be installed at the pick-up/drop-off location on Sherman Way to facilitate traffic flow and ensure pedestrian safety.*

7.5.2 Construction Impacts

MM TRA-4: *The project contractor shall prepare a Transportation Management Plan to facilitate the flow of traffic and transit service in and around construction zones. The Transportation Management Plan shall include, at a minimum, the following measures:*

- *Where feasible, schedule construction-related travel (i.e., deliveries, hauling, and worker trips) during off-peak hours and maintain two-way traffic circulation along affected roadways during peak hours. Avoid the closure of two major adjacent streets where feasible.*
- *Designated routes for project haul trucks shall primarily utilize the I-405, I-10, and US-101 corridors. Throughout the construction process, these routes shall be coordinated with the City of Los Angeles and U.S. Department of Veterans Affairs to ensure consistency with land use and mobility plans. Additionally, the routes shall be situated to minimize noise, vibration, and other possible impacts.*
- *Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas.*

- *Where construction encroaches on the Los Angeles-San Diego-San Luis Obispo rail corridor right-of-way, coordinate construction activities with Union Pacific, Metrolink, and Amtrak to limit disruptions to service and coordinate on outreach to inform passengers of service impacts. Provide temporary parking and drop-off facilities at the Van Nuys Metrolink/Amtrak Station to minimize passenger impacts.*
- *Develop and implement an outreach program and public awareness campaign in coordination with Caltrans, the City of Los Angeles, the City of Santa Monica, and the County of Los Angeles to inform the general public about the construction process and planned roadway closures, potential impacts, and mitigation measures, including temporary bus stop relocation.*
- *Where feasible, temporarily restripe roadways to maximize the vehicular capacity at locations affected by construction closures.*
- *Provide wayfinding signage, lighting, and access to specify pedestrian safety amenities (such as handrails, fences, and alternative walkways) during construction.*
- *Where construction encroaches on pedestrian facilities, special pedestrian safety measures shall be used, such as detour routes and temporary pedestrian barricades.*
- *Where construction encroaches onto the University of California, Los Angeles campus, the project contractor shall ensure that access to campus buildings is maintained through temporary decking and the construction of temporary stairs and ramps.*
- *During final design, the project contractor shall coordinate with Metro Operations to minimize construction impacts on existing Metro rail operations in and around existing stations. Where construction results in the interruption of Metro rail operations, buses shall provide temporary service between rail stations.*
- *Provide on-street bicycle detour routes and signage to address temporary effects to bicycle circulation and minimize inconvenience (e.g., lengthy detours) as to minimize users potentially choosing less safe routes if substantially rerouted.*
- *During final design, the project contractor shall coordinate with first responders and emergency service providers to minimize impacts on emergency response. Coordination efforts shall include the development of detour routes and notification procedures to facilitate and ensure safe and efficient traffic movement. The nearest local first responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing.*
- *Maintain customer and delivery access to all operating businesses near construction work areas. Access shall be maintained to allow for reasonable business operations, including clear signage for alternate routes, temporary driveways, or entry points as necessary. Coordination with businesses shall be*

conducted to address specific access needs and limit disruptions, ensuring that any restrictions are communicated in advance and alternative arrangements are provided as appropriate.

MM TRA-5: *Where construction results in the interruption of Metro rail operations, the Project shall provide temporary bus service at rail stations taken out of passenger service. Temporary bus service may consist of either dedicated bus shuttles or extensions of other Metro bus service. Temporary bus service during closures of the Metro D Line Westwood/UCLA Station and/or Metro D Line Westwood/VA Hospital Station shall operate on Bonsall Avenue, Wilshire Boulevard, Santa Monica Boulevard, Century Park East, Avenue of the Stars, Century Park West, and/or Constellation Drive.*

MM TRA-6: *During final design, the project contractor shall coordinate with University of California, Los Angeles (UCLA) and the Veterans Affairs (VA) Medical Center to ensure adequate emergency access to the Ronald Reagan UCLA Medical Center and the VA Medical Center during construction.*

7.5.3 Impacts After Mitigation

7.5.3.1 Operational Impacts

Operation of Alternative 3 would result in a potentially significant impact under Impact TRA-3 due to a safety hazard. Alternative 3 proposes a new passenger pick-up/drop off area located on the east side of the Metro E Line Expo/Sepulveda Station that would be accessed by a new driveway off of Pico Boulevard. The proximity of the driveway to the intersection of Pico Boulevard and Cotner Avenue would not allow for a westbound left-turn lane into the driveway, creating a risk of rear-end collisions. With implementation of MM TRA-2, the driveway would be designed as a right-in/right-out only to minimize the risk of rear-end collisions, thus reducing this impact to less than significant.

Operation of Alternative 3 would result in an additional potentially significant impact under Impact TRA-3 due to a safety hazard. Alternative 3 proposes a new passenger pick-up/drop off area located on the north side of Sherman Way just west of the proposed Sherman Way Station. The pick-up/drop-off area would use part of an existing travel lane, creating a risk of rear-end collisions. With implementation of MM TRA-3, advanced warning signage would be provided to ensure pedestrian safety and facilitate traffic flow on Sherman Way to minimize the risk of rear-end collisions, thus reducing this impact to less than significant.

Operation of Alternative 3 would result in a potentially significant impact under Impact TRA-3 due to a safety hazard. Under Alternative 3, the queues resulting from the peak-hour passenger flow from the Alternative 3 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a safety hazard as passenger queues would extend into Van Nuys Boulevard. Therefore, operation of Alternative 3 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard. With implementation of MM TRA-1, a pedestrian flow microsimulation analysis would be required to evaluate passenger movements from the Alternative 3 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with SAVs, at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street, thus reducing this impact to less than significant.

7.5.3.2 Construction Impacts

Construction of Alternative 3 would result in a potentially significant impact under Impact TRA-1 due to temporary traffic control measures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4 would reduce impacts to less than significant by requiring a TMP to minimize temporary disruptions associated with construction activities. Implementation of MM TRA-5 would reduce this impact to less than significant by providing temporary bus service at rail stations taken out of passenger service during construction.

Construction of Alternative 3 would result in a potentially significant impact under Impact TRA-4 due to temporary traffic control measures that would result in inadequate emergency access during construction. Implementation of MM TRA-4 and MM TRA-6 would reduce this impact to less than significant by requiring coordination with first responders and the VA Medical Center during final design to maintain adequate emergency access during construction.

8 ALTERNATIVE 4

8.1 Alternative Description

Alternative 4 is a heavy rail transit (HRT) system with a hybrid underground and aerial guideway track configuration that would include four underground stations and four aerial stations. This alternative would provide transfers to five high-frequency fixed guideway transit and commuter rail lines, including the Los Angeles County Metropolitan Transportation Authority's (Metro) E, Metro D, and Metro G Lines, the East San Fernando Valley Light Rail Transit (ESFV LRT) Line, and the Metrolink Ventura County Line. The length of the alignment between the terminus stations would be approximately 13.9 miles, with 5.7 miles of aerial guideway and 8.2 miles of underground configuration.

The four underground and four aerial HRT stations would be as follows:

1. Metro E Line Expo/Sepulveda Station (underground)
2. Santa Monica Boulevard Station (underground)
3. Wilshire Boulevard/Metro D Line Station (underground)
4. UCLA Gateway Plaza Station (underground)
5. Ventura Boulevard/Sepulveda Boulevard Station (aerial)
6. Metro G Line Sepulveda Station (aerial)
7. Sherman Way Station (aerial)
8. Van Nuys Metrolink Station (aerial)

8.1.1 Operating Characteristics

8.1.1.1 Alignment

As shown on Figure 8-1, from its southern terminus station at the Metro E Line Expo/Sepulveda Station, the alignment of Alternative 4 would run underground north through the Westside of Los Angeles (Westside) and the Santa Monica Mountains to a tunnel portal south of Ventura Boulevard in the San Fernando Valley. At the tunnel portal, the alignment would transition to an aerial guideway that would generally run above Sepulveda Boulevard before curving eastward along the south side of the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor to the northern terminus station adjacent to the Van Nuys Metrolink/Amtrak Station.

The proposed southern terminus station would be located underground east of Sepulveda Boulevard between the existing elevated Metro E Line tracks and Pico Boulevard. Tail tracks for vehicle storage would extend underground south of National Boulevard east of Sepulveda Boulevard. The alignment would continue north beneath Bentley Avenue before curving northwest to an underground station at the southeast corner of Santa Monica Boulevard and Sepulveda Boulevard. From the Santa Monica Boulevard Station, the alignment would continue and curve eastward toward the Wilshire Boulevard/Metro D Line Station beneath the Metro D Line Westwood/UCLA Station, which is currently under construction as part of the Metro D Line Extension Project. From there, the underground alignment would curve slightly to the northeast and continue beneath Westwood Boulevard before reaching the UCLA Gateway Plaza Station.

Figure 8-1. Alternative 4: Alignment

Source: STCP, 2024; HTA, 2024

From the UCLA Gateway Plaza Station, the alignment would turn to the northwest beneath the Santa Monica Mountains to the east of Interstate 405 (I-405). South of Mulholland Drive, the alignment would curve to the north to reach a tunnel portal at Del Gado Drive, just east of I-405 and south of Sepulveda Boulevard.

The alignment would transition from an underground configuration to an aerial guideway structure after exiting the tunnel portal and would continue northeast to the Ventura Boulevard/Sepulveda Boulevard

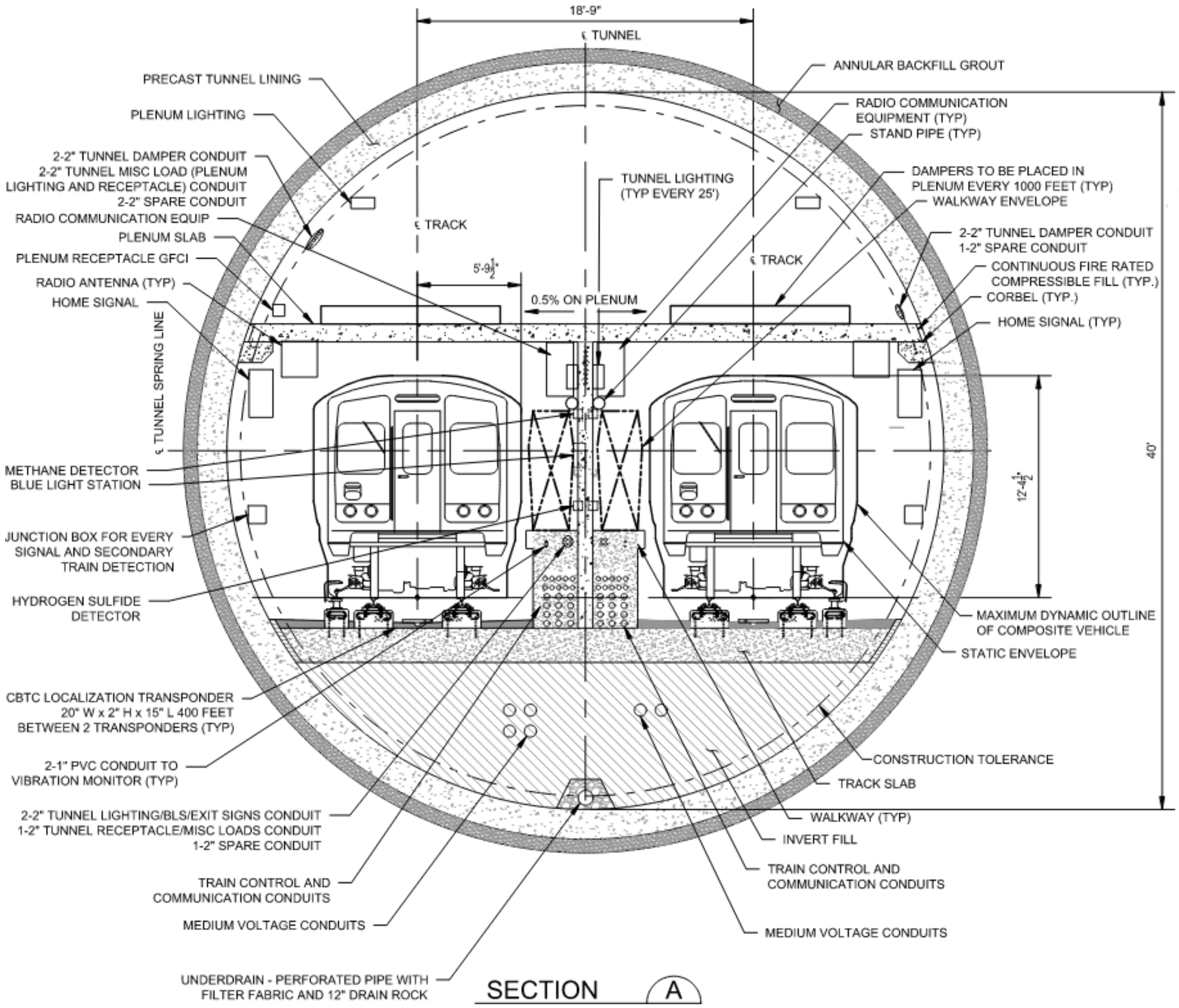
Station located over Dickens Street, immediately west of the Sepulveda Boulevard and Dickens Street intersection. North of the station, the aerial guideway would transition to the center median of Sepulveda Boulevard. The aerial guideway would continue north on Sepulveda Boulevard and cross over U.S. Highway 101 (US-101) and the Los Angeles River before continuing to the Metro G Line Sepulveda Station, immediately south of the Metro G Line Busway. Overhead utilities along Sepulveda Boulevard in the San Fernando Valley would be undergrounded where they would conflict with the guideway or its supporting columns.

The aerial guideway would continue north above Sepulveda Boulevard where it would reach the Sherman Way Station just south of Sherman Way. After leaving the Sherman Way Station, the alignment would continue north before curving to the southeast to parallel the LOSSAN rail corridor on the south side of the existing tracks. Parallel to the LOSSAN rail corridor, the guideway would conflict with the existing Willis Avenue Pedestrian Bridge, which would be demolished. The alignment would follow the LOSSAN rail corridor before reaching the proposed northern terminus Van Nuys Metrolink Station located adjacent to the existing Metrolink/Amtrak Station. Tail tracks and yard lead tracks would descend to a proposed at-grade maintenance and storage facility (MSF) east of the northern terminus station. Modifications to the existing pedestrian underpass to the Metrolink platforms to accommodate these tracks would result in reconfiguration of an existing rail spur serving City of Los Angeles Department of Water and Power (LADWP) property.

8.1.1.2 Guideway Characteristics

Alternative 4 would utilize a single-bore tunnel configuration for underground tunnel sections, with an outside diameter of approximately 43.5 feet. The tunnel would include two parallel tracks with 18.75-foot track spacing in tangent sections separated by a continuous central dividing wall throughout the tunnel. Inner walkways would be constructed adjacent to the two tracks. Inner and outer walkways would be constructed within tunnel sections near the track crossovers. At the crown of tunnel, a dedicated air plenum would be provided by constructing a concrete slab above the railway corridor. The air plenum would allow for ventilation throughout the underground portion of the alignment. Figure 8-2 illustrates these components at a typical cross-section of the underground guideway.

Figure 8-2. Typical Underground Guideway Cross-Section

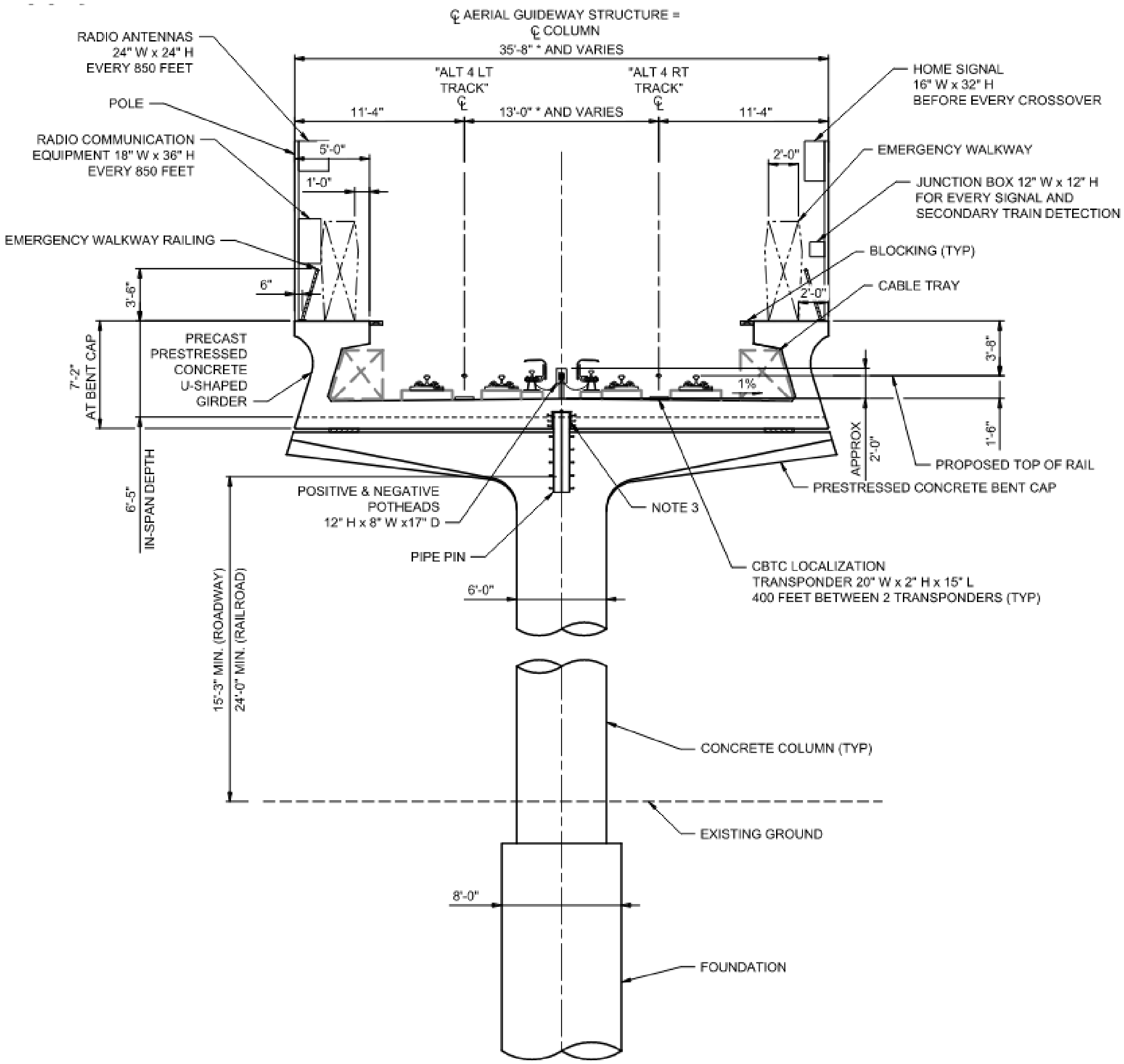


Source: STCP, 2024

In aerial sections, the guideway would be supported by either single columns or straddle-bents. Both types of structures would support a U-shaped concrete girder and the HRT track. The aerial guideway would be approximately 36 feet wide. The track would be constructed on the concrete girders with direct fixation and would maintain a minimum of 13 feet between the centerlines of the two tracks. On the outer side of the tracks, emergency walkways would be constructed with a minimum width of 2 feet.

The single-column pier would be the primary aerial structure throughout the aerial portion of the alignment. Crash protection barriers would be used to protect columns located in the median of Sepulveda Boulevard in the San Fernando Valley. Figure 8-3 shows a typical cross-section of the single-column aerial guideway.

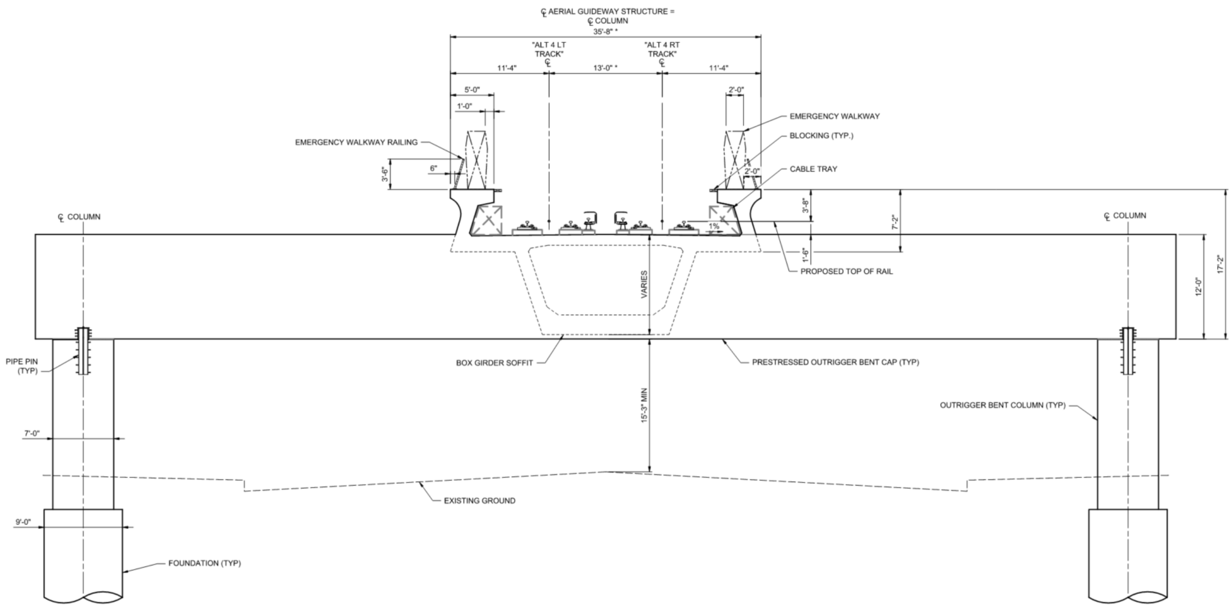
Figure 8-3. Typical Aerial Guideway Cross-Section



Source: STCP, 2024

In order to span intersections and maintain existing turn movements, sections of the aerial guideway would be supported by straddle bents, a concrete straddle-beam placed atop two concrete columns constructed outside of the underlying roadway. Figure 8-4 illustrates a typical straddle-bent configuration.

Figure 8-4. Typical Aerial Straddle-Bent Cross-Section



Source: STCP, 2024

8.1.1.3 Vehicle Technology

Alternative 4 would utilize steel-wheel HRT trains, with automated train operations and planned peak-period headways of 2.5 minutes and off-peak-period headways ranging from 4 to 6 minutes. Each train could consist of three or four cars with open gangways between cars. The HRT vehicle would have a maximum operating speed of 70 miles per hour; actual operating speeds would depend on the design of the guideway and distance between stations. Train cars would be approximately 10 feet wide with three double doors on each side. Each car would be approximately 72 feet long with capacity for 170 passengers. Trains would be powered by a third rail.

8.1.1.4 Stations

Alternative 4 would include four underground stations and four aerial stations with station platforms measuring 280 feet long for both station configurations. The aerial stations would be constructed a minimum of 15.25 feet above ground level, supported by rows of dual columns with 8-foot diameters. The southern terminus station would be adjacent to the Metro E Line Expo/Sepulveda Station, and the northern terminus station would be adjacent to the Van Nuys Metrolink/Amtrak Station.

All stations would be side-platform stations where passengers would select and travel to station platforms depending on their direction of travel. All stations would include 20-foot-wide side platforms separated by 30 feet for side-by-side trains. Aerial station platforms would be covered, but not enclosed. Each underground station would include an upper and lower concourse level prior to reaching the train platforms. Each aerial station, except for the Sherman Way Station, would include a mezzanine level prior to reaching the station platforms. At the Sherman Way Station, separate entrances on opposite sides of the street would provide access to either the northbound or southbound platform with an overhead pedestrian walkway providing additional connectivity across platforms. Each station would have a minimum of two elevators, two escalators, and one stairway from the ground level to the concourse or mezzanine.

Stations would include automatic, bi-parting fixed doors along the edges of station platforms. These platform screen doors would be integrated into the automatic train control system and would not open unless a train is stopped at the platform.

The following information describes each station, with relevant entrance, walkway, and transfer information. Bicycle parking would be provided at each station.

Metro E Line Expo/Sepulveda Station

- This underground station would be located just north of the existing Metro E Line Expo/Sepulveda Station, on the east side of Sepulveda Boulevard.
- A station entrance would be located on the east side of Sepulveda Boulevard north of the Metro E Line.
- A walkway to transfer to the Metro E Line would be provided at street level within the fare paid zone.
- A 126-space parking lot would be located immediately north of the station entrance, east of Sepulveda Boulevard. Passengers would also be able to park at the existing Metro E Line Expo/Sepulveda Station parking facility, which provides 260 parking spaces.

Santa Monica Boulevard Station

- This underground station would be located under the southeast corner of Santa Monica Boulevard and Sepulveda Boulevard.
- The station entrance would be located on the south side of Santa Monica Boulevard between Sepulveda Boulevard and Bentley Avenue.
- No dedicated station parking would be provided at this station.

Wilshire Boulevard/Metro D Line Station

- This underground station would be located beneath the Metro D Line tracks and platform under Gayley Avenue between Wilshire Boulevard and Lindbrook Drive.
- Station entrances would be provided on the northeast corner of Wilshire Boulevard and Gayley Avenue and on the northeast corner of Lindbrook Drive and Gayley Avenue. Passengers would also be able to use the Metro D Line Westwood/UCLA Station entrances to access the station platform.
- A direct internal station transfer to the Metro D Line would be provided at the south end of the station.
- No dedicated station parking would be provided at this station.

UCLA Gateway Plaza Station

- This underground station would be located underneath Gateway Plaza on the University of California, Los Angeles (UCLA) campus.
- Station entrances would be provided on the north side of Gateway Plaza and on the east side of Westwood Boulevard across from Strathmore Place.
- No dedicated station parking would be provided at this station.

Ventura Boulevard/Sepulveda Boulevard Station

- This aerial station would be located west of Sepulveda Boulevard spanning over Dickens Street.

- A station entrance would be provided on the west side of Sepulveda Boulevard south of Dickens Street.
- A 52-space parking lot would be located adjacent to the station entrance on the southwest corner of the Sepulveda Boulevard and Dickens Street intersection, and an additional 40-space parking lot would be located on the northwest corner of the same intersection.

Metro G Line Sepulveda Station

- This aerial station would be located over Sepulveda Boulevard immediately south of the Metro G Line Busway.
- A station entrance would be provided on the west side of Sepulveda Boulevard south of the Metro G Line Busway.
- An elevated pedestrian walkway would connect the platform level of the proposed station to the planned aerial Metro G Line Busway platforms within the fare paid zone.
- Passengers would be able to park at the existing Metro G Line Sepulveda Station parking facility, which has a capacity of 1,205 parking spaces. Currently, only 260 parking spaces are used for transit parking. No additional automobile parking would be provided at the proposed station.

Sherman Way Station

- This aerial station would be located over Sepulveda Boulevard between Sherman Way and Gault Street.
- Station entrances would be provided on either side of Sepulveda Boulevard south of Sherman Way.
- A 46-space parking lot would be located on the northwest corner of the Sepulveda Boulevard and Gault Street intersection, and an additional 76-space parking lot would be located west of the station along Sherman Way.

Van Nuys Metrolink Station

- This aerial station would span Van Nuys Boulevard, just south of the LOSSAN rail corridor.
- The primary station entrance would be located on the east side of Van Nuys Boulevard just south of the LOSSAN rail corridor. A secondary station entrance would be located between Raymer Street and Van Nuys Boulevard.
- An underground pedestrian walkway would connect the station plaza to the existing pedestrian underpass to the Metrolink/Amtrak platform outside the fare paid zone.
- Existing Metrolink Station parking would be reconfigured, maintaining approximately the same number of spaces, but 66 parking spaces would be relocated west of Van Nuys Boulevard. Metrolink parking would not be available to Metro transit riders.

8.1.1.5 Station-to-Station Travel Times

Table 8-1 presents the station-to-station distance and travel times at peak period for Alternative 4. The travel times include both run time and dwell time. Dwell time is 30 seconds for transfer stations and 20 seconds for other stations. Northbound and southbound travel times vary slightly because of grade differentials and operational considerations at end-of-line stations.

Table 8-1. Alternative 4: Station-to-Station Travel Times and Station Dwell Times

From Station	To Station	Distance (miles)	Northbound Station-to-Station Travel Time (seconds)	Southbound Station-to-Station Travel Time (seconds)	Dwell Time (seconds)
Metro E Line Station					*30*
Metro E Line	Santa Monica Boulevard	0.9	89	86	—
Santa Monica Boulevard Station					*20*
Santa Monica Boulevard	Wilshire/Metro D Line	0.9	91	92	—
Wilshire/Metro D Line Station					*30*
Wilshire/Metro D Line	UCLA Gateway Plaza	0.7	75	68	—
UCLA Gateway Plaza Station					*20*
UCLA Gateway Plaza	Ventura Boulevard	6.1	376	366	—
Ventura Boulevard Station					*20*
Ventura Boulevard	Metro G Line	1.9	149	149	—
Metro G Line Station					*30*
Metro G Line	Sherman Way	1.4	110	109	—
Sherman Way Station					*20*
Sherman Way	Van Nuys Metrolink	1.9	182	180	—
Van Nuys Metrolink Station					*30*

Source: STCP, 2024

8.1.1.6 Special Trackwork

Alternative 4 would include 10 double crossovers throughout the alignment, enabling trains to cross over to the parallel track. Each terminus station would include a double crossover immediately north and south of the station. Except for the Santa Monica Boulevard Station, each station would have a double crossover immediately south of the station. The remaining crossovers would be located along the alignment midway between the UCLA Gateway Plaza Station and the Ventura Boulevard Station.

8.1.1.7 Maintenance and Storage Facility

The MSF for Alternative 4 would be located east of the Van Nuys/Metrolink Station and would encompass approximately 46 acres. The MSF would be designed to accommodate 184 rail cars and would be bounded by single-family residences to the south, the LOSSAN rail corridor right-of-way (ROW) to the north, Woodman Avenue to the east, and Hazeltine Avenue and industrial manufacturing enterprises to the west. Trains would access the site from the fixed guideway's tail tracks at the northwest corner of the site. Trains would then travel southeast to maintenance facilities and storage tracks.

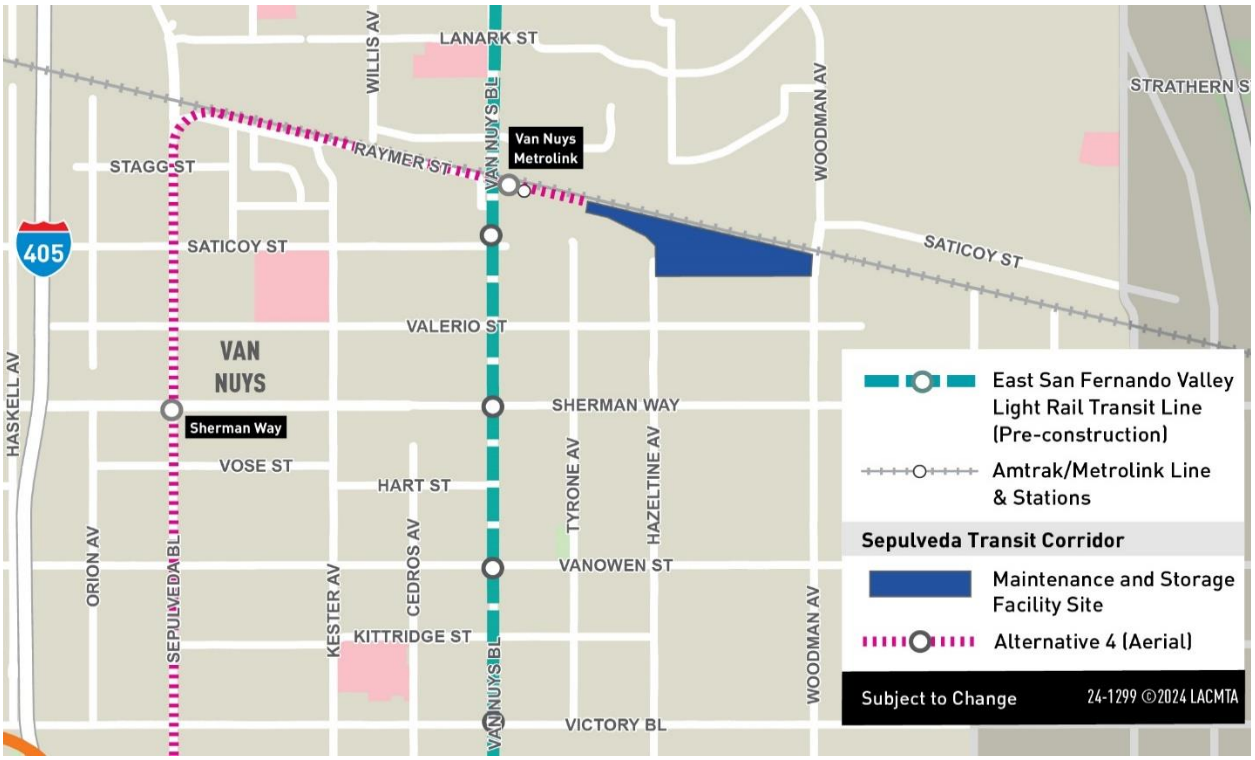
The site would include the following facilities:

- Two entrance gates with guard shacks
- Main shop building
- Maintenance-of-way building
- Storage tracks
- Carwash building
- Cleaning and inspections platforms
- Material storage building
- Hazmat storage locker

- Traction power substation (TPSS) located on the west end of the MSF to serve the mainline
- TPSS located on the east end of the MSF to serve the yard and shops
- Parking area for employees
- Grade separated access roadway (over the HRT tracks at the east end of the facility, and necessary drainage)

Figure 8-5 shows the location of the MSF site for Alternative 4.

Figure 8-5. Alternative 4: Maintenance and Storage Facility Site



Source: STCP, 2024; HTA, 2024

8.1.1.8 Traction Power Substations

TPSSs transform and convert high voltage alternating current supplied from power utility feeders into direct current suitable for transit operation. Twelve TPSS facilities would be located along the alignment and would be spaced approximately 0.5 to 2.5 miles apart. TPSS facilities would generally be located within the stations, adjacent to the tunnel through the Santa Monica Mountains, or within the MSF. TPSSs would be approximately 2,000 to 3,000 square feet. Table 8-2 lists the TPSS locations for Alternative 4.

Figure 8-6 shows the TPSS locations along the Alternative 4 alignment.

Table 8-2. Alternative 4: Traction Power Substation Locations

TPSS No.	Location Description	Configuration
1	TPSS 1 would be located east of Sepulveda Boulevard and north of the Metro E Line.	Underground (within station)
2	TPSS 2 would be located south of Santa Monica Boulevard between Sepulveda Boulevard and Bentley Avenue.	Underground (within station)
3	TPSS 3 would be located at the southeast corner of UCLA Gateway Plaza.	Underground (within station)
4	TPSS 4 would be located south of Bellagio Road and west of Stone Canyon Road.	Underground (adjacent to tunnel)
5	TPSS 5 would be located west of Roscomare Road between Donella Circle and Linda Flora Drive.	Underground (adjacent to tunnel)
6	TPSS 6 would be located east of Loom Place between Longbow Drive and Vista Haven Road.	Underground (adjacent to tunnel)
7	TPSS 7 would be located west of Sepulveda Boulevard between the I-405 Northbound On-Ramp and Dickens Street.	At-grade (within station)
8	TPSS 8 would be located west of Sepulveda Boulevard between the Metro G Line Busway and Oxnard Street.	At-grade (within station)
9	TPSS 9 would be located at the southwest corner of Sepulveda Boulevard and Sherman Way.	At-grade (within station)
10	TPSS 10 would be located south of the LOSSAN rail corridor and north of Raymer Street and Kester Avenue.	At-grade
11	TPSS 11 would be located south of the LOSSAN rail corridor and east of the Van Nuys Metrolink Station.	At-grade (within MSF)
12	TPSS 12 would be located south of the LOSSAN rail corridor and east of Hazeltine Avenue.	At-grade (within MSF)

Source: STCP, 2024; HTA, 2024

Figure 8-6. Alternative 4: Traction Power Substation Locations

Source: STCP, 2024; HTA, 2024

8.1.1.9 Roadway Configuration Changes

Table 8-3 lists the roadway changes necessary to accommodate the guideway of Alternative 4. Figure 8-7 shows the location of roadway changes in the Sepulveda Transit Corridor Project (Project) Study Area, and Figure 8-8 shows detail of the street vacation at Del Gado Drive.

In addition to the changes made to accommodate the guideway, as listed in Table 8-3, roadways and sidewalks near stations would be reconstructed, resulting in modifications to curb ramps and driveways.

Table 8-3. Alternative 4: Roadway Changes

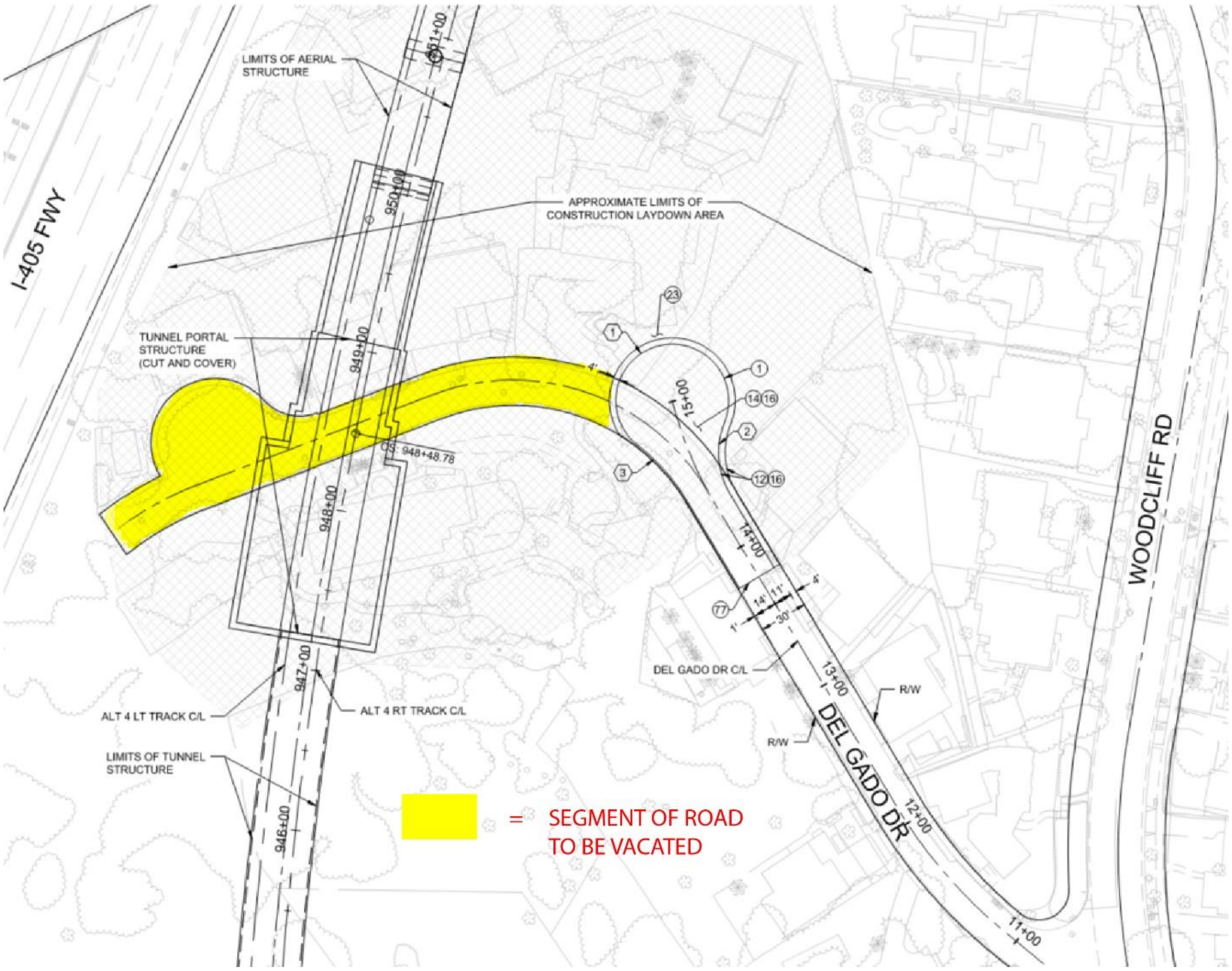
Location	From	To	Description of Change
Del Gado Drive	Woodcliff Road	Not Applicable	Vacation of approximately 325 feet of Del Gado Drive east of I-405 to accommodate tunnel portal
Sepulveda Boulevard	Ventura Boulevard	Raymer Street	Construction of raised median and removal of all on-street parking on the southbound side of the street and some on-street parking on the northbound side of the street to accommodate aerial guideway columns
Sepulveda Boulevard	La Maida Street	Not Applicable	Prohibition of left turns to accommodate aerial guideway columns
Sepulveda Boulevard	Valleyheart Drive South, Hesby Street, Hartsook Street, Archwood Street, Hart Street, Leadwell Street, Covello Street	Not Applicable	Prohibition of left turns to accommodate aerial guideway columns
Raymer Street	Kester Avenue	Van Nuys Boulevard	Reconstruction and narrowing of width to accommodate aerial guideway columns

Source: STCP, 2024; HTA, 2024

Figure 8-7. Alternative 4: Roadway Changes

Source: STCP, 2024; HTA, 2024

Figure 8-8. Alternative 4: Street Vacation at Del Gado Drive



Source: STCP, 2024; HTA, 2024

8.1.1.10 Ventilation Facilities

For ventilation of the alignment's underground portion, a plenum within the crown of the tunnel would provide a separate compartment for air circulation and allow multiple trains to operate between stations. Each underground station would include a fan room with additional ventilation facilities. Alternative 4 would also include a stand-alone ventilation facility at the tunnel portal on the northern end of the tunnel segment, located east of I-405 and south of Del Gado Drive. Within this facility, ventilation fan rooms would provide both emergency ventilation, in case of a tunnel fire, and regular ventilation, during non-revenue hours. The facility would also house sump pump rooms to collect water from various sources, including storm water; wash water (from tunnel cleaning); and water from a fire-fighting incident, system testing, or pipe leaks.

8.1.1.11 Fire/Life Safety – Emergency Egress

Within the tunnel segment, emergency walkways would be provided between the center dividing wall and each track. Sliding doors would be located in the central dividing wall at required intervals to connect the two sides of the railway with a continuous walkway to allow for safe egress to a point of safety (typically at a station) during an emergency. Similarly, the aerial guideway would include two emergency walkways with safety railing located on the outer side of the tracks. Access to tunnel segments for first responders would be through stations and the portal.

8.1.2 Construction Activities

Temporary construction activities for Alternative 4 would occur within project work zones at permanent facility locations, construction staging and laydown areas, and construction office areas. Construction of the transit facilities through substantial completion is expected to have a duration of 8 ¼ years. Early works, such as site preparation, demolition, and utility relocation, could start in advance of construction of the transit facilities.

For the guideway, Alternative 4 would consist of a single-bore tunnel through the Westside and Santa Monica Mountains. The tunnel would be comprised of two separate segments, one running north from the southern terminus to the UCLA Gateway Plaza Station (Westside segment), and the other running south from the portal in the San Fernando Valley to the UCLA Gateway Plaza Station (Santa Monica Mountains segment). Two tunnel boring machines (TBM) with approximately 45-foot-diameter cutting faces would be used to construct the two tunnel segments underground. For the Westside segment, the TBM would be launched from Staging Area No. 1 in Table 8-4 at Sepulveda Boulevard and National Boulevard. For the Santa Monica Mountains segment, the TBM would be launched from Staging Area No. 4 in the San Fernando Valley. Both TBMs would be extracted from the UCLA Gateway Plaza Station Staging Area No. 3 in Table 8-4. Figure 8-9 shows the location of construction staging locations along the Alternative 4 alignment.

