



Metro®

Memorandum

Date: June 26, 2020

Subject: Addendum to the Safety & Security Impacts Report for East San Fernando Valley Transit Corridor

Project Description:

The Federal Transit Administration (FTA) and Los Angeles County Metropolitan Transportation Authority (Metro) have initiated a Final Environmental Impact Statement (FEIS)/Final Environmental Impact Report (FEIR) for the East San Fernando Valley Transit Corridor Project (Project). The FEIS/FEIR is being prepared with the FTA as the Lead Agency under the National Environmental Policy Act (NEPA) and Metro as the Lead Agency under the California Environmental Quality Act (CEQA).

In response to comments received on the Draft EIS/EIR (DEIS/DEIR), on June 28, 2018 the Metro Board of Directors formally identified a modified version of Alternative 4 (identified as "Alternative 4 Modified: At-Grade LRT" in the FEIS/FEIR) as the Locally Preferred Alternative (LPA). Factors that were considered by Metro in identifying Alternative 4 Modified: At-Grade LRT as the LPA include: the greater capacity of LRT compared to the BRT alternatives, the LPA could be constructed in less time and at reduced cost compared to the DEIS/DEIR Alternative 4, fewer construction impacts compared to DEIS/DEIR Alternative 4, and strong community support for a rail alternative. Additionally, Metro determined the LPA best fulfilled the project's purpose and need.

The LPA consists of a 9.2-mile, at-grade LRT with 14 stations. Under the LPA, the LRT would be powered by electrified overhead lines and would travel 2.5 miles along the Metro-owned right-of-way used by the Antelope Valley Metrolink line and Union Pacific Railroad from the Sylmar/San Fernando Metrolink Station south to Van Nuys Boulevard. As the LPA approaches Van Nuys Boulevard it would transition to and operate in the median of Van Nuys Boulevard for approximately 6.7 miles south to the Van Nuys Metro Orange Line Station. The 9.2-mile route of the LPA is illustrated in Figure 2-1 of the FEIS/FEIR. Additional details regarding the LPA's characteristics, components, and facilities are discussed within Section 2.2 of the FEIS/FEIR.

Methodology:

A review of the above-referenced project has been conducted in order to identify any additional potential impacts to safety and security in the project study area as a result of the LPA. The project review was done according to CEQA/NEPA guidelines, as well as the most current FTA and Metro guidelines and policies.

Result:

ICF has evaluated the impacts of the LPA and has determined they are consistent with the findings in the Safety and Security Impacts Report prepared for the DEIS/DEIR. Please refer to Section 4.14 Safety and Security of the FEIS/FEIR for an updated discussion of existing conditions and LPA impacts, as well as proposed mitigation measures. Please also see section 4.14.3.12, for the NEPA and CEQA impact findings.

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Acronyms and Abbreviations

2008 RCP	2008 Regional Comprehensive Plan
2012 RTP	2012–2035 Regional Transportation Plan/Sustainable Communities Strategy
AA	Alternatives Analysis
ADA	Americans with Disabilities Act
BRT	bus rapid transit
Cal/OSHA	California Occupational Safety and Health Administration
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CPA	Community Plan Area
CPUC	California Public Utilities Commission
DEIR	Draft Environmental Impact Report
DEIS	Draft Environmental Impact Statement
DHS	Department of Homeland Security
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
Growth Vision	2004 Compass Blueprint Growth Vision
HOV	high-occupancy vehicle
I	Interstate
LADOT	Los Angeles Department of Transportation
LAPD	Los Angeles Police Department
LASD	Los Angeles County Sheriff's Department
LRT	light rail transit
LRTP	Long-Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21 st Century
Metro	Los Angeles County Metropolitan Transportation Authority
MPO	Metropolitan Planning Organization
MSF	maintenance and storage facility
NEPA	National Environmental Policy Act
OCS	overhead contact system
OSHA	Occupational Safety and Health Administration
Project	East San Fernando Valley Transit Corridor Project
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SR	State Route

SSO	State Safety Oversight
TPSS	traction power substation
TRACS	Transit Rail Advisory Committee for Safety
TSA	Transportation Security Administration
TSM	Transportation System Management
UBC	Uniform Building Code
UFC	Uniform Fire Code
U.S.C.	United States Code

1.1 Study Background

What Is the East San Fernando Valley Transit Corridor?

The Federal Transit Administration (FTA) and Los Angeles County Metropolitan Transportation Authority (Metro) have initiated a Draft Environmental Impact Statement (DEIS)/Environmental Impact Report (DEIR) for the East San Fernando Valley Transit Corridor Project (project). The DEIS/DEIR is being prepared with the FTA as the Lead Agency under the National Environmental Policy Act (NEPA) and Metro as the Lead Agency under the California Environmental Quality Act (CEQA).

The DEIS/DEIR and related engineering are being undertaken by Metro, in close coordination with the City of Los Angeles Department of Transportation (LADOT). The DEIS/DEIR will be a combined document complying with the most recent state and federal environmental laws. The project's public/community outreach component is being undertaken as an integrated parallel effort to the DEIS/EIR.

Prior to the initiation of the DEIS/DEIR, an Alternatives Analysis (AA) was carried out in January 2013 to study the East San Fernando Valley Transit Corridor in order to define, screen, and recommend alternatives for future study.

This study enabled Metro, the City of Los Angeles, and the City of San Fernando to evaluate a range of new public transit service alternatives that can accommodate future population growth and transit demand, while being compatible with existing land uses and future development opportunities. The study considered the Sepulveda Pass Corridor, which is another Measure R project, and the proposed California High Speed Rail project. Both of these projects may be directly served by a future transit project in the study area. The Sepulveda Pass Corridor could eventually link the West Los Angeles area to the east San Fernando Valley and the California High Speed Rail Project via the project corridor. As part of the January 2013 Alternatives Analysis, most of Sepulveda Boulevard was eliminated as an alignment option. As a result of the Alternatives Analysis, modal recommendations were for bus rapid transit (BRT) and light rail transit (LRT).

As a result of the alternatives screening process and feedback received during the public scoping period, a curb-running BRT, median-running BRT, median-running low-floor/tram, and a median-running LRT, were identified as the four build alternatives, along with the Transportation Systems Management (TSM) and No-Build Alternatives to be carried forward for analysis in this DEIS/DEIR.

1.1.1 Study Area

Where Is the Study Area Located?

The East San Fernando Valley Transit Corridor project area is located in the San Fernando Valley in the County of Los Angeles. Generally, the project study area extends from the City of San Fernando and the Sylmar/San Fernando Metrolink Station in the north to the Van Nuys Metro Orange Line

Station within the City of Los Angeles in the south. However, the study area used for the environmental issue described in this report could vary from this general study area, depending on the needs of the analysis. For the purposes of the analysis contained in this report, the study area coincides with the general study area.

The eastern San Fernando Valley includes the two major north-south arterial roadways of Sepulveda and Van Nuys Boulevards, spanning approximately 10 to 12 miles and the major north/west arterial roadway of San Fernando Road.

Several freeways traverse or border the eastern San Fernando Valley. These include the Ventura Freeway (US-101), the San Diego Freeway (Interstate [I] 405), the Golden State Freeway (I-5), the Ronald Reagan Freeway (State Route [SR] 118), and the Foothill Freeway (I-210). The Hollywood Freeway SR-170 is located east of the project area. In addition to Metro local and Metro Rapid bus service, the Metro Orange Line (Orange Line) BRT service, the Metrolink Ventura Line commuter rail service, Amtrak inter-city rail service, and the Metrolink Antelope Valley Line commuter rail service are the major transit corridors that provide interregional trips in the area.

Land uses in the study area include neighborhood and regional commercial land uses, as well as government and residential land uses. Specifically, land uses in the study area include government services at the Van Nuys Civic Center, retail shopping along the project corridor, and medium- to high-density residential uses throughout the area. Notable land uses in the eastern San Fernando Valley include: The Village at Sherman Oaks, Panorama Mall, Whiteman Airport, Van Nuys Airport, Mission Community Hospital, Kaiser Permanente Hospital, Van Nuys Auto Row, and several schools, youth centers, and recreational centers.

1.1.2 Alternatives Considered

What Alternatives Are under Consideration?

The following six alternatives, including four build alternatives, a TSM Alternative, and the No-Build Alternative, are being evaluated as part of this study:

- No-Build Alternative
- TSM Alternative
- Build Alternative 1 – Curb-Running BRT Alternative
- Build Alternative 2 – Median-Running BRT Alternative
- Build Alternative 3 – Low-Floor LRT/Tram Alternative
- Build Alternative 4 –LRT Alternative

All build alternatives would operate over 9.2 miles, either in a dedicated bus lane or guideway (6.7 miles) and/or in mixed-flow traffic lanes (2.5 miles), from the Sylmar/San Fernando Metrolink station to the north to the Van Nuys Metro Orange Line station to the south, with the exception of Build Alternative 4 which includes a 2.5-mile segment within Metro-owned railroad right-of-way adjacent to San Fernando Road and Truman Street and a 2.5-mile underground segment beneath portions of Panorama City and Van Nuys.

1.1.2.1 No-Build Alternative

The No-Build Alternative represents projected conditions in 2040 without implementation of the project. No new transportation infrastructure would be built within the project study area, aside from projects that are currently under construction or funded for construction and operation by 2040.

These projects include highway and transit projects funded by Measure R and specified in the current constrained element of the Metro 2009 Long-Range Transportation Plan (LRTP) and the 2012 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Existing infrastructure and future planned and funded projects assumed under the No-Build Alternative include:

- Existing Freeways – Interstate 5, and Interstate 105, State Route 118, and U.S. 101;
- Existing Transitway – Metro Orange Line;
- Existing Bus Service – Metro Rapid and Metro Local Shuttle;
- Los Angeles Department of Transportation Commuter Express, and DASH;
- Existing and Planned Bicycle Projects – Bicycle facilities on Van Nuys Boulevard and connecting east/west facilities; and
- Other Planned Projects – Various freeway and arterial roadway upgrades, expansions to the Metro Rapid bus system, upgrades to the Metrolink system and the proposed California High Speed Rail project.

This alternative establishes a baseline for comparison to other alternatives in terms of potential environmental effects, including adverse and beneficial environmental effects.

1.1.2.2 TSM Alternative

The TSM Alternative enhances the No-Build Alternative and emphasizes transportation systems upgrades, which may include relatively low-cost transit service improvements. It represents efficient and feasible improvements to transit service, such as increased bus frequencies and minor modifications to the roadway network. Additional TSM Alternative transit improvements that may be considered include, but are not limited to, traffic signalization improvements, bus stop amenities/improvements, and bus schedule restructuring (Figure 1-1).

The TSM Alternative considers the existing bus network, enhanced operating hours, and increased bus frequencies for Metro Rapid Line 761 and Local Line 233. Under this alternative, the Metro Rapid Line 761 and Metro Local Line 233 bus routes would retain existing stop locations. This alternative would add 20 additional buses to the existing Metro Local 233 and Metro Rapid 761 bus routes. These buses would be similar to existing Metro 60-foot articulated buses, and each bus would have the capacity to serve up to 75 passengers (57 seats x 1.30 passenger loading standard). Buses would be equipped with transit signal priority equipment to allow for improved operations and on-time performance.

The existing Metro Division 15 maintenance and storage facility (MSF) located in Sun Valley would be able to accommodate the 20 additional buses with the implementation of the TSM Alternative. Operational changes would include reduced headway (elapsed time between buses) times for Metro Rapid Line 761 and Metro Local Line 233, as follows:

- Metro Rapid Line 761 would operate with headways reduced from 10 minutes to 8 minutes during peak hours (7 a.m. to 9 a.m. and 4 p.m. to 7 p.m. on weekdays) and from 17.5 minutes to 12 minutes during off-peak hours.
- Metro Local Line 233 would operate with headways reduced from 12 minutes to 8 minutes during peak hours and from 20 minutes to 16 minutes during off-peak hours.

Figure 1-1: TSM Alternative



Source: STV, 2014.

1.1.2.3 Build Alternative 1 – Curb-Running BRT Alternative

Under the Curb-Running BRT Alternative, the BRT guideway would incorporate 6.7 miles of existing curb lanes (i.e., lanes closest to the curb) along Van Nuys Boulevard between San Fernando Road and the Metro Orange Line. This alternative would be similar to the Metro Wilshire BRT project and would operate similarly. The lanes would be curb-running bus lanes for Metro Rapid Line 761 and Metro Local Line 233, and for other transit lines that operate on short segments of Van Nuys Boulevard. The segment between Parthenia Street and Roscoe Boulevard, adjacent to Panorama Mall, where on-street parking is currently prohibited, would have curb-running bus lanes 24 hours per day. In addition, this alternative would incorporate 2.5 miles of mixed-flow lanes, where buses would operate in the curb lane along San Fernando Road and Truman Street between Van Nuys Boulevard and Hubbard Avenue for Metro Line 761. Metro Line 233 would continue north on Van Nuys Boulevard to Lakeview Terrace. These improvements would result in an improved Metro Rapid Line 761 (hereafter referred to as 761X) and an improved Metro Local Line 233 (hereafter referred to as 233X). The route of the Curb-Running BRT Alternative is illustrated in Figure 1-2.

From the Sylmar/San Fernando Metrolink station:

- Metro Rapid Line 761X would operate within roadway travel lanes on Truman Street and San Fernando Road.
- At Van Nuys Boulevard, Metro Rapid Line 761X would turn southwest and travel south within a curb-running dedicated bus lane along Van Nuys Boulevard.
- The alternative would continue to be curb-running along Van Nuys Boulevard until reaching the Metro Orange Line Van Nuys station where Metro Rapid Line 761X service would be integrated into mixed-flow traffic.
- Metro Line 761X would then continue south to Westwood as under existing conditions, though it should be noted that in December 2014 the Metro Rapid Line 761 will be re-routed to travel from Van Nuys Boulevard to Ventura Boulevard, and then to Reseda Boulevard, while a new Metro Rapid Line 788 would travel from Van Nuys Boulevard through the Sepulveda Pass to Westwood as part of a Metro demonstration project.

Metro Local Line 233X would operate similar to how it currently operates between the intersections of Van Nuys and Glenoaks Boulevards to the north and Van Nuys and Ventura Boulevards to the south. However, Metro Local Line 233X would operate with improvements over existing service because it would utilize the BRT guideway where its route overlaps with the guideway along Van Nuys Boulevard.

Transit service would not be confined to only the dedicated curb lanes. Buses would still have the option to operate within the remaining mixed-flow lanes to bypass right-turning vehicles, a bicyclist, or another bus at a bus stop.