Table 8-4. Alternative 4: On-Site Construction Staging Locations

No.	Location Description
1	Commercial properties on southeast corner of Sepulveda Boulevard and National Boulevard
2	North side of Wilshire Boulevard between Veteran Avenue and Gayley Avenue
3	UCLA Gateway Plaza
4	Residential properties on both sides of Del Gado Drive and south side of Sepulveda Boulevard adjacent to I-405
5	West of Sepulveda Boulevard between Valley Vista Boulevard and Sutton Street
6	West of Sepulveda Boulevard between US-101 and Sherman Oaks Castle Park
7	Lot behind Los Angeles Fire Department Station 88
8	Commercial property on southeast corner of Sepulveda Boulevard and Raymer Street
9	South of the LOSSAN rail corridor east of Van Nuys Metrolink Station, west of Woodman Avenue

Source: STCP, 2024; HTA, 2024

Figure 8-9. Alternative 4: On-Site Construction Staging Locations

Source: STCP, 2024; HTA, 2024

The distance from the surface to the top of the tunnel for the Westside tunnel segment would vary from approximately 40 feet to 90 feet depending on the depth needed to construct the underground stations. The depth of the Santa Monica Mountains tunnel segment would vary from approximately 470 feet as it passes under the Santa Monica Mountains to 50 feet near UCLA. The tunnel segment through the Westside would be excavated in soft ground, while the tunnel through the Santa Monica Mountains would be excavated primarily in hard ground or rock as geotechnical conditions transition from soft to hard ground near the UCLA Gateway Plaza Station.

The aerial guideway viaduct would be primarily situated in the center of Sepulveda Boulevard in the San Fernando Valley, with guideway columns located in both the center and outside of the right-of-way of Sepulveda Boulevard. This would result in a linear work zone spanning the full width of Sepulveda Boulevard along the length of the aerial guideway. Three to five main phases would be required to construct the aerial guideway. A phased approach would allow travel lanes along Sepulveda Boulevard to remain open as construction individually occupies either the center, left, or right side of the roadway via the use of lateral lane shifts. Additional lane closures on side streets may be required along with appropriate detour routing.

The aerial guideway would comprise a mix of simple spans and longer balanced cantilever spans ranging from 80 to 250 feet in length. The repetitive simple spans would be utilized when guideway bent is located within the center median of Sepulveda Boulevard and would be constructed using Accelerated Bridge Construction (ABC) segmental span-by-span technology. Longer balanced cantilever spans would be provided at locations such as freeways, arterials, or street crossings, and would be constructed using ABC segmental balance cantilever technology. Foundations would consist of cast-in-drilled-hole (CIDH) shafts with both precast and cast-in-place structural elements. During construction of the aerial guideway, multiple crews would work on components of the guideway simultaneously.

Construction work zones would also be co-located with future MSF and station locations. All work zones would comprise the permanent facility footprint with additional temporary construction easements from adjoining properties.

The Metro E Line, Santa Monica Boulevard, Wilshire Boulevard/Metro D Line, and UCLA Gateway Plaza Stations would be constructed using a “cut-and-cover” method whereby the station structure would be constructed within a trench excavated from the surface with a portion or all being covered by a temporary deck and backfilled during the later stages of station construction. Traffic and pedestrian detours would be necessary during underground station excavation until decking is in place and the appropriate safety measures are taken to resume cross traffic. Constructing the Ventura Boulevard/Sepulveda Boulevard, Metro G Line Sepulveda, Sherman Way, and Van Nuys Metrolink Stations would include construction of CIDH elevated viaduct with two parallel side platforms supported by outrigger bents.

In addition to work zones, Alternative 4 would require construction staging and laydown areas at multiple locations along the alignment as well as off-site staging areas. Construction staging areas would provide the necessary space for the following activities:

- Contractors’ equipment
- Receiving deliveries
- Testing of soils for minerals or hazards
- Storing materials
- Site offices
- Work zone for excavation
- Other construction activities (including parking and change facilities for workers, location of construction office trailers, storage, staging and delivery of construction materials and permanent plant equipment, and maintenance of construction equipment)

A larger, off-site staging area would be used for temporary storage of excavated material from both tunneling and station cut-and-cover excavation activities. Table 8-4 and Figure 8-9 present potential construction staging areas along the alignment for Alternative 4. Table 8-5 and Figure 8-10 present candidate sites for off-site staging and laydown areas.

Table 8-5. Alternative 4: Potential Off-Site Construction Staging Locations

No.	Location Description
S1	East of Santa Monica Airport Runway
S2	Ralph’s Parking Lot in Westwood Village
N1	West of Sepulveda Basin Sports Complex, south of the Los Angeles River
N2	West of Sepulveda Basin Sports Complex, north of the Los Angeles River
N3	Metro G Line Sepulveda Station Park & Ride Lot
N4	North of Roscoe Boulevard and Hayvenhurst Avenue
N5	LADWP property south of the LOSSAN rail corridor, east of Van Nuys Metrolink Station

Source: STCP, 2024; HTA, 2024

Figure 8-10. Alternative 4: Potential Off-Site Construction Staging Locations

Source: STCP, 2024; HTA, 2024

Construction of the HRT guideway between the Van Nuys Metrolink Station and the MSF would require reconfiguration of an existing rail spur serving LADWP property. The new location of the rail spur would require modification to the existing pedestrian undercrossing at the Van Nuys Metrolink Station.

Alternative 4 would require construction of a concrete casting facility for tunnel lining segments because no existing commercial fabricator capable of producing tunnel lining segments for a large-diameter tunnel exists within a practical distance of the Project Study Area. The site of the MSF would initially be used for this casting facility. The casting facility would include casting beds and associated casting equipment, storage areas for cement and aggregate, and a field quality control facility, which would need to be constructed on-site. When a more detailed design of the facility is completed, the contractor would obtain all permits and approvals necessary from the City of Los Angeles, the South Coast Air Quality Management District, and other regulatory entities.

As areas of the MSF site begin to become available following completion of pre-casting operations, construction of permanent facilities for the MSF would begin, including construction of surface buildings such as maintenance shops, administrative offices, train control, traction power and systems facilities. Some of the yard storage track would also be constructed at this time to allow delivery and inspection of passenger vehicles that would be fabricated elsewhere. Additional activities occurring at the MSF during the final phase of construction would include staging of trackwork and welding of guideway rail.

8.2 Existing Conditions

8.2.1 Vehicle Miles Traveled

Table 8-6 shows the regional vehicle miles traveled (VMT) under existing conditions for the base year and under the No Project Alternative for the forecast horizon year. Ambient population and employment growth would occur in the region between the base year and horizon year.

Table 8-6. Existing and No Project Alternative Vehicle Miles Traveled

Project Alternative	Total Vehicle Miles Traveled
Existing Conditions (2019 Base Year)	456,869,300
No Project Alternative (2045 Horizon Year)	568,557,200

Source: HTA, 2024

Note: 2019 is used as the base year for the VMT analysis because it is the most recent year for which Metro's CBM18B Transportation Analysis Model has been calibrated.

8.2.2 Roadway Network

The roadway network within the Study Area includes a wide range of facilities including three freeways that provide regional access throughout Los Angeles County and Southern California, as well as multiple arterials, local roads, and intersections.

8.2.2.1 Freeways

The freeways within the Study Area include:

- **I-405 (San Diego Freeway):** I-405 is the major north-south freeway traversing the Study Area in its entirety. This freeway provides regional access between San Fernando and Irvine. Within the Study Area, I-405 provides five to seven lanes in each direction, including carpool lanes and auxiliary lanes. The direction of peak traffic demand varies over the course of the day, with the greatest travel occurring from the San Fernando Valley to the Westside during the morning commute period and the reverse pattern during the evening commute period. Ramps within the Study Area include National Boulevard, Olympic and Pico Boulevards, Santa Monica Boulevard, Wilshire Boulevard, Sunset Boulevard, Moraga Drive, Getty Center Drive (via Sepulveda Boulevard), Skirball Center Drive, Ventura Boulevard, Burbank Boulevard, Victory Boulevard, Sherman Way, and Roscoe Boulevard on- and off-ramps. I-405 connects with US-101 and Interstate 10 (I-10) within the Study Area, which provide regional east-west connectivity. On an average weekday, I-405 carries 353,000 vehicles on the Westside, 301,000 in the Sepulveda Pass, and 209,000 in the San Fernando Valley (Caltrans, 2022b).

- **I-10 (Santa Monica Freeway):** I-10 is an east-west freeway that crosses the southern end of the Study Area for 3.5 miles. Within the Study Area, I-10 consists of four general-purpose lanes in each direction, with no high-occupancy vehicle (HOV) lanes. Ramps within the Study Area include the Cloverfield Boulevard, Centinela Avenue, Bundy Drive, and Overland Avenue on- and off-ramps. I-10 connects to State Route (SR) 1 in the City of Santa Monica, I-405 in West Los Angeles, and I-110/SR-110, US-101, and Interstate 5 (I-5) near downtown Los Angeles. On an average weekday, I-10 carries 215,000 vehicles through the Study Area (Caltrans, 2022b).
- **US-101 (Ventura Freeway):** US-101 is an east-west freeway within the Study Area that crosses the northern end of the Study Area for 5 miles. US-101 has five general-purpose lanes in each direction, with auxiliary lanes near the I-405 interchange and does not have any HOV lanes in either direction within the Study Area. Ramps within the Study Area include the Woodman Avenue, Van Nuys Boulevard, Sepulveda Boulevard, Haskell Avenue, Hayvenhurst Avenue, and Balboa Boulevard on- and off-ramps, and the White Oak Avenue off-ramp. US-101 connects with SR-134 and SR-170 in the San Fernando Valley and I-10, SR-110, and I-5 near downtown Los Angeles. On an average weekday, US-101 carries 323,000 vehicles through the Study Area (Caltrans, 2022b).

8.2.2.2 Major Arterial Network

Table 8-7 lists and Figure 8-11 shows the major arterials in the Study Area and their classification under *Mobility Plan 2035*. Classifications are based on roadway and ROW widths and include the following types in the Study Area:

- Boulevard II facilities have roadway widths of 80 feet and total ROW widths of 110 feet.
- Avenue I facilities have roadway widths of 70 feet and total ROW widths of 100 feet.
- Avenue II facilities have roadway widths of 56 feet and total ROW widths of 86 feet.
- Collector streets have roadway widths of 40 feet and total ROW widths of 66 feet.
- Local streets have roadway widths between 30 and 36 feet and total ROW widths between 50 and 60 feet.

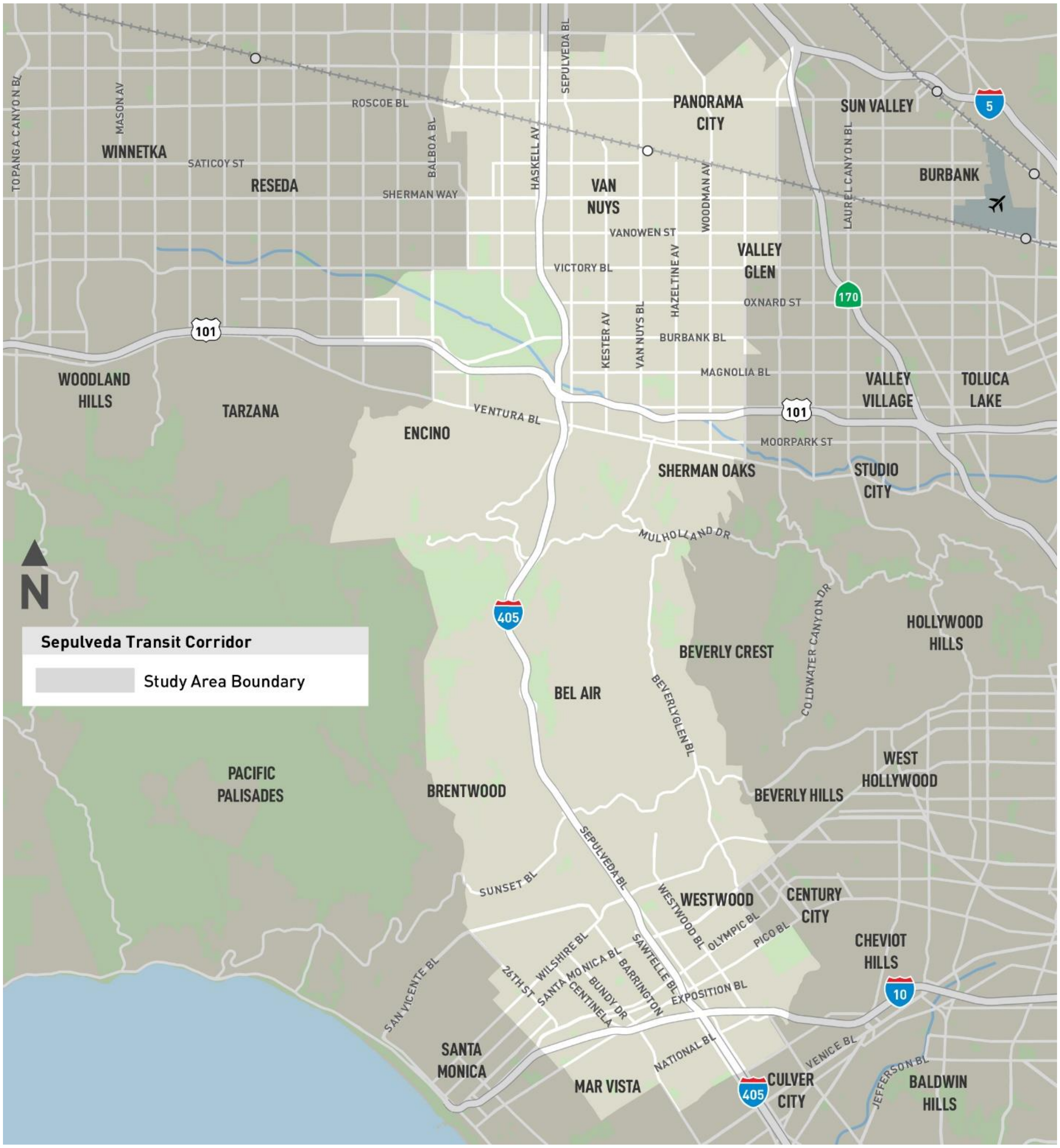
Table 8-7. Existing Major Arterials within the Study Area

Name	Mobility Plan 2035 Classification
Major North-South Arterials (listed from west to east)	
Centinela Avenue	Avenue I
Bundy Drive	Avenue I
Barrington Avenue	Avenue I (south of Pico Boulevard) Avenue II (north of Pico Boulevard)
Haskell Avenue	Avenue II
Sawtelle Boulevard	Avenue I
Sepulveda Boulevard	Boulevard II
Kester Avenue	Avenue II
Van Nuys Boulevard	Boulevard II
Westwood Boulevard	Avenue II (south of Wilshire Boulevard) Boulevard II (north of Wilshire Boulevard) Avenue I (between Le Conte Avenue and Wilshire Boulevard)

Name	Mobility Plan 2035 Classification
Beverly Glen Boulevard	Avenue I (south of Wilshire Boulevard) Avenue II (between Sunset Boulevard and Wilshire Boulevard, and between Ventura Boulevard and Mulholland Drive)
Hazeltine Avenue	Avenue II
Woodman Avenue	Avenue I
Major East-West Arterials (listed from south to north)	
National Boulevard	Avenue I
Exposition Boulevard	Collector Street (east of Sepulveda Boulevard), Local/Other Street (west of I-405)
Pico Boulevard	Avenue I
Olympic Boulevard	Boulevard II
Santa Monica Boulevard	Boulevard II
Wilshire Boulevard	Boulevard II
San Vincente Boulevard	Avenue II
Sunset Boulevard	Avenue I
Mulholland Drive	Local/Other Street
Ventura Boulevard	Boulevard II
Magnolia Boulevard	Avenue II
Burbank Boulevard	Boulevard II
Oxnard Street	Avenue II
Victory Boulevard	Boulevard II
Vanowen Street	Avenue II
Sherman Way	Boulevard II
Saticoy Street	Avenue II
Roscoe Boulevard	Boulevard II

Source: DCP, 2016; HTA, 2024

Figure 8-11. Existing Freeway and Arterial Network within the Study Area



Source: HTA, 2024

8.2.3 Transit Network

Several local and regional transit agencies — including Metro, Los Angeles Department of Transportation (LADOT), Amtrak, Metrolink commuter rail, Santa Monica Big Blue Bus (BBB), Culver CityBus (CCB), Santa Clarita Transit (SCT), Antelope Valley Transit Authority (AVTA), Long Beach Transit (LBT), and BruinBus — serve the Study Area. Transit service types within the Study Area include rapid bus, express/commuter bus, commuter rail, LRT, bus rapid transit (BRT), shuttles and circulators, and local bus lines. In addition, nine Metro bus routes operate 24 hours and offer half-hour or hour headways during owl service hours (12:00am to 4:00am).

Table 8-8 summarizes the fixed-route transit lines that serve the Study Area (as of October 2022).

Table 8-8. Existing Fixed-Route Transit Service within the Study Area

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Rail				
Metro	E	3:43am-12:46am	10	12
Metrolink	Ventura County	5:02am-8:15pm	30 (in peak direction)	4 off-peak trains
Amtrak	Pacific Surfliner	7:47am-9:09pm	Five daily trains in each direction	
Amtrak	Coast Starlight	NA	One daily train in each direction	
Bus Rapid Transit				
Metro	901 (G Line)	24 hours (hourly owl service)	6	10
Rapid Bus				
BBB	Rapid 7	6:05am-8:09pm	20	20
BBB	Rapid 12	5:30am-10:00pm	10-12	12
CCB	6R	6:28am-7:56pm	15	15
Metro	720	5:00am-1:00am	8	11
Metro	761	3:57am-11:13pm	15	15
Local Bus				
BBB	1	5:20am-10:20pm	10-12	10-12
BBB	2	6:50am-10:42pm	20	20
BBB	5	7:20am-7:00pm	30	30
BBB	Local 7	4:50am-11:58pm	15	15
BBB	Express 7	6:05am-8:09pm	20	20
BBB	8	6:30am-10:34pm	25-27	25-27
BBB	14	5:15am-8:20pm	12-15	12-15
BBB	15	6:45am-7:00pm	20	20
BBB	16	6:20am-7:04pm	25	30
BBB	17	5:45am-8:00pm	15	20
BBB	18	6:45am-8:30pm	30	30
BBB	43	6:25am-5:50pm	30	NA
CCB	3	6:00am-9:45pm	20-30	30-40
CCB	6	5:00am-12:07am	15-20	15-20
Metro	2	24 hours (hourly owl service)	7.5	10
Metro	4	24 hours (half-hourly owl service)	7.5	7.5
Metro	20	24 hours (half-hourly owl service)	10-15	12
Metro	150	24 hours (hourly owl service)	20	20
Metro	152	3:41am-1:46am	15	15
Metro	154	5:11am-8:25pm	60	60

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Metro	155	4:18am-9:29pm	60	60
Metro	158	5:20am-9:02pm	60	60
Metro	162	24 hours (hourly owl service)	15	15
Metro	164	4:41am-10:54pm	15	15
Metro	165	4:29am-11:35pm	15	15
Metro	166	4:36am-10:34pm	15	15
Metro	167	4:36am-10:44pm	50-60	50
Metro	169	4:53am-7:46pm	60	60
Metro	233	24 hours (hourly owl service)	10	10
Metro	234	24 hours (hourly owl service)	10	10
Metro	236	4:55am-10:25pm	60	60
Metro	237	5:09am-10:17pm	60	60
Metro	240	24 hours (half-hourly owl service)	10	10
Metro	602	5:31am-1:23am	45	45
Express/Commuter Bus				
AVTA	786	4:00am – 5:20am, 2:50pm – 4:05pm	4 one-way trips	NA
BBB	R10	6:00am – 8:04am, 3:35pm – 6:05pm	3 one-way trips	NA
LADOT	422	4:55am – 8:00am, 1:55pm – 6:00pm	12 one-way trips	NA
LADOT	423	5:00am – 6:45am, 3:30pm – 6:35pm	9 one-way trips (AM), 10 one-way trips (PM)	NA
LADOT	431	6:15am – 7:35am, 4:25pm – 5:55pm	4 one-way trips	NA
LADOT	534	6:50am – 8:10am, 3:43pm – 5:13pm	4 one-way trips	NA
LADOT	549	5:55am – 7:45am, 3:45pm – 6:05pm	5 one-way trips in both directions (AM), 5 one-way trips in both directions (PM)	NA
LADOT	573	5:30am – 9:30am, 2:10pm – 6:45pm	15 southbound and 1 northbound trip (AM), 14 northbound and 1 southbound trip (PM)	NA
LADOT	574	5:20am – 7:10am, 3:35pm – 6:00pm	5 one-way trips	NA
LBT	405	5:17am – 6:50am, 3:30pm – 5:30pm	3 one-way trips	NA
SCT	792	6:50am – 7:47am, 2:59pm – 5:25pm	3 one-way trips	NA
SCT	797	5:00am – 6:46am, 3:45pm – 7:45pm	5 one-way trips	NA
Shuttles and Circulators				
LADOT	PC/VN DASH	6:00am-8:00pm	15	20
LADOT	VN/SC DASH	6:00am-7:30pm	15	20
BruinBus	U1	7:25am-5:55pm	15	15
BruinBus	U2	7:00am-6:15pm	15-30	15-30

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
BruinBus	U3	10:00am-5:00pm	30	30
BruinBus	U5	6:45am-10:10pm	25	25

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

8.2.3.1 Metrolink/Amtrak

Metrolink operates commuter rail service in Southern California with seven routes serving an average of 12,900 weekday riders (Metrolink, 2022). Metrolink directly serves the Study Area at the Van Nuys Metrolink/Amtrak Station on the Ventura County Line. With 20 weekday trains serving an average of 1,100 daily riders, the Ventura Line provides rail service from Ventura to Los Angeles Union Station (Metrolink, 2022).

The Van Nuys Metrolink/Amtrak Station is also served by Amtrak's Coast Starlight and Pacific Surfliner routes which have daily trains that provide service up and down the West Coast.

8.2.3.2 Metro Rail

As of October 2022, Metro operates seven rail transit lines in Los Angeles County serving an average of 183,000 weekday riders (Metro, 2022b). The Metro E Line serves the Study Area with four stations: Westwood/Rancho, Expo/Sepulveda, Expo/Bundy, and 26th St/Bergamot. The Metro E Line provides LRT service between downtown Los Angeles[4] and the City of Santa Monica and serves an average of 30,400 weekday riders (Metro, 2022b). Four other Metro lines (A, B, D, and K lines) provide direct transfers to the Metro E Line for access to the Study Area.

Generally, existing rail lines run at 10-minute headways during peak hours and 12-minute headways during off-peak hours.

Metro is currently planning and building several additional rail lines scheduled to be in operation by the 2045 horizon year. Within the Study Area, the Metro D Line Extension Project and ESFV LRT Line will provide new rail service. Planned stations along the Metro D Line within the Study Area include Westwood/UCLA and Westwood/VA Hospital. Planned stations along the ESFV LRT Line within the Study Area include Nordhoff, Roscoe, Van Nuys/Metrolink, Sherman Way, Vanowen, Victory, and Van Nuys/G Line. Figure 8-12 shows existing and planned fixed guideway service (including Metrolink/Amtrak) within the Study Area.

[4] After the opening of the Regional Connector in 2023, the Metro E Line provides service past downtown LA to East LA.

Figure 8-12. Existing and Planned Fixed Guideway Service within the Study Area

Source: HTA, 2024

8.2.3.3 Metro Bus

Metro operates several types of bus services throughout its service area, including BRT, rapid bus, and local bus lines. The Metro bus system serves an average of 687,000 weekday riders (Metro, 2022b). Table 8-9 summarizes the Metro bus routes serving the Study Area along with ridership data for the entire route.

Table 8-9. Existing Metro Bus Routes within the Study Area

Route	Description	Weekday Ridership (October 2022)
Bus Rapid Transit		
901 (G Line)	Chatsworth-Canoga Park-North Hollywood	14,392
Rapid Bus		
720	Santa Monica-Downtown Los Angeles via Wilshire Boulevard	20,846
761	Sylmar Station-E Line via Van Nuys Boulevard-Sepulveda Boulevard	6,695
Local Bus		
2	University of Southern California (USC)-Westwood via Sunset Boulevard	18,662
4	Downtown Los Angeles-Santa Monica via Santa Monica Boulevard	21,124
20	Downtown Los Angeles-Westwood/Santa Monica via Wilshire Boulevard	6,773
150	Chatsworth-Canoga Park-Tarzana via Topanga Canyon Boulevard –Ventura Boulevard	2,579
152	West Hills Medical Center-North Hollywood Station via Roscoe Boulevard	8,416
154	Sepulveda Boulevard-Burbank Station via Oxnard Street-Burbank Boulevard	549
155	Sherman Oaks-Burbank Station via Riverside Drive-Olive Street	1,061
158	Chatsworth Station-Sherman Oaks via Devonshire-Woodman	1,392
162	Woodland Hills-West Hills-North Hollywood via Sherman Way-Vineland	8,422
164	West Hills-Burbank via Victory Boulevard	4,895
165	West Hills-Burbank via Vanowen Street	7,766
166	Canoga Avenue-Sun Valley via Nordhoff Street-Osborne Street	5,272
167	Chatsworth Station-Studio City via Plummer-Coldwater Canyon	1,649
169	Warner Center-Burbank Airport via Valley Circle-Saticoy Street	2,153
233	Lake View Terrace-Sherman Oaks via Van Nuys Boulevard (+ Westside Owl Service)	11,823
234	Mission College-Sylmar Station-Sherman Oaks via Sepulveda Boulevard	7,804
236	Sylmar-Encino via Balboa Boulevard-Glenoaks Boulevard	1,826
237	Encino-Granada Hill-Mission Hills-North Hollywood via White Oak Avenue-Woodley Avenue-Chandler	1,565
240	Northridge-Universal City via Reseda Boulevard-Ventura Boulevard	9,881
602	Westwood-Pacific Palisades via Sunset Boulevard	1,099

Source: Metro, 2023b

8.2.3.4 Municipal and Local Operators

Apart from Metro, six transit providers operate bus service within the Study Area, including LADOT, BBB, CCB, SCT, AVTA, LBT, and BruinBus. Transit service types by these operators include rapid bus, express/commuter bus, shuttles and circulators, and local bus lines. Table 8-10 summarizes municipal operator bus routes serving the Study Area along with ridership data for the entire route. Figure 8-13 shows existing bus services — including Metro, municipal, and local operators — that provide service to the Study Area.

Table 8-10. Existing Municipal and Local Operator Bus Routes within the Study Area

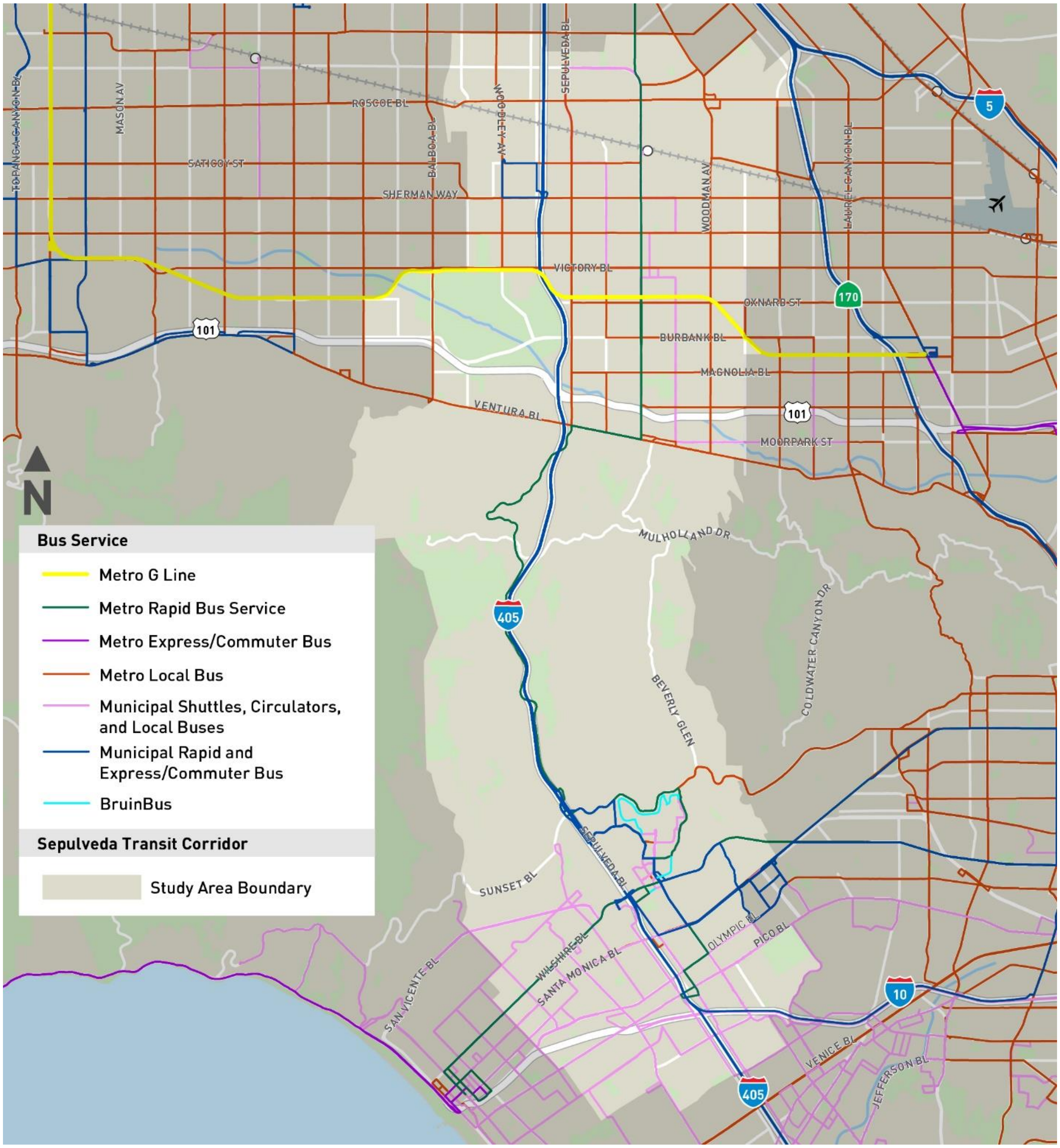
Operator	Route	Description	Weekday Ridership (October 2022)
Rapid Bus			
BBB	R7	Pico Boulevard Rapid	1,956
BBB	R12	UCLA/Westwood to Expo Rapid	2,267

Operator	Route	Description	Weekday Ridership (October 2022)
CCB	6R	Sepulveda Boulevard Rapid	976
Express/Commuter Bus			
AVTA	786	Century City/West Los Angeles	160
BBB	R10	Downtown Los Angeles Freeway Express	85
LADOT	422	Downtown/Hollywood/San Fernando Valley/Agoura Hills/Thousand Oaks	495
LADOT	423	Encino/Calabasas and/or Agoura Hills/Thousand Oaks	172
LADOT	431	Downtown Los Angeles-Westwood	45
LADOT	534	Downtown Los Angeles-West Los Angeles	105
LADOT	549	Burbank/Glendale Pasadena to Glendale/Burbank/Encino	196
LADOT	573	Encino/Mission Hills-Westwood/Century City	511
LADOT	574	Encino/Granada Hills-LAX/El Segundo	111
LBT	405	UCLA/Westwood Commuter Express	160
SCT	792/797	Century City, UCLA, and Westwood	175
Shuttles and Circulators			
LADOT	DASH Van Nuys/ Studio City	Van Nuys/Studio City	748
LADOT	DASH Panorama City/ Van Nuys	Panorama City/Van Nuys	1,627
BruinBus	U1	Weyburn Terrace-Wyton	1,246
BruinBus	U2	Wilshire Center-Wyton	818
BruinBus	U3	Weyburn Terrace-Gateway Plaza	214
BruinBus	U5	Evening/SafeRide Loop	127
Local Bus			
BBB	1	Main Street and Santa Monica Boulevard	4,202
BBB	2	Wilshire Boulevard	1,178
BBB	5	Olympic Boulevard	190
BBB	7	Pico Boulevard	4,333
BBB	8	Ocean Park Boulevard	1,282
BBB	14	Bundy Drive Centinela Avenue	1,715
BBB	15	Barrington Avenue	156
BBB	16	Wilshire Boulevard/Bundy Drive-Marina del Rey	405
BBB	17	UCLA-VA Medical Center-Palms	1,475
BBB	18	UCLA-Abbott Kinney-Marina del Rey	850
BBB	43	San Vicente Boulevard and 26th Street	220
CCB	3	Crosstown-Overland Avenue	913
CCB	6	Sepulveda Boulevard	4,386

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
SCT = Santa Clarita Transit

Figure 8-13. Existing Bus Service within the Study Area



Source: HTA, 2024

8.2.4 Active Transportation

8.2.4.1 Pedestrian Facilities

Pedestrian facilities within the Study Area — including sidewalks, walkways, crosswalks, trails, underpasses, and pedestrian bridges — are designed to enhance mobility and accessibility for pedestrians. Pedestrian facilities vary across the Study Area, depending on the density, mix of land uses

and roadway facilities. In the San Fernando Valley and on the Westside, sidewalks are well-connected and follow the grid pattern of roadway facilities. In the Bel Air and Brentwood neighborhoods adjacent to the Sepulveda Pass, sidewalks are sparse and disconnected given roadway slopes and topography. Figure 8-14 shows the distribution of sidewalks across the Study Area.

Figure 8-14. Existing Sidewalks within the Study Area

Source: HTA, 2024

8.2.4.2 Bicycle Facilities

Existing bicycle facilities in the Study Area consist of a network of approximately 123 miles of Class I, II, and III bicycle facilities, including 29.4 miles of Class I bicycle paths. Planned bicycle facilities in the Study Area includes 180 miles of additional bicycle facilities, including 21.1 miles of Class I paths (SCAG, 2024).

Figure 8-15 shows the existing and planned bicycle facilities, which are classified using the California Department of Transportation (Caltrans) *Highway Design Manual* (Caltrans, 2022a). These facility classifications include the following:

- Class I Bicycle Facilities are also known as bicycle paths, shared-use paths, or bicycle trails. They provide a travel facility for the exclusive use of bicycles and pedestrians that is completely separated (by a physical barrier or open space) from roadways with cross flow by vehicles minimized.
- Class II Bicycle Facilities are also known as bicycle lanes. These facilities provide a striped lane for one-way bike travel on a street or highway.
- Class III Bicycle Facilities are also known as bicycle routes. They provide for shared use with pedestrian or motor vehicle traffic typically demarcated by signage or surface markings such as Sharrows.
- Class IV Bicycle Facilities are protected bike lanes that are physically separated from the vehicle travel lane by more than the white stripe. Separation may be accomplished with flexible delineators or permanent barriers.

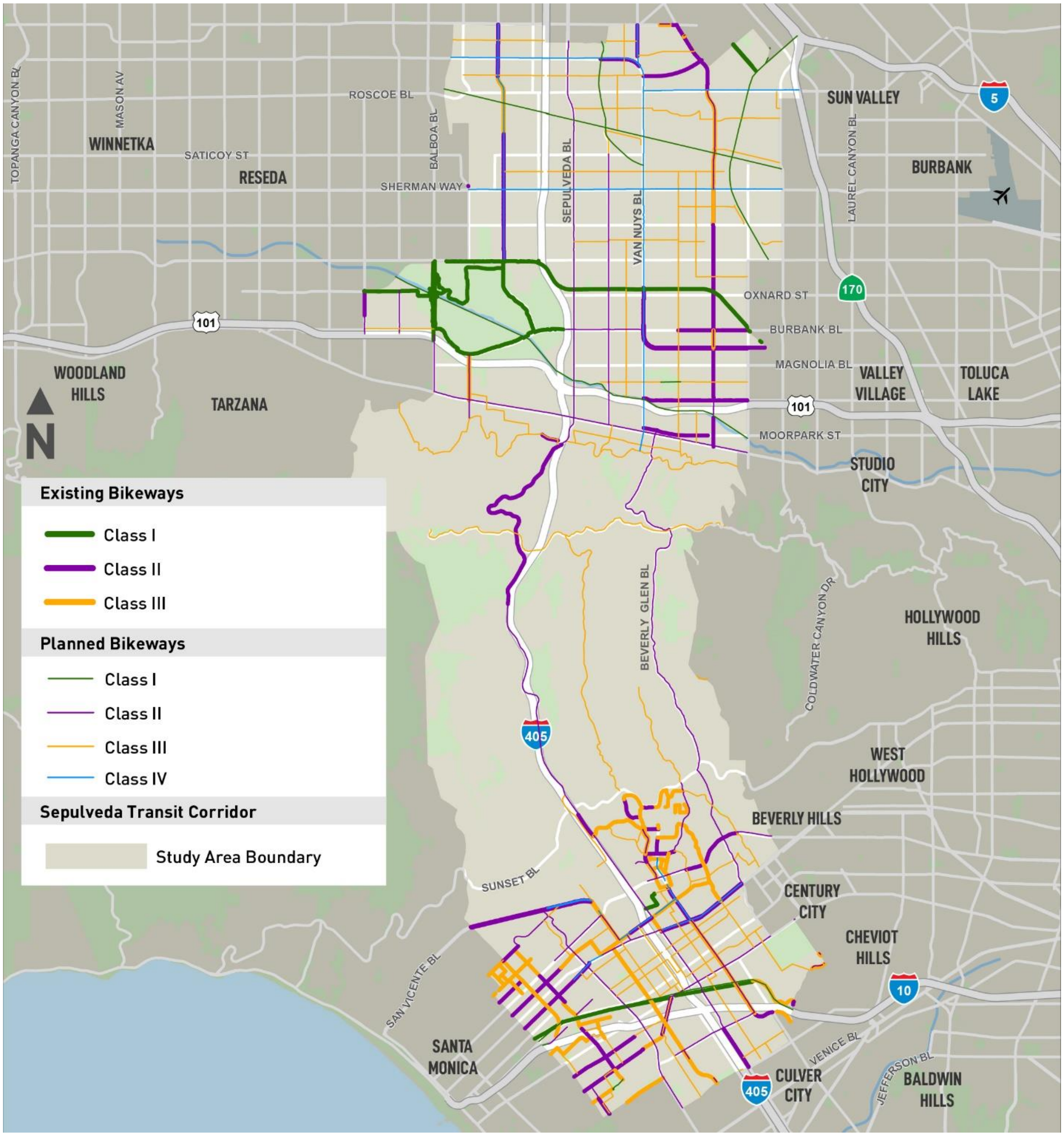
Table 8-11 lists the lengths of existing bicycle facilities in miles by classification within the Study Area. There are no existing Class IV bicycle facilities in the Study Area.

Table 8-11. Existing and Planned Bicycle Facility Miles within the Study Area

Class	Existing Facility Miles	Planned Facility Miles
I	29.4	21.1
II	53.2	51.3
III	40.7	80.6
IV	0	26.9
Total	**123.3**	**179.9**

Source: SCAG, 2022; HTA, 2024

Figure 8-15. Existing and Planned Bicycle Facilities within the Study Area



Source: SCAG, 2022; HTA, 2024

8.3 Transit Network Assumptions

The transit network under Alternative 4 assumes a baseline of 2045 NextGen service (Metro, 2020d). In addition, as described in Section 3.2, coordination with transit agencies for the purposes of ridership forecasting led to changes in local and regional transit for each alternative. The rail network, except for the Project, would be the same under Alternative 4 as under the No Project Alternative. Changes to the bus transit network under Alternative 4 meant to minimize duplicated service would include the following:

- AVTA 786: Truncate service at Van Nuys Metrolink Station
- LADOT 573: Truncate service at Ventura Boulevard Station
- Metro 233: Operate in the San Fernando Valley only
- Metro 761: Eliminate
- SCT 792 and 797: Truncate service at Sherman Way Station
- BruinBus U1, U2, and U5: Add eastbound stop at Charles E. Young Drive and Westwood Plaza

8.4 Impact Evaluation

8.4.1 Impact TRA-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?

This section evaluates the consistency of Alternative 4 with plans and policies. Attachment 2 of this technical report identifies all the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that each alternative was evaluated against for consistency. Relevant design guidelines from the regulatory framework, such as the Americans with Disabilities Act (ADA) or Los Angeles Bureau of Engineering (LABOE) Standard Plans (LABOE, n.d.(a)), are addressed under the evaluation of geometric hazards in Section 8.4.3.

8.4.1.1 Operational Impacts

Transit Policies

Attachment 2 identifies the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that the alternative was evaluated against for consistency. Alternative 4 would support several regional and local plans and policies and would not conflict with adopted policies or plans related to transit facilities. Therefore, operation of Alternative 4 would not conflict with a program, plan, ordinance, or policy and would result in no impact.

Transit Ridership

Table 8-12 presents the projected number of regional trips for the No Project Alternative and Alternative 4. The total regional transit mode share would increase by 0.05 percent with Alternative 4. A total of 122,775 daily projected trips are forecast for Alternative 4, which would increase regional transit travel by 41,659 daily new transit trips in the horizon year 2045 compared to the No Project Alternative.

Table 8-12. Alternative 4: 2045 Regional Transit Performance Metrics

Performance Metric	No Project Alternative	Alternative 4	Change from No Project Alternative
Daily Project Trips	NA	122,775	NA
Daily New Transit Trips (Regional)	NA	41,659	NA
Daily Fixed Guideway Trips (Rail + BRT)	746,604	804,325	7.73%
Daily Bus Trips	969,689	953,627	-1.66%
Daily Transit Trips (All Transit Trips)	1,716,293	1,757,952	2.43%
Daily Trips (Total All Modes)	78,175,000	78,175,000	0%
Total Transit Mode Share (Daily Transit Trips/Daily Trips)	2.20%	2.25%	0.05%

Source: HTA, 2024

NA = not applicable

Table 8-13 summarizes ridership and mode of access by station for Alternative 4. Mode of access data illustrates how passengers would access project stations, whether via bus, rail, walking/biking, driving and parking, or being dropped off (kiss & ride). As listed in Table 8-13, Alternative 4 is forecast to have 122,775 total weekday boardings. For Alternative 4, rail would comprise the highest mode share for station access followed by bus transit, walking/biking, kiss & ride, and park & ride.

Table 8-13. Alternative 4: Average Weekday Station Boardings by Mode

Station	Walk/Bike	Bus	Park & Ride	Kiss & Ride	Rail	Total Station Boardings
Metro E Line Expo/Sepulveda	1,459 (8%)	1,164 (6%)	56 (0%)	33 (0%)	15,673 (86%)	18,384
Santa Monica Boulevard	3,333 (65%)	1,665 (33%)	0 (0%)	79 (2%)	0 (0%)	5,077
Wilshire Boulevard/Metro D Line	8,256 (25%)	618 (2%)	0 (0%)	65 (0%)	24,445 (73%)	33,384
UCLA Gateway Plaza	17,974 (97%)	397 (2%)	0 (0%)	41 (1%)	0 (0%)	18,411
Ventura Boulevard/Sepulveda Boulevard	4,456 (62%)	2,320 (32%)	95 (1%)	339 (5%)	0 (0%)	7,209
Metro G Line Sepulveda	1,929 (13%)	12,398 (82%)	670 (4%)	152 (1%)	0 (0%)	15,148
Sherman Way	2,372 (36%)	3,906 (58%)	129 (2%)	272 (4%)	0 (0%)	6,678
Van Nuys Metrolink	1,808 (10%)	7,251 (39%)	0 (0%)	171 (1%)	9,255 (50%)	18,485
Total	**41,585 (34%)**	**29,718 (24%)**	**950 (1%)**	**1,150 (1%)**	**49,373 (40%)**	**122,775**

Source: HTA, 2024

Table 8-14 presents the projected number of daily boardings (total ridership on the entire line) for urban rail and BRT lines in 2045 under Alternative 4 with a comparison to No Project Alternative ridership.

Table 8-14. Alternative 4: Daily Boardings on Urban Rail and Bus Rapid Transit Lines Serving the Study Area

Line	Daily Boardings		Change from No Project Alternative
	No Project Alternative	Alternative 4	
Metro E Line	110,578	131,550	19.0%
Metro D Line	221,766	233,869	5.5%
Metro G Line (BRT)	53,599	59,460	10.9%
East San Fernando Valley Light Rail Transit Line	49,988	58,129	16.3%
Total	**435,931**	**483,008**	**10.8%**

Source: HTA, 2024

Table 8-15 shows the peak-hour load on rail and BRT lines in the Study Area under Alternative 4 compared to the No Project Alternative. The capacities of heavy rail (Metro D Line) and light rail modes (Metro E Line and East San Fernando Valley) are approximately 12,000 and 4,800 passengers per hour, respectively, based on design headways and vehicle capacity. Capacity on the Metrolink Ventura County Line is approximately 2,240 passengers per hour assuming 8-car trains at 30-minute headways. Metro G Line capacity is approximately 960 passengers per hour at 5-minute headways. While Alternative 4 would increase peak loads on the Metro E Line, D Line, and ESFV LRT Line, peak loads would remain under capacity. For the Metro G Line, peak loads would exceed capacity under Alternative 4 similar to the No Project Alternative. It is expected that Metro would accommodate the additional demand on the Metro G Line by implementing operational improvements and would also update its short- and long-range transit plans and increase service on parallel routes as needed, consistent with its usual service planning processes. Therefore, operation of Alternative 4 would not conflict with a program, plan, ordinance, or policy related to transit ridership and would result in no impact.

Table 8-15. Alternative 4: Peak Loads on Rail and Bus Rapid Transit Lines within the Study Area

Line	No Project		Alternative 4	
	Peak Load (Passengers)	Location	Peak Load (Passengers)	Location
Sepulveda Transit Corridor	NA	NA	5,190	Between Ventura Boulevard and UCLA
Metro E Line	2,530	Between Expo/La Brea and La Cienega/Jefferson	3,800	Between Rancho Park and Expo/Sepulveda
Metro D Line	11,870	Between Wilshire/La Brea and Wilshire/Fairfax	11,920	Between Wilshire/La Brea and Wilshire/Fairfax
Metro G Line (BRT)	2,500	Between Van Nuys and Sepulveda	2,670	Between Sepulveda and Woodley
East San Fernando Valley Light Rail Transit Line	2,470	Between Vanowen and Victory	2,790	Between Roscoe and Van Nuys/Metrolink
Metrolink Ventura County Line	1,760	Between Union Station and Glendale	1,540	Between Union Station and Glendale

Source: HTA, 2024

NA = not applicable

Table 8-16 compares the projected ridership under Alternative 4 to No Project Alternative conditions for bus routes serving the Study Area, aggregated by transit operator. For most agencies, bus ridership would fluctuate slightly because passengers would have the option to use Alternative 4 with faster and more reliable service. Since the combination of AVTA 786 and Alternative 4 would provide the fastest transit travel time from the Antelope Valley to the Westside, ridership on AVTA 786 would increase significantly. Although Alternative 4 would result in a 27.9 percent increase in ridership on AVTA 786, the truncation of the route from Century City to Van Nuys Metrolink Station would allow AVTA to run additional service on the truncated route to meet the increased demand without exceeding the passenger loading standard of 75 percent of seated capacity on commuter bus routes (AVTA, 2020). Therefore, operation of Alternative 4 would not conflict with an existing loading standard and would result in no impact.

Table 8-16. Alternative 4: Projected Bus Ridership by Transit Operator

Operator	Route(s)[a]	Daily Boardings[b]		Change from No Project Alternative
		No Project Alternative	Alternative 4	
Metro	2, 4, 20, 150, 152, 154, 155, 158, 164, 165, 166, 167, 169, 233, 234, 236, 602, G Line	237,137	232,891	-1.8%
AVTA	786	4,981	6,371	27.9%
BBB	1, 2, 5, Local 7, Rapid 7, 8, 10, Rapid 12, 14/15, 16, 17, 18	45,404	42,644	-6.1%
CCB	3, 6/6R	24,685	24,905	0.9%
LADOT	422, 423, 431, 534, 549, 573, 574, PC/VN DASH, VN/SC DASH	12,516	12,174	-2.7%
SCT	792/797	<250	<250	NA
BruinBus	U1, U2, U3, U5	9,380	9,393	0.1%

Source: HTA, 2024

[a]Routes listed intersect the Study Area
[b]Daily boardings represent total ridership on all routes listed.

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

Roadways

Alternative 4 would include various changes to roadway facilities, including a proposed raised median along Sepulveda Boulevard between Ventura Boulevard and Raymer Street, which would prohibit left-turn movements at driveways between intersections and at La Maida Street, Valleyheart Drive South, Hesby Street, Hartsook Street, Archwood Street, Hart Street, Leadwell Street, and Covello Street. These roadways are not included in the City of Los Angeles *Mobility Plan 2035 – An Element of the General Plan* (Mobility Plan 2035) circulation system since they are classified as collector or local streets. Therefore, the operation of Alternative 4 would not conflict with a program, plan, ordinance, or policy related to roadway facilities and would result in no impact.

Bicycle and Pedestrian Circulation

Generally, Alternative 4 would be supportive of adopted active transportation plans and policies set forth by *Mobility Plan 2035* (DCP, 2016), the City of Los Angeles *2010 Bicycle Plan* (DCP, 2011), Metro's

First/Last Mile Guidelines (Metro, 2021b), the 2019 *UCLA Active Transportation Plan* (UCLA, 2019), and City of Los Angeles community plans (DCP, 1996a, 1996b, 1997b, 1998a, 1998b, 1998c, 1998d, 1999a, 1999b, 1999c, 1999d, 1999e) described in Section 2. Station area improvement elements — including increased sidewalk widths, improved pedestrian crossings, bicycle parking, wayfinding signs, and implementation of planned bicycle facilities — would align with Metro's *First/Last Mile Guidelines* (Metro, 2021b) and facilitate pedestrian and cyclist accessibility to the Alternative 4 stations.

Because Alternative 4 would approach the Sherman Oaks community from the Santa Monica Mountains, the guideway would transition from an underground configuration to an aerial viaduct in the San Fernando Valley. The height of the aerial guideway would provide sufficient vertical clearance so that pedestrian and bicycle movement would not be inhibited underneath the structure. However, introduction of the aerial viaduct would require physical changes to existing roadways and sidewalks along Sepulveda Boulevard between Valley Vista Boulevard and Raymer Street. To reduce impacts related to vehicle traffic at intersections, two supporting straddle bent columns would be placed within or behind the sidewalk to support the aerial viaduct and aerial stations. In compliance with minimum sidewalk width requirements under the ADA, LABOE Standard Plans (LABOE, n.d.(a)), and California Building Code 11B-403.5.1, supporting straddle bent columns would be located in areas with adequate sidewalk width.

Because the Alternative 4 alignment would run adjacent to the existing LOSSAN rail corridor ROW, the Alternative 4 aerial viaduct would be in physical conflict with an existing pedestrian bridge over the rail corridor and would require the bridge's removal. The existing pedestrian bridge (the "Willis Avenue Pedestrian Overhead," FRA crossing ID 921721T) is west of Van Nuys Boulevard and connects Willis Avenue to Raymer Street. The removal of the pedestrian bridge would conflict with *Mobility Plan 2035*. The plan includes a Neighborhood Enhanced Network (NEN), which highlights a selection of streets that provide comfortable and safe routes for localized travel of slower-moving modes such as walking, bicycling, or other slow-speed motorized means of travel. The Willis Avenue Pedestrian Bridge directly connects Willis Avenue and Raymer Street, which are identified as part of the NEN. The NEN identifies a system of local streets that are slow moving and safe enough to "connect neighborhoods through active transportation" (DCP, 2016). The City of Los Angeles *Mobility Plan 2035* calls for NEN-type improvements, including active transportation facilities and traffic calming devices, to be incorporated into any street serving a school, park, or community gathering place. Therefore, the removal of the pedestrian bridge would conflict with *Mobility Plan 2035* and is considered a potentially significant impact. Implementation of MM TRA-7 would require the existing pedestrian bridge to be replaced with another pedestrian bridge or undercrossing. The replacement structure must be completed and operational before the existing bridge is removed. Therefore, implementation of MM TRA-7 would reduce impacts to less than significant during operation of Alternative 4.

8.4.1.2 Construction Impacts

Given the temporary nature of construction, it is not expected that construction of Alternative 4 would preclude any programs, plan ordinances, or policies addressing the circulation system. The following sections describe construction impacts on transit facilities, roadways, and active transportation.

Transit Facilities

Temporary full or partial closures of some intersections, lanes, or sidewalks may be necessary during construction, which may result in disruptions to bus service. Temporary re-routing and relocation of bus stops may be needed for the following transit lines:

- Metro 4, 20, 155, 162, 169, 233, 234, 240, 602, and 761

- BBB 1, 2, 7, R7, R12, 17, and 18
- CCB 6 and R6
- LADOT 431, 534, 549, and DASH PC/VN
- LBT 405
- Amtrak Thruway
- BruinBus U1, U2, U3, U5

In addition to impacts to on-street bus service, construction at existing fixed guideway stations would temporarily impact rail and BRT service operations. Construction of the Alternative 4 Metro G Line Sepulveda Station and connecting walkways would temporarily impact service on the Metro G Line. Temporary impacts to Amtrak and Metrolink rail operations would occur as a result of demolishing the existing Willis Avenue Pedestrian Bridge. The construction of the aerial Van Nuys Metrolink Station would temporarily impact Amtrak and Metrolink rail operations and passenger experience at the Van Nuys Metrolink/Amtrak Station. Construction activities would occur within the vicinity of the ESFV LRT Van Nuys Metrolink Station for the construction of the aerial alignment and Alternative 4 Van Nuys Metrolink Station which may temporarily affect passenger experience; however, disruptions to rail service or MSF operations are not anticipated.

Construction of a mezzanine extension over the Metro D Line tracks and platform at the Metro D Line Westwood/UCLA Station would result in temporary impacts to Metro D Line rail operations and passenger experience. Metro D Line trains would operate between Union Station and the Metro D Line Century City Station while temporary falsework is constructed over the Metro D Line tracks. The Metro D Line Westwood/UCLA Station would then be temporarily closed to passengers during the construction of the mezzanine extension. However, Metro D Line trains would be able to pass through the station to the Westwood/VA Hospital Station.

Although temporary, the potential disruptions to the transit network under Alternative 4 is considered a potentially significant impact to transit facilities due to temporary road or lane closures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4, to provide a Transportation Management Plan (TMP) that specifies measures to limit disruption during construction, and MM TRA-5, to provide temporary bus service at rail stations taken out of passenger service, would reduce impacts to less than significant during construction of Alternative 4.

Roadways

Construction vehicles would primarily use major arterials and freeways to comply with Policy 1.8 from *Mobility Plan 2035* that "truck movement should be limited to the arterial street network as much as possible since these streets have the lanes and wider turning radii to accommodate these heavy large vehicles" (DCP, 2016). Figure 8-9 and Table 8-17 identify construction staging locations and roadway facilities that would be used for construction haul routes.

Table 8-17. Alternative 4: Construction Staging Locations and Haul Routes

No.	Construction Staging Location Description	Haul Route
On-Site Construction Staging Areas		
1	Commercial properties on southeast corner of Sepulveda Boulevard and National Boulevard	National Boulevard and I-405 or I-10
2	North side of Wilshire Boulevard between Veteran Avenue and Gayley Avenue	Wilshire Boulevard, I-405
3	UCLA Gateway Plaza	Westwood Boulevard, Wilshire Boulevard, I-405

No.	Construction Staging Location Description	Haul Route
4	Residential properties on both sides of Del Gado Drive and south side of Sepulveda Boulevard adjacent to I-405	Sepulveda Boulevard, I-405
5	West of Sepulveda Boulevard between Valley Vista Boulevard and Sutton Street	Sepulveda Boulevard, I-405
6	West of Sepulveda Boulevard between US-101 and the Los Angeles River	Sepulveda Boulevard, I-405
7	Lot behind Los Angeles Fire Department Station 88	Sepulveda Boulevard and US-101 or I-405
8	Commercial property on southeast corner of Sepulveda Boulevard and Raymer Street	Sepulveda Boulevard, Roscoe Boulevard, I-405
9	South of the LOSSAN rail corridor east of Van Nuys Metrolink Station, west of Woodman Avenue	Woodman Avenue, Sherman Way, and I-405 or SR-170
Off-Site Construction Staging Areas		
S1	East of Santa Monica Airport Runway	Bundy Drive, I-10, I-405
S2	Ralphs Parking Lot in Westwood Village	Le Conte Avenue, Westwood Boulevard, Wilshire Boulevard, I-405
N1	West of Sepulveda Basin Sports Complex, south of the Los Angeles River	Orange Line Busway, White Oak Avenue, US-101
N2	West of Sepulveda Basin Sports Complex, north of the Los Angeles River	Orange Line Busway, Balboa Boulevard, Victory Boulevard, I-405
N3	Metro G Line Sepulveda Station Park and Ride Lot	Erwin Street, Sepulveda Boulevard, Victory Boulevard, Haskell Avenue, I-405
N4	North of Roscoe Boulevard and Hayvenhurst Avenue	Havenhurst Avenue, Roscoe Boulevard, I-405
N5	LADWP property south of the LOSSAN rail corridor, east of Van Nuys Metrolink Station	Hazeltine Avenue, Sherman Way, and I-405 or SR-170

Source: STCP, 2024; HTA, 2024

SR = State Route

Truck movement near Staging Area No. 6 has the potential to temporarily impact pick-up and drop-off at the nearby Ivy Bound Sherman Oaks Charter School, which is expected to remain open during project construction. Although temporary, the potential disruptions to the Ivy Bound Sherman Oaks Charter School under Alternative 4 is considered a potentially significant impact due to construction vehicle operations near pick-up and drop-off areas. Implementation of MM TRA-8 — to prohibit trucks or other construction vehicles from operating or parking on Morrison Street during school pick-up and drop-off times — would reduce impacts to less than significant during construction of Alternative 4.

For the aerial guideway, foundation and column construction would require the establishment of temporary longitudinal work zones along Sepulveda Boulevard in the San Fernando Valley via the use of temporary lateral lane shifts, supplemented with additional short-term lane closures to allow construction of multiple foundations in one work zone. At aerial stations — including Ventura Boulevard, Sherman Way, Metro G Line, and Van Nuys Metrolink — construction would be executed in stages to allow for maintenance of traffic on Sepulveda Boulevard or Van Nuys Boulevard. Full road closures at aerial stations would be utilized on select weekend and night-shift operations to erect portions of the structure, including outrigger bents and superstructure elements. Traffic control measures necessary to complete construction of Alternative 4 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would further reduce temporary impacts due traffic control measures. Therefore, construction of Alternative 4 is considered a less than significant impact related to a conflict with a program, plan, ordinance, for policy on roadway facilities.

Underground station construction at Santa Monica Boulevard and Metro D Line Stations would result in temporary lane closures to through traffic on Gayley Avenue for the duration of station box excavation and other construction activities. Deliveries to businesses along Santa Monica Boulevard near South Bentley Avenue would be affected during construction if access is unable to be maintained during construction. Therefore, potential disruption of delivery access to these properties is considered a potentially significant impact. Implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes and coordinating with local business owners to maintain customer and delivery access) — would minimize temporary impacts to delivery access. Therefore, construction of Alternative 4 is considered a less than significant impact related to a conflict with a program, plan, ordinance, for policy on roadway facilities.

Bicycle and Pedestrian Circulation

Alternative 4 would require temporary roadway and sidewalk detours at proposed underground stations during cut-and-cover construction activities. Additionally, construction of the aerial guideway in the San Fernando Valley would require roadway detours that would limit sidewalk access. Pedestrian through-access and access to adjacent properties and businesses along this segment would need to be maintained during construction. Bicycle traffic movements would be maintained during construction, but lane reductions and road closures would inhibit the flow of bicycle traffic and may require detours. At the underground segments of the Alternative 4 alignment, roadway detours would be concentrated at areas surrounding proposed underground station boxes, which would require cut-and-cover construction. Street detours associated with cut-and-cover activities within the active roadway would disrupt bicycle and pedestrian circulation.

Although temporary, the potential disruptions to bicycle and pedestrian circulation would result in a potentially significant impact during project construction. In addition to compliance with all local, state, and federal standards on construction, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would minimize temporary impacts due to traffic control measures. Alternative 4 detour routes would be identified in the TMP, and bicyclists and pedestrians would be informed of such closures and detours through signage and online postings that would be consistent with Policy 1.6 from *Mobility Plan 2035* that states, "Design detour facilities to provide safe passage for all modes of travel during construction" (DCP, 2016). Therefore, implementation of MM TRA-4 would reduce impacts to less than significant during construction of Alternative 4.

8.4.1.3 Maintenance and Storage Facility

The MSF for Alternative 4 would be located on a parcel immediately west of Woodman Avenue and south of the LOSSAN rail corridor. Operation and construction of the MSF would not require the removal or modification of an element of the circulation system that is addressed in a program, plan, ordinance, or policy. Therefore, operation and construction of the MSF for Alternative 4 would not conflict with a program, plan, ordinance or policy and would result in no impact.

8.4.2 Impact TRA-2: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

8.4.2.1 Operational Impacts

Under CEQA Guidelines Section 15064.3, subdivision (b), transportation projects that reduce, or have no impact on, VMT are presumed to cause a less than significant impact on transportation. OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018) states that transit and active transportation projects generally reduce VMT. As listed in Table 8-18, Alternative 4 would result in reduced VMT (767,800 daily) compared to the No Project Alternative. Therefore, operation of Alternative 4 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Table 8-18. Alternative 4: Vehicle Miles Traveled

Project Alternative	Total VMT	Change in VMT Relative to the No Project Alternative
No Project Alternative (2045 Horizon Year)	568,557,200	NA
Alternative 4 (2045 Horizon Year)	567,789,400	-767,800

Source: HTA, 2024

NA = not applicable

8.4.2.2 Construction Impacts

Construction of Alternative 4 would temporarily generate additional VMT related to construction workers commuting to the construction site, construction work activities, construction labor trips, and the transport of excavated materials, construction equipment, and supplies. This additional VMT would terminate upon completion of construction and would not be in effect during operation of Alternative 4. The temporary nature of construction-related VMT and construction-related traffic circulation changes (e.g., detours) would generally be localized to the work areas and construction staging locations listed in Table 8-17.

There would be minor impacts to traffic operations associated with construction staging areas and haul routes. Vehicles and trucks related to construction activities entering and exiting these areas would increase traffic and VMT on local streets. All construction trucks would use designated haul routes, as listed in Table 8-17, to access the regional freeway system. The construction-related traffic volumes would be minimal compared to overall background traffic volumes would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of Alternative 4 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

8.4.2.3 Maintenance and Storage Facility

The MSF for Alternative 4 would be part of a transit project that is presumed to have a less than significant impact on VMT (OPR, 2018). Therefore, operation of the MSF would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Construction of the MSF would result in a minor increase in traffic volumes as construction vehicles enter and exit the site. Construction vehicles entering and exiting the construction site would temporarily increase VMT on local streets. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction-related traffic would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of the MSF for Alternative 4 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

8.4.3 Impact TRA-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?

This section discusses the potential increase in hazards due to a geometric design feature of Alternative 4. The potential increase for hazards generally relates to unsafe design of Project facilities/structures, the degradation of pedestrian, bicycle, or vehicle safety conditions, or the introduction of obstructions that result in decreased visibility of other road users or key roadway infrastructure, such as traffic signals. These impacts are evaluated for permanent conditions during project operation as well as temporary conditions during project construction.

8.4.3.1 Operational Impacts

A Alternative 4 — including its guideway, vehicles, stations, MSF, TPSSs, and fire/life safety systems — would be designed to meet all relevant and applicable standards including ADA, LABOE, and Metro safety design standards.

The Willis Avenue Pedestrian Bridge is located west of Van Nuys Boulevard and connects Willis Avenue to Raymer Street. According to the agenda from the June 1995 meeting of the Metro Board of Directors, the pedestrian bridge was constructed to “provide a safe pedestrian route at a location with a history of unsafe crossings by students seeking a convenient route to school” (Metro, 1995). Panorama High School, Robert Fulton College Preparatory School, and Vista Middle School are all located approximately 0.5 mile from this bridge. Panorama High School and Robert Fulton College Preparatory School have attendance boundaries that cross the LOSSAN rail corridor tracks (City of Los Angeles, 2018). Furthermore, all three schools have magnet programs, drawing students from beyond their fixed attendance area. Observations of the bridge in October 2023 confirmed students using the pedestrian bridge around school bell times. Prior to construction of the bridge, the Los Angeles Unified School District operated a shuttle bus to provide a safe crossing for students at Robert Fulton College Preparatory School who needed to cross the railroad tracks to reach the school. The removal of the Willis Avenue Pedestrian Bridge would substantially increase the pedestrian crossing distance by forcing pedestrians to walk an additional mile via Arminta Street, Van Nuys Boulevard, and Raymer Street to make the same crossing. This would tempt pedestrians to cross the LOSSAN rail corridor at an unsafe location out of convenience. Therefore, removal of the Willis Avenue Pedestrian Bridge would result in a potentially significant impact. Implementation of MM TRA-7 would require the existing pedestrian bridge to be replaced with another pedestrian bridge or undercrossing. The replacement structure must be completed and operational before the existing bridge is removed. Therefore, implementation of MM TRA-7 would reduce impacts to less than significant during operation of Alternative 4.

An analysis of passenger queues at fare gates was conducted to evaluate the safety of transferring passengers as described in Section 3.2.2. As shown on Figure 8-16, under Alternative 4, passengers would have the ability to transfer to the ESFV LRT Line from the Alternative 4 Van Nuys Metrolink Station via a sidewalk connection on the east side of Van Nuys Boulevard. Passengers transferring to the ESFV LRT Line are anticipated to enter the station from the north entrance because the north entrance is the closest ESFV LRT station entrance to the Alternative 4 Van Nuys Metrolink Station.

Figure 8-16. Alternative 4: Transfer Paths at the Van Nuys Metrolink Station

Source: STCP, 2024; HTA, 2024

Table 8-19 presents the results of the peak-hour queueing analysis at the ESFV LRT Van Nuys Metrolink Station north entrance fare gates. During the busiest 2 minutes of the peak hour, 85 passengers are forecast to transfer to the ESFV LRT Line across all station modes of access. The queues resulting from the peak-hour passenger flow into the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Based on the results of the peak-hour queueing analysis in Table 8-19, the maximum forecast queue length in the peak hour at the ESFV LRT Van Nuys Metrolink Station for Alternative 4 would be 128 feet long, while the available queueing area between the fare gates and the crosswalk used to access the station would be 30 feet. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a hazard to passengers. Therefore, operation of Alternative 4 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area, creating a safety hazard as described in Section 3.2.2. Implementation of MM TRA-1 would require a pedestrian flow microsimulation analysis to evaluate passenger movements when transferring to the ESFV LRT Van Nuys Metrolink Station from the Alternative 4 Van Nuys Metrolink Station. This analysis shall evaluate passenger flows into the ESFV LRT Van Nuys Metrolink Station from other modes, including Amtrak, Metrolink, bus, active transportation, park & ride, and kiss & ride. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with stand-alone validators (SAV), at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street. Therefore, implementation of MM TRA-1 would reduce impacts to less than significant during operation of Alternative 4.

Table 8-19. Alternative 4: Queueing Analysis at the East San Fernando Valley Light Rail Transit Line Van Nuys Metrolink Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into North Entrance	Peak 2-minute Passenger Flow into North Entrance
Walk/bus/ park & ride/kiss & ride	353	176	6
Metrolink	4	4	2
Alternative 4	1,856	1,856	77
Total 2-minute Passenger Flow into North Entrance			85
2-minute Passenger Flow per Fare Gate			43
Maximum Peak-Hour Queue Length (feet)			**128**
Available Queueing Distance at Station (feet)			30

Source: HTA, 2024

Note: Analysis assumes half of walk/bus/ park & ride/kiss & ride passengers would use this entrance, all Metrolink and Alternative 4 transfers would use this entrance, walk/bus/ park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, Metrolink trains would arrive every 30 minutes (2 trains per hour), and Alternative 4 trains would arrive every 2.5 minutes (24 trains per hour).

8.4.3.2 Construction Impacts

Temporary modifications of existing transportation facilities under Alternative 4 would include full or partial road closures, lane reductions or modifications, and detour routes. Construction of Alternative 4 would include temporary modifications to segments of Bentley Avenue, Wilshire Boulevard, Gayley Avenue, Lindbrook Drive, and Westwood Plaza in the Westside, and Del Gado Drive, Sepulveda Boulevard, Dickens Street, Metro G Line Busway, Raymer Street, and Van Nuys Boulevard in the San Fernando Valley. Construction worksites would be fenced, and lane closures and associated lane tapers, temporary advance warning signs, and detour signs would be implemented in accordance with Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (Cal/OSHA), and *California Manual on Uniform Traffic Control Devices* (CA MUTCD) (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses would be introduced during construction. Safety for pedestrians, bicyclists, and motorists would be maintained during construction using signage, partial lane closures, construction barriers, and supervision by safety and security personnel at access points and throughout construction sites. Traffic control measures necessary to complete construction of Alternative 4 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic control measures and would ensure hazards are not introduced during construction. Therefore, construction of Alternative 4 would not substantially increase hazards due to a geometric design feature or incompatible use and is considered a less than significant impact.

8.4.3.3 Maintenance and Storage Facility

The MSF for Alternative 4 would be designed to meet all relevant and applicable standards, including ADA, LABOE, and Metro safety design standards. Operation of the MSF would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of the MSF for Alternative 4 would result in no impact.

Construction of the MSF may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including OSHA, Cal/OSHA, and CA MUTCD (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Thus, construction of the MSF would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, construction of the MSF for Alternative 4 would result in no impact.

8.4.4 Impact TRA-4: Would the project result in inadequate emergency access?

8.4.4.1 Operational Impacts

All project facilities — including the guideway, stations, and transit vehicles — would include emergency evacuation routes, emergency systems, and emergency service access in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. However, the proposed raised median along Sepulveda Boulevard between Ventura Boulevard and Raymer Street would prohibit left-turn movements between intersections and at La Maida Street, Valleyheart Drive South, Hesby Street, Hartsook Street, Archwood Street, Hart Street, Leadwell Street, and Covello Street, which could limit access for emergency vehicles. Implementation of MM TRA-9 would require coordination with first responders and emergency service providers to design median breaks, mountable curbs, or another design solution that would allow emergency service vehicles to make left-turn movements at each intersection along Sepulveda Boulevard, thus maintaining adequate emergency service response times. Therefore, implementation of MM TRA-9 would reduce impacts to less than significant during construction of Alternative 4.

8.4.4.2 Construction Impacts

Project construction would include temporary lane reductions, road closures, and detours that would affect local roadways. As a result, traffic congestion associated with temporary traffic control measures could result in delayed emergency response times or limited access by emergency services. Construction of the aerial guideway along Sepulveda Boulevard would occur in front of the Los Angeles Fire Department Station 88; however, access to this station would be maintained during construction. Traffic control measures necessary to complete construction of Alternative 4 would be temporary in nature and are considered a less than significant. In accordance with Metro standard practice, implementation of MM TRA-4 would require coordination with first responders during final design to further reduce temporary impacts on emergency access. Therefore, construction of Alternative 4 is considered to have a less than significant impact on emergency access.

8.4.4.3 Maintenance and Storage Facility

The MSF for Alternative 4 would include emergency evacuation routes and systems during operation in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. The MSF would be constructed in accordance with applicable Metro standards and design criteria for providing adequate emergency service access during operation. Therefore, operation of the MSF for Alternative 4 would result in no impact.

Construction of the MSF would result in temporary impacts to traffic operations due to a minor increase in traffic volumes as construction vehicles enter and exit the site. Traffic control measures necessary to complete construction of the MSF would be temporary in nature and are considered a less than significant impact. In accordance with standard Metro practice, implementation of MM TRA-4 would ensure adequate emergency access is maintained within and surrounding the site during construction to further reduce temporary impacts. Therefore, construction of the MSF for Alternative 4 is considered a less than significant impact.

8.5 Mitigation Measures

The following mitigation measures would be implemented for Alternative 4.

8.5.1 Operational Impacts

MM TRA-1: *During final design, Metro shall complete a detailed pedestrian flow microsimulation analysis to evaluate passenger movements when transferring between the Project Van Nuys Metrolink Station and the East San Fernando Valley (ESFV) Light Rail Transit (LRT) Van Nuys Metrolink Station. This analysis shall assess passenger flow into the ESFV LRT Van Nuys Metrolink Station and potential areas of congestion at the fare gates during peak and off-peak hours. In addition to passengers transferring from the Project Van Nuys Metrolink Station, this analysis shall include passengers arriving at the ESFV LRT Van Nuys Metrolink Station via Amtrak, Metrolink, bus, active transportation, park and ride, and kiss and ride. The results of this analysis shall inform design to determine necessary measures, such as removal of fare gates or installation of stand-alone validators at the ESFV LRT Van Nuys Metrolink Station, to eliminate the safety concern of passengers queueing into the street. Any necessary adjustments to station layouts, signage, pedestrian transfer paths, or fare gate configurations shall be incorporated into final design prior to commencement of operations*.

MM TRA-7: *The Project shall replace the Willis Avenue Pedestrian Bridge with another pedestrian bridge or pedestrian undercrossing. The replacement structure must be completed and operational before the existing bridge is removed.*

MM TRA-9: *During final design, the project contractor shall coordinate with first responders and emergency service providers on the design of the raised median along Sepulveda Boulevard to ensure adequate emergency response times are maintained following construction.*

8.5.2 Construction Impacts

MM TRA-4: *The project contractor shall prepare a Transportation Management Plan to facilitate the flow of traffic and transit service in and around construction zones. The*

Transportation Management Plan shall include, at a minimum, the following measures:

- *Where feasible, schedule construction-related travel (i.e., deliveries, hauling, and worker trips) during off-peak hours and maintain two-way traffic circulation along affected roadways during peak hours. Avoid the closure of two major adjacent streets where feasible.*
- *Designated routes for project haul trucks shall primarily utilize the I-405, I-10, and US-101 corridors. Throughout the construction process, these routes shall be coordinated with the City of Los Angeles and U.S. Department of Veterans Affairs to ensure consistency with land use and mobility plans. Additionally, the routes shall be situated to minimize noise, vibration, and other possible impacts.*
- *Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas.*
- *Where construction encroaches on the Los Angeles-San Diego-San Luis Obispo rail corridor right-of-way, coordinate construction activities with Union Pacific, Metrolink, and Amtrak to limit disruptions to service and coordinate on outreach to inform passengers of service impacts. Provide temporary parking and drop-off facilities at the Van Nuys Metrolink/Amtrak Station to minimize passenger impacts.*
- *Develop and implement an outreach program and public awareness campaign in coordination with Caltrans, the City of Los Angeles, the City of Santa Monica, and the County of Los Angeles to inform the general public about the construction process and planned roadway closures, potential impacts, and mitigation measures, including temporary bus stop relocation.*
- *Where feasible, temporarily restripe roadways to maximize the vehicular capacity at locations affected by construction closures.*
- *Provide wayfinding signage, lighting, and access to specify pedestrian safety amenities (such as handrails, fences, and alternative walkways) during construction.*
- *Where construction encroaches on pedestrian facilities, special pedestrian safety measures shall be used, such as detour routes and temporary pedestrian barricades.*
- *Where construction encroaches onto the University of California, Los Angeles campus, the project contractor shall ensure that access to campus buildings is maintained through temporary decking and the construction of temporary stairs and ramps.*
- *During final design, the project contractor shall coordinate with Metro Operations to minimize construction impacts on existing Metro rail operations in and around existing stations. Where construction results in the interruption of Metro rail operations, buses shall provide temporary service between rail stations.*

- *Provide on-street bicycle detour routes and signage to address temporary effects to bicycle circulation and minimize inconvenience (e.g., lengthy detours) as to minimize users potentially choosing less safe routes if substantially rerouted.*
- *During final design, the project contractor shall coordinate with first responders and emergency service providers to minimize impacts on emergency response. Coordination efforts shall include the development of detour routes and notification procedures to facilitate and ensure safe and efficient traffic movement. The nearest local first responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing.*
- *Maintain customer and delivery access to all operating businesses near construction work areas. Access shall be maintained to allow for reasonable business operations, including clear signage for alternate routes, temporary driveways, or entry points as necessary. Coordination with businesses shall be conducted to address specific access needs and limit disruptions, ensuring that any restrictions are communicated in advance and alternative arrangements are provided as appropriate*

MM TRA-5: *Where construction results in the interruption of Metro rail operations, the Project shall provide temporary bus service at rail stations taken out of passenger service. Temporary bus service may consist of either dedicated bus shuttles or extensions of other Metro bus service. Temporary bus service during closures of the Metro D Line Westwood/UCLA Station and/or Metro D Line Westwood/VA Hospital Station shall operate on Bonsall Avenue, Wilshire Boulevard, Santa Monica Boulevard, Century Park East, Avenue of the Stars, Century Park West, and/or Constellation Drive.*

MM TRA-8: *To maintain safe and convenient access to the Ivy Bound Sherman Oaks Charter School, the project contractor shall not operate or park large trucks or other construction vehicles on Morrison Street between 6:30am and 9:00am or 1:30pm and 4:00pm on school days, or at such other times that the school informs the contractor that a large amount of student pick-up or drop-off activity will occur.*

8.5.3 Impacts After Mitigation

8.5.3.1 Operational Impacts

Operation of Alternative 4 would result in a potentially significant impact under Impact TRA-1 and Impact TRA-3 due to the removal of the Willis Avenue Pedestrian Bridge. The Willis Avenue Pedestrian Bridge connects Willis Avenue and Raymer Street, which are identified as part of the NEN included in *Mobility Plan 2035*. Additionally, removal of the pedestrian bridge would substantially increase the pedestrian crossing distance and would tempt pedestrians to cross the LOSSAN rail corridor at an unsafe location out of convenience. With implementation of MM TRA-7, the existing pedestrian bridge would be required to be replaced with another pedestrian bridge or undercrossing prior to removal of the existing pedestrian bridge, thus reducing this impact to less than significant.

Operation of Alternative 4 would result in a potentially significant impact under Impact TRA-3 due to a safety hazard. Under Alternative 4, the queues resulting from the peak-hour passenger flow from the Alternative 4 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a safety hazard as passenger queues would extend into Van Nuys Boulevard. Therefore, operation of Alternative 4 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard. With implementation of MM TRA-1, a pedestrian flow microsimulation analysis would be required to evaluate passenger movements from the Alternative 4 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with SAVs, at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street, thus reducing this impact to less than significant.

Operation of Alternative 4 would result in a potentially significant impact under Impact TRA-4 due to inadequate emergency access. The proposed raised median along Sepulveda Boulevard between Ventura Boulevard and Raymer Street would prohibit left-turn movements between intersections and at La Maida Street, Valleyheart Drive South, Hesby Street, Hartsook Street, Archwood Street, Hart Street, Leadwell Street, and Covello Street, which could limit access for emergency service vehicles. With implementation of MM TRA-9, coordination with first responders and emergency service providers would be required to design median breaks, mountable curbs, or another design solution that would allow emergency service vehicles to make left-turn movements at each intersection to maintain adequate emergency service response times, thus reducing this impact to less than significant.

8.5.3.2 Construction Impacts

Construction of Alternative 4 would result in a potentially significant impact under Impact TRA-1 due to temporary traffic control measures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4 would reduce impacts to less than significant by requiring a TMP to minimize temporary disruptions associated with construction activities. Implementation of MM TRA-5 would reduce this impact to less than significant by providing temporary bus service at rail stations taken out of passenger service during construction.

Construction of Alternative 4 would result in an additional potentially significant impact under Impact TRA-1 due to truck movement near Staging Area No. 6. Construction truck movement surrounding Staging Area No. 6 has the potential to temporarily impact pick-up and drop-off at the nearby Ivy Bound Sherman Oaks Charter School, which is expected to remain open during project construction. The potential disruptions to the Ivy Bound Sherman Oaks Charter School under Alternative 4 is considered a potentially significant impact due to construction vehicle operations near pick-up and drop-off areas. Implementation of MM TRA-8 — to prohibit trucks or other construction vehicles from operating or parking on Morrison Street during school pick-up and drop-off times — would reduce impacts to less than significant during construction of Alternative 4.

9 ALTERNATIVE 5

9.1 Alternative Description

Alternative 5 consists of a heavy rail transit (HRT) system with a primarily underground guideway track configuration, including seven underground stations and one aerial station. This alternative would include five transfers to high-frequency fixed guideway transit and commuter rail lines, including the Los Angeles County Metropolitan Transportation Authority's (Metro) E, Metro D, and Metro G Lines, East San Fernando Valley Light Rail Transit (ESFV LRT) Line, and the Metrolink Ventura County Line. The length of the alignment between the terminus stations would be approximately 13.8 miles, with 0.7 miles of aerial guideway and 13.1 miles of underground configuration.

The seven underground and one aerial HRT stations would be as follows:

1. Metro E Line Expo/Sepulveda Station (underground)
2. Santa Monica Boulevard Station (underground)
3. Wilshire Boulevard/Metro D Line Station (underground)
4. UCLA Gateway Plaza Station (underground)
5. Ventura Boulevard/Sepulveda Boulevard Station (underground)
6. Metro G Line Sepulveda Station (underground)
7. Sherman Way Station (underground)
8. Van Nuys Metrolink Station (aerial)

9.1.1 Operating Characteristics

9.1.1.1 Alignment

As shown on Figure 9-1, from its southern terminus station at the Metro E Line Expo/Sepulveda Station, the alignment of Alternative 5 would run underground north through the Westside of Los Angeles (Westside), the Santa Monica Mountains, and the San Fernando Valley to a tunnel portal east of Sepulveda Boulevard and south of Raymer Street. As it approaches the tunnel portal, the alignment would curve eastward and begin to transition to an aerial guideway along the south side of the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor that would continue to the northern terminus station adjacent to the Van Nuys Metrolink/Amtrak Station.

The proposed southern terminus station would be located underground east of Sepulveda Boulevard between the existing elevated Metro E Line tracks and Pico Boulevard. Tail tracks for vehicle storage would extend underground south of National Boulevard east of Sepulveda Boulevard. The alignment would continue north beneath Bentley Avenue before curving northwest to an underground station at the southeast corner of Santa Monica Boulevard and Sepulveda Boulevard. From the Santa Monica Boulevard Station, the alignment would continue and curve eastward to the Wilshire Boulevard/Metro D Line Station beneath the Metro D Line Westwood/UCLA Station, which is currently under construction as part of the Metro D Line Extension Project. From there, the underground alignment would curve slightly to the northeast and continue beneath Westwood Boulevard before reaching the UCLA Gateway Plaza Station.

Figure 9-1. Alternative 5: Alignment

Source: STCP, 2024; HTA, 2024

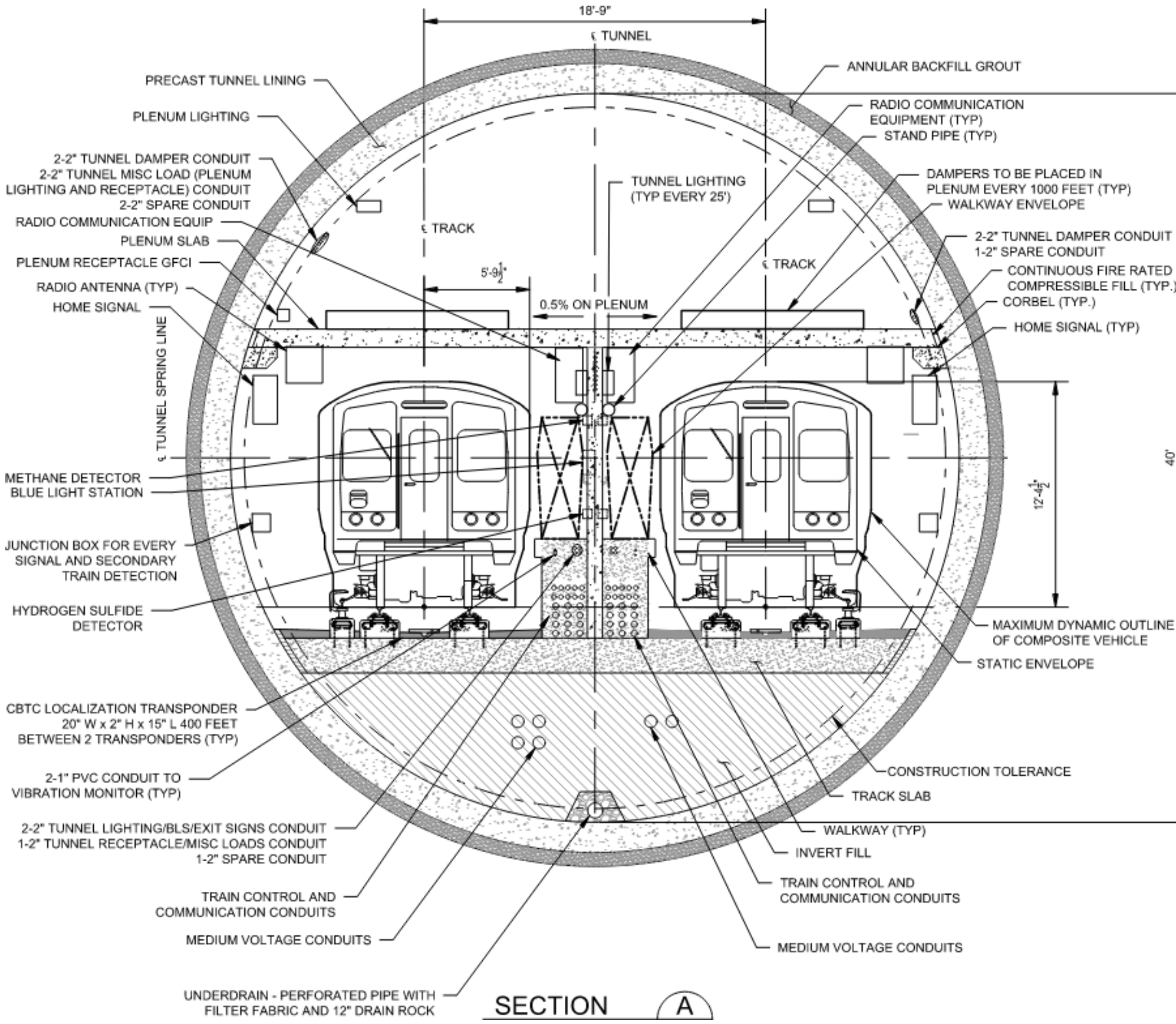
From the UCLA Gateway Plaza Station, the alignment would turn to the northwest beneath the Santa Monica Mountains to the east of Interstate 405 (I-405). South of Mulholland Drive, the alignment would curve to the north, aligning with Saugus Avenue south of Valley Vista Boulevard. The Ventura Boulevard Station would be located under Saugus Avenue between Greenleaf Street and Dickens Street. The alignment would then continue north beneath Sepulveda Boulevard to the Metro G Line Sepulveda Station immediately south of the Metro G Line Busway. After leaving the Metro G Line Sepulveda Station, the alignment would continue beneath Sepulveda Boulevard to reach the Sherman Way Station, the final underground station along the alignment, immediately south of Sherman Way. From the

Sherman Way Station, the alignment would continue north before curving slightly to the northeast to the tunnel portal south of Raymer Street. The alignment would then transition from an underground configuration to an aerial guideway structure after exiting the tunnel portal. East of the tunnel portal, the alignment would transition to a cut-and-cover U-structure segment followed by a trench segment before transitioning to an aerial guideway that would run east along the south side of the LOSSAN rail corridor. Parallel to the LOSSAN rail corridor, the guideway would conflict with the existing Willis Avenue Pedestrian Bridge which would be demolished. The alignment would follow the LOSSAN rail corridor before reaching the proposed northern terminus Van Nuys Metrolink Station located adjacent to the existing Metrolink/Amtrak Station. The tail tracks and yard lead tracks would descend to the proposed at-grade maintenance and storage facility (MSF) east of the proposed northern terminus station. Modifications to the existing pedestrian underpass to the Metrolink platforms to accommodate these tracks would result in reconfiguration of an existing rail spur serving City of Los Angeles Department of Water and Power (LADWP) property.