The Curb-Running BRT Alternative would operate in dedicated bus lanes, sharing the lanes with bicycles and right turning vehicles. However, on San Fernando Road and Truman Street, no dedicated bus lanes would be provided. The Curb-Running BRT Alternative would include 18 bus stops.

Figure 1-2: Build Alternative 1 – Curb-Running BRT Alternative

East San Fernando Valley Transit Corridor Curb Running Bus Rapid Transit (BRT)



Source: Metro and KOA, 2014.

1.1.2.4 **Build Alternative 2 – Median-Running BRT Alternative**

The Median-Running BRT Alternative consists of approximately 6.7 miles of dedicated median-running bus lanes between San Fernando Road and the Metro Orange Line, and would have operational standards similar to the Metro Orange Line. The remaining 2.5 miles would operate in mixed-flow traffic between the Sylmar/San Fernando Metrolink Station and San Fernando Road/Van Nuys Boulevard. The Median-Running BRT Alternative is illustrated in Figure 1-3.

Similar to the Curb-Running BRT Alternative, the Median-Running BRT (Metro Rapid Line 761X) would operate as follows from the Sylmar/San Fernando Metrolink station:

- Metro Rapid Line 761X would operate within mixed-flow lanes on Truman Street and San Fernando Road.
- At Van Nuys Boulevard, the route would turn southwest and travel south within the median of Van Nuys Boulevard in a new dedicated guideway.
- Upon reaching the Van Nuys Metro Orange Line Station, the dedicated guideway would end and the Metro Rapid Line 761X service would then be integrated into mixed-flow traffic.
- The route would then continue south to Westwood, similar to the existing route. Similar to Build Alternative 1, it should be noted that in December 2014 the Metro Rapid Line 761 will be re-routed to travel from Van Nuys Boulevard to Ventura Boulevard, and then to Reseda Boulevard, while a new Metro Rapid Line 788 would travel from Van Nuys Boulevard through the Sepulveda Pass to Westwood as part of a Metro demonstration project.

Metro Local Line 233 would operate similar to existing conditions between the intersections of Van Nuys and Glenoaks Boulevards to the north and Van Nuys and Ventura Boulevards to the south. Metro Rapid bus stops that currently serve the 794 and 734 lines on the northern part of the alignment along Truman Street and San Fernando Road would be upgraded and have design enhancements that would be Americans with Disabilities Act (ADA) compliant. These stops would also serve the redirected 761X line:

1. Sylmar/San Fernando Metrolink Station
2. Hubbard Station
3. Maclay Station
4. Paxton Station
5. Van Nuys/San Fernando Station

Along the Van Nuys Boulevard segment, bus stop platforms would be constructed in the median. Seventeen new median bus stops would be included.

Figure 1-3: Build Alternative 2 – Median-Running BRT Alternative

East San Fernando Valley Transit Corridor Median Running Bus Rapid Transit (BRT)



Source: Metro and KOA, 2014.

1.1.2.5 Build Alternative 3 – Low-Floor LRT/Tram Alternative

The Low-Floor LRT/Tram Alternative would operate along a 9.2-mile route from the Sylmar/San Fernando Metrolink station to the north, to the Van Nuys Metro Orange Line station to the south. The Low-Floor LRT/Tram Alternative would operate in a median dedicated guideway for approximately 6.7 miles along Van Nuys Boulevard between San Fernando Road and the Van Nuys Metro Orange Line station. The Low-Floor LRT/Tram alternative would operate in mixed-flow traffic lanes on San Fernando Road between the intersection of San Fernando Road/Van Nuys Boulevard and just north of Wolfskill Street. Between Wolfskill Street and the Sylmar/San Fernando Metrolink station, the Low-Floor LRT/Tram would operate in a median dedicated guideway. It would include 28 stations. The route of the Low-Floor LRT/Tram Alternative is illustrated in Figure 1-4.

The Low-Floor LRT/Tram Alternative would operate along the following route:

- From the Sylmar/San Fernando Metrolink station, the Low-Floor LRT/Tram would operate within a median dedicated guideway on San Fernando Road.
- At Wolfskill Street, the Low-Floor LRT/Tram would operate within mixed-flow travel lanes on San Fernando Road to Van Nuys Boulevard.
- At Van Nuys Boulevard, the Low-Floor LRT/Tram would turn southwest and travel south within the median of Van Nuys Boulevard in a new dedicated guideway.
- The Low-Floor LRT/Tram would continue to operate in the median along Van Nuys Boulevard until reaching its terminus at the Van Nuys Metro Orange Line Station.

Based on Metro's *Operations Plan for the East San Fernando Valley Transit Corridor Project*, the Low-Floor LRT/Tram Alternative would assume a similar travel speed as the Median-Running BRT Alternative, with speed improvements of 18 percent during peak hours/peak direction and 15 percent during off-peak hours.

The Low-Floor LRT/Tram Alternative would operate using low-floor articulated vehicles that would be electrically powered by overhead wires. This alternative would include supporting facilities, such as an overhead contact system (OCS), traction power substations (TPSS), signaling, and a maintenance and storage facility (MSF).

Because the Low-Floor LRT/Tram Alternative would fulfill the current functions of the existing Metro Rapid Line 761 and Metro Local Line 233, these bus routes would be modified to maintain service only to areas outside of the project corridor.

Stations for the Low-Floor LRT/Tram Alternative would be constructed at various intervals along the entire route. There are portions of the route where stations are closer together and other portions where they are located further apart. Twenty-eight stations are proposed with the Low-Floor LRT/Tram Alternative. The 28 proposed tram stations would be ADA compliant.

Figure 1-4: Build Alternative 3 – Low-Floor LRT/Tram Alternative

East San Fernando Valley Transit Corridor Median Running Tram



Source: Metro and KOA, 2014.

1.1.2.6 Build Alternative 4 – LRT Alternative

Similar to the Low-Floor LRT/Tram Alternative, the LRT would be powered by overhead electrical wires (Figure 1-5). Under Build Alternative 4, the LRT would travel in a dedicated guideway from the Sylmar/San Fernando Metrolink station along San Fernando Road south to Van Nuys Boulevard, from San Fernando Road to the Van Nuys Metro Orange Line Station, over a distance of approximately 9.2 miles. The LRT Alternative includes a segment in exclusive right-of-way through the Antelope Valley Metrolink railroad corridor, a segment with semi-exclusive right-of-way in the middle of Van Nuys Boulevard, and an underground segment beneath Van Nuys Boulevard from just north of Parthenia Street to Hart Street.

The LRT Alternative would be similar to other street-running LRT lines that currently operate in the Los Angeles area, such as the Metro Blue Line, Metro Gold Line, and Metro Exposition Line. The LRT would travel along the median for most of the route, with a subway of approximately 2.5 miles in length between Vanowen Street and Nordhoff Street. On the surface-running segment, the LRT Alternative would operate at prevailing traffic speeds and would be controlled by standard traffic signals.

Stations would be constructed at approximately 1-mile intervals along the entire route. There would be 14 stations, three of which would be underground near Sherman Way, the Van Nuys Metrolink station, and Roscoe Boulevard. Entry to the three underground stations would be provided from an entry plaza and portal. The entry portals would provide access to stairs, escalators, and elevators leading to an underground LRT station mezzanine level, which, in turn, would connect to additional stairs, escalators, and elevators to the underground LRT station platforms.

Similar to the Low-Floor LRT/Tram Alternative, the LRT Alternative would require a number of additional elements to support vehicle operations, including an OCS, TPSS, communications and signaling buildings, and an MSF.

Figure 1-5: Build Alternative 4 – LRT Alternative

East San Fernando Valley Transit Corridor
Median Running Light Rail Transit (LRT)



Source: Metro and KOA, 2014.

2.1 Regulatory Framework

A discussion of the federal, state and local regulatory framework relevant to safety and security and resources in the project area and larger region is presented below. This section also describes the methodology and significance thresholds used to estimate potential environmental impacts.

2.1.1 Federal Regulations

Both federal and state regulatory requirements emphasize safety aspects in the development of new facilities and systems. Federal requirements include those published by the Federal Railroad Administration (FRA), Federal Highway Administration (FHWA), and FTA. NEPA mandates that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [U.S.C.] 4331(b)(2)). FHWA, in its implementation of NEPA (23 U.S.C. 109(h)), directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, including whether a project or a design option would result in unacceptable safety or operational problems.

Federal safety and security regulations that would be applicable to the project are described below.

2.1.1.1 Public Transportation Safety Act of 2010

The Public Transportation Safety Act of 2010 implemented a comprehensive approach to transportation safety by establishing a national public transit safety plan, improving State and federal oversight, requiring local public transportation agency safety plans, empowering USDOT with new enforcement authority, and implementing a system to monitor the safety and condition of the nation's transit infrastructure and equipment. Details regarding these strategies include the following:

- **Improve Safety by Establishing a National Public Transportation Safety Plan**—The Public Transportation Safety Act of 2010 establishes a national public transportation safety plan to improve the safety of all public transportation systems that receive federal funding.
- **Focus on Safety by Requiring Public Transportation Agencies to Establish Comprehensive Safety Plans**—A focus on safety at public transportation agencies encourages a “culture of safety” in which each employee completes a safety training program that includes continuing safety education and training.
- **Improve the Effectiveness of State Safety Oversight Agencies and Increase Federal Funding**—States submit proposals for state safety oversight programs for rail fixed-guideway public transportation systems to the secretary and, upon approval, receive funding at an 80 percent federal share.

- **Provide New Enforcement Authority over Public Transportation Safety to the Secretary of Transportation**—In the event that a public transportation agency violates federal safety law, the Secretary of Transportation has the authority to require more frequent oversight, impose more frequent reporting requirements, impose conditions on grants, withhold grant funds, and impose civil penalties.
- **Establish a System to Monitor and Manage Transit Assets to Improve Overall Safety**—As public transportation systems age, the likelihood of accidents increases. The Secretary of Transportation is required to define the term “state of good repair,” including objective standards for measuring the condition of capital assets. Recipients are required to establish and use an asset management system to develop capital asset inventories and condition assessments and report on the condition of their system as a whole, including a description of the change in overall condition since the last report.

2.1.1.2 Moving Ahead for Progress in the 21st Century

Moving Ahead for Progress in the 21st Century (MAP-21) grants FTA the authority to establish and enforce a new comprehensive framework to oversee the safety of public transportation throughout the United States as it pertains to heavy rail, light rail, buses, ferries, and streetcars. The law requires, among other things, that FTA update the State Safety Oversight (SSO) program to ensure that rail transit systems are meeting basic common-sense safety requirements. The law also includes important new safety provisions for bus-only operators. FTA will implement the new law in consultation with the transit community and the USDOT Transit Rail Advisory Committee for Safety (TRACS), which has been working since September of 2010 to help guide this effort.

2.1.1.3 FTA’s State Safety Oversight Rule

The goal of FTA’s SSO Rule is to achieve the highest practical level of safety and security in all modes of transit. Codified at 49 Code of Federal Regulations (CFR) Part 659, the SSO rule is intended to improve the performance of the SSO program and ensure the following outcomes: (1) enhance program efficiency, (2) increase responsiveness to recommendations from the National Transportation Safety Board and emerging safety and security issues, (3) improve consistency in the collection and analysis of accident causal factors through increased coordination with other federal reporting and investigation programs, and (4) improve performance of the hazard management process. The rule also clarifies FTA’s oversight management objectives and streamlines current reporting requirements, including the change from paper reporting to electronic reporting. Finally, the rule addresses heightened concerns for rail transit security and emergency preparedness.

2.1.1.4 U.S. Department of Homeland Security

The Homeland Security Act of 2002 was signed into law on November 25, 2002, in response to the September 11, 2001, terrorist attacks.¹ The act, which brought together approximately 22 separate federal agencies to establish the U.S. Department of Homeland Security (DHS), sets forth the primary missions of the Department. The act has been amended more than 30 times since its original passage. The Department’s mission is to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards.

¹ Department of Homeland Security. 2002. *The Homeland Security Act of 2002*. Available: <<http://www.gpo.gov/fdsys/pkg/PLAW-107publ296/pdf/PLAW-107publ296.pdf>>. Accessed: March 12, 2013.

Metro coordinates with the DHS at several levels, including through the Regional Transit Security Group, the local Joint Terrorist Task Force and the area Federal Security Director for the Transportation Security Administration (TSA). Metro is currently in compliance with all TSA directives as well as 49 CFR 1580, which requires designating a rail security coordinator and reporting security concerns to TSA.

2.1.1.5 Uniform Fire Code

This code provides a comprehensive approach to fire code regulation and hazard management. The Uniform Fire Code (UFC) contains regulations related to construction and maintenance of buildings and use of their premises. Topics addressed in the UFC include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist fire responders, industrial processes, and many other general and specialized fire safety requirements for new and existing buildings and their premises.

2.1.1.6 Standards for Accessible Design

The Department of Justice published revised regulations for Titles II and III of the Americans with Disabilities Act of 1990 “ADA” in 2010. These regulations adopted revised, enforceable accessibility standards called the 2010 ADA Standards for Accessible Design “2010 Standards” or “Standards.” The 2010 Standards set minimum requirements – both scoping and technical -- for newly designed and constructed or altered State and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities.

2.1.2 State Regulations

State safety and security regulations that would be applicable to the project are discussed in the sections below.

2.1.2.1 California Public Utilities Commission

The California Public Utilities Commission (CPUC) has regulatory and safety oversight pertaining to railroads and rail transit systems in the state. The commission, which coordinates with FRA and FTA, is the largest participating state agency in the nation for ensuring railroad compliance with federal railroad safety regulations resulting from the 1970 Federal Railroad Safety Act, as codified in Title 49 of the Code of Federal Regulations.

CPUC’s regulatory and safety oversight responsibility is divided among three branches within the Consumer Protections and Safety Division: Railroad Safety, Highway Rail-Crossing Safety, and Rail Transit Safety. The Railroad Safety branch oversees heavy freight and passenger railroads. The Highway Rail-Crossing Safety branch is responsible for implementing CPUC’s Highway Rail-Crossing Program, which oversees safety for all public and private highway rail crossings in California. CPUC authorizes the construction of new at-grade highway rail crossings and the construction of underpasses and overheads. CPUC’s staff reviews proposals for crossings, investigates deficiencies related to warning devices or other safety features at existing at-grade crossings, and recommends engineering improvements to prevent accidents. Other activities include developing and enforcing uniform safety standards, analyzing data for crossing closures, reviewing grade-crossing warning devices, and analyzing rail accident data for CPUC’s *Annual Report of Railroad Accidents Occurring in California*. The Rail Transit Safety branch covers light rail, rapid rail, and cable cars. CPUC’s authority over transit agencies is based in state law and delegated by the FRA through

49 CFR Part 659. The Rail Transit Safety branch oversees the safety of public transit guideways and ensures that transit agencies have and follow system safety programs that integrate safety in all facets of transit system operations.