9.1.1.2 Guideway Characteristics

For underground sections, Alternative 5 would utilize a single-bore tunnel configuration with an outside diameter of approximately 43.5 feet. The tunnel would include two parallel tracks at 18.75-foot spacing in tangent sections separated by a continuous central dividing wall throughout the tunnel. Inner walkways would be constructed adjacent to the two tracks. Inner and outer walkways would be constructed within tunnel sections near the track crossovers. At the crown of tunnel, a dedicated air plenum would be provided by constructing a concrete slab above the railway corridor. The air plenum would allow for ventilation throughout the underground portion of the alignment. Figure 9-2 illustrates these components at a typical cross-section of the underground guideway.

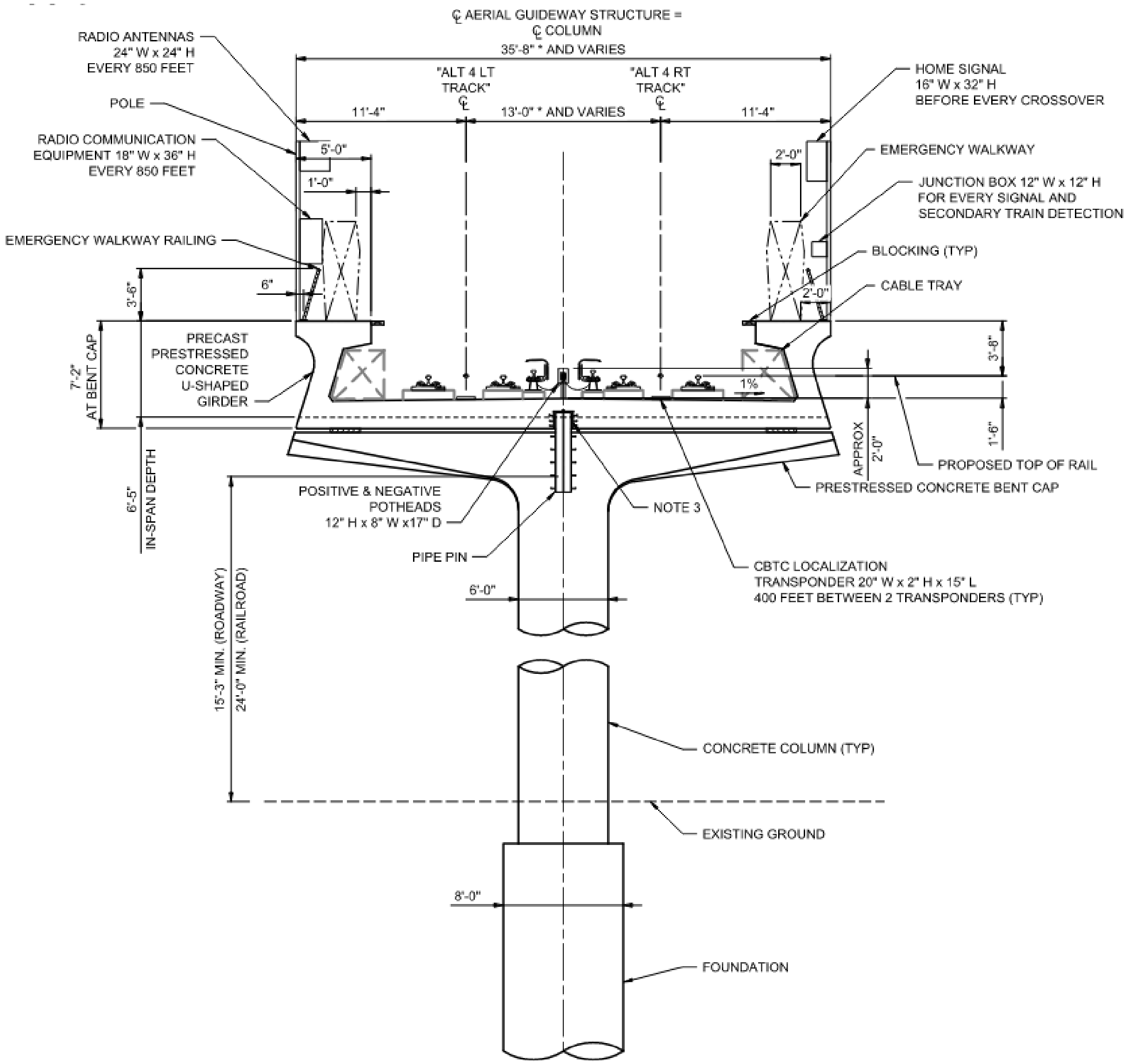
Figure 9-2. Typical Underground Guideway Cross-Section



Source: STCP, 2024

In aerial sections adjacent to Raymer Street and the LOSSAN rail corridor, the guideway would consist of single-column spans. The single-column spans would include a U-shaped concrete girder structure that supports the railway track atop a series of individual columns. The single-column aerial guideway would be approximately 36 feet wide. The track would be constructed on the concrete girders with direct fixation and would maintain a minimum of 13 feet between the two-track centerlines. On the outer side of the tracks, emergency walkways would be constructed with a minimum width of 2 feet. The single-column aerial guideway would be the primary aerial structure throughout the aerial portion of the alignment. Figure 9-3 shows a typical cross-section of the single-column aerial guideway.

Figure 9-3. Typical Aerial Guideway Cross-Section



Source: STCP, 2024

9.1.1.3 Vehicle Technology

Alternative 5 would utilize steel-wheel HRT trains, with automated train operations and planned peak-period headways of 2.5 minutes and off-peak-period headways ranging from 4 to 6 minutes. Each train could consist of three or four cars with open gangways between cars. The HRT vehicle would have a maximum operating speed of 70 miles per hour; actual operating speeds would depend on the design of the guideway and distance between stations. Train cars would be approximately 10 feet wide with three double doors on each side. Each car would be approximately 72 feet long with capacity for 170 passengers. Trains would be powered by a third rail.

9.1.1.4 Stations

Alternative 5 would include seven underground stations and one aerial station with station platforms measuring 280 feet long for both station configurations. The aerial station would be constructed a minimum of 15.25 feet above ground level, supported by rows of dual columns with 8-foot diameters. The southern terminus station would be adjacent to the Metro E Line Expo/Sepulveda Station, and the northern terminus station would be adjacent to the Van Nuys Metrolink/Amtrak Station.

All stations would be side-platform stations where passengers would select and travel up to station platforms depending on their direction of travel. All stations would include 20-foot-wide side platforms separated by 30 feet for side-by-side trains. Each underground station would include an upper and lower concourse level prior to reaching the train platforms. The Van Nuys Metrolink Station would include a mezzanine level prior to reaching the station platforms. Each station would have a minimum of two elevators, two escalators, and one stairway from ground level to the concourse or mezzanine.

Stations would include automatic, bi-parting fixed doors along the edges of station platforms. These platform screen doors would be integrated into the automatic train control system and would not open unless a train is stopped at the platform.

The following information describes each station, with relevant entrance, walkway, and transfer information. Bicycle parking would be provided at each station.

Metro E Line Expo/Sepulveda Station

- This underground station would be located just north of the existing Metro E Line Expo/Sepulveda Station, on the east side of Sepulveda Boulevard.
- A station entrance would be located on the east side of Sepulveda Boulevard north of the Metro E Line.
- A direct internal transfer to the Metro E Line would be provided at street level within the fare paid zone.
- A 126-space parking lot would be located immediately north of the station entrance, east of Sepulveda Boulevard. Passengers would also be able to park at the existing Metro E Line Expo/Sepulveda Station parking facility, which provides 260 parking spaces.

Santa Monica Boulevard Station

- This underground station would be located under the southeast corner of Santa Monica Boulevard and Sepulveda Boulevard.
- The station entrance would be located on the south side of Santa Monica Boulevard between Sepulveda Boulevard and Bentley Avenue.
- No dedicated station parking would be provided at this station.

Wilshire Boulevard/Metro D Line Station

- This underground station would be located beneath the Metro D Line tracks and platform under Gayley Avenue between Wilshire Boulevard and Lindbrook Drive.
- Station entrances would be provided on the northeast corner of Wilshire Boulevard and Gayley Avenue and on the northeast corner of Lindbrook Drive and Gayley Avenue. Passengers would also be able to use the Metro D Line Westwood/UCLA Station entrances to access the station platform.
- A direct internal station transfer to the Metro D Line would be provided at the south end of the station.
- No dedicated station parking would be provided at this station.

UCLA Gateway Plaza Station

- This underground station would be located underneath Gateway Plaza on the University of California, Los Angeles (UCLA) campus.
- Station entrances would be provided on the north side of Gateway Plaza and on the east side of Westwood Boulevard across from Strathmore Place.
- No dedicated station parking would be provided at this station.

Ventura Boulevard/Sepulveda Boulevard Station

- This underground station would be located under Saugus Avenue between Greenleaf Street and Dickens Street.
- A station entrance would be located on the southeast corner of Saugus Avenue and Dickens Street.
- Approximately 92 parking spaces would be supplied at this station west of Sepulveda Boulevard between Dickens Street and the U.S. Highway 101 (US-101) On-Ramp.

Metro G Line Sepulveda Station

- This underground station would be located under Sepulveda Boulevard immediately south of the Metro G Line Busway.
- A station entrance would be provided on the west side of Sepulveda Boulevard south of the Metro G Line Busway.
- Passengers would be able to park at the existing Metro G Line Sepulveda Station parking facility, which has a capacity of 1,205 parking spaces. Currently, only 260 parking spaces are currently used for transit parking. No new parking would be constructed.

Sherman Way Station

- This underground station would be located below Sepulveda Boulevard between Sherman Way and Gault Street.
- The station entrance would be located near the southwest corner of Sepulveda Boulevard and Sherman Way.
- Approximately 122 parking spaces would be supplied at this station on the west side of Sepulveda Boulevard with vehicle access from Sherman Way.

Van Nuys Metrolink Station

- This aerial station would span Van Nuys Boulevard, just south of the LOSSAN rail corridor.
- The primary station entrance would be located on the east side of Van Nuys Boulevard just south of the LOSSAN rail corridor. A secondary station entrance would be located between Raymer Street and Van Nuys Boulevard.
- An underground pedestrian walkway would connect the station plaza to the existing pedestrian underpass to the Metrolink/Amtrak platform outside the fare paid zone.
- Existing Metrolink Station parking would be reconfigured, maintaining approximately the same number of spaces, but 66 parking spaces would be relocated west of Van Nuys Boulevard. Metrolink parking would not be available to Metro transit riders.

9.1.1.5 Station-to-Station Travel Times

Table 9-1 presents the station-to-station distance and travel times at peak period for Alternative 5. The travel times include both run time and dwell time. Dwell time is 30 seconds for transfer stations and 20 seconds for other stations. Northbound and southbound travel times vary slightly because of grade differentials and operational considerations at end-of-line stations.

Table 9-1. Alternative 5: Station-to-Station Travel Times and Station Dwell Times

From Station	To Station	Distance (miles)	Northbound Station-to-Station Travel Time (seconds)	Southbound Station-to-Station Travel Time (seconds)	Dwell Time (seconds)
Metro E Line Station					*30*
Metro E Line	Santa Monica Boulevard	0.9	89	86	—
Santa Monica Boulevard Station					*20*
Santa Monica Boulevard	Wilshire/Metro D Line	0.9	91	92	—
Wilshire/Metro D Line Station					*30*
Wilshire/Metro D Line	UCLA Gateway Plaza	0.7	75	69	—
UCLA Gateway Plaza Station					*20*
UCLA Gateway Plaza	Ventura Boulevard	6.0	368	359	—
Ventura Boulevard Station					*20*
Ventura Boulevard	Metro G Line	2.0	137	138	—
Metro G Line Station					*30*
Metro G Line	Sherman Way	1.4	113	109	—
Sherman Way Station					*20*
Sherman Way	Van Nuys Metrolink	1.9	166	162	—
Van Nuys Metrolink Station					*30*

Source: STCP, 2024

9.1.1.6 Special Trackwork

Alternative 5 would include 10 double crossovers throughout the alignment enabling trains to cross over to the parallel track. Each terminus station would include a double crossover immediately north and south of the station. Except for the Santa Monica Boulevard Station, each station would have a double crossover immediately south of the station. The remaining crossover would be located along the alignment midway between the UCLA Gateway Plaza Station and the Ventura Boulevard Station.

9.1.1.7 Maintenance and Storage Facility

The MSF for Alternative 5 would be located east of the Van Nuys Metrolink Station and would encompass approximately 46 acres. The MSF would be designed to accommodate 184 rail cars and would be bounded by single-family residences to the south, the LOSSAN rail corridor to the north, Woodman Avenue on the east, and Hazeltine Avenue and industrial manufacturing enterprises to the west. Trains would access the site from the fixed guideway’s tail tracks at the northwest corner of the site. Trains would then travel southeast to maintenance facilities and storage tracks.

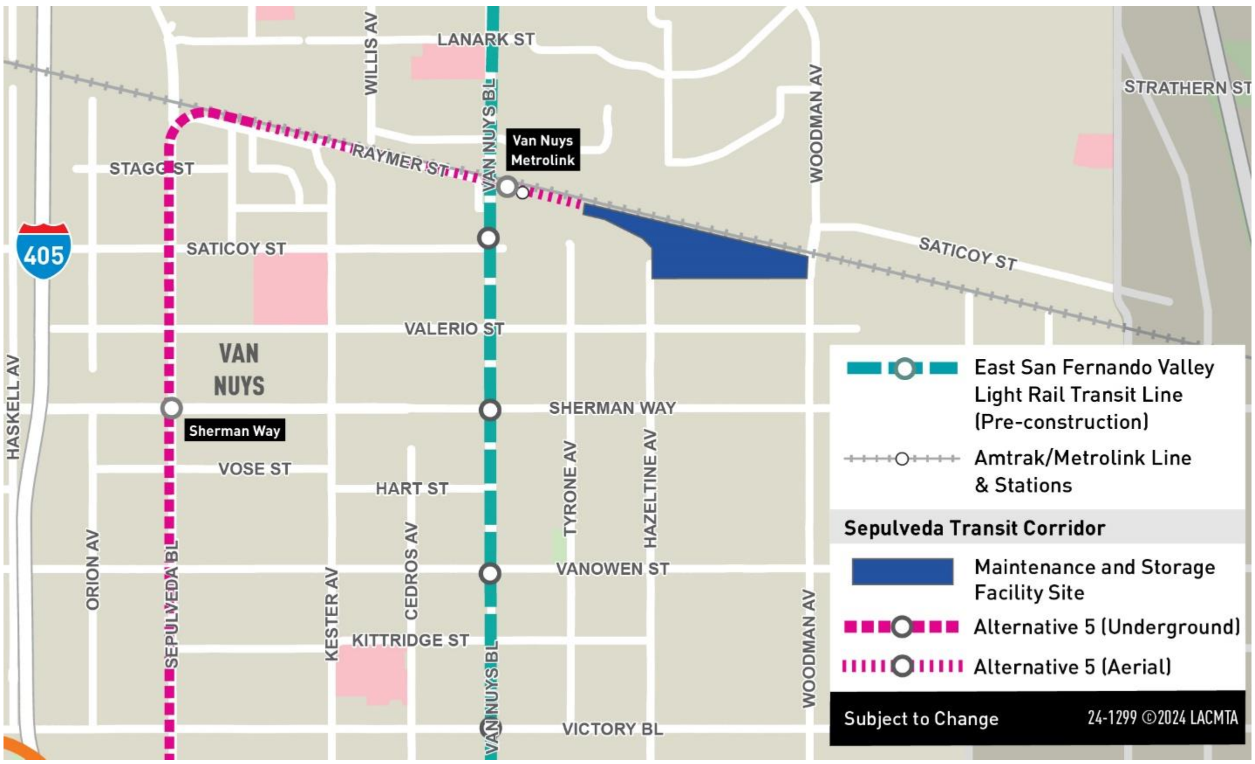
The site would include the following facilities:

- Two entrance gates with guard shacks
- Main shop building
- Maintenance-of-way building
- Storage tracks

- Carwash building
- Cleaning and inspections platforms
- Material storage building
- Hazmat storage locker
- Traction power substation (TPSS) located on the west end of the MSF to serve the mainline
- TPSS located on the east end of the MSF to serve the yard and shops
- Parking area for employees
- Grade separated access roadway (over the HRT tracks at the east end of the facility) and necessary drainage

Figure 9-4 shows the location of the MSF site for Alternative 5.

Figure 9-4. Alternative 5: Maintenance and Storage Facility Site



Source: STCP, 2024; HTA, 2024

9.1.1.8 Traction Power Substations

TPSSs transform and convert high voltage alternating current supplied from power utility feeders into direct current suitable for transit operation. Twelve TPSS facilities would be located along the alignment and would be spaced approximately 0.5 to 2.5 miles apart. All TPSS facilities would be located within the stations, adjacent to the tunnel through the Santa Monica Mountains, or within the MSF. Table 9-2 lists the TPSS locations for Alternative 5.

Figure 9-5 shows the TPSS locations along the Alternative 5 alignment.

Table 9-2. Alternative 5: Traction Power Substation Locations

TPSS No.	TPSS Location Description	Configuration
1	TPSS 1 would be located east of Sepulveda Boulevard and north of the Metro E Line.	Underground (within station)
2	TPSS 2 would be located south of Santa Monica Boulevard between Sepulveda Boulevard and Bentley Avenue.	Underground (within station)
3	TPSS 3 would be located at the southeast corner of UCLA Gateway Plaza.	Underground (within station)
4	TPSS 4 would be located south of Bellagio Road and west of Stone Canyon Road.	Underground (adjacent to tunnel)
5	TPSS 5 would be located west of Roscomare Road between Donella Circle and Linda Flora Drive.	Underground (adjacent to tunnel)
6	TPSS 6 would be located east of Loom Place between Longbow Drive and Vista Haven Road.	Underground (adjacent to tunnel)
7	TPSS 7 would be located west of Sepulveda Boulevard between the I-405 Northbound On-Ramp and Dickens Street.	Underground (within station)
8	TPSS 8 would be located west of Sepulveda Boulevard between the Metro G Line Busway and Oxnard Street.	Underground (within station)
9	TPSS 9 would be located at the southwest corner of Sepulveda Boulevard and Sherman Way.	Underground (within station)
10	TPSS 10 would be located south of the LOSSAN rail corridor and north of Raymer Street and Kester Avenue.	At-grade
11	TPSS 11 would be located south of the LOSSAN rail corridor and east of the Van Nuys Metrolink Station.	At-grade (within MSF)
12	TPSS 12 would be located south of the LOSSAN rail corridor and east of Hazeltine Avenue.	At-grade (within MSF)

Source: STCP, 2024; HTA, 2024

Note: Sepulveda Transit Corridor Partners (STCP) has stated that Alternative 5 TPSS locations are derived from and assumed to be similar to the Alternative 4 TPSS locations.

Figure 9-5. Alternative 5: Traction Power Substation Locations

Source: STCP, 2024; HTA, 2024

9.1.1.9 Roadway Configuration Changes

Table 9-3 lists the roadway changes necessary to accommodate the guideway of Alternative 5. Figure 9-6 shows the location of the roadway changes within the Sepulveda Transit Corridor Project (Project) Study Area. In addition to the changes made to accommodate the guideway, as listed in Table 9-3, roadways and sidewalks near stations would be reconstructed, resulting in modifications to curb ramps and driveways.

Table 9-3. Alternative 5: Roadway Changes

Location	From	To	Description of Change
Raymer Street	Van Nuys Boulevard	Kester Avenue	Reconstruction resulting in narrowing of width and removal of parking on the westbound side of the street to accommodate aerial guideway columns.
Cabrito Road	Raymer Street	Marson Street	Closure of Cabrito Road at the LOSSAN rail corridor at-grade crossing. A new segment of Cabrito Road would be constructed from Noble Avenue and Marson Street to provide access to extra space storage from the north.

Source: STCP, 2024; HTA, 2024

Figure 9-6. Alternative 5: Roadway Changes

Source: STCP, 2024; HTA, 2024

9.1.1.10 Ventilation Facilities

For ventilation, a plenum within the crown of the tunnel would provide a separate compartment for air circulation and allow multiple trains to operate between stations. Each underground station would include a fan room with additional ventilation facilities. Alternative 5 would also include a stand-alone ventilation facility at the tunnel portal on the northern end of the tunnel segment, located east of Sepulveda Boulevard and south of Raymer Street. Within this facility, ventilation fan rooms would provide both emergency ventilation, in case of a tunnel fire, and regular ventilation, during non-revenue hours. The facility would also house sump pump rooms to collect water from various sources, including storm water; wash-water (from tunnel cleaning); and water from a fire-fighting incident, system testing, or pipe leaks.

9.1.1.11 Fire/Life Safety – Emergency Egress

Within the tunnel segment, emergency walkways would be provided between the center dividing wall and each track. Sliding doors would be located in the central dividing wall at required intervals to connect the two sides of the railway with a continuous walkway to allow for safe egress to a point of safety (typically at a station) during an emergency. Similarly, the aerial guideway near the LOSSAN rail corridor would include two emergency walkways with safety railing located on the outer side of the tracks. Access to tunnel segments for first responders would be through stations and the portal.

9.1.2 Construction Activities

Temporary construction activities for Alternative 5 would include project work zones at permanent facility locations, construction staging and laydown areas, and construction office areas. Construction of the transit facilities through substantial completion is expected to have a duration of 8 ¼ years. Early works, such as site preparation, demolition, and utility relocation, could start in advance of construction of the transit facilities.

For the guideway, Alternative 5 would consist of a single-bore tunnel through the Westside, Valley, and Santa Monica Mountains. The tunnel would comprise three separate segments, one running north from the southern terminus to the UCLA Gateway Plaza Station (Westside segment), one running south from the Ventura Boulevard Station to the UCLA Gateway Plaza Station (Santa Monica Mountains segment), and one running north from the Ventura Boulevard Station to the portal near Raymer Street (Valley segment). Tunnel boring machines (TBM) with approximately 45-foot-diameter cutting faces would be used to construct the tunnel segments underground. For the Westside segment, the TBM would be launched from Staging Area No. 1 in Table 9-4 at Sepulveda Boulevard and National Boulevard. For the Santa Monica Mountains segment, the TBMs would be launched from the Ventura Boulevard Station. Both TBMs would be extracted from the UCLA Gateway Plaza Station Staging Area No. 3 in Table 9-4. For the San Fernando Valley segment, the TBM would be launched from Staging Area No. 8 as listed in Table 9-4 and extracted from the Ventura Boulevard Station. Figure 9-7 shows the location of construction staging locations along the Alternative 5 alignment.

Table 9-4. Alternative 5: On-Site Construction Staging Locations

No.	Location Description
1	Commercial properties on southeast corner of Sepulveda Boulevard and National Boulevard
2	North side of Wilshire Boulevard between Veteran Avenue and Gayley Avenue
3	UCLA Gateway Plaza
4	Commercial property on southwest corner of Sepulveda Boulevard and Dickens Street
5	West of Sepulveda Boulevard between US-101 and Sherman Oaks Castle Park
6	Lot behind Los Angeles Fire Department Station 88
7	Property on the west side of Sepulveda Boulevard between Sherman Way and Gault Street
8	Industrial property on both sides of Raymer Street, west of Burnet Avenue
9	South of the LOSSAN rail corridor east of Van Nuys Metrolink Station, west of Woodman Avenue

Source: STCP, 2024; HTA, 2024

Figure 9-7. Alternative 5: On-Site Construction Staging Locations

Source: STCP, 2024; HTA, 2024

The distance from the surface to the top of the tunnel for the Westside tunnel would vary from approximately 40 feet to 90 feet depending on the depth needed to construct the underground stations. The depth of the Santa Monica Mountains tunnel segment varies greatly from approximately 470 feet as it passes under the Santa Monica Mountains to 50 feet near UCLA. The depth of the San Fernando Valley segment would vary from approximately 40 feet near the Ventura Boulevard/Sepulveda Station and north of the Metro G Line Sepulveda Station to 150 feet near Weddington Street. The tunnel segments through the Westside and Valley would be excavated in soft ground while the tunnel through the Santa Monica Mountains would be excavated primarily in hard ground or rock as geotechnical conditions transition from soft to hard ground near the UCLA Gateway Plaza Station.

Construction work zones would also be co-located with future MSF and station locations. All work zones would comprise the permanent facility footprint with additional temporary construction easements from adjoining properties.

All underground stations would be constructed using a "cut-and-cover" method whereby the underground station structure would be constructed within a trench excavated from the surface with a portion or all being covered by a temporary deck and backfilled during the later stages of station construction. Traffic and pedestrian detours would be necessary during underground station excavation until decking is in place and the appropriate safety measures are taken to resume cross traffic.

In addition to work zones, Alternative 5 would include construction staging and laydown areas at multiple locations along the alignment as well as off-site staging areas. Construction staging areas would provide the necessary space for the following activities:

- Contractors' equipment
- Receiving deliveries
- Testing of soils for minerals or hazards
- Storing materials
- Site offices
- Work zone for excavation
- Other construction activities (including parking and change facilities for workers, location of construction office trailers, storage, staging and delivery of construction materials and permanent plant equipment, and maintenance of construction equipment).

A larger, off-site staging area would be used for temporary storage of excavated material from both tunneling and station cut-and-cover excavation activities. Table 9-4 and Figure 9-7 present the potential construction staging areas along the alignment for Alternative 5. Table 9-5 and Figure 9-8 present candidate sites for off-site staging and laydown areas.

Table 9-5. Alternative 5: Potential Off-Site Construction Staging Locations

No.	Location Description
S1	East of Santa Monica Airport Runway
S2	Ralph's Parking Lot in Westwood Village
N1	West of Sepulveda Basin Sports Complex, south of the Los Angeles River
N2	West of Sepulveda Basin Sports Complex, north of the Los Angeles River
N3	Metro G Line Sepulveda Station Park & Ride Lot
N4	North of Roscoe Boulevard and Hayvenhurst Avenue
N5	LADWP property south of the LOSSAN rail corridor, east of Van Nuys Metrolink Station

Source: STCP, 2024; HTA, 2024

Figure 9-8. Alternative 5: Potential Off-Site Construction Staging Locations

Source: STCP, 2024; HTA, 2024

Construction of the HRT guideway between the Van Nuys Metrolink Station and the MSF would require reconfiguration of an existing rail spur serving LADWP property. The new location of the rail spur would require modification to the existing pedestrian undercrossing at the Van Nuys Metrolink Station.

Alternative 5 would require construction of a concrete casting facility for tunnel lining segments because no existing commercial fabricator capable of producing tunnel lining segments for a large-diameter tunnel exists within a practical distance of the Project Study Area. The site of the MSF would initially be used for this casting facility. The casting facility would include casting beds and associated casting equipment, storage areas for cement and aggregate, and a field quality control facility, which would need to be constructed on-site. When a more detailed design of the facility is completed, the contractor would obtain all permits and approvals necessary from the City of Los Angeles, the South Coast Air Quality Management District, and other regulatory entities.

As areas of the MSF site begin to become available following completion of pre-casting operations, construction of permanent facilities for the MSF would begin, including construction of surface buildings such as maintenance shops, administrative offices, train control, traction power, and systems facilities. Some of the yard storage track would also be constructed at this time to allow delivery and inspection of passenger vehicles that would be fabricated elsewhere. Additional activities occurring at the MSF during the final phase of construction would include staging of trackwork and welding of guideway rail.

9.2 Existing Conditions

9.2.1 Vehicle Miles Traveled

Table 9-6 shows the regional vehicle miles traveled (VMT) under existing conditions for the base year and under the No Project Alternative for the forecast horizon year. Ambient population and employment growth would occur in the region between the base year and horizon year.

Table 9-6. Existing and No Project Alternative Vehicle Miles Traveled

Project Alternative	Total Vehicle Miles Traveled
Existing Conditions (2019 Base Year)	456,869,300
No Project Alternative (2045 Horizon Year)	568,557,200

Source: HTA, 2024

Note: 2019 is used as the base year for the VMT analysis because it is the most recent year for which Metro's CBM18B Transportation Analysis Model has been calibrated.

9.2.2 Roadway Network

The roadway network within the Study Area includes a wide range of facilities including three freeways that provide regional access throughout Los Angeles County and Southern California, as well as multiple arterials, local roads, and intersections.

9.2.2.1 Freeways

The freeways within the Study Area include:

- **I-405 (San Diego Freeway):** I-405 is the major north-south freeway traversing the Study Area in its entirety. This freeway provides regional access between San Fernando and Irvine. Within the Study Area, I-405 provides five to seven lanes in each direction, including carpool lanes and auxiliary lanes. The direction of peak traffic demand varies over the course of the day, with the greatest travel occurring from the San Fernando Valley to the Westside during the morning commute period and the reverse pattern during the evening commute period. Ramps within the Study Area include National Boulevard, Olympic and Pico Boulevards, Santa Monica Boulevard, Wilshire Boulevard, Sunset Boulevard, Moraga Drive, Getty Center Drive (via Sepulveda Boulevard), Skirball Center Drive, Ventura Boulevard, Burbank Boulevard, Victory Boulevard, Sherman Way, and Roscoe Boulevard on- and off-ramps. I-405 connects with US-101 and Interstate 10 (I-10) within the Study Area, which provide regional east-west connectivity. On an average weekday, I-405 carries 353,000 vehicles on the Westside, 301,000 in the Sepulveda Pass, and 209,000 in the San Fernando Valley (Caltrans, 2022b).

- **I-10 (Santa Monica Freeway):** I-10 is an east-west freeway that crosses the southern end of the Study Area for 3.5 miles. Within the Study Area, I-10 consists of four general-purpose lanes in each direction, with no high-occupancy vehicle (HOV) lanes. Ramps within the Study Area include the Cloverfield Boulevard, Centinela Avenue, Bundy Drive, and Overland Avenue on- and off-ramps. I-10 connects to State Route (SR) 1 in the City of Santa Monica, I-405 in West Los Angeles, and I-110/SR-110, US-101, and Interstate 5 (I-5) near downtown Los Angeles. On an average weekday, I-10 carries 215,000 vehicles through the Study Area (Caltrans, 2022b).
- **US-101 (Ventura Freeway):** US-101 is an east-west freeway within the Study Area that crosses the northern end of the Study Area for 5 miles. US-101 has five general-purpose lanes in each direction, with auxiliary lanes near the I-405 interchange and does not have any HOV lanes in either direction within the Study Area. Ramps within the Study Area include the Woodman Avenue, Van Nuys Boulevard, Sepulveda Boulevard, Haskell Avenue, Hayvenhurst Avenue, and Balboa Boulevard on- and off-ramps, and the White Oak Avenue off-ramp. US-101 connects with SR-134 and SR-170 in the San Fernando Valley and I-10, SR-110, and I-5 near downtown Los Angeles. On an average weekday, US-101 carries 323,000 vehicles through the Study Area (Caltrans, 2022b).

9.2.2.2 Major Arterial Network

Table 9-7 lists and Figure 9-9 shows major arterials in the Study Area and their classification in *Mobility Plan 2035*. Classifications are based on roadway and right-of-way (ROW) widths and include the following types in the Study Area:

- Boulevard II facilities have roadway widths of 80 feet and total ROW widths of 110 feet.
- Avenue I facilities have roadway widths of 70 feet and total ROW widths of 100 feet.
- Avenue II facilities have roadway widths of 56 feet and total ROW widths of 86 feet.
- Collector streets have roadway widths of 40 feet and total ROW widths of 66 feet.
- Local streets have roadway widths between 30 and 36 feet and total ROW widths between 50 and 60 feet.

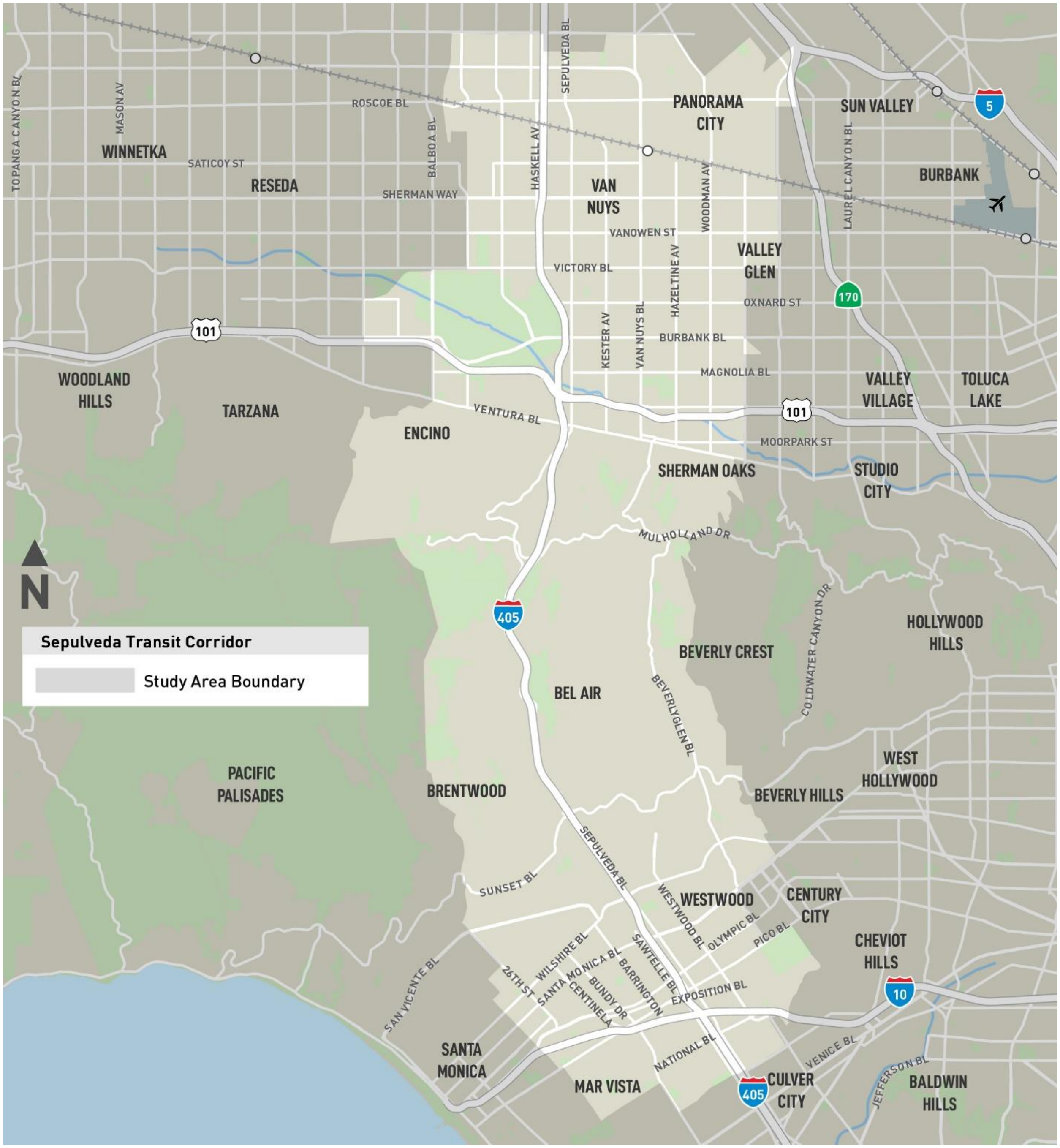
Table 9-7. Existing Major Arterials within the Study Area

Name	Mobility Plan 2035 Classification
Major North-South Arterials (listed from west to east)	
Centinela Avenue	Avenue I
Bundy Drive	Avenue I
Barrington Avenue	Avenue I (south of Pico Boulevard) Avenue II (north of Pico Boulevard)
Haskell Avenue	Avenue II
Sawtelle Boulevard	Avenue I
Sepulveda Boulevard	Boulevard II
Kester Avenue	Avenue II
Van Nuys Boulevard	Boulevard II
Westwood Boulevard	Avenue II (south of Wilshire Boulevard) Boulevard II (north of Wilshire Boulevard) Avenue I (between Le Conte Avenue and Wilshire Boulevard)
Beverly Glen Boulevard	Avenue I (south of Wilshire Boulevard) Avenue II (between Sunset Boulevard and Wilshire Boulevard, and between Ventura Boulevard and Mulholland Drive)
Hazeltine Avenue	Avenue II
Woodman Avenue	Avenue I

Name	Mobility Plan 2035 Classification
Major East-West Arterials (listed from south to north)	
National Boulevard	Avenue I
Exposition Boulevard	Collector Street (east of Sepulveda Boulevard), Local/Other Street (west of I-405)
Pico Boulevard	Avenue I
Olympic Boulevard	Boulevard II
Santa Monica Boulevard	Boulevard II
Wilshire Boulevard	Boulevard II
San Vincente Boulevard	Avenue II
Sunset Boulevard	Avenue I
Mulholland Drive	Local/Other Street
Ventura Boulevard	Boulevard II
Magnolia Boulevard	Avenue II
Burbank Boulevard	Boulevard II
Oxnard Street	Avenue II
Victory Boulevard	Boulevard II
Vanowen Street	Avenue II
Sherman Way	Boulevard II
Saticoy Street	Avenue II
Roscoe Boulevard	Boulevard II

Source: DCP, 2016; HTA, 2024

Figure 9-9. Existing Freeway and Arterial Network within the Study Area



Source: HTA, 2024

9.2.3 Transit Network

Several local and regional transit agencies — including Metro, Los Angeles Department of Transportation (LADOT), Amtrak, Metrolink commuter rail, Santa Monica Big Blue Bus (BBB), Culver CityBus (CCB), Santa Clarita Transit (SCT), Antelope Valley Transit Authority (AVTA), Long Beach Transit (LBT), and BruinBus — serve the Study Area. Transit service types within the Study Area include rapid bus, express/commuter bus, commuter rail, light rail transit (LRT), bus rapid transit (BRT), shuttles and circulators, and local bus lines. In addition, nine Metro bus routes operate 24 hours and offer half-hour or hour headways during owl service hours (12am to 4am).

Table 9-8 summarizes the fixed-route transit lines that serve the Study Area (as of October 2022).

Table 9-8. Existing Fixed-Route Transit Service within the Study Area

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Rail				
Metro	E	3:43am-12:46am	10	12
Metrolink	Ventura County	5:02am-8:15pm	30 (in peak direction)	4 off-peak trains
Amtrak	Pacific Surfliner	7:47am-9:09pm	Five daily trains in each direction	
Amtrak	Coast Starlight	NA	One daily train in each direction	
Bus Rapid Transit				
Metro	901 (G Line)	24 hours (hourly owl service)	6	10
Rapid Bus				
BBB	Rapid 7	6:05am-8:09pm	20	20
BBB	Rapid 12	5:30am-10:00pm	10-12	12
CCB	6R	6:28am-7:56pm	15	15
Metro	720	5:00am-1:00am	8	11
Metro	761	3:57am-11:13pm	15	15
Local Bus				
BBB	1	5:20am-10:20pm	10-12	10-12
BBB	2	6:50am-10:42pm	20	20
BBB	5	7:20am-7:00pm	30	30
BBB	Local 7	4:50am-11:58pm	15	15
BBB	Express 7	6:05am-8:09pm	20	20
BBB	8	6:30am-10:34pm	25-27	25-27
BBB	14	5:15am-8:20pm	12-15	12-15
BBB	15	6:45am-7:00pm	20	20
BBB	16	6:20am-7:04pm	25	30
BBB	17	5:45am-8:00pm	15	20
BBB	18	6:45am-8:30pm	30	30
BBB	43	6:25am-5:50pm	30	NA
CCB	3	6:00am-9:45pm	20-30	30-40
CCB	6	5:00am-12:07am	15-20	15-20
Metro	2	24 hours (hourly owl service)	7.5	10
Metro	4	24 hours (half-hourly owl service)	7.5	7.5
Metro	20	24 hours (half-hourly owl service)	10-15	12
Metro	150	24 hours (hourly owl service)	20	20
Metro	152	3:41am-1:46am	15	15
Metro	154	5:11am-8:25pm	60	60
Metro	155	4:18am-9:29pm	60	60
Metro	158	5:20am-9:02pm	60	60
Metro	162	24 hours (hourly owl service)	15	15
Metro	164	4:41am-10:54pm	15	15
Metro	165	4:29am-11:35pm	15	15
Metro	166	4:36am-10:34pm	15	15
Metro	167	4:36am-10:44pm	50-60	50
Metro	169	4:53am-7:46pm	60	60

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Metro	233	24 hours (hourly owl service)	10	10
Metro	234	24 hours (hourly owl service)	10	10
Metro	236	4:55am-10:25pm	60	60
Metro	237	5:09am-10:17pm	60	60
Metro	240	24 hours (half-hourly owl service)	10	10
Metro	602	5:31am-1:23am	45	45
Express/Commuter Bus				
AVTA	786	4:00am – 5:20am, 2:50pm – 4:05pm	4 one-way trips	NA
BBB	R10	6:00am – 8:04am, 3:35pm – 6:05pm	3 one-way trips	NA
LADOT	422	4:55am – 8:00am, 1:55pm – 6:00pm	12 one-way trips	NA
LADOT	423	5:00am – 6:45am, 3:30pm – 6:35pm	9 one-way trips (AM), 10 one-way trips (PM)	NA
LADOT	431	6:15am – 7:35am, 4:25pm – 5:55pm	4 one-way trips	NA
LADOT	534	6:50am – 8:10am, 3:43pm – 5:13pm	4 one-way trips	NA
LADOT	549	5:55am – 7:45am, 3:45pm – 6:05pm	5 one-way trips in both directions (AM), 5 one-way trips in both directions (PM)	NA
LADOT	573	5:30am – 9:30am, 2:10pm – 6:45pm	15 southbound and 1 northbound trip (AM), 14 northbound and 1 southbound trip (PM)	NA
LADOT	574	5:20am – 7:10am, 3:35pm – 6:00pm	5 one-way trips	NA
LBT	405	5:17am – 6:50am, 3:30pm – 5:30pm	3 one-way trips	NA
SCT	792	6:50am – 7:47am, 2:59pm – 5:25pm	3 one-way trips	NA
SCT	797	5:00am – 6:46am, 3:45pm – 7:45pm	5 one-way trips	NA
Shuttles and Circulators				
LADOT	PC/VN DASH	6:00am-8:00pm	15	20
LADOT	VN/SC DASH	6:00am-7:30pm	15	20
BruinBus	U1	7:25am-5:55pm	15	15
BruinBus	U2	7:00am-6:15pm	15-30	15-30
BruinBus	U3	10:00am-5:00pm	30	30
BruinBus	U5	6:45am-10:10pm	25	25

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
NA = not applicable

PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

9.2.3.1 Metrolink/Amtrak

Metrolink operates commuter rail service in Southern California with seven routes serving an average of 12,900 weekday riders (Metrolink, 2022). Metrolink directly serves the Study Area at the Van Nuys Metrolink/Amtrak Station on the Ventura County Line. With 20 weekday trains serving an average of 1,100 daily riders, the Ventura Line provides rail service from Ventura to Los Angeles Union Station (Metrolink, 2022).

The Van Nuys Metrolink/Amtrak Station is also served by Amtrak's Coast Starlight and Pacific Surfliner routes which have daily trains that provide service up and down the West Coast.

9.2.3.2 Metro Rail

As of October 2022, Metro operates seven rail transit lines in Los Angeles County serving an average of 183,000 weekday riders (Metro, 2022b). The Metro E Line serves the Study Area with four stations: Westwood/Rancho, Expo/Sepulveda, Expo/Bundy, and 26th St/Bergamot. The Metro E Line provides LRT service between downtown Los Angeles[5] and the City of Santa Monica and serves an average of 30,400 weekday riders (Metro, 2022b). Four other Metro lines (A, B, D, and K lines) provide direct transfers to the Metro E Line for access to the Study Area.

Generally, existing rail lines run at 10-minute headways during peak hours and 12-minute headways during off-peak hours.

Metro is currently planning and building several additional rail lines scheduled to be in operation by the 2045 horizon year. Within the Study Area, the Metro D Line Extension Project and ESFV LRT Line will provide new rail service. Planned stations along the Metro D Line within the Study Area include Westwood/UCLA and Westwood/VA Hospital. Planned stations along the ESFV LRT Line within the Study Area include Nordhoff, Roscoe, Van Nuys/Metrolink, Sherman Way, Vanowen, Victory, and Van Nuys/G Line. Figure 9-10 shows existing and planned fixed guideway service (including Metrolink/Amtrak) within the Study Area.

[5] After the opening of the Regional Connector in 2023, the Metro E Line provides service past downtown LA to East LA.

Figure 9-10. Existing and Planned Fixed Guideway Service within the Study Area

Source: HTA, 2024

9.2.3.3 Metro Bus

Metro operates several types of bus services throughout its service area, including BRT, rapid bus, and local bus lines. The Metro bus system serves an average of 687,000 weekday riders (Metro, 2022b). Table 9-9 summarizes the Metro bus routes serving the Study Area along with ridership data for the entire route.

Table 9-9. Existing Metro Bus Routes within the Study Area

Route	Description	Weekday Ridership (October 2022)
Bus Rapid Transit		
901 (G Line)	Chatsworth-Canoga Park-North Hollywood	14,392
Rapid Bus		
720	Santa Monica-Downtown Los Angeles via Wilshire Boulevard	20,846
761	Sylmar Station-E Line via Van Nuys Boulevard-Sepulveda Boulevard	6,695
Local Bus		
2	University of Southern California (USC)-Westwood via Sunset Boulevard	18,662
4	Downtown Los Angeles-Santa Monica via Santa Monica Boulevard	21,124
20	Downtown Los Angeles-Westwood/Santa Monica via Wilshire Boulevard	6,773
150	Chatsworth-Canoga Park-Tarzana via Topanga Canyon Boulevard –Ventura Boulevard	2,579
152	West Hills Medical Center-North Hollywood Station via Roscoe Boulevard	8,416
154	Sepulveda Boulevard-Burbank Station via Oxnard Street-Burbank Boulevard	549
155	Sherman Oaks-Burbank Station via Riverside Drive-Olive Street	1,061
158	Chatsworth Station-Sherman Oaks via Devonshire-Woodman	1,392
162	Woodland Hills-West Hills-North Hollywood via Sherman Way-Vineland	8,422
164	West Hills-Burbank via Victory Boulevard	4,895
165	West Hills-Burbank via Vanowen Street	7,766
166	Canoga Avenue-Sun Valley via Nordhoff Street-Osborne Street	5,272
167	Chatsworth Station-Studio City via Plummer-Coldwater Canyon	1,649
169	Warner Center-Burbank Airport via Valley Circle-Saticoy Street	2,153
233	Lake View Terrace-Sherman Oaks via Van Nuys Boulevard (+ Westside Owl Service)	11,823
234	Mission College-Sylmar Station-Sherman Oaks via Sepulveda Boulevard	7,804
236	Sylmar-Encino via Balboa Boulevard-Glenoaks Boulevard	1,826
237	Encino-Granada Hill-Mission Hills-North Hollywood via White Oak Avenue-Woodley Avenue-Chandler	1,565
240	Northridge-Universal City via Reseda Boulevard-Ventura Boulevard	9,881
602	Westwood-Pacific Palisades via Sunset Boulevard	1,099

Source: Metro, 2023b

9.2.3.4 Municipal and Local Operators

Apart from Metro, six transit providers operate bus service within the Study Area, including LADOT, BBB, CCB, SCT, AVTA, LBT, and BruinBus. Transit service types by these operators include rapid bus, express/commuter bus, shuttles and circulators, and local bus lines. Table 9-10 summarizes municipal operator bus routes serving the Study Area along with ridership data for the entire route. Figure 9-11 shows existing bus services — including Metro, municipal, and local operators — that provide service to the Study Area.

Table 9-10. Existing Municipal and Local Operator Bus Routes within the Study Area

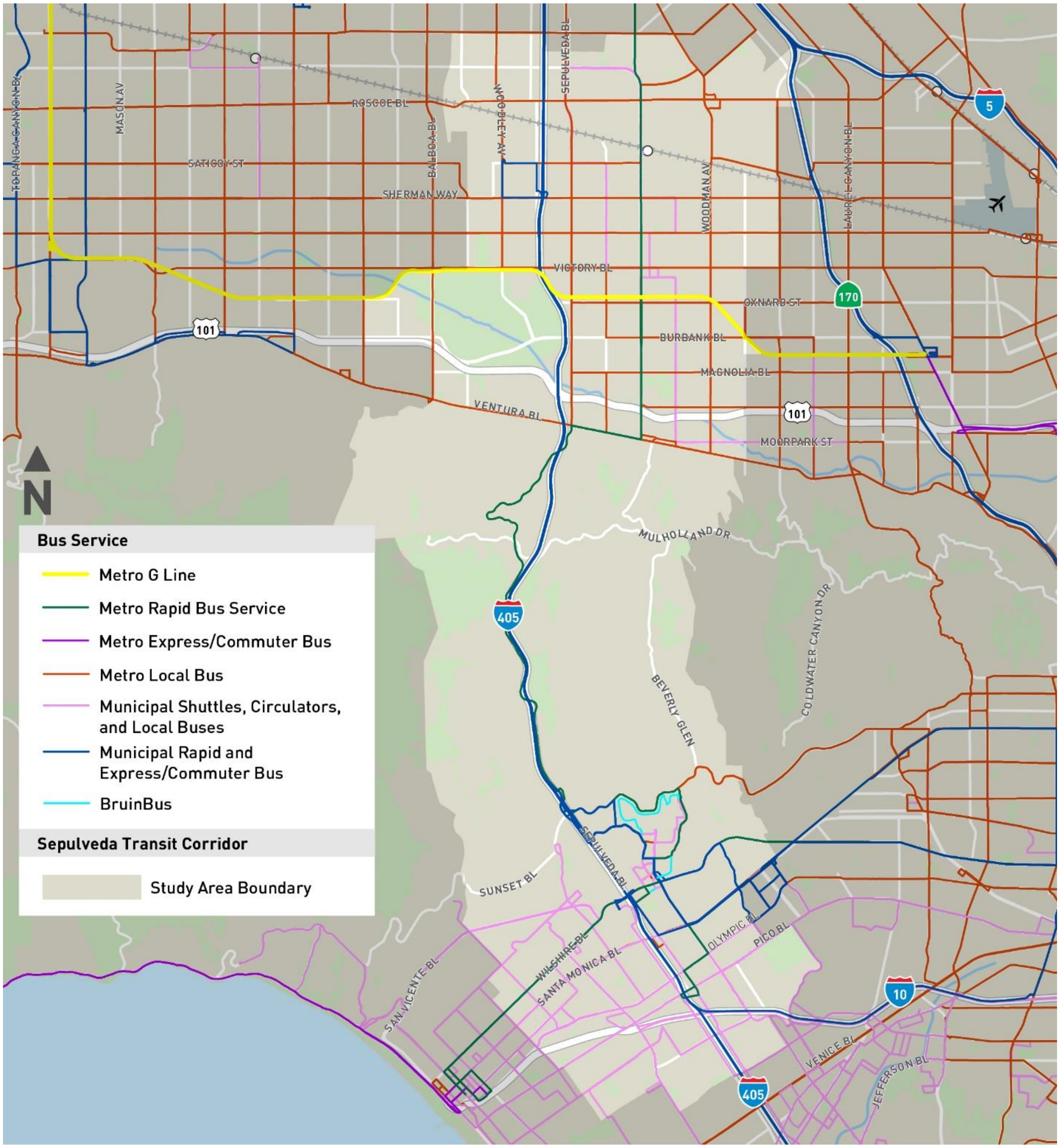
Operator	Route	Description	Weekday Ridership (October 2022)
Rapid Bus			
BBB	R7	Pico Boulevard Rapid	1,956
BBB	R12	UCLA/Westwood to Expo Rapid	2,267
CCB	6R	Sepulveda Boulevard Rapid	976

Operator	Route	Description	Weekday Ridership (October 2022)
Express/Commuter Bus			
AVTA	786	Century City/West Los Angeles	160
BBB	R10	Downtown Los Angeles Freeway Express	85
LADOT	422	Downtown/Hollywood/San Fernando Valley/Agoura Hills/Thousand Oaks	495
LADOT	423	Encino/Calabasas and/or Agoura Hills/Thousand Oaks	172
LADOT	431	Downtown Los Angeles-Westwood	45
LADOT	534	Downtown Los Angeles-West Los Angeles	105
LADOT	549	Burbank/Glendale Pasadena to Glendale/Burbank/Encino	196
LADOT	573	Encino/Mission Hills-Westwood/Century City	511
LADOT	574	Encino/Granada Hills-LAX/El Segundo	111
LBT	405	UCLA/Westwood Commuter Express	160
SCT	792/797	Century City, UCLA, and Westwood	175
Shuttles and Circulators			
LADOT	DASH Van Nuys/ Studio City	Van Nuys/Studio City	748
LADOT	DASH Panorama City/ Van Nuys	Panorama City/Van Nuys	1,627
BruinBus	U1	Weyburn Terrace-Wyton	1,246
BruinBus	U2	Wilshire Center-Wyton	818
BruinBus	U3	Weyburn Terrace-Gateway Plaza	214
BruinBus	U5	Evening/SafeRide Loop	127
Local Bus			
BBB	1	Main Street and Santa Monica Boulevard	4,202
BBB	2	Wilshire Boulevard	1,178
BBB	5	Olympic Boulevard	190
BBB	7	Pico Boulevard	4,333
BBB	8	Ocean Park Boulevard	1,282
BBB	14	Bundy Drive Centinela Avenue	1,715
BBB	15	Barrington Avenue	156
BBB	16	Wilshire Boulevard/Bundy Drive-Marina del Rey	405
BBB	17	UCLA-VA Medical Center-Palms	1,475
BBB	18	UCLA-Abbott Kinney-Marina del Rey	850
BBB	43	San Vicente Boulevard and 26th Street	220
CCB	3	Crosstown-Overland Avenue	913
CCB	6	Sepulveda Boulevard	4,386

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
SCT = Santa Clarita Transit

Figure 9-11. Existing Bus Service within the Study Area



Source: HTA, 2024

9.2.4 Active Transportation

9.2.4.1 Pedestrian Facilities

Pedestrian facilities within the Study Area — including sidewalks, walkways, crosswalks, trails, underpasses, and pedestrian bridges — are designed to enhance mobility and accessibility for pedestrians. Pedestrian facilities vary across the Study Area, depending on the density, mix of land uses and roadway facilities. In the San Fernando Valley and on the Westside, sidewalks are well-connected and follow the grid pattern of roadway facilities. In the Bel Air and Brentwood neighborhoods adjacent to the Sepulveda Pass, sidewalks are sparse and disconnected given roadway slopes and topography. Figure 9-12 shows the distribution of sidewalks across the Study Area.

Figure 9-12. Existing Sidewalks within the Study Area

Source: HTA, 2024

9.2.4.2 Bicycle Facilities

Existing bicycle facilities in the Study Area consist of a network of approximately 123 miles of Class I, II, and III bicycle facilities, including 29.4 miles of Class I bicycle paths. Planned bicycle facilities in the Study Area includes 180 miles of additional bicycle facilities, including 21.1 miles of Class I paths (SCAG, 2024).

Figure 9-13 shows the existing and planned bicycle facilities, which are classified using the California Department of Transportation (Caltrans) *Highway Design Manual* (Caltrans, 2022a). These facility classifications include the following:

- Class I Bicycle Facilities are also known as bicycle paths, shared-use paths, or bicycle trails. They provide a travel facility for the exclusive use of bicycles and pedestrians that is completely separated (by a physical barrier or open space) from roadways with cross flow by vehicles minimized.
- Class II Bicycle Facilities are also known as bicycle lanes. These facilities provide a striped lane for one-way bike travel on a street or highway.
- Class III Bicycle Facilities are also known as bicycle routes. They provide for shared use with pedestrian or motor vehicle traffic typically demarcated by signage or surface markings such as Sharrows.
- Class IV Bicycle Facilities are protected bike lanes that are physically separated from the vehicle travel lane by more than the white stripe. Separation may be accomplished with flexible delineators or permanent barriers.

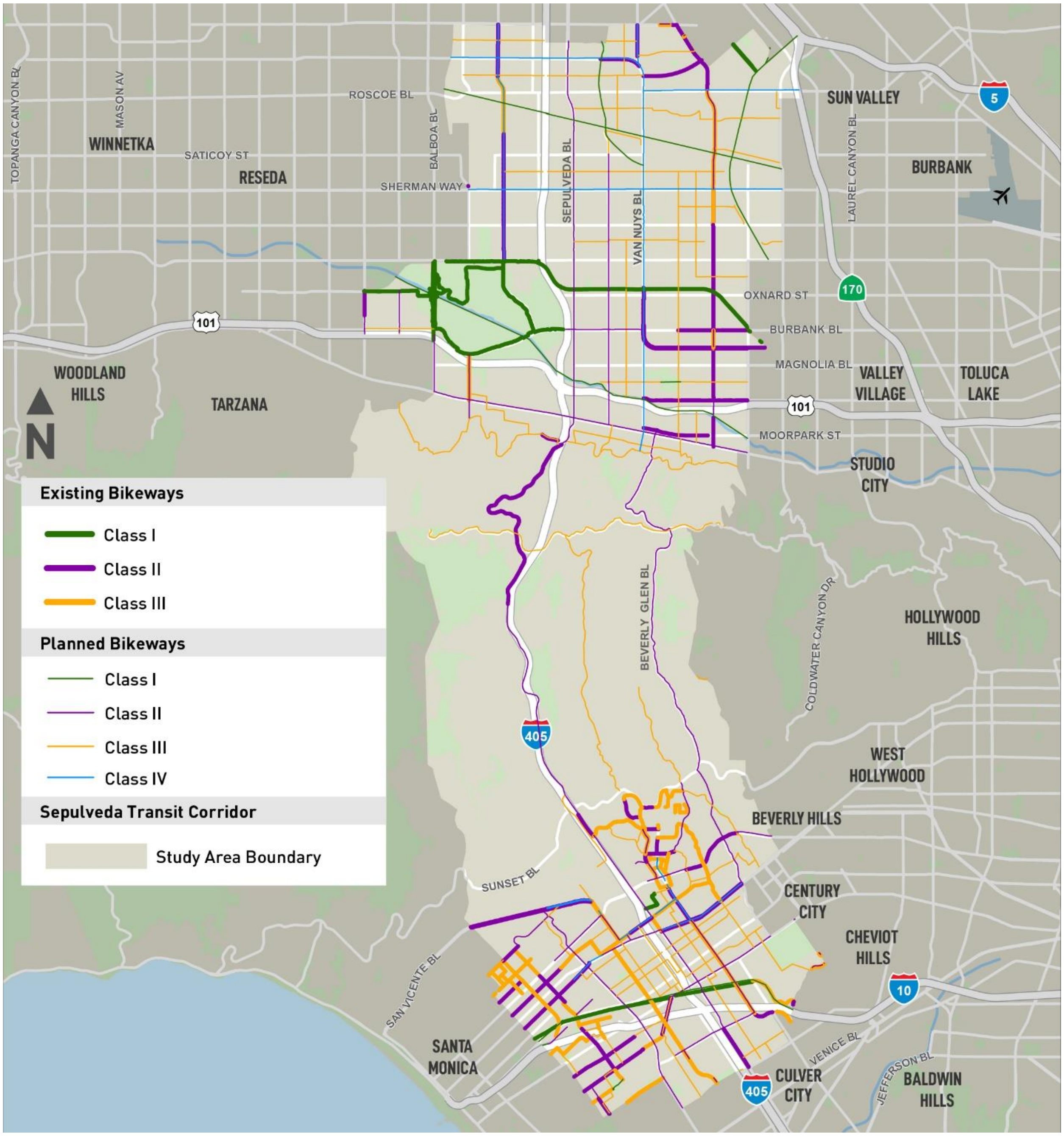
Table 9-11 lists the lengths of existing bicycle facilities in miles by classification within the Study Area. There are no existing Class IV bicycle facilities in the Study Area.

Table 9-11. Existing and Planned Bicycle Facility Miles within the Study Area

Class	Existing Facility Miles	Planned Facility Miles
I	29.4	21.1
II	53.2	51.3
III	40.7	80.6
IV	0	26.9
Total	**123.3**	**179.9**

Source: SCAG, 2022; HTA, 2024

Figure 9-13. Existing and Planned Bicycle Facilities within the Study Area



Source: SCAG, 2022; HTA, 2024

9.3 Transit Network Assumptions

The transit network for Alternative 5 assumes a baseline of 2045 NextGen service (Metro, 2020d). In addition, as described in Section 3.2, coordination with transit agencies for the purposes of ridership forecasting led to changes in local and regional transit for each alternative. The rail network, except for the Project, would be the same for Alternative 5 as for the No Project Alternative. Changes to the bus transit network for Alternative 5 meant to minimize duplicated service would include the following:

- AVTA 786: Truncate service at Van Nuys Metrolink Station

- LADOT 573: Truncate service at Ventura Boulevard Station
- Metro 233: Operate in the San Fernando Valley only
- Metro 761: Eliminate
- SCT 792 and 797: Truncate service at Sherman Way Station
- BruinBus U1, U2, and U5: Add eastbound stop at Charles E. Young Drive and Westwood Plaza

9.4 Impact Evaluation

9.4.1 Impact TRA-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?

This section evaluates the consistency of Alternative 5 with plans and policies. Attachment 2 of this technical report identifies all the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that each alternative was evaluated against for consistency. Relevant design guidelines from the regulatory framework, such as the Americans with Disabilities Act (ADA) or Los Angeles Bureau of Engineering (LABOE) Standard Plans (LABOE, n.d.(a)), are addressed under the evaluation of geometric hazards in Section 9.4.3.

9.4.1.1 Operational Impacts

Transit Policies

Attachment 2 identifies the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that the alternative was evaluated against for consistency. Alternative 5 would support several regional and local plans and policies and would not conflict with adopted policies or plans related to transit facilities. Therefore, operation of Alternative 5 would not conflict with a program, plan, ordinance, or policy and would result in no impact.

Transit Ridership

Table 9-12 presents the projected number of regional trips for the No Project Alternative and Alternative 5. The total regional transit mode share would increase by 0.05 percent with Alternative 5. A total of 123,551 daily project trips are forecast for Alternative 5, which would increase regional transit travel by 42,043 daily new transit trips in the horizon year 2045 compared to the No Project Alternative.

Table 9-12. Alternative 5: 2045 Regional Transit Performance Metrics

Performance Metric	No Project Alternative	Alternative 5	Change from No Project Alternative
Daily Project Trips	NA	123,551	NA
Daily New Transit Trips (Regional)	NA	42,043	NA
Daily Fixed Guideway Trips (Rail + BRT)	746,604	804,688	7.78%
Daily Bus Trips	969,689	953,648	-1.65%
Daily Transit Trips (All Transit Trips)	1,716,293	1,758,336	2.45%
Daily Trips (Total All Modes)	78,175,000	78,175,000	0%
Total Transit Mode Share (Daily Transit Trips/Daily Trips)	2.20%	2.25%	0.05%

Source: HTA, 2024

NA = not applicable

Table 9-13 summarizes ridership and mode of access by station for Alternative 5. Mode of access data illustrates how passengers would access Project stations, whether via bus, rail, walking/biking, driving and parking, or being dropped off (kiss & ride). As listed in Table 9-13, Alternative 5 is forecast to have 123,550 total weekday boardings. For Alternative 5, rail would comprise the highest mode share for station access followed by bus transit, walking/biking, kiss & ride, and park & ride.

Table 9-13. Alternative 5: Average Weekday Station Boardings by Mode

Station	Walk/Bike	Bus	Park & Ride	Kiss & Ride	Rail	Total Station Boardings
Metro E Line Expo/Sepulveda	1,469 (8%)	1,186 (7%)	57 (0%)	33 (0%)	15,468 (85%)	18,212
Santa Monica Boulevard	3,298 (64%)	1,731 (34%)	0 (0%)	79 (2%)	0 (0%)	5,107
Wilshire Boulevard/Metro D Line	8,320 (25%)	617 (2%)	0 (0%)	64 (0%)	24,447 (73%)	33,448
UCLA Gateway Plaza	17,975 (97%)	400 (2%)	0 (0%)	41 (1%)	0 (0%)	18,416
Ventura Boulevard/Sepulveda Boulevard	4,475 (62%)	2,325 (32%)	95 (1%)	338 (5%)	0 (0%)	7,232
Metro G Line Sepulveda	1,956 (13%)	12,219 (82%)	667 (4%)	149 (1%)	0 (0%)	14,990
Sherman Way	2,366 (36%)	3,849 (58%)	127 (2%)	256 (4%)	0 (0%)	6,598
Van Nuys Metrolink	1,925 (10%)	7,621 (39%)	0 (0%)	189 (1%)	9,815 (50%)	19,549
Total	**41,782 (34%)**	**29,947 (24%)**	**945 (1%)**	**1,148 (1%)**	**49,730 (40%)**	**123,550**

Source: HTA, 2024

Table 9-14 presents the projected number of daily boardings (total ridership on the entire line) for urban rail and BRT lines in 2045 for Alternative 5 with a comparison to No Project Alternative ridership.

Table 9-14. Alternative 5: Daily Boardings on Urban Rail and Bus Rapid Transit Lines Serving the Study Area

Line	Daily Boardings		Change from No Project Alternative
	No Project Alternative	Alternative 5	
Metro E Line	110,578	131,213	18.7%
Metro D Line	221,766	233,598	5.3%
Metro G Line (BRT)	53,599	58,961	10.0%
East San Fernando Valley Light Rail Transit Line	49,988	58,860	17.7%
Total	**435,931**	**482,632**	**10.7%**

Source: HTA, 2024

Table 9-15 shows the peak-hour load on rail and BRT lines in the Study Area under Alternative 5 compared to the No Project Alternative. The capacities of heavy rail (Metro D Line) and light rail modes (Metro E Line and East San Fernando Valley) are approximately 12,000 and 4,800 passengers per hour, respectively, based on design headways and vehicle capacity. Capacity on the Metrolink Ventura County Line is approximately 2,240 passengers per hour assuming 8-car trains at 30-minute headways. Metro G

Line capacity is approximately 960 passengers per hour at 5-minute headways. While Alternative 5 would increase peak loads on the Metro E Line, D Line, and ESFV LRT Line, peak loads would remain under capacity. For the Metro G Line, peak loads would exceed capacity for Alternative 5 similar to the No Project Alternative. It is expected that Metro would accommodate the additional demand on the Metro G Line by implementing operational improvements and would also update its short- and long-range transit plans and increase service on parallel routes as needed, consistent with its usual service planning processes. Therefore, operation of Alternative 5 would not conflict with a program, plan, ordinance, or policy related to transit ridership and would result in no impact.

Table 9-15. Alternative 5: Peak Loads on Rail and Bus Rapid Transit Lines within the Study Area

Line	No Project Alternative		Alternative 5	
	Peak Load (Passengers)	Location	Peak Load (Passengers)	Location
Sepulveda Transit Corridor	NA	NA	5,340	Between Ventura Boulevard and UCLA
Metro E Line	2,530	Between Expo/La Brea and La Cienega/Jefferson	3,780	Between Rancho Park and Expo/Sepulveda
Metro D Line	11,870	Between Wilshire/La Brea and Wilshire/Fairfax	11,820	Between Wilshire/La Brea and Wilshire/Fairfax
Metro G Line (BRT)	2,500	Between Van Nuys and Sepulveda	2,610	Between Sepulveda and Woodley
East San Fernando Valley Light Rail Transit Line	2,470	Between Vanowen and Victory	2,860	Between Roscoe and Van Nuys/Metrolink
Metrolink Ventura County Line	1,760	Between Union Station and Glendale	1,560	Between Union Station and Glendale

Source: HTA, 2024

NA = not applicable

Table 9-16 compares the projected ridership under Alternative 5 to No Project Alternative conditions for bus routes serving the Study Area, aggregated by transit operator. For most agencies, bus ridership would fluctuate slightly because passengers would have the option to use the Project with faster and more reliable service. Because the combination of AVTA 786 and Alternative 5 would provide the fastest transit travel time from the Antelope Valley to the Westside, ridership on AVTA 786 would increase significantly. Although Alternative 5 would result in a 32.4 percent increase in ridership on AVTA 786, the truncation of the route from Century City to Van Nuys Metrolink Station would allow AVTA to run additional service on the truncated route to meet the increased demand without exceeding the passenger loading standard of 75 percent of seated capacity on commuter bus routes (AVTA, 2020). Therefore, operation of Alternative 5 would not conflict with an existing loading standard and would result in no impact.

Table 9-16. Alternative 5: Projected Bus Ridership by Transit Operator

Operator	Route(s)[a]	Daily Boardings[b]		Change from No Project Alternative
		No Project Alternative	Alternative 5	
Metro	2, 4, 20, 150, 152, 154, 155, 158, 164, 165, 166, 167, 169, 233, 234, 236, 602, G Line	237,137	232,726	-1.9%
AVTA	786	4,981	6,596	32.4%
BBB	1, 2, 5, Local 7, Rapid 7, 8, 10, Rapid 12, 14/15, 16, 17, 18	45,404	42,734	-5.9%

Operator	Route(s)[a]	Daily Boardings[b]		Change from No Project Alternative
		No Project Alternative	Alternative 5	
CCB	3, 6/6R	24,685	24,995	1.3%
LADOT	422, 423, 431, 534, 549, 573, 574, PC/VN DASH, VN/SC DASH	12,516	12,180	-2.7%
SCT	792/797	<250	<250	NA
BruinBus	U1, U2, U3, U5	9,380	9,390	0.1%

Source: HTA, 2024

[a]Routes listed intersect the Study Area
[b]Daily boardings represent total ridership on all routes listed.

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
NA = not applicable
PC/VN = Panorama City/Van Nuys
SCT = Santa Clarita Transit
VN/SC = Van Nuys/Studio City

Roadways

Alternative 5 would include modifications changes to roadway facilities, including reconstruction of portions of Bentley Avenue, Wilshire Boulevard, Gayley Avenue, Lindbrook Drive, and Westwood Plaza in the Westside, and Saugus Avenue, Dickens Street, Sepulveda Boulevard, Metro G Line Busway, Raymer Street, and Van Nuys Boulevard in the San Fernando Valley. Wilshire Boulevard, Sepulveda Boulevard, and Van Nuys Boulevard are identified in the City of Los Angeles *Mobility Plan 2035 – An Element of the General Plan* (Mobility Plan 2035) circulation system; however, modifications to these roadways would not be inconsistent with *Mobility Plan 2035*. Therefore, the operation of Alternative 5 would not conflict with a program, plan, ordinance, or policy related to roadway facilities and would result in no impact.

Bicycle and Pedestrian Circulation

Generally, Alternative 5 would be supportive of adopted active transportation plans and policies set forth by *Mobility Plan 2035* (DCP, 2016), the City of Los Angeles *2010 Bicycle Plan* (DCP, 2011), Metro's *First/Last Mile Guidelines* (Metro, 2021b), the 2019 *UCLA Active Transportation Plan* (UCLA, 2019), and City of Los Angeles community plans (DCP, 1996a, 1996b, 1997b, 1998a, 1998b, 1998c, 1998d, 1999a, 1999b, 1999c, 1999d, 1999e) described in Section 2. Station area improvement elements — including increased sidewalk widths, improved pedestrian crossings, bicycle parking, wayfinding signs, and implementation of planned bicycle facilities — would align with Metro's *First/Last Mile Guidelines* (Metro, 2021b) and facilitate pedestrian and cyclist accessibility to the Alternative 5 stations.

Where Alternative 5 would transition from an underground configuration to an aerial viaduct along Raymer Street, the height of the aerial guideway would provide sufficient vertical clearance so that pedestrian and bicycle movement would not be inhibited underneath the structure. However, the Alternative 5 aerial viaduct would be in physical conflict with an existing pedestrian bridge over the rail corridor and would require the bridge's removal. The Willis Avenue Pedestrian Bridge is west of Van Nuys Boulevard and connects Willis Avenue to Raymer Street. The removal of the pedestrian bridge would conflict with *Mobility Plan 2035*. The plan includes an NEN, which highlights a selection of streets that provide comfortable and safe routes for localized travel of slower-moving modes, such as walking, bicycling, or other slow-speed motorized means of travel. The Willis Avenue Pedestrian Bridge directly connects Willis Avenue and Raymer Street, which are identified as part of the NEN. The NEN identifies a system of local streets that are slow moving and safe enough to "connect neighborhoods through active transportation" (DCP, 2016). The City of Los Angeles *Mobility Plan 2035* calls for NEN-type improvements, including active transportation facilities and traffic calming devices, to be incorporated to any street serving a school, park, or community gathering place. Therefore, the removal of the pedestrian bridge would conflict with in *Mobility Plan 2035* and is considered a potentially significant impact. Implementation of MM TRA-7 would require the existing pedestrian bridge to be replaced with another pedestrian bridge or undercrossing. The replacement structure must be completed and operational before the existing bridge is removed. Therefore, implementation of MM TRA-7 would reduce impacts to less than significant during operation of Alternative 5.

9.4.1.2 Construction Impacts

Given the temporary nature of construction, it is not expected that construction of Alternative 5 would preclude any programs, plan ordinances, or policies addressing the circulation system. The following sections describe construction impacts on transit facilities, roadways, and active transportation.

Transit Facilities

Temporary full or partial closures of some intersections, lanes, or sidewalks may be necessary during construction, which may result in disruptions to bus service. Temporary re-routing and relocation of bus stops may be needed for the following transit lines:

- Metro 4, 20, 155, 162, 169, 233, 234, 240, 602 and 761
- BBB 1, 2, 7, R7, R12, 17, and 18
- CCB 6 and R6
- LADOT 431, 534, 549 and DASH PC/VN
- LBT 405
- Amtrak Thruway
- BruinBus U1, U2, U3, U5

In addition to impacts to on-street bus service, construction at existing fixed guideway stations would temporarily impact rail operations. Temporary impacts to Amtrak and Metrolink rail operations would occur as a result of demolishing the existing Willis Avenue Pedestrian Bridge. The construction of the aerial Van Nuys Metrolink Station would temporarily impact Amtrak and Metrolink rail operations and passenger experience at the Van Nuys Metrolink/Amtrak Station. Construction activities would occur within the vicinity of the ESFV LRT Van Nuys Metrolink Station for the construction of the aerial alignment and Alternative 5 Van Nuys Metrolink Station which may temporarily affect passenger experience; however, disruptions to rail service or MSF operations are not anticipated.

Construction of a mezzanine extension over the Metro D Line tracks and platform at the Metro D Line Westwood/UCLA Station would result in temporary impacts to Metro D Line rail operations and passenger experience. Metro D Line trains would operate between Union Station and the Metro D Line Century City Station while temporary falsework is constructed over the Metro D Line tracks. The Metro D Line Westwood/UCLA Station would then be temporarily closed to passengers during construction of the mezzanine extension. However, Metro D Line trains would be able to pass through the station to the Westwood/VA Hospital Station.

Although temporary, the potential disruptions to the transit network under Alternative 5 is considered a potentially significant impact to transit facilities due to temporary road or lane closures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4, to provide a Transportation Management Plan (TMP) that specifies measures to limit disruption during construction, and MM TRA-5, to provide temporary bus service at rail stations taken out of passenger service, would reduce impacts to less than significant during construction of Alternative 5.

Roadways

Construction vehicles would primarily use major arterials and freeways to comply with Policy 1.8 from *Mobility Plan 2035* that "truck movement should be limited to the arterial street network as much as possible since these streets have the lanes and wider turning radii to accommodate these heavy large vehicles" (DCP, 2016). Figure 9-7 and Table 9-17 identify construction staging locations and roadway facilities that would be used for construction haul routes.

Table 9-17. Alternative 5: Construction Staging Locations and Haul Routes

No.	Construction Staging Location Description	Haul Route
On-Site Construction Staging Areas		
1	Commercial properties on southeast corner of Sepulveda Boulevard and National Boulevard	National Boulevard and I-405 or I-10
2	North side of Wilshire Boulevard between Veteran Avenue and Gayley Avenue	Wilshire Boulevard, I-405
3	UCLA Gateway Plaza	Westwood Boulevard. Wilshire Boulevard, I-405
4	Commercial property on southwest corner of Sepulveda Boulevard and Dickens Street	Dickens Street, Sepulveda Boulevard, I-405
5	West of Sepulveda Boulevard between US-101 and the Los Angeles River	Sepulveda Boulevard, I-405
6	Property on the west side of Sepulveda Boulevard between Sherman Way and Gault Street	Sepulveda Boulevard, Sherman Way, I-405
7	Industrial property on both sides of Raymer Street, west of Burnet Avenue	Raymer Street, Sepulveda Boulevard, Roscoe Boulevard, I-405
8	South of the LOSSAN rail corridor east of Van Nuys Metrolink Station, west of Woodman Avenue	Woodman Avenue, Sherman Way, and I-405 or SR-170
Off-Site Construction Staging Areas		
S1	East of Santa Monica Airport Runway	Bundy Drive, I-10, I-405
S2	Ralphs Parking Lot in Westwood Village	Le Conte Avenue, Westwood Boulevard, Wilshire Boulevard, I-405
N1	West of Sepulveda Basin Sports Complex, south of the Los Angeles River	Orange Line Busway, White Oak Avenue, US-101
N2	West of Sepulveda Basin Sports Complex, north of the Los Angeles River	Orange Line Busway, Balboa Boulevard, Victory Boulevard, I-405
N3	Metro G Line Sepulveda Station Park and Ride Lot	Erwin Street, Sepulveda Boulevard, Victory Boulevard, Haskell Avenue, I-405
N4	North of Roscoe Boulevard and Hayvenhurst Avenue	Havenhurst Avenue, Roscoe Boulevard, I-405
N5	LADWP Property south of the LOSSAN rail corridor, east of Van Nuys Metrolink Station	Hazeltine Avenue, Sherman Way, and I-405 or SR-170

Source: STCP, 2024; HTA, 2024

SR = State Route

Truck movement near Staging Area No. 5 has the potential to temporarily pick-up and drop-off at the nearby Ivy Bound Sherman Oaks Charter School, which is expected to remain open during project construction. Although temporary, the potential disruptions to the Ivy Bound Sherman Oaks Charter School under Alternative 5 is considered a potentially significant impact due to construction vehicle operations near pick-up and drop-off areas. Implementation of MM TRA-8 — to prohibit trucks or other construction vehicles from operating or parking on Morrison Street during school pick-up and drop-off times — would reduce impacts to less than significant during construction of Alternative 5.

Underground station construction at Santa Monica Boulevard and Metro D Line Stations would result in temporary lane closures to through traffic on Gayley Avenue for the duration of station box excavation and other construction activities. Deliveries to businesses along Santa Monica Boulevard near South Bentley Avenue would be affected during project construction if access is unable to be maintained during construction. Therefore, potential disruption of delivery access to these properties is considered a potentially significant impact. Implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes and coordinating with local business owners to maintain customer and delivery access) — would minimize temporary impacts to delivery access. Therefore, construction of Alternative 5 is considered a less than significant impact related to a conflict with a program, plan, ordinance, for policy on roadway facilities.

Bicycle and Pedestrian Circulation

Alternative 5 would require temporary roadway detours at proposed underground stations during cut-and-cover activities. Street detours would be concentrated at areas surrounding proposed underground station boxes that would require cut-and-cover construction. Street detours would disrupt bicycle and pedestrian circulation. The underground guideway would be constructed using a TBM; therefore, construction of the guideway would not disrupt bicycle or pedestrian circulation.

Although temporary, the potential disruptions to bicycle and pedestrian circulation would result in a potentially significant impact during project construction. In addition to compliance with all local, state, and federal standards on construction, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would minimize temporary impacts due to traffic control measures. Alternative 5 detour routes would be identified in the TMP, and bicyclists and pedestrians would be informed of such closures and detours through signage and online postings that would be consistent with Policy 1.6 from *Mobility Plan 2035* that states, "Design detour facilities to provide safe passage for all modes of travel during construction" (DCP, 2016). Therefore, implementation of MM TRA-4 would reduce impacts to less than significant during construction of Alternative 5.

9.4.1.3 Maintenance and Storage Facility

The MSF for Alternative 5 would be located on a parcel immediately west of Woodman Avenue and south of the LOSSAN rail corridor. Operation and construction of the MSF would not require the removal or modification of an element of the circulation system that is addressed in a program, plan, ordinance, or policy. Therefore, operation and construction of the MSF for Alternative 5 would not conflict with a program, plan, ordinance or policy and would result in no impact.

9.4.2 Impact TRA-2: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

9.4.2.1 Operational Impacts

Under CEQA Guidelines Section 15064.3, subdivision (b), transportation projects that reduce, or have no impact on, VMT are presumed to cause a less than significant impact on transportation. OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018) states that transit and active transportation projects generally reduce VMT. As listed in Table 9-18, Alternative 5 would result in reduced VMT (775,100 daily) compared to the No Project Alternative. Therefore, operation of

Alternative 5 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Table 9-18. Alternative 5: Vehicle Miles Traveled

Project Alternative	Total VMT	Change in VMT Relative to the No Project Alternative
No Project Alternative (2045 Horizon Year)	568,557,200	NA
Alternative 5 (2045 Horizon Year)	567,782,100	-775,100

Source: HTA, 2024

NA = not applicable

9.4.2.2 Construction Impacts

Construction of Alternative 5 would temporarily generate additional VMT related to construction workers commuting to the construction site, construction work activities, construction labor trips, and the transport of excavated materials, construction equipment, and supplies. This additional VMT would terminate upon completion of construction and would not be in effect during operation of Alternative 5. The temporary nature of construction-related VMT and construction-related traffic circulation changes (e.g., detours) would generally be localized to the work areas and construction staging locations listed in Table 9-17.

In addition, there would be minor impacts to traffic operations associated with construction staging areas and haul routes. Vehicles and trucks related to construction activities entering and exiting these areas would increase traffic and VMT on local streets. All construction trucks would use designated haul routes, as listed in Table 9-17, to access the regional freeway system. The construction-related traffic volumes would be minimal compared to overall background traffic volumes would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of Alternative 5 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

9.4.2.3 Maintenance and Storage Facility

The MSF for Alternative 5 would be part of a transit project that is presumed to have a less than significant impact on VMT (OPR, 2018). Therefore, operation of the MSF would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Construction of the MSF would result in a minor increase in traffic volumes as construction vehicles enter and exit the site. Construction vehicles entering and exiting the construction site would temporarily increase VMT on local streets. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction-related traffic would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of the MSF for Alternative 5 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

9.4.3 Impact TRA-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?

This section discusses the potential increase in hazards due to a geometric design feature of Alternative 5. The potential increase for hazards generally relates to unsafe design of Project facilities/structures, the degradation of pedestrian, bicycle, or vehicle safety conditions, or the introduction of obstructions that result in decreased visibility of other road users or key roadway infrastructure, such as traffic signals. These impacts are evaluated for permanent conditions during project operation as well as temporary conditions during project construction.

9.4.3.1 Operational Impacts

Alternative 5 — including its guideway, vehicles, stations, MSF, TPSSs, and fire/life safety systems — would be designed to meet all relevant and applicable standards including ADA, LABOE, and Metro safety design standards.

The Willis Avenue Pedestrian Bridge is located west of Van Nuys Boulevard and connects Willis Avenue to Raymer Street. According to the agenda from the June 1995 meeting of the Metro Board of Directors, the pedestrian bridge was constructed to “provide a safe pedestrian route at a location with a history of unsafe crossings by students seeking a convenient route to school” (Metro, 1995). Panorama High School, Robert Fulton College Preparatory School, and Vista Middle School are all located approximately 0.5 mile from this bridge. Panorama High School and Robert Fulton College Preparatory School have attendance boundaries that cross the LOSSAN rail corridor tracks (City of Los Angeles, 2018). Furthermore, all three schools have magnet programs, drawing students from beyond their fixed attendance area. Observations of the bridge in October 2023 confirmed students using the pedestrian bridge around school bell times. Prior to construction of the bridge, the Los Angeles Unified School District operated a shuttle bus to provide a safe crossing for students at Robert Fulton College Preparatory School who needed to cross the railroad tracks to reach the school. The removal of the Willis Avenue Pedestrian Bridge would substantially increase the pedestrian crossing distance by forcing pedestrians to walk an additional mile via Arminta Street, Van Nuys Boulevard, and Raymer Street to make the same crossing. This would tempt pedestrians to cross the LOSSAN rail corridor at an unsafe location out of convenience. Therefore, removal of the Willis Avenue Pedestrian Bridge would result in a potentially significant impact due to a safety hazard. Implementation of MM TRA-7 would require the existing pedestrian bridge to be replaced with another pedestrian bridge or undercrossing. The replacement structure must be completed and operational before the existing bridge is removed. Therefore, implementation of MM TRA-7 would reduce impacts to less than significant during operation of Alternative 5.

An analysis of passenger queues at fare gates was conducted to evaluate the safety of transferring passengers as described in Section 3.2.2. As shown on Figure 9-14, under Alternative 5, passengers would have the ability to transfer to the ESFV LRT Line from the Alternative 5 Van Nuys Metrolink Station via a sidewalk connection on the east side of Van Nuys Boulevard. Passengers transferring to the ESFV LRT Line are anticipated to enter the station from the north entrance because the north entrance would be the closest ESFV LRT Line station entrance to the Alternative 5 Van Nuys Metrolink Station.

Figure 9-14. Alternative 5: Transfer Paths at the Van Nuys Metrolink Station

Source: STCP, 2024; HTA, 2024

Table 9-19 presents the results of the peak-hour queueing analysis at the ESFV LRT Van Nuys Metrolink Station north entrance fare gates. During the busiest 2 minutes of the peak hour, 89 passengers are forecast to transfer to the ESFV LRT Line across all station modes of access. The queues resulting from the peak-hour passenger flow into the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Based on the results of the peak-hour queueing analysis in Table 9-19, the maximum forecast queue length in the peak hour at the ESFV LRT Van Nuys Metrolink Station for Alternative 5 would be 133 feet long, while the available queueing area between the fare gates and the crosswalk used to access the station would be 30 feet. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a hazard to passengers. Therefore, operation of Alternative 5 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard as described in Section 3.2.2. Implementation of MM TRA-1 would require a pedestrian flow microsimulation analysis to evaluate passenger movements when transferring to the ESFV LRT Van Nuys Metrolink Station from the Alternative 5 Van Nuys Metrolink Station. This analysis shall evaluate passenger flows into the ESFV LRT Van Nuys Metrolink Station from other modes, including Amtrak, Metrolink, bus, active transportation, park & ride, and kiss & ride. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with stand-alone validators (SAV), at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street. Therefore, implementation of MM TRA-1 would reduce impacts to less than significant during operation of Alternative 5.