2.1.2.2 California Building Code

California Code of Regulations (CCR) Title 24 of the California Building Code is a compilation of building standards. State fire regulations, which are set forth in Section 13000 et seq. of the California Health and Safety Code, include regulations for building standards (as also set forth in the California Building Code); fire protection; notification systems; fire protection devices, such as extinguishers and smoke alarms; and fire suppression training. This code would apply to design criteria for the safety of the project.

2.1.3 Local Regulations

Local fire, police, local transportation departments and general plan policies and ordinances from the cities of Los Angeles and San Fernando provide additional regulations and guidance related to transit safety and security.

2.1.3.1 Metro

Metro is responsible for compliance with all federal, state, and local regulations governing the safe operation of its transit systems, both for patrons and its employees. Metro's emergency response procedures are incorporated into Metro's standard operating procedures. Metro addresses the potential for emergencies to occur and identify the ways in which their employees are to respond. These procedures and board-adopted policies would be used in designing the safety and security elements for the project.

Transit Safety and Security Measures

Station design, which is governed by Metro Design Criteria, aims to create a safe environment for pedestrians, including Americans with Disabilities Act treatments for the disabled. Metro's transit safety and security measures are as follows:

- Cameras have been installed at Metro facilities, providing for live video of activities.
- Direct communication services have been established to connect Metro's Control Center with the Los Angeles Police Department (LAPD) or the Los Angeles County Sheriff's Department (LASD) Transit Dispatch/Emergency Response Center to address incidents as they arise.
- Four quadrant gates have been installed at various high-risk highway/LRT grade crossings to deter motorists from driving around the lowered gates.
- Pedestrian swing gates and pedestrian automatic gates have been installed at various pedestrian paths that cross LRT tracks to deter unsafe pedestrian movement.
- Photo enforcement equipment has been installed at various crossings along the Metro rail system to record grade crossing violations and discourage motorists from driving around lowered gate arms and making illegal left turns.

Metro has established an agency-wide security agreement with LASD regarding a system-wide basis for transit community policing services, which would include the project study area. As the regional transportation system expands, security personnel and staffing, space, and area needs are periodically evaluated on a regional level to ensure appropriate and adequate coverage for emergency response services. A committee has been convened composed of Metro's executive staff and the LASD to identify system-wide improvements.

General Safety and Education Programs

Metro personnel are offered Community Emergency Response Training in collaboration with the Los Angeles Fire Department (LAFD). Metro personnel are also trained in earthquake awareness, disaster medical procedures, and rescue operations. In addition, Metro's rail safety outreach program communicates public transportation safety information to students, motorists, transit riders, bicyclists, and pedestrians through the following programs to ensure a better understanding of safety practices throughout the community:

- Rail safety education and outreach is offered in a classroom setting using site-specific photos and safety videos for communities along the Metro rail system. This program is available to schools, senior and recreation centers, business and community groups, and medical and religious centers.
- Rail safety orientation tours are offered to K–12 students and include safety and system information.
- The Metro Experience, which can be used as a mobile theater or a movable classroom, is available for community events. The interactive theater promotes transit education programs through presentations and tours within the region.

Metro's Transit Education Programs unit initiates its safety education program one year prior to train testing. The training consists of site-specific presentations to community members within a 1.5-mile radius of a new rail line. All schools, senior and recreation centers, business and community organizations, and religious, homeowner, and neighborhood watch groups receive safety training. Further, all schools within a 0.5-mile radius receive training a second time prior to full revenue service. Six months before testing, Rail Safety Ambassadors, all of whom are retired bus and rail operators, are placed at key locations along the alignment to observe the behavior of the community, assist in safe passage, and report safety concerns to various Metro engineering, operations, security departments and city transportation departments. Rail Safety Ambassadors remain on post for six months after revenue service begins.

Safety information, including "take-ones," flyers, banners, and advertising, is distributed throughout the community during pre-revenue service. Transit Education Programs also participates in community events along the alignment. One senior Community Relations Officer is assigned from the beginning of training and stays with the line in perpetuity.

The ultimate goal of the program is to encourage students to walk or bike to school by distributing school and route maps, conducting orientations and workshops to educate students and parents about suggested safe routes, and providing personal and traffic safety education. Although safety education and outreach are included under Metro's comprehensive safety programs, additional programs implemented by individual project study area jurisdictions are effective in promoting safe and smart travel options for children and adults alike.

Metro System Safety Program Plan

Metro oversees the operation of LRT and BRT services throughout Los Angeles County. As part of its responsibilities, Metro implements its System Safety Program Plan and its Injury & Illness Prevention Program to maintain and improve the safety of commuter operations, reduce accidents and associated costs, and comply with state regulations. These safety measures have been established to ensure worker and passenger safety, prevent crime, and allow for an adequate emergency response. In addition, the measures include emergency procedures to be followed in the event of a natural disaster.

Metro currently provides police surveillance via contracts with LASD. The most recent contract approved by the Metro Board in May 2013 provides funding for 607 administration deputies and security assistants within LASD service units and 105 administration deputies and security assistants within Metro Security. In addition to uniformed personnel, LASD provides non-uniformed police inspectors on transit buses and at major transit nodes, close-circuit television in some locations, and an emergency radio response system. Metro has also established several bus transit-specific projects and programs to enhance safety for its passengers, employees, and the community. These include:

- Cameras installed on buses to permit live video surveillance and recording.
- Direct communication with buses, drivers, LAPD, and the LASD Transit Dispatch/Emergency Response Center.
- The Transit Safety Awareness Program, which communicates safety information to motorists and pedestrians through transit-user aids, bus stop information signs, and the Internet.
- Metro's Injury and Illness Prevention Program, which addresses issues related to workplace safety procedures through communication with employees regarding health and safety issues, the identification and resolution of unsafe conditions, procedures for the investigation of workplace injuries and illnesses, and occupational health and safety training.
- Community Emergency Response Training (CERT), in collaboration with LAFD. Employees are trained in earthquake awareness, disaster medical procedures, and rescue operations.

Metro Emergency Response Plan

The Metro Emergency Response Plan is incorporated into Metro's standard operating procedures. The Emergency Response Plan is intended to establish guidelines for standard operating policy and procedures for the mobilization of Metro employees and resources during an emergency situation. The Plan is shared with other public safety resources and agencies to provide fast, controlled, and coordinated response to the various emergencies that may occur on the Metro rail system.

The goal of the Plan is to establish guidelines that impact the fewest number of responders, allowing the emergency situation to be mitigated with as little impact to the system as practicable and service to be restored as quickly as possible.

Metro Rail Design Fire/Life Safety Design Criteria

This Metro standard criteria covers fire protection requirements for underground, surface, elevated, trench and raised embankment fixed guideway transit systems including guideways, vehicles, transit stations, vehicle maintenance and storage areas; and for life safety from fire in transit stations, guideway vehicles, and outdoor vehicle maintenance and storage areas. Transit stations shall pertain to stations accommodating only passengers and employees of the fixed guideway transit systems and incidental occupancies in the stations. This standard establishes minimum requirements for each of the identified subsystems, and supersedes all other design criteria where a conflict may arise.

The Fire/Life Safety Design Criteria would address specific fire protection requirements for design and construction of the project. The criteria establish minimum requirements to provide a reasonable degree of safety from fire and its related hazards. Fire safety is achieved by integrating facility design, operating equipment, hardware, procedures, and software subsystems to protect life and property from the effects of fire. The criteria pertain to station and guideway facilities, passenger vehicles, vehicle yard and maintenance facilities, system fire/life safety procedures, communications, rail operations control, and inspection, maintenance, and training.

2.1.3.2 City of Los Angeles General Plan Safety Element

The City of Los Angeles General Plan Safety Element identifies various goals and policies to improve the safety and security of city residents. Goal 2 indicates that the City should strive to respond with the maximum feasible speed and efficiency to disaster events to minimize injury, loss of life, property damage, and disruption of the city’s social and economic life and its immediate environs. Policies regarding safety and security include the following:²

- **2.1.1 Coordination:** Coordinate program formulation and implementation between City agencies, adjacent jurisdictions, and appropriate private and public entities so as to achieve, to the greatest extent feasible and within the resources available, the maximum mutual benefit with the greatest efficiency of funds and staff.
- **2.1.3 Information:** Develop and implement, within the resources available, training programs and informational materials that are designed to assist the general public in handling disaster situations in lieu of or until emergency personnel can provide assistance.
- **2.1.5 Response:** Develop, implement, and continue to improve the City’s ability to respond to emergency events.
- **2.1.6 Standards/Fire:** Continue to maintain, enforce, and upgrade requirements, procedures, and standards to facilitate more effective fire suppression. The fire department and/or appropriate City agencies shall revise regulations and procedures to establish minimum standards for the location and expansion of fire facilities based upon fire flow requirements, intensity, and type of land use, life hazard, occupancy, and degree of hazard to provide adequate fire and emergency medical event response.

2.1.3.3 Fire Services

LAFD participates in automatic response agreements with the County of Los Angeles. The City of Los Angeles Fire Code (a part of the Municipal Code) and the general plan Safety Element contain goals, objectives, and policies related to fire prevention and fire suppression services.

The City of Los Angeles Bureau of Fire Prevention and Public Safety is responsible for accomplishing several objectives related to fire prevention.³ The primary objectives are the following: the prevention of fires; the investigation of the cause, origin, and circumstances of fires; the elimination of fire and life safety hazards in buildings, marine vessels, aircraft, and vehicles; the maintenance of fire protection equipment and systems; the regulation of storage, use, and handling of hazardous materials and hazardous substances; and enforcement of the basic building regulations of the State Fire Marshal as they apply to the City of Los Angeles in matters regarding fire, panic, and explosion safety.

2.1.3.4 City of Los Angeles Emergency Preparedness Department

The City of Los Angeles Emergency Preparedness Department is responsible for providing emergency preparedness management services throughout the city.⁴ The department coordinates interdepartmental preparedness, planning, training, and recovery activities. It also serves as a liaison with other municipalities, state and federal agencies, and the private sector and performs related public education and community preparedness activities.

² City of Los Angeles. 1996. *Safety Element*. Available: <<http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf>>. Accessed: March 10, 2013

³ City of Los Angeles Fire Department. 2013b. *Fire Prevention*. Available: <<http://lafd.org/>>. Accessed: February 2013.

⁴ City of Los Angeles. 2013. *Emergency Preparedness*. Available: <<http://emergency.lacity.org/index.htm>>. Accessed: March 10, 2013.

2.1.3.5 City of San Fernando Safety Element

The City of San Fernando Circulation and Safety Elements of the general plan identify various goals and policies to protect public health and safety for residences of the City of San Fernando.⁵ Applicable goals and policies regarding safety and security include the following:

- **Policy 3** (Circulation Element): The circulation system should provide continuity of movement throughout the city and should facilitate safe, efficient emergency access.
- **Goal 2** (Safety Element): To preserve life and property in the event of an emergency by providing a basis for the conduct and coordination of operations and the management of critical resources during emergencies.

2.1.3.6 City of San Fernando Emergency Operations Plan

The City of San Fernando Emergency Operations Plan (EOP) details the city's planned response to emergency/disaster situations associated with natural events, technological incidents, and national security emergencies.⁶ The EOP also covers transportation-related emergencies, including train incidents/derailments. The City of San Fernando contracts with LAPD for comprehensive fire and emergency medical services.

2.2 Methodology

NEPA requires that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 U.S.C. 4331(b)(2)). Although NEPA does not include specific guidance or direction with respect to evaluating alternatives and relative effects of alternatives on public safety and security, FHWA, in its implementation of NEPA (23 U.S.C. 109(h)), directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, including whether a project or a design option would result in unacceptable safety or operational problems.

The analysis of project impacts on pedestrian, bicyclist, and motorist safety along the project alternative alignments and within 0.25 mile of the proposed station areas and maintenance facility sites is based on a qualitative assessment of whether the police and fire protection coverage necessary for the build alternatives would be sufficient to comply with federal, state, and local safety regulations pertaining to system operations and passenger safety. The assessment of security addresses crime prevention and the potential for crime against persons, property theft, and vandalism. The analysis also reviews project design features in the context of Metro guidelines and procedures and considers the prior experience of other rail systems in the region to assess impacts.

⁵ City of San Fernando. 1987. *City of San Fernando Revised General Plan*. Available: <http://www.ci.san-fernando.ca.us/city_government/departments/comdev/forms_docs/General%20Plan%20-%20Complete.pdf>. Accessed: March 10, 2013.

⁶ City of San Fernando. 2008. *Emergency Operations Plan*. Available: <http://www.ci.san-fernando.ca.us/city_government/city_council/agendas_minutes/council/2009/02-17-09%20CC%20Item%204%20Attachment.pdf>. Accessed: March 10, 2013.

2.3 Significance Thresholds

Significance thresholds are used to determine whether a project may have a significant environmental effect. The significance thresholds, as defined by federal and state regulations and guidelines, are discussed below.

2.3.1 Federal

NEPA does not include specific significance thresholds. According to the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA, the determination of significance under NEPA is based on context and intensity.⁷ The State CEQA thresholds (described below) encompass factors taken into account under NEPA to determine the significance of an action in terms of its context and the intensity of its impacts. Therefore, the CEQA thresholds listed below also apply to NEPA for the project and its alternatives.

2.3.2 State

CEQA does not describe specific significance thresholds. According to the Governor's Office of Planning and Research, significance thresholds for a given environmental effect are made at the discretion of the lead agency and are the levels at which the lead agency finds the effects of a project to be significant.⁸

2.3.2.1 State CEQA Guidelines

The State CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance” (State CEQA Guidelines, Section 15382).⁹

The State CEQA Guidelines do not describe specific significance thresholds. However, Appendix G of the State CEQA Guidelines lists a variety of potentially significant effects. As outlined in Appendix G, a project would normally have a significant impact with respect to safety and security if it would:

- Be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in a safety hazard for people residing or working in the project area;
- Be within the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

⁷ Council on Environmental Quality. n.d. *Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index*. Available: <<http://ceq.hss.doe.gov/nepa/regs/ceq/1508.htm>>. Accessed: February 21, 2013.

⁸ Governor's Office of Planning and Research. 1994. *Thresholds of Significance: Criteria for Defining Environmental Significance*. September. Available: <<http://ceres.ca.gov/ceqa/more/tas/Threshold.html>>. Accessed: February 21, 2013.

⁹ City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide, G – Water Resources*. Available: <<http://www.ci.la.ca.us/ead/programs/Thresholds/G-Water Resources.pdf>>. Accessed: February 21, 2013.

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

2.3.2.2 L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* does not include specific safety and security significance thresholds.

Chapter 3

Affected Environment/Existing Conditions

3.1 Safety

Metro is the regional agency that serves as the transportation planner and coordinator, designer, builder, and regional operator of transit services in Los Angeles County. In operating LRT, subways, and bus transit, including dedicated bus transit ways, throughout Los Angeles County, Metro has established departments to address specific issues. One department is the Transit Education Programs Department, which creates programs to educate the public regarding proper safety practices with respect to BRT and LRT.

To improve the safety of passengers and pedestrians, Metro designs and operates all transit-related facilities and vehicles according to the guidelines established by the various regulatory agencies.

3.1.1 Pedestrian, Bicyclist, and Vehicle Safety

Existing pedestrian and bicycle conditions were qualitatively assessed throughout the project study area. The pedestrian circulation system is generally well developed and complete throughout the corridor, serving both adjacent residential and commercial land uses. Sidewalk widths vary throughout the project corridor. Sidewalks along Van Nuys Boulevard between San Fernando Road and Woodman Avenue are between approximately 4 – 12 feet, with an average of about 8 feet. Crosswalks at signalized intersections have pedestrian indicators and push-button activation for pedestrian phases. Most intersections in the project study area allow pedestrian crossings along all four sides. Streets are generally well-lit throughout the same area. Streetlights are placed at regular intervals along Van Nuys Boulevard between San Fernando Road and Woodman Avenue, except at the I-5 Freeway underpass. A higher concentration of streetlights occurs near populated intersections, such as Van Nuys Boulevard and Laurel Canyon Road, and near bus stations. Sidewalks along Van Nuys Boulevard between Plummer Street and Oxnard Street have a width range between approximately 4 -12 feet, with an average of about 6 feet. Streetlights are generally well lit throughout the same area, and are also placed at regular intervals. There are sections of sidewalk where allowable pedestrian accessibility is compromised when crossing driveways and locations where obstructions protruded into the path of pedestrians. Adding rail or BRT connection in the Project study area may increase potential safety conflicts for pedestrians because pedestrian traffic does exist in the area.

The project is composed of two primary corridors in the eastern San Fernando Valley (i.e., Van Nuys Boulevard corridor, and San Fernando Road/Truman Street corridor). With respect to bicycle facilities, the planned inclusion of bicycle lanes on the Van Nuys Boulevard, and San Fernando Road/Truman Street corridors, per the 2010 City of Los Angeles Bicycle Plan, will be considered as part of the analysis.

According to California Highway Patrol data collected and geocoded by the Safe Transportation Research and Education Center at the University of California, Berkeley, 10 vehicle incidents occurred during the 2011 calendar year on or adjacent to the proposed alignment. As shown in Table 3-1, of the 10 vehicle incidents in the vicinity, the most prevalent vehicle collision type involved a vehicle and another vehicle or other object, resulting in 19 injuries. One vehicle incident involving a pedestrian

Table 3-1: Vehicle Collisions Within or Adjacent to Proposed Alignment, 2010 and 2011

Collision Type	Total Incidents	Persons Injured	Persons Killed
2011			
With Pedestrian	1	1	0
With Bicycle	1	1	0
With Other Motor Vehicle or Other Object	8	19	0
TOTAL	10	21	0
2010			
With Pedestrian	2	3	0
With Bicycle	1	1	0
With Other Motor Vehicle or Other Object	4	6	0
TOTAL	7	10	0
Source: Safe Transportation Research and Education Center 2014.			

was reported in 2011, resulting in one injury. There was also one vehicle incident involving a bicyclist in 2011, resulting in one injury. It should be noted that figures provided in Table 3-1 most likely underrepresent the number of vehicle incidents that occurred in the area in 2011 because many incidents result in property damage but not injury or death.¹⁰

3.1.2 Fire Protection

LAFD provides fire and emergency response services throughout the project study area. LAFD would provide first response in case of an accident and coordinate closely with Metro to provide emergency services during construction and operation of the project. Figure 3-1 shows the fire stations located within the project study area, which are the following:¹¹

- Station #7: 14123 Nordhoff Street, Arleta;
- Station #39: 14415 Sylvan Street, Van Nuys;
- Station #81, 14355 Arminta Street, Panorama City;

¹⁰ The 2011 data are the most recent data available. It is anticipated that 2012 data will not be available until summer 2014.

¹¹ City of Los Angeles Fire Department. 2013a. *Find a Station*. Available: <<http://lafd.org/>>. Accessed: February 2013.

Figure 3-1: LAFD Stations Located in the Project Study Area



Source: ICF International, 2014.

- Station #88: 5101 N. Sepulveda Boulevard, Sherman Oaks; and
- Station #98, 13035 Van Nuys Boulevard, Pacoima.

In addition to fire protection and emergency medical services, Station #88 also includes an Urban Search and Rescue Task Force and is a designated Emergency Preparedness Training Center.

City of San Fernando Fire Services

The study area is partly located within the City of San Fernando. Fire protection and emergency medical services within the City of San Fernando are provided by the LAFD.

3.2 Security

The affected environment with respect to security is the bus and rail system, which includes stations, vehicles, and ancillary facilities. Passengers, transit employees, vendors, contractors, and members of the general public who come in contact with the system, as well as transit property and equipment, would be susceptible to the same crimes they might experience in the surrounding neighborhoods. Passenger security features include closed-circuit television cameras (CCTV), emergency call boxes, fully lighted station stops, and transit parking areas. These features, which are within the trains and buses or at the rail stations, are designed to offer security and a personal sense of well-being for passengers.

The majority of the study area is served by the LAPD for police protection and the LAFD for fire protection and emergency medical services. Fire protection and emergency services are governed by the Fire Protection Prevention Plan of the City of Los Angeles.

3.2.1 Police Protection

The following LAPD stations are located within the project study area:¹²

- Foothill Community Police Station, 12760 Osborne Street, Pacoima
- Van Nuys Community Police Station, 6240 Sylmar Avenue, Van Nuys

The City of San Fernando Police Department is located at 910 First Street in the City of San Fernando, less than 1 mile from the Sylmar Metrolink station. The San Fernando Police Department includes 35 sworn officers and 25 civilian personnel.¹³

Figure 3-2 shows the police stations located within the project area.

¹² City of Los Angeles Police Department. 2013. *Our Communities*. Available: <http://www.lapdonline.org/our_communities>. Accessed: March 2013.

¹³ City of San Fernando Police Department. n.d. *Police*. Available: <http://www.ci.san-fernando.ca.us/city_government/departments/police/index.shtml>. Accessed: March 9, 2013.

Figure 3-2: Police Stations Located in the Project Study Area



Source: ICF International, 2014.

3.2.2 Crime Within the Project Study Area

According to the Los Angeles County Sheriff's Department Transit Services Bureau, a total of 6,449 incidents were reported in 2012, the most recent year for which data have been compiled and released to the public.¹⁴ As shown in Table 3-2, a total of 1,565 Part I crimes were reported for light-rail/bus facilities in 2012, which represents a 28 percent increase from 2011.¹⁵ Part I crimes include violent crimes (homicide, rape, robbery, and aggravated assault), property crimes (burglary, motor vehicle theft, and larceny-theft over \$400), and arson. There were 664 adult arrests and 120 juvenile arrests made by LASD Transit Services Bureau deputies on or near light-rail/bus facilities in 2012.¹⁶

Table 3-2: LASD Transit Services Bureau, Incidents Reported for Metro Train/Bus Facilities and Rights-of-Way

Crime	2010	2011	2012
Larceny Theft	583	576	787
Robbery	292	261	380
Grand Theft Auto	144	123	89
Aggravated Assault	237	237	283
Burglary	12	13	20
Arson	3	5	1
Forcible Rape	1	3	4
Homicide	2	2	1
TOTAL <i>(not including vandalism)</i>	1,274	1,220	1,565
Vandalism	454	357	306

Source: LASD Transit Services Bureau 2010, 2011, 2012; ICF International, 2014.

¹⁴ Los Angeles County Sheriff's Department. 2011a. *Transit Services Bureau 2011 Synopsis*. Available: <<http://www.lasdhq.org/sites/yir9600/yir2011/tsb/synopsis.htm>>. Accessed: March 10, 2013.

¹⁵ Ibid.

¹⁶ Los Angeles County Sheriff's Department. 2012b. *Transit Services Bureau – Light-Rail/Bus 2012 Crime Incident and Arrest Summary and Arrest Statistics*. Available: <<http://www.lasdhq.org/sites/yir9600/yir2012/tsb/11.htm>>. Accessed: March 17, 2014.

4.1 No-Build Alternative

4.1.1 Safety and Security

Under the No-Build Alternative, no new transportation infrastructure would be built within the project study area, aside from projects that are currently under construction or funded for construction and operation by 2040. These projects include highway and transit projects funded by Measure R and specified in the current constrained element of the Metro 2009 Long-Range Transportation Plan (LRTP) and the 2012 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Existing infrastructure and future planned and funded projects assumed under the No-Build Alternative include:

- Existing Freeways – Interstate 5 and Interstate 405, State Route 118, and U.S. 101.
- Existing Transitway – Metro Orange Line (BRT).
- Existing Bus Service – Metro Rapid, and Metro Local, Shuttle; Los Angeles Department of Transportation Commuter Express, and DASH.
- Existing and Planned Bicycle Projects – Bicycle facilities on Van Nuys Boulevard and connecting east/west facilities.
- Other Planned Projects – Various freeway and arterial roadway upgrades, expansions to the Metro Rapid Bus system, upgrades to the Metrolink system and the proposed California High Speed Rail project.

Because the No-Build Alternative includes no new construction, aside from the existing transportation infrastructure and future planned projects described above, it would not result in any safety and security impacts.

4.1.2 Airport Hazards

Whiteman Airport, located at 12653 Osborne St, is located approximately 3.6 miles south from the Sylmar/San Fernando Metro Station. Van Nuys Airport, located at 16461 Sherman Way, is located approximately 2 miles east of the study area. Impacts related to airport hazards would not occur because the No-Build Alternative would not include new construction that could expose persons to hazards from airport operations.

4.1.3 Wildland Fires

The study area is not located in a City of Los Angeles–designated wildland fire area.¹⁷ Additionally, the No-Build Alternative would not include new construction that could expose persons to wildland fire hazards; no impacts would occur under this alternative.

¹⁷ City of Los Angeles Safety Element. Exhibit D. <http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf>. Accessed: March 27, 2014.

4.1.4 Impact Conclusions

Under NEPA, this alternative would not result in adverse effects to pedestrian, motorist, and/or bicycle safety. Additionally, adverse effects to police and fire services would not occur. As no new transportation infrastructure would be built under this alternative, aside from projects currently under construction or funded that have been described above, no direct or indirect effects related to public safety or security would occur.

Under CEQA, the No-Build Alternative would not affect emergency response times of police and fire services because no new construction is proposed that would interfere with emergency vehicle access. No wildland fires or airport hazards impacts would occur as described above. Therefore, under CEQA, the No Build Alternative would not result in safety and security impacts or expose people or structures to safety or fire hazards.

4.2 Transportation Systems Management Alternative

The TSM Alternative emphasizes transportation systems upgrades, which may include relatively low-cost transit service improvements, such as increased bus frequencies. Additional TSM Alternative transit improvements that may be considered include, but are not limited to, traffic signalization improvements, bus stop amenities/improvements, bus schedule restructuring, minor modifications to the roadway network, or traffic control systems.

4.2.1 Safety

4.2.1.1 Pedestrian, Vehicle, and Bicycle Safety

The TSM Alternative could include improvements to the existing bus network, including enhanced operating hours and increased bus frequencies for Rapid Line 761 and Local Line 233. Buses would continue to operate on existing streets. There would be no or minimal changes to the existing environment. Potential minor modifications to the roadway network would enhance the transportation network, would be compliant with ADA guidelines, and would most likely result in no new pedestrian, bicycle, and/or vehicle safety impacts or conflicts.

4.2.1.2 Accidents and Collisions

This alternative would result in enhanced operating hours and increased bus frequencies on an existing transportation network and possibly minor modifications to the roadway network or traffic control systems. The increased bus service could result in a corresponding increase in the number of collisions. However, potential bus improvements under this alternative would be subject to Metro's System Safety Program Plan and its Injury & Illness Prevention Program. Based on this and given the incremental changes in bus frequencies, implementation of the TSM Alternative is not expected to result in substantial increased risk of accidents or collisions, and no substantial adverse or significant impacts are anticipated.

4.2.2 Security

The increased bus frequencies and potential minor modifications to the roadway network would not adversely affect access or result in additional congestion on the roadway network that could adversely affect emergency vehicle response or evacuation plans in the event of an emergency.

The TSM Alternative is not expected to result in a substantial increase in crime due to the increased bus frequencies. The proposed improvements under this alternative would result in minor changes to the operational characteristics of the transportation system. The project area is a highly urbanized area in the San Fernando Valley within the Cities of Los Angeles and San Fernando. Crime is a fact of urban life and will continue with or without implementation of this alternative. Personnel from the Transit Services Bureau of LASD would continue to respond in the event of a security-related emergency, with assistance provided by LAPD as necessary. Additionally, all riders would be subject to the LADOT Rider's Code of Conduct (Los Angeles Department of Transportation n.d.) and to Metro guidelines and requirements pertaining to riders. Therefore, any adverse effects related to security that might occur under the TSM Alternative are expected to be minor.

4.2.3 Airport Hazards

The project site is not located in the immediate vicinity of an airport (the closest airport is 2 miles to the east). Therefore, this alternative would not result in increased airport hazards.

4.2.4 Wildland Fires

The project site is not located in a wildland fire hazards area. No impacts would occur.

4.2.5 Impact Conclusions

Under NEPA, the TSM Alternative would not result in an effect or minor adverse effects to safety and security, including emergency response times, crimes, and vehicle, bicycle, and pedestrian safety.

Under CEQA, no impacts to emergency vehicle response are expected to occur. No increase in airport hazards and wildland fires hazards would occur.