Table 9-19. Alternative 5: Queueing Analysis at East San Fernando Valley Light Rail Transit Line Van Nuys Metrolink Station

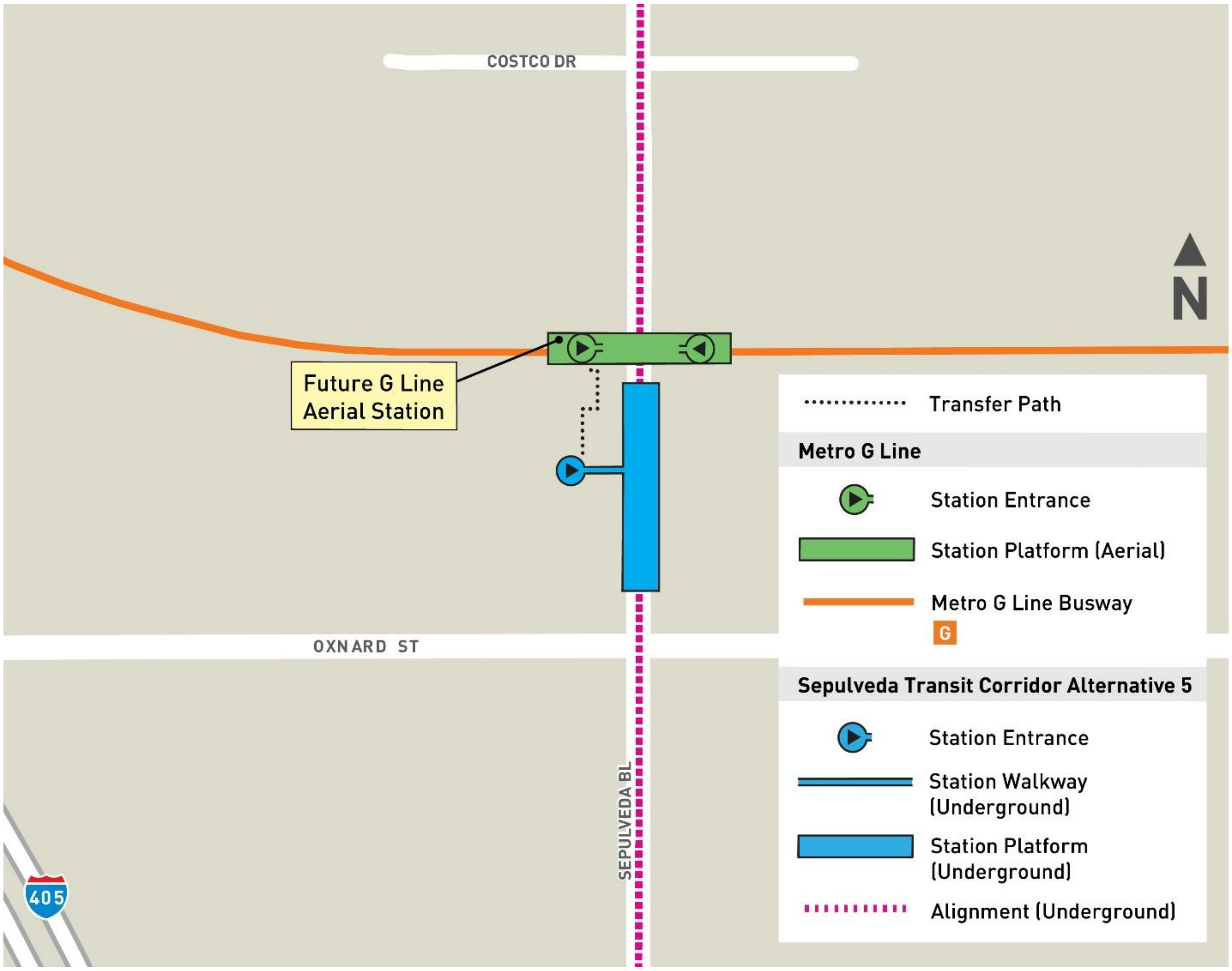
Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into North Entrance	Peak 2-minute Passenger Flow into North Entrance
Walk/bus/ park & ride/kiss & ride	345	173	6
Metrolink	2	2	1
Alternative 5	1,972	1,972	82
Total 2-minute Passenger Flow into North Entrance			89
2-minute Passenger Flow per Fare Gate			44
Maximum Peak-Hour Queue Length (feet)			**133**
Available Queueing Distance at Station (feet)			30

Source: HTA, 2024

Note: Analysis assumed half of walk/bus/ park & ride/kiss & ride passengers would use this entrance, all Metrolink and Alternative 5 transfers would use this entrance, walk/bus/park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, Metrolink trains would arrive every 30 minutes (2 trains per hour), and Alternative 5 trains would arrive every 2.5 minutes (24 trains per hour).

As shown on Figure 9-15, under Alternative 5, passengers would have the ability to transfer to the Metro G Line from the Alternative 5 Metro G Line Sepulveda Station via a sidewalk connection on the west side of Sepulveda Boulevard. Passengers transferring to the Metro G Line are anticipated to enter the station from the west entrance because the west entrance is the closest Metro G Line station entrance to the Alternative 5 Metro G Line Sepulveda Station.

Figure 9-15. Alternative 5: Transfer Paths at the Metro G Line Sepulveda Station



Source: STCP, 2024; HTA, 2024

Table 9-20 presents the results of the peak-hour queueing analysis at the Metro G Line Sepulveda Station west entrance fare gates. During the busiest 2 minutes of the peak hour, 97 passengers are forecast to transfer to the Metro G Line across all station modes of access. Based on the results of the peak-hour queueing analysis in Table 9-20, the queues resulting from the peak-hour passenger flow into the Metro G Line Sepulveda Station are not forecast to exceed the available queueing area at the fare gates as the maximum forecast queue length of 52 feet would be below the available queueing area of 100 feet. Therefore, the peak-hour passenger flow into the Metro G Line Sepulveda Station under Alternative 5 would not increase hazards due to a geometric design feature and would result in no impact.

Table 9-20. Alternative 5: Queueing Analysis at the Future Metro G Line Sepulveda Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into West Entrance	Peak 2-minute Passenger Flow into West Entrance
Walk/bus/park & ride/kiss & ride	1,750	875	29
Alternative 5	1,616	1,616	67
Total 2-minute Passenger Flow into West Entrance			97
2-minute Passenger Flow per Fare Gate			32
Maximum Peak-Hour Queue Length (feet)			**97**
Available Queueing Distance at Station (feet)			100

Source: HTA, 2024

Note: Analysis assumes half of walk/bus/park & ride/kiss & ride passengers would use this entrance, all Alternative 5 transfers would use this entrance, walk/bus/park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, and Alternative 5 trains would arrive every 2.5 minutes (24 trains per hour).

9.4.3.2 Construction Impacts

Temporary modifications of existing transportation facilities under Alternative 5 would include full or partial road closures, lane reductions or modifications, and detour routes. Construction of Alternative 5 would include temporary modifications to segments of Bentley Avenue, Wilshire Boulevard, Gayley Avenue, Lindbrook Drive, and Westwood Plaza on the Westside, and Saugus Avenue, Dickens Street, Sepulveda Boulevard, Metro G Line Busway, Raymer Street, and Van Nuys Boulevard in the San Fernando Valley. Construction worksites would be fenced, and lane closures and associated lane tapers, temporary advance warning signs, detour signs, etc., would be implemented in accordance with Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (Cal/OSHA), and *California Manual on Uniform Traffic Control Devices* (CA MUTCD) (Caltrans 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Safety for pedestrians, bicyclists, and motorists would be maintained during construction using signage, partial lane closures, construction barriers, and supervision by safety and security personnel at access points and throughout construction sites. Traffic control measures necessary to complete construction of Alternative 5 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic control measures and would ensure hazards are not introduced during construction. Therefore, construction of Alternative 5 would not substantially increase hazards due to a geometric design feature or incompatible use and is considered a less than significant impact.

9.4.3.3 Maintenance and Storage Facility

The MSF for Alternative 5 would be designed to meet all relevant and applicable standards, including ADA, LABOE, and Metro safety design standards. Operation of the MSF would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of the MSF for Alternative 5 would result in no impact.

Construction of the MSF may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including OSHA, Cal/OSHA, and CA MUTCD (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Thus, construction of the MSF would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, construction of the MSF for Alternative 5 would result in no impact.

9.4.4 Impact TRA-4: Would the project result in inadequate emergency access?

9.4.4.1 Operational Impacts

All Alternative 5 facilities — including the guideway, stations, and transit vehicles — would include emergency evacuation routes, emergency systems, and emergency service access in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. In addition, roadway configuration changes identified in Section 9.1.1.9 would not create physical access constraints or significantly increase emergency vehicle response times that would result in inadequate emergency service access during operation. Therefore, operation of Alternative 5 would result in no impact to emergency access.

9.4.4.2 Construction Impacts

Project construction would include temporary lane reductions, road closures, and detours that would affect local roadways. As a result, traffic congestion associated with temporary traffic control measures could result in delayed emergency response times or limited access by emergency services. Traffic control measures necessary to complete construction of Alternative 5 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 would require coordination with first responders during final design to further reduce temporary impacts on emergency access. Therefore, construction of Alternative 5 is considered to have a less than significant impact on emergency access.

9.4.4.3 Maintenance and Storage Facility

The MSF for Alternative 5 would include emergency evacuation routes and systems during operation in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. The MSF would be constructed in accordance with applicable Metro standards and design criteria for providing adequate emergency service access during operation. Therefore, operation of the MSF for Alternative 5 would result in no impact.

Construction of the MSF would result in temporary impacts to traffic operations due to a minor increase in traffic volumes as construction vehicles enter and exit the site. Traffic control measures necessary to complete construction of the MSF would be temporary in nature and are considered a less than significant impact. In accordance with standard Metro practice, implementation of MM TRA-4 would ensure adequate emergency access is maintained within and surrounding the site during construction to further reduce temporary impacts. Therefore, construction of the MSF for Alternative 5 is considered a less than significant impact.

9.5 Mitigation Measures

The following mitigation measures would be implemented for Alternative 5.

9.5.1 Operational Impacts

MM TRA-1: *During final design, Metro shall complete a detailed pedestrian flow microsimulation analysis to evaluate passenger movements when transferring between the Project Van Nuys Metrolink Station and the East San Fernando Valley (ESFV) Light Rail Transit (LRT) Van Nuys Metrolink Station. This analysis shall assess passenger flow into the ESFV LRT Van Nuys Metrolink Station and potential areas of congestion at the fare gates during peak and off-peak hours. In addition to passengers transferring from the Project Van Nuys Metrolink Station, this analysis shall include passengers arriving at* *the ESFV LRT Van Nuys Metrolink Station via Amtrak, Metrolink, bus, active transportation, park and ride, and kiss and ride. The results of this analysis shall inform design to determine necessary measures, such as removal of fare gates or installation of stand-alone validators at the ESFV LRT Van Nuys Metrolink Station, to eliminate the safety concern of passengers queueing into the street. Any necessary adjustments to station layouts, signage, pedestrian transfer paths, or fare gate configurations shall be incorporated into final design prior to commencement of operations.*

MM TRA-7: *The Project shall replace the Willis Avenue Pedestrian Bridge with another pedestrian bridge or pedestrian undercrossing. The replacement structure must be completed and operational before the existing bridge is removed.*

9.5.2 Construction Impacts

MM TRA-4: *The project contractor shall prepare a Transportation Management Plan to facilitate the flow of traffic and transit service in and around construction zones. The Transportation Management Plan shall include, at a minimum, the following measures:*

- *Where feasible, schedule construction-related travel (i.e., deliveries, hauling, and worker trips) during off-peak hours and maintain two-way traffic circulation along affected roadways during peak hours. Avoid the closure of two major adjacent streets where feasible.*
- *Designated routes for project haul trucks shall primarily utilize the I-405, I-10, and US-101 corridors. Throughout the construction process, these routes shall be coordinated with the City of Los Angeles and U.S. Department of Veterans Affairs to ensure consistency with land use and mobility plans. Additionally, the routes shall be situated to minimize noise, vibration, and other possible impacts.*
- *Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas.*
- *Where construction encroaches on the Los Angeles-San Diego-San Luis Obispo rail corridor right-of-way, coordinate construction activities with Union Pacific, Metrolink, and Amtrak to limit disruptions to service and coordinate on outreach to inform passengers of service impacts. Provide temporary parking and drop-off facilities at the Van Nuys Metrolink/Amtrak Station to minimize passenger impacts.*
- *Develop and implement an outreach program and public awareness campaign in coordination with Caltrans, the City of Los Angeles, the City of Santa Monica, and the County of Los Angeles to inform the general public about the construction process and planned roadway closures, potential impacts, and mitigation measures, including temporary bus stop relocation.*
- *Where feasible, temporarily restripe roadways to maximize the vehicular capacity at locations affected by construction closures.*
- *Provide wayfinding signage, lighting, and access to specify pedestrian safety amenities (such as handrails, fences, and alternative walkways) during construction.*

- *Where construction encroaches on pedestrian facilities, special pedestrian safety measures shall be used, such as detour routes and temporary pedestrian barricades.*
- *Where construction encroaches onto the University of California, Los Angeles campus, the project contractor shall ensure that access to campus buildings is maintained through temporary decking and the construction of temporary stairs and ramps.*
- *During final design, the project contractor shall coordinate with Metro Operations to minimize construction impacts on existing Metro rail operations in and around existing stations. Where construction results in the interruption of Metro rail operations, buses shall provide temporary service between rail stations.*
- *Provide on-street bicycle detour routes and signage to address temporary effects to bicycle circulation and minimize inconvenience (e.g., lengthy detours) as to minimize users potentially choosing less safe routes if substantially rerouted.*
- *During final design, the project contractor shall coordinate with first responders and emergency service providers to minimize impacts on emergency response. Coordination efforts shall include the development of detour routes and notification procedures to facilitate and ensure safe and efficient traffic movement. The nearest local first responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing.*
- *Maintain customer and delivery access to all operating businesses near construction work areas. Access shall be maintained to allow for reasonable business operations, including clear signage for alternate routes, temporary driveways, or entry points as necessary. Coordination with businesses shall be conducted to address specific access needs and limit disruptions, ensuring that any restrictions are communicated in advance and alternative arrangements are provided as appropriate.*

MM TRA-5: *Where construction results in the interruption of Metro rail operations, the Project shall provide temporary bus service at rail stations taken out of passenger service. Temporary bus service may consist of either dedicated bus shuttles or extensions of other Metro bus service. Temporary bus service during closures of the Metro D Line Westwood/UCLA Station and/or Metro D Line Westwood/VA Hospital Station shall operate on Bonsall Avenue, Wilshire Boulevard, Santa Monica Boulevard, Century Park East, Avenue of the Stars, Century Park West, and/or Constellation Drive.*

MM TRA-8: *To maintain safe and convenient access to the Ivy Bound Sherman Oaks Charter School, the project contractor shall not operate or park large trucks or other construction vehicles on Morrison Street between 6:30am and 9:00am or 1:30pm and 4:00pm on school days, or at such other times that the school informs the contractor that a large amount of student pick-up or drop-off activity will occur.*

9.5.3 Impacts After Mitigation

9.5.3.1 Operational Impacts

Operation of Alternative 5 would result in a potentially significant impact under Impact TRA-1 and Impact TRA-3 due to the removal of the Willis Avenue Pedestrian Bridge. The Willis Avenue Pedestrian Bridge connects Willis Avenue and Raymer Street, which are identified as part of the NEN included in *Mobility Plan 2035*. Additionally, removal of the pedestrian bridge would substantially increase the pedestrian crossing distance and would tempt pedestrians to cross the LOSSAN rail corridor at an unsafe location out of convenience. With implementation of MM TRA-7, the existing pedestrian bridge would be required to be replaced with another pedestrian bridge or undercrossing prior to removal of the existing pedestrian bridge, thus reducing this impact to less than significant.

Operation of Alternative 5 would result in a potentially significant impact under Impact TRA-3 due to a safety hazard. Under Alternative 5, the queues resulting from the peak-hour passenger flow from the Alternative 5 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a safety hazard as passenger queues would extend into Van Nuys Boulevard. Therefore, operation of Alternative 5 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard. With implementation of MM TRA-1, a pedestrian flow microsimulation analysis would be required to evaluate passenger movements from the Alternative 5 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with SAVs, at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street, thus reducing this impact to less than significant.

9.5.3.2 Construction Impacts

Construction of Alternative 5 would result in a potentially significant impact under Impact TRA-1 due to temporary traffic control measures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4 would reduce impacts to less than significant by requiring a TMP to minimize temporary disruptions associated with construction activities. Implementation of MM TRA-5 would reduce this impact to less than significant by providing temporary bus service at rail stations taken out of passenger service during construction.

Construction of Alternative 5 would result in an additional potentially significant impact under Impact TRA-1 due to truck movement near Staging Area No. 5. Construction truck movement surrounding Staging Area No. 5 has the potential to temporarily impact pick-up and drop-off at the nearby Ivy Bound Sherman Oaks Charter School, which is expected to remain open during project construction. The potential disruptions to the Ivy Bound Sherman Oaks Charter School under Alternative 5 is considered a potentially significant impact due to construction vehicle operations near pick-up and drop-off areas. Implementation of MM TRA-8 — to prohibit trucks or other construction vehicles from operating or parking on Morrison Street during school pick-up and drop-off times — would reduce impacts to less than significant during construction of Alternative 5.

10 ALTERNATIVE 6

10.1 Alternative Description

Alternative 6 is a heavy rail transit (HRT) system with an underground track configuration. This alternative would provide transfers to five high-frequency fixed guideway transit and commuter rail lines, including the Los Angeles County Metropolitan Transportation Authority's (Metro) E, Metro D, and Metro G Lines, East San Fernando Valley Light Rail Transit (ESFV LRT) Line, and the Metrolink Ventura County Line. The length of the alignment between the terminus stations would be approximately 12.9 miles.

The seven underground HRT stations would be as follows:

1. Metro E Line Expo/Bundy Station (underground)
2. Santa Monica Boulevard Station (underground)
3. Wilshire Boulevard/Metro D Line Station (underground)
4. UCLA Gateway Plaza Station (underground)
5. Ventura Boulevard/Van Nuys Boulevard Station (underground)
6. Metro G Line Van Nuys Station (underground)
7. Van Nuys Metrolink Station (underground)

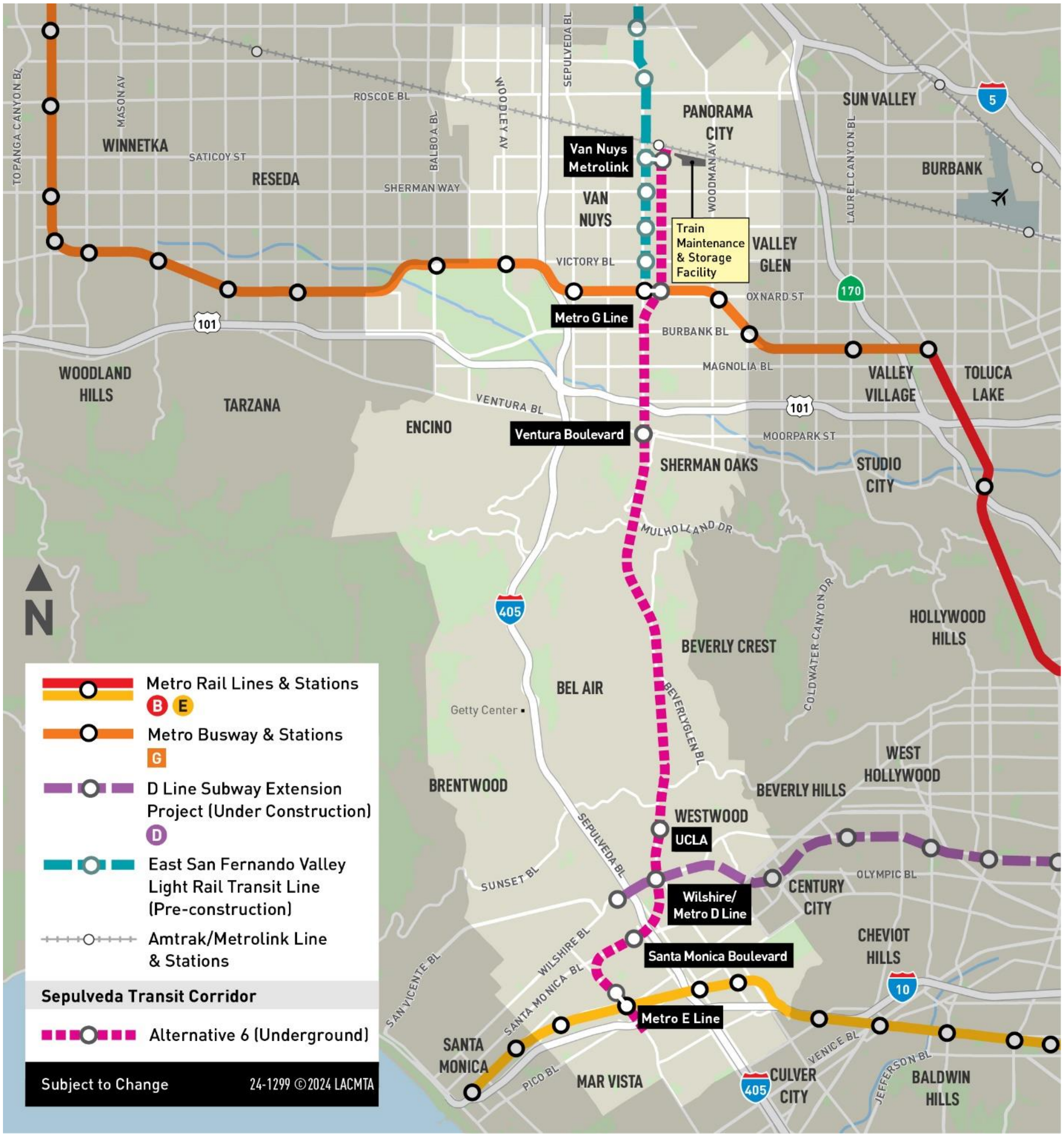
10.1.1 Operating Characteristics

10.1.1.1 Alignment

As shown on Figure 10-1, from its southern terminus station at the Metro E Line Expo/Bundy Station, the alignment of Alternative 6 would run underground through the Westside of Los Angeles (Westside), the Santa Monica Mountains, and the San Fernando Valley to the alignment's northern terminus adjacent to the Van Nuys Metrolink/Amtrak Station.

The proposed southern terminus station would be located beneath the Bundy Drive and Olympic Boulevard intersection. Tail tracks for vehicle storage would extend underground south of the station along Bundy Drive for approximately 1,500 feet, terminating just north of Pearl Street. The alignment would continue north beneath Bundy Drive before turning to the east near Iowa Avenue to run beneath Santa Monica Boulevard. The Santa Monica Boulevard Station would be located between Barrington Avenue and Federal Avenue. After leaving the Santa Monica Boulevard Station, the alignment would turn to the northeast and pass under Interstate 405 (I-405) before reaching the Wilshire Boulevard/Metro D Line Station beneath the Metro D Line Westwood/UCLA Station, which is currently under construction as part of the Metro D Line Extension Project. From there, the underground alignment would curve slightly to the northeast and continue beneath Westwood Boulevard before reaching the UCLA Gateway Plaza Station.

Figure 10-1. Alternative 6: Alignment



Source: HTA, 2024

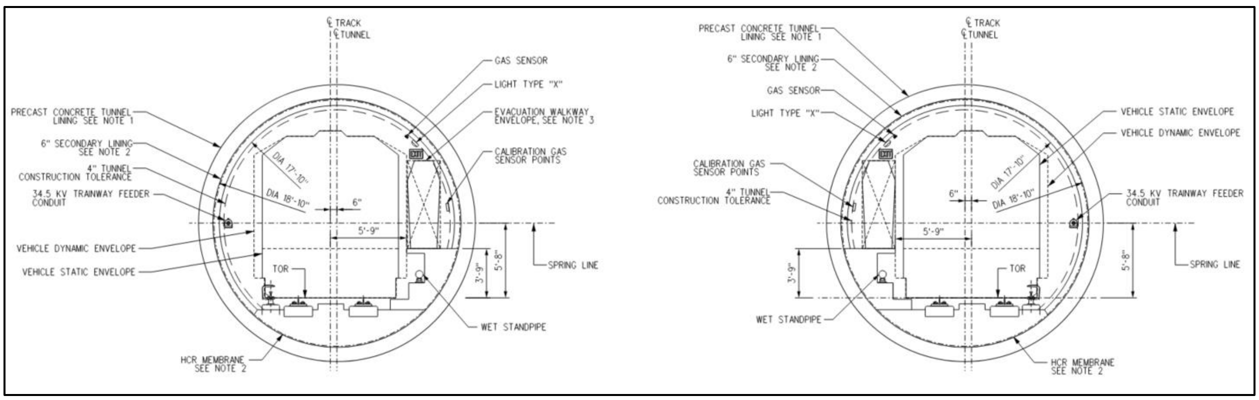
After leaving the UCLA Gateway Plaza Station, the alignment would continue to the north and travel under the Santa Monica Mountains. While still under the mountains, the alignment would shift slightly to the west to travel under the City of Los Angeles Department of Water and Power (LADWP) Stone Canyon Reservoir property to facilitate placement of a ventilation shaft on that property east of the reservoir. The alignment would then continue to the northeast to align with Van Nuys Boulevard at Ventura Boulevard as it enters the San Fernando Valley. The Ventura Boulevard Station would be beneath Van Nuys Boulevard at Moorpark Street. The alignment would then continue under Van Nuys

Boulevard before reaching the Metro G Line Van Nuys Station just south of Oxnard Street. North of the Metro G Line Van Nuys Station, the alignment would continue under Van Nuys Boulevard until reaching Sherman Way, where it would shift slightly to the east and run parallel to Van Nuys Boulevard before entering the Van Nuys Metrolink Station. The Van Nuys Metrolink Station would serve as the northern terminus station and would be located between Saticoy Street and Keswick Street. North of the station, a yard lead would turn sharply to the southeast and transition to an at-grade configuration and continue to the proposed maintenance and storage facility (MSF) east of the Van Nuys Metrolink Station.

10.1.1.2 Guideway Characteristics

The alignment of Alternative 6 would be underground using Metro's standard twin-bore tunnel design. Figure 10-2 shows a typical cross-section of the underground guideway. Cross-passages would be constructed at regular intervals in accordance with Metro Rail Design Criteria (MRDC). Each of the tunnels would have a diameter of 19 feet (not including the thickness of wall). Each tunnel would include an emergency walkway that measures a minimum of 2.5 feet wide for evacuation.

Figure 10-2. Typical Underground Guideway Cross-Section



Source: HTA, 2024

10.1.1.3 Vehicle Technology

Alternative 6 would utilize driver-operated steel-wheel HRT trains, as used on the Metro B and D Lines, with planned peak headways of 4 minutes and off-peak-period headways ranging from 8 to 20 minutes. Trains would consist of four or six cars and are expected to consist of six cars during the peak period. The HRT vehicle would have a maximum operating speed of 67 miles per hour; actual operating speeds would depend on the design of the guideway and distance between stations. Train cars would be 10.3 feet wide with three double doors on each side. Each car would be approximately 75 feet long with capacity for 133 passengers. Trains would be powered by a third rail.

10.1.1.4 Stations

Alternative 6 would include seven underground stations with station platforms measuring 450 feet long. The southern terminus underground station would be adjacent to the existing Metro E Line Expo/Bundy Station, and the northern terminus underground station would be located south of the existing Van Nuys Metrolink/Amtrak Station. Except for the Wilshire Boulevard/Metro D Line, UCLA Gateway Plaza, and Metro G Line Van Nuys Stations, all stations would have a 30-foot-wide center platform. The Wilshire/Metro D Line Station would have a 32-foot-wide platform to accommodate the anticipated passenger transfer volumes, and the UCLA Gateway Plaza Station would have a 28-foot-wide platform because of the width constraint between the existing buildings. At the Metro G Line Van Nuys Station, the track separation would increase significantly in order to straddle the future ESFV LRT Line station piles. The platform width at this station would increase to 58 feet.

The following information describes each station, with relevant entrance, walkway, and transfer information. Bicycle parking would be provided at each station.

Metro E Line Expo/Bundy Station

- This underground station would be located under Bundy Drive at Olympic Boulevard.
- Station entrances would be located on either side of Bundy Drive between the Metro E Line and Olympic Boulevard, as well as on the northeast corner of Bundy Drive and Mississippi Avenue.
- At the existing Metro E Line Expo/Bundy Station, escalators from the plaza to the platform level would be added to improve inter-station transfers.
- An 80-space parking lot would be constructed east of Bundy Drive and north of Mississippi Avenue. Passengers would also be able to park at the existing Metro E Line Expo/Bundy Station parking facility, which provides 217 parking spaces.

Santa Monica Boulevard Station

- This underground station would be located under Santa Monica Boulevard between Barrington Avenue and Federal Avenue.
- Station entrances would be located on the southwest corner of Santa Monica Boulevard and Barrington Avenue and on the southeast corner of Santa Monica Boulevard and Federal Avenue.
- No dedicated station parking would be provided at this station.

Wilshire Boulevard/Metro D Line Station

- This underground station would be located under Gayley Avenue between Wilshire Boulevard and Lindbrook Drive.
- A station entrance would be provided on the northwest corner of Midvale Avenue and Ashton Avenue. Passengers would also be able to use the Metro D Line Westwood/UCLA Station entrances to access the station platform.
- Direct internal station transfers to the Metro D Line would be provided at the south end of the station.
- No dedicated station parking would be provided at this station.

UCLA Gateway Plaza Station

- This underground station would be located underneath Gateway Plaza on the University of California, Los Angeles (UCLA) campus.
- Station entrances would be provided on the north side of Gateway Plaza, north of the Luskin Conference Center, and on the east side of Westwood Boulevard across from Strathmore Place.
- No dedicated station parking would be provided at this station.

Ventura Boulevard/Van Nuys Boulevard Station

- This underground station would be located under Van Nuys Boulevard at Moorpark Street.
- The station entrance would be located on the northwest corner of Van Nuys Boulevard and Ventura Boulevard.
- Two parking lots with a total of 185 parking spaces would be provided on the west side of Van Nuys Boulevard between Ventura Boulevard and Moorpark Street.

Metro G Line Van Nuys Station

- This underground station would be located under Van Nuys Boulevard south of Oxnard Street.
- The station entrance would be located on the southeast corner of Van Nuys Boulevard and Oxnard Street.
- Passengers would be able to park at the existing Metro G Line Van Nuys Station parking facility, which provides 307 parking spaces. No additional automobile parking would be provided at the proposed station.

Van Nuys Metrolink Station

- This underground station would be located immediately east of Van Nuys Boulevard between Saticoy Street and Keswick Street.
- Station entrances would be located on the northeast corner of Van Nuys Boulevard and Saticoy Street and on the east side of Van Nuys Boulevard just south of the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor.
- Existing Metrolink Station parking would be reconfigured, maintaining approximately the same number of spaces. Metrolink parking would not be available to Metro transit riders.

10.1.1.5 Station-to-Station Travel Times

Table 10-1 presents the station-to-station distance and travel times for Alternative 6. The travel times include both run time and dwell time. Dwell time is 30 seconds for stations anticipated to have higher passenger volumes and 20 seconds for other stations. Northbound and southbound travel times vary slightly because of grade differentials and operational considerations at end-of-line stations.

Table 10-1. Alternative 6: Station-to-Station Travel Times and Station Dwell Times

From Station	To Station	Distance (miles)	Northbound Station-to-Station Travel Time (seconds)	Southbound Station-to-Station Travel Time (seconds)	Dwell Time (seconds)
Metro E Line Station					*20*
Metro E Line	Santa Monica Boulevard	1.1	111	121	—
Santa Monica Boulevard Station					*20*
Santa Monica Boulevard	Wilshire/Metro D Line	1.3	103	108	—
Wilshire/Metro D Line Station					*30*
Wilshire/Metro D Line	UCLA Gateway Plaza	0.7	69	71	—
UCLA Gateway Plaza Station					*30*
UCLA Gateway Plaza	Ventura Boulevard	5.9	358	358	—
Ventura Boulevard Station					*20*
Ventura Boulevard	Metro G Line	1.8	135	131	—
Metro G Line Station					*30*
Metro G Line	Van Nuys Metrolink	2.1	211	164	—
Van Nuys Metrolink Station					*30*

Source: HTA, 2024

10.1.1.6 Special Trackwork

Alternative 6 would include seven double crossovers within the revenue service alignment, enabling trains to cross over to the parallel track with terminal stations having an additional double crossover beyond the end of the platform.

10.1.1.7 Maintenance and Storage Facility

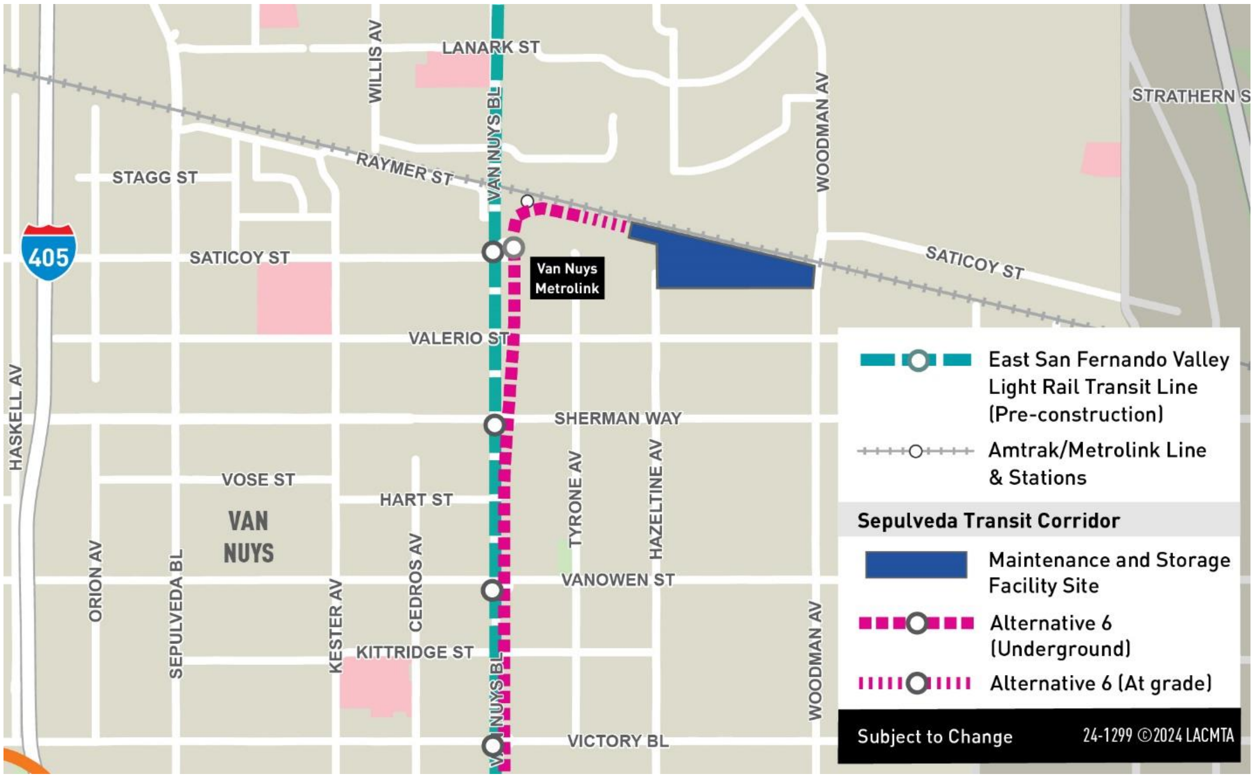
The MSF for Alternative 6 would be located east of the Van Nuys Metrolink Station and would encompass approximately 41 acres. The MSF would be designed to accommodate 94 vehicles and would be bounded by single-family residences to the south, the LOSSAN rail corridor to the north, Woodman Avenue to the east, and Hazeltine Avenue and industrial manufacturing enterprises to the west. Heavy rail trains would transition from underground to an at-grade configuration near the MSF, the northwest corner of the site. Trains would then travel southeast to maintenance facilities and storage tracks.

The site would include the following facilities:

- Two entrance gates with guard shacks
- Maintenance facility building
- Maintenance-of-way facility
- Storage tracks
- Carwash
- Cleaning platform
- Administrative offices
- Pedestrian bridge connecting the administrative offices to employee parking
- Two traction power substations (TPSS)

Figure 10-3 shows the location of the MSF for Alternative 6.

Figure 10-3. Alternative 6: Maintenance and Storage Facility Site



Source: HTA, 2024

10.1.1.8 Traction Power Substations

A TPSS transforms and converts high voltage alternating current supplied from power utility feeders into direct current suitable for transit operation. Twenty-two TPSS facilities would be located along the alignment and would be spaced approximately 1 mile apart except within the Santa Monica Mountains. Each at-grade TPSS along the alignment would be approximately 5,000 square feet. Table 10-2 lists the TPSS locations for Alternative 6.

Figure 10-4 shows the TPSS locations along the Alternative 6 alignment.

Table 10-2. Alternative 6: Traction Power Substation Locations

TPSS No.	TPSS Location Description	Configuration
1 and 2	TPSSs 1 and 2 would be located immediately north of the Bundy Drive and Mississippi Avenue intersection.	Underground (within station)
3 and 4	TPSSs 3 and 4 would be located east of the Santa Monica Boulevard and Stoner Avenue intersection.	Underground (within station)
5 and 6	TPSSs 5 and 6 would be located southeast of the Kinross Avenue and Gayley Avenue intersection.	Underground (within station)
7 and 8	TPSSs 7 and 8 would be located at the north end of the UCLA Gateway Plaza Station.	Underground (within station)
9 and 10	TPSSs 9 and 10 would be located east of Stone Canyon Reservoir on LADWP property.	At-grade
11 and 12	TPSSs 11 and 12 would be located at the Van Nuys Boulevard and Ventura Boulevard intersection.	Underground (within station)
13 and 14	TPSSs 13 and 14 would be located immediately south of Magnolia Boulevard and west of Van Nuys Boulevard.	At-grade
15 and 16	TPSSs 15 and 16 would be located along Van Nuys Boulevard between Emelita Street and Califa Street.	Underground (within station)
17 and 18	TPSSs 17 and 18 would be located east of Van Nuys Boulevard and immediately north of Vanowen Street.	At-grade
19 and 20	TPSSs 19 and 20 would be located east of Van Nuys Boulevard between Saticoy Street and Keswick Street.	Underground (within station)
21 and 22	TPSSs 21 and 22 would be located south of the Metrolink tracks and east of Hazeltine Avenue.	At-grade (within MSF)

Source: HTA, 2024

Figure 10-4. Alternative 6: Traction Power Substation Locations

Source: HTA, 2024

10.1.1.9 Roadway Configuration Changes

In addition to the access road described in the following section, Alternative 6 would require reconstruction of roadways and sidewalks near stations.

10.1.1.10 Ventilation Facilities

Tunnel ventilation for Alternative 6 would be similar to existing Metro ventilation systems for light and heavy rail underground subways. In case of emergency, smoke would be directed away from trains and extracted through the use of emergency ventilation fans installed at underground stations and crossover locations adjacent to the stations. In addition, a mid-mountain facility located on LADWP property east of Stone Canyon Reservoir in the Santa Monica Mountains would include a ventilation shaft for the extraction of air, along with two TPSSs. An access road from the Stone Canyon Reservoir access road would be constructed to the location of the shaft, requiring grading of the hillside along its route.

10.1.1.11 Fire/Life Safety – Emergency Egress

Each tunnel would include an emergency walkway that measures a minimum of 2.5 feet wide for evacuation. Cross-passages would be provided at regular intervals to connect the two tunnels to allow for safe egress to a point of safety (typically at a station) during an emergency. Access to tunnel segments for first responders would be through stations.

10.1.2 Construction Activities

Temporary construction activities for Alternative 6 would include construction of ancillary facilities, as well as guideway and station construction and construction staging and laydown areas, which would be co-located with future MSF and station locations. Construction of the transit facilities through substantial completion is expected to have a duration of 7½ years. Early works, such as site preparation, demolition, and utility relocation, could start in advance of construction of the transit facilities.

For the guideway, twin-bore tunnels would be constructed using two tunnel boring machines (TBM). The tunnel alignment would be constructed over three segments—including the Westside, Santa Monica Mountains, and Valley—using a different pair of TBMs for each segment. For the Westside segment, the TBMs would be launched from the Metro E Line Station and retrieved at the UCLA Gateway Plaza Station. For the Santa Monica Mountains segment, the TBMs would operate from the Ventura Boulevard Station in a southerly direction for retrieval from UCLA Gateway Plaza Station. In the San Fernando Valley , TBMs would be launched from the Van Nuys Metrolink Station and retrieved at the Ventura Boulevard Station.

The distance from the surface to the top of the tunnels would vary from approximately 50 feet to 130 feet in the Westside, between 120 feet and 730 feet in the Santa Monica Mountains, and between 40 feet and 75 feet in the San Fernando Valley.

Construction work zones would also be co-located with future MSF and station locations. All work zones would comprise the permanent facility footprint with additional temporary construction easements from adjoining properties. In addition to permanent facility locations, TBM launch at the Metro E Line Station would require the closure of Interstate 10 (I-10) westbound off-ramps at Bundy Drive for the duration of the Sepulveda Transit Corridor Project (Project) construction.

Alternative 6 would include seven underground stations. All stations would be constructed using a “cut-and-cover” method whereby the station structure would be constructed within a trench excavated from the surface that is covered by a temporary deck and backfilled during the later stages of station construction. Traffic and pedestrian detours would be necessary during underground station excavation until decking is in place and the appropriate safety measures have been taken to resume cross traffic. In addition, portions of the Wilshire Boulevard/Metro D Line Station crossing underneath the Metro D Line Westwood/UCLA Station and underneath a mixed-use building at the north end of the station would be constructed using sequential excavation method as it would not be possible to excavate the station from the surface.

Construction of the MSF site would begin with demolition of existing structures, followed by earthwork and grading. Building foundations and structures would be constructed, followed by yard improvements and trackwork, including paving, parking lots, walkways, fencing, landscaping, lighting, and security systems. Finally, building mechanical, electrical, and plumbing systems, finishes, and equipment would be installed. The MSF site would also be used as a staging site.