4.3 Build Alternative 1 – Curb-Running BRT Alternative

Under the Curb-Running BRT Alternative, lanes would be converted to dedicated curb-running bus lanes for Rapid Line 761 and Local Line 233 and for other transit lines that operate on short segments of Van Nuys Boulevard. Curb lanes in the segment between Parthenia Street and Roscoe Boulevard, adjacent to Panorama Mall, where on-street parking is currently prohibited, would also be converted to dedicated curb-running bus lanes. In addition, this alternative would incorporate 2.5 miles of mixed-flow lanes, where buses would operate in the curb lanes along San Fernando Road and Truman Street between Van Nuys Boulevard and Hubbard Avenue for Metro Line 761. Metro Line 233 would continue north on Van Nuys Boulevard to Lakeview Terrace. This alternative would result in an improved Rapid Line 761 and an improved Local Line 233.

4.3.1 Safety

4.3.1.1 Pedestrian, Vehicle, and Bicycle Safety

The buses operating under the Curb-Running BRT Alternative would be similar to existing Metro high-capacity, articulated 60-foot buses. Each bus would have the capacity to serve up to 75 passengers (57 seats x 1.30 passenger loading standard). Buses would be equipped with transit signal priority equipment to allow for improved operations and on-time performance. Based on Metro's *Operations Plan for the East San Fernando Valley Transit Corridor Project*, the Curb-Running BRT Alternative is

anticipated to result in speed improvements of 18 percent for peak hours and directions and 15 percent for off-peak hours and directions. Other than the improvements in performance and the fact that the BRT would operate in a dedicated curb lane, which would improve safety, this alternative would operate in a similar fashion to existing bus lines along the corridor and consequently it's not expected to result in significant new safety hazards or concerns.

All current pedestrian movements across roadways would be maintained under this alternative, including all existing mid-block crossing opportunities. All current motor vehicle turns into and out of cross streets and driveways would also be maintained under this alternative. No prohibitions on left turns or right turns would be necessary.

All current Metro Rapid bus stops would be upgraded and would include design enhancements that would be ADA compliant. Canopies at upgraded bus stations would be designed to meet accessibility requirements. Other modifications to the curb lanes to accommodate the BRT improvements would also comply with ADA guidelines

This alternative, however, would result in modifications to existing bicycle lanes in the corridor. On Van Nuys Boulevard between the Metro Orange Line and San Fernando Road, with one exception (at Roscoe Boulevard), the curbside lane would be 12 feet wide or greater. Bicyclists and right-turning vehicles would be permitted within the curb lane. On Van Nuys Boulevard at Roscoe Boulevard, the curbside lane would be 11 feet wide. Parking is currently prohibited on the segment. A permanent curbside bus lane would be provided on this segment so that bicyclists would share the curbside lane only with buses and right-turning vehicles and not the general public. The existing Class II bike lanes on Van Nuys Boulevard north of Parthenia Street would be removed under this alternative. Although proposed changes to the roadway network to accommodate the BRT improvements would be designed and implemented in accordance with Metro design guidelines in order to ensure pedestrian, motorist, and bicyclist safety, the removal of Class II bike lanes or replacement with shared bike lanes would increase the potential for conflicts between bicyclists and motor vehicles, reducing safety, which would be a potentially adverse effect and significant impact.

4.3.1.2 Accidents and Collisions

As previously stated, the Curb-Running BRT Alternative would operate in dedicated bus lanes along Van Nuys Boulevard; however, on the San Fernando Road and Truman Street segments, the BRT buses would operate in the mixed-flow curb lanes. Where BRT buses would be placed in dedicated lanes and would be separated from mixed-flow traffic, the potential for conflict between normal street traffic and bus operations would be reduced and, therefore, the potential for accidents would decrease. Where buses would operate in mixed-flow traffic, increased bus service could potentially result in a corresponding increase in the number of collisions. However, potential bus improvements under this alternative would be subject to Metro's System Safety Program Plan (see Section 2.1.31 above). Given that fact and because existing bus service in the corridor operates in mixed-flow traffic, it is not expected that there would be a significant increase in accidents or collisions between buses and other motor vehicles as a result of this alternative. For a discussion of conflicts between bicyclists and motor vehicles, please see the discussion above under Pedestrian, Vehicle, and Bicycle Safety.

4.3.2 Security

The conversion of existing mixed-flow lanes to dedicated BRT lanes would result in additional roadway congestion due to the decreased roadway capacity for mixed-flow traffic, which could adversely affect emergency vehicle response and access or evacuation plans in the event of an emergency. If the increased congestion results in substantial additional delay for emergency vehicles, the impact would be significant. However, emergency vehicles would be able to use the BRT lanes if

needed, when responding to an emergency. Therefore, impacts are expected to be less than significant.

Although implementation of this alternative and development of new BRT facilities in the corridor could pose security concerns, including the potential for assault, robbery, or terrorist attacks, these concerns would be addressed both through design considerations and by coordinating with law enforcement personnel as described in mitigation measures below. Personnel from the Transit Services Bureau of LASD would continue to respond in the event of a security-related emergency, with assistance provided by LAPD as necessary. Additionally, all riders would be subject to the LADOT Rider's Code of Conduct (Los Angeles Department of Transportation n.d.) and to Metro guidelines and requirements pertaining to riders. Therefore, the Curb Running BRT Alternative is not expected to result in a substantial increase in crime and any adverse effects on security are expected to be minor.

4.3.3 Airport Hazards

The project site is not located in the immediate vicinity of an airport (the closest airport is 2 miles to the east). Therefore, this alternative would not result in increased airport hazards.

4.3.4 Wildland Fires

The project site is not located in a wildland fire hazards area. No impacts would occur.

4.3.5 Impact Conclusions

Under NEPA, the Curb-Running BRT Alternative could result in adverse effects due to the potential for conflicts between bicyclists and motor vehicles. It is expected that the Curb-Running BRT Alternative would result in a minimal increased risk of accidents and collisions. Mitigation measures (see below) are proposed to further reduce or minimize potential safety and security impacts.

Under CEQA, the potential for conflicts between bicyclists and motor vehicles is considered a potentially significant impact. Other safety and security impacts would be less than significant or no impacts (wildland fire hazards and airport hazards) would occur. Also, see the proposed mitigation measures included in Chapter 5, which are intended to further reduce potential impacts, where feasible.

4.4 Build Alternative 2 – Median-Running BRT Alternative

The Median-Running BRT alternative would consist of 6.7 miles operating in a dedicated median-running configuration along Van Nuys Boulevard between San Fernando Road and the Metro Orange Line, and 2.5 miles within mixed-flow lanes along San Fernando Road between Van Nuys Boulevard and Hubbard Street.

4.4.1 Safety

4.4.1.1 Pedestrian, Vehicle, and Bicycle Safety

This alternative would include restrictions on motor vehicle and pedestrian movements as a result of reconfiguration of the roadway and reduced number of travel lanes to accommodate the BRT facilities or for safety reasons to eliminate or minimize potential conflicts.

Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections. The dual left-turn lanes on northbound and southbound Van Nuys Boulevard at Sherman Way and at Roscoe Boulevard would be reduced to single left-turn lanes. Several left-turns in the Van Nuys Civic Center, between Calvert Street and Hartland Street, would be prohibited to accommodate median bus stop platforms. Because of the distance between signalized intersections, there would not be enough space for left-turn lanes. For similar reasons, the left turn into the retail property on the east side of Van Nuys Boulevard, between Roscoe Boulevard and Chase Street, would be prohibited. Unless otherwise prohibited, U-turns would be allowed from signalized left-turn lanes on Van Nuys Boulevard. Access to and from minor side streets and private driveways may need to rely on these U-turn opportunities.

All movements across the median guideway would be prohibited. This would include left turns from Van Nuys Boulevard at unsignalized intersections and private driveways, as well as left turns and through traffic from the side streets or from private driveways. Motorists who desire to make a left turn into an unsignalized cross street or driveway would need to find a signalized left turn from which to make a U-turn or turn right off of Van Nuys Boulevard and seek a route that would enable them to reach a signalized cross street.

From Sherman Way northward, the public right-of-way width of Van Nuys Boulevard is 100 feet. To accommodate two bus lanes and a left-turn lane or bus stop in the median of Van Nuys Boulevard, the sidewalk widths would be narrowed to 10 feet. This is required due to street widening that would occur in some locations under this option. At locations where the sidewalk would be narrowed, the power poles would need to be relocated. In most cases, to satisfy drainage requirements, the entire width of the sidewalk would be reconstructed. At some locations where the sidewalk width is currently less than 10 feet, there would be no sidewalk narrowing. At a curbside bus stop, sidewalks currently less than 10 feet wide would be widened to 10 feet. Although the new sidewalk width would meet the minimum 10-foot-wide accessibility requirements, at some locations with higher pedestrian activity (at the proposed Chase, Roscoe, Blythe, Sherman Way, and Vanowen Stations), the reduction in sidewalk width (from 13 feet to 10 feet) would result in a potentially adverse effect and significant impact to pedestrians.

With regards to pedestrian access, all existing signal-controlled crosswalks would be maintained. However, all other pedestrian crossings on Van Nuys Boulevard at unsignalized intersections would be prohibited to avoid potential conflicts between pedestrians and the BRT vehicles. A barrier that would be the length of the alignment could be installed to prevent illegal pedestrian crossings of the BRT guideway and fencing for pedestrian channelization could also be installed under this alternative. Bus patrons would be restrained between curbside local bus stops and median BRT bus stops by railings on the backside of median bus stop platforms.

From Sherman Way northward, the public right-of-way width of Van Nuys Boulevard is 100 feet. To accommodate two bus lanes and a left-turn lane or bus stop in the median of Van Nuys Boulevard, the sidewalk widths would be narrowed to 10 feet. This is required due to street widening that would occur in some locations under this alternative. At locations where the sidewalk would be narrowed,

the power poles would need to be relocated. At some locations where the sidewalk width is currently less than 10 feet, there would be no sidewalk narrowing. At a curbside bus stop, sidewalks currently less than 10 feet wide would be widened to 10 feet. The reductions in sidewalk widths are not expected to result in substantial adverse or significant safety effects or impacts.

Metro Rapid bus stops that currently serve the 794 and 734 lines on the northern part of the alignment along Truman Street and San Fernando Road would be upgraded and have design enhancements that would be Americans with Disabilities Act (ADA) compliant, including compliance with the dimensions and requirements pertaining to Bus Boarding and Alighting Areas, Bus Shelters, and Bus Stops as described in sections 8.10.2, 8.10.3, and 8.10.4 of the 2010 ADA Standards. Along the Van Nuys Boulevard segment, bus stop platforms would be constructed in the median. The proposed stations would be consistent with Metro's Systemwide Station design. This alternative would also result in modifications to existing bicycle lanes in the corridor. On Van Nuys Boulevard between the Metro Orange Line and San Fernando Road, the curbside lanes would typically be 11 feet wide. Thus, motorists in the curbside lane would need to shift to the left to pass a bicyclist. The existing bike lanes extending north on Van Nuys Boulevard from Nordhoff Street would be removed and would not be replaced under this alternative. The removal of Class II bike lanes to accommodate the project would increase the potential for conflicts between bicyclists and motor vehicles traveling along Van Nuys Boulevard in this segment of the corridor, reducing safety, which would be a potentially adverse effect and significant impact.

4.4.1.2 Accidents and Collisions

This alternative would consist of 6.7 miles of dedicated guideway, which would be separated from mixed flow traffic. When buses use a dedicated guideway or lane it reduces the potential for conflicts between buses and mixed flow traffic. Additionally, Metro would coordinate with LADOT to ensure busway intersections with all necessary street infrastructure would be designed and constructed to enable motorists, bicyclists and pedestrians to interact safely with the buses. To guard motorists from accidentally driving onto the guideway, directional signs would be installed on busway entrances. Additionally, Metro guidelines pertaining to the prevention of accidents and collisions and mitigation measures specified in Chapter 5 would further increase safety and reduce the potential for conflicts and accidents and collisions.

The bus stops, including stops at the Sylmar/San Fernando Metrolink station, would be upgraded with canopies, which would be approximately 13 feet in height and have integrated lighting to enhance safety. Design features would be included to provide a safe, secure, and comfortable transit system.

Approximately 2.5 miles of the alternative would be located within mixed flow lanes along San Fernando Road between Van Nuys Boulevard and the Sylmar/San Fernando Metrolink station. Where buses would operate in mixed-flow traffic, increased bus service could potentially result in a corresponding increase in the number of collisions. However, potential bus improvements under this alternative would be subject to Metro's System Safety Program. Given that fact and because existing bus service in the corridor operates in mixed-flow traffic, it is not expected that there would be a significant increase in accidents or collisions between buses and other motor vehicles as a result of this alternative. For a discussion of conflicts between bicyclists and motor vehicles, please see the discussion above under Pedestrian, Vehicle, and Bicycle Safety.

4.4.2 Security

Similar to Build Alternative 1 – Curb-Running BRT, the conversion of existing mixed-flow lanes to dedicated BRT lanes under Alternative 2 would result in additional roadway congestion due to the decreased roadway capacity for mixed-flow traffic, which could adversely affect emergency vehicle response and access or evacuation plans in the event of an emergency. The proposed motor-vehicle turn restrictions described above under Pedestrian, Vehicle, and Bicycle Safety, could also result, in some instances, in emergency vehicles taking a slightly more circuitous route, and therefore require more time to respond to emergencies. If the increased congestion and turn restrictions result in substantial additional delay for emergency vehicles, the impact would be significant.

Although implementation of this alternative and development of new BRT facilities in the corridor could pose security concerns, including the potential for assault, robbery, or terrorist attacks, these concerns would be addressed both through design considerations and by coordinating with law enforcement personnel as described in mitigation measures in Chapter 5. Personnel from the Transit Services Bureau of LASD would continue to respond in the event of a security-related emergency, with assistance provided by LAPD as necessary. Additionally, all riders would be subject to the LADOT Rider's Code of Conduct (Los Angeles Department of Transportation n.d.) and to Metro guidelines and requirements pertaining to riders. Therefore, the Median-Running BRT Alternative is not expected to result in a substantial increase in crime and any adverse effects on security are expected to be minor.

4.4.3 Airport Hazards

The project site is not located in the immediate vicinity of an airport (the closest airport is 2 miles to the east). Therefore, this alternative would not result in increased airport hazards.

4.4.4 Wildland Fires

The project site is not located in a wildland fire hazards area. No impacts would occur.

4.4.5 Impact Conclusions

Under NEPA, the Median-Running BRT Alternative could result in adverse effects due to the reduced sidewalk widths in some locations, the potential for conflicts between bicyclists and motor vehicles and the potential additional delay for emergency vehicles due to increased roadway congestion and turn-movement restrictions. It is expected that the Median-Running BRT Alternative would result in minimal increased risk of accidents and collisions. Mitigation measures (included in Chapter 5) are proposed to further reduce or minimize potential safety and security impacts.

Under CEQA, the reduced sidewalk widths in some locations, the potential for conflicts between bicyclists and motor vehicles and increased delay for emergency responders are potentially significant impacts. Other safety and security impacts would be less than significant or no impacts (wildland fire hazards and airport hazards) would occur. Also, see the proposed mitigation measures in Chapter 5, which are intended to further reduce potential impacts, where feasible.

4.5 Build Alternative 3 – Low-Floor LRT/Tram Alternative

The Low-Floor LRT/Tram Alternative would operate along a 9.2-mile route from the Sylmar/San Fernando Metrolink station to the north to the Metro Orange Line station to the south and would include 28 stations. The Low –Floor/Tram Alternative would operate in a median dedicated guideway for approximately 6.7 miles along Van Nuys Boulevard between San Fernando Road and the Van Nuys Orange Line Metro station. The Low-Floor LRT/Tram alternative would operate in mixed-flow traffic lanes on San Fernando Road between the intersection of San Fernando Road/Van Nuys Boulevard and just north of Wolfskill Street. Between Wolfskill Street and the Sylmar/San Fernando Metrolink station, the Low-Floor LRT/Tram would operate in a median dedicated guideway.

4.5.1 Safety

4.5.1.1 Pedestrian, Vehicle, and Bicycle Safety

The Low-Floor LRT/Tram Alternative would operate using low-floor articulated vehicles that would be electrically powered by overhead wires along steel rail tracks. For the purposes of this study the Low-Floor LRT/Tram is assumed to consist of two cars, which would be connected to form a 180-foot long train. Although Low-Floor LRT/Tram vehicles could operate at speeds up to 60 miles per hour (mph) in a dedicated guideway, along Van Nuys Boulevard, they would not exceed the posted adjacent roadway speed limit, which is typically 35 mph. Low-Floor LRT/Tram vehicles would carry approximately 50 to 90 seated passengers and more than 200 total passengers including standing passengers (depending on the type of Low-Floor LRT/Tram vehicle selected). Based on Metro's Operations Plan for the East San Fernando Valley Transit Corridor Project, the Low-Floor LRT/Tram Alternative would assume a similar travel speed as the Median-Running BRT Alternative, with speed improvements of 18 percent during peak hours/peak direction and 15 percent during off-peak hours.

Under this alternative, most of the left turns would be prohibited from San Fernando Road through the City of San Fernando where a median dedicated guideway for the Low-Floor LRT/Tram vehicle is proposed between the Sylmar/San Fernando Metrolink station and Wolfskill Street. Furthermore, to maintain the pedestrian-oriented retail character of San Fernando Road between San Fernando Mission Boulevard and Chatsworth Drive, through traffic would be forced off of San Fernando Road on the block between Maclay Avenue and Brand Boulevard by means of turn restrictions. It should be noted that if Alternative 3 is selected as the preferred alternative, this operating scenario within the City of San Fernando would have to be confirmed or modified in coordination with the City of San Fernando. All existing turning movements would be maintained on San Fernando Road between Wolfskill Street and Van Nuys Boulevard where the Low-Floor LRT/Tram would share travel lanes with motor vehicles. Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections where the Low-Floor LRT/Tram would be running in the median. However, all vehicle movements across the median at currently unsignalized intersections would be prohibited. This would include left turns from Van Nuys Boulevard as well as left turns and through traffic from minor side streets and private driveways. Motorists who desire to make a left turn onto an unsignalized cross street or into a driveway would have to make a U-turn at a signalized left-turn location or choose a route that would allow them to use a signalized cross street.

Pedestrian safety concerns under this alternative would include the following:

- Pedestrian safety at station locations
- Pedestrian safety near the Low-Floor LRT/Tram alignment
- Pedestrian safety at designated crossings

The proposed stations could introduce a safety hazard for pedestrians if the stations do not adequately account for pedestrian traffic and movement. This hazard could be attributed to the inherent purpose of a station, where large numbers of people congregate and cross the trackway to access or depart from the stations, which creates a potential of collisions between pedestrians and Low-Floor LRT/Tram vehicles. The introduction of Low-Floor LRT/Tram vehicles in mixed-flow traffic lanes along San Fernando Road (from Wolfskill Street to Van Nuys Boulevard) would create a safety concern for pedestrians at intersection crossings where pedestrians would cross over the tracks. Similarly, a potential safety hazard could occur if pedestrians attempt to cross streets and tracks illegally. Pedestrian traffic control and channelization techniques would be used to control pedestrian movements at intersections and encourage the use of designated pedestrian crossings. On all other segments where the Low-Floor LRT/Tram operates in semi-exclusive guideway, pedestrian crossings would be permitted only at signal-controlled intersections. Pedestrians would be required to walk to a signalized location to cross San Fernando Road or Van Nuys Boulevard. Passengers would reach the median station platforms from crosswalks at signalized intersections. Additionally, there would be a pedestrian bridge at the Sylmar/San Fernando Metrolink station from the Low Floor LRT/Tram platform to the Metrolink platform. Construction of the pedestrian bridge would comply with Metrolink/SCRRA Design Criteria. The overhead pedestrian crossing shall be a minimum of 24 feet clear above the top of the rail and shall be a minimum of 10 feet wide. It would be served by stairs and either an elevator or a ramp system complying with ADA requirements. Fencing on overcrossings is required to prevent the dropping of large objects on passing trains. Lighting controls would be installed in accordance with Metrolink's recommended illumination levels for overhead pedestrian bridges and shall be designed to use energy efficiently.

Although Metro would prepare grade crossing applications in coordination with local public agencies such as LADOT, Bureau of Engineering, and the City Fire Department, these pedestrian safety impacts are potentially adverse and significant. Implementation of the mitigation measures included in Chapter 5 would reduce impacts to minor adverse under NEPA and less than significant under CEQA.

The Low-Floor LRT/Tram stations would be ADA compliant and access to the station platforms would be from crosswalks, and passenger loading to and from the Low-Floor LRT/Trams would occur from both sides of the station platform. Canopies at the stations would incorporate station stop lighting to enhance safety. Adherence to Metro safety guidelines and mitigation measures specified in Chapter 5 would minimize potential safety hazards.

Along Van Nuys Boulevard, where the existing sidewalks on each side of Van Nuys Boulevard are approximately 13 feet wide, sidewalks would be narrowed to 10 feet to accommodate the installation of the tram guideway and a left-turn lane or tram station in the median of Van Nuys Boulevard, while providing two travel lanes in each direction. This sidewalk narrowing would occur from the Metro Orange Line to El Dorado Avenue in Pacoima, and would require the relocation of utility poles. Although the new sidewalk width would meet the minimum 10-foot-wide accessibility requirements, at some locations with higher pedestrian activity (at the proposed Chase, Roscoe, Blythe, Sherman Way, and Vanowen Stations), the reduction in sidewalk width (from 13 feet to 10 feet) would result in a potentially adverse effect and significant impact to pedestrians. The Low-Floor LRT/Tram Alternative would require a number of additional elements to support vehicle operations, including an overhead

contact system (OCS), traction power substations (TPSSs), signaling, and an MSF. The MSF would include collision/body repair areas, paint booths, and wheel truing (the profiling of wheels to ensure the proper wheel to rail interface) machines. The MSF would be located at or near the following intersections:

- MSF Option A – Van Nuys Boulevard/Metro Orange Line
- MSF Option B – Van Nuys Boulevard/Keswick Street
- MSF Option C – Van Nuys Boulevard/Arminta Street

The OCS poles would be approximately 30 feet tall and typically located every 90 to 170 feet between two Low-Floor LRT/Tram tracks. Where the available public right-of-way width is extremely limited, the OCS poles would be placed on the sidewalk. At such locations, curb side bus stops serving local bus lines would be relocated so as to avoid having obstructions within the bus stop area. The MSF, TPSSs, and OCS would adhere to Metro safety guidelines and consequently are not expected to result in substantial adverse or significant effects or impacts. Proposed mitigation measures included in Chapter 5 would further minimize potential effects.

This alternative, and the other build alternatives, would result in modifications to existing bicycle lanes in the corridor. On Van Nuys Boulevard between the Metro Orange Line and San Fernando Road, under the Low-Floor LRT/Tram Alternative, the curbside lanes would typically be 11 feet wide. The existing bike lanes extending north on Van Nuys Boulevard from Nordhoff Street would be removed and would not be replaced under this alternative. The removal of Class II bike lanes to accommodate the project would increase the potential for conflicts between bicyclists and motor vehicles traveling along Van Nuys Boulevard in this segment of the corridor, reducing safety, which would be a potentially adverse effect and significant impact.

4.5.1.2 Accidents and Collisions

Similar to the Median-Running BRT Alternative, the Low-Floor LRT/Tram Alternative would consist of 6.7 miles of dedicated guideway, which would be separated from mixed-flow traffic. Placement of the Low-Floor LRT/Tram in a dedicated guideway would reduce the potential for conflicts between Low-Floor LRT/Tram vehicles and mixed-flow traffic. However, the Low-Floor LRT/Tram Alternative would operate in mixed-flow lanes along San Fernando Road between Van Nuys Boulevard and just north of Wolfskill Street. When operating in mixed-flow traffic, potential conflicts between the two modes could occur, particularly when motor vehicles make turns across the Low-Floor LRT/Tram tracks. However, similar to the other build alternatives, this alternative would be subject to Metro's System Safety Program. Given that fact and because existing bus service, which would be replaced by the Low-Floor LRT/Tram, operates in mixed-flow traffic, it is not expected that there would be a significant increase in accidents or collisions between vehicles as a result of this alternative.

As previously stated, Metro would prepare grade crossing applications in coordination with local public agencies. Design and operating characteristics and the grade crossing applications process as specified in mitigation measures described in Chapter 5 would ensure impacts on safety due to the at-grade crossings would be reduced to less-than-significant levels under CEQA and minor adverse levels under NEPA.

4.5.2 Security

The Low-Floor LRT/Tram Alternative, similar to the other build alternatives, would convert existing mixed-flow lanes to a dedicated guideway for vehicle trams. The removal of mixed-flow lanes would result in additional roadway congestion due to the decreased roadway capacity, which could adversely

affect emergency vehicle response and access or evacuation plans in the event of an emergency. The proposed motor-vehicle turn restrictions described above under Pedestrian, Vehicle, and Bicycle Safety, could also result, in some instances, in emergency vehicles taking a slightly more circuitous route, and therefore require more time to respond to emergencies. If the increased congestion and turn restrictions result in substantial additional delay for emergency vehicles, the impact would be significant.

There is potential for security issues to occur under implementation of this alternative. This includes the potential for assault, robbery, or terrorist attack. These concerns would be addressed both through design considerations and by coordinating with law enforcement personnel. Law enforcement personnel would be provided on the transit system during hours of operation. A complete Threat and Vulnerability Assessment in compliance with FTA regulations would be conducted for the alternative. Low-Floor LRT/Tram facilities (such as vehicles, stations, parking lots) would be designed to provide a safe, secure, and comfortable transit system. Transit patrons would be provided with station amenities, such as covered platforms and adequate lighting. In addition, Metro would include security-related design features, such as emergency telephones, public address systems, and closed-circuit monitoring systems. Furthermore, this alternative would incorporate all necessary crime prevention measures, including Metro's crime prevention policies, to deter criminal acts and protect passengers, employees, and the community. Metro would coordinate with police and fire services to develop construction and operation plans and provide appropriate public safety and security for the Metro system, employees, and the surrounding community. Specifically, coordination would occur with the LAPD Foothill Community Police Station and the Van Nuys Community Police Station, both of which are located in the project study area. The alternative would also include coordination with the City of San Fernando Police Department, located at 910 First Street in the City of San Fernando, less than 1 mile from the Sylmar/San Fernando Metrolink station. The alternative would also coordinate with the Los Angeles County Sheriff's Department Transit Services Bureau and the TSA. As a consequence, implementation of the Low-Floor LRT/Tram Alternative is not expected to result in a substantial increase in the number of crimes occurring in the project study area. Additionally, the mitigation measures identified in Chapter 5 would further reduce potential impacts and ensure public security and safety.

Fire safety would be addressed through design features. Metro's Fire/Life Safety Design Criteria outline specific requirements for fire protection at stations, along the alignment, and within Low-Floor LRT/Tram vehicles. Requirements include providing fire alarm control systems at each enclosed station facility and a public address system at each station. All Low-Floor LRT/Tram vehicles would be equipped with fire extinguishers, and fans to ventilate the vehicle in case of fire. The Low-Floor LRT/Tram vehicles would also experience reduced hazards from fire by specifying materials with minimum burning rates, smoke generation, and toxicity characteristics.

Additional design criteria address emergency responder access, passenger egress standards, standards for sprinkler systems, and standpipe connections for fire response. Adherence to these standards and federal, state, and local regulations, in conjunction with the low risk of fires at stations, would minimize potential fire safety impacts and hazards.

4.5.3 Airport Hazards

The project site is not located in the immediate vicinity of an airport (the closest airport is 2 miles to the east). Therefore, this alternative would not result in increased airport hazards.

4.5.4 Wildland Fires

The project site is not located in a wildland fire hazards area. No impacts would occur.

4.5.5 Impact Conclusions

Under NEPA, the Low-Floor LRT/Tram Alternative could result in adverse effects due to the potential for conflicts between bicyclists and motor vehicles and the potential additional delay for emergency vehicles due to increased roadway congestion and turn-movement restrictions. It is expected that the Low-Floor LRT/Tram Alternative would result in a minimal increased risk of accidents and collisions. Mitigation measures (see Chapter 5) are proposed to further reduce or minimize potential safety and security impacts.

Under CEQA, the potential for conflicts between bicyclists and motor vehicles and increased delay for emergency responders are potentially significant impacts. Other safety and security impacts would be less than significant or no impacts (wildland fire hazards and airport hazards) would occur. Also, see the proposed mitigation measures included in Chapter 5, which are intended to further reduce potential impacts, where feasible.

4.6 Build Alternative 4 – LRT Alternative

The LRT would travel in a dedicated guideway from the Sylmar/San Fernando Metrolink station along San Fernando Road south to Van Nuys Boulevard, from San Fernando Road to the Metro Orange Line Station, over a distance of approximately 9.2 miles. The LRT Alternative includes a segment in exclusive right-of-way through the Antelope Valley Metrolink railroad corridor, a segment with semi-exclusive right-of-way in the middle of Van Nuys Boulevard, and an underground segment beneath Van Nuys Boulevard from just north of Parthenia Street to Hart Street.