Station and MSF sites would be used for construction staging areas. A construction staging area, shown on Figure 10-5, would also be located off Stone Canyon Road northeast of the Upper Stone Canyon Reservoir. In addition, temporary construction easements outside of the station and MSF footprints would be required along Bundy Drive, Santa Monica Boulevard, Wilshire Boulevard, and Van Nuys Boulevard. The westbound to southbound loop off-ramp of the I-10 interchange at Bundy Drive would also be used as a staging area and would require extended ramp closure. Construction staging areas would provide the necessary space for the following activities:

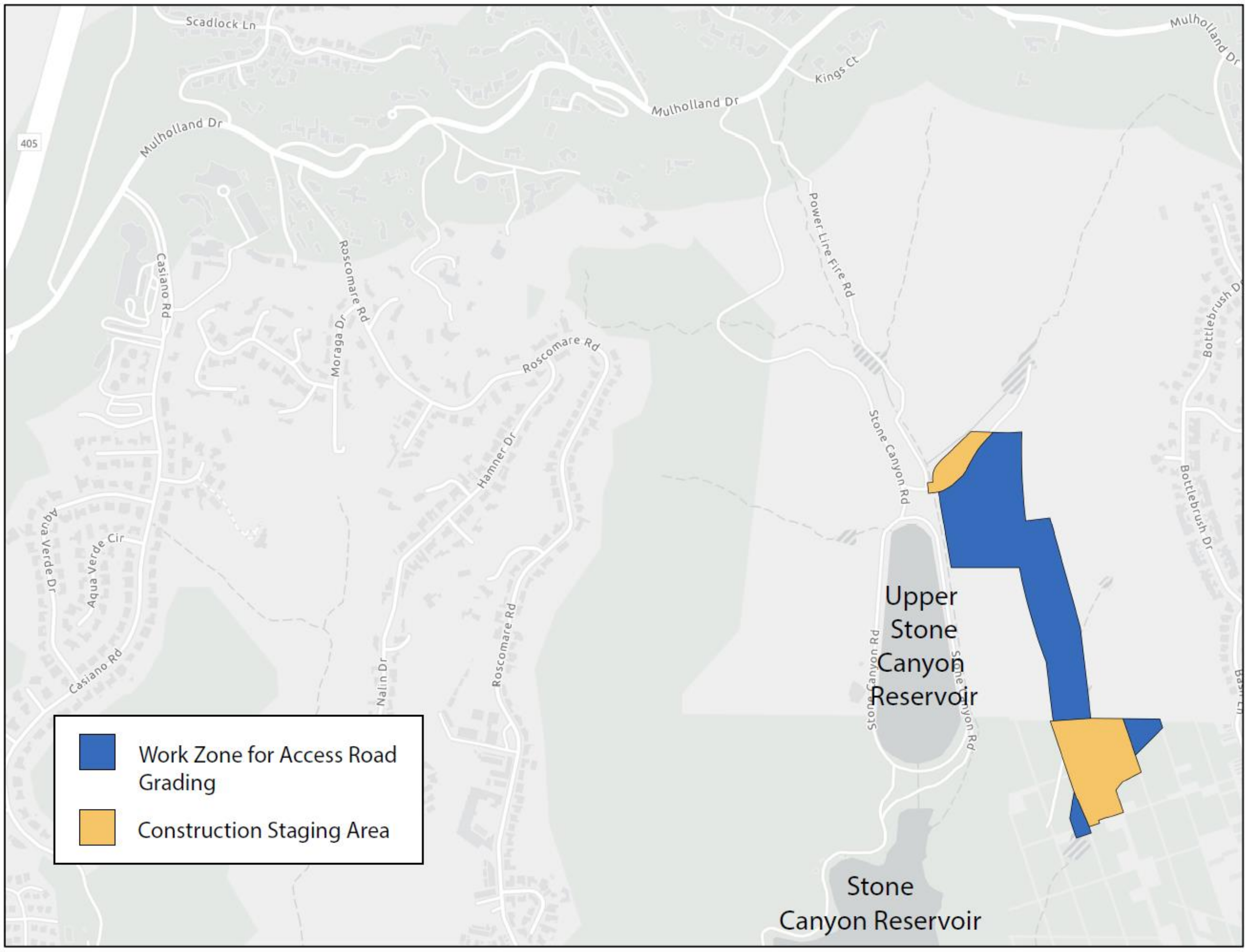
- Contractors' equipment
- Receiving deliveries
- Testing of soils for minerals or hazards
- Storing materials
- Site offices
- Work zone for excavation
- Other construction activities (including parking and change facilities for workers, location of construction office trailers, storage, staging and delivery of construction materials and permanent plant equipment, and maintenance of construction equipment)

The size of proposed construction staging areas for each station would depend on the level of work to be performed for a specific station and considerations for tunneling, such as TBM launch or extraction. Staging areas required for TBM launching would include areas for launch and access shafts, cranes, material and equipment, precast concrete segmental liner storage, truck wash areas, mechanical and electrical shops, temporary services, temporary power, ventilation, cooling tower, plants, temporary construction driveways, storage for spoils, and space for field offices.

Alternative 6 would also include several ancillary facilities and structures, including TPSS structures, a deep vent shaft structure at Stone Canyon Reservoir, as well as additional vent shafts at stations and crossovers. TPSSs would be co-located with MSF and station locations, except for two TPSSs at the Stone Canyon Reservoir vent shaft and four along Van Nuys Boulevard in the San Fernando Valley. The Stone Canyon Reservoir vent shaft would be constructed using a vertical shaft sinking machine that uses mechanized shaft sinking equipment to bore a vertical hole down into the ground. Operation of the machine would be controlled and monitored from the surface. The ventilation shaft and two TPSSs in the Santa Monica Mountains would require an access road within the LADWP property at Stone Canyon Reservoir. Construction of the access road would require grading east of the reservoir. Construction of all mid-mountain facilities would take place within the footprint shown on Figure 10-5.

Additional vent shafts would be located at each station with one potential intermediate vent shaft where stations are spaced apart. These vent shafts would be constructed using the typical cut-and-cover method, with lateral bracing as the excavation proceeds. During station construction, the shafts would likely be used for construction crew, material, and equipment access.

Figure 10-5. Alternative 6: Mid-Mountain Construction Staging Site



Source: HTA, 2024

Alternative 6 would utilize precast tunnel lining segments in the construction of the transit tunnels. These tunnel lining segments would be similar to those used in recent Metro underground transit projects. Therefore, it is expected that the tunnel lining segments would be obtained from an existing casting facility in Los Angeles County and no additional permits or approvals would be necessary specific to the facility.

10.2 Existing Conditions

10.2.1 Vehicle Miles Traveled

Table 10-3 shows the regional vehicle miles traveled (VMT) under existing conditions for the base year and under the No Project Alternative for the forecast horizon year. Ambient population and employment growth would occur in the region between the base year and horizon year.

Table 10-3. Existing and No Project Alternative Vehicle Miles Traveled

Project Alternative	Total Vehicle Miles Traveled
Existing Conditions (2019 Base Year)	456,869,300
No Project Alternative (2045 Horizon Year)	568,557,200

Source: HTA, 2024

Note: 2019 is used as the base year for the VMT analysis because it is the most recent year for which Metro's CBM18B Transportation Analysis Model has been calibrated.

10.2.2 Roadway Network

The roadway network within the Study Area includes a wide range of facilities including three freeways that provide regional access throughout Los Angeles County and Southern California, as well as multiple arterials, local roads, and intersections.

10.2.2.1 Freeways

The freeways within the Study Area include:

- **I-405 (San Diego Freeway):** I-405 is the major north-south freeway traversing the Study Area in its entirety. This freeway provides regional access between San Fernando and Irvine. Within the Study Area, I-405 provides five to seven lanes in each direction, including carpool lanes and auxiliary lanes. The direction of peak traffic demand varies over the course of the day, with the greatest travel occurring from the San Fernando Valley to the Westside during the morning commute period and the reverse pattern during the evening commute period. Ramps within the Study Area include National Boulevard, Olympic and Pico Boulevards, Santa Monica Boulevard, Wilshire Boulevard, Sunset Boulevard, Moraga Drive, Getty Center Drive (via Sepulveda Boulevard), Skirball Center Drive, Ventura Boulevard, Burbank Boulevard, Victory Boulevard, Sherman Way, and Roscoe Boulevard on- and off-ramps. I-405 connects with U.S. Highway 101 (US-101) and I-10 within the Study Area, which provide regional east-west connectivity. On an average weekday, I-405 carries 353,000 vehicles on the Westside, 301,000 in the Sepulveda Pass, and 209,000 in the San Fernando Valley (Caltrans, 2022b).
- **I-10 (Santa Monica Freeway):** I-10 is an east-west freeway that crosses the southern end of the Study Area for 3.5 miles. Within the Study Area, I-10 consists of four general-purpose lanes in each direction, with no high-occupancy vehicle (HOV) lanes. Ramps within the Study Area include the Cloverfield Boulevard, Centinela Avenue, Bundy Drive, and Overland Avenue on- and off-ramps. I-10 connects to State Route (SR) 1 in the City of Santa Monica, I-405 in West Los Angeles, and I-110/SR-110, US-101, and Interstate 5 (I-5) near downtown Los Angeles. On an average weekday, I-10 carries 215,000 vehicles through the Study Area (Caltrans, 2022b).
- **US-101 (Ventura Freeway):** US-101 is an east-west freeway within the Study Area that crosses the northern end of the Study Area for 5 miles. US-101 has five general-purpose lanes in each direction, with auxiliary lanes near the I-405 interchange and does not have any HOV lanes in either direction within the Study Area. Ramps within the Study Area include the Woodman Avenue, Van Nuys Boulevard, Sepulveda Boulevard, Haskell Avenue, Hayvenhurst Avenue, and Balboa Boulevard on- and off-ramps, and the White Oak Avenue off-ramp. US-101 connects with SR-134 and SR-170 in the San Fernando Valley and I-10, SR-110, and I-5 near downtown Los Angeles. On an average weekday, US-101 carries 323,000 vehicles through the Study Area (Caltrans, 2022b).

10.2.2.2 Major Arterial Network

Table 10-4 lists and Figure 10-6 shows major arterials in the Study Area and their classification in the *Mobility Plan 2035*. Classifications are based on roadway and ROW widths and include the following types in the Study Area:

- Boulevard II facilities have roadway widths of 80 feet and total ROW widths of 110 feet.
- Avenue I facilities have roadway widths of 70 feet and total ROW widths of 100 feet.
- Avenue II facilities have roadway widths of 56 feet and total ROW widths of 86 feet.
- Collector streets have roadway widths of 40 feet and total ROW widths of 66 feet.
- Local streets have roadway widths between 30 and 36 feet and total ROW widths between 50 and 60 feet.

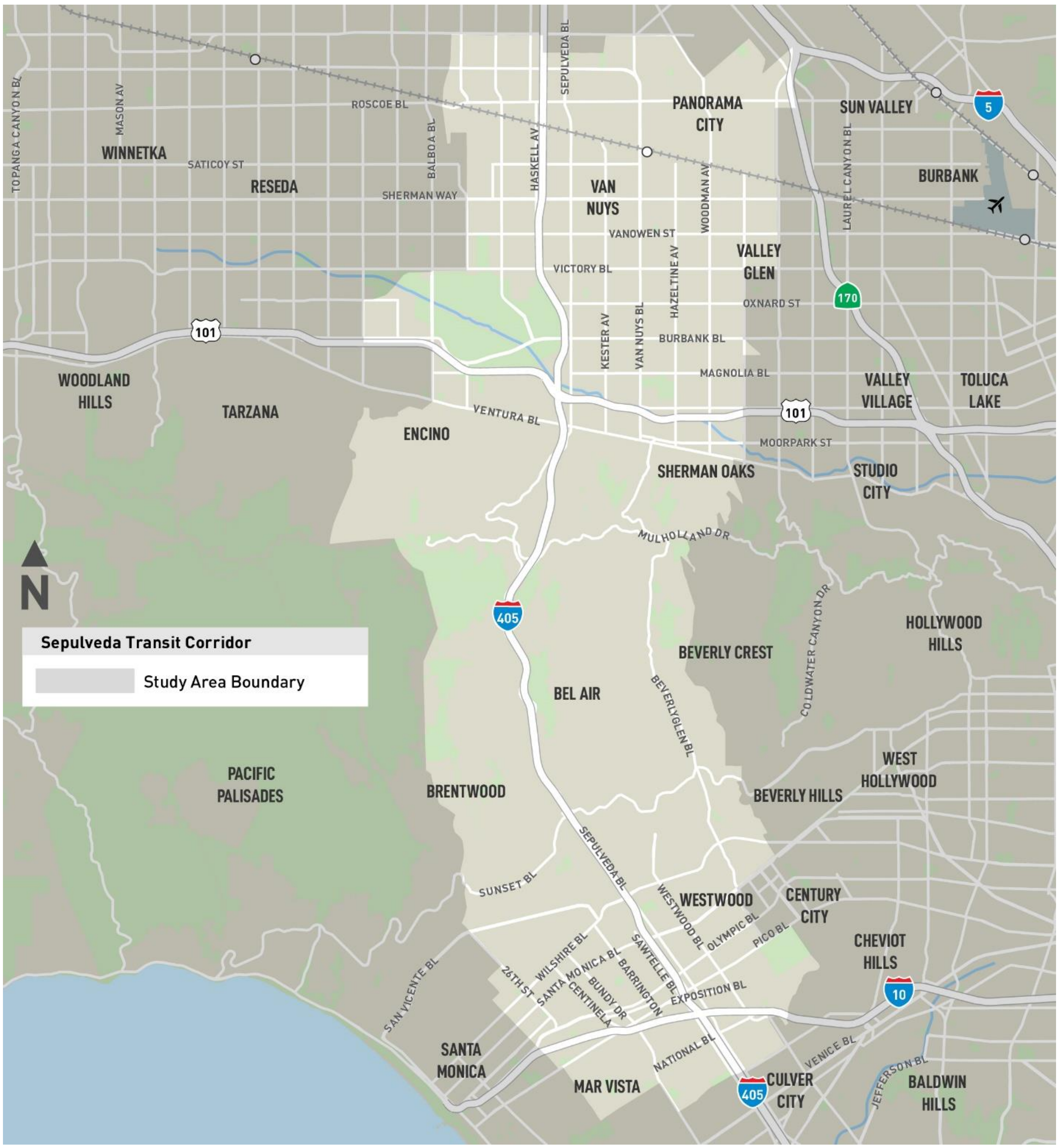
Table 10-4. Existing Major Arterials within the Study Area

Name	Mobility Plan 2035 Classification
Major North-South Arterials (listed from west to east)	
Centinela Avenue	Avenue I
Bundy Drive	Avenue I
Barrington Avenue	Avenue I (south of Pico Boulevard) Avenue II (north of Pico Boulevard)
Haskell Avenue	Avenue II
Sawtelle Boulevard	Avenue I
Sepulveda Boulevard	Boulevard II
Kester Avenue	Avenue II
Van Nuys Boulevard	Boulevard II
Westwood Boulevard	Avenue II (south of Wilshire Boulevard) Boulevard II (north of Wilshire Boulevard) Avenue I (between Le Conte Avenue and Wilshire Boulevard)
Beverly Glen Boulevard	Avenue I (south of Wilshire Boulevard) Avenue II (between Sunset Boulevard and Wilshire Boulevard, and between Ventura Boulevard and Mulholland Drive)
Hazeltine Avenue	Avenue II
Woodman Avenue	Avenue I
Major East-West Arterials (listed from south to north)	
National Boulevard	Avenue I
Exposition Boulevard	Collector Street (east of Sepulveda Boulevard) Local/Other Street (west of I-405)
Pico Boulevard	Avenue I
Olympic Boulevard	Boulevard II
Santa Monica Boulevard	Boulevard II
Wilshire Boulevard	Boulevard II
San Vincente Boulevard	Avenue II
Sunset Boulevard	Avenue I
Mulholland Drive	Local/Other Street
Ventura Boulevard	Boulevard II
Magnolia Boulevard	Avenue II
Burbank Boulevard	Boulevard II
Oxnard Street	Avenue II
Victory Boulevard	Boulevard II

Name	Mobility Plan 2035 Classification
Vanowen Street	Avenue II
Sherman Way	Boulevard II
Saticoy Street	Avenue II
Roscoe Boulevard	Boulevard II

Source: DCP, 2016; HTA, 2024

Figure 10-6. Existing Freeway and Arterial Network within the Study Area



Source: HTA, 2024

10.2.3 Transit Network

Several local and regional transit agencies — including Metro, Los Angeles Department of Transportation (LADOT), Amtrak, Metrolink commuter rail, Santa Monica Big Blue Bus (BBB), Culver CityBus (CCB), Santa Clarita Transit (SCT), Antelope Valley Transit Authority (AVTA), Long Beach Transit (LBT), and BruinBus — serve the Study Area. Transit service types within the Study Area include rapid bus, express/commuter bus, commuter rail, light rail transit (LRT), bus rapid transit (BRT), shuttles and circulators, and local bus lines. In addition, nine Metro bus routes operate 24 hours and offer half-hour or hour headways during owl service hours (12:00am to 4:00am).

Table 10-5 summarizes the fixed-route transit lines that serve the Study Area (as of October 2022).

Table 10-5. Existing Fixed-Route Transit Service within the Study Area

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Rail				
Metro	E	3:43am-12:46am	10	12
Metrolink	Ventura County	5:02am-8:15pm	30 (in peak direction)	4 off-peak trains
Amtrak	Pacific Surfliner	7:47am-9:09pm	Five daily trains in each direction	
Amtrak	Coast Starlight	NA	One daily train in each direction	
Bus Rapid Transit				
Metro	901 (G Line)	24 hours (hourly owl service)	6	10
Rapid Bus				
BBB	Rapid 7	6:05am-8:09pm	20	20
BBB	Rapid 12	5:30am-10:00pm	10-12	12
CCB	6R	6:28am-7:56pm	15	15
Metro	720	5:00am-1:00am	8	11
Metro	761	3:57am-11:13pm	15	15
Local Bus				
BBB	1	5:20am-10:20pm	10-12	10-12
BBB	2	6:50am-10:42pm	20	20
BBB	5	7:20am-7:00pm	30	30
BBB	Local 7	4:50am-11:58pm	15	15
BBB	Express 7	6:05am-8:09pm	20	20
BBB	8	6:30am-10:34pm	25-27	25-27
BBB	14	5:15am-8:20pm	12-15	12-15
BBB	15	6:45am-7:00pm	20	20
BBB	16	6:20am-7:04pm	25	30
BBB	17	5:45am-8:00pm	15	20
BBB	18	6:45am-8:30pm	30	30
BBB	43	6:25am-5:50pm	30	NA
CCB	3	6:00am-9:45pm	20-30	30-40
CCB	6	5:00am-12:07am	15-20	15-20
Metro	2	24 hours (hourly owl service)	7.5	10
Metro	4	24 hours (half-hourly owl service)	7.5	7.5
Metro	20	24 hours (half-hourly owl service)	10-15	12
Metro	150	24 hours (hourly owl service)	20	20
Metro	152	3:41am-1:46am	15	15
Metro	154	5:11am-8:25pm	60	60

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
Metro	155	4:18am-9:29pm	60	60
Metro	158	5:20am-9:02pm	60	60
Metro	162	24 hours (hourly owl service)	15	15
Metro	164	4:41am-10:54pm	15	15
Metro	165	4:29am-11:35pm	15	15
Metro	166	4:36am-10:34pm	15	15
Metro	167	4:36am-10:44pm	50-60	50
Metro	169	4:53am-7:46pm	60	60
Metro	233	24 hours (hourly owl service)	10	10
Metro	234	24 hours (hourly owl service)	10	10
Metro	236	4:55am-10:25pm	60	60
Metro	237	5:09am-10:17pm	60	60
Metro	240	24 hours (half-hourly owl service)	10	10
Metro	602	5:31am-1:23am	45	45
Express/Commuter Bus				
AVTA	786	4:00am – 5:20am, 2:50pm – 4:05pm	4 one-way trips	NA
BBB	R10	6:00am – 8:04am, 3:35pm – 6:05pm	3 one-way trips	NA
LADOT	422	4:55am – 8:00am, 1:55pm – 6:00pm	12 one-way trips	NA
LADOT	423	5:00am – 6:45am, 3:30pm – 6:35pm	9 one-way trips (AM), 10 one-way trips (PM)	NA
LADOT	431	6:15am – 7:35am, 4:25pm – 5:55pm	4 one-way trips	NA
LADOT	534	6:50am – 8:10am, 3:43pm – 5:13pm	4 one-way trips	NA
LADOT	549	5:55am – 7:45am, 3:45pm – 6:05pm	5 one-way trips in both directions (AM), 5 one-way trips in both directions (PM)	NA
LADOT	573	5:30am – 9:30am, 2:10pm – 6:45pm	15 southbound and 1 northbound trip (AM), 14 northbound and 1 southbound trip (PM)	NA
LADOT	574	5:20am – 7:10am, 3:35pm – 6:00pm	5 one-way trips	NA
LBT	405	5:17am – 6:50am, 3:30pm – 5:30pm	3 one-way trips	NA
SCT	792	6:50am – 7:47am, 2:59pm – 5:25pm	3 one-way trips	NA
SCT	797	5:00am – 6:46am, 3:45pm – 7:45pm	5 one-way trips	NA
Shuttles and Circulators				
LADOT	PC/VN DASH	6:00am-8:00pm	15	20
LADOT	VN/SC DASH	6:00am-7:30pm	15	20
BruinBus	U1	7:25am-5:55pm	15	15
BruinBus	U2	7:00am-6:15pm	15-30	15-30

Operator	Route	Span of Service	Weekday Headways (in minutes)	
			Peak	Off-Peak
BruinBus	U3	10:00am-5:00pm	30	30
BruinBus	U5	6:45am-10:10pm	25	25

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

10.2.3.1 Metrolink/Amtrak

Metrolink operates commuter rail service in Southern California with seven routes serving an average of 12,900 weekday riders (Metrolink, 2022). Metrolink directly serves the Study Area at the Van Nuys Metrolink/Amtrak Station on the Ventura County Line. With 20 weekday trains serving an average of 1,100 daily riders, the Ventura County Line provides rail service from Ventura to Los Angeles Union Station (Metrolink, 2022).

The Van Nuys Metrolink/Amtrak Station is also served by Amtrak's Coast Starlight and Pacific Surfliner routes which have daily trains that provide service up and down the West Coast.

10.2.3.2 Metro Rail

As of October 2022, Metro operates seven rail transit lines in Los Angeles County serving an average of 183,000 weekday riders (Metro, 2022b). The Metro E Line serves the Study Area with four stations: Westwood/Rancho, Expo/Sepulveda, Expo/Bundy, and 26th St/Bergamot. The Metro E Line provides LRT service between downtown Los Angeles[6] and the City of Santa Monica and serves an average of 30,400 weekday riders (Metro, 2022b). Four other Metro lines (A, B, D, and K lines) provide direct transfers to the Metro E Line for access to the Study Area.

Generally, existing rail lines run at 10-minute headways during peak hours and 12-minute headways during off-peak hours.

Metro is currently planning and building several additional rail lines scheduled to be in operation by the 2045 horizon year. Within the Study Area, the Metro D Line Extension Project and ESFV LRT Line will provide new rail service. Planned stations along the Metro D Line within the Study Area include Westwood/UCLA and Westwood/VA Hospital. Planned stations along the ESFV LRT Line within the Study Area include Nordhoff, Roscoe, Van Nuys/Metrolink, Sherman Way, Vanowen, Victory, and Van Nuys/G Line. Figure 10-7 shows existing and planned fixed guideway service (including Metrolink/Amtrak) within the Study Area.

[6] After the opening of the Regional Connector in 2023, the Metro E Line provides service past downtown LA to East LA.

Figure 10-7. Existing and Planned Fixed Guideway Service within the Study Area

Source: HTA, 2024

10.2.3.3 Metro Bus

Metro operates several types of bus services throughout its service area, including BRT, rapid bus, and local bus lines. The Metro bus system serves an average of 687,000 weekday riders (Metro, 2022b). Table 10-6 summarizes the Metro bus routes serving the Study Area along with ridership data for the entire route.

Table 10-6. Existing Metro Bus Routes within the Study Area

Route	Description	Weekday Ridership (October 2022)
Bus Rapid Transit		
901 (G Line)	Chatsworth-Canoga Park-North Hollywood	14,392
Rapid Bus		
720	Santa Monica-Downtown Los Angeles via Wilshire Boulevard	20,846
761	Sylmar Station-E Line via Van Nuys Boulevard-Sepulveda Boulevard	6,695
Local Bus		
2	University of Southern California (USC)-Westwood via Sunset Boulevard	18,662
4	Downtown Los Angeles-Santa Monica via Santa Monica Boulevard	21,124
20	Downtown Los Angeles-Westwood/Santa Monica via Wilshire Boulevard	6,773
150	Chatsworth-Canoga Park-Tarzana via Topanga Canyon Boulevard –Ventura Boulevard	2,579
152	West Hills Medical Center-North Hollywood Station via Roscoe Boulevard	8,416
154	Sepulveda Boulevard-Burbank Station via Oxnard Street-Burbank Boulevard	549
155	Sherman Oaks-Burbank Station via Riverside Drive-Olive Street	1,061
158	Chatsworth Station-Sherman Oaks via Devonshire-Woodman	1,392
162	Woodland Hills-West Hills-North Hollywood via Sherman Way-Vineland	8,422
164	West Hills-Burbank via Victory Boulevard	4,895
165	West Hills-Burbank via Vanowen Street	7,766
166	Canoga Avenue-Sun Valley via Nordhoff Street-Osborne Street	5,272
167	Chatsworth Station-Studio City via Plummer-Coldwater Canyon	1,649
169	Warner Center-Burbank Airport via Valley Circle-Saticoy Street	2,153
233	Lake View Terrace-Sherman Oaks via Van Nuys Boulevard (+ Westside Owl Service)	11,823
234	Mission College-Sylmar Station-Sherman Oaks via Sepulveda Boulevard	7,804
236	Sylmar-Encino via Balboa Boulevard-Glenoaks Boulevard	1,826
237	Encino-Granada Hill-Mission Hills-North Hollywood via White Oak Avenue-Woodley Avenue-Chandler	1,565
240	Northridge-Universal City via Reseda Boulevard-Ventura Boulevard	9,881
602	Westwood-Pacific Palisades via Sunset Boulevard	1,099

Source: Metro, 2023b

10.2.3.4 Municipal and Local Operators

Apart from Metro, six transit providers operate bus service within the Study Area, including LADOT, BBB, CCB, SCT, AVTA, LBT, and BruinBus. Transit service types by these operators include rapid bus, express/commuter bus, shuttles and circulators, and local bus lines. Table 10-7 summarizes municipal operator bus routes serving the Study Area along with ridership data for the entire route. Figure 10-8 shows existing bus services — including Metro, municipal, and local operators — that provide service to the Study Area.

Table 10-7. Existing Municipal and Local Operator Bus Routes within the Study Area

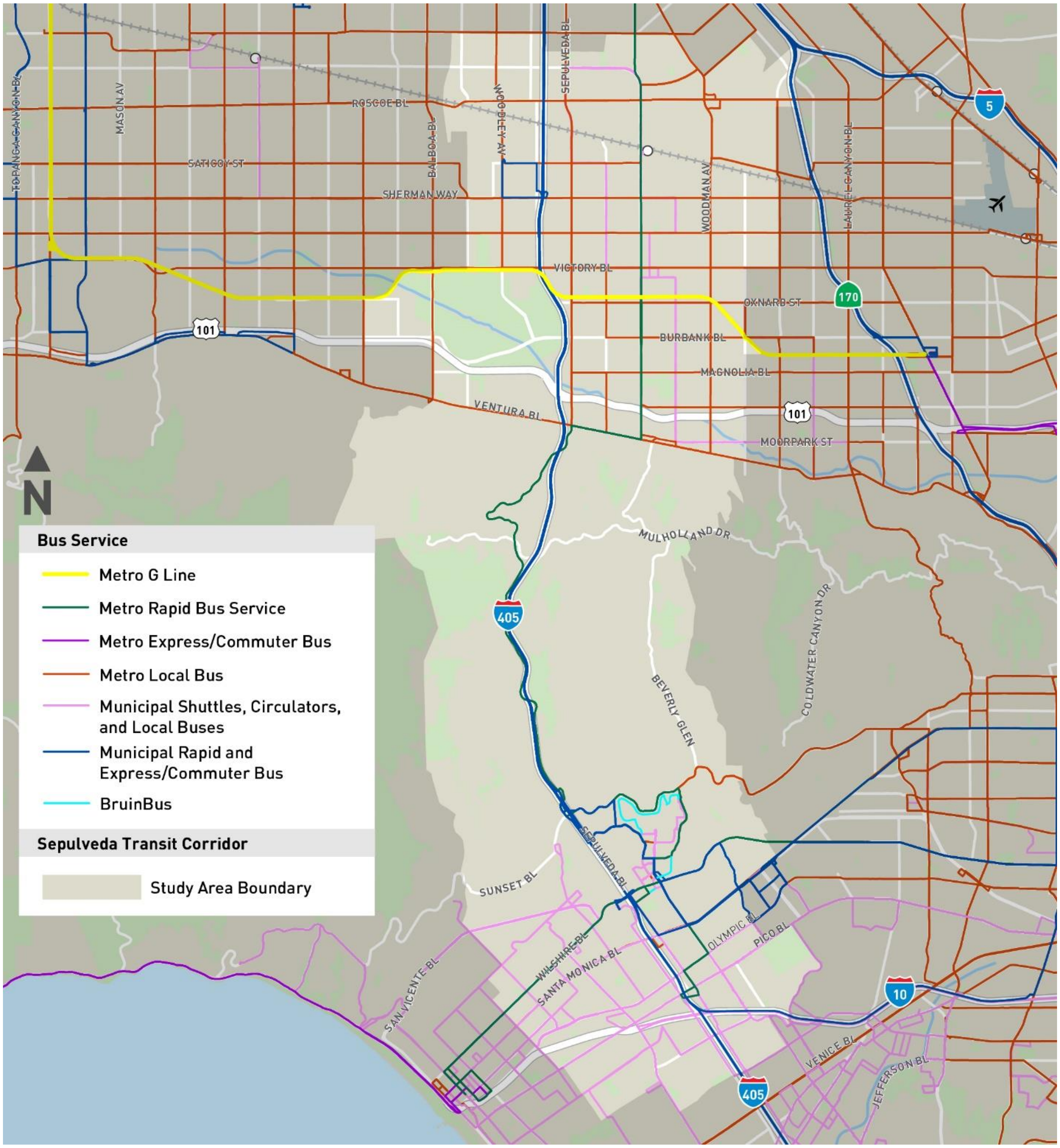
Operator	Route	Description	Weekday Ridership (October 2022)
Rapid Bus			
BBB	R7	Pico Boulevard Rapid	1,956
BBB	R12	UCLA/Westwood to Expo Rapid	2,267

Operator	Route	Description	Weekday Ridership (October 2022)
CCB	6R	Sepulveda Boulevard Rapid	976
Express/Commuter Bus			
AVTA	786	Century City/West Los Angeles	160
BBB	R10	Downtown Los Angeles Freeway Express	85
LADOT	422	Downtown/Hollywood/San Fernando Valley/Agoura Hills/Thousand Oaks	495
LADOT	423	Encino/Calabasas and/or Agoura Hills/Thousand Oaks	172
LADOT	431	Downtown Los Angeles-Westwood	45
LADOT	534	Downtown Los Angeles-West Los Angeles	105
LADOT	549	Burbank/Glendale Pasadena to Glendale/Burbank/Encino	196
LADOT	573	Encino/Mission Hills-Westwood/Century City	511
LADOT	574	Encino/Granada Hills-LAX/El Segundo	111
LBT	405	UCLA/Westwood Commuter Express	160
SCT	792/797	Century City, UCLA, and Westwood	175
Shuttles and Circulators			
LADOT	DASH Van Nuys/ Studio City	Van Nuys/Studio City	748
LADOT	DASH Panorama City/ Van Nuys	Panorama City/Van Nuys	1,627
BruinBus	U1	Weyburn Terrace-Wyton	1,246
BruinBus	U2	Wilshire Center-Wyton	818
BruinBus	U3	Weyburn Terrace-Gateway Plaza	214
BruinBus	U5	Evening/SafeRide Loop	127
Local Bus			
BBB	1	Main Street and Santa Monica Boulevard	4,202
BBB	2	Wilshire Boulevard	1,178
BBB	5	Olympic Boulevard	190
BBB	7	Pico Boulevard	4,333
BBB	8	Ocean Park Boulevard	1,282
BBB	14	Bundy Drive Centinela Avenue	1,715
BBB	15	Barrington Avenue	156
BBB	16	Wilshire Boulevard/Bundy Drive-Marina del Rey	405
BBB	17	UCLA-VA Medical Center-Palms	1,475
BBB	18	UCLA-Abbott Kinney-Marina del Rey	850
BBB	43	San Vicente Boulevard and 26th Street	220
CCB	3	Crosstown-Overland Avenue	913
CCB	6	Sepulveda Boulevard	4,386

Source: HTA, 2024

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
LBT = Long Beach Transit
SCT = Santa Clarita Transit

Figure 10-8. Existing Bus Service within the Study Area



Source: HTA, 2024

10.2.4 Active Transportation

10.2.4.1 Pedestrian Facilities

Pedestrian facilities within the Study Area — including sidewalks, walkways, crosswalks, trails, underpasses, and pedestrian bridges — are designed to enhance mobility and accessibility for pedestrians. Pedestrian facilities vary across the Study Area, depending on the density, mix of land uses

and roadway facilities. In the San Fernando Valley and on the Westside, sidewalks are well-connected and follow the grid pattern of roadway facilities. In the Bel Air and Brentwood neighborhoods adjacent to the Sepulveda Pass, sidewalks are sparse and disconnected given roadway slopes and topography. Figure 10-9 shows the distribution of sidewalks across the Study Area.

Figure 10-9. Existing Sidewalks within the Study Area

Source: HTA, 2024

10.2.4.2 Bicycle Facilities

Existing bicycle facilities in the Study Area consist of a network of approximately 123 miles of Class I, II, and III bicycle facilities, including 29.4 miles of Class I bicycle paths. Planned bicycle facilities in the Study Area includes 180 miles of additional bicycle facilities, including 21.1 miles of Class I paths (SCAG, 2024).

Figure 10-10 shows the existing and planned bicycle facilities, which are classified using the California Department of Transportation (Caltrans) *Highway Design Manual* (Caltrans, 2022a). These facility classifications include the following:

- Class I Bicycle Facilities are also known as bicycle paths, shared-use paths, or bicycle trails. They provide a travel facility for the exclusive use of bicycles and pedestrians that is completely separated (by a physical barrier or open space) from roadways with cross flow by vehicles minimized.
- Class II Bicycle Facilities are also known as bicycle lanes. These facilities provide a striped lane for one-way bike travel on a street or highway.
- Class III Bicycle Facilities are also known as bicycle routes. They provide for shared use with pedestrian or motor vehicle traffic typically demarcated by signage or surface markings such as Sharrows.
- Class IV Bicycle Facilities are protected bike lanes that are physically separated from the vehicle travel lane by more than the white stripe. Separation may be accomplished with flexible delineators or permanent barriers.

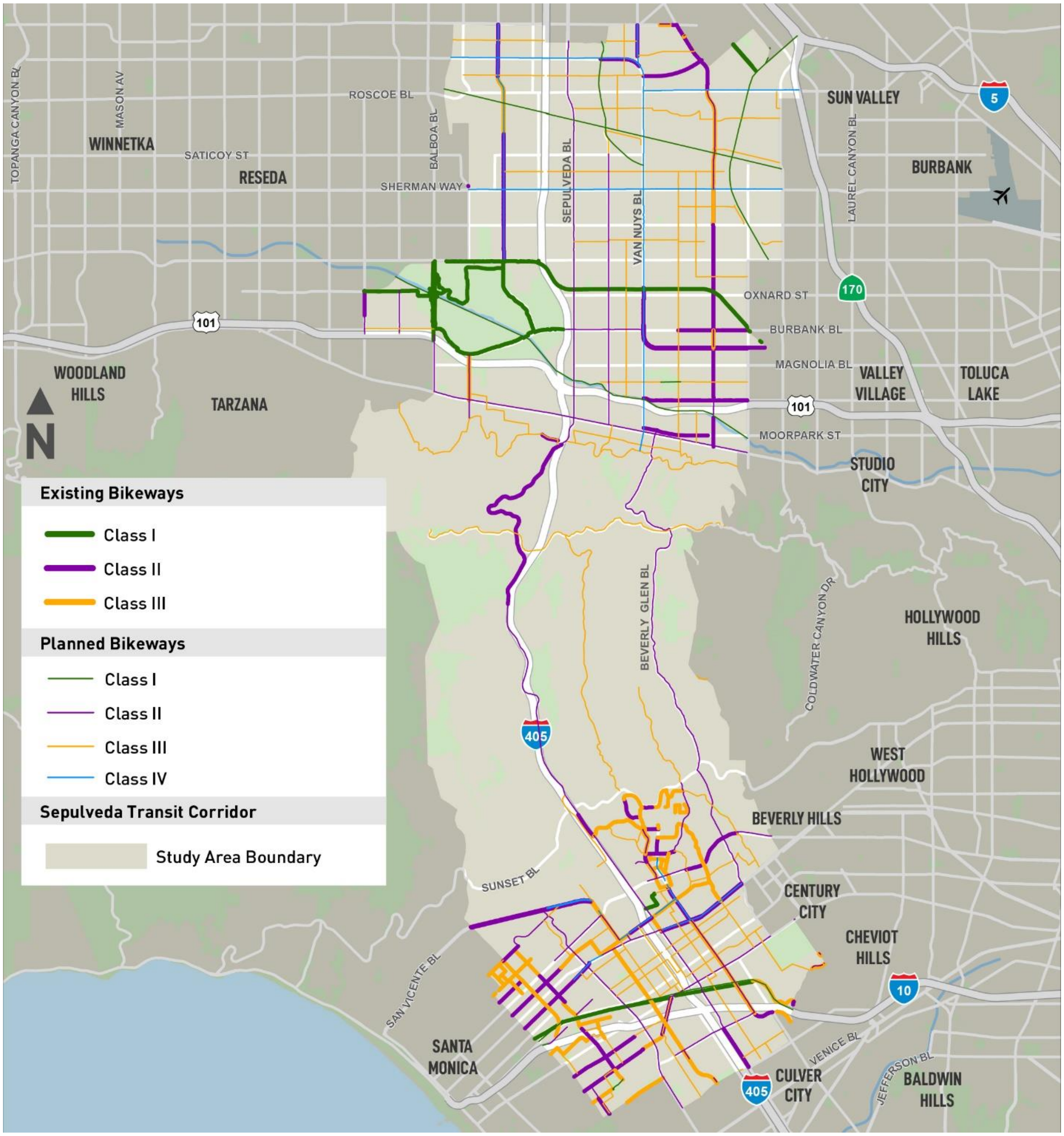
Table 10-8 lists the lengths of existing bicycle facilities in miles by classification within the Study Area. There are no existing Class IV bicycle facilities in the Study Area.

Table 10-8. Existing and Planned Bicycle Facility Miles within the Study Area

Class	Existing Facility Miles	Planned Facility Miles
I	29.4	21.1
II	53.2	51.3
III	40.7	80.6
IV	0	26.9
Total	**123.3**	**179.9**

Source: SCAG, 2022; HTA, 2024

Figure 10-10. Existing and Planned Bicycle Facilities within the Study Area



Source: SCAG, 2022; HTA, 2024

10.3 Transit Network Assumptions

The transit network for Alternative 6 assumes a baseline of 2045 NextGen service (Metro, 2020d). In addition, as described in Section 3.2, coordination with transit agencies for the purposes of ridership forecasting led to changes in local and regional transit for each alternative. The rail network, except for the Project, would be the same for Alternative 6 as for the No Project Alternative. Changes to the bus transit network for Alternative 6 meant to minimize duplicated service would include the following:

- AVTA 786: Truncate service at Van Nuys Metrolink Station
- LADOT 549: Realign to Sepulveda Blvd and Van Nuys Boulevard
- LADOT 573: Truncate service at Ventura Boulevard Station
- Metro 233: Operate in the San Fernando Valley only
- Metro 761: Eliminate
- SCT 792 and 797: Truncate service at Van Nuys Metrolink Station
- BruinBus U1, U2, and U5: Add eastbound stop at Charles E. Young Drive and Westwood Plaza

10.4 Impact Evaluation

10.4.1 Impact TRA-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?

This section evaluates the consistency of Alternative 6 with plans and policies. Attachment 2 of this technical report identifies all the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that each alternative was evaluated against for consistency. Relevant design guidelines from the regulatory framework, such as the Americans with Disability Act (ADA) or Los Angeles Bureau of Engineering (LABOE) Standard Plans (LABOE, n.d.(a)), are addressed under the evaluation of geometric hazards in Section 10.4.3.

10.4.1.1 Operational Impacts

Transit Policies

Attachment 2 identifies the relevant plans, goals, policies, and/or objectives that affect transportation and mobility within and around the Study Area that the alternative was evaluated against for consistency. Alternative 6 would support several regional and local plans and policies and would not conflict with adopted policies or plans related to transit facilities. Therefore, operation of Alternative 6 would not conflict with a program, plan, ordinance, or policy and would result in no impact.

Transit Ridership

Table 10-9 presents the projected number of regional trips for the No Project Alternative and Alternative 6. The total regional transit mode share would increase by 0.04 percent with Alternative 6. A total of 107,092 daily trips are forecast for Alternative 6, which would increase regional transit travel by 37,078 daily new transit trips in the horizon year 2045 compared to the No Project Alternative.

Table 10-9. Alternative 6: 2045 Regional Transit Performance Metrics

Performance Metric	No Project Alternative	Alternative 6	Change from No Project Alternative
Daily Project Trips	NA	107,092	NA
Daily New Transit Trips (Regional)	NA	37,078	NA
Daily Fixed Guideway Trips (Rail + BRT)	746,604	797,764	6.85%
Daily Bus Trips	969,689	955,607	-1.45%
Daily Transit Trips (All Transit Trips)	1,716,293	1,753,371	2.16%
Daily Trips (Total All Modes)	78,175,000	78,175,000	0%
Total Transit Mode Share (Daily Transit Trips/Daily Trips)	2.20%	2.24%	0.04%

Source: HTA, 2024

NA = not applicable

Table 10-10 summarizes ridership and mode of access by station for Alternative 6. Mode of access data illustrates how passengers would access project stations, whether via bus, rail, walking/biking, driving and parking, or being dropped off (kiss & ride). As listed in Table 10-10, Alternative 6 is forecast to have 107,092 total weekday boardings. For Alternative 6, rail would comprise the highest mode share for station access followed by bus transit, walking/biking, kiss & ride, and park & ride.

Table 10-10. Alternative 6: Average Weekday Station Boardings by Mode

Station	Walk/Bike	Bus	Park & Ride	Kiss & Ride	Rail	Total Station Boardings
Metro E Line Expo/Bundy	2,553 (16%)	929 (6%)	99 (1%)	94 (1%)	11,844 (76%)	15,518
Santa Monica Boulevard	4,373 (78%)	1,183 (21%)	0 (0%)	69 (1%)	0 (0%)	5,625
Wilshire Boulevard/Metro D Line	7,286 (24%)	1,148 (4%)	0 (0%)	51 (0%)	22,434 (73%)	30,918
UCLA Gateway Plaza	15,872 (96%)	417 (3%)	0 (0%)	31 (1%)	0 (0%)	16,320
Ventura Boulevard/Van Nuys Boulevard	3,638 (51%)	2,992 (42%)	189 (3%)	345 (5%)	0 (0%)	7,163
Metro G Line/Van Nuys	2,175 (16%)	6,122 (45%)	323 (2%)	196 (1%)	4,754 (35%)	13,569
Van Nuys Metrolink	1,666 (9%)	7,224 (40%)	0 (0%)	158 (1%)	8,934 (50%)	17,981
Total	**37,562 (35%)**	**20,013 (19%)**	**610 (1%)**	**943 (1%)**	**47,966 (45%)**	**107,092**

Source: HTA, 2024

Table 10-11 presents the projected number of daily boardings (total ridership on the entire line) for urban rail and BRT lines in 2045 for Alternative 6 with a comparison to No Project Alternative ridership.

Table 10-11. Alternative 6: Daily Boardings on Urban Rail and Bus Rapid Transit Lines Serving the Study Area

Line	Daily Boardings		Change from No Project Alternative
	No Project Alternative	Alternative 6	
Metro E Line	110,578	123,991	12.1%
Metro D Line	221,766	231,300	4.3%
Metro G Line (BRT)	53,599	56,159	4.8%
East San Fernando Valley Light Rail Transit Line	49,988	70,162	40.4%
Total	**435,931**	**481,612**	**10.5%**

Source: HTA, 2024

Table 10-12 shows the peak-hour load on rail and BRT lines in the Study Area under Alternative 6 compared to the No Project Alternative. The capacities of heavy rail (Metro D Line) and light rail modes (Metro E Line and East San Fernando Valley) are approximately 12,000 and 4,800 passengers per hour, respectively, based on design headways and vehicle capacity. Capacity on the Metrolink Ventura County Line is approximately 2,240 passengers per hour assuming 8-car trains at 30-minute headways. Metro G Line capacity is approximately 960 passengers per hour at 5-minute headways. While Alternative 6 would increase peak loads on the Metro E Line and ESFV LRT Line, peak loads would remain under capacity. For the Metro G Line, peak loads would exceed capacity for Alternative 6 similar to the No Project Alternative. It is expected that Metro would accommodate the additional demand on the Metro G Line by implementing operational improvements and would also update its short- and long-range transit plans and increase service on parallel routes as needed, consistent with its usual service planning processes. Therefore, operation of Alternative 6 would not conflict with a program, plan, ordinance, or policy related to transit ridership and would result in no impact.