4.6.1 Safety

4.6.1.1 Pedestrian, Vehicle, and Bicycle Safety

LRT vehicles would be similar to those currently used throughout the existing Metro LRT system. Metro's LRT System is designed to accommodate trains of up to three 90-foot rail cars, for a total train length of 270 feet. Although LRT vehicles can operate at speeds of up to 65 mph in an exclusive guideway, operating at-grade along Van Nuys Boulevard, they would not exceed the posted speed limit, which is typically 35 mph. The LRT Alternative assumes an average of 30 mph travel speed when underground. LRT vehicles could carry approximately 230 seated passengers and more than 300 passengers when including standing passengers on a three-car train. The LRT train sets would be configured with a driver's cab at either end, similar to other Metro light rail trains, allowing them to run in either direction without the need to turn around at the termini.

All vehicle movements across the median at currently unsignalized intersections would be prohibited under this alternative. This would include left turns from Van Nuys Boulevard as well as left turns and through traffic from side streets and private driveways. Motorists who desire to make a left turn onto an unsignalized cross street or into a driveway would have to make a U-turn at a signalized left-turn location or choose a route that would allow them to use a signalized cross street. On segments where the LRT would be in a subway, all existing left turns would be maintained.

Similar to Build Alternative 3, issues of pedestrian safety under this alternative would include the following:

- Pedestrian safety at station locations
- Pedestrian safety near the alignment
- Pedestrian safety at designated crossings

Of the 14 proposed stations, three are proposed to be located underground. Pedestrian safety issues would mostly apply to proposed at-grade stations and less to the proposed underground LRT facilities as the latter can be designed to avoid these concerns. No vehicle and bicycle movement is expected at the underground facilities. Additionally, there is less pedestrian movement expected at the underground LRT facilities.

The proposed 11 at-grade stations could introduce a new safety hazard for pedestrians if the stations do not adequately account for pedestrian traffic and movement. The occurrence of this hazard may be attributed to the inherent purpose of a station, where large numbers of people congregate and cross the trackway to access or depart from the transit stations, thus creating a potential hazard of collision between pedestrians and LRT vehicles. This potential safety hazard could occur at intersection crossings where pedestrians would cross over the tracks. Similarly, a potential safety hazard could occur if pedestrians attempt to cross streets and tracks illegally. Pedestrian traffic control and channelization techniques would be used to control pedestrian movements at intersections and encourage the use of designated pedestrian crossings. All current crosswalks at signal-controlled intersections would be maintained. Between the signalized intersections, a fence would be installed to prevent mid-block pedestrian crossings. Therefore, under this alternative, LRT passengers would reach the median station platforms from crosswalks at signalized intersections and pedestrians would be required to walk to a signalized location to cross Van Nuys Boulevard. A pedestrian bridge at the Sylmar/San Fernando Metrolink station from the LRT platform to the parking lot is also proposed under this alternative. Construction of the pedestrian bridge would comply with Metrolink/SCRRRA Design Criteria. The overhead pedestrian crossing shall be a minimum of 24 feet clear above the top of the rail and shall be a minimum of 10 feet wide. It would be served by stairs and either an elevator or a ramp system complying with ADA requirements. Fencing on overcrossings is required to prevent the dropping of large objects on passing trains. Lighting controls would be installed in accordance with Metrolink's recommended illumination levels for overhead pedestrian bridges and shall be designed to use energy efficiently.

Although Metro would prepare grade crossing applications in coordination with local public agencies such as CPUC, LADOT, San Fernando Police Department, Bureau of Engineering, and LAFD, these pedestrian safety impacts are potentially adverse and significant. Implementation of the mitigation measures in Chapter 5 would reduce impacts to minor adverse under NEPA and less than significant under CEQA.

In the Van Nuys Civic Center, where the existing sidewalks on each side of Van Nuys Boulevard are approximately 13 feet wide, sidewalks would be narrowed to 10 feet to accommodate the installation of two LRT tracks and a left-turn lane or LRT station in the median of Van Nuys Boulevard while providing two travel lanes in each direction. This sidewalk narrowing would occur from the Metro Orange Line to the planned subway portal north of Hartland Street. At the locations where the sidewalks would be narrowed, utility poles would need to be relocated. In these areas, the entire sidewalk would be reconstructed to satisfy drainage requirements. A similar narrowing of the sidewalks would occur along Van Nuys Boulevard north of the subway portal near Rayen Street in Panorama City where the LRT vehicles would resume a surface alignment in the roadway median and proceed to El Dorado Avenue in Pacoima. Although the new sidewalk width would meet the

minimum 10-foot-wide accessibility requirements, at some locations with higher pedestrian activity (at the proposed Vanowen Station), the reduction in sidewalk width (from 13 feet to 10 feet) would result in a potentially adverse effect and significant impact to pedestrians.

Similar to the Low-Floor LRT/Tram Alternative, the LRT Alternative would require a number of additional elements to support vehicle operations, including an OCS, TPSS, communications and signaling buildings, and an MSF. Two of the proposed MSFs would have underground connections under this alternative. The MSF would be located at or near the same intersections as under the Low-Floor LRT/Tram Alternative, being of the following three locations:

- MSF Option A – Van Nuys Boulevard/Metro Orange Line
- MSF Option B – Van Nuys Boulevard/Keswick Street
- MSF Option C – Van Nuys Boulevard/Arminta Street

An OCS would be required for this alternative with similar characteristics, as described for the Low-Floor LRT/Tram Alternative. Where the available public right-of-way width is extremely limited, the OCS poles would be placed on the sidewalk. At such locations, curb side bus stops serving local bus lines would be relocated so as to avoid having obstructions within the bus stop area. The MSF, TPSSs, and OCS would adhere to Metro safety guidelines and consequently are not expected to result in substantial adverse or significant effects or impacts. Proposed mitigation measures included in Chapter 5 would further minimize potential effects.

This alternative, and the other build alternatives, would result in modifications to existing bicycle lanes in the corridor. The existing bike lanes extending north on Van Nuys Boulevard from Nordhoff Street would be removed and would not be replaced under this alternative. The removal of Class II bike lanes to accommodate the project would increase the potential for conflicts between bicyclists and motor vehicles traveling along Van Nuys Boulevard in this segment of the corridor, reducing safety, which would be a potentially adverse effect and significant impact.

4.6.1.2 Accidents and Collisions

Similar to the Median-Running BRT Alternative, the LRT Alternative would consist of 6.7 miles of dedicated guideway, which would be separated from mixed-flow traffic. Placement of the LRT in a dedicated guideway would reduce the potential for conflicts between LRT vehicles and mixed-flow traffic. Between Van Nuys Boulevard and the Sylmar/San Fernando Metrolink station, the LRT would operate within the existing freight/commuter rail right-of-way, but on separate dedicated tracks. As previously stated, Metro would prepare grade crossing applications in coordination with local public agencies. Design and operating characteristics and the grade crossing applications process as specified in mitigation measures described in Chapter 5 would ensure impacts on safety due to the at-grade crossings would be reduced to less-than-significant levels under CEQA and minor adverse levels under NEPA.

4.6.2 Security

The LRT Alternative, similar to the other build alternatives, would convert existing mixed-flow lanes to a dedicated guideway for LRT vehicles. The removal of mixed-flow lanes would result in additional roadway congestion due to the decreased roadway capacity, which could adversely affect emergency vehicle response and access or evacuation plans in the event of an emergency. The proposed motor-vehicle turn restrictions described above under Pedestrian, Vehicle, and Bicycle Safety, could also result, in some instances, in emergency vehicles taking a slightly more circuitous route, and therefore require more time to respond to emergencies. If the increased congestion and turn restrictions result in substantial additional delay for emergency vehicles, the impact would be significant.

There is potential for security issues to occur under implementation of this alternative. This includes the potential for assault, robbery, or terrorist attack. These concerns would be addressed both through design considerations and by coordinating with law enforcement personnel. Law enforcement personnel would be provided on the transit system during hours of operation. A complete Threat and Vulnerability Assessment in compliance with FTA regulations would be conducted for the alternative.

Rail facilities (such as vehicles, stations, and parking lots) would be designed to provide a safe, secure, and comfortable transit system. Transit patrons would be provided with station amenities, such as covered platforms and adequate lighting. In addition, Metro would include security-related design features, such as emergency telephones, public address systems, and closed-circuit monitoring systems. Furthermore, this alternative would incorporate all necessary crime prevention measures, including Metro's crime prevention policies, to deter criminal acts and protect passengers, employees, and the community. Metro would coordinate with police and fire services to develop construction and operation plans and provide appropriate public safety and security for the Metro system, employees, and the surrounding community. Specifically, coordination would occur with the LAPD Foothill Community Police Station and the Van Nuys Community Police Station, both of which are located in the project study area. The alternative would also include coordination with the City of San Fernando Police Department, Los Angeles County Sheriff's Department Transit Services Bureau, and the TSA. As a consequence, implementation of the LRT Alternative is not expected to result in a substantial increase in the number of crimes occurring in the project study area. Additionally, mitigation measures included in Chapter 5 would further reduce potential impacts and ensure public security and safety.

Fire safety would be addressed through design features. Metro's Fire/Life Safety Design Criteria outline specific requirements for fire protection at stations, along the alignment, and within LRT vehicles. Requirements include providing fire alarm control systems at each enclosed station facility and a public address system at each station. All LRT vehicles would be equipped with fire extinguishers, and fans to ventilate the LRT vehicle in case of fire. The LRT vehicles would also experience reduced hazards from fire by specifying materials with minimum burning rates, smoke generation, and toxicity characteristics. Per Fire Life Safety Criteria, ventilation shafts and emergency fire exits would be installed along the tunnel portion of the alignment. These would be located at the underground stations and surrounding properties or sidewalks.

Additional design criteria address emergency responder access, passenger egress standards, standards for sprinkler systems, and standpipe connections for fire response. Adherence to these standards and federal, state, and local regulations, in conjunction with the low risk of fires at stations, would minimize potential fire safety impacts and hazards.

4.6.3 Airport Hazards

The project site is not located in the immediate vicinity of an airport (the closest airport is 2 miles to the east). Therefore, this alternative would not result in increased airport hazards.

4.6.4 Wildland Fires

The project site is not located in a wildland fire hazards area. No impacts would occur.

4.6.5 Impact Conclusions

Under NEPA, the LRT Alternative would result in adverse effects due to the potential for conflicts between bicyclists and motor vehicles and the potential additional delay for emergency vehicles due to increased roadway congestion and turn-movement restrictions. It is expected that the LRT Alternative would result in a minimal increased risk of accidents and collisions. Mitigation measures (see Chapter 5) are proposed to further reduce or minimize potential safety and security impacts.

Under CEQA, the potential for conflicts between bicyclists and motor vehicles and increased delay for emergency responders are potentially significant impacts. Other safety and security impacts would be less than significant or no impacts (wildland fire hazards and airport hazards) would occur. Also, see the proposed mitigation measures included in Chapter 5, which are intended to further reduce potential impacts, where feasible.

4.7 Construction Impacts

4.7.1 No-Build Alternative

The No-Build Alternative represents projected conditions in 2040 without implementation of the project. No new transportation infrastructure would be constructed under this alternative. Therefore, no adverse construction effects or impacts related to public safety and security would occur.

4.7.2 TSM Alternative

All construction sites and equipment would be secured to prevent tampering and vandalism and would follow all applicable Metro guidelines pertaining to construction sites. As required by the City Bureau of Engineering Master Specifications, the contractor would be required to keep all equipment, field offices, storage facilities, and other facilities free of graffiti. Any graffiti would be painted over, masked, or cleaned off within 24 hours after notification by the inspector. Construction would result in minor adverse effects.

4.7.3 Build Alternative 1 – Curb-Running BRT Alternative

Construction activities within public rights-of-way are not typically considered to be adverse due to their short-term nature, particularly with implementation of construction management and abatement measures. All work would conform to industry standards and specifications. During construction, lane closures, traffic detours, and designated truck routes may be required, which could adversely affect emergency vehicle response times. Maintaining an adequate level of signage, construction barriers, and supervision of trained safety personnel as part of the construction team would ensure that pedestrian and motorist safety is maintained during construction. Effects or impacts would be minor adverse under NEPA and less-than-significant under CEQA with implementation of Mitigation Measures MM-16 through MM-18.

4.7.4 Build Alternative 2 – Median-Running BRT Alternative

Construction effects would be similar to those anticipated to occur under the Curb-Running BRT Alternative. Construction effects would be short term in nature and would include construction management and abatement measures. All work would conform to industry standards and

specifications. During construction, lane closures, traffic detours, and designated truck routes may be required, which could adversely affect emergency vehicle response time. Maintaining an adequate level of signage, construction barriers, and supervision of trained safety personnel as part of the construction team would ensure that pedestrian and motorist safety is maintained during construction. Effects or impacts would be minor adverse under NEPA and less-than-significant under CEQA with implementation of Mitigation Measures MM-16 through MM-18.

4.7.5 Build Alternative 3 – Low-Floor LRT/Tram Alternative

Construction of this alternative may have temporary adverse effects on public safety and security within the study area. During construction, motorists, pedestrians, and bicyclists would experience additional safety hazards. This would result from the number and proximity of vehicles and people adjacent to Low-Floor LRT/Tram vehicle construction. Construction could also result in lane closures, traffic detours, and designated truck routes, which could adversely affect emergency vehicle response time. The potential for significant safety and security impacts would be minimized by compliance with Occupational Safety and Health Administration (OSHA), California Occupational Safety and Health Administration (Cal/OSHA), and Metro safety and security programs, which are designed to reduce potential adverse effects during construction.

Incidents of crime adjacent to the project alignment would not likely increase during construction of this alternative. Incidents of property crime could occur at construction sites (e.g., theft of construction machinery and materials), but they would be minimized through implementation of standard site security practices by contractors. Effects or impacts would be minor adverse under NEPA and less-than-significant under CEQA with implementation of Mitigation Measures MM-16 through MM-18.

4.7.6 Build Alternative 4 – LRT Alternative

Similar to the Low-Floor LRT/Tram Alternative, construction of this alternative may have temporary adverse effects on public safety and security in the study area. During construction motorists, pedestrians, and bicyclists would experience additional safety hazards. This would result from the number and proximity of vehicles and people adjacent to LRT construction. Construction activities, which would include an approximately 2.5-mile long hole and cut and cover construction, could also result in lane closures, traffic detours, and designated truck routes, which could adversely affect emergency vehicle response time.

The potential for significant safety and security impacts would be minimized by compliance with OSHA, Cal/OSHA, and Metro safety and security programs, which are designed to reduce potential adverse effects during construction.