Table 10-12. Alternative 6: Peak Loads on Rail and Bus Rapid Transit Lines within the Study Area

Line	No Project Alternative		Alternative 6	
	Peak Load (Passengers)	Location	Peak Load (Passengers)	Location
Sepulveda Transit Corridor	NA	NA	5,490	Between Ventura Boulevard and UCLA
Metro E Line	2,530	Between Expo/La Brea and La Cienega/Jefferson	3,080	Between Expo/Sepulveda and Expo/Bundy
Metro D Line	11,870	Between Wilshire/La Brea and Wilshire/Fairfax	11,700	Between Wilshire/La Brea and Wilshire/Fairfax
Metro G Line (BRT)	2,500	Between Van Nuys and Sepulveda	2,640	Between Van Nuys and Sepulveda
East San Fernando Valley Light Rail Transit Line	2,470	Between Vanowen and Victory	3,230	Between Roscoe and Van Nuys/Metrolink
Metrolink Ventura County Line	1,760	Between Union Station and Glendale	1,540	Between Union Station and Glendale

Source: HTA, 2024

NA = not applicable

Table 10-13 compares the projected ridership under Alternative 6 to No Project Alternative conditions for bus routes serving the Study Area, aggregated by transit operator. For most agencies, bus ridership would fluctuate slightly because passengers would have the option to use Alternative 6 with faster and more reliable service. Because the combination of AVTA 786 and Alternative 6 would provide the fastest transit travel time from the Antelope Valley to the Westside, ridership on AVTA 786 would increase significantly. Although Alternative 6 would result in a 28.2 percent increase in ridership on AVTA 786, the truncation of the route from Century City to Van Nuys Metrolink Station would allow AVTA to run additional service on the truncated route to meet the increased demand without exceeding the passenger loading standard of 75 percent of seated capacity on commuter bus routes (AVTA, 2020). Therefore, operation of Alternative 6 would not conflict with an existing loading standard and would result in no impact.

Table 10-13. Alternative 6: Projected Bus Ridership by Transit Operator

Operator	Route(s)[a]	Daily Boardings[b]		Change from No Project Alternative
		No Project Alternative	Alternative 6	
Metro	2, 4, 20, 150, 152, 154, 155, 158, 164, 165, 166, 167, 169, 233, 234, 236, 602, G Line	237,137	229,353	-3.3%
AVTA	786	4,981	6,387	28.2%
BBB	1, 2, 5, Local 7, Rapid 7, 8, Rapid 10, Rapid 12, 14/15, 16, 17, 18	45,404	46,141	1.6%
CCB	3, 6/6R	24,685	24,399	-1.2%
LADOT	422, 423, 431, 534, 549, 573, 574, PC/VN DASH, VN/SC DASH	12,516	11,807	-5.7%
SCT	792/797	<250	<250	NA
BruinBus	U1, U2, U3, U5	9,380	9,301	-0.8%

Source: HTA, 2024

[a]Routes listed intersect the Study Area
[b]Daily boardings represent total ridership on all routes listed.

AVTA = Antelope Valley Transit Authority
BBB = Big Blue Bus
CCB = Culver CityBus
LADOT = Los Angeles Department of Transportation
NA = not applicable
PC/VN DASH = Panorama City/Van Nuys DASH
SCT = Santa Clarita Transit
VN/SC DASH = Van Nuys/Studio City DASH

Roadways

Alternative 6 would not require changes to roadway facilities other than a new access road east of Stone Canyon Reservoir in the Santa Monica Mountains. This roadway is not included in the City of Los Angeles *Mobility Plan 2035 – An Element of the General Plan* (Mobility Plan 2035) circulation system since it is classified as an access road. Therefore, operation of Alternative 6 would not conflict with a program, plan, ordinance, or policy related to roadway facilities and would result in no impact.

Bicycle and Pedestrian Circulation

Alternative 6 would be supportive of adopted active transportation plans and policies set forth by *Mobility Plan 2035* (DCP, 2016), the *2010 Bicycle Plan* (DCP, 2011), Metro's *First/Last Mile Guidelines* (Metro, 2021b), the 2019 *UCLA Active Transportation Plan* (UCLA, 2019), and City of Los Angeles community plans (DCP, 1996a, 1996b, 1997b, 1998a, 1998b, 1998c, 1998d, 1999a, 1999b, 1999c, 1999d, 1999e) described in Section 2. Station area improvement elements — including increased sidewalk widths, improved pedestrian crossings, bicycle parking, wayfinding signs, and implementation of planned bicycle facilities — would align with Metro's *First/Last Mile Guidelines* (Metro, 2021b) and facilitate pedestrian and cyclist accessibility to the Alternative 6 stations. Operation of Alternative 6 would not preclude any planned or existing bicycle or pedestrian facilities since it is fully underground. Therefore, operation of Alternative 6 would not conflict with a program, plan, ordinance, or policy related to bicycle and pedestrian circulation and would result in no impact.

10.4.1.2 Construction Impacts

Given the temporary nature of construction, it is not expected that construction of Alternative 6 would preclude or conflict with any programs, plan ordinances, or policies addressing the circulation system. The following sections describe construction impacts on transit facilities, roadways, and active transportation.

Transit Facilities

Temporary full or partial closures of some intersections, lanes, or sidewalks may be necessary during construction, which may result in disruptions to bus service. Temporary re-routing and relocation of bus stops may be needed for the following transit lines:

- Metro Lines 4, 20, 155, 158, 169, 233, 240, 602, and 761
- BBB 1, 2, 5, R10, R12, 14, 15, and 18
- CCB 6 and R6
- LADOT 431, 534, and DASH PC/VN
- LBT 405
- Amtrak Thruway
- BruinBus U1, U2, U3, U5

In addition to impacts to on-street bus service, construction at existing fixed guideway stations would impact rail and BRT service operations. Construction of new escalators at the existing Metro E Line Expo/Bundy Station connecting the plaza and platform levels would result in temporary impacts to the passenger experience at the station. Excavation of the Alternative 6 tunnel segment underneath the existing Metro E Line Expo/Bundy Station and the Alternative 6 station underneath the Metro D Line Westwood/UCLA Station would result in temporary impacts to service on the Metro E Line and D Line. In addition, temporary impacts to Amtrak and Metrolink rail operations and passenger experience at the Van Nuys Metrolink/Amtrak Station would also occur as a result of the construction of the underground Van Nuys Metrolink Station. Construction activities would occur within the vicinity of the ESFV LRT Van Nuys Metrolink Station for the cut-and-cover construction of the Alternative 6 Van Nuys Metrolink Station which may temporarily affect passenger experience; however, disruptions to rail service or MSF operations are not anticipated.

Construction of a mezzanine extension over the Metro D Line tracks and new escalators connecting the mezzanine level to the platform at the Metro D Line Westwood/UCLA Station would result in temporary impacts to Metro D Line rail operations and passenger experience. Metro D Line trains would operate between Union Station and the Metro D Line Century City Station while temporary falsework is constructed over the Metro D Line tracks. The Metro D Line Westwood/UCLA Station would then be temporarily closed to passengers during construction of the mezzanine extension. However, Metro D Line trains would be able to pass through the station to the Westwood/VA Hospital Station.

Although temporary, the potential disruptions to the transit network under Alternative 6 is considered a potentially significant impact to transit facilities due to temporary road or lane closures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4, to provide a Transportation Management Plan (TMP) that specifies measures to limit disruption during construction, and MM TRA-5, to provide temporary bus service at rail stations taken out of passenger service, would reduce impacts to less than significant during construction of Alternative 6.

Roadways

Construction vehicles would primarily use major arterials and freeways to comply with Policy 1.8 from *Mobility Plan 2035* that "truck movement should be limited to the arterial street network as much as possible since these streets have the lanes and wider turning radii to accommodate these heavy large vehicles" (DCP, 2016). Table 10-14 identifies construction staging locations and roadway facilities that would be used for construction haul routes.

Table 10-14. Alternative 6: Construction Staging Locations and Haul Routes

No.	Construction Staging Location Description	Haul Route
1	Bundy Drive and Olympic Boulevard	Bundy Drive, I-10, I-405
2	Along Santa Monica Boulevard between Barrington Avenue and Federal Avenue	Santa Monica Boulevard, I-405
3	Along Gayley Avenue between Wilshire Boulevard and Ashton Avenue	Wilshire Boulevard, I-405
4	UCLA Gateway Plaza	Westwood Boulevard. Wilshire Boulevard, I-405
5	Northeast of Upper Stone Canyon Reservoir	Stone Canyon Road, Mulholland Drive, Skirball Center Drive, Sepulveda Boulevard, I-405
6	Van Nuys Boulevard and Moorpark Street	Van Nuys Boulevard, US-101, I-405
7	Van Nuys Boulevard and Oxnard Street	Van Nuys Boulevard, Burbank Boulevard or Victory Boulevard, I-405
8	East of Van Nuys Boulevard between Saticoy Street and Keswick Street	Van Nuys Boulevard, Sherman Way or Roscoe Boulevard, I-405
9	West of Woodman Avenue and south of the Los Angeles-San Diego-San Luis Obispo rail corridor	Woodman Avenue, Sherman Way, and I-405 or SR-170

Source: HTA, 2024

Alternative 6 would require closures and detours of roadways, lanes, and I-10 freeway ramps during construction. Table 10-15 presents the locations of proposed traffic detours to support station cut-and-cover activities. Most road closures and detours would last between 18 and 24 months, but I-10 ramp detours at Bundy Drive would last for the duration of Alternative 6 construction. Traffic control measures necessary to complete construction of Alternative 6 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would further reduce temporary impacts due traffic control measures. Therefore, construction of Alternative 6 is considered a less than significant impact related to a conflict with a program, plan, ordinance, for policy on roadway facilities.

Table 10-15. Alternative 6: Projected Roadway Detours

Station	Proposed Roadway Detours
Metro E Line	Bundy Drive, Exposition Boulevard, Olympic Boulevard, Pico Boulevard, Mississippi Avenue; I-10 westbound Off-Ramps at Bundy Drive
Santa Monica Boulevard	Santa Monica Boulevard, Barrington Avenue, Barry Avenue, Federal Avenue
Wilshire/Metro D Line	Gayley Avenue, Wilshire Boulevard, Lindbrook Drive
UCLA Gateway Plaza	Westwood Plaza, Strathmore Place
Ventura Boulevard	Van Nuys Boulevard, Ventura Boulevard, Moorpark Street
Metro G Line	Van Nuys Boulevard, Tiara Street, Emelita Street, Califa Street, Oxnard Street
Van Nuys Metrolink	Lane reduction on Van Nuys Boulevard between Covello Street to Cabrito Road

Source: HTA, 2024

Bicycle and Pedestrian Circulation

Alternative 6 would require temporary roadway detours at proposed underground stations during cut-and-cover activities. Street detours would be concentrated at areas surrounding proposed underground station boxes that would require cut-and-cover construction. Street detours would disrupt bicycle and pedestrian circulation. The underground guideway would be constructed using a TBM; therefore, construction of the guideway would not disrupt bicycle and pedestrian circulation.

Although temporary, the potential disruptions to bicycle and pedestrian circulation would result in a potentially significant impact during project construction. In addition to compliance with all local, state, and federal standards on construction, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction (such as establishing detour routes, informing the traveling public, and coordinating with local business owners to maintain customer and delivery access) — would minimize temporary impacts due to traffic control measures. Alternative 6 detour routes would be identified in the TMP, and bicyclists and pedestrians would be informed of such closures and detours through signage and online postings that would be consistent with Policy 1.6 from *Mobility Plan 2035* that states, "Design detour facilities to provide safe passage for all modes of travel during construction" (DCP, 2016). Therefore, implementation of MM TRA-4 would reduce impacts to less than significant during construction of Alternative 6.

10.4.1.3 Maintenance and Storage Facility

The MSF for Alternative 6 would be located on a parcel immediately west of Woodman Avenue and south of the LOSSAN rail corridor. Operation and construction of the MSF would not require the removal or modification of an element of the circulation system that is addressed in a program, plan, ordinance, or policy. Therefore, operation and construction of the MSF for Alternative 6 would not conflict with a program, plan, ordinance or policy and would result in no impact.

10.4.2 Impact TRA-2: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

10.4.2.1 Operational Impacts

Under CEQA Guidelines Section 15064.3, subdivision (b), transportation projects that reduce, or have no impact on, VMT are presumed to cause a less than significant impact on transportation. OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018) states that transit and active transportation projects generally reduce VMT. As listed in Table 10-16, Alternative 6 would result in reduced VMT (695,400 daily) compared to the No Project Alternative. Therefore, operation of

Alternative 6 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Table 10-16. Alternative 6: Vehicle Miles Traveled

Project Alternative	Total VMT	Change in VMT Relative to the No Project Alternative
No Project Alternative (2045 Horizon Year)	568,557,200	NA
Alternative 6 (2045 Horizon Year)	567,861,800	-695,400

Source: HTA, 2024

NA = not applicable

10.4.2.2 Construction Impacts

Construction of Alternative 6 would temporarily generate additional VMT related to construction workers commuting to the construction site, construction work activities, construction labor trips, and the transport of excavated materials, construction equipment, and supplies. This additional VMT would terminate upon completion of construction and would not be in effect during operation of Alternative 6. The temporary nature of construction-related VMT and construction-related traffic circulation changes (e.g., detours) would generally be localized to the work areas and construction staging locations listed in Table 10-14.

In addition, there would be minor impacts to traffic operations associated with construction staging areas and haul routes. Vehicles and trucks related to construction activities entering and exiting these areas would increase traffic and VMT on local streets. All construction trucks would use designated haul routes, as listed in Table 10-14, to access the regional freeway system. The construction-related traffic volumes would be minimal compared to overall background traffic volumes would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of Alternative 6 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

10.4.2.3 Maintenance and Storage Facility

The MSF for Alternative 6 would be part of a transit project that is presumed to have a less than significant impact on VMT (OPR, 2018). Therefore, operation of the MSF would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

Construction of the MSF would result in a minor increase in traffic volumes as construction vehicles enter and exit the site. Construction vehicles entering and exiting the construction site would temporarily increase VMT on local streets. The construction-related traffic volumes would be minimal compared to overall background traffic volumes, and generally would occur during the off-peak periods when volumes and congestion are lower. Increased traffic generated by construction-related vehicle operations would be temporary in nature. As a result, construction-related traffic would not result in a substantial or long-term change in regional travel patterns related to VMT and is considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic. Therefore, construction of the MSF for Alternative 6 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and is considered a less than significant impact.

10.4.3 Impact TRA-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?

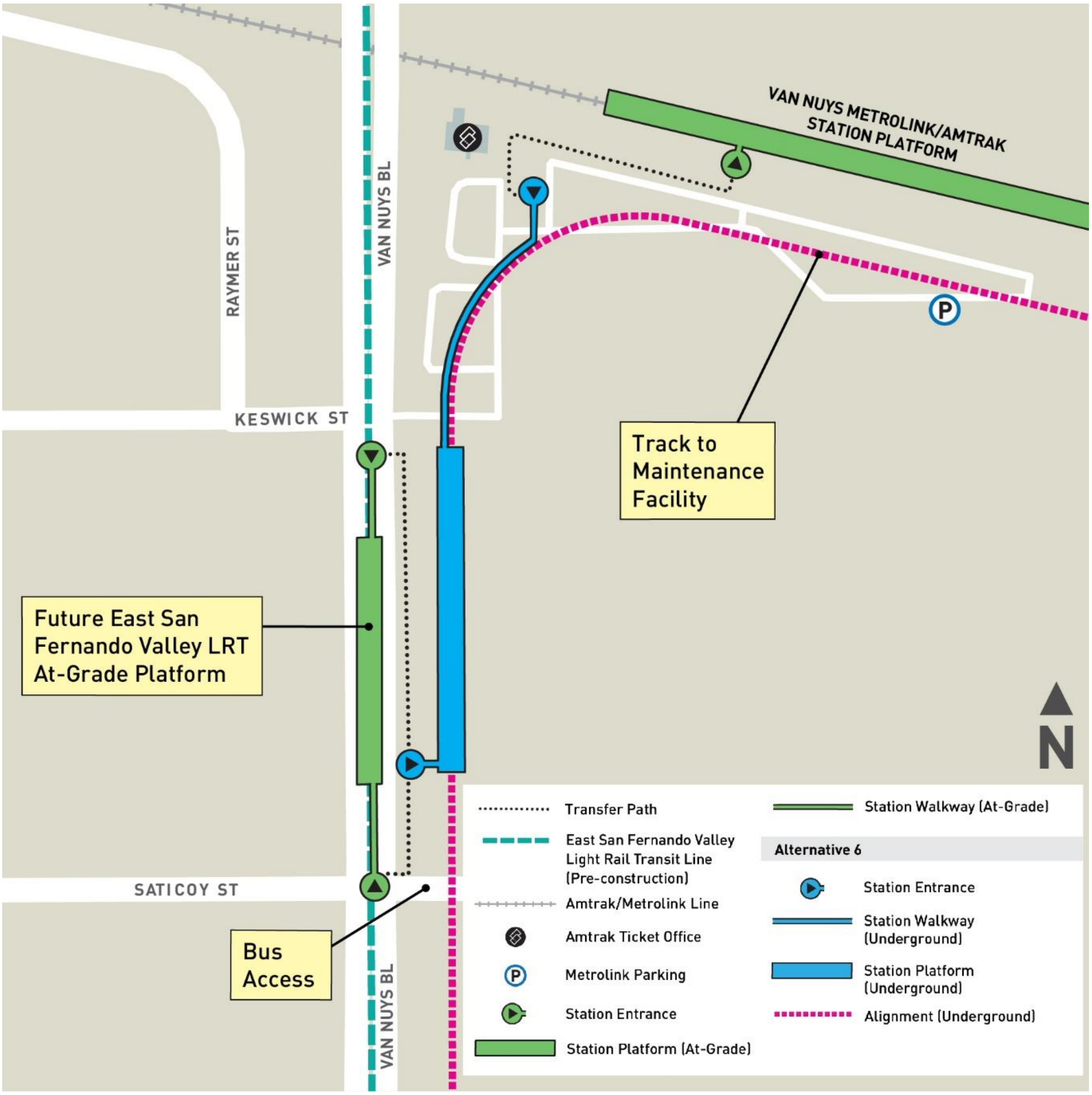
This section discusses the potential increase in hazards due to a geometric design feature of Alternative 6. The potential increase for hazards generally relates to unsafe design of Project facilities/structures, the degradation of pedestrian, bicycle, or vehicle safety conditions, or the introduction of obstructions that result in decreased visibility of other road users or key roadway infrastructure, such as traffic signals. These impacts are evaluated for permanent conditions during project operation as well as temporary conditions during project construction.

10.4.3.1 Operational Impacts

Alternative 6 — including its guideway, vehicles, stations, MSF, TPSSs, and fire/life safety systems — would be designed to meet all relevant and applicable standards including ADA, LABOE, and Metro safety design standards.

An analysis of passenger queues at fare gates was conducted to evaluate the safety of transferring passengers as described in Section 3.2.2. As shown on Figure 10-11, under Alternative 6, passengers would have the ability to transfer to the ESFV LRT Line from the Van Nuys Metrolink/Amtrak Station or Alternative 6 Van Nuys Metrolink Station via a sidewalk connection on the east side of Van Nuys Boulevard. Passengers transferring to the ESFV LRT Line from the Van Nuys Metrolink/Amtrak Station are anticipated to enter the station from the north entrance because the north entrance is the closest ESFV LRT station entrance to the Van Nuys Metrolink/Amtrak Station exit. Passengers transferring to the ESFV LRT Line from the Alternative 6 Van Nuys Metrolink Station are anticipated to enter the station from the south entrance because the south entrance is the closest ESFV LRT station entrance to the Alternative 6 Van Nuys Metrolink Station.

Figure 10-11. Alternative 6: Transfer Paths at the Van Nuys Metrolink Station



Source: HTA, 2024

Table 10-17 presents the results of the peak-hour queueing analysis at the ESFV LRT Van Nuys Metrolink Station south entrance fare gates. During the busiest 2 minutes of the peak hour, 127 passengers are forecast to transfer to the ESFV LRT Line across all station modes of access. The queues resulting from the peak-hour passenger flow into the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Based on the results of the peak-hour queueing analysis in Table 10-17, the maximum forecast queue length in the peak hour at the ESFV LRT Line Van Nuys Metrolink Station for Alternative 6 would be 190 feet long, while the available queueing area between the fare gates and the crosswalk used to access the station would be 80 feet. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a hazard to passengers. Therefore, operation of Alternative 6 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard as described in Section 3.2.2. Implementation of MM TRA-1 would require a pedestrian flow microsimulation analysis to evaluate passenger movements when transferring to the ESFV LRT Van Nuys Metrolink Station from the Alternative 6 Van Nuys Metrolink Station. This analysis shall evaluate passenger flows into the ESFV LRT Van Nuys Metrolink Station from other modes, including Amtrak, Metrolink, bus, active transportation, park & ride, and kiss & ride. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with stand-alone validators (SAV), at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street. Therefore, implementation of MM TRA-1 would reduce impacts to less than significant during operation of Alternative 6.

Table 10-17. Alternative 6: Queueing Analysis at East San Fernando Valley Light Rail Transit Line Van Nuys Metrolink Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into North Entrance	Peak 2-minute Passenger Flow into North Entrance
Walk/bus/park & ride/kiss & ride	497	248	8
Metrolink	4	0	0
Alternative 6	1,975	1,778	119
Total 2-minute Passenger Flow into South Entrance			127
2-minute Passenger Flow per Fare Gate			63
Maximum Peak-Hour Queue Length (feet)			**190**
Available Queueing Distance at Station (feet)			80

Source: HTA, 2024

Note: Analysis assumes half of walk/bus/park & ride/kiss & ride passengers would use this entrance, zero Metrolink and all Alternative 6 transfers would use this entrance, walk/bus/park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, Metrolink trains would arrive every 30 minutes (2 trains per hour), and Alternative 6 trains would arrive every 4 minutes (15 trains per hour).

As shown on, Figure 10-12, under Alternative 6, passengers would have the ability to transfer to the ESFV LRT Line from the Alternative 6 Metro G Line Van Nuys Station via a sidewalk connection on Oxnard Street and Van Nuys Boulevard. Passengers transferring to the ESFV LRT Line are anticipated to enter the station from the south entrance because the south entrance would be the closest ESFV LRT Line station entrance to the Alternative 6 Metro G Line Van Nuys Station. Figure 10-12 also displays the passenger transfer path between the Metro G Line and the Alternative 6 Metro G Line Van Nuys Station. Under Alternative 6, passengers would have the ability to transfer to the Metro G Line from the Alternative 6 Metro G Line Van Nuys Station via a sidewalk connection on the east side of Van Nuys Boulevard. Passengers transferring to the Metro G Line are anticipated to enter the station from the east entrance because the east entrance would be the closest Metro G Line Van Nuys Station entrance to the Alternative 6 Metro G Line Van Nuys Station.

Figure 10-12. Alternative 6: Transfer Paths at the East San Fernando Valley Light Rail Transit Line G Line Station

Source: HTA, 2024

Table 10-18 presents the results of the peak-hour queueing analysis at the ESFV LRT G Line Station south entrance fare gates. During the busiest 2 minutes of the peak hour, 85 passengers are forecast to transfer to the ESFV LRT Line across all station modes of access. Based on the results of the peak-hour queueing analysis in Table 10-18, the queues resulting from the peak-hour passenger flow into the ESFV LRT G Line Station are not forecast to exceed the available queueing area at the fare gates as the maximum forecast queue length of 64 feet would be below the available queueing area of 170 feet. Therefore, the peak-hour passenger flow into the ESFV LRT G Line Station under Alternative 6 would not increase hazards due to a geometric design feature and would result in no impact.

Table 10-18. Alternative 6: Queueing Analysis at East San Fernando Valley Light Rail Transit Line G Line Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into South Entrance	Peak 2-minute Passenger Flow into South Entrance
Walk/bus/park & ride/kiss & ride	1,795	897	30
Alternative 6	827	827	55
Total 2-minute Passenger Flow into South Entrance			85
2-minute Passenger Flow per Fare Gate			21
Maximum Peak-Hour Queue Length (feet)			**64**
Available Queueing Distance at Station (feet)			170

Source: HTA, 2024

Note: Analysis assumed half of walk/bus/park & ride/kiss & ride passengers would use this entrance, all Alternative 6 transfers would use this entrance, walk/bus/park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, and Alternative 6 trains would arrive every 4 minutes (15 trains per hour).

Table 10-19 presents the results of the peak-hour queueing analysis at the Metro G Line Van Nuys Station east entrance fare gates. During the busiest 2 minutes of the peak hour, 87 passengers are forecast to transfer to the Metro G Line across all station modes of access. The forecast station queueing would result in 87-second-long queues of 87 feet at the north entrance of the Metro G Line Van Nuys Station. Based on the results of the peak-hour queueing analysis in Table 10-19, the queues resulting from the peak-hour passenger flow into the Metro G Line Van Nuys Station are not forecast to exceed the available queueing area at the fare gates as the maximum forecast queue length of 87 feet would be below the available queueing area of 150 feet. Therefore, the peak-hour passenger flow into the Metro G Line Van Nuys Station under Alternative 6 would not increase hazards due to a geometric design feature and would result in no impact.

Table 10-19. Alternative 6: Queueing Analysis at Metro G Line Van Nuys Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into East Entrance	Peak 2-minute Passenger Flow into East Entrance
Walk/bus/park & ride/kiss & ride/ESFV LRT	2,111	1,055	35
Alternative 6	779	779	52
Total 2-minute Passenger Flow into East Entrance			87
2-minute Passenger Flow per Fare Gate			29
Maximum Peak-Hour Queue Length (feet)			**87**
Available Queueing Distance at Station (feet)			150

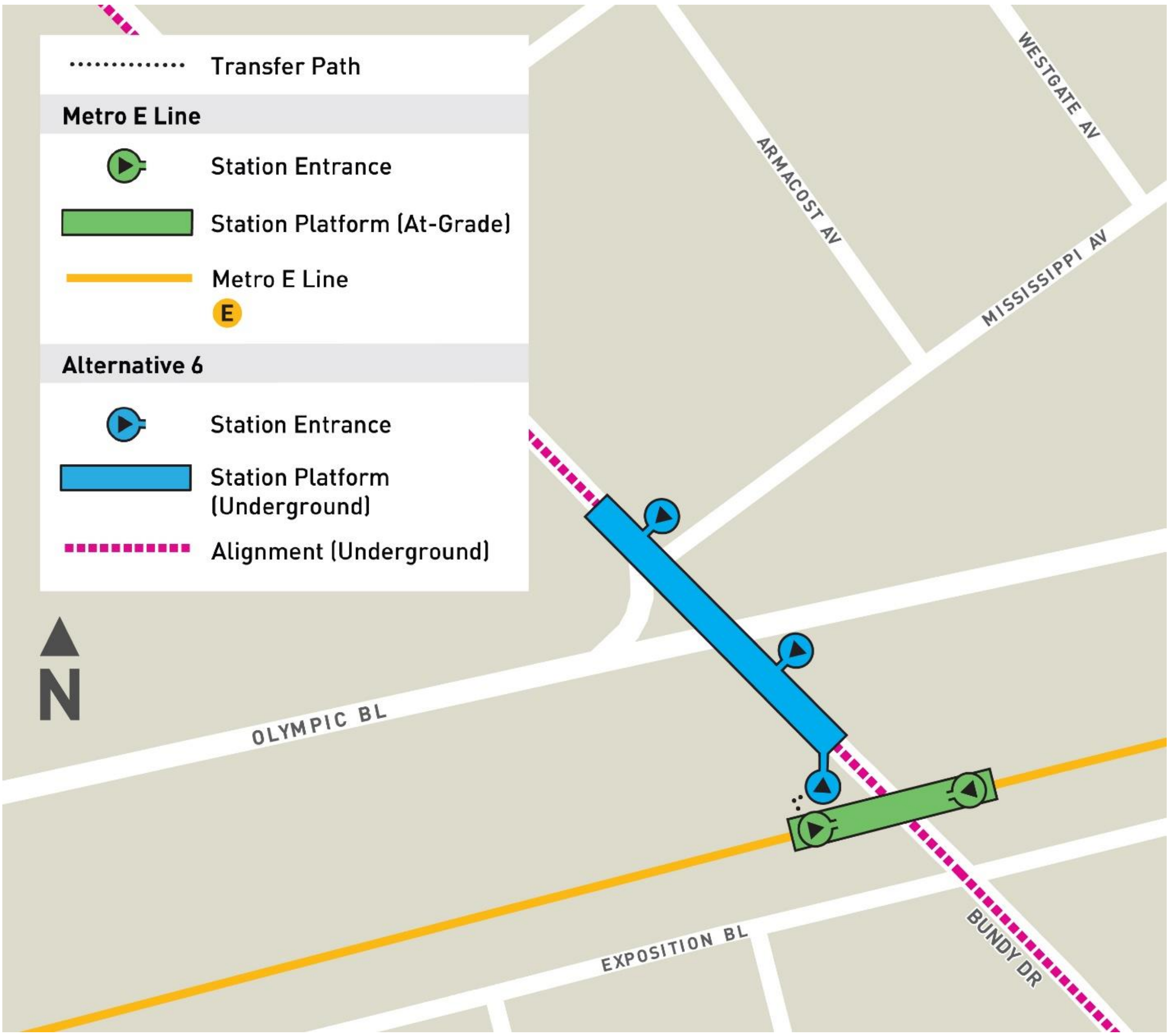
Source: HTA, 2024

Note: Analysis assumed half of walk/bus/park & ride/kiss & ride/ESFV LRT passengers would use this entrance, all Alternative 6 transfers would use this entrance, walk/bus/park & ride/kiss & ride/ESFV LRT passengers would be evenly distributed throughout the peak hour, and Alternative 6 trains would arrive every 4 minutes (15 trains per hour).

As shown on Figure 10-13, under Alternative 6, passengers would have the ability to transfer from the Alternative 6 Metro E Line Expo/Bundy Station to the existing Metro E Line Expo/Bundy Station by exiting the project station at the south entrance before traveling up an escalator to the existing Metro E Line Expo/Bundy Station fare gates. Passengers transferring to the Metro E Line are forecast to enter the

Metro E Line Expo/Bundy Station at the northwest entrance because the northwest entrance would be the closest Metro E Line Expo/Bundy Station entrance to the Alternative 6 Metro E Line Expo/Bundy Station exit.

Figure 10-13. Alternative 6: Transfer Paths at Metro E Line Expo/Bundy Station



Source: HTA, 2024

Table 10-20 presents the results of the peak-hour queueing analysis at the existing Metro E Line Expo/Bundy Station northwest entrance fare gates. During the busiest 2 minutes of the peak hour, 122 passengers are forecast to transfer to the Metro E Line across all station modes of access. The queues resulting from the peak-hour passenger flow into the existing Metro E Line Expo/Bundy Station are forecast to exceed the available queueing area at the fare gates. Based on the results of the peak-hour queueing analysis in Table 10-20, the maximum forecast queue length at the existing Metro E Line Expo/Bundy Station for Alternative 6 would be 183 feet long, while the available queueing distance between the existing Metro E Line Expo/Bundy Station fare gates and the top of the escalator would be 35 feet. A queue length exceeding the available queueing area would create a safety hazard for passengers as the queue would interfere with passengers' ability to exit a moving escalator. Therefore, operation of Alternative 6 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard as described in Section 3.2.2. Implementation of MM TRA-10 would require the redesign of the west entrance of the existing Metro E Line Expo/Bundy Station to allow for transfers to the project station within a single-fare-paid zone. The existing fare gates would be removed, and four new fare gates would be constructed to provide access to both stations within the single-fare-paid zone. Therefore, implementation of MM TRA-10 would reduce impacts to less than significant during operation of Alternative 6.

Table 10-20. Alternative 6: Queueing Analysis at Metro E Line Expo/Bundy Station

Station Mode of Access	Peak-Hour Passenger Flow into Station	Peak-Hour Passenger Flow into Northwest Entrance	Peak 2-minute Passenger Flow into Northwest Entrance
Walk/bus/ park & ride/kiss & ride	166	42	1
Alternative 6	1,809	1,809	121
Total 2-minute Passenger Flow into Northwest Entrance			122
2-minute Passenger Flow per Fare Gate			61
Maximum Peak Hour Queue Length (feet)			**183**
Available Queueing Distance at Station (feet)			40

Source: HTA, 2024

Note: Analysis assumed half of walk/bus/park & ride/kiss & ride passengers would use this entrance, all Alternative 6 transfers would use this entrance, walk/bus park & ride/kiss & ride passengers would be evenly distributed throughout the peak hour, and Alternative 6 trains would arrive every 4 minutes (15 trains per hour).

10.4.3.2 Construction Impacts

Temporary modifications of existing transportation facilities under Alternative 6 would include full or partial road closures, lane reductions or modifications, and detour routes. Construction of Alternative 6 would include temporary modifications to segments of Bundy Drive, Olympic Boulevard, Mississippi Avenue, Santa Monica Boulevard, Barrington Avenue, Barry Avenue, Federal Avenue, Wilshire Boulevard, Gayley Avenue, Lindbrook Drive, Westwood Plaza, and Strathmore Place in the Westside, and Van Nuys Boulevard, Ventura Boulevard, Moorpark Street, Tiara Street, and Oxnard Street in the San Fernando Valley. Construction worksites would be fenced, and lane closures and associated lane tapers, temporary advance warning signs, and detour signs would be implemented in accordance with Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (Cal/OSHA), and *California Manual on Uniform Traffic Control Devices* (CA MUTCD) (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses would be introduced during construction. Safety for pedestrians, bicyclists, and motorists would be maintained during construction using signage, partial lane closures, construction barriers, and supervision by safety and security personnel at access points and throughout construction sites. Traffic control measures necessary to complete construction of Alternative 6 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 — to provide a TMP that specifies measures to limit disruption during construction — would further reduce temporary impacts due to construction-related traffic control measures and would ensure hazards are not introduced during construction. Therefore, construction of Alternative 6 would not substantially increase hazards due to a geometric design feature or incompatible use and is considered a less than significant impact.

10.4.3.3 Maintenance and Storage Facility

The MSF for Alternative 6 would be designed to meet all relevant and applicable standards, including ADA, LABOE, and Metro safety design standards. Operation of the MSF would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, operation of the MSF for Alternative 6 would result in no impact.

Construction of the MSF may include construction staging, materials stockpiling, hauling of dirt and materials, temporary lane reductions, and use of temporary easements. Construction activities would meet all relevant and applicable safety standards, including OSHA, Cal/OSHA, and CA MUTCD (Caltrans, 2024a) standards to ensure that no significant geometric design hazards or incompatible uses are introduced during construction. Thus, construction of the MSF would not result in an increase in hazards or incompatible uses due to a design feature. Therefore, construction of the MSF for Alternative 6 would result in no impact.

10.4.4 Impact TRA-4: Would the project result in inadequate emergency access?

10.4.4.1 Operational Impacts

All Alternative 6 facilities — including the guideway, stations, and transit vehicles — would include emergency evacuation routes, emergency systems, and emergency service access in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. As identified in Section 10.1.1.9, the only roadway configuration change associated with Alternative 6 is a new access road east of Stone Canyon Reservoir in the Santa Monica Mountains. This roadway configuration change would not create physical access constraints or significantly increase emergency vehicle response times that would result in inadequate emergency service access during operation. Therefore, operation of Alternative 6 would result in no impact to emergency access.

10.4.4.2 Construction Impacts

Project construction would include temporary lane reductions, road closures, and detours that would affect local roadways. As a result, traffic congestion associated with temporary traffic control measures could result in delayed emergency response times or limited access by emergency services. Traffic control measures necessary to complete construction of Alternative 6 would be temporary in nature and are considered a less than significant impact. In accordance with Metro standard practice, implementation of MM TRA-4 would require coordination with first responders during final design to further reduce temporary impacts on emergency access. Therefore, construction of Alternative 6 is considered to have a less than significant impact on emergency access.

10.4.4.3 Maintenance and Storage Facility

The MSF for Alternative 6 would include emergency evacuation routes and systems during operation in accordance with relevant Metro, ADA, OSHA, and Cal/OSHA standards. The MSF would be constructed in accordance with applicable Metro standards and design criteria for providing adequate emergency service access during operation. Therefore, operation of the MSF for Alternative 6 would result in no impact.

Construction of the MSF would result in temporary impacts to traffic operations due to a minor increase in traffic volumes as construction vehicles enter and exit the site. Traffic control measures necessary to complete construction of the MSF would be temporary in nature and are considered a less than significant impact. In accordance with standard Metro practice, implementation of MM TRA-4 would ensure adequate emergency access is maintained within and surrounding the site during construction to further reduce temporary impacts. Therefore, construction of the MSF for Alternative 6 is considered a less than significant impact.

10.5 Mitigation Measures

The following mitigation measures would be implemented for Alternative 6.

10.5.1 Operational Impacts

MM TRA-1: *During final design, Metro shall complete a detailed pedestrian flow microsimulation analysis to evaluate passenger movements when transferring between the Project Van Nuys Metrolink Station and the East San Fernando Valley (ESFV) Light Rail Transit (LRT) Van Nuys Metrolink Station. This analysis shall assess passenger flow into the ESFV LRT Van Nuys Metrolink Station and potential areas of congestion at the fare gates during peak and off-peak hours. In addition to passengers transferring from the Project Van Nuys Metrolink Station, this analysis shall include passengers arriving at the ESFV LRT Van Nuys Metrolink Station via Amtrak, Metrolink, bus, active transportation, park and ride, and kiss and ride. The results of this analysis shall inform design to determine necessary measures, such as removal of fare gates or installation of stand-alone validators at the ESFV LRT Van Nuys Metrolink Station, to eliminate the safety concern of passengers queueing into the street. Any necessary adjustments to station layouts, signage, pedestrian transfer paths, or fare gate configurations shall be incorporated into final design prior to commencement of operations*.

MM TRA-10 *The Project shall redesign the west entrance of the existing Metro E Line Expo/Bundy Station to allow for transfers from the project station to the Metro E Line within a single fare-paid zone.*

10.5.2 Construction Impacts

MM TRA-4: *The project contractor shall prepare a Transportation Management Plan to facilitate the flow of traffic and transit service in and around construction zones. The Transportation Management Plan shall include, at a minimum, the following measures:*

- *Where feasible, schedule construction-related travel (i.e., deliveries, hauling, and worker trips) during off-peak hours and maintain two-way traffic circulation along affected roadways during peak hours. Avoid the closure of two major adjacent streets where feasible.*
- *Designated routes for project haul trucks shall primarily utilize the I-405, I-10, and US-101 corridors. Throughout the construction process, these routes shall be coordinated with the City of Los Angeles and U.S. Department of Veterans Affairs to ensure consistency with land use and mobility plans. Additionally, the routes shall be situated to minimize noise, vibration, and other possible impacts.*
- *Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas.*

- *Where construction encroaches on the Los Angeles-San Diego-San Luis Obispo rail corridor right-of-way, coordinate construction activities with Union Pacific, Metrolink, and Amtrak to limit disruptions to service and coordinate on outreach to inform passengers of service impacts. Provide temporary parking and drop-off facilities at the Van Nuys Metrolink/Amtrak Station to minimize passenger impacts.*
- *Develop and implement an outreach program and public awareness campaign in coordination with Caltrans, the City of Los Angeles, the City of Santa Monica, and the County of Los Angeles to inform the general public about the construction process and planned roadway closures, potential impacts, and mitigation measures, including temporary bus stop relocation.*
- *Where feasible, temporarily restripe roadways to maximize the vehicular capacity at locations affected by construction closures.*
- *Provide wayfinding signage, lighting, and access to specify pedestrian safety amenities (such as handrails, fences, and alternative walkways) during construction.*
- *Where construction encroaches on pedestrian facilities, special pedestrian safety measures shall be used, such as detour routes and temporary pedestrian barricades.*
- *Where construction encroaches onto the University of California, Los Angeles campus, the project contractor shall ensure that access to campus buildings is maintained through temporary decking and the construction of temporary stairs and ramps.*
- *During final design, the project contractor shall coordinate with Metro Operations to minimize construction impacts on existing Metro rail operations in and around existing stations. Where construction results in the interruption of Metro rail operations, buses shall provide temporary service between rail stations.*
- *Provide on-street bicycle detour routes and signage to address temporary effects to bicycle circulation and minimize inconvenience (e.g., lengthy detours) as to minimize users potentially choosing less safe routes if substantially rerouted.*
- *During final design, the project contractor shall coordinate with first responders and emergency service providers to minimize impacts on emergency response. Coordination efforts shall include the development of detour routes and notification procedures to facilitate and ensure safe and efficient traffic movement. The nearest local first responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing.*
- *Maintain customer and delivery access to all operating businesses near construction work areas. Access shall be maintained to allow for reasonable business operations, including clear signage for alternate routes, temporary driveways, or entry points as necessary. Coordination with businesses shall be*

conducted to address specific access needs and limit disruptions, ensuring that any restrictions are communicated in advance and alternative arrangements are provided as appropriate.

MM TRA-5: *Where construction results in the interruption of Metro rail operations, the Project shall provide temporary bus service at rail stations taken out of passenger service. Temporary bus service may consist of either dedicated bus shuttles or extensions of other Metro bus service. Temporary bus service during closures of the Metro D Line Westwood/UCLA Station and/or Metro D Line Westwood/VA Hospital Station shall operate on Bonsall Avenue, Wilshire Boulevard, Santa Monica Boulevard, Century Park East, Avenue of the Stars, Century Park West, and/or Constellation Drive.*

10.5.3 Impacts After Mitigation

10.5.3.1 Operational Impacts

Operation of Alternative 6 would result in a potentially significant impact under Impact TRA-3 due to a safety hazard. Under Alternative 6, the queues resulting from the peak-hour passenger flow from the Alternative 6 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station are forecast to exceed the available queueing area at the fare gates. Since the ESFV LRT Van Nuys Metrolink Station will be located within the center of Van Nuys Boulevard, a queue length exceeding the available queueing area would create a safety hazard as passenger queues would extend into Van Nuys Boulevard. Therefore, operation of Alternative 6 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard. With implementation of MM TRA-1, a pedestrian flow microsimulation analysis would be required to evaluate passenger movements from the Alternative 6 Van Nuys Metrolink Station to the ESFV LRT Van Nuys Metrolink Station. The results of this analysis shall inform design to determine necessary measures, such as replacement of fare gates with SAVs, at the ESFV LRT Van Nuys Metrolink Station. Since SAVs would not require passengers to queue at the station entrance, this would eliminate the safety concern of passengers exceeding the available queueing area and queueing into the street, thus reducing this impact to less than significant.

Operation of Alternative 6 would result in an additional potentially significant impact under Impact TRA-3 due to a safety hazard. Under Alternative 6, the queues resulting from the peak-hour passenger flow from the Alternative 6 Metro E Line Expo/Bundy Station to the existing Metro E Line Expo/Bundy Station are forecast to exceed the available queueing area at the fare gates. Passengers transferring to the existing Metro E Line Expo/Bundy Station would travel up an escalator before reaching the fare gates. A queue length exceeding the available queueing area would create a safety hazard for passengers as the queue would interfere with passengers' ability to exit a moving escalator. Therefore, operation of Alternative 6 would result in a potentially significant impact related to safety due to the queue length exceeding the available queueing area creating a safety hazard. With implementation of MM TRA-10, the west entrance of the existing Metro E Line Expo/Bundy Station would be redesigned to allow for transfers to the project station within a single-fare-paid zone. The existing fare gates would be removed, and four new fare gates would be constructed to provide access to both stations within the single-fare-paid zone, thus reducing this impact to less than significant.

10.5.3.2 Construction Impacts

Construction of Alternative 6 would result in a potentially significant impact under Impact TRA-1 due to temporary traffic control measures, rail service interruptions during station improvements, and sidewalk closures. Implementation of MM TRA-4 would reduce impacts to less than significant by requiring a TMP to minimize temporary disruptions associated with construction activities. Implementation of MM TRA-5 would reduce this impact to less than significant by providing temporary bus service at rail stations taken out of passenger service during construction.

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Attachment 1. 2045 Transit Network Assumptions

Attachment 2. Relevant Transportation Programs, Plans, and Policies