Incidents of crime adjacent to the project alignment would not likely increase during construction of the LRT Alternative. Incidents of property crime could occur at construction sites (e.g., theft of construction machinery and materials), but they would be minimized through implementation of standard site security practices by contractors. Effects under NEPA would be minor adverse under NEPA and less-than-significant under CEQA with implementation of Mitigation Measures MM-16 through MM-18.

4.8 Cumulative Impacts

The study area for the analysis of cumulative impacts is shown in Figure 4-1 and consists of the general study area. The following cumulative impacts analysis is based on the related projects approach. Per CEQA Section 15130 (b), the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence. The cumulative impacts analysis can consider either a “list of past, present, and probable future projects producing related or cumulative impacts,...”(Section 15130 (b)(1)) or “a summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Previously approved land use documents, including but not limited to general plans, specific plans, regional transportation plans, plans for the reduction of greenhouse gas emissions, and local coastal plans may be used in cumulative impact analysis. The cumulative impacts analysis below is based on the related projects list.

4.8.1 No-Build Alternative

The No-Build Alternative represents projected conditions in 2040 without implementation of the project. No new transportation infrastructure would be constructed under this alternative and; therefore, no effects or impacts would occur and the No-Build Alternative would not contribute to any adverse cumulative safety and security effects.

4.8.2 TSM Alternative

The TSM Alternative enhances the No-Build Alternative and emphasizes transportation systems upgrades, which may include relatively low-cost transit service improvements. Therefore, this alternative would result in minimal or no effects on safety and security and would not contribute to any adverse safety and security cumulative impacts.

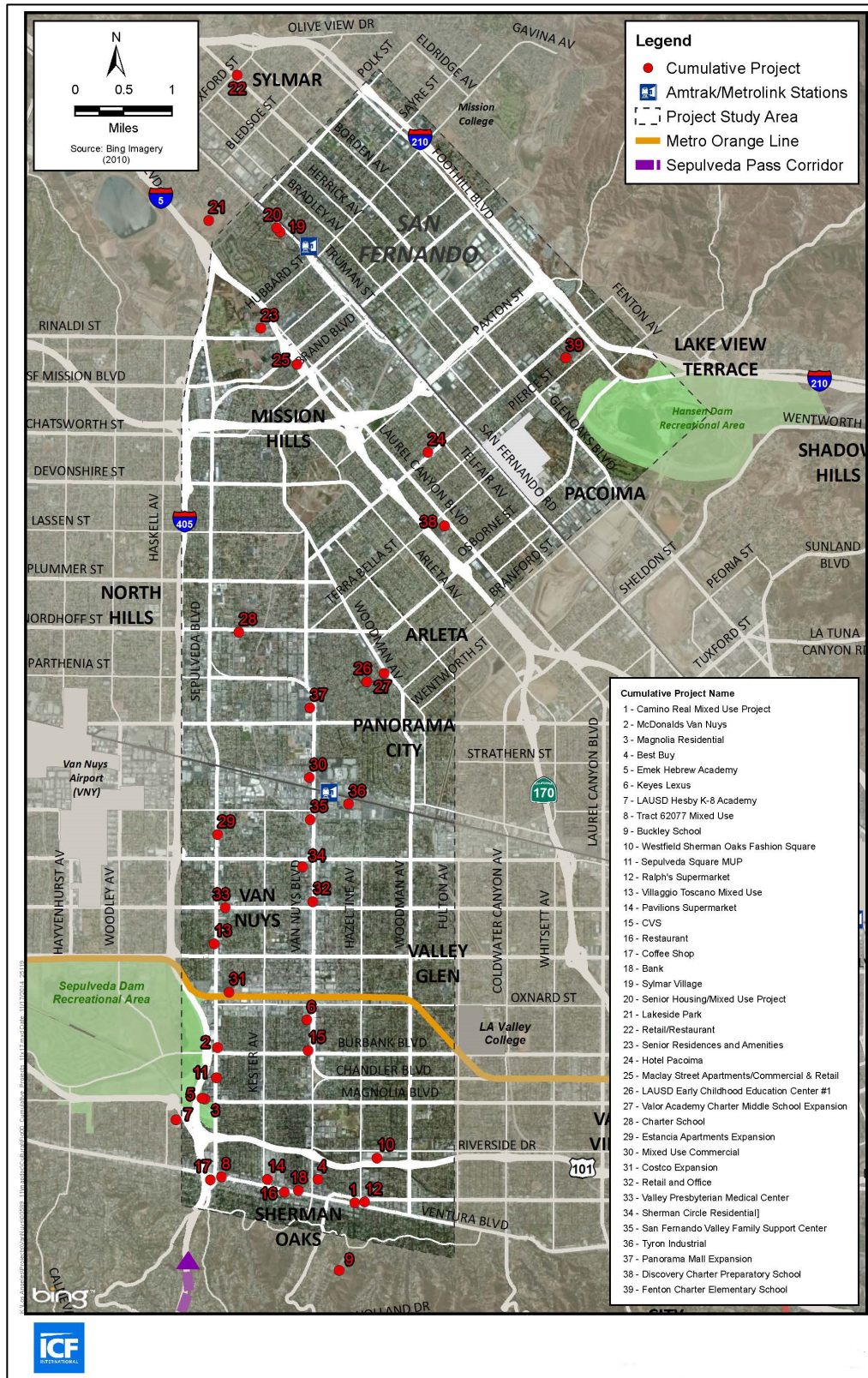
4.8.3 Build Alternative 1 – Curb-Running BRT Alternative

Implementation of this alternative would result in impacts, after mitigation, on bicycle safety due to the removal of existing bike lanes. Consequently, the adverse safety effects of Alternative 1 combined with the effects of other projects in the study area that g reduce bicycle access and safety could be cumulatively significant.

4.8.4 Build Alternative 2 – Median-Running BRT Alternative

Alternative 2 would result in impacts, after mitigation, on pedestrian sidewalk safety, bicycle safety due to the removal of existing bike lanes, and potential impacts on emergency vehicle response time due to turn restrictions and the increased congestion resulting from the removal of mixed-flow travel lanes. Consequently, the adverse safety effects of Alternative 2 combined with the effects of other projects in the study area that decrease sidewalk width, increase traffic congestion, or reduce bicycle access and safety could be cumulatively significant.

Figure 4-1 Cumulative Projects



4.8.5 Build Alternative 3 – Low-Floor LRT/Tram Alternative

Similar to the other build alternatives, Alternative 3 would result in impacts, after mitigation, on pedestrian sidewalk safety, bicycle safety due to the removal of existing bike lanes and potential impacts on emergency vehicle response time due to turn restrictions and the increased congestion resulting from the removal of mixed-flow travel lanes. Consequently, the adverse safety effects of Alternative 3 combined with the effects of other projects in the study area that reduce sidewalk widths, increase congestion, or reduce bicycle access and safety could be cumulatively significant.

4.8.6 Build Alternative 4 – LRT Alternative

Alternative 4 would result in impacts, after mitigation, on pedestrian sidewalk safety, bicycle safety and emergency vehicle response time, similar to Alternative 3. Consequently, the adverse safety effects of Alternative 4 combined with the effects of other projects in the study area that reduce sidewalk widths, increase congestion, or reduce bicycle access and safety could be cumulatively significant.

Proposed safety and security mitigation measures will be based on the results of and will be included as part of the Threat and Vulnerability Assessment that will be conducted for the locally preferred alternative when one is selected. These security measures may include:

- A closed circuit TV system
- Emergency push-button call system for patrons
- Intrusion detection system
- Dedicated security patrol protocols and procedures
- Employing “Crime Prevention through Environmental Design” principles during design phase.

The presence of transit workers in underground stations further dissuades persons from committing offenses. Several Metro underground systems have successfully employed security technology and patrol methods to mitigate crime conditions in underground systems, resulting in fewer offenses committed in the transit system than in the neighborhoods they traverse.

5.1 Compliance Requirements and Design Features

Safety Design Feature 1 (All Build Alternatives): All proposed mitigation measures regarding safety and security shall be developed in conformance with Metro regulations.

Safety Design Feature 2 (Alternatives 3 and 4): The Low-Floor LRT/Tram and LRT Alternatives (Alternatives 3 and 4) shall be developed in conformance with Metro’s Rail Transit Design Criteria and Standards, Fire/Life Safety Criteria, Volume IX. The criteria specifically address fire protection requirements for the design and construction of LRT systems. The criteria identify and discuss fire safety as it corresponds to the following specific design criteria: station and guideway facilities, passenger vehicles, vehicle yard and maintenance facilities, system fire/life safety procedures, communications, rail operations control, and inspection, maintenance and training. The criteria establish minimum requirements that would provide for the protection of life and property from the effects of fire.

5.2 Operational Mitigation Measures

Safety MM-1 (Alternative 4): To reduce potential risk of collisions between LRTs and automobiles on the street portion of the LRT Alternative, Metro shall coordinate with the CPUC, City of Los Angeles and the Los Angeles County traffic control departments, City of Los Angeles Bureau of Engineering, and the City and County of Los Angeles Fire Departments, and also comply with the Federal Highway Administration’s Manual on Uniform Traffic Control Devices for signing and pavement marking treatments.

Safety MM-2 (All Build Alternatives): All stations shall be lighted to avoid shadows and all pedestrian pathways leading to/from sidewalks and parking facilities shall be well illuminated. In addition, lighting would provide excellent visibility for train operators to be able to react to possible conflicts, especially to pedestrians crossing the track.

Safety MM-3 (All Build Alternatives): Proposed station designs shall not include design elements that obstruct visibility or observation nor provide discrete locations favorable to crime; pedestrian access to at-grade stations shall be at ground-level with clear sight lines.

Safety MM-4 (All Build Alternatives): Sidewalk widths and placements shall be designed appropriately to accommodate a wide variety of users. In areas directly adjacent to the rail stations:

1. Sidewalk widths shall be designed with the widest dimensions feasible in conformance with the Los Angeles/Metro's adopted "Land Use/Transportation Policy," and with widths exceeding 10 feet;
2. Minimum widths shall not be less than those allowed by the State of California Title 24 access requirements, or the Americans with Disability Act design recommendations. Section 1113A of Title 24 states that walks and sidewalks shall be a minimum of 48 inches (1,219 mm) in width, except that walks serving dwelling units in covered multi-family dwelling buildings may be reduced to 36 inches (914 mm) in clear width except at doors;
3. Accommodating pedestrian movements and flows shall take priority over other transportation improvements, including automobile access; and
4. Physical improvements shall ensure that all stations are fully accessible as defined in the Americans with Disabilities Act.

Safety MM-5 (All Build Alternatives): Adequate pedestrian queuing and refuge areas and wide crosswalks shall be provided in areas immediately around proposed stations to facilitate pedestrian mobility.

The following would apply to underground conditions:

Safety MM-6 (Alternative 4): The Metro Fire/Life Safety Committee has developed standard safety-related design criteria to ensure safe and adequate LRT operations in and around LRT underground stations. These criteria, which shall be adhered to, include:

1. Fire alarm protection within the station area,
2. A minimum of two fire emergency routes from each proposed station,
3. Emergency ventilation and lighting,
4. Communication systems between adjoining fire agencies, and
5. A methane detection system for each proposed station.

Safety MM-7 (Alternative 4): Building construction for underground stations would not be less than Type I Construction as defined in the Uniform Building Code (UBC). Type I Construction is a category of building construction that sets forth design requirements that provides for safety features such as ventilation, additional egress routes, lighting, etc.

Safety MM-8 (Alternative 4): Proposed stations having more than two levels below-grade or more than 80 feet to the lowest occupied level from grade shall require protected level separation or other protection features to provide safe egress to the exits.

The following mitigation measures shall apply to both at-grade and underground conditions under the Build Alternatives:

Safety MM-9 (Alternatives 3 and 4): For portions of the alignment where pedestrians and/or motor vehicles must cross the tracks, Metro shall prepare grade crossing applications in coordination with the CPUC and local public agencies, such as LADOT, City of Los Angeles Bureau of Engineering, and the City and County of Los Angeles Fire Departments.

Safety MM-10 (Alternatives 3 and 4): All proposed LRT stations and related parking facilities shall be equipped with monitoring equipment, which would primarily consist of video surveillance equipment to monitor strategic areas of the LRT stations and walkways, and/or be monitored by Metro security personnel on a regular basis.

Safety MM-11 (Alternatives 3 and 4): Metro shall implement a security plan for LRT operations. The plan shall include both in-car and station surveillance by Metro security or other local jurisdiction security personnel.

Safety MM-12 (All Build Alternatives): Metro shall coordinate and consult with the LAFD, LAPD, and LASD to develop safety and security plans for the proposed alignment, parking facilities, and station areas.

Safety MM-13 (Alternatives 3 and 4): Light rail vehicles shall be provided with front and rear safety fenders to increase light rail vehicle safety and minimize or prevent the potential for pedestrians to contact the vehicle coupler and/or fall under the LRT.

Safety MM-14 (All Build Alternatives): Fire separations shall be provided and maintained in public occupancy areas. Station public occupancy shall be separated from station ancillary occupancy by a minimum 2-hour fire-rated wall. The only exception is that a maximum of two station agents, supervisors, or information booths may be located within station public occupancy areas when constructed of approved noncombustible materials and limited in floor area to 100 square feet.

Safety MM-15 (Alternative 4): The diverse needs of different types of traveling public including senior citizens, disabled citizens, low income citizens, shall be addressed through a formal educational and outreach campaign. The campaign shall target these diverse community members to educate them on proper system use and benefits of LRT ridership.

5.3 Construction Mitigation Measures

Safety MM-16 (All Build Alternatives): Alternate walkways for pedestrians shall be provided around construction staging sites in accordance with American with Disability Act (ADA) requirements.

Safety MM-17 (All Build Alternatives): All pedestrian and bicyclist detour locations around staging sites shall be signed and marked in accordance with the Manual on Uniform Traffic Control Devices “work zone” guidance, and other applicable local and state requirements.

Safety MM-18 (All Build Alternatives): Work plans and traffic control measures shall be coordinated with emergency responders to limit effects to emergency response times.

Chapter 6

Impacts Remaining After Mitigation

Under NEPA and CEQA, the reduced sidewalk widths in some locations, the potential for increased conflicts between bicyclists and motor vehicles and increased delay for emergency responders during project operation are potentially adverse effects and unavoidable significant impacts that would remain after implementation of proposed mitigation measures.

Chapter 7

CEQA Determination

Under CEQA, potentially significant and unavoidable impacts could occur due to the reduced sidewalk widths in some locations, the potential for increased conflicts between bicyclists and motor vehicles and increased delay for emergency responders during project operation. Other safety and security impacts would be less than significant after implementation of the mitigation measures above.

